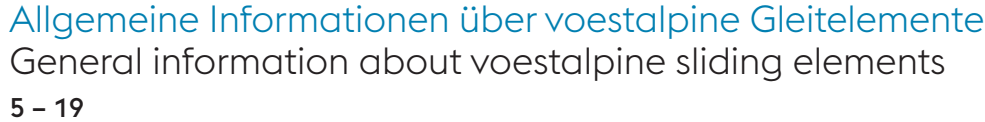


# WARTUNGSFREIE GLEITELEMENTE

Maintenance free-self lubricating sliding elements  
Edition 2023



## Inhalt Contents

- |    |                                                                                                                                                        |    |                                                                                       |                                                                                                               |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 1  |                                                                      | 11 |    | Winkelleisten<br>L-Gibs<br>167 – 177                                                                          |
| 2  |  Buchsen ohne Bund<br>Bushings without flange<br>21 – 31              | 12 |    | Überlaufkeile mit/ohne Rollen<br>Cam stroke plates with/without rollers<br>179 – 191                          |
| 3  |  Buchsen mit Bund<br>Bushings with flange<br>33 – 65                  | 13 |    | Prismenführungen<br>Prism guides<br>193 – 203                                                                 |
| 4  |  Buchsen mit Anlaufbund<br>Bushings with buffer flange<br>67 – 69     | 14 |    | Laschen- und Rechteckführungen, Verriegelungen<br>Guide bars, rectangular guide blocks, lockings<br>205 – 221 |
| 6  |  Anlaufscheiben<br>Washers<br>71 – 73                                | 16 |   | Druckstücke, Kantenheber, Federbolzen<br>Spring ball plungers, flange lifters, spring bolts<br>223 – 237      |
| 7  |  Gleitplatten<br>Wear plates<br>74 – 127                            | 17 |  | Säulen, Tragzapfen<br>Guide posts, trunnions<br>239 – 267                                                     |
| 8  |  Deckplatten<br>Cover plates<br>129 – 147                           | 18 |  | Zentriereinheiten<br>Centering units<br>269 – 275                                                             |
| 9  |  Flachleisten<br>Plain wearstrips<br>149 – 155                      | 19 |  | Bolzenführungen<br>Bolt guides<br>277 – 279                                                                   |
| 10 |  Mehrflächenführungen<br>Multiple area guiding stripes<br>157 – 165 |    |                                                                                       |                                                                                                               |

## 1. Allgemeine Informationen über voestalpine Gleitelemente

### 1. General information about voestalpine sliding elements

- 1.1 [Einleitung](#)  
Introduction
- 1.2 [Werkstoffe für wartungsfreie Gleitpaarungen](#)  
Base material for maintenance free sliding couples  
[Auswahlhilfe](#) / [Selection guide](#)  
[WF750, Stahl, Sinter](#) / [WF750, steel, sinter](#)
- 1.3 [Anwendungshinweise](#)  
Application instructions  
[WF750, Stahl, Sinter](#) / [WF750, steel, sinter](#)
- 1.4 [Richtiger Umgang mit Gleitelementen in der Wartung](#)  
Correct treatment of sliding elements in the maintenance
- 1.5 [Allgemeine Hinweise](#)  
General information  
[Toleranzen, Maßtoleranztafel, Normen](#)  
[Tolerances, dimension tolerance table, standards](#)
- 1.6 [Sondergleitelemente](#)  
Special sliding elements

1.1 Einleitung  
1.1 Introduction

voestalpine Camtec  
Ihr innovativer und verlässlicher Partner

Die voestalpine Camtec ist ein weltweit führendes Unternehmen mit langjähriger Erfahrung in der Herstellung von Schiebern und wartungsfreien Gleitelementen.

Durch unser branchenspezifisches Know-how und unser Wissen um die Fertigungsprozesse unserer Kunden sind wir etablierter Partner von namhaften Unternehmen der Automobil- und Maschinenbauindustrie. Wir begleiten unsere Kunden mit hochwertigen Produkten und hoher Betreuungsqualität in die Zukunft: Ein engagiertes Team aus lösungsorientierten Spezialisten kümmert sich global um Ihre Anfragen. Zusätzlich punkten wir durch unsere bewährten Gleitelemente, State-of-the-art-Technologien, unser bewährtes Ersatzteilmanagement mit schnellen Reaktionszeiten sowie umfassende Serviceleistungen – einen Schritt voraus.

Unser global aufgestelltes Team ist weltweit für Sie im Einsatz:  
Finden Sie Ihren richtigen Ansprechpartner online auf [www.voestalpine.com/camtec](http://www.voestalpine.com/camtec) oder kontaktieren Sie uns unter [sales.camtec@voestalpine.com](mailto:sales.camtec@voestalpine.com)

voestalpine Camtec  
Your innovative and reliable partner

voestalpine Camtec is a global leader with many years of experience in the production of cam units and maintenance free sliding elements.

Our sector-specific expertise and knowledge of the manufacturing processes of our customers have established us as a reliable partner to well-known companies in the automotive and mechanical engineering industries. We accompany our customers with innovative products and high-quality service. Our team of technical specialists is dedicated to providing effective solutions worldwide. Our state-of-the-art sliding elements and technologies, our spare parts management and rapid response times and our comprehensive services put us one step ahead.

Our international team of experts remains at your service: Please find your contact partner online at [www.voestalpine.com/camtec](http://www.voestalpine.com/camtec) or contact us at [sales.camtec@voestalpine.com](mailto:sales.camtec@voestalpine.com)

**BESTELLUNGEN**  
Jedem Gleitelement ist eine Ident-Nr. zugeordnet. Es genügt daher bei Bestellungen zur Identifizierung eines Gleitelementes das Anführen dieser Ident-Nr.  
Angaben über Schrauben und Passstifte dienen nur zur Information. Schrauben und Passstifte sind nicht Bestandteil der Lieferung.

**EINFACH, SCHNELL UND GEZIELT  
ZUR OPTIMALEN LÖSUNG**  
In Bezug auf Design, Bestellung und Ersatzteilverwaltung finden Sie in unserem Product-Finder schnell und einfach detaillierte Produktinformationen:  
<https://www.voestalpine.com/camtec/Product-Finder>

**ORDERS**  
Each sliding element has an assigned ident number (Ident-No.). When ordering standard sliding elements, only this number has to be provided to us.  
Details about screws and dowel pins are only for information. They are not included in the delivery.

**FIND YOUR SOLUTION QUICKLY, EASILY  
AND SYSTEMATICALLY**  
With respect to design, ordering and spare parts management, you will quickly and easily find detailed product information in our Product-Finder:  
[www.voestalpine.com/camtec/Product-Finder](http://www.voestalpine.com/camtec/Product-Finder)





## 1.1 Einleitung

### 1.1 Introduction

#### FÜR HOHE LEBENSDAUER UND PRÄZISION

Die voestalpine Camtec GmbH erhebt den weltweiten Anspruch auf Qualitäts- und Technologieführerschaft im Bereich von wartungsfreien Gleitelementen. Die Forschungs- und Entwicklungsleistung stützt sich auf nationale und internationale Zusammenarbeit mit Forschungsinstituten, Universitäten, Kunden, Lieferanten und Gießereien. Ziel der Kooperation ist die optimale Nutzung von Know-how und weltweit vorhandenen F&E-Ressourcen.

Die voestalpine Camtec GmbH ist zertifiziert nach ISO 9001, ISO 14001 und ISO 45001.

Die aktuellen Zertifikate finden Sie zum Download auf unserer Homepage unter [www.voestalpine.com/camtec](http://www.voestalpine.com/camtec)

Gleitplatten, Buchsen, Ringe und Formgussteile: Die hochpräzisen und wartungsfreien Gleitelemente der voestalpine Camtec GmbH kommen in verschiedenen Bereichen zum Einsatz:

- » Automobilindustrie (Werkzeugführungen, Karosseriepennen)
- » Kunststoffspritzgießmaschinen und Spritzgießwerkzeuge
- » Maschinenbau, Stahl- und Walzwerke
- » Bau- und Steinindustrie
- » Wehranlagen und Wasserbau
- » Schiffsbau
- » Schweißtechnik
- » Verpackungsindustrie
- » Hebe- und Fördertechnik

#### FOR LONG SERVICE LIFE AND HIGH PRECISION

voestalpine Camtec GmbH is the worldwide leader in quality and technology in the field of maintenance-free sliding elements. Our research and development services are based on national and international cooperation with research institutes, universities, customers, suppliers and foundries. This cooperation aims to optimally utilize know-how and worldwide R&D resources.

voestalpine Camtec GmbH is certified according ISO 9001, ISO 14001 and ISO 45001.

The current certificates can be downloaded from our homepage at [www.voestalpine.com/camtec](http://www.voestalpine.com/camtec)

Sliding plates, bushings, rings and cast parts: High-precision and maintenance-free slide elements made by voestalpine Camtec GmbH primarily find their applications in the following industries:

- » Automotive industry (tool guides, auto body presses)
- » Plastic injection molding machines and injection molding tools
- » Mechanical engineering, steelmaking plants and rolling mills
- » Construction and stone industries
- » Dam systems and hydro-power engineering
- » Shipbuilding
- » Welding technology
- » Packing industry
- » Crane and conveying engineering

#### INDIVIDUELL NACH IHREN BEDÜRFNISSEN GEFERTIGT

Es kommt oftmals zu Konstruktionen, die individuelle Lösungen erfordern. Wir fertigen, zusätzlich zu unserem Standardprogramm, auf Ihre Bedürfnisse angepasste Gleitelemente. Dabei bauen wir auf bewährte Standardkomponenten und individuelle Lösungen.

Ihre individuelle Anfrage wird schnell und kompetent durch unsere Konstruktionsabteilung bearbeitet. Für alle Anfragen rund um Sonderlösungen steht unser Team gerne zur Verfügung. Bitte richten Sie Ihre technischen Anfragen an [engineering.camtec@voestalpine.com](mailto:engineering.camtec@voestalpine.com)

#### INDIVIDUALLY MANUFACTURED BASED ON YOUR REQUIREMENTS

Individual requirements often require unique design. In addition to our flexible product portfolio, we are pleased to offer customized sliding elements. We rely on proven standard components and individual solutions.

Your customized request will be processed quickly and professionally in our design department. Our competent team will be happy to answer any of your questions about customized sliding element solutions. Please direct any technical inquiries to [engineering.camtec@voestalpine.com](mailto:engineering.camtec@voestalpine.com)

1.2 Werkstoffe für wartungsfreie Gleitpaarungen  
1.2 Base-material for maintenance-free sliding couples

AUSWAHLHILFE

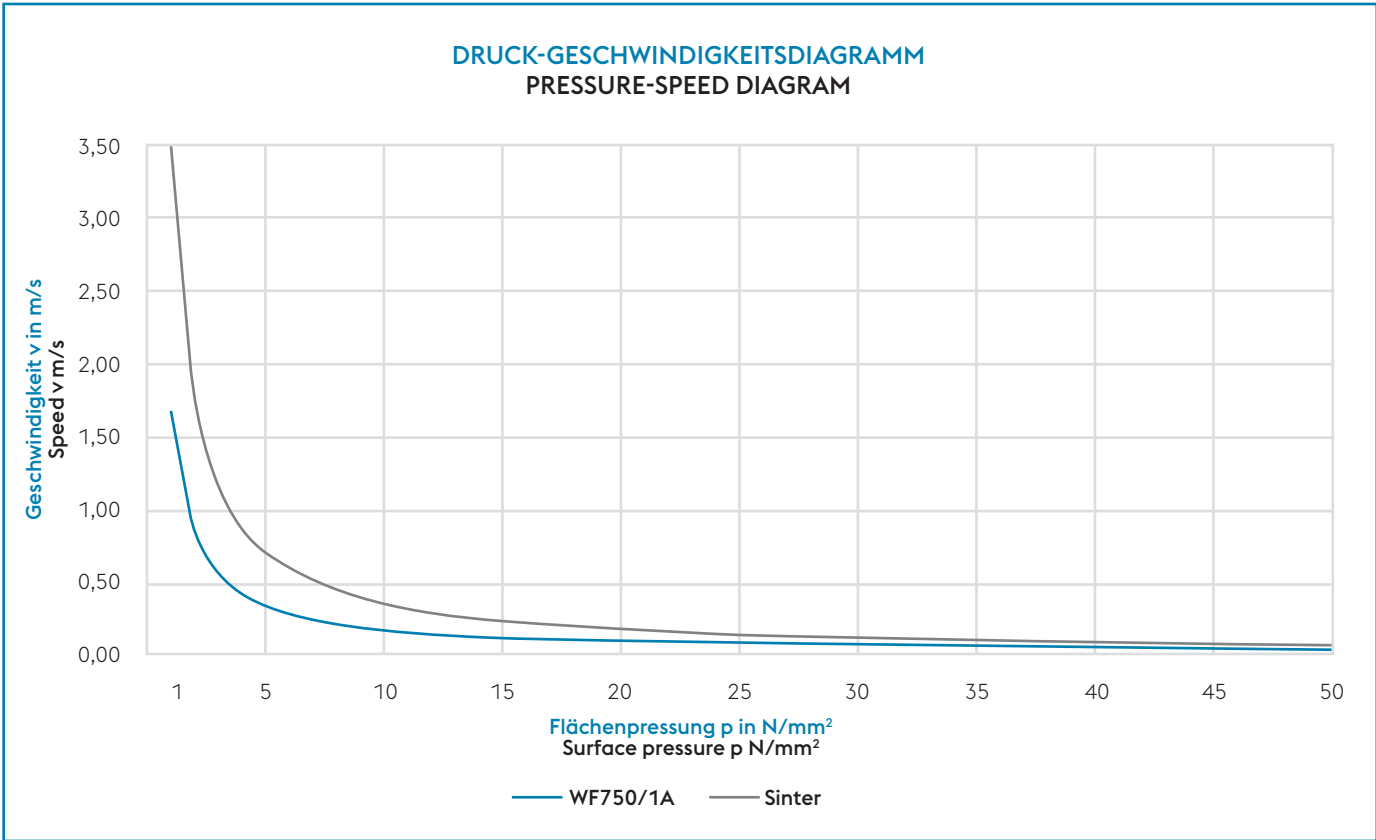
In folgender Tabelle finden Sie eine Übersicht der verschiedenen Materialien und deren Eigenschaften. Diese Auswahlhilfe dient zur Orientierung. Je nach Einsatzgebiet und Umgebungsbedingungen sollte vorab eine Prüfung bzw. ein Test erfolgen.

SELECTION GUIDE

In the following table you will find an overview of the different materials and their specifications. This selection guide is an orientation. Depending on the application and ambient conditions, an inspection or internal test should be done in advance.

| Gleitelementwerkstoff<br>Sliding element material                   | Wartungsfreie Gleitelemente<br>Maintenance-free sliding elements                 |                                                                               | Gegenwerkstoffe<br>Counter material                                        |                                                          |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------|
|                                                                     | CuZn25Al5Mn4Fe3-C mit Festschmierstoff<br>CuZn25Al5Mn4Fe3-C with solid lubricant | Stahl mit Sintermetallgleitschicht<br>Steel with sintered metal sliding layer | Stahl /steel<br>DIN EN ISO 683-3 1.7131 o.ä. / or similar                  | Stahl /steel<br>DIN EN ISO 4957 1.2379 o.ä. / or similar |
| Abkürzung<br>Keyword                                                | WF750/1A                                                                         | Sinter                                                                        | St 1                                                                       | St 2                                                     |
| Flächenanteil Festschmierstoff<br>Surface area solid lubricant      | 20 – 25 %                                                                        | 15 – 20 %                                                                     | -                                                                          | -                                                        |
| Gleitrichtung<br>Sliding direction                                  | nach Vorgabe<br>as specified                                                     | beliebig<br>any                                                               | beliebig<br>any                                                            | beliebig<br>any                                          |
| Temperaturbeständigkeit max.<br>Temperature resistance max.         | <150 °C                                                                          | <230 °C                                                                       | <230 °C                                                                    | <230 °C                                                  |
| Härte<br>Hardness                                                   | 190 – 220 HBW 10/3000                                                            | 230 HBW10/3000                                                                | oberflächengehärtet<br>surface-hardened<br>650 – 750 HV 10<br>CHD min. 0,8 | durchgehärtet<br>hardened through<br>58 HRC +4           |
| pv-Wert<br>pv value                                                 | 1,67 N/mm² x m/s                                                                 | 3,5 N/mm² x m/s                                                               | -                                                                          | -                                                        |
| Flächenpressung max. (statisch)<br>Surface pressure max. (static)   | 50 N/mm²                                                                         | 120 N/mm²                                                                     | -                                                                          | -                                                        |
| Flächenpressung max. (dynamisch)<br>Surface pressure max. (dynamic) | 35 N/mm²                                                                         | 70 N/mm²                                                                      | -                                                                          | -                                                        |
| Stoßbelastung<br>Imapct load                                        | +++                                                                              | -                                                                             | ++                                                                         | ++                                                       |
| Hubgeschwindigkeit<br>Stroke rate                                   | ++                                                                               | +++                                                                           | ++                                                                         | ++                                                       |

| Sinter                                                                                                               | WF 750/1A                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Schmierstoff in Sinterschicht<br>Lubricant in sintered layer                                                         | Schmierstoff in Graphitinserts<br>Lubricant in graphite inserts                                                      |
| Temperatur bis 230 °C<br>Temperature up to 230 °C                                                                    | Temperatur bis 150 °C<br>Temperature up to 150 °C                                                                    |
| Höhere Geschwindigkeit 1 m/s<br>Higher speed 1 m/s                                                                   | Geschwindigkeit 0,5 m/s<br>Speed 0.5 m/s                                                                             |
| Höhere Flächenpressung<br>Higher surface pressure                                                                    | Unempfindlich bei Stoßbelastung<br>Insensitive to impact load                                                        |
| Gegenmaterial min. 50 HRC<br>Counter material min. 50 HRC<br>Oberflächengüte Rz ≤6,3 µm<br>Surface finish Rz ≤6.3 µm | Gegenmaterial min. 30 HRC<br>Counter material min. 30 HRC<br>Oberflächengüte Rz ≤6,3 µm<br>Surface finish Rz ≤6.3 µm |
| Geeignet für oszillierende Bewegungen<br>Suitable for oscillating movements                                          | Geeignet für oszillierende Bewegungen<br>Suitable for oscillating movements                                          |



## 1.2 Werkstoffe für wartungsfreie Gleitpaarungen

### 1.2 Base-material for maintenance-free sliding couples

SPEZIFIKATIONEN

SPECIFICATIONS

| WF750/1A                                                                                                                              |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| DIN EN 1982                                                                                                                           | CuZn25Al5Mn4Fe3-C                   |
| Dichte<br>Density                                                                                                                     | 8,2 kg/dm <sup>3</sup>              |
| Biegewechselfestigkeit<br>Bending fatigue strength                                                                                    | +/- 150 MPa                         |
| Elastizitätsmodul<br>Modulus of elasticity                                                                                            | 120.000 N/mm <sup>2</sup>           |
| Wärmeleitfähigkeit<br>Thermal conductivity                                                                                            | 50 W/(mK)                           |
| Elektrische Leitfähigkeit<br>Electrical conductivity                                                                                  | 7-8 m/(Ω·m <sup>-1</sup> )          |
| Ausdehnungskoeffizient (20 bis 200 °C)<br>Coefficient of expansion (20 to 200 °C)                                                     | 18x10 <sup>-6</sup> K <sup>-1</sup> |
| Reibungszahl (abhängig von Wertstoffpaarung und Belastung)<br>Coefficient of friction (dependent on combination of material and load) | 0,05 – 0,12                         |
| Flächenpressung statisch<br>Static surface pressure                                                                                   | 50 N/mm <sup>2</sup>                |
| Flächenpressung dynamisch<br>Dynamic surface pressure                                                                                 | 35 N/mm <sup>2</sup>                |
| pv-Wert<br>pv-value                                                                                                                   | 1,67 N/mm <sup>2</sup> x m/s        |
| Schmierstoffanteil<br>Lubricant content                                                                                               | 20 – 25 %                           |

ALLE WF-SORTEN MIT FESTSCHMIERSTOFF

ALL WF-GRADES WITH LUBRICANT

| Sorte<br>Grade                  | WF750/1A                                                                                                                                                                                                                                                             | WF750/2A                                                                                                                                                                                                                                                                                                                                     | WF750/7A                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grundwerkstoff<br>Base-material | CuZn25Al5Mn4Fe3-C                                                                                                                                                                                                                                                    | CuAl10Fe5Ni5-C                                                                                                                                                                                                                                                                                                                               | CuSn7Pb15-C                                                                                                                                                                                                                                                                                                                                 |
| R <sub>p0,2</sub>               | 450 – 550 MPa                                                                                                                                                                                                                                                        | 250 – 280 MPa                                                                                                                                                                                                                                                                                                                                | 80 – 90 MPa                                                                                                                                                                                                                                                                                                                                 |
| R <sub>m</sub>                  | 750 – 800 MPa                                                                                                                                                                                                                                                        | 600 – 650 MPa                                                                                                                                                                                                                                                                                                                                | 170 – 200 MPa                                                                                                                                                                                                                                                                                                                               |
| A <sub>5</sub>                  | 5 – 8 %                                                                                                                                                                                                                                                              | 7 – 13 %                                                                                                                                                                                                                                                                                                                                     | 7 – 8 %                                                                                                                                                                                                                                                                                                                                     |
| Härte<br>Hardness               | 190 – 220 HBW 10/3000                                                                                                                                                                                                                                                | 140 – 150 HBW 10/3000                                                                                                                                                                                                                                                                                                                        | 60 – 65 HBW 10/3000                                                                                                                                                                                                                                                                                                                         |
| pv-Wert<br>pv-value             | 1,67 N/mm <sup>2</sup> x m/s                                                                                                                                                                                                                                         | 1 N/mm <sup>2</sup> x m/s                                                                                                                                                                                                                                                                                                                    | 1 N/mm <sup>2</sup> x m/s                                                                                                                                                                                                                                                                                                                   |
| Anmerkung<br>Comments           | Hohe Tragfähigkeit, sehr gute Abrieb- und Verschleißfestigkeit, mäßige Korrosionsbeständigkeit, gehärtete Gegenfläche günstig.<br><br>High load capacity, very good wear and abrasion resistance, moderate corrosion resistance, hardened mating material favorable. | Hohe Kavitations-, Erosions- und Korrosionsbeständigkeit, unempfindlich gegenüber Stoßbeanspruchung, sehr gute Abrieb- und Verschleißfestigkeit, gehärtete Gegenfläche günstig.<br><br>Good erosion and corrosion resistance, insensitive against impact stress, very good wear and abrasion resistance, hardened mating material favorable. | Gute Gleit- und Notlaufeigenschaften. Für Lager mit hohen Flächendrücken, bei denen hohe Kantenpressungen auftreten können.<br><br>Good slide and distress properties, for bearings with high surface pressure and applications where high edge pressure can occur. Special suitable for strain rod bushings in injection molding machines. |

SINTER

Einfach in der Pflege, zuverlässig im Betrieb: Die poröse Sintermetallschicht ist auf einer Trägergrundplatte aus Stahl aufgebracht. Das gewährleistet die hohe Strapazierfähigkeit und Festigkeit der Sinter-Gleitelemente. Ein weiteres Plus: Im Betrieb sind nur minimale Pflegemaßnahmen erforderlich, da die Sintermetallschicht mit einem Schmierstoff versetzt ist. Eine Schmierung sollte jedoch vor der ersten Inbetriebnahme sowie nach jeder Reinigung erfolgen.

SINTER

Sinter wear plates provide ease of maintenance and reliable service. The porous sinter metal layer is bonded to a steel base plate to create maximum sliding durability with high strength backing. These wear plates will require initial lubrication prior to use and after every cleaning.

| Sinter                                                               |                                                                                                                         |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Maximale Geschwindigkeit<br>Maximum speed                            | 1 m/s<br>(nach Initialschmierung und abhängig vom pv-Wert)<br>(after initial lubrication and depending on the pv value) |
| Arbeitstemperatur<br>Working temperature                             | Maximal 230 °C (abhängig vom Schmiermittel)<br>Maximum 230 °C (depending on the lubricant)                              |
| Gegenmaterial<br>Mating material                                     | Stahl gehärtet oder Guss<br>hardened Steel or cast iron                                                                 |
| Bearbeitung<br>Processing                                            | Grundsätzlich möglich (Bohren, Schleifen, Schneiden, ...)<br>Generally possible (drilling, grinding, cutting, ...)      |
| pv-Wert geschmiert<br>pv value lubricated                            | 3,5 N/mm <sup>2</sup> x m/s                                                                                             |
| Material Trägergrundplatte<br>Material of base plate                 | Stahl – 1.1191 (oder gleichwertig)<br>Steel – 1.1191 (or equivalent)                                                    |
| Reibungskoeffizient geschmiert<br>Coefficient of friction lubricated | 0,1                                                                                                                     |
| Schmierstoff<br>Lubricant                                            | Mobilgear 600XP 150                                                                                                     |
| Schmierstoffanteil<br>Lubricant share                                | 15 – 20 %                                                                                                               |
| Porosität<br>Porosity                                                | 18 – 23 %                                                                                                               |
| Gleitrichtung<br>Sliding direction                                   | Längs und quer<br>length- and cross-wise                                                                                |
| Flächenpressung statisch<br>Static surface pressure                  | 120 N/mm <sup>2</sup>                                                                                                   |
| Flächenpressung dynamisch<br>Dynamic surface pressure                | 70 N/mm <sup>2</sup>                                                                                                    |

1.3 Anwendungshinweise  
1.3 Application instructions

EINBAUHINWEISE FÜR BUCHSEN

Die Aufnahmebohrung für die wartungsfreien Buchsen sollte der ISO-Toleranz H7 entsprechen. Eine Überdeckung der Passung wird durch das Wählen des Toleranzfeldes der Buchse erreicht, zum Beispiel m6 für einen leichten Presssitz. Dabei ist zu berücksichtigen, dass sich der Innendurchmesser des Gleitlagers nach dem Einpressen oder Einschrumpfen verkleinert. Nach dem Zusammenfügen sollte die Buchse gegen Verdrehen gesichert werden. Das erforderliche Laufspiel der Welle wird durch das Festlegen des Toleranzfeldes bestimmt.

Beispiel leichter Presssitz:

Aufnahmebohrung H7  
Buchse Kapitel 2.1 m6/F7  
Säule Kapitel 17.4 h6 für enges Lagerspiel  
Säule Kapitel 17.8 f7 für größeres Lagerspiel

Beispiel strenger Presssitz:

Aufnahmebohrung H7  
Buchse Kapitel 3.14 r6/E7  
Säule Kapitel 17.4 h6 für enges Lagerspiel  
Säule Kapitel 17.8 f7 für größeres Lagerspiel

Die Gleitflächen sind nach dem Einbau bzw. nach jeder Reinigung mit Öl zu versehen. Wir empfehlen, handelsübliche Öle zu verwenden.

GEGENWERKSTOFF

Der Gegenwerkstoff sollte min. 30 HRC aufweisen. Optimale Bedingungen werden mit gehärteten und geschliffenen Gegenwerkstoffen erreicht. Empfohlene Oberflächengüte Rz 6,3 (Ra max. 0,8 µm).

TEMPERATUR

Bei Temperaturen >80 °C ist die Pflege der Gleitelemente aufgrund des höheren Verbrauches an Schmierstoff empfehlenswert.

SCHMIERSTOFF

Um eine optimale Schmierung zu erreichen, wird der Schmierstoff in der Gleitrichtung überdeckend angeordnet. Der Schmierstoffanteil an der Gleitfläche liegt zwischen 20 – 25 %. Der Graphit dient primär als Schmierstoffdepot und sekundär als Notlaufschmierung. Bei extremer Beanspruchung (z. B. Gleitgeschwindigkeit >0,5 m/s) ist eine Zusatzschmierung empfehlenswert.

INSTALLATION GUIDELINES FOR BUSHES

The locating hole for the maintenance free bushings should confirm with ISO-tolerance H7. The overlapping of the fit is achieved through the tolerance zone of bushings, using as an example m6 for a light press fit. Please take into – consideration that the inner diameter of the bushing after the press fit or shrink will get smaller. The bushing needs to be secured against rotation after the installation. The necessary running clearance of the shaft has to be determined through the tolerance zone.

Example for light press fit:

Locating hole H7  
Bushing chapter 2.1 m6/F7  
Guide post chapter 17.4 h6 for tight bearing clearance  
Guide post chapter 17.8 f7 for less tight bearing clearance

Example for tight press fit:

Locating hole H7  
Bushing chapter 3.14 r6/E7  
Guide post chapter 17.4 h6 for tight bearing clearance  
Guide post chapter 17.8 f7 for less tight bearing clearance

After bushing installation or after cleaning, the sliding surface should be treated with commercial available oil. We recommend the use of commercially available oils.

COUNTER MATERIAL

The mating material should have min. 30 HRC. Optimum conditions are achieved with hardened and ground mating materials. Recommended surface quality Rz 6.3 (Ra max. 0.8 µm).

TEMPERATURE

At temperatures >80 °C, maintenance of the sliding elements is recommended due to the higher consumption of lubricant.

LUBRICANT

To achieve optimum lubrication, the lubricant is arranged overlapping in the sliding direction. The amount of solid lubricant in proportion to the sliding area is between 20 to 25 % of the total sliding area. The graphite serves primarily as a lubricant depot and secondarily as an emergency lubrication. For extreme application, sliding speed > 0,5 m/s, additional lubrication is recommended.

SONDERANFERTIGUNG

Die voestalpine Camtec GmbH liefert Gleitelemente und Buchsen einbaufertig bearbeitet in den unterschiedlichsten Formen, z. B.  
Gleitplatten bis ca. 2000 x 500 mm  
Buchsen, Ringe und Formgussteile bis Außendurchmesser 500 mm, Höhe 500 mm

Alle Gleitelemente können auch in unterschiedlichen Bronzwerkstoffen geliefert werden. Unser Erzeugungsprogramm senden wir Ihnen gerne auf Anfrage zu.

WICHTIGES IN KÜRZE

Gleitelemente aus WF750 Material sind vorzugsweise dort einsetzbar, wo Gleitgeschwindigkeiten <0,5 m/s vorliegen bzw. eine oszillierende Gleitbewegung auftritt. Der wartungsfreie Betrieb der Gleitelemente erfordert einen entsprechenden Schmierstoffanteil. Um den Schmierstoff einlagern zu können, empfehlen wir folgende Mindestwanddicken:  
Gleitplatten: > 5 mm  
Buchsen: 5 % des Innen-Ø + 3 mm

Art und Ausführung der Schmierstoff-Makrodepots sowie der Schmierstoffanteil sind von der Formgebung des Gleitelements und der Gleitrichtung abhängig. Sie werden für den jeweiligen Einsatzfall gesondert festgelegt.

CUSTOM-MADE

voestalpine Camtec GmbH supplies self-lubricating sliding elements and bushings ready for installation in various shapes:  
Sliding plates up to 2000 x 500 mm  
Bushings, rings and other special cast designs up to outer diameter 500 mm, height 500 mm

All sliding elements are available in different bronze materials and steel. We would be pleased to submit our standard production program upon request.

IMPORTANT FACTS

Self-lubricating sliding elements WF750 are preferable recommended and used where sliding speed are <0,5 m/s respectively where an oscillating sliding movement takes place. Maintenance-free performance of self-lubricating elements requires a proper portion of solid lubricant. In order to embed the solid lubricant, we recommend the following minimum wall thickness:  
Wear plates: > 5 mm  
Bushings: 5 % of inner diameter + 3 mm

Type of arrangement of the solid lubricant macro depots as well as amount of solid lubricant depends on shape of the self-lubricating element and the sliding direction. They will be established for each specific application.

# 1.4 Richtiger Umgang mit Gleitelementen in der Wartung

## 1.4 Correct treatment of sliding elements in the maintenance

### GENERELLE INFORMATIONEN

Gleitelemente der voestalpine Camtec sind wartungsfrei. Als Schmiermittel dient Graphit mit Zusätzen. Wichtig: Graphit alleine hat keine ausreichende Schmierwirkung. Der Schmierstoffanteil auf der Gleitfläche beträgt 20 – 25 %. Im generellen Betrieb sind keine zusätzlichen Pflegemaßnahmen notwendig. Die nachstehenden Pflegehinweise wirken sich positiv auf die Lebensdauer der Gleitelemente aus und sind daher empfohlen.

### EINFLÜSSE, DIE ZUSÄTZLICHE PFLEGE ERFORDERN

Nach dem Schleifen im Werkzeugbau werden die Werkzeuge gereinigt. Die jetzt trockenen Gleitelemente sollten dann wieder mit dem richtigen Öl befeuchtet werden, um das „trockene“ Laufen bis zur Betriebstemperatur zu vermeiden.

Bei der Reinigung der Werkzeuge im Presswerk in Werkzeugwaschanlagen oder mit Dampfstrahlern, ist darauf zu achten, dass die Gleitelemente nicht direkt vom Hochdruckstrahl erfasst werden.

Die Reinigung mit Fettlösern kann zu zusätzlichem Schaden der Gleitelemente führen. Beim Transport übergroßer Werkzeuge auf offenen Spezialtransportern werden die Werkzeuge oft versiegelt. Das gilt auch für Schiffstransporte. Diese Versiegelung kann die Poren des Graphits dauerhaft verschließen.

Wenn Gleitelemente zusätzlich oder nachträglich beölt werden, dürfen keine Fette verwendet werden, welche die Poren des Graphits verschließen.

### GENERAL INFORMATION

Sliding elements of voestalpine camtec are maintenance-free. Graphite with additives is used as lubricant Important: Graphite alone doesn't have enough lubrication function. The proportion of lubrication on the sliding surface is 20 to 25 %. In general operation no additional maintenance measures are necessary. The following care instructions have a positive effect on the service life of the sliding elements and are therefore recommended.

### INSTANCES, WHICH REQUIRE ADDITIONAL TREATMENT

After grinding in the die shop, the tools are cleaned. The sliding elements are dry now and should be treated with the correct oil to avoid „dry“ running until the working temperature is reached.

If the tools are cleaned in the press-shop with high pressure washing machines it's important that the sliding elements aren't targeted by the high-pressure jet.

The cleaning with grease solvent is also dangerous for the additives in the graphite. By heavy transport or overseas transport the tools are often sealed. This sealing can permanently closes the pores of the graphite. So the additives cannot help for lubrication anymore.

If sliding elements are additionally or subsequently oiled, oil or grease, which closes the pores of the graphite, must not be used.

### AUFLISTUNG KORREKTER SCHMIERSTOFFE

In nachfolgender Tabelle sind handelsübliche Öle und lithiumverseifte Fette aufgelistet, welche wir für die Initialschmierung und nach der Reinigung empfehlen.

|       | Hersteller | Bezeichnung                                             |
|-------|------------|---------------------------------------------------------|
| Öle   | Castrol    | ATF Dex II Multivehicle<br>Transmax Dex III Mulivehicle |
|       | ENI        | Rotra ATF-Serie                                         |
|       | Mobil      | ATF-Serie                                               |
|       | OMV        | ATF-Serie                                               |
|       | Shell      | Spirax S-Serie                                          |
| Fette | BP         | Energreuse                                              |
|       | ENI        | GR MU Serie                                             |
|       | Lukoil     | Signum EPW2                                             |
|       | Mobil      | Nebula EP2<br>Beacon EP2                                |
|       | Shell      | Gadus S-Serie                                           |

Beim Auftragen von Fett ist zu beachten, dass die aufgetragene Schicht nicht zu dick ist. Eine zu dicke Schicht führt zu einer zu großen Flächenbelastung (meist nur beim ersten Hub) und kann das Eindringen der Graphiteinlagen zur Folge haben. Somit wäre der Schmiereffekt nicht mehr gegeben.

### RESULTAT RICHTIGER PFLEGE

Das Bild zeigt eine Gleitplatte nach einem praktischen Versuch auf unserem Tribometer mit 500.000 Hübten mit einer einmaligen Einölung der Gleitoberfläche bei Versuchsbeginn.

**Versuchsparameter:**  
Werkstoff: WF750/1 A  
Laufleistung: 170 km  
Gleitgeschwindigkeit: 0,5 m/s  
Belastung: 5 MPa  
Abrieb: 0,012 mm  
Oberflächenrauheit nach Versuch: Ra 0,26



**Parameter of the test:**  
Material: WF750/1 A  
Performance: 170 km  
Test velocity: 0.5 m/s  
Area loading: 5 MPa  
Wear: 0.012 mm  
Surface roughness after testing: Ra 0.26

### LIST OF CORRECT LUBRICANTS

The following table lists commercially oils and lithium-saponified greases that we recommend for initial lubrication and after cleaning:

|         | Company | Description                                             |
|---------|---------|---------------------------------------------------------|
| Oils    | Castrol | ATF Dex II Multivehicle<br>Transmax Dex III Mulivehicle |
|         | ENI     | Rotra ATF-Serie                                         |
|         | Mobil   | ATF-Serie                                               |
|         | OMV     | ATF-Serie                                               |
|         | Shell   | Spirax S-Serie                                          |
| Greases | BP      | Energreuse                                              |
|         | ENI     | GR MU Serie                                             |
|         | Lukoil  | Signum EPW2                                             |
|         | Mobil   | Nebula EP2<br>Beacon EP2                                |
|         | Shell   | Gadus S-Serie                                           |

While applying grease, take care that the applied layer isn't too thick. In this case the grease would press the graphite inserts in the sliding element away from the sliding surface (mostly on the first stroke). So the lubrication effect would no longer be given.

### RESULT OF CORRECT TREATMENT

The picture shows a slide plate after a practical test on our test machine after 500,000 strokes. The plate was treated once with oil before starting the test.



# 1.5 Allgemeine Hinweise

## 1.5 General information

### ISO-TOLERANZTABELLE

Bei den international verwendeten ISO-Toleranzen werden die Größe der Toleranz und ihre Lage zur Nulllinie durch die Toleranzklasse angegeben. Der Buchstabe gibt das Grundabmaß, die Zahl den Toleranzgrad an.

### DESCRIPTION OF PREFERRED ISO FITS

In the internationally used ISO tolerances, the size of the tolerance and its position relative to the zero line are indicated by the tolerance class. The letter indicates the basic dimension, the number the degree of tolerance.

|                                                   | ISO Symbol                    |                              | Beschreibung<br>Description                                                                                                                                                                                                                                                                                                              |                                   |
|---------------------------------------------------|-------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
|                                                   | Einheitsbohrung<br>Hole basis | Einheitswelle<br>Shaft basis |                                                                                                                                                                                                                                                                                                                                          |                                   |
| Spiel-<br>passungen<br><br>Clearance<br>Fits      | H11/c11                       | C11/h11                      | Looser Laufsitze für große handelsübliche Toleranzen oder Zugaben an Außenteilen.<br>Loose running fit for wide commercial tolerances or allowances on external members.                                                                                                                                                                 | Mehr Spielraum<br>More Clearance  |
|                                                   | H9/d9                         | D9/h9                        | Freilaufende Passung nicht für Anwendungen, bei denen es auf Genauigkeit ankommt, aber gut für große Temperaturschwankungen, hohe Laufgeschwindigkeiten oder hohen Zapfendruck.<br>Free running fit not for use where accuracy is essential, but good for large temperature variations, high running speeds, or heavy journal pressures. |                                   |
|                                                   | H8/f7                         | F8/h7                        | Eng anliegende Passung für den Einsatz auf genauen Maschinen und für eine genaue Positionierung bei mäßigen Geschwindigkeiten und Zapfendrücken.<br>Close running fit for running on accurate machines and for accurate location at moderate speeds and journal pressures.                                                               |                                   |
|                                                   | H7/g6                         | G7/h6                        | Schiebepassung nicht für freien Lauf, sondern für freie Bewegung und Drehung und genau zu positionieren.<br>Sliding fit not intended to run freely, but to move and turn freely and locate accurately.                                                                                                                                   |                                   |
|                                                   | H7/h6                         | H7/h6                        | Die Spielpassung bietet eine feste Passung für die Positionierung stationärer Teile; kann jedoch frei montiert und demontiert werden.<br>Locational clearance fit provides snug fit for locating stationary parts; but can be freely assembled and disassembled.                                                                         |                                   |
| Übergangs-<br>passungen<br><br>Transition<br>Fits | H7/k6                         | K7/h6                        | Passende Übergangspassung für genaue Positionierung, ein Kompromiss zwischen Spiel und Übermaß.<br>Locational transition fit for accurate location, a compromise between clearance and interference.                                                                                                                                     |                                   |
|                                                   | H7/n6                         | N7/h6                        | Örtliche Übergangspassung für eine genauere Positionierung, bei der ein größeres Übermaß zulässig ist.<br>Locational transition fit for more accurate location where greater interference is permissible.                                                                                                                                |                                   |
| Übermaß-<br>passungen<br><br>Interference<br>Fits | H7/p6 <sup>1)</sup>           | P7/h6                        | Formschlüssige Presspassung für Teile, die Steifigkeit und Ausrichtung mit höchster Lagegenauigkeit, aber ohne besondere Anforderungen an den Bohrungsdruck haben.<br>Locational interference fit for parts requiring rigidity and alignment with prime accuracy of location but without special bore pressure requirements.             |                                   |
|                                                   | H7/s6                         | S7/h6                        | Mittlere Mitnahmepassung für gewöhnliche Stahlteile oder Schrumpfsitze auf leichten Profilen, die engste Passung, die bei Gusseisen verwendet werden kann.<br>Medium drive fit for ordinary steel parts or shrink fits on light sections, the tightest fit usable with cast iron.                                                        |                                   |
|                                                   | H7/u6                         | U7/h6                        | Kraftsitz geeignet für Teile, die stark beansprucht werden können oder für Schrumpfsitze, bei denen die erforderlichen hohen Presskräfte unpraktisch sind.<br>Force fit suitable for parts which can be highly stressed or for shrink fits where the heavy pressing forces required are impractical.                                     | Mehr Übermaß<br>More Interference |

<sup>1)</sup> Übergangspassung für Basisgrößen im Bereich von 0 bis 3 mm.  
<sup>1)</sup> Transition fit for basic sizes in range from 0 through 3 mm.

# 1.6 Sondergleitelemente

## 1.6 Special sliding elements

### SONDERGLEITELEMENTE

Sollten Sie Bedarf an einer Speziallösung haben, unterstützen wir Sie gerne bei der Umsetzung. Um eine zügige Auslegung zu ermöglichen, sind in den allermeisten Fällen folgende Basisinformationen nötig:

#### Anwendungsfall

- » Um welchen Anwendungsbereich handelt es sich (Sonderbuchse für Säulenführung im Maschinenbau, Sondergleitplatte für Flachführung im Presswerk, etc.)?
- » Bewegungsform (rotatorisch, translatorisch oszillierend)?

#### Belastung

- » Welche einwirkenden Kräfte sind zu erwarten (Normalkraft, Radialkraft)?
- » Welche Geschwindigkeiten m/s bzw. Drehzahlen 1/min sind geplant?
- » Welcher Hub in mm ist geplant?
- » Welche Laufzeit ist geplant?

#### Dimension bzw. Material

- » Welche Abmessungen sollte das Gleitelement haben (Skizze oder Beschreibung)?
- » Material Gleitelement?
- » Material Gegenstück?
- » Härte und Oberflächenbeschaffenheit Gegenstück?

#### Einsatzumgebung

- » Welche Einsatztemperaturen sind zu erwarten?
- » Kontakt mit Staub, Schmutz, Flüssigkeiten oder Chemikalien erwartet?
- » Ist eine Zusatzschmierung geplant?
- » Sind Wartungszyklen geplant?

#### Allgemeine Informationen

- » Geplante Bestellmenge
- » Geplantes Lieferdatum
- » Kundendaten

### SPECIAL SLIDING ELEMENTS

If you need a special solution for any sliding element, we are happy to help you in realizing your project. In order to give you a quick response, the following information helps us to give you a technical evaluation:

#### Field of application

- » What is the field of application (special bushing for pillar guide machine building, special wear plate for flat guiding in a stamping tool, etc.)?
- » Form of movement (rotational movement, translational movement oscillating)?

#### Load

- » Which load is expected (normal force, radial force)?
- » Which velocity m/s or rotation speed 1/min is planned?
- » Which stroke mm is planned?
- » Which runtime ist planned?

#### Dimensions and material

- » Which dimensions the sliding element should have (sketch or description)?
- » Material sliding element?
- » Material counterpart?
- » Hardness and surface quality of counterpart?

#### Environmental condition

- » Which environmental temperature is expected?
- » Contact with dust, dirt, fluids or chemicals expected?
- » Additional lubrication planned?
- » Maintenance cycles planned?

#### General information

- » Planned order quantity
- » Planned delivery date
- » Customer data



## 2. Buchsen ohne Bund

### 2. Bushings without flange

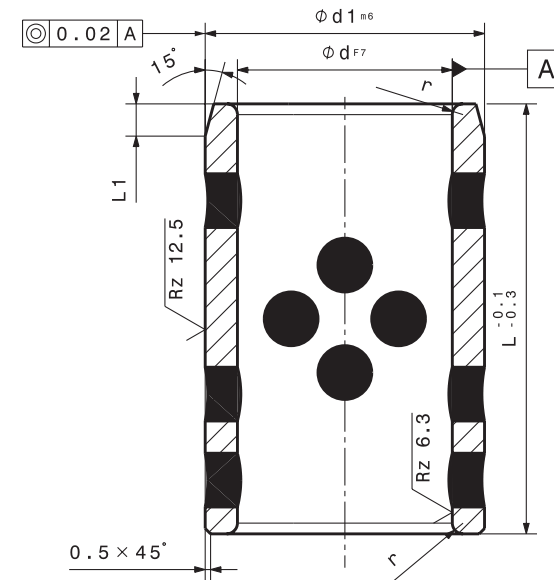
2.1



Buchsen ohne Bund  
Bushings without flange



## 2.1

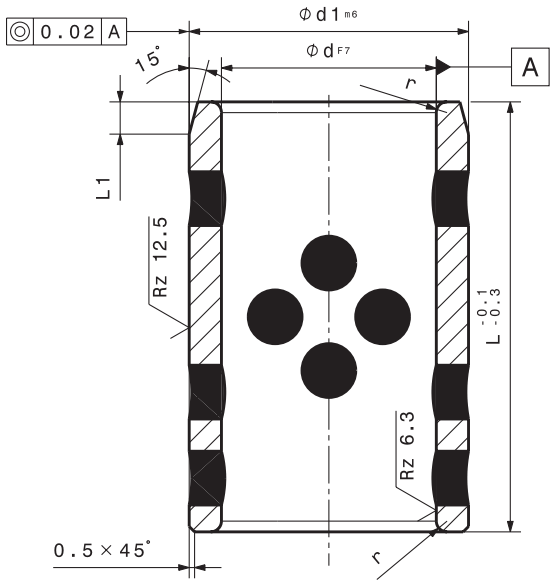


Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

2.1 Buchsen ohne Bund
2.1 Bushings without flange

2.1



| Ident-No.<br>WF750/1A | Ød<br>F7 | Ød1<br>m6 | L1 | r | L<br>-0,1<br>-0,3 |
|-----------------------|----------|-----------|----|---|-------------------|
| 15176                 | 30       | 40        | 3  | 2 | 50                |
| 14919                 | 30       | 40        | 3  | 2 | 60                |
| 15377                 | 30       | 45        | 3  | 2 | 40                |
| 14582                 | 31       | 40        | 3  | 2 | 30                |
| 14517                 | 31       | 40        | 3  | 2 | 40                |
| 13460                 | 32       | 42        | 3  | 2 | 30                |
| 16808                 | 32       | 42        | 3  | 2 | 40                |
| 14391                 | 35       | 44        | 3  | 2 | 25                |
| 17030                 | 35       | 44        | 3  | 2 | 30                |
| 17031                 | 35       | 44        | 3  | 2 | 35                |
| 17032                 | 35       | 44        | 3  | 2 | 40                |
| 17033                 | 35       | 44        | 3  | 2 | 50                |
| 17034                 | 35       | 44        | 3  | 2 | 60                |
| 16809                 | 35       | 45        | 3  | 2 | 20                |
| 14825                 | 35       | 45        | 3  | 2 | 25                |
| 14103                 | 35       | 45        | 3  | 2 | 30                |
| 14166                 | 35       | 45        | 3  | 2 | 35                |
| 14952                 | 35       | 45        | 3  | 2 | 40                |
| 14756                 | 35       | 45        | 3  | 2 | 45                |
| 15138                 | 35       | 45        | 3  | 2 | 50                |
| 15175                 | 35       | 45        | 3  | 2 | 60                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

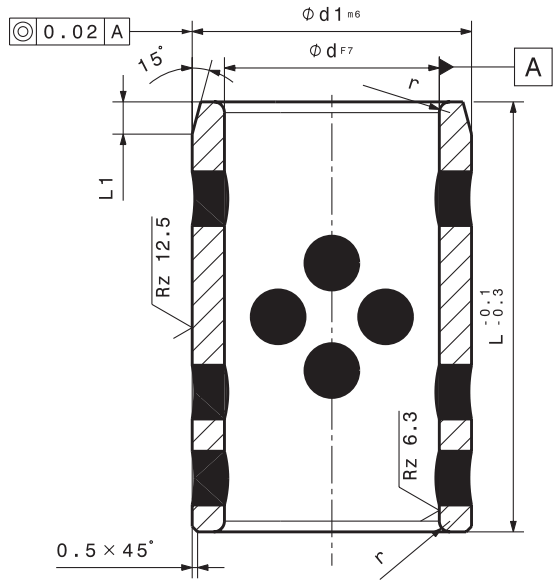
2.1

| Ident-No.<br>WF750/1A | Ød<br>F7 | Ød1<br>m6 | L1 | r | L<br>-0,1<br>-0,3 |
|-----------------------|----------|-----------|----|---|-------------------|
| 14597                 | 35       | 45        | 3  | 2 | 100               |
| 16810                 | 38       | 48        | 3  | 2 | 30                |
| 16811                 | 38       | 48        | 3  | 2 | 40                |
| 16814                 | 40       | 50        | 3  | 2 | 20                |
| 15212                 | 40       | 50        | 3  | 2 | 25                |
| 17035                 | 40       | 50        | 3  | 2 | 30                |
| 17036                 | 40       | 50        | 3  | 2 | 35                |
| 19611                 | 40       | 50        | 3  | 2 | 40                |
| 17038                 | 40       | 50        | 3  | 2 | 50                |
| 17039                 | 40       | 50        | 3  | 2 | 60                |
| 62113                 | 40       | 50        | 3  | 2 | 70                |
| 16815                 | 40       | 50        | 3  | 2 | 80                |
| 14592                 | 40       | 55        | 3  | 2 | 25                |
| 14680                 | 40       | 55        | 3  | 2 | 30                |
| 14599                 | 40       | 55        | 3  | 2 | 35                |
| 14396                 | 40       | 55        | 3  | 2 | 40                |
| 14397                 | 40       | 55        | 3  | 2 | 50                |
| 15237                 | 40       | 55        | 3  | 2 | 60                |
| 14601                 | 45       | 55        | 3  | 2 | 30                |
| 14610                 | 45       | 55        | 3  | 2 | 35                |
| 15230                 | 45       | 55        | 3  | 2 | 40                |
| 14613                 | 45       | 55        | 3  | 2 | 50                |
| 14063                 | 45       | 55        | 3  | 2 | 60                |
| 14099                 | 45       | 55        | 3  | 2 | 110               |
| 13996                 | 45       | 56        | 3  | 2 | 12                |
| 17040                 | 45       | 56        | 3  | 2 | 30                |
| 17041                 | 45       | 56        | 3  | 2 | 35                |
| 17042                 | 45       | 56        | 3  | 2 | 40                |
| 17043                 | 45       | 56        | 3  | 2 | 50                |
| 17044                 | 45       | 56        | 3  | 2 | 60                |
| 14609                 | 45       | 60        | 3  | 2 | 30                |
| 14612                 | 45       | 60        | 3  | 2 | 40                |
| 15501                 | 45       | 60        | 3  | 2 | 50                |
| 15570                 | 45       | 60        | 3  | 2 | 60                |
| 16816                 | 45       | 60        | 3  | 2 | 70                |
| 16817                 | 45       | 60        | 3  | 2 | 80                |
| 14731                 | 50       | 60        | 3  | 2 | 30                |
| 14615                 | 50       | 60        | 3  | 2 | 35                |
| 14266                 | 50       | 60        | 3  | 2 | 40                |
| 14732                 | 50       | 60        | 3  | 2 | 50                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

2.1 Buchsen ohne Bund
2.1 Bushings without flange

2.1



| Ident-No.<br>WF750/1A | Ød<br>F7 | Ød1<br>m6 | L1 | r | L<br>-0,1<br>-0,3 |
|-----------------------|----------|-----------|----|---|-------------------|
| 15465                 | 50       | 60        | 3  | 2 | 60                |
| 14621                 | 50       | 60        | 3  | 2 | 70                |
| 15464                 | 50       | 60        | 3  | 2 | 80                |
| 17045                 | 50       | 62        | 3  | 2 | 30                |
| 17046                 | 50       | 62        | 3  | 2 | 35                |
| 17047                 | 50       | 62        | 3  | 2 | 40                |
| 19612                 | 50       | 62        | 3  | 2 | 50                |
| 17049                 | 50       | 62        | 3  | 2 | 60                |
| 17050                 | 50       | 62        | 3  | 2 | 70                |
| 15113                 | 50       | 62        | 3  | 2 | 80                |
| 14614                 | 50       | 65        | 3  | 2 | 30                |
| 14617                 | 50       | 65        | 3  | 2 | 40                |
| 15929                 | 50       | 65        | 3  | 2 | 50                |
| 15957                 | 50       | 65        | 3  | 2 | 60                |
| 15928                 | 50       | 65        | 3  | 2 | 70                |
| 16845                 | 50       | 65        | 3  | 2 | 80                |
| 16819                 | 50       | 65        | 3  | 2 | 100               |
| 14622                 | 55       | 70        | 3  | 2 | 40                |
| 14625                 | 55       | 70        | 3  | 2 | 50                |
| 14308                 | 55       | 70        | 3  | 2 | 60                |
| 14626                 | 55       | 70        | 3  | 2 | 70                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

2.1

| Ident-No.<br>WF750/1A | Ød<br>F7 | Ød1<br>m6 | L1 | r | L<br>-0,1<br>-0,3 |
|-----------------------|----------|-----------|----|---|-------------------|
| 13092                 | 60       | 70        | 4  | 3 | 50                |
| 17051                 | 60       | 74        | 4  | 3 | 30                |
| 17052                 | 60       | 74        | 4  | 3 | 35                |
| 17053                 | 60       | 74        | 4  | 3 | 40                |
| 15372                 | 60       | 74        | 4  | 3 | 45                |
| 17054                 | 60       | 74        | 4  | 3 | 50                |
| 19613                 | 60       | 74        | 4  | 3 | 60                |
| 17056                 | 60       | 74        | 4  | 3 | 70                |
| 17057                 | 60       | 74        | 4  | 3 | 80                |
| 14627                 | 60       | 75        | 4  | 3 | 30                |
| 15074                 | 60       | 75        | 4  | 3 | 35                |
| 14628                 | 60       | 75        | 4  | 3 | 40                |
| 14631                 | 60       | 75        | 4  | 3 | 50                |
| 15467                 | 60       | 75        | 4  | 3 | 60                |
| 15840                 | 60       | 75        | 4  | 3 | 70                |
| 15307                 | 60       | 75        | 4  | 3 | 80                |
| 15697                 | 60       | 75        | 4  | 3 | 100               |
| 14632                 | 63       | 75        | 4  | 3 | 60                |
| 15139                 | 63       | 75        | 4  | 3 | 70                |
| 16820                 | 63       | 75        | 4  | 3 | 80                |
| 16821                 | 65       | 80        | 4  | 3 | 50                |
| 14959                 | 65       | 80        | 4  | 3 | 60                |
| 14633                 | 65       | 80        | 4  | 3 | 70                |
| 16822                 | 65       | 80        | 4  | 3 | 80                |
| 17058                 | 70       | 85        | 4  | 3 | 35                |
| 17059                 | 70       | 85        | 4  | 3 | 40                |
| 17060                 | 70       | 85        | 4  | 3 | 50                |
| 17061                 | 70       | 85        | 4  | 3 | 60                |
| 17062                 | 70       | 85        | 4  | 3 | 70                |
| 17063                 | 70       | 85        | 4  | 3 | 80                |
| 17064                 | 70       | 85        | 4  | 3 | 100               |
| 13236                 | 70       | 90        | 4  | 3 | 40                |
| 16823                 | 70       | 90        | 4  | 3 | 50                |
| 14634                 | 70       | 90        | 4  | 3 | 60                |
| 14639                 | 70       | 90        | 4  | 3 | 70                |
| 14643                 | 70       | 90        | 4  | 3 | 80                |
| 16824                 | 75       | 90        | 4  | 3 | 60                |
| 16825                 | 75       | 90        | 4  | 3 | 70                |
| 16826                 | 75       | 90        | 4  | 3 | 80                |
| 16827                 | 75       | 90        | 4  | 3 | 100               |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium





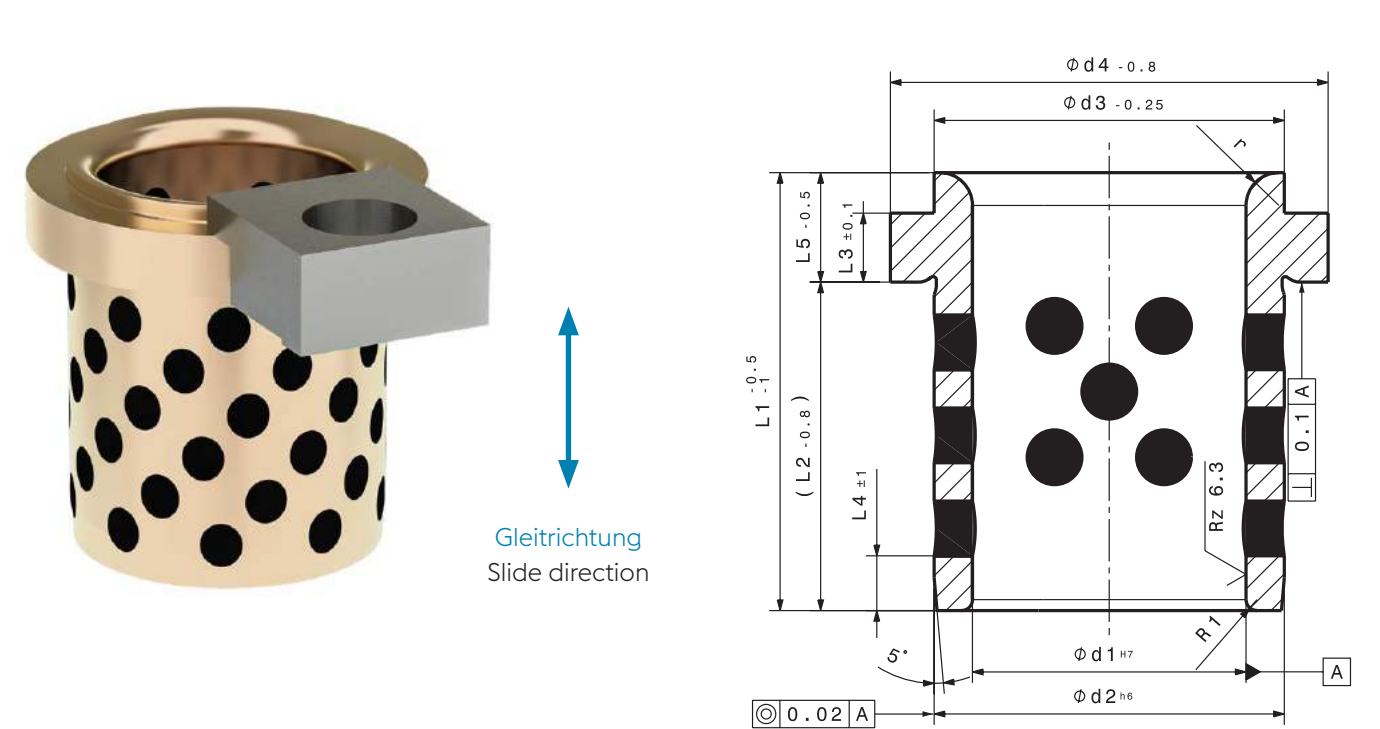
### 3. Buchsen mit Bund

### 3. Bushings with flange

- |      |                                                                                       |                                                                                                     |
|------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 3.1  |    | Buchsen nach DIN 9834 und Klammern nach DIN 9832<br>Bushings acc. DIN 9832 and clamps acc. DIN 9832 |
| 3.2  |    | Buchsen und Klammern nach NAAMS<br>Bushings and clamps acc. NAAMS                                   |
| 3.3  |    | Buchsen mit Klammerfräsung und Klammern<br>Bushings with clamp milling and clamps                   |
| 3.5  |    | Buchsen<br>Bushings                                                                                 |
| 3.6  |    | Führungsbuchsen zum Einpressen<br>Guide bushings for force in                                       |
| 3.7  |    | Buchsen<br>Bushings                                                                                 |
| 3.8  |   | Buchsen<br>Bushings                                                                                 |
| 3.10 |  | Buchsen<br>Bushings                                                                                 |
| 3.11 |  | Buchsen<br>Bushings                                                                                 |
| 3.12 |  | Buchsen<br>Bushings                                                                                 |
| 3.14 |  | Buchsen<br>Bushings                                                                                 |
| 3.15 |  | Buchsen<br>Bushings                                                                                 |
| 3.19 |  | Buchsen<br>Bushings                                                                                 |
| 3.20 |  | Buchsen und Klammern<br>Bushings and clamps                                                         |

3.1 Buchsen nach DIN 9834 und Klammern nach DIN 9832

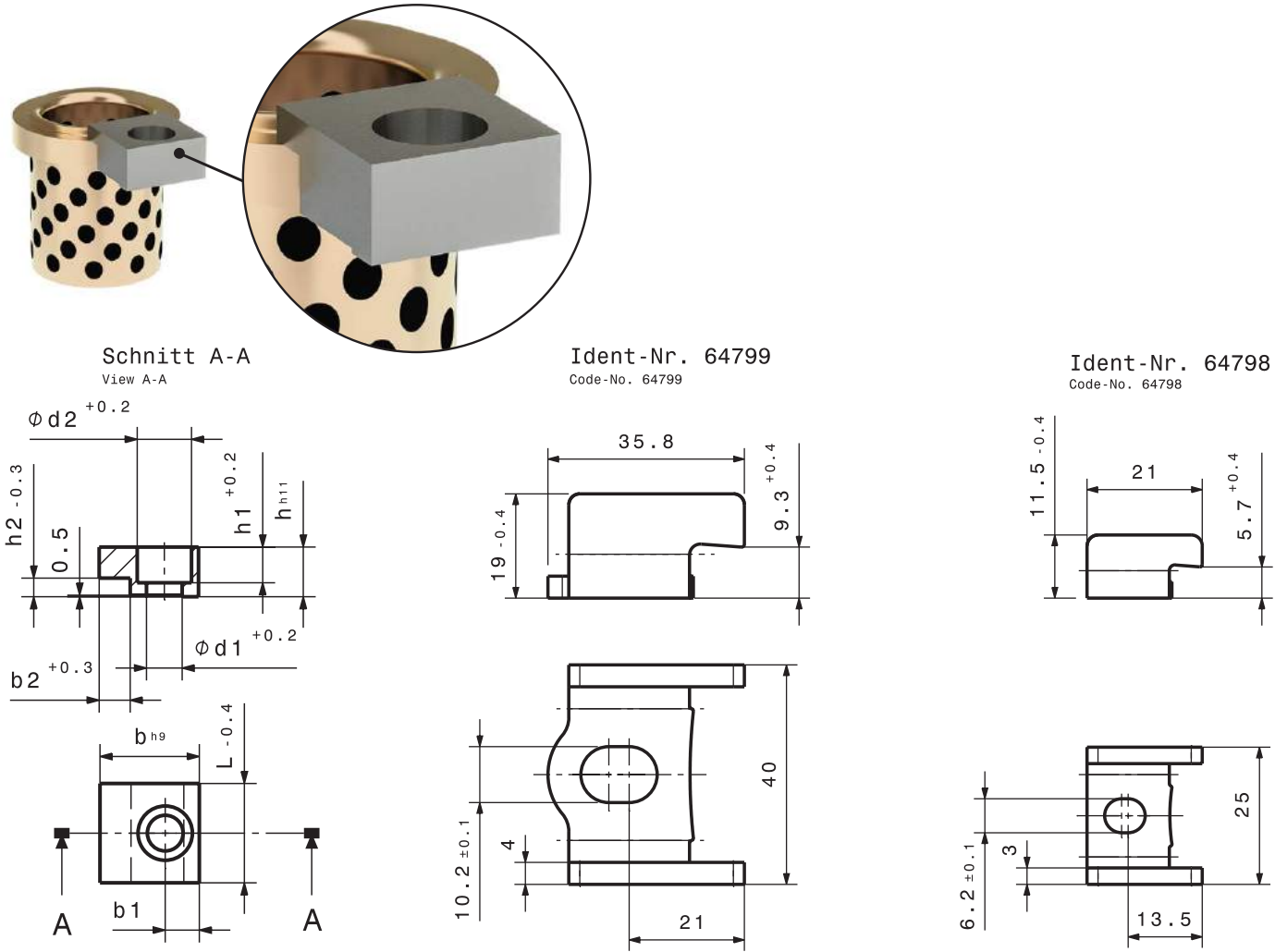
3.1 Bushings acc. DIN 9834 and clamps acc. DIN 9832



Führungssäulen siehe Kapitel 17.1  
Guide posts see Chapter 17.1

| Ident-No.<br>WF750/1A | $\phi d1$<br>H7 | $\phi d2$<br>h6 | $\phi d3$<br>-0,25 | $\phi d4$<br>-0,8 | $L1$<br>-0,5<br>-1 | $L3$<br>$\pm 0,1$ | $L4$<br>$\pm 1$ | $L5$<br>-0,5 | $(L2)$<br>-0,8 | $r$ | Klammer ID-No.<br>Clamp ID-No.   |
|-----------------------|-----------------|-----------------|--------------------|-------------------|--------------------|-------------------|-----------------|--------------|----------------|-----|----------------------------------|
| 18798                 | 25              | 32              | 32                 | 40                | 32                 | 6,3               | 4               | 10           | 22             | 3   | 19798<br>19784<br>19785<br>64798 |
| 18799                 | 25              | 32              | 32                 | 40                | 40                 | 6,3               | 3               | 10           | 30             | 3   |                                  |
| 18797                 | 25              | 32              | 32                 | 40                | 40                 | 6,3               | 4               | 8            | 32             | 3   |                                  |
| 18796                 | 24              | 32              | 32                 | 40                | 40                 | 6,3               | 4               | 8            | 32             | 3   |                                  |
| 18800                 | 32              | 40              | 40                 | 50                | 50                 | 6,3               | 4               | 12           | 38             | 3   |                                  |
| 18801                 | 40              | 50              | 50                 | 63                | 63                 | 6,3               | 5               | 15           | 48             | 3   | 19799<br>64799                   |
| 18802                 | 50              | 63              | 63                 | 71                | 71                 | 6,3               | 6,3             | 17           | 54             | 5   |                                  |
| 18803                 | 63              | 80              | 80                 | 90                | 80                 | 10                | 8               | 19           | 61             | 6   |                                  |
| 18804                 | 80              | 100             | 100                | 112               | 100                | 10                | 10              | 22           | 78             | 8   |                                  |
| 18808                 | 100             | 125             | 125                | 140               | 125                | 10                | 12,5            | 25           | 100            | 10  |                                  |
| 18805                 | 100             | 125             | 125                | 140               | 125                | 10                | 12,5            | 21           | 104            | 10  |                                  |
| 18806                 | 125             | 160             | 160                | 180               | 160                | 10                | 16              | 30           | 130            | 12  |                                  |
| 18807                 | 160             | 200             | 200                | 220               | 200                | 10                | 16              | 32           | 168            | 18  |                                  |

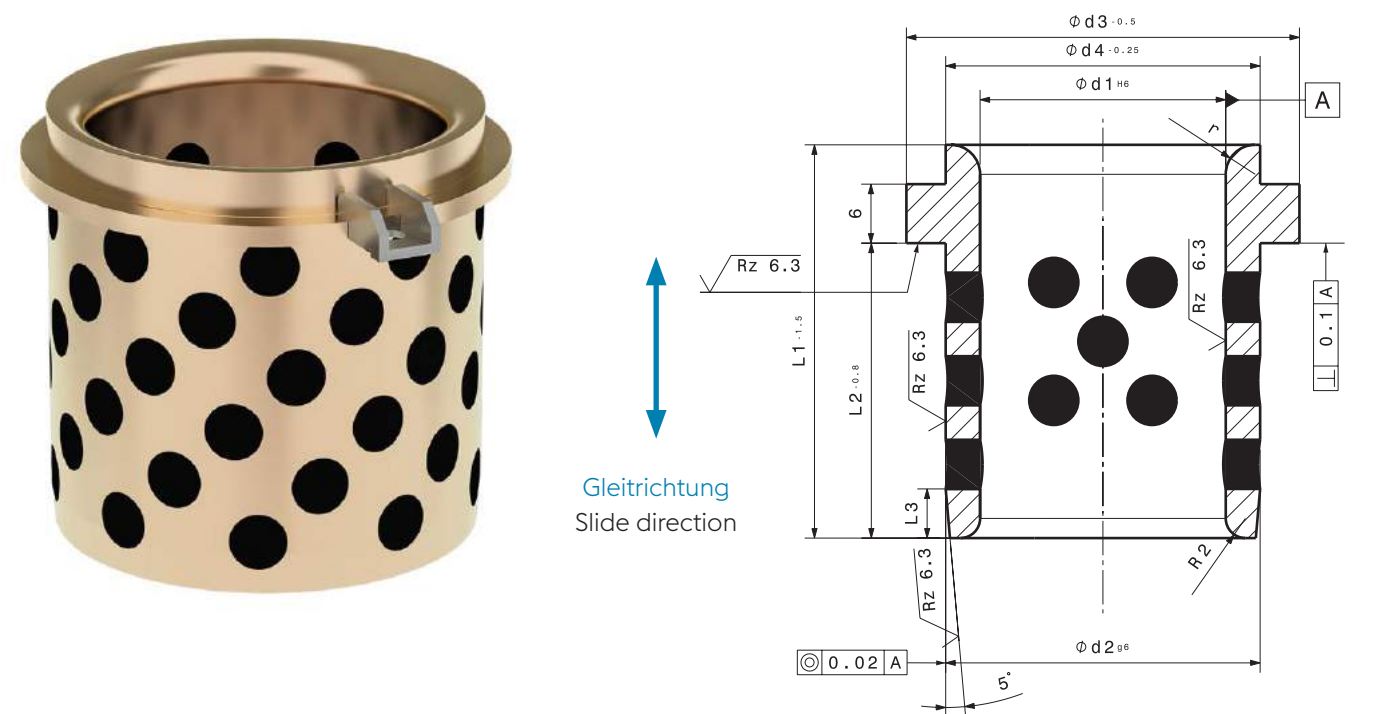
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>1.0037 | $b$<br>$h9$ | $L$<br>-0,4 | $h$<br>$h11$ | $b1$ | $b2$<br>+0,3 | $h1$<br>+0,2 | $h2$<br>-0,3 | $\phi d1$<br>+0,2 | $\phi d2$<br>+0,2 |
|---------------------|-------------|-------------|--------------|------|--------------|--------------|--------------|-------------------|-------------------|
| 19798               | 20          | 20          | 10           | 7,5  | 5            | 7            | 6,3          | 7                 | 11                |
| 19799               | 32          | 32          | 16           | 11   | 10           | 11,5         | 10           | 11,5              | 17,5              |
| 19784               | 25          | 20          | 12           | 10   | 5            | 8,5          | 6            | 9                 | 15                |
| 19785               | 32          | 25          | 16           | 11   | 10           | 11,5         | 6            | 11,5              | 18                |

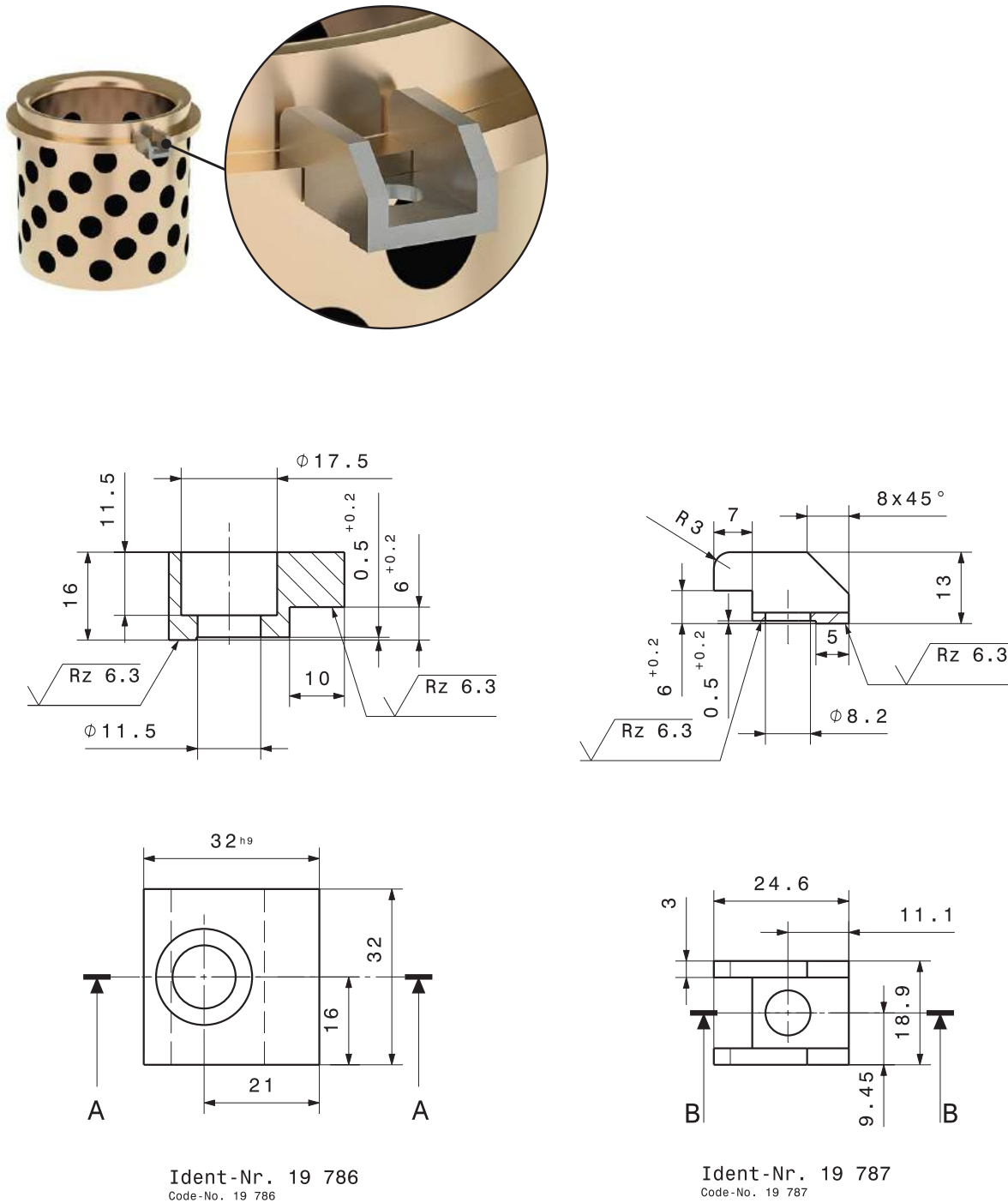
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

3.2 Buchsen und Klammern nach NAAMS
3.2 Bushings and clamps acc. NAAMS



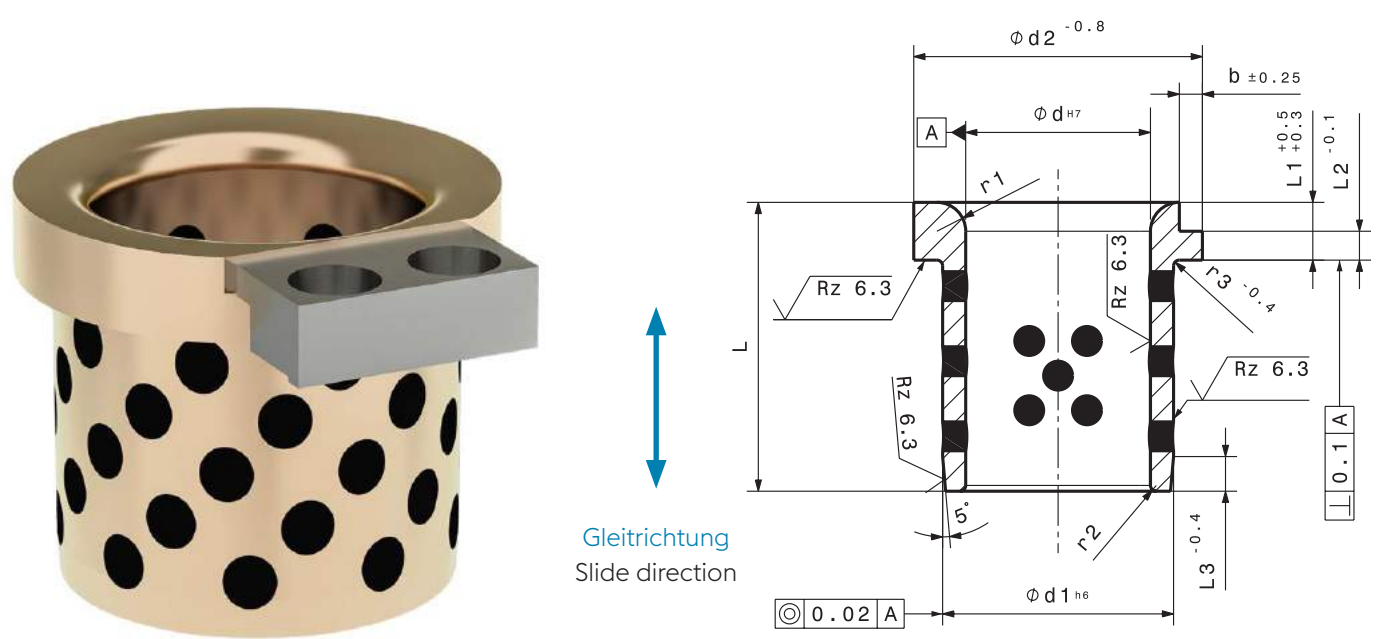
| Ident-No.<br>WF750/1A | Ød1<br>H6 | Ød2<br>g6 | Ød3<br>-0,5 | Ød4<br>-0,25 | L1<br>-1,5 | L2<br>-0,8 | L3 | r  | Klammer ID-No.<br>Clamp ID-No. |
|-----------------------|-----------|-----------|-------------|--------------|------------|------------|----|----|--------------------------------|
| 18809                 | 25        | 32        | 40          | 32           | 40         | 30         | 4  | 3  | 19786 / 19787                  |
| 18810                 | 32        | 40        | 50          | 40           | 50         | 40         | 4  | 3  |                                |
| 18811                 | 40        | 50        | 63          | 50           | 63         | 50         | 5  | 3  |                                |
| 18812                 | 50        | 63        | 71          | 63           | 71         | 56         | 6  | 5  |                                |
| 18813                 | 63        | 80        | 90          | 80           | 80         | 63         | 8  | 6  |                                |
| 18814                 | 80        | 100       | 112         | 100          | 100        | 80         | 10 | 8  |                                |
| 18815                 | 100       | 125       | 140         | 125          | 125        | 106        | 12 | 10 |                                |
| 18817                 | 115       | 140       | 155         | 140          | 140        | 120        | 12 | 10 |                                |
| 18816                 | 125       | 160       | 180         | 160          | 160        | 132        | 12 | 12 |                                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

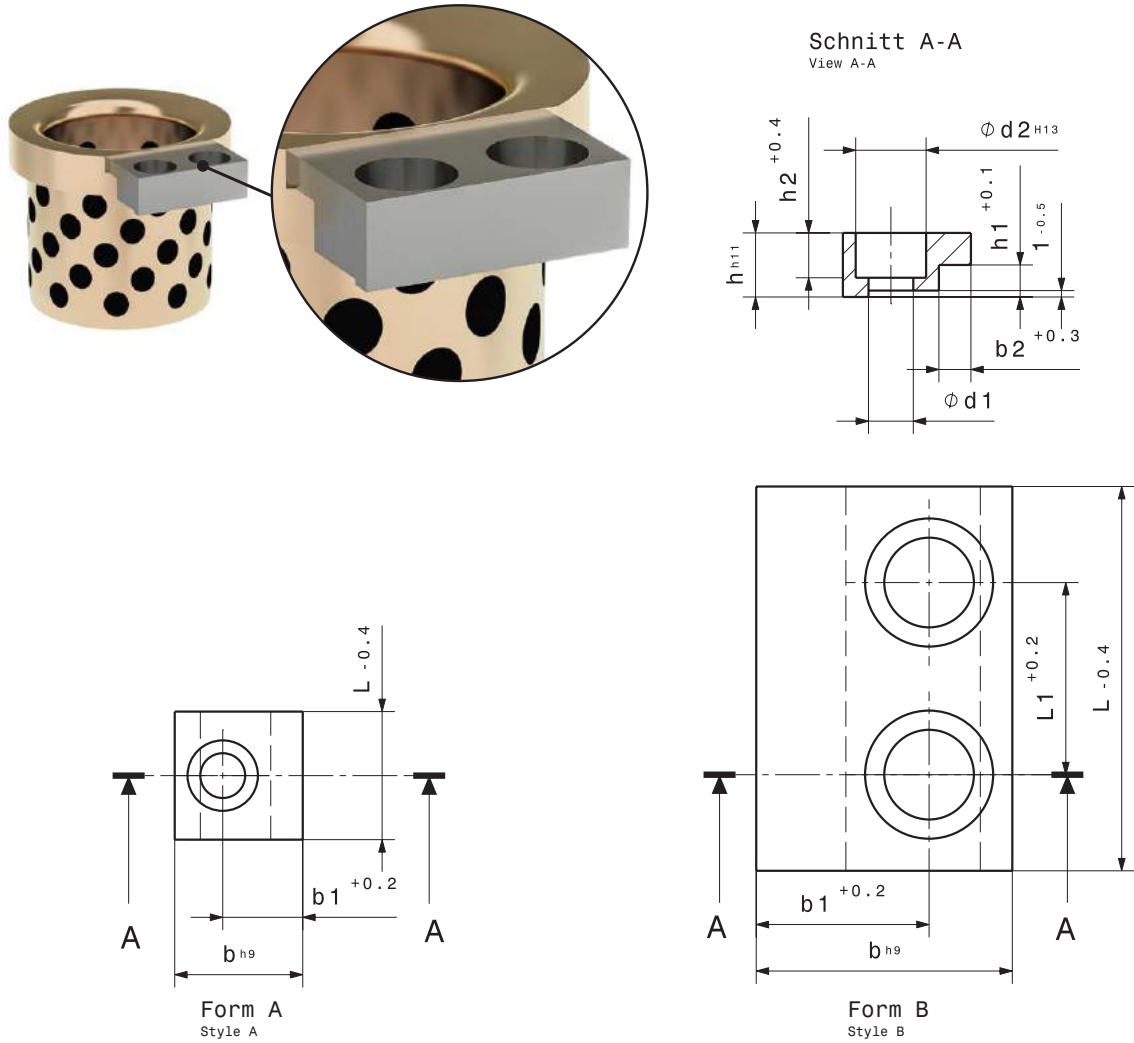
3.3 Buchsen mit Klammerfräsung und Klammern
3.3 Bushings with clamp milling and clamps



Führungssäule siehe Kapitel 17.1
Guide posts see Chapter 17.1

| Ident-No.<br>WF750/1A | Ød<br>H7 | L   | Ød1<br>h6 | Ød2<br>-0,8 | L1<br>+0,5<br>+0,3 | L2<br>-0,1 | L3<br>-0,4 | b<br>±0,25 | r1 | r2  | r3<br>-0,4 | Klammer ID-No.<br>Clamp ID-No. |
|-----------------------|----------|-----|-----------|-------------|--------------------|------------|------------|------------|----|-----|------------|--------------------------------|
| 19000                 | 16       | 25  | 25        | 32          | 10                 | 5          | 2          | 3          | 3  | 1   | 1          | 19790                          |
| 19001                 | 20       | 32  | 25        | 32          | 10                 | 5          | 3          | 3          | 4  | 1   | 1          |                                |
| 19002                 | 25       | 32  | 32        | 40          | 10                 | 5          | 4          | 3,5        | 4  | 1   | 1          |                                |
| 19003                 | 32       | 50  | 40        | 50          | 10                 | 5          | 6          | 4          | 5  | 1   | 1          |                                |
| 19004                 | 40       | 63  | 50        | 63          | 13                 | 8          | 6          | 5          | 6  | 1   | 1          | 19791                          |
| 19005                 | 50       | 72  | 63        | 75          | 14                 | 8          | 8          | 6          | 6  | 1,6 | 1,6        | 19792                          |
| 19006                 | 63       | 80  | 80        | 95          | 17                 | 10         | 8          | 8          | 8  | 2   | 2          | 19793                          |
| 19007                 | 80       | 100 | 100       | 120         | 20                 | 10         | 8          | 10         | 8  | 2,5 | 2,5        |                                |
| 19008                 | 100      | 125 | 125       | 150         | 25                 | 16         | 8          | 13         | 10 | 3,2 | 3,2        | 19794                          |
| 19009                 | 125      | 160 | 160       | 190         | 30                 | 16         | 10         | 13         | 13 | 4   | 4          |                                |
| 19010                 | 140      | 180 | 180       | 210         | 30                 | 16         | 10         | 13         | 16 | 5   | 6          |                                |
| 19011                 | 160      | 200 | 200       | 240         | 30                 | 16         | 12         | 13         | 18 | 6   | 6          |                                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

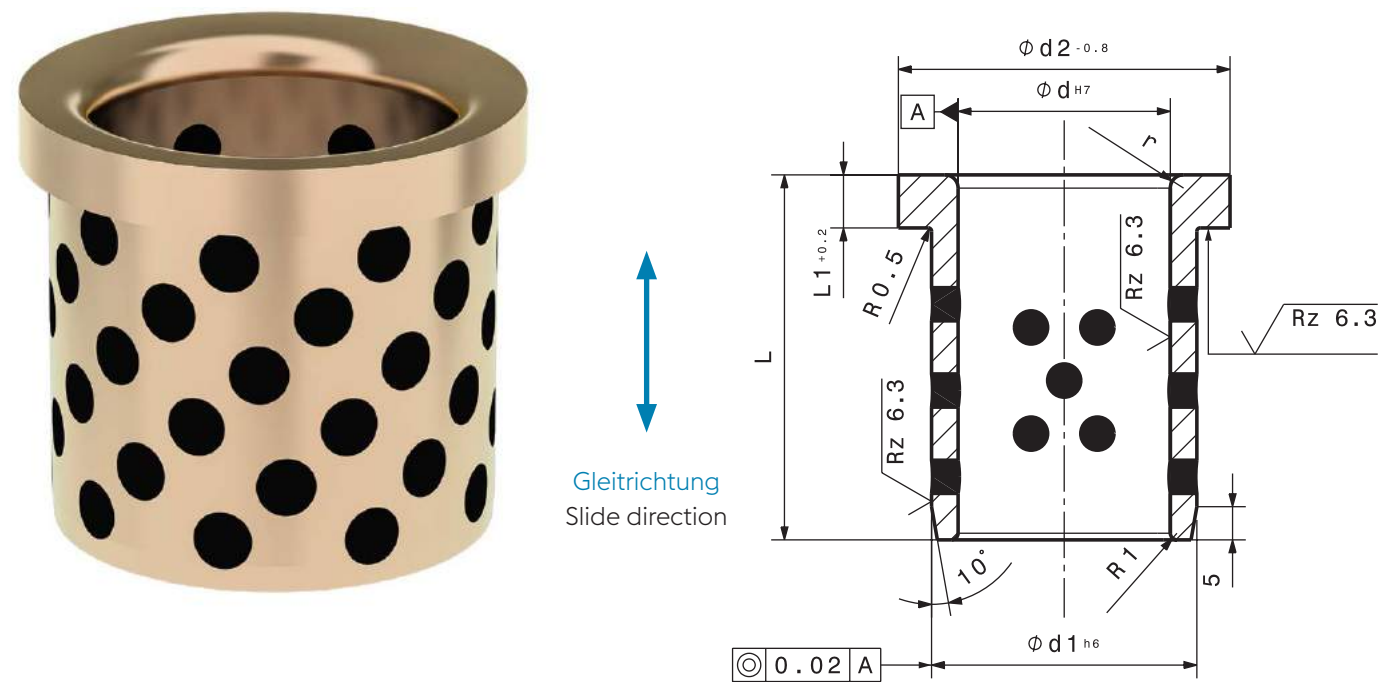


| Ident-No.<br>1.0037 | Buchsen Innen-Ø<br>Bushing inner-Ø | b<br>h9 | L<br>-0,4 | h<br>h11 | b1<br>+0,2 | b2<br>+0,3 | h1<br>+0,1 | h2<br>+0,4 | L1<br>+0,2 | Ød1  | Ød2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Form<br>Style |
|---------------------|------------------------------------|---------|-----------|----------|------------|------------|------------|------------|------------|------|------------|------------------------------------------------------------|---------------|
| 19790               | 16-32                              | 20      | 20        | 10       | 12,5       | 5          | 5          | 7          | -          | 7    | 11         | 1x M6                                                      | A             |
| 19791               | 40                                 | 20      | 40        | 12       | 12,5       | 5          | 8          | 7          | 20         | 7    | 11         | 2x M6                                                      | B             |
| 19792               | 50                                 | 25      | 40        | 14       | 15,5       | 6          | 8          | 9          | 20         | 9,5  | 14,5       | 2x M8                                                      | B             |
| 19793               | 63-80                              | 28      | 50        | 16       | 18         | 8          | 10         | 11,5       | 25         | 11,5 | 17,5       | 2x M10                                                     | B             |
| 19794               | 100-160                            | 40      | 60        | 25       | 27         | 14         | 16         | 13,5       | 30         | 14   | 20         | 2x M12                                                     | B             |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.5 Buchsen  
3.5 Bushings

3.5

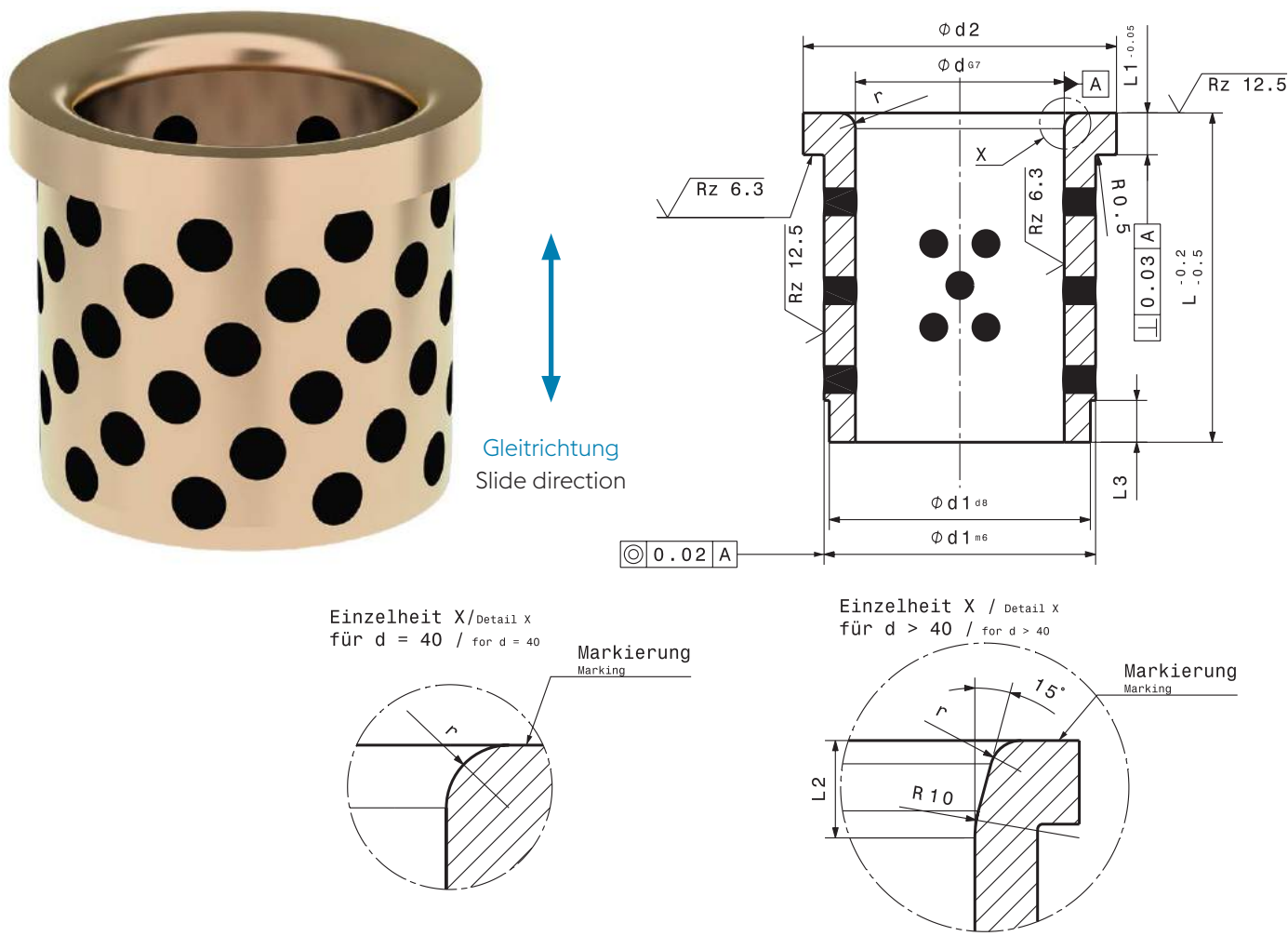


| Ident-No.<br>WF750/1A | Ød<br>H7 | L   | Ød1<br>h6 | Ød2<br>-0,8 | L1<br>+0,2 | r |
|-----------------------|----------|-----|-----------|-------------|------------|---|
| 19309                 | 20       | 35  | 26        | 36          | 8          | 2 |
| 19300                 | 20       | 35  | 28        | 36          | 8          | 2 |
| 19301                 | 32       | 55  | 40        | 50          | 8          | 6 |
| 19302                 | 40       | 70  | 50        | 60          | 8          | 6 |
| 19303                 | 42       | 70  | 50        | 60          | 8          | 6 |
| 19304                 | 50       | 75  | 63        | 75          | 12         | 8 |
| 19305                 | 52       | 75  | 63        | 75          | 12         | 8 |
| 19306                 | 63       | 80  | 80        | 90          | 12         | 8 |
| 19307                 | 80       | 100 | 100       | 110         | 12         | 8 |
| 19308                 | 100      | 125 | 125       | 135         | 12         | 8 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

3.6 Führungsbuchsen zum Einpressen  
3.6 Guide bushings for force in

3.6



| Ident-No.<br>WF750/1A | Ød<br>G7 | L<br>-0,2<br>-0,5 | Ød1<br>d8<br>m6 | Ød2 | L1<br>-0,05 | L2 | L3 | r |
|-----------------------|----------|-------------------|-----------------|-----|-------------|----|----|---|
| 18700                 | 40       | 63                | 52              | 60  | 8           |    | 8  | 3 |
| 18701                 | 50       | 80                | 63              | 71  | 10          | 8  | 8  | 3 |
| 18702                 | 63       | 100               | 80              | 90  | 12          | 10 | 10 | 3 |
| 18703                 | 80       | 125               | 100             | 112 | 16          | 10 | 10 | 4 |
| 18704                 | 100      | 160               | 125             | 140 | 20          | 10 | 10 | 4 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

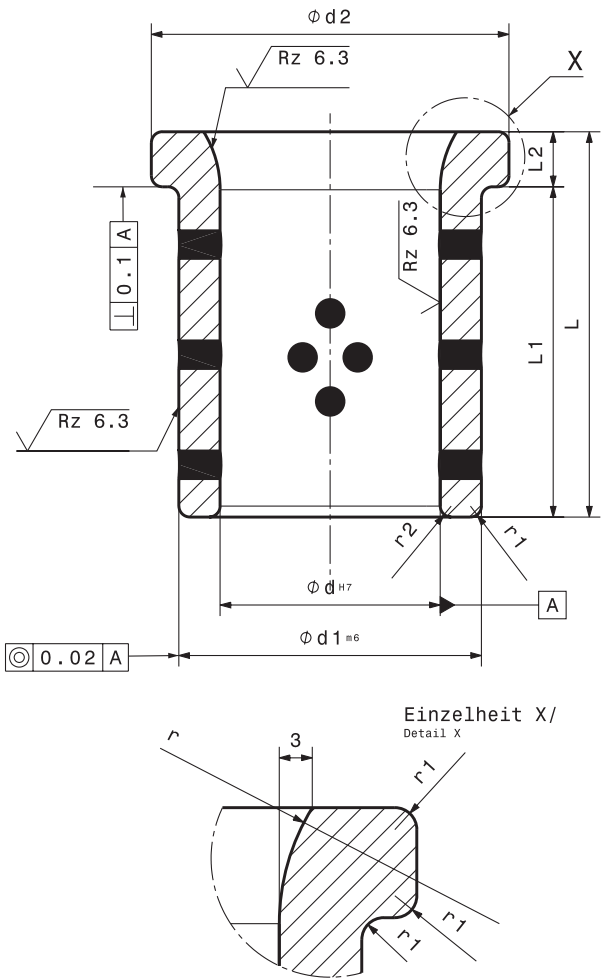


3.7 Buchsen  
3.7 Bushings

3.7



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | $\varnothing d_{H7}$ | L   | $\varnothing d1_{m6}$ | $\varnothing d2$ | L1  | L2 | r  | r1 | r2 |
|-----------------------|----------------------|-----|-----------------------|------------------|-----|----|----|----|----|
| 17100                 | 25                   | 40  | 35                    | 45               | 33  | 7  | 10 | 1  | 2  |
| 17101                 | 30                   | 50  | 40                    | 50               | 40  | 10 | 20 | 1  | 2  |
| 17102                 | 40                   | 70  | 55                    | 65               | 60  | 10 | 20 | 2  | 2  |
| 17103                 | 50                   | 80  | 65                    | 75               | 70  | 10 | 20 | 2  | 2  |
| 17104                 | 60                   | 80  | 75                    | 85               | 70  | 10 | 20 | 2  | 2  |
| 17105                 | 65                   | 80  | 80                    | 90               | 70  | 10 | 20 | 2  | 2  |
| 17106                 | 65                   | 120 | 80                    | 90               | 110 | 10 | 20 | 2  | 2  |
| 17107                 | 80                   | 100 | 100                   | 110              | 90  | 10 | 20 | 2  | 3  |
| 17108                 | 80                   | 140 | 100                   | 110              | 130 | 10 | 20 | 2  | 3  |
| 17109                 | 100                  | 100 | 120                   | 130              | 90  | 10 | 20 | 2  | 3  |
| 17110                 | 100                  | 140 | 120                   | 130              | 130 | 10 | 20 | 2  | 3  |

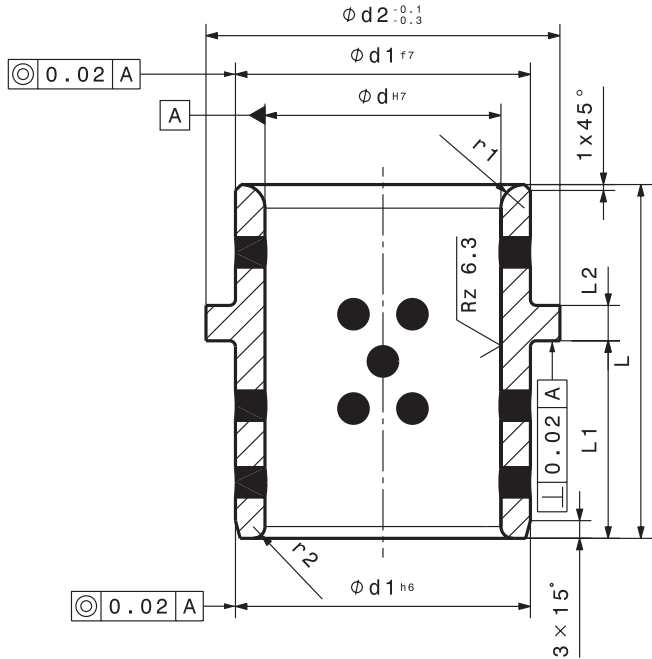
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

3.8 Buchsen  
3.8 Bushings

3.8



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | $\varnothing d_{H7}$ | L   | $\varnothing d1_{f7/h6}$ | $\varnothing d2_{-0.1/-0.3}$ | L1   | L2  | r1 | r2 |
|-----------------------|----------------------|-----|--------------------------|------------------------------|------|-----|----|----|
| 17115                 | 25                   | 43  | 35                       | 40                           | 24   | 7,5 | 3  | 2  |
| 17116                 | 30                   | 43  | 42                       | 47                           | 24   | 7,5 | 3  | 2  |
| 17117                 | 40                   | 60  | 50                       | 60                           | 35,5 | 6   | 4  | 2  |
| 17118                 | 40                   | 64  | 50                       | 60                           | 39,5 | 6   | 4  | 2  |
| 17119                 | 50                   | 77  | 63                       | 72                           | 44,5 | 8   | 4  | 3  |
| 17120                 | 50                   | 92  | 63                       | 72                           | 55,5 | 8   | 4  | 3  |
| 17121                 | 60                   | 78  | 80                       | 86                           | 49   | 7,5 | 3  | 3  |
| 17122                 | 63                   | 95  | 80                       | 90                           | 55,5 | 8   | 4  | 3  |
| 17123                 | 63                   | 100 | 80                       | 90                           | 62,5 | 8   | 4  | 3  |
| 17124                 | 63                   | 108 | 80                       | 90                           | 62,5 | 8   | 4  | 3  |

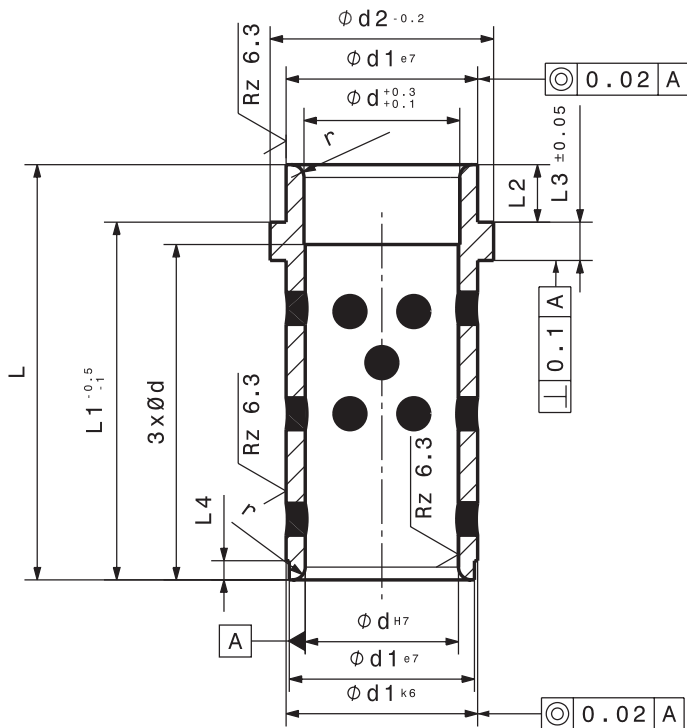
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

3.10 Buchsen
3.10 Bushings

3.10



Gleitrichtung
Slide direction



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L  | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r   |
|-----------------------|-----------------------|----|-----------------|-------------|------------------|----|-------------|----|-----|
| 17874                 | 9                     | 15 | 14              | 18          | 12               | 3  | 3           | 2  | 1   |
| 17875                 | 9                     | 20 | 14              | 18          | 17               | 3  | 3           | 2  | 1   |
| 17876                 | 9                     | 25 | 14              | 18          | 22               | 3  | 3           | 2  | 1   |
| 17877                 | 9                     | 30 | 14              | 18          | 27               | 3  | 3           | 2  | 1   |
| 17878                 | 9                     | 39 | 14              | 18          | 36               | 3  | 3           | 2  | 1   |
| 17400                 | 10                    | 15 | 14              | 18          | 12               | 3  | 3           | 2  | 1   |
| 17401                 | 10                    | 20 | 14              | 18          | 17               | 3  | 3           | 2  | 1   |
| 17879                 | 10                    | 25 | 14              | 18          | 22               | 3  | 3           | 2  | 1   |
| 17880                 | 10                    | 30 | 14              | 18          | 27               | 3  | 3           | 2  | 1   |
| 17881                 | 10                    | 39 | 14              | 18          | 36               | 3  | 3           | 2  | 1   |
| 17402                 | 14                    | 26 | 20              | 25          | 17               | 9  | 6           | 3  | 1,5 |
| 17403                 | 14                    | 31 | 20              | 25          | 22               | 9  | 6           | 3  | 1,5 |
| 17404                 | 14                    | 36 | 20              | 25          | 27               | 9  | 6           | 3  | 1,5 |
| 17405                 | 14                    | 45 | 20              | 25          | 36               | 9  | 6           | 3  | 1,5 |
| 17882                 | 14                    | 55 | 20              | 25          | 46               | 9  | 6           | 3  | 1,5 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L  | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r   |
|-----------------------|-----------------------|----|-----------------|-------------|------------------|----|-------------|----|-----|
| 17883                 | 14                    | 65 | 20              | 25          | 56               | 9  | 6           | 3  | 1,5 |
| 17406                 | 15                    | 26 | 20              | 25          | 17               | 9  | 6           | 3  | 1,5 |
| 17407                 | 15                    | 31 | 20              | 25          | 22               | 9  | 6           | 3  | 1,5 |
| 17408                 | 15                    | 36 | 20              | 25          | 27               | 9  | 6           | 3  | 1,5 |
| 17409                 | 15                    | 45 | 20              | 25          | 36               | 9  | 6           | 3  | 1,5 |
| 17884                 | 15                    | 55 | 20              | 25          | 46               | 9  | 6           | 3  | 1,5 |
| 17885                 | 15                    | 65 | 20              | 25          | 56               | 9  | 6           | 3  | 1,5 |
| 17410                 | 18                    | 26 | 26              | 31          | 17               | 9  | 6           | 3  | 1,5 |
| 17411                 | 18                    | 31 | 26              | 31          | 22               | 9  | 6           | 3  | 1,5 |
| 17412                 | 18                    | 36 | 26              | 31          | 27               | 9  | 6           | 3  | 1,5 |
| 17413                 | 18                    | 45 | 26              | 31          | 36               | 9  | 6           | 3  | 1,5 |
| 17414                 | 18                    | 55 | 26              | 31          | 46               | 9  | 6           | 3  | 1,5 |
| 17886                 | 18                    | 65 | 26              | 31          | 56               | 9  | 6           | 3  | 1,5 |
| 17887                 | 18                    | 75 | 26              | 31          | 66               | 9  | 6           | 3  | 1,5 |
| 14541                 | 18                    | 85 | 26              | 31          | 76               | 9  | 6           | 3  | 1,5 |
| 17415                 | 20                    | 26 | 26              | 31          | 17               | 9  | 6           | 3  | 1,5 |
| 17416                 | 20                    | 31 | 26              | 31          | 22               | 9  | 6           | 3  | 1,5 |
| 17417                 | 20                    | 36 | 26              | 31          | 27               | 9  | 6           | 3  | 1,5 |
| 17418                 | 20                    | 45 | 26              | 31          | 36               | 9  | 6           | 3  | 1,5 |
| 17419                 | 20                    | 55 | 26              | 31          | 46               | 9  | 6           | 3  | 1,5 |
| 17420                 | 20                    | 65 | 26              | 31          | 56               | 9  | 6           | 3  | 1,5 |
| 17888                 | 20                    | 75 | 26              | 31          | 66               | 9  | 6           | 3  | 1,5 |
| 14548                 | 20                    | 85 | 26              | 31          | 76               | 9  | 6           | 3  | 1,5 |
| 17421                 | 22                    | 26 | 30              | 35          | 17               | 9  | 6           | 3  | 2   |
| 17422                 | 22                    | 31 | 30              | 35          | 22               | 9  | 6           | 3  | 2   |
| 17423                 | 22                    | 36 | 30              | 35          | 27               | 9  | 6           | 3  | 2   |
| 17424                 | 22                    | 45 | 30              | 35          | 36               | 9  | 6           | 3  | 2   |
| 17425                 | 22                    | 55 | 30              | 35          | 46               | 9  | 6           | 3  | 2   |
| 17426                 | 22                    | 65 | 30              | 35          | 56               | 9  | 6           | 3  | 2   |
| 17889                 | 22                    | 75 | 30              | 35          | 66               | 9  | 6           | 3  | 2   |
| 17890                 | 22                    | 85 | 30              | 35          | 76               | 9  | 6           | 3  | 2   |
| 17891                 | 22                    | 95 | 30              | 35          | 86               | 9  | 6           | 3  | 2   |
| 17427                 | 24                    | 26 | 30              | 35          | 17               | 9  | 6           | 3  | 2   |
| 17428                 | 24                    | 31 | 30              | 35          | 22               | 9  | 6           | 3  | 2   |
| 17429                 | 24                    | 36 | 30              | 35          | 27               | 9  | 6           | 3  | 2   |
| 17430                 | 24                    | 45 | 30              | 35          | 36               | 9  | 6           | 3  | 2   |
| 17431                 | 24                    | 55 | 30              | 35          | 46               | 9  | 6           | 3  | 2   |
| 17432                 | 24                    | 65 | 30              | 35          | 56               | 9  | 6           | 3  | 2   |
| 17433                 | 24                    | 75 | 30              | 35          | 66               | 9  | 6           | 3  | 2   |
| 17892                 | 24                    | 85 | 30              | 35          | 76               | 9  | 6           | 3  | 2   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

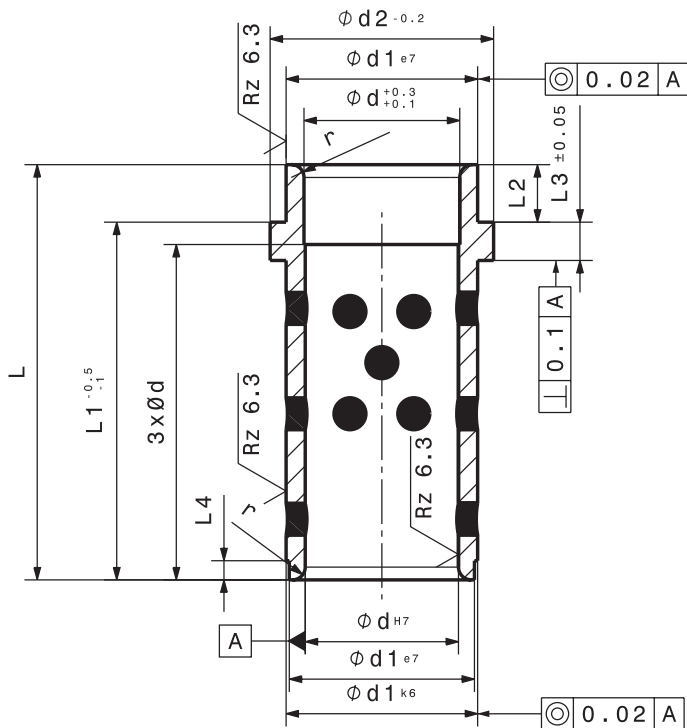
3.10

3.10 Buchsen
3.10 Bushings

3.10



Gleitrichtung
Slide direction



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L   | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r |
|-----------------------|-----------------------|-----|-----------------|-------------|------------------|----|-------------|----|---|
| 17893                 | 24                    | 95  | 30              | 35          | 86               | 9  | 6           | 3  | 2 |
| 17434                 | 30                    | 36  | 42              | 47          | 27               | 9  | 6           | 3  | 2 |
| 17435                 | 30                    | 45  | 42              | 47          | 36               | 9  | 6           | 3  | 2 |
| 17436                 | 30                    | 55  | 42              | 47          | 46               | 9  | 6           | 3  | 2 |
| 17437                 | 30                    | 65  | 42              | 47          | 56               | 9  | 6           | 3  | 2 |
| 17894                 | 30                    | 75  | 42              | 47          | 66               | 9  | 6           | 3  | 2 |
| 17438                 | 30                    | 85  | 42              | 47          | 76               | 9  | 6           | 3  | 2 |
| 17439                 | 30                    | 95  | 42              | 47          | 86               | 9  | 6           | 3  | 2 |
| 17895                 | 30                    | 105 | 42              | 47          | 96               | 9  | 6           | 3  | 2 |
| 17896                 | 30                    | 125 | 42              | 47          | 116              | 9  | 6           | 3  | 2 |
| 17440                 | 32                    | 36  | 42              | 47          | 27               | 9  | 6           | 3  | 2 |
| 17441                 | 32                    | 45  | 42              | 47          | 36               | 9  | 6           | 3  | 2 |
| 17442                 | 32                    | 55  | 42              | 47          | 46               | 9  | 6           | 3  | 2 |
| 17443                 | 32                    | 65  | 42              | 47          | 56               | 9  | 6           | 3  | 2 |
| 17897                 | 32                    | 75  | 42              | 47          | 66               | 9  | 6           | 3  | 2 |

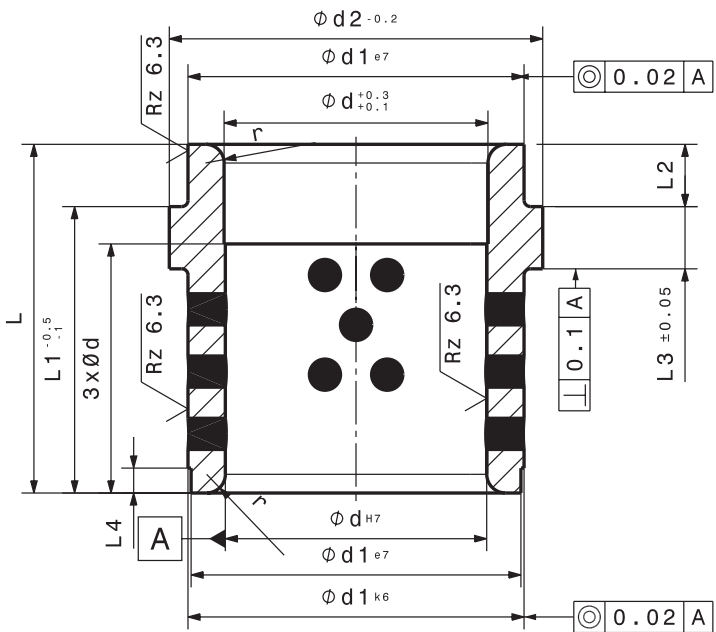
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L   | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r |
|-----------------------|-----------------------|-----|-----------------|-------------|------------------|----|-------------|----|---|
| 17444                 | 32                    | 85  | 42              | 47          | 76               | 9  | 6           | 3  | 2 |
| 17445                 | 32                    | 95  | 42              | 47          | 86               | 9  | 6           | 3  | 2 |
| 17898                 | 32                    | 105 | 42              | 47          | 96               | 9  | 6           | 3  | 2 |
| 17899                 | 32                    | 125 | 42              | 47          | 116              | 9  | 6           | 3  | 2 |
| 17446                 | 40                    | 68  | 54              | 60          | 56               | 12 | 10          | 4  | 3 |
| 17992                 | 40                    | 78  | 54              | 60          | 66               | 12 | 10          | 4  | 3 |
| 17447                 | 40                    | 88  | 54              | 60          | 76               | 12 | 10          | 4  | 3 |
| 17993                 | 40                    | 98  | 54              | 60          | 86               | 12 | 10          | 4  | 3 |
| 17448                 | 40                    | 108 | 54              | 60          | 96               | 12 | 10          | 4  | 3 |
| 17449                 | 40                    | 128 | 54              | 60          | 116              | 12 | 10          | 4  | 3 |
| 17994                 | 40                    | 148 | 54              | 60          | 136              | 12 | 10          | 4  | 3 |
| 17995                 | 40                    | 168 | 54              | 60          | 156              | 12 | 10          | 4  | 3 |
| 17450                 | 42                    | 68  | 54              | 60          | 56               | 12 | 10          | 4  | 3 |
| 17996                 | 42                    | 78  | 54              | 60          | 66               | 12 | 10          | 4  | 3 |
| 17451                 | 42                    | 88  | 54              | 60          | 76               | 12 | 10          | 4  | 3 |
| 17997                 | 42                    | 98  | 54              | 60          | 86               | 12 | 10          | 4  | 3 |
| 17452                 | 42                    | 108 | 54              | 60          | 96               | 12 | 10          | 4  | 3 |
| 17453                 | 42                    | 128 | 54              | 60          | 116              | 12 | 10          | 4  | 3 |
| 17998                 | 42                    | 148 | 54              | 60          | 136              | 12 | 10          | 4  | 3 |
| 17999                 | 42                    | 168 | 54              | 60          | 156              | 12 | 10          | 4  | 3 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.10

3.11 Buchsen
3.11 Bushings



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L  | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r   |
|-----------------------|-----------------------|----|-----------------|-------------|------------------|----|-------------|----|-----|
| 17213                 | 9                     | 17 | 14              | 16          | 12               | 5  | 3           | 2  | 1   |
| 17460                 | 9                     | 22 | 14              | 16          | 17               | 5  | 3           | 2  | 1   |
| 17461                 | 9                     | 27 | 14              | 16          | 22               | 5  | 3           | 2  | 1   |
| 17462                 | 9                     | 32 | 14              | 16          | 27               | 5  | 3           | 2  | 1   |
| 17463                 | 9                     | 41 | 14              | 16          | 36               | 5  | 3           | 2  | 1   |
| 17214                 | 9                     | 51 | 14              | 16          | 46               | 5  | 3           | 2  | 1   |
| 17215                 | 9                     | 61 | 14              | 16          | 56               | 5  | 3           | 2  | 1   |
| 17216                 | 10                    | 17 | 14              | 16          | 12               | 5  | 3           | 2  | 1   |
| 17464                 | 10                    | 22 | 14              | 16          | 17               | 5  | 3           | 2  | 1   |
| 17465                 | 10                    | 27 | 14              | 16          | 22               | 5  | 3           | 2  | 1   |
| 17466                 | 10                    | 32 | 14              | 16          | 27               | 5  | 3           | 2  | 1   |
| 17467                 | 10                    | 41 | 14              | 16          | 36               | 5  | 3           | 2  | 1   |
| 17217                 | 10                    | 51 | 14              | 16          | 46               | 5  | 3           | 2  | 1   |
| 17218                 | 10                    | 61 | 14              | 16          | 56               | 5  | 3           | 2  | 1   |
| 17468                 | 14                    | 23 | 20              | 26          | 17               | 6  | 6           | 3  | 1,5 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L   | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r   |
|-----------------------|-----------------------|-----|-----------------|-------------|------------------|----|-------------|----|-----|
| 17469                 | 14                    | 28  | 20              | 26          | 22               | 6  | 6           | 3  | 1,5 |
| 17470                 | 14                    | 33  | 20              | 26          | 27               | 6  | 6           | 3  | 1,5 |
| 17471                 | 14                    | 42  | 20              | 26          | 36               | 6  | 6           | 3  | 1,5 |
| 17472                 | 14                    | 52  | 20              | 26          | 46               | 6  | 6           | 3  | 1,5 |
| 17473                 | 14                    | 62  | 20              | 26          | 56               | 6  | 6           | 3  | 1,5 |
| 17219                 | 14                    | 72  | 20              | 26          | 66               | 6  | 6           | 3  | 1,5 |
| 17220                 | 14                    | 82  | 20              | 26          | 76               | 6  | 6           | 3  | 1,5 |
| 17474                 | 15                    | 23  | 20              | 26          | 17               | 6  | 6           | 3  | 1,5 |
| 17475                 | 15                    | 28  | 20              | 26          | 22               | 6  | 6           | 3  | 1,5 |
| 17476                 | 15                    | 33  | 20              | 26          | 27               | 6  | 6           | 3  | 1,5 |
| 17477                 | 15                    | 42  | 20              | 26          | 36               | 6  | 6           | 3  | 1,5 |
| 17478                 | 15                    | 52  | 20              | 26          | 46               | 6  | 6           | 3  | 1,5 |
| 17479                 | 15                    | 62  | 20              | 26          | 56               | 6  | 6           | 3  | 1,5 |
| 17221                 | 15                    | 72  | 20              | 26          | 66               | 6  | 6           | 3  | 1,5 |
| 17222                 | 15                    | 82  | 20              | 26          | 76               | 6  | 6           | 3  | 1,5 |
| 17223                 | 18                    | 25  | 26              | 31          | 17               | 8  | 6           | 3  | 1,5 |
| 17480                 | 18                    | 30  | 26              | 31          | 22               | 8  | 6           | 3  | 1,5 |
| 17481                 | 18                    | 35  | 26              | 31          | 27               | 8  | 6           | 3  | 1,5 |
| 17482                 | 18                    | 44  | 26              | 31          | 36               | 8  | 6           | 3  | 1,5 |
| 17483                 | 18                    | 54  | 26              | 31          | 46               | 8  | 6           | 3  | 1,5 |
| 17484                 | 18                    | 64  | 26              | 31          | 56               | 8  | 6           | 3  | 1,5 |
| 17485                 | 18                    | 74  | 26              | 31          | 66               | 8  | 6           | 3  | 1,5 |
| 17224                 | 18                    | 84  | 26              | 31          | 76               | 8  | 6           | 3  | 1,5 |
| 17225                 | 20                    | 25  | 26              | 31          | 17               | 8  | 6           | 3  | 1,5 |
| 17486                 | 20                    | 30  | 26              | 31          | 22               | 8  | 6           | 3  | 1,5 |
| 17487                 | 20                    | 35  | 26              | 31          | 27               | 8  | 6           | 3  | 1,5 |
| 17488                 | 20                    | 44  | 26              | 31          | 36               | 8  | 6           | 3  | 1,5 |
| 17489                 | 20                    | 54  | 26              | 31          | 46               | 8  | 6           | 3  | 1,5 |
| 17490                 | 20                    | 64  | 26              | 31          | 56               | 8  | 6           | 3  | 1,5 |
| 17491                 | 20                    | 74  | 26              | 31          | 66               | 8  | 6           | 3  | 1,5 |
| 17226                 | 20                    | 84  | 26              | 31          | 76               | 8  | 6           | 3  | 1,5 |
| 17492                 | 22                    | 30  | 30              | 35          | 22               | 8  | 6           | 3  | 2   |
| 17493                 | 22                    | 35  | 30              | 35          | 27               | 8  | 6           | 3  | 2   |
| 17494                 | 22                    | 44  | 30              | 35          | 36               | 8  | 6           | 3  | 2   |
| 17495                 | 22                    | 54  | 30              | 35          | 46               | 8  | 6           | 3  | 2   |
| 17496                 | 22                    | 64  | 30              | 35          | 56               | 8  | 6           | 3  | 2   |
| 17497                 | 22                    | 74  | 30              | 35          | 66               | 8  | 6           | 3  | 2   |
| 17498                 | 22                    | 84  | 30              | 35          | 76               | 8  | 6           | 3  | 2   |
| 17227                 | 22                    | 94  | 30              | 35          | 86               | 8  | 6           | 3  | 2   |
| 17228                 | 22                    | 104 | 30              | 35          | 96               | 8  | 6           | 3  | 2   |

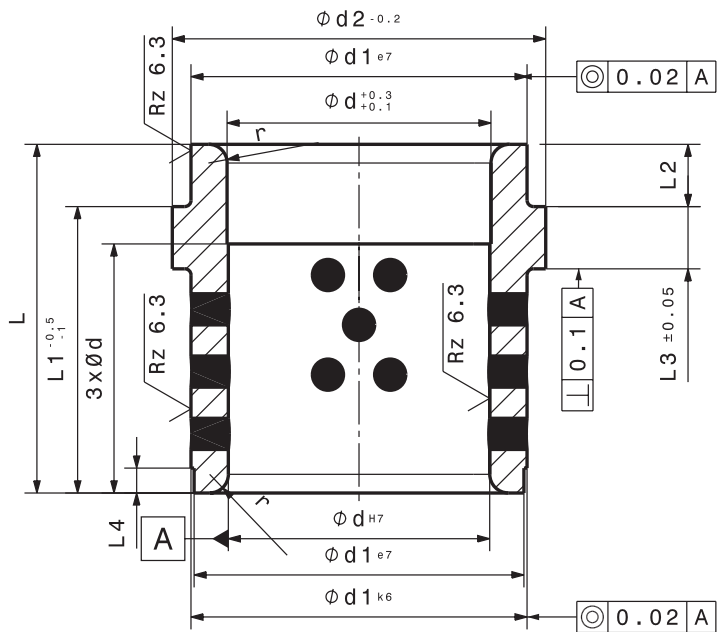
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.11 Buchsen
3.11 Bushings

3.11



Gleitrichtung
Slide direction



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L   | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r |
|-----------------------|-----------------------|-----|-----------------|-------------|------------------|----|-------------|----|---|
| 17229                 | 22                    | 124 | 30              | 35          | 116              | 8  | 6           | 3  | 2 |
| 17499                 | 24                    | 30  | 30              | 35          | 22               | 8  | 6           | 3  | 2 |
| 17970                 | 24                    | 35  | 30              | 35          | 27               | 8  | 6           | 3  | 2 |
| 17971                 | 24                    | 44  | 30              | 35          | 36               | 8  | 6           | 3  | 2 |
| 17972                 | 24                    | 54  | 30              | 35          | 46               | 8  | 6           | 3  | 2 |
| 17973                 | 24                    | 64  | 30              | 35          | 56               | 8  | 6           | 3  | 2 |
| 17974                 | 24                    | 74  | 30              | 35          | 66               | 8  | 6           | 3  | 2 |
| 17975                 | 24                    | 84  | 30              | 35          | 76               | 8  | 6           | 3  | 2 |
| 17288                 | 24                    | 94  | 30              | 35          | 86               | 8  | 6           | 3  | 2 |
| 17289                 | 24                    | 104 | 30              | 35          | 96               | 8  | 6           | 3  | 2 |
| 17290                 | 24                    | 124 | 30              | 35          | 116              | 8  | 6           | 3  | 2 |
| 17976                 | 30                    | 35  | 42              | 47          | 27               | 8  | 6           | 3  | 2 |
| 17977                 | 30                    | 44  | 42              | 47          | 36               | 8  | 6           | 3  | 2 |
| 17978                 | 30                    | 54  | 42              | 47          | 46               | 8  | 6           | 3  | 2 |
| 17979                 | 30                    | 64  | 42              | 47          | 56               | 8  | 6           | 3  | 2 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L   | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r |
|-----------------------|-----------------------|-----|-----------------|-------------|------------------|----|-------------|----|---|
| 17980                 | 30                    | 74  | 42              | 47          | 66               | 8  | 6           | 3  | 2 |
| 17981                 | 30                    | 84  | 42              | 47          | 76               | 8  | 6           | 3  | 2 |
| 17982                 | 30                    | 94  | 42              | 47          | 86               | 8  | 6           | 3  | 2 |
| 17983                 | 30                    | 104 | 42              | 47          | 96               | 8  | 6           | 3  | 2 |
| 17291                 | 30                    | 124 | 42              | 47          | 116              | 8  | 6           | 3  | 2 |
| 17292                 | 30                    | 144 | 42              | 47          | 136              | 8  | 6           | 3  | 2 |
| 17984                 | 32                    | 35  | 42              | 47          | 27               | 8  | 6           | 3  | 2 |
| 17985                 | 32                    | 44  | 42              | 47          | 36               | 8  | 6           | 3  | 2 |
| 17986                 | 32                    | 54  | 42              | 47          | 46               | 8  | 6           | 3  | 2 |
| 17987                 | 32                    | 64  | 42              | 47          | 56               | 8  | 6           | 3  | 2 |
| 17988                 | 32                    | 74  | 42              | 47          | 66               | 8  | 6           | 3  | 2 |
| 17989                 | 32                    | 84  | 42              | 47          | 76               | 8  | 6           | 3  | 2 |
| 17990                 | 32                    | 94  | 42              | 47          | 86               | 8  | 6           | 3  | 2 |
| 17991                 | 32                    | 104 | 42              | 47          | 96               | 8  | 6           | 3  | 2 |
| 17293                 | 32                    | 124 | 42              | 47          | 116              | 8  | 6           | 3  | 2 |
| 17294                 | 32                    | 144 | 42              | 47          | 136              | 8  | 6           | 3  | 2 |
| 17295                 | 40                    | 56  | 54              | 60          | 46               | 10 | 10          | 4  | 3 |
| 17296                 | 40                    | 66  | 54              | 60          | 56               | 10 | 10          | 4  | 3 |
| 17297                 | 40                    | 76  | 54              | 60          | 66               | 10 | 10          | 4  | 3 |
| 17298                 | 40                    | 86  | 54              | 60          | 76               | 10 | 10          | 4  | 3 |
| 17299                 | 40                    | 96  | 54              | 60          | 86               | 10 | 10          | 4  | 3 |
| 17300                 | 40                    | 106 | 54              | 60          | 96               | 10 | 10          | 4  | 3 |
| 17358                 | 40                    | 126 | 54              | 60          | 116              | 10 | 10          | 4  | 3 |
| 17359                 | 40                    | 146 | 54              | 60          | 136              | 10 | 10          | 4  | 3 |
| 17360                 | 40                    | 166 | 54              | 60          | 156              | 10 | 10          | 4  | 3 |
| 17361                 | 40                    | 206 | 54              | 60          | 196              | 10 | 10          | 4  | 3 |
| 17362                 | 42                    | 56  | 54              | 60          | 46               | 10 | 10          | 4  | 3 |
| 17363                 | 42                    | 66  | 54              | 60          | 56               | 10 | 10          | 4  | 3 |
| 17364                 | 42                    | 76  | 54              | 60          | 66               | 10 | 10          | 4  | 3 |
| 17365                 | 42                    | 86  | 54              | 60          | 76               | 10 | 10          | 4  | 3 |
| 17366                 | 42                    | 96  | 54              | 60          | 86               | 10 | 10          | 4  | 3 |
| 17367                 | 42                    | 106 | 54              | 60          | 96               | 10 | 10          | 4  | 3 |
| 17368                 | 42                    | 126 | 54              | 60          | 116              | 10 | 10          | 4  | 3 |
| 17369                 | 42                    | 146 | 54              | 60          | 136              | 10 | 10          | 4  | 3 |
| 17398                 | 42                    | 166 | 54              | 60          | 156              | 10 | 10          | 4  | 3 |
| 17399                 | 42                    | 206 | 54              | 60          | 196              | 10 | 10          | 4  | 3 |

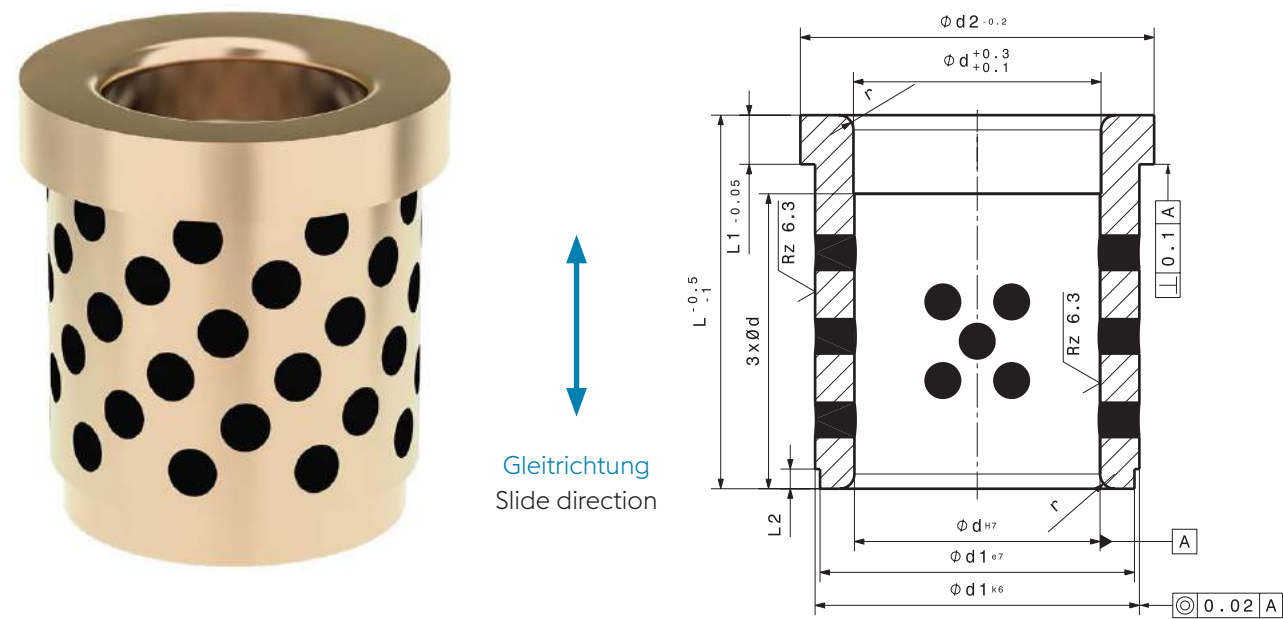
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.11



3.12 Buchsen
3.12 Bushings

3.12



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L<br>-0,5<br>-1 | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,05 | L2 | r   |
|-----------------------|-----------------------|-----------------|-----------------|-------------|-------------|----|-----|
| 17830                 | 9                     | 12              | 14              | 16          | 3           | 2  | 1   |
| 17831                 | 9                     | 17              | 14              | 16          | 3           | 2  | 1   |
| 17832                 | 9                     | 22              | 14              | 16          | 3           | 2  | 1   |
| 17833                 | 9                     | 27              | 14              | 16          | 3           | 2  | 1   |
| 17834                 | 9                     | 36              | 14              | 16          | 3           | 2  | 1   |
| 17900                 | 10                    | 12              | 14              | 16          | 3           | 2  | 1   |
| 17901                 | 10                    | 17              | 14              | 16          | 3           | 2  | 1   |
| 17835                 | 10                    | 22              | 14              | 16          | 3           | 2  | 1   |
| 17836                 | 10                    | 27              | 14              | 16          | 3           | 2  | 1   |
| 17837                 | 10                    | 36              | 14              | 16          | 3           | 2  | 1   |
| 17902                 | 12                    | 17              | 18              | 23          | 6           | 3  | 1,5 |
| 17838                 | 12                    | 22              | 18              | 23          | 6           | 3  | 1,5 |
| 17839                 | 12                    | 27              | 18              | 23          | 6           | 3  | 1,5 |
| 17840                 | 12                    | 36              | 18              | 23          | 6           | 3  | 1,5 |
| 17903                 | 14                    | 17              | 20              | 25          | 6           | 3  | 1,5 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L<br>-0,5<br>-1 | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,05 | L2 | r   |
|-----------------------|-----------------------|-----------------|-----------------|-------------|-------------|----|-----|
| 17904                 | 14                    | 22              | 20              | 25          | 6           | 3  | 1,5 |
| 17905                 | 14                    | 27              | 20              | 25          | 6           | 3  | 1,5 |
| 17906                 | 14                    | 36              | 20              | 25          | 6           | 3  | 1,5 |
| 17841                 | 14                    | 46              | 20              | 25          | 6           | 3  | 1,5 |
| 17842                 | 14                    | 56              | 20              | 25          | 6           | 3  | 1,5 |
| 17907                 | 15                    | 17              | 20              | 25          | 6           | 3  | 1,5 |
| 17908                 | 15                    | 22              | 20              | 25          | 6           | 3  | 1,5 |
| 17909                 | 15                    | 27              | 20              | 25          | 6           | 3  | 1,5 |
| 17910                 | 15                    | 36              | 20              | 25          | 6           | 3  | 1,5 |
| 17843                 | 15                    | 46              | 20              | 25          | 6           | 3  | 1,5 |
| 17844                 | 15                    | 56              | 20              | 25          | 6           | 3  | 1,5 |
| 17911                 | 16                    | 17              | 22              | 27          | 6           | 3  | 1,5 |
| 17912                 | 16                    | 22              | 22              | 27          | 6           | 3  | 1,5 |
| 17913                 | 16                    | 27              | 22              | 27          | 6           | 3  | 1,5 |
| 17914                 | 16                    | 36              | 22              | 27          | 6           | 3  | 1,5 |
| 17845                 | 16                    | 46              | 22              | 27          | 6           | 3  | 1,5 |
| 17846                 | 16                    | 56              | 22              | 27          | 6           | 3  | 1,5 |
| 17915                 | 18                    | 17              | 26              | 31          | 6           | 3  | 1,5 |
| 17916                 | 18                    | 22              | 26              | 31          | 6           | 3  | 1,5 |
| 17917                 | 18                    | 27              | 26              | 31          | 6           | 3  | 1,5 |
| 17918                 | 18                    | 36              | 26              | 31          | 6           | 3  | 1,5 |
| 17919                 | 18                    | 46              | 26              | 31          | 6           | 3  | 1,5 |
| 17847                 | 18                    | 56              | 26              | 31          | 6           | 3  | 1,5 |
| 17848                 | 18                    | 66              | 26              | 31          | 6           | 3  | 1,5 |
| 17920                 | 20                    | 17              | 26              | 31          | 6           | 3  | 1,5 |
| 17921                 | 20                    | 22              | 26              | 31          | 6           | 3  | 1,5 |
| 17922                 | 20                    | 27              | 26              | 31          | 6           | 3  | 1,5 |
| 17923                 | 20                    | 36              | 26              | 31          | 6           | 3  | 1,5 |
| 17924                 | 20                    | 46              | 26              | 31          | 6           | 3  | 1,5 |
| 17925                 | 20                    | 56              | 26              | 31          | 6           | 3  | 1,5 |
| 17849                 | 20                    | 66              | 26              | 31          | 6           | 3  | 1,5 |
| 17926                 | 22                    | 17              | 30              | 35          | 6           | 3  | 2   |
| 17927                 | 22                    | 22              | 30              | 35          | 6           | 3  | 2   |
| 17928                 | 22                    | 27              | 30              | 35          | 6           | 3  | 2   |
| 17929                 | 22                    | 36              | 30              | 35          | 6           | 3  | 2   |
| 17930                 | 22                    | 46              | 30              | 35          | 6           | 3  | 2   |
| 17931                 | 22                    | 56              | 30              | 35          | 6           | 3  | 2   |
| 17850                 | 22                    | 66              | 30              | 35          | 6           | 3  | 2   |
| 17851                 | 22                    | 76              | 30              | 35          | 6           | 3  | 2   |
| 17852                 | 22                    | 86              | 30              | 35          | 6           | 3  | 2   |

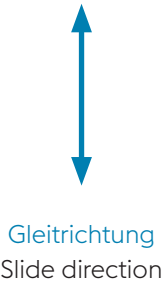
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.12

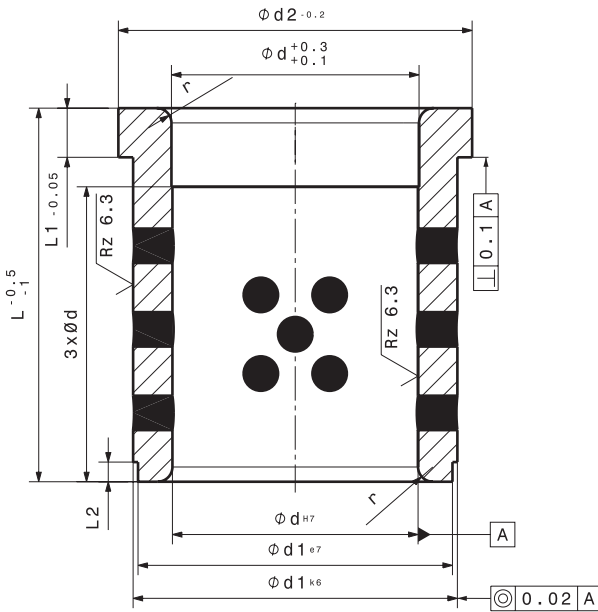


3.12 Buchsen  
3.12 Bushings

3.12



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L<br>-0,5<br>-1 | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,05 | L2 | r |
|-----------------------|-----------------------|-----------------|-----------------|-------------|-------------|----|---|
| 17932                 | 24                    | 17              | 30              | 35          | 6           | 3  | 2 |
| 17933                 | 24                    | 22              | 30              | 35          | 6           | 3  | 2 |
| 17934                 | 24                    | 27              | 30              | 35          | 6           | 3  | 2 |
| 17935                 | 24                    | 36              | 30              | 35          | 6           | 3  | 2 |
| 17936                 | 24                    | 46              | 30              | 35          | 6           | 3  | 2 |
| 17937                 | 24                    | 56              | 30              | 35          | 6           | 3  | 2 |
| 17938                 | 24                    | 66              | 30              | 35          | 6           | 3  | 2 |
| 17853                 | 24                    | 76              | 30              | 35          | 6           | 3  | 2 |
| 17854                 | 24                    | 86              | 30              | 35          | 6           | 3  | 2 |
| 17939                 | 30                    | 27              | 42              | 47          | 6           | 3  | 2 |
| 17940                 | 30                    | 36              | 42              | 47          | 6           | 3  | 2 |
| 17941                 | 30                    | 46              | 42              | 47          | 6           | 3  | 2 |
| 17942                 | 30                    | 56              | 42              | 47          | 6           | 3  | 2 |
| 17855                 | 30                    | 66              | 42              | 47          | 6           | 3  | 2 |
| 17943                 | 30                    | 76              | 42              | 47          | 6           | 3  | 2 |

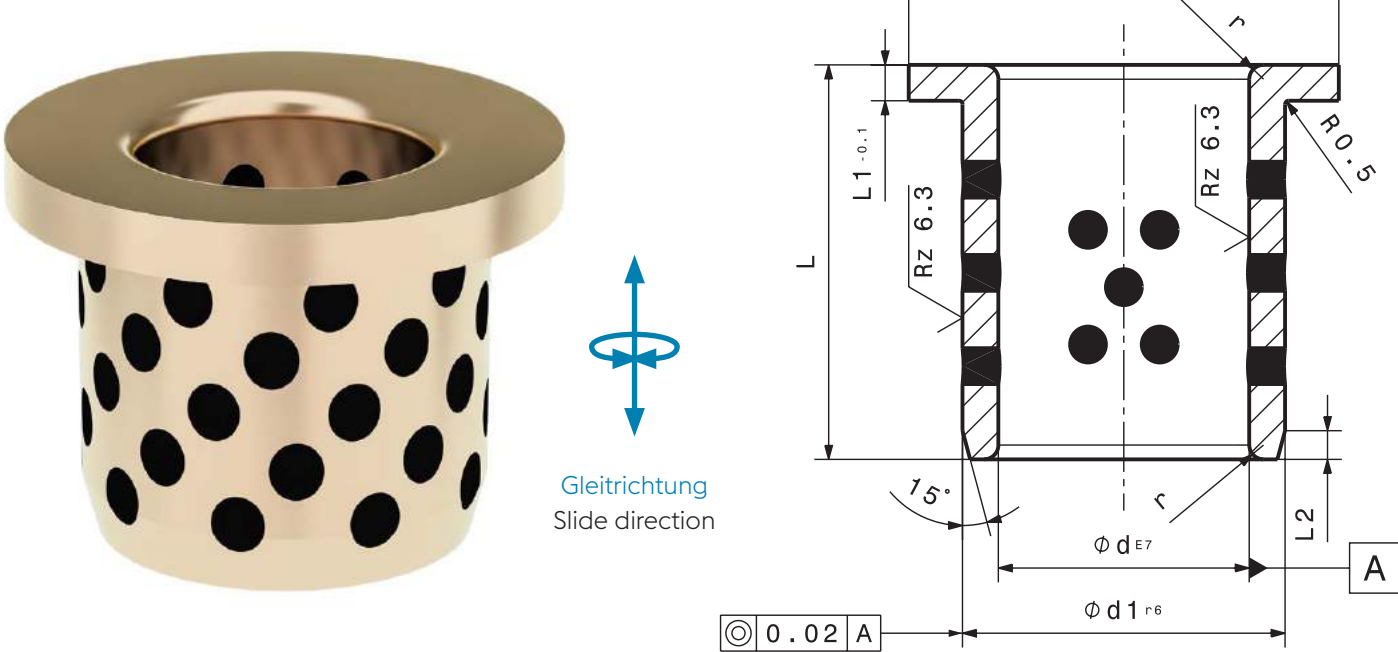
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>+0,1/+0,3 | L<br>-0,5<br>-1 | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,05 | L2 | r |
|-----------------------|-----------------------|-----------------|-----------------|-------------|-------------|----|---|
| 17856                 | 30                    | 86              | 42              | 47          | 6           | 3  | 2 |
| 17944                 | 30                    | 96              | 42              | 47          | 6           | 3  | 2 |
| 17857                 | 30                    | 116             | 42              | 47          | 6           | 3  | 2 |
| 17945                 | 32                    | 27              | 42              | 47          | 6           | 3  | 2 |
| 17946                 | 32                    | 36              | 42              | 47          | 6           | 3  | 2 |
| 17947                 | 32                    | 46              | 42              | 47          | 6           | 3  | 2 |
| 17948                 | 32                    | 56              | 42              | 47          | 6           | 3  | 2 |
| 17858                 | 32                    | 66              | 42              | 47          | 6           | 3  | 2 |
| 17949                 | 32                    | 76              | 42              | 47          | 6           | 3  | 2 |
| 17859                 | 32                    | 86              | 42              | 47          | 6           | 3  | 2 |
| 17950                 | 32                    | 96              | 42              | 47          | 6           | 3  | 2 |
| 17860                 | 32                    | 116             | 42              | 47          | 6           | 3  | 2 |
| 17951                 | 40                    | 56              | 54              | 60          | 10          | 4  | 3 |
| 17861                 | 40                    | 66              | 54              | 60          | 10          | 4  | 3 |
| 17952                 | 40                    | 76              | 54              | 60          | 10          | 4  | 3 |
| 17862                 | 40                    | 86              | 54              | 60          | 10          | 4  | 3 |
| 17953                 | 40                    | 96              | 54              | 60          | 10          | 4  | 3 |
| 17954                 | 40                    | 116             | 54              | 60          | 10          | 4  | 3 |
| 17863                 | 40                    | 136             | 54              | 60          | 10          | 4  | 3 |
| 17864                 | 40                    | 156             | 54              | 60          | 10          | 4  | 3 |
| 17955                 | 42                    | 56              | 54              | 60          | 10          | 4  | 3 |
| 17865                 | 42                    | 66              | 54              | 60          | 10          | 4  | 3 |
| 17956                 | 42                    | 76              | 54              | 60          | 10          | 4  | 3 |
| 17866                 | 42                    | 86              | 54              | 60          | 10          | 4  | 3 |
| 17957                 | 42                    | 96              | 54              | 60          | 10          | 4  | 3 |
| 17958                 | 42                    | 116             | 54              | 60          | 10          | 4  | 3 |
| 17867                 | 42                    | 136             | 54              | 60          | 10          | 4  | 3 |
| 17868                 | 42                    | 156             | 54              | 60          | 10          | 4  | 3 |
| 17959                 | 50                    | 76              | 66              | 72          | 10          | 4  | 3 |
| 17869                 | 50                    | 86              | 66              | 72          | 10          | 4  | 3 |
| 17960                 | 50                    | 96              | 66              | 72          | 10          | 4  | 3 |
| 17961                 | 50                    | 116             | 66              | 72          | 10          | 4  | 3 |
| 17962                 | 50                    | 136             | 66              | 72          | 10          | 4  | 3 |
| 17870                 | 50                    | 156             | 66              | 72          | 10          | 4  | 3 |
| 17871                 | 50                    | 196             | 66              | 72          | 10          | 4  | 3 |
| 17963                 | 60                    | 96              | 80              | 86          | 20          | 4  | 3 |
| 17964                 | 60                    | 116             | 80              | 86          | 20          | 4  | 3 |
| 17965                 | 60                    | 136             | 80              | 86          | 20          | 4  | 3 |
| 17872                 | 60                    | 156             | 80              | 86          | 20          | 4  | 3 |
| 17873                 | 60                    | 196             | 80              | 86          | 20          | 4  | 3 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

3.12

3.14 Buchsen
3.14 Bushings



| Ident-No.<br>WF750/1A | Ød<br>E7 | L  | Ød1<br>r6 | Ød2 | L1<br>-0,1 | L2 | r   |
|-----------------------|----------|----|-----------|-----|------------|----|-----|
| 17500                 | 10       | 15 | 14        | 22  | 2          | 2  | 1   |
| 17501                 | 10       | 20 | 14        | 22  | 2          | 2  | 1   |
| 17502                 | 12       | 15 | 18        | 25  | 3          | 3  | 1   |
| 17503                 | 12       | 20 | 18        | 25  | 3          | 3  | 1   |
| 17504                 | 13       | 15 | 19        | 26  | 3          | 3  | 1,5 |
| 17505                 | 13       | 20 | 19        | 26  | 3          | 3  | 1,5 |
| 17506                 | 14       | 15 | 20        | 27  | 3          | 3  | 1,5 |
| 17507                 | 14       | 20 | 20        | 27  | 3          | 3  | 1,5 |
| 17508                 | 15       | 15 | 21        | 28  | 3          | 3  | 1,5 |
| 17509                 | 15       | 20 | 21        | 28  | 3          | 3  | 1,5 |
| 17510                 | 15       | 25 | 21        | 28  | 3          | 3  | 1,5 |
| 17511                 | 16       | 15 | 22        | 29  | 3          | 3  | 1,5 |
| 17512                 | 16       | 20 | 22        | 29  | 3          | 3  | 1,5 |
| 17513                 | 16       | 25 | 22        | 29  | 3          | 3  | 1,5 |
| 13458                 | 16       | 30 | 22        | 29  | 3          | 3  | 1,5 |
| 17514                 | 20       | 15 | 30        | 40  | 5          | 3  | 1,5 |
| 17515                 | 20       | 20 | 30        | 40  | 5          | 3  | 1,5 |
| 17516                 | 20       | 30 | 30        | 40  | 5          | 3  | 1,5 |
| 17517                 | 20       | 40 | 30        | 40  | 5          | 3  | 1,5 |
| 17518                 | 25       | 20 | 35        | 45  | 5          | 3  | 2   |
| 17519                 | 25       | 25 | 35        | 45  | 5          | 3  | 2   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>E7 | L    | Ød1<br>r6 | Ød2 | L1<br>-0,1 | L2 | r |
|-----------------------|----------|------|-----------|-----|------------|----|---|
| 17520                 | 25       | 30   | 35        | 45  | 5          | 3  | 2 |
| 14925                 | 25       | 35   | 35        | 45  | 5          | 3  | 2 |
| 17521                 | 25       | 40   | 35        | 45  | 5          | 3  | 2 |
| 13560                 | 30       | 20   | 40        | 50  | 5          | 3  | 2 |
| 14790                 | 30       | 25   | 40        | 50  | 5          | 3  | 2 |
| 17522                 | 30       | 30   | 40        | 50  | 5          | 3  | 2 |
| 17523                 | 30       | 35   | 40        | 50  | 5          | 3  | 2 |
| 17524                 | 30       | 40   | 40        | 50  | 5          | 3  | 2 |
| 17525                 | 30       | 50   | 40        | 50  | 5          | 3  | 2 |
| 17526                 | 31,5     | 35   | 40        | 50  | 5          | 3  | 2 |
| 14060                 | 35       | 25   | 45        | 60  | 5          | 4  | 2 |
| 17527                 | 35       | 30   | 45        | 60  | 5          | 4  | 2 |
| 17528                 | 35       | 40   | 45        | 60  | 5          | 4  | 2 |
| 17529                 | 35       | 50   | 45        | 60  | 5          | 4  | 2 |
| 17530                 | 40       | 30   | 50        | 65  | 5          | 4  | 2 |
| 17531                 | 40       | 40   | 50        | 65  | 5          | 4  | 2 |
| 17532                 | 40       | 50   | 50        | 65  | 5          | 4  | 2 |
| 17533                 | 45       | 30   | 55        | 70  | 5          | 4  | 2 |
| 17534                 | 45       | 40   | 55        | 70  | 5          | 4  | 2 |
| 17097                 | 45       | 50   | 55        | 70  | 5          | 4  | 2 |
| 17535                 | 45       | 60   | 55        | 70  | 5          | 4  | 2 |
| 17536                 | 50       | 30   | 60        | 75  | 5          | 4  | 2 |
| 17537                 | 50       | 40   | 60        | 75  | 5          | 4  | 2 |
| 17538                 | 50       | 60   | 60        | 75  | 5          | 4  | 2 |
| 17539                 | 55       | 40   | 65        | 80  | 5          | 4  | 2 |
| 17540                 | 55       | 60   | 65        | 80  | 5          | 4  | 2 |
| 17541                 | 60       | 40   | 75        | 90  | 7,5        | 4  | 3 |
| 17542                 | 60       | 50   | 75        | 90  | 7,5        | 4  | 3 |
| 17543                 | 60       | 80   | 75        | 90  | 7,5        | 4  | 3 |
| 17544                 | 63       | 67,5 | 75        | 85  | 7,5        | 4  | 3 |
| 17545                 | 70       | 50   | 85        | 105 | 7,5        | 4  | 3 |
| 17546                 | 70       | 80   | 85        | 105 | 7,5        | 4  | 3 |
| 17547                 | 75       | 60   | 90        | 110 | 7,5        | 4  | 3 |
| 17548                 | 80       | 60   | 100       | 120 | 10         | 5  | 3 |
| 17549                 | 80       | 80   | 100       | 120 | 10         | 5  | 3 |
| 17090                 | 80       | 100  | 100       | 120 | 10         | 5  | 3 |
| 17091                 | 90       | 60   | 110       | 130 | 10         | 5  | 3 |
| 17092                 | 90       | 80   | 110       | 130 | 10         | 5  | 3 |
| 17093                 | 100      | 80   | 120       | 150 | 10         | 5  | 3 |
| 17094                 | 100      | 100  | 120       | 150 | 10         | 5  | 3 |
| 17095                 | 120      | 80   | 140       | 170 | 10         | 5  | 3 |
| 17096                 | 120      | 100  | 140       | 170 | 10         | 5  | 3 |

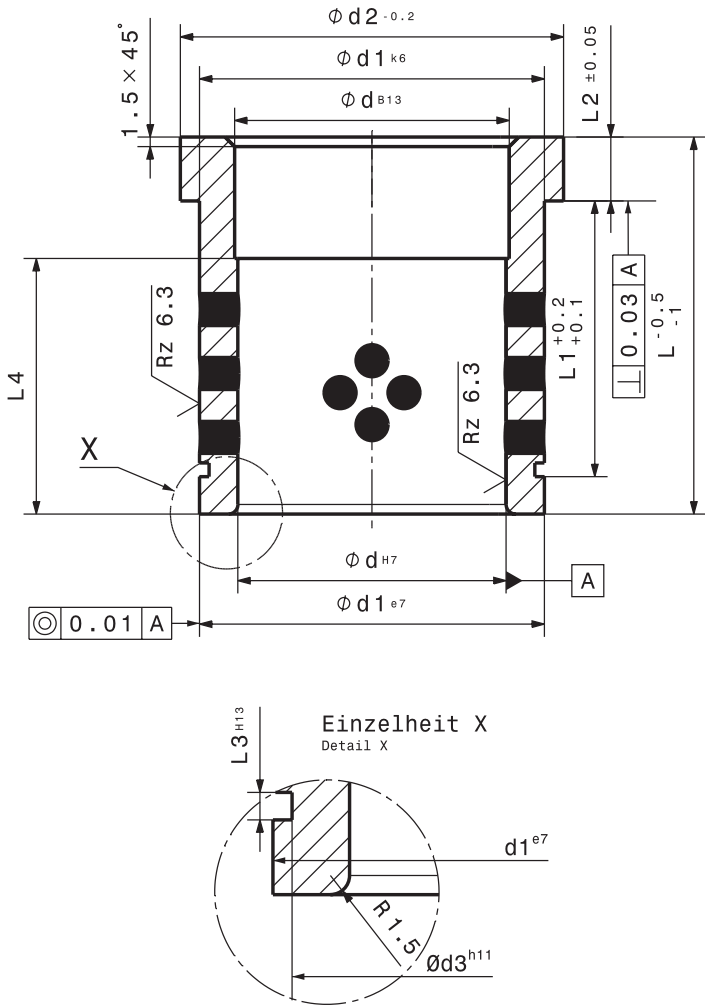
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.15 Buchsen
3.15 Bushings

3.15



Gleitrichtung
Slide direction



| Ident-No.<br>WF750/1A | Ød<br>H7<br>B13 | L<br>-0,5<br>-1 | Ød1<br>k6/e7 | Ød2<br>-0,2 | Ød3  | L1<br>+0,2<br>+0,1 | L2<br>±0,05 | L3  | L4 |
|-----------------------|-----------------|-----------------|--------------|-------------|------|--------------------|-------------|-----|----|
| 16040                 | 9               | 12              | 14           | 16          | 13,4 | 6,6                | 3           | 1,1 | 20 |
| 16041                 | 9               | 17              | 14           | 16          | 13,4 | 11,6               | 3           | 1,1 | 20 |
| 16042                 | 9               | 22              | 14           | 16          | 13,4 | 16,6               | 3           | 1,1 | 20 |
| 16043                 | 9               | 27              | 14           | 16          | 13,4 | 21,6               | 3           | 1,1 | 20 |
| 16044                 | 9               | 36              | 14           | 16          | 13,4 | 30,6               | 3           | 1,1 | 20 |
| 16045                 | 9               | 46              | 14           | 16          | 13,4 | 40,6               | 3           | 1,1 | 20 |
| 16046                 | 9               | 56              | 14           | 16          | 13,4 | 50,6               | 3           | 1,1 | 20 |
| 16048                 | 10              | 12              | 14           | 16          | 13,4 | 6,6                | 3           | 1,1 | 20 |
| 16049                 | 10              | 17              | 14           | 16          | 13,4 | 11,6               | 3           | 1,1 | 20 |
| 16050                 | 10              | 22              | 14           | 16          | 13,4 | 16,6               | 3           | 1,1 | 20 |
| 16051                 | 10              | 27              | 14           | 16          | 13,4 | 21,6               | 3           | 1,1 | 20 |
| 16052                 | 10              | 36              | 14           | 16          | 13,4 | 30,6               | 3           | 1,1 | 20 |
| 16053                 | 10              | 46              | 14           | 16          | 13,4 | 40,6               | 3           | 1,1 | 20 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>B13 | L<br>-0,5<br>-1 | Ød1<br>k6/e7 | Ød2<br>-0,2 | Ød3  | L1<br>+0,2<br>+0,1 | L2<br>±0,05 | L3  | L4 |
|-----------------------|-----------------|-----------------|--------------|-------------|------|--------------------|-------------|-----|----|
| 16054                 | 10              | 56              | 14           | 16          | 13,4 | 50,6               | 3           | 1,1 | 20 |
| 16056                 | 12              | 17              | 18           | 23          | 17   | 8,3                | 6           | 1,3 | 24 |
| 16057                 | 12              | 22              | 18           | 23          | 17   | 13,3               | 6           | 1,3 | 24 |
| 16058                 | 12              | 27              | 18           | 23          | 17   | 18,3               | 6           | 1,3 | 24 |
| 16059                 | 12              | 36              | 18           | 23          | 17   | 27,3               | 6           | 1,3 | 24 |
| 16060                 | 12              | 46              | 18           | 23          | 17   | 37,3               | 6           | 1,3 | 24 |
| 16061                 | 12              | 56              | 18           | 23          | 17   | 47,3               | 6           | 1,3 | 24 |
| 16063                 | 14              | 17              | 20           | 25          | 19   | 8,3                | 6           | 1,3 | 30 |
| 16064                 | 14              | 22              | 20           | 25          | 19   | 13,3               | 6           | 1,3 | 30 |
| 16065                 | 14              | 27              | 20           | 25          | 19   | 18,3               | 6           | 1,3 | 30 |
| 16066                 | 14              | 36              | 20           | 25          | 19   | 27,3               | 6           | 1,3 | 30 |
| 16067                 | 14              | 46              | 20           | 25          | 19   | 37,3               | 6           | 1,3 | 30 |
| 16068                 | 14              | 56              | 20           | 25          | 19   | 47,3               | 6           | 1,3 | 30 |
| 16070                 | 15              | 17              | 20           | 25          | 19   | 8,3                | 6           | 1,3 | 30 |
| 16071                 | 15              | 22              | 20           | 25          | 19   | 13,3               | 6           | 1,3 | 30 |
| 16072                 | 15              | 27              | 20           | 25          | 19   | 18,3               | 6           | 1,3 | 30 |
| 16073                 | 15              | 36              | 20           | 25          | 19   | 27,3               | 6           | 1,3 | 30 |
| 16074                 | 15              | 46              | 20           | 25          | 19   | 37,3               | 6           | 1,3 | 30 |
| 16075                 | 15              | 56              | 20           | 25          | 19   | 47,3               | 6           | 1,3 | 30 |
| 16077                 | 16              | 22              | 22           | 27          | 21   | 13,3               | 6           | 1,3 | 32 |
| 16078                 | 16              | 27              | 22           | 27          | 21   | 18,3               | 6           | 1,3 | 32 |
| 16079                 | 16              | 36              | 22           | 27          | 21   | 27,3               | 6           | 1,3 | 32 |
| 16080                 | 16              | 46              | 22           | 27          | 21   | 37,3               | 6           | 1,3 | 32 |
| 16081                 | 16              | 56              | 22           | 27          | 21   | 47,3               | 6           | 1,3 | 32 |
| 16083                 | 18              | 17              | 26           | 31          | 24,9 | 8,3                | 6           | 1,3 | 40 |
| 16084                 | 18              | 22              | 26           | 31          | 24,9 | 13,3               | 6           | 1,3 | 40 |
| 16085                 | 18              | 27              | 26           | 31          | 24,9 | 18,3               | 6           | 1,3 | 40 |
| 16086                 | 18              | 36              | 26           | 31          | 24,9 | 27,3               | 6           | 1,3 | 40 |
| 16087                 | 18              | 46              | 26           | 31          | 24,9 | 37,3               | 6           | 1,3 | 40 |
| 16088                 | 18              | 56              | 26           | 31          | 24,9 | 47,3               | 6           | 1,3 | 40 |
| 16089                 | 18              | 66              | 26           | 31          | 24,9 | 57,3               | 6           | 1,3 | 40 |
| 16090                 | 18              | 76              | 26           | 31          | 24,9 | 67,3               | 6           | 1,3 | 40 |
| 16092                 | 20              | 17              | 26           | 31          | 24,9 | 8,3                | 6           | 1,3 | 40 |
| 16093                 | 20              | 22              | 26           | 31          | 24,9 | 13,3               | 6           | 1,3 | 40 |
| 16094                 | 20              | 27              | 26           | 31          | 24,9 | 18,3               | 6           | 1,3 | 40 |
| 16095                 | 20              | 36              | 26           | 31          | 24,9 | 27,3               | 6           | 1,3 | 40 |
| 16096                 | 20              | 46              | 26           | 31          | 24,9 | 37,3               | 6           | 1,3 | 40 |
| 16097                 | 20              | 56              | 26           | 31          | 24,9 | 47,3               | 6           | 1,3 | 40 |
| 16098                 | 20              | 66              | 26           | 31          | 24,9 | 57,3               | 6           | 1,3 | 40 |
| 16099                 | 20              | 76              | 26           | 31          | 24,9 | 67,3               | 6           | 1,3 | 40 |

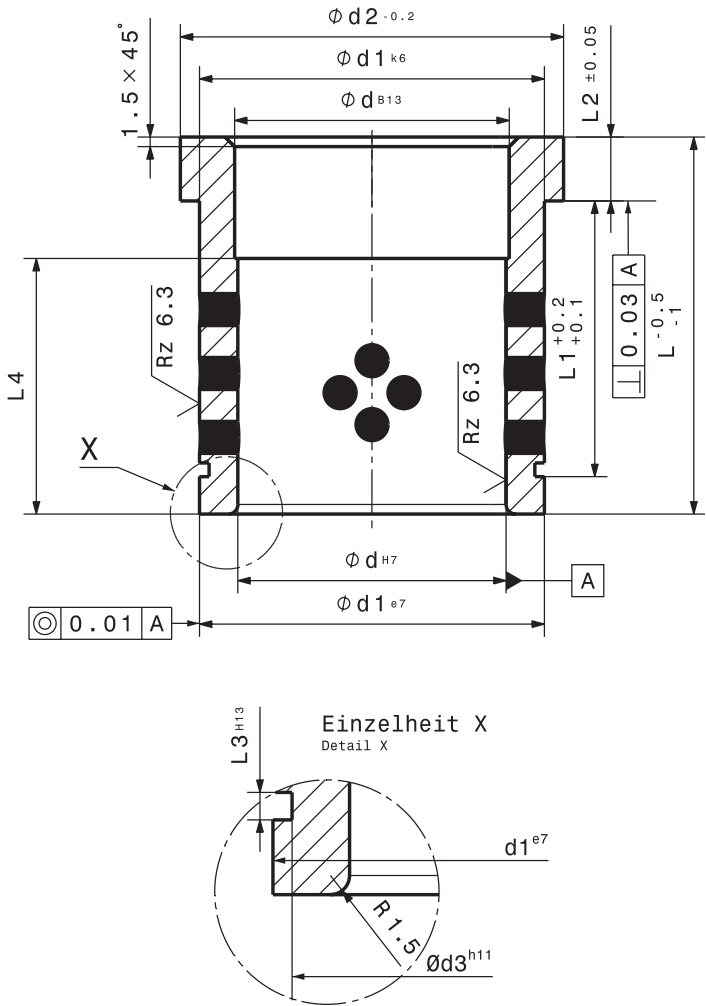
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.15 Buchsen
3.15 Bushings

3.15



Gleitrichtung
Slide direction



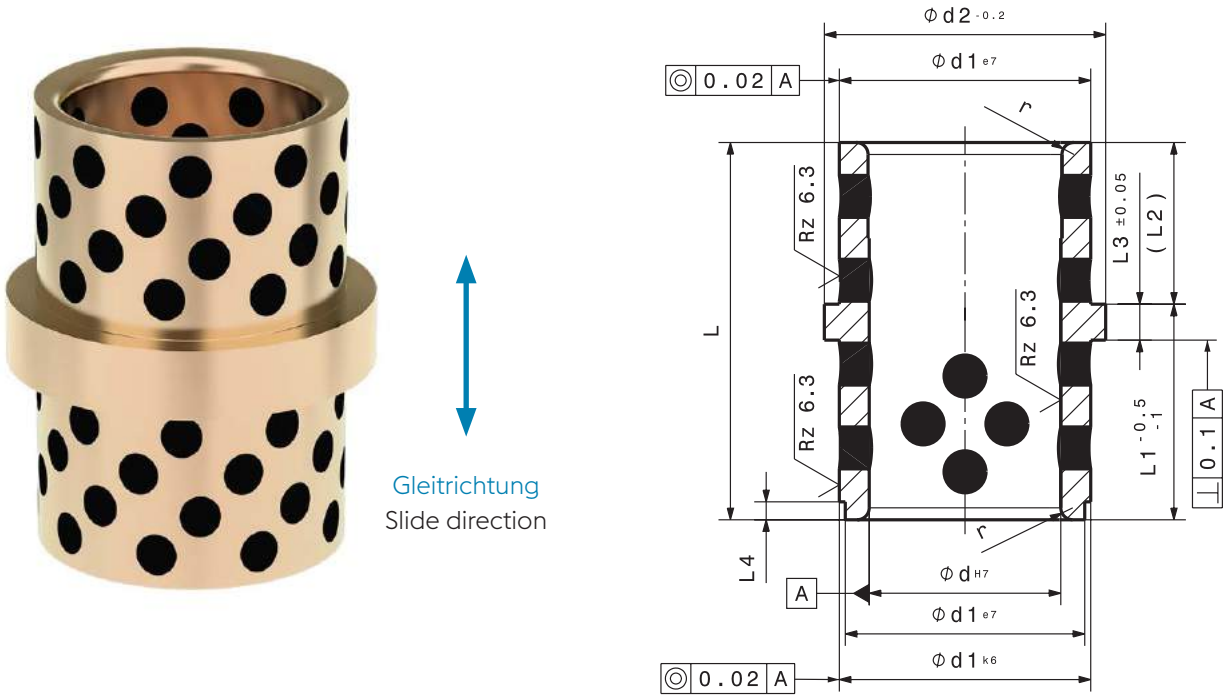
| Ident-No.<br>WF750/1A | Ød<br>H7<br>B13 | L<br>-0,5<br>-1 | Ød1<br>k6/e7 | Ød2<br>-0,2 | Ød3  | L1<br>+0,2<br>+0,1 | L2<br>±0,05 | L3  | L4 |
|-----------------------|-----------------|-----------------|--------------|-------------|------|--------------------|-------------|-----|----|
| 16101                 | 22              | 22              | 30           | 35          | 28,6 | 12,6               | 6           | 1,6 | 48 |
| 16102                 | 22              | 27              | 30           | 35          | 28,6 | 17,6               | 6           | 1,6 | 48 |
| 16103                 | 22              | 36              | 30           | 35          | 28,6 | 26,6               | 6           | 1,6 | 48 |
| 16104                 | 22              | 46              | 30           | 35          | 28,6 | 36,6               | 6           | 1,6 | 48 |
| 16105                 | 22              | 56              | 30           | 35          | 28,6 | 46,6               | 6           | 1,6 | 48 |
| 16106                 | 22              | 66              | 30           | 35          | 28,6 | 56,6               | 6           | 1,6 | 48 |
| 16107                 | 22              | 76              | 30           | 35          | 28,6 | 66,6               | 6           | 1,6 | 48 |
| 16108                 | 22              | 86              | 30           | 35          | 28,6 | 76,6               | 6           | 1,6 | 48 |
| 16109                 | 22              | 96              | 30           | 35          | 28,6 | 86,6               | 6           | 1,6 | 48 |
| 16111                 | 24              | 22              | 30           | 35          | 28,6 | 12,6               | 6           | 1,6 | 48 |
| 16112                 | 24              | 27              | 30           | 35          | 28,6 | 17,6               | 6           | 1,6 | 48 |
| 16113                 | 24              | 36              | 30           | 35          | 28,6 | 26,6               | 6           | 1,6 | 48 |
| 16114                 | 24              | 46              | 30           | 35          | 28,6 | 36,6               | 6           | 1,6 | 48 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | Ød<br>H7<br>B13 | L<br>-0,5<br>-1 | Ød1<br>k6/e7 | Ød2<br>-0,2 | Ød3  | L1<br>+0,2<br>+0,1 | L2<br>±0,05 | L3   | L4 |
|-----------------------|-----------------|-----------------|--------------|-------------|------|--------------------|-------------|------|----|
| 16115                 | 24              | 56              | 30           | 35          | 28,6 | 46,6               | 6           | 1,6  | 48 |
| 16116                 | 24              | 66              | 30           | 35          | 28,6 | 56,6               | 6           | 1,6  | 48 |
| 16117                 | 24              | 76              | 30           | 35          | 28,6 | 66,6               | 6           | 1,6  | 48 |
| 16118                 | 24              | 86              | 30           | 35          | 28,6 | 76,6               | 6           | 1,6  | 48 |
| 16119                 | 24              | 96              | 30           | 35          | 28,6 | 86,6               | 6           | 1,6  | 48 |
| 16121                 | 30              | 27              | 42           | 47          | 39,5 | 15,85              | 6           | 1,85 | 64 |
| 16122                 | 30              | 36              | 42           | 47          | 39,5 | 24,85              | 6           | 1,85 | 64 |
| 16123                 | 30              | 46              | 42           | 47          | 39,5 | 34,85              | 6           | 1,85 | 64 |
| 16124                 | 30              | 56              | 42           | 47          | 39,5 | 44,85              | 6           | 1,85 | 64 |
| 16125                 | 30              | 66              | 42           | 47          | 39,5 | 54,85              | 6           | 1,85 | 64 |
| 16126                 | 30              | 76              | 42           | 47          | 39,5 | 64,85              | 6           | 1,85 | 64 |
| 16127                 | 30              | 86              | 42           | 47          | 39,5 | 74,85              | 6           | 1,85 | 64 |
| 16128                 | 30              | 96              | 42           | 47          | 39,5 | 84,85              | 6           | 1,85 | 64 |
| 16129                 | 30              | 116             | 42           | 47          | 39,5 | 104,85             | 6           | 1,85 | 64 |
| 16170                 | 32              | 27              | 42           | 47          | 39,5 | 15,85              | 6           | 1,85 | 64 |
| 16171                 | 32              | 36              | 42           | 47          | 39,5 | 24,85              | 6           | 1,85 | 64 |
| 16172                 | 32              | 46              | 42           | 47          | 39,5 | 34,85              | 6           | 1,85 | 64 |
| 16173                 | 32              | 56              | 42           | 47          | 39,5 | 44,85              | 6           | 1,85 | 64 |
| 16174                 | 32              | 66              | 42           | 47          | 39,5 | 54,85              | 6           | 1,85 | 64 |
| 16175                 | 32              | 76              | 42           | 47          | 39,5 | 64,85              | 6           | 1,85 | 64 |
| 16176                 | 32              | 86              | 42           | 47          | 39,5 | 74,85              | 6           | 1,85 | 64 |
| 16177                 | 32              | 96              | 42           | 47          | 39,5 | 84,85              | 6           | 1,85 | 64 |
| 16178                 | 32              | 116             | 42           | 47          | 39,5 | 104,85             | 6           | 1,85 | 64 |
| 16180                 | 40              | 46              | 54           | 60          | 51   | 30,15              | 10          | 2,15 | 80 |
| 16181                 | 40              | 56              | 54           | 60          | 51   | 40,15              | 10          | 2,15 | 80 |
| 16182                 | 40              | 66              | 54           | 60          | 51   | 50,15              | 10          | 2,15 | 80 |
| 16183                 | 40              | 76              | 54           | 60          | 51   | 60,15              | 10          | 2,15 | 80 |
| 16184                 | 40              | 86              | 54           | 60          | 51   | 70,15              | 10          | 2,15 | 80 |
| 16185                 | 40              | 96              | 54           | 60          | 51   | 80,15              | 10          | 2,15 | 80 |
| 16186                 | 40              | 116             | 54           | 60          | 51   | 100,15             | 10          | 2,15 | 80 |
| 16187                 | 40              | 136             | 54           | 60          | 51   | 120,15             | 10          | 2,15 | 80 |
| 16189                 | 42              | 46              | 54           | 60          | 51   | 30,15              | 10          | 2,15 | 80 |
| 16190                 | 42              | 56              | 54           | 60          | 51   | 40,15              | 10          | 2,15 | 80 |
| 16191                 | 42              | 66              | 54           | 60          | 51   | 50,15              | 10          | 2,15 | 80 |
| 16192                 | 42              | 76              | 54           | 60          | 51   | 60,15              | 10          | 2,15 | 80 |
| 16193                 | 42              | 86              | 54           | 60          | 51   | 70,15              | 10          | 2,15 | 80 |
| 16194                 | 42              | 96              | 54           | 60          | 51   | 80,15              | 10          | 2,15 | 80 |
| 16195                 | 42              | 116             | 54           | 60          | 51   | 100,15             | 10          | 2,15 | 80 |
| 16196                 | 42              | 136             | 54           | 60          | 51   | 120,15             | 10          | 2,15 | 80 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.19 Buchsen  
3.19 Bushings

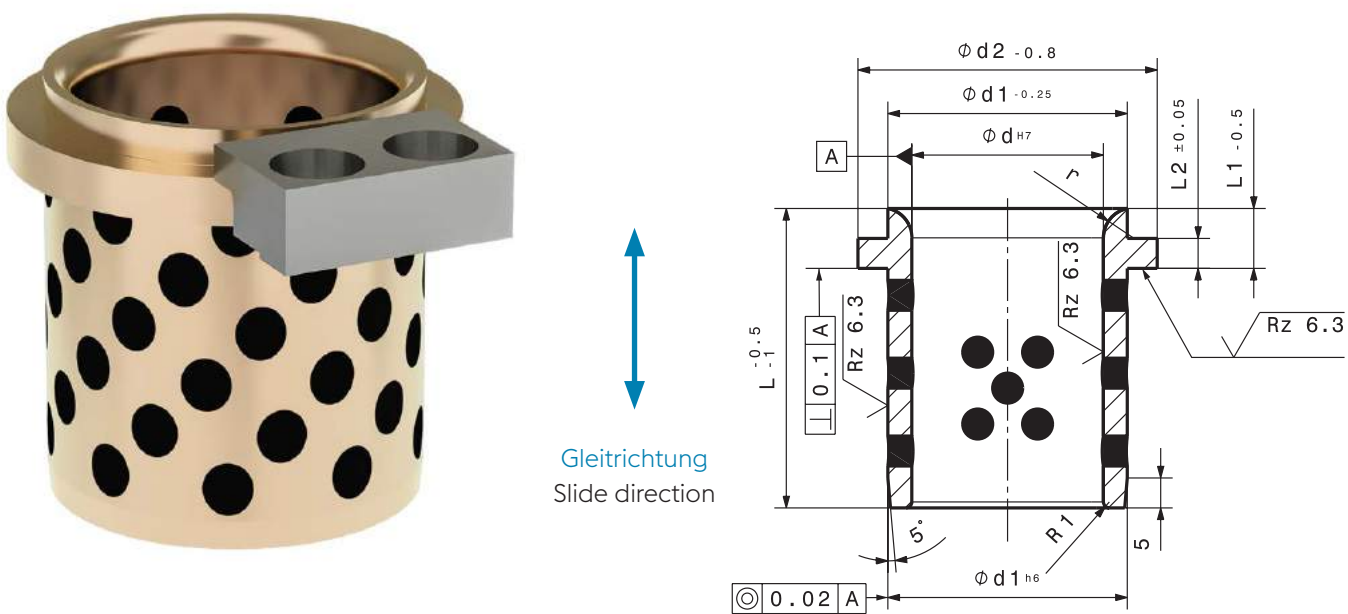


| Ident-No.<br>WF750/1A | Ød<br>H7 | L  | Ød1<br>e7<br>k6 | Ød2<br>-0,2 | L1<br>-0,5<br>-1 | L2 | L3<br>±0,05 | L4 | r   |
|-----------------------|----------|----|-----------------|-------------|------------------|----|-------------|----|-----|
| 17966                 | 9        | 15 | 14              | 16          | 9                | 6  | 3           | 2  | 1   |
| 17967                 | 10       | 26 | 14              | 16          | 17               | 9  | 3           | 2  | 1   |
| 17968                 | 15       | 39 | 20              | 25          | 22               | 17 | 6           | 3  | 1,5 |
| 17454                 | 18       | 39 | 26              | 31          | 22               | 17 | 6           | 3  | 1,5 |
| 17455                 | 20       | 39 | 26              | 31          | 22               | 17 | 6           | 3  | 1,5 |
| 17969                 | 20       | 49 | 26              | 31          | 27               | 22 | 6           | 3  | 1,5 |
| 17456                 | 22       | 49 | 30              | 35          | 27               | 22 | 6           | 3  | 2   |
| 17457                 | 24       | 49 | 30              | 35          | 27               | 22 | 6           | 3  | 2   |
| 17714                 | 24       | 63 | 30              | 35          | 36               | 27 | 6           | 3  | 2   |
| 17458                 | 30       | 63 | 42              | 47          | 36               | 27 | 6           | 3  | 2   |
| 17459                 | 32       | 63 | 42              | 47          | 36               | 27 | 6           | 3  | 2   |
| 17715                 | 32       | 73 | 42              | 47          | 46               | 27 | 6           | 3  | 2   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

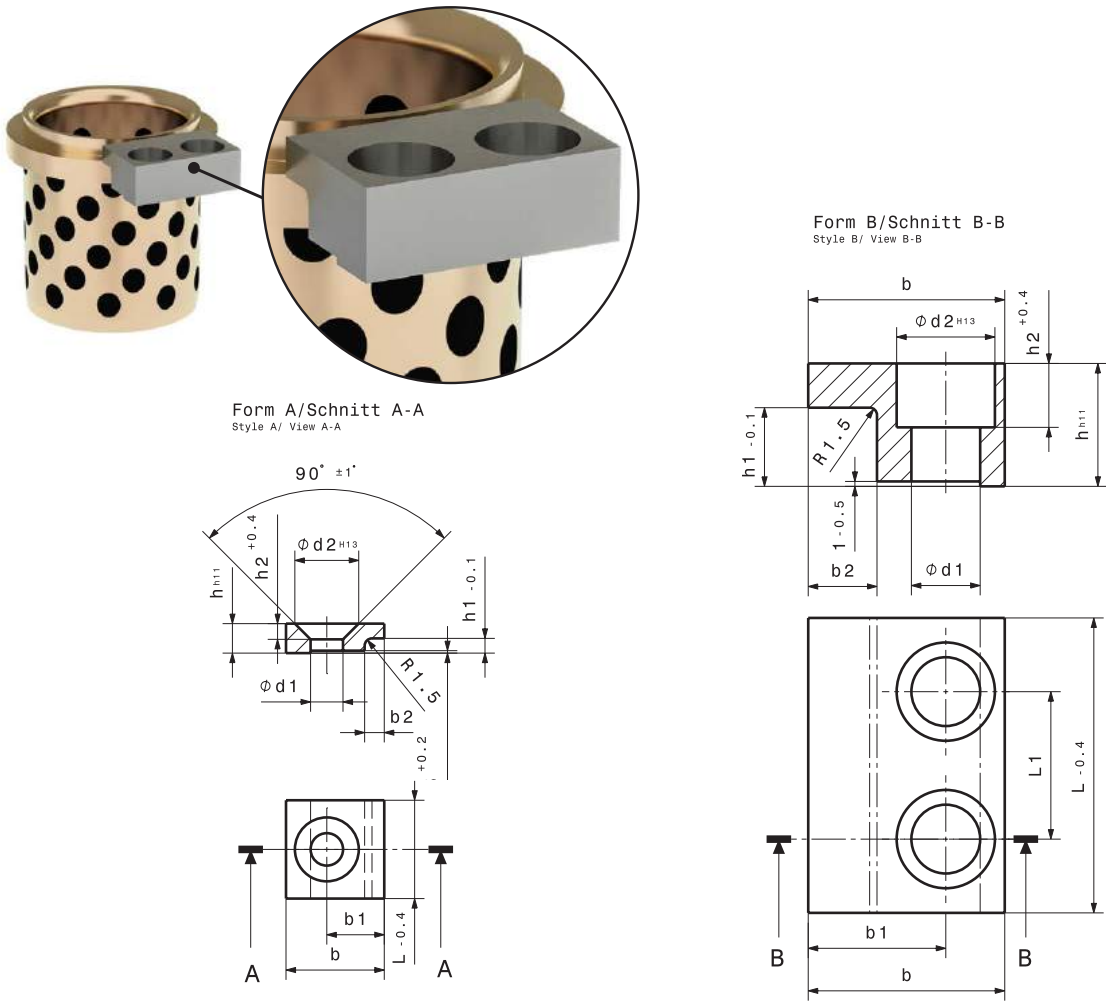
3.20 Buchsen und Klammern
3.20 Bushings and clamps

3.20



| Ident-No.<br>WF750/1A | Ød<br>H7 | L<br>-0,5<br>-1 | Ød1<br>h6<br>-0,25 | Ød2 | L1<br>-0,5 | L2<br>±0,05 | r  | Klammer ID-No.<br>Clamp ID-No. |
|-----------------------|----------|-----------------|--------------------|-----|------------|-------------|----|--------------------------------|
| 18299                 | 23       | 40              | 32                 | 40  | 6          | 3           | 5  | 19780                          |
| 18300                 | 25       | 40              | 32                 | 40  | 6          | 3           | 5  |                                |
| 18301                 | 32       | 50              | 40                 | 50  | 10         | 5           | 5  | 19781                          |
| 18302                 | 40       | 63              | 50                 | 63  | 13         | 8           | 6  | 19782                          |
| 18303                 | 42       | 63              | 50                 | 63  | 13         | 8           | 6  |                                |
| 18304                 | 50       | 72              | 63                 | 75  | 14         | 8           | 6  |                                |
| 18305                 | 52       | 72              | 63                 | 75  | 14         | 8           | 6  | 19783                          |
| 18306                 | 63       | 80              | 80                 | 95  | 17         | 10          | 8  |                                |
| 18307                 | 65       | 80              | 80                 | 95  | 16         | 10          | 8  |                                |
| 18308                 | 80       | 100             | 100                | 120 | 20         | 10          | 8  |                                |
| 18309                 | 82       | 100             | 100                | 120 | 20         | 10          | 8  | 19794                          |
| 18310                 | 100      | 125             | 125                | 150 | 25         | 16          | 10 |                                |
| 18311                 | 125      | 160             | 160                | 190 | 30         | 16          | 13 |                                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>1.0037 | Buchsen-Innen-Ø<br>Bushings inner-Ø | b  | L<br>-0,4 | L1 | h<br>h11 | h1<br>-0,1 | h2<br>+0,4 | b1   | b2 | Ød1  | Ød2<br>H13 | Schraube<br>Screw | Form<br>Style |
|---------------------|-------------------------------------|----|-----------|----|----------|------------|------------|------|----|------|------------|-------------------|---------------|
| 19780               | 25                                  | 20 | 16        | -  | 6        | 3          | 3,2        | 12   | 4  | 6,6  | 13         | 1x M6 (ISO 10642) | A             |
| 19781               | 32                                  | 20 | 20        | -  | 10       | 5          | 6,8        | 12,5 | 5  | 6,6  | 13         | 1x M6 (ISO 4762)  | B             |
| 19782               | 40-50                               | 25 | 40        | 20 | 14       | 8          | 9          | 16   | 7  | 9    | 15         | 2x M8 (ISO 4762)  | B             |
| 19783               | 63-80                               | 32 | 50        | 25 | 16       | 10         | 11         | 20,5 | 9  | 11,5 | 18         | 2x M10 (ISO 4762) | B             |
| 19794               | 100-125                             | 40 | 60        | 30 | 25       | 16         | 13         | 27   | 14 | 13,5 | 20         | 2x M12 (ISO 4762) | B             |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

3.20



## 4. Buchsen mit Anlaufbund

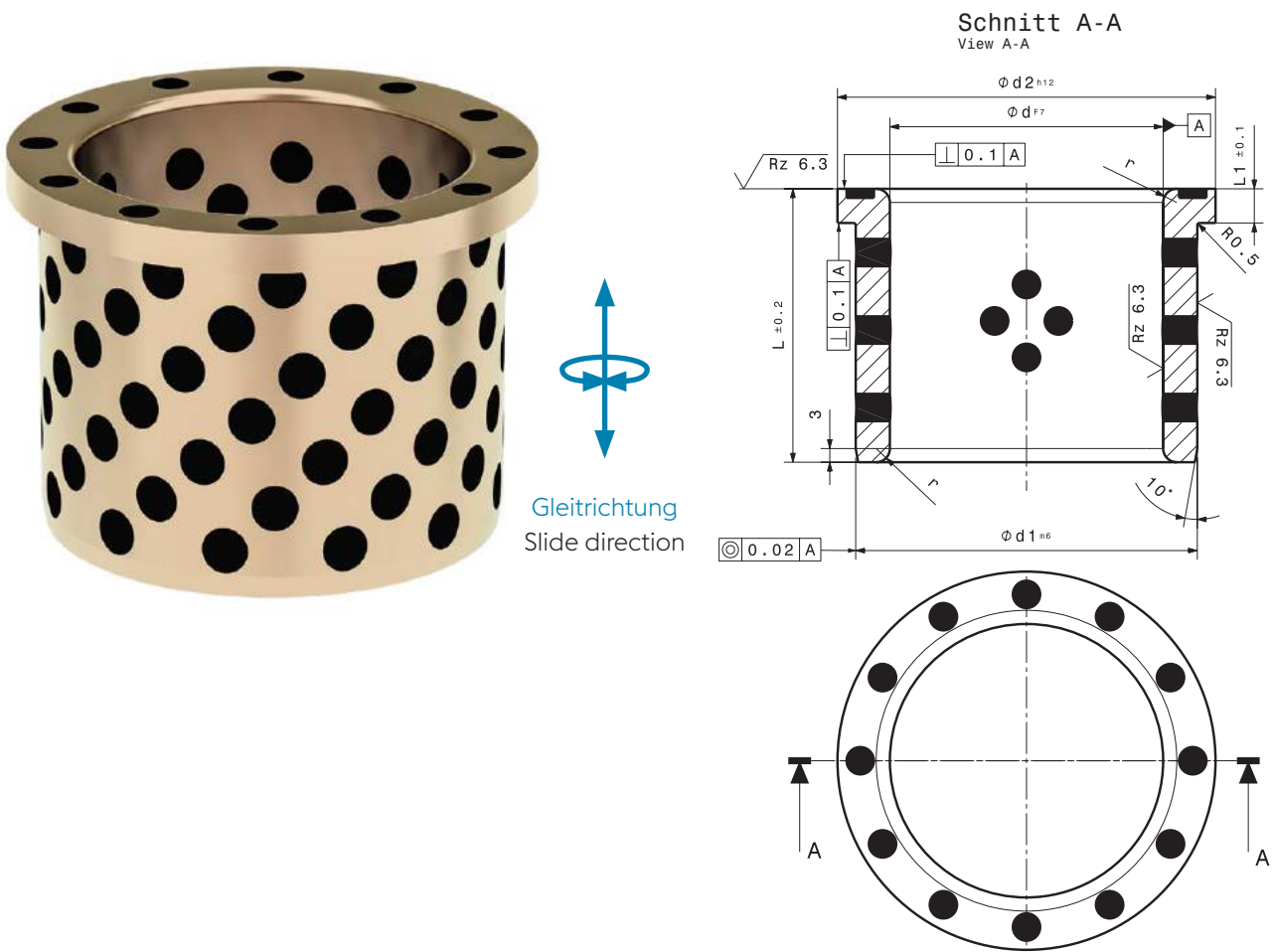
### 4. Bushings with buffer flange

4.1



Buchsen mit Anlaufbund  
Bushings with buffer flange

4.1 Buchsen mit Anlaufbund  
4.1 Bushings with buffer flange



| Ident-No.<br>WF750/1A | Ød<br>F7 | L<br>±0,2 | Ød1<br>m6 | Ød2<br>h12 | L1<br>±0,1 | r |
|-----------------------|----------|-----------|-----------|------------|------------|---|
| 19691                 | 12       | 15        | 18        | 25         | 4          | 1 |
| 19692                 | 16       | 20        | 22        | 30         | 5          | 1 |
| 19693                 | 20       | 25        | 28        | 36         | 5          | 1 |
| 19694                 | 25       | 30        | 33        | 43         | 5          | 1 |
| 19695                 | 30       | 35        | 38        | 48         | 5          | 1 |
| 19696                 | 40       | 45        | 50        | 60         | 5          | 2 |
| 19697                 | 50       | 50        | 60        | 68         | 5          | 2 |
| 19699                 | 50       | 55        | 62        | 75         | 6          | 2 |
| 19698                 | 60       | 60        | 75        | 83         | 7,5        | 3 |
| 19690                 | 60       | 65        | 75        | 90         | 7          | 3 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 6. Anlaufscheiben

### 6. Washers

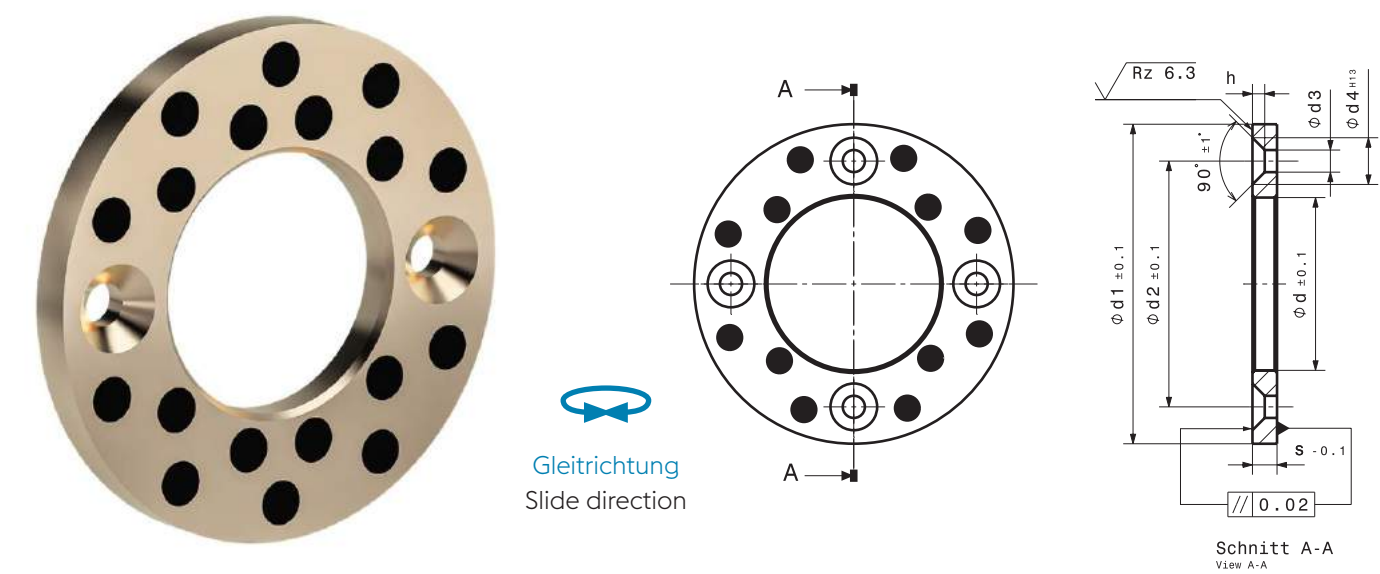
6.1



Anlaufscheiben  
Washers

6.1 Anlaufscheiben  
6.1 Washers

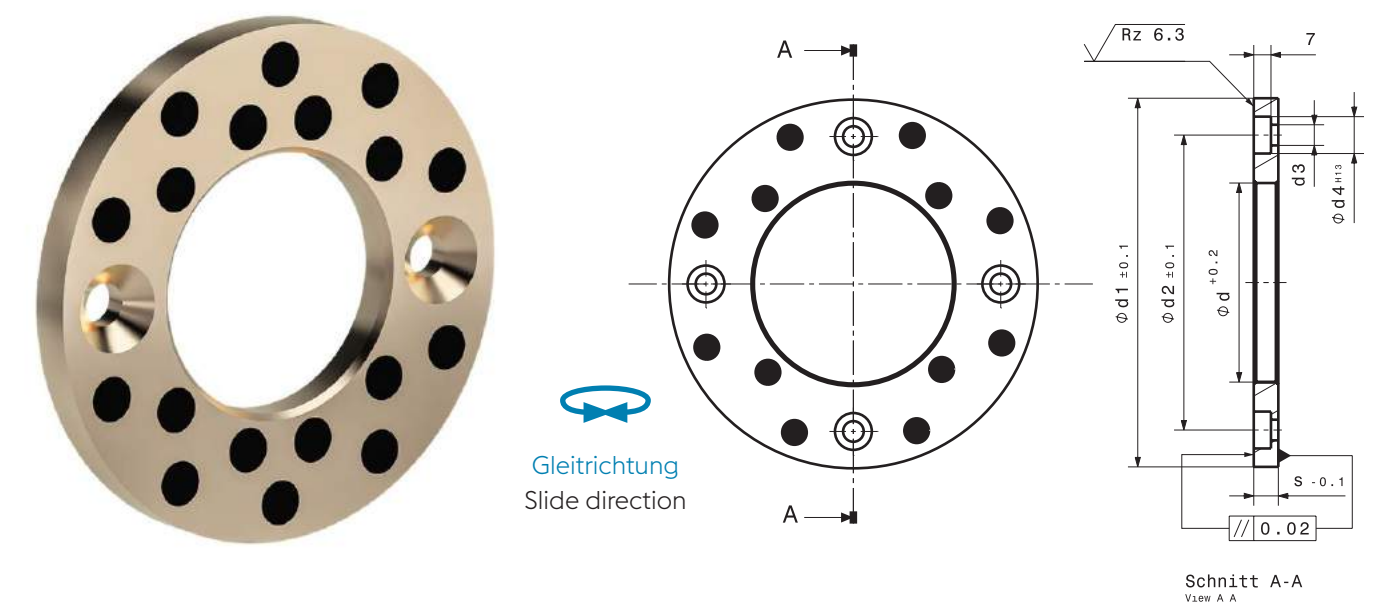
6.1



| Ident-No.<br>WF750/1A | $\varnothing d$<br>$\pm 0,1$ | $s$<br>$-0,1$ | $\varnothing d1$<br>$\pm 0,1$ | $\varnothing d2$<br>$\pm 0,1$ | $\varnothing d3$ | $\varnothing d4$ | $h$ | Senkschraube<br>Countersunk screw<br>DIN EN ISO 10642 |
|-----------------------|------------------------------|---------------|-------------------------------|-------------------------------|------------------|------------------|-----|-------------------------------------------------------|
| 15385                 | 10,2                         | 3             | 30                            | -                             | -                | -                | -   | -                                                     |
| 63337                 | 10,2                         | 3             | 30                            | 20                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 19616                 | 12,2                         | 3             | 40                            | 28                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 61410                 | 13,2                         | 3             | 40                            | 28                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 61506                 | 14,2                         | 3             | 40                            | 28                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 19617                 | 16,2                         | 3             | 50                            | 35                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 61787                 | 18,2                         | 3             | 50                            | 35                            | 3,4              | 6,9              | 1,8 | 2x M3                                                 |
| 19618                 | 20,2                         | 5             | 50                            | 35                            | 5,5              | 11,5             | 3   | 2x M5                                                 |
| 19619                 | 25,2                         | 5             | 55                            | 40                            | 5,5              | 11,5             | 3   | 2x M5                                                 |
| 19620                 | 30,2                         | 5             | 60                            | 45                            | 5,5              | 11,5             | 3   | 2x M5                                                 |
| 19621                 | 35,2                         | 5             | 70                            | 50                            | 5,5              | 11,5             | 3   | 2x M5                                                 |
| 19622                 | 40,2                         | 7             | 80                            | 60                            | 6,6              | 13,7             | 3,6 | 2x M6                                                 |
| 19623                 | 45,3                         | 7             | 90                            | 67,5                          | 6,6              | 13,7             | 3,6 | 2x M6                                                 |
| 19624                 | 50,3                         | 8             | 100                           | 75                            | 6,6              | 13,7             | 3,6 | 4x M6                                                 |
| 19625                 | 60,3                         | 8             | 120                           | 90                            | 9                | 18,3             | 4,6 | 4x M8                                                 |
| 19626                 | 70,3                         | 10            | 130                           | 100                           | 9                | 18,3             | 4,6 | 4x M8                                                 |
| 19627                 | 80,3                         | 10            | 150                           | 120                           | 9                | 18,3             | 4,6 | 4x M8                                                 |
| 19628                 | 90,5                         | 10            | 170                           | 140                           | 11               | 22,7             | 5,9 | 4x M10                                                |
| 19629                 | 100,5                        | 10            | 190                           | 160                           | 11               | 22,7             | 5,9 | 4x M10                                                |
| 19600                 | 120,5                        | 10            | 200                           | 175                           | 11               | 22,7             | 5,9 | 4x M10                                                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

6.1



| Ident-No.<br>WF750/1A | $\varnothing d$<br>$+0,2$ | $s$<br>$-0,1$ | $\varnothing d1$<br>$\pm 0,1$ | $\varnothing d2$<br>$\pm 0,1$ | $\varnothing d3$ | $\varnothing d4$<br>H13 | $h$ | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 6912 |
|-----------------------|---------------------------|---------------|-------------------------------|-------------------------------|------------------|-------------------------|-----|------------------------------------------------------------|
| 15895                 | 81                        | 10            | 150                           | 120                           | 8,4              | 15                      | -   | 4x M8                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

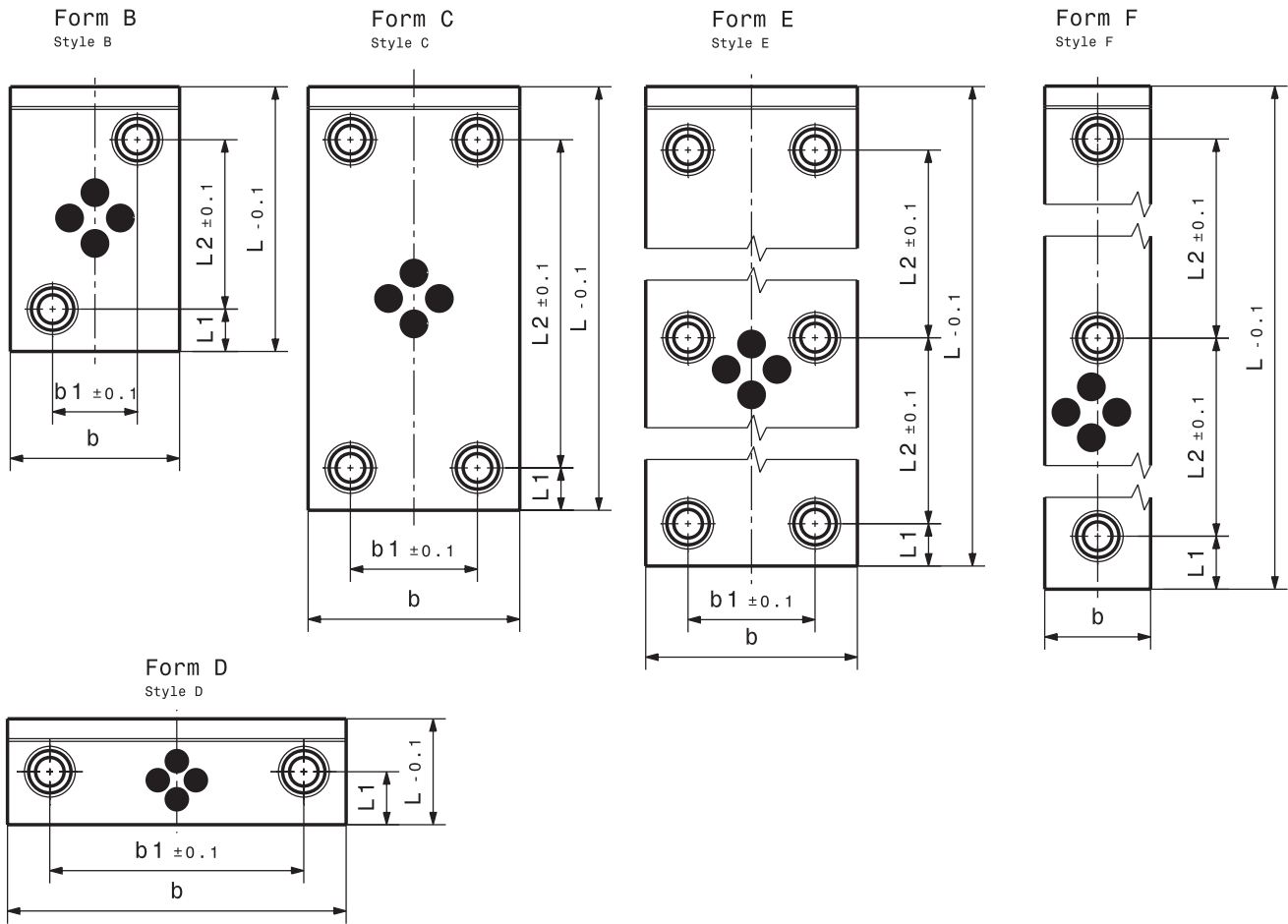
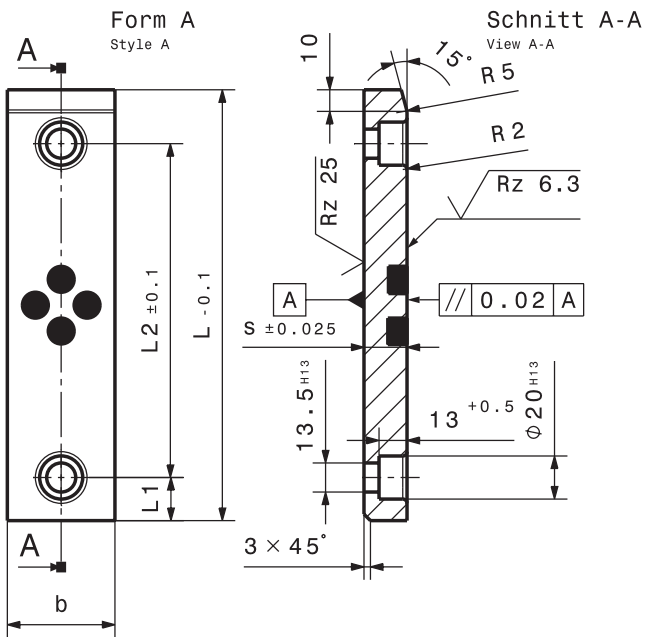
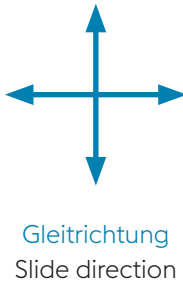
## 7. Gleitplatten 7. Wear plates

- 7.1  Gleitplatten  
Wear plates  
**Dicke / thickness** = 20 mm
- 7.2  Gleitplatten  
Wear plates  
**Dicke / thickness** = 20 mm
- 7.3  Gleitplatten  
Wear plates  
**Dicke / thickness** = 16 mm, 25 mm
- 7.7  Gleitplatten  
Wear plates  
**Dicke / thickness** = 8 mm, 12 mm, 16 mm, 20 mm
- 7.9  Gleitplatten  
Wear plates  
**Dicke / thickness** = 8 mm, 10 mm
- 7.11  Führungsplatten  
Guide plates  
**Dicke / thickness** = 40 mm, 50 mm  
**WF750, Stahl / WF750, steel**
- 7.12  Gleitplatten mit Schmiernut  
Wear plates with oil groove  
**Dicke / thickness** = 20 mm, 21 mm  
**WF750, CuZn25Al5, Stahl / WF750, CuZn25Al5, steel**
- 7.13  Gleitplatten  
Wear plates  
**Dicke / thickness** = 16 mm

- 7.14  Gleitplatten nach VDI 3357  
Wear plates acc. VDI 3357  
**Dicke / thickness** = 20 mm  
**WF750, Stahl, Sinter / WF750, steel, sinter**
- 7.15  Gleitplatten  
Wear plates  
**Dicke / thickness** = 10 mm
- 7.16  Gleitplatten  
Wear plates  
**Dicke / thickness** = 10 mm
- 7.18  Gleitplatten  
Wear plates  
**Dicke / thickness** = 5 mm
- 7.19  Gleitplatten  
Wear plates  
**Dicke / thickness** = 10 mm
- 7.21  Gleitplatten nach VDI 3357  
Wear plates acc. VDI 3357  
**Dicke / thickness** = 12 mm  
**WF750, Stahl, Sinter / WF750, steel, sinter**
- 7.23  Führungsplatten  
Guide plates  
**Dicke / thickness** = 30 mm, 38 mm
- 7.25  Gleitplatten  
Wear plates  
**Dicke / thickness** = 15 mm, 15,1mm  
**WF750, Stahl / WF750, steel**

7.1 Gleitplatten  
7.1 Wear plates

7.1



7.1

| Ident-No.<br>WF750/1A | b  | L<br>-0,1 | s<br>±0,025 | L1 | L2<br>±0,1 | b1<br>±0,1 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----------|-------------|----|------------|------------|---------------|------------------------------------------------------------|
| 18030                 | 50 | 80        | 20          | 20 | 35         | -          | A             | 2x M12                                                     |
| 18330                 | 50 | 100       | 20          | 20 | 55         | -          | A             | 2x M12                                                     |
| 18331                 | 50 | 125       | 20          | 20 | 80         | -          | A             | 2x M12                                                     |
| 18332                 | 50 | 160       | 20          | 20 | 115        | -          | A             | 2x M12                                                     |
| 18333                 | 50 | 200       | 20          | 20 | 155        | -          | A             | 2x M12                                                     |
| 18480                 | 50 | 250       | 20          | 20 | 100        | -          | F             | 3x M12                                                     |
| 18484                 | 80 | 50        | 20          | 25 | -          | 40         | D             | 2x M12                                                     |
| 18031                 | 80 | 80        | 20          | 20 | 35         | 40         | B             | 2x M12                                                     |
| 18334                 | 80 | 100       | 20          | 20 | 55         | 40         | B             | 2x M12                                                     |
| 18335                 | 80 | 125       | 20          | 20 | 80         | 40         | B             | 2x M12                                                     |
| 18336                 | 80 | 160       | 20          | 20 | 115        | 40         | C             | 4x M12                                                     |
| 18337                 | 80 | 200       | 20          | 20 | 155        | 40         | C             | 4x M12                                                     |
| 18352                 | 80 | 250       | 20          | 20 | 100        | 40         | E             | 6x M12                                                     |
| 18481                 | 80 | 315       | 20          | 20 | 132        | 40         | E             | 6x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

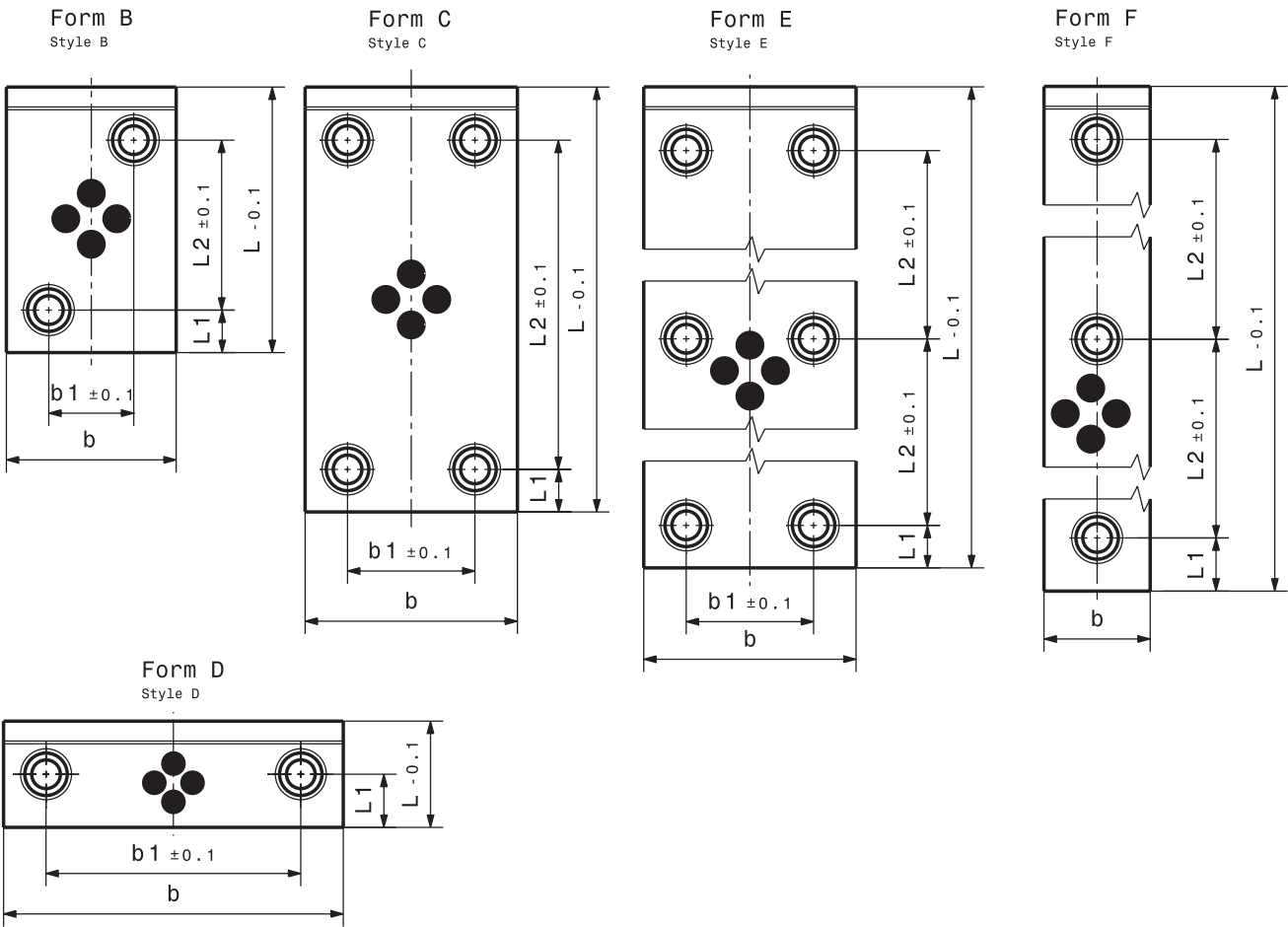
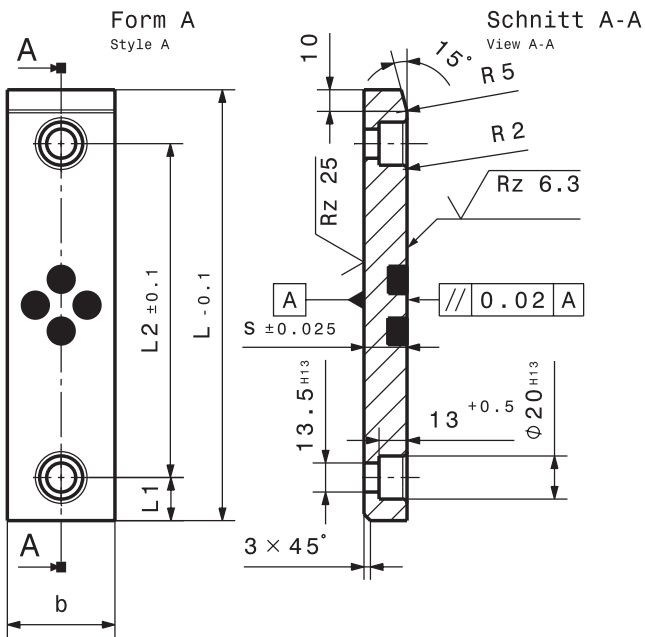
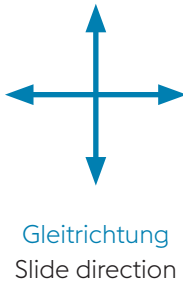
| Ident-No.<br>WF750/1A | b   | L<br>-0,1 | s<br>±0,025 | L1 | L2<br>±0,1 | b1<br>±0,1 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----------|-------------|----|------------|------------|---------------|------------------------------------------------------------|
| 18338                 | 100 | 50        | 20          | 25 | -          | 60         | D             | 2x M12                                                     |
| 18339                 | 100 | 80        | 20          | 20 | 35         | 60         | B             | 2x M12                                                     |
| 18340                 | 100 | 100       | 20          | 20 | 55         | 60         | B             | 2x M12                                                     |
| 18341                 | 100 | 125       | 20          | 20 | 80         | 60         | C             | 4x M12                                                     |
| 18342                 | 100 | 160       | 20          | 20 | 115        | 60         | C             | 4x M12                                                     |
| 18343                 | 100 | 200       | 20          | 20 | 155        | 60         | C             | 4x M12                                                     |
| 18353                 | 100 | 250       | 20          | 20 | 100        | 60         | E             | 6x M12                                                     |
| 18482                 | 100 | 315       | 20          | 20 | 132        | 60         | E             | 6x M12                                                     |
| 18485                 | 125 | 50        | 20          | 25 | -          | 85         | D             | 2x M12                                                     |
| 18344                 | 125 | 80        | 20          | 20 | 35         | 85         | B             | 2x M12                                                     |
| 18345                 | 125 | 100       | 20          | 20 | 55         | 85         | C             | 4x M12                                                     |
| 18346                 | 125 | 125       | 20          | 20 | 80         | 85         | C             | 4x M12                                                     |
| 18347                 | 125 | 160       | 20          | 20 | 115        | 85         | C             | 4x M12                                                     |
| 18044                 | 125 | 200       | 20          | 20 | 155        | 85         | C             | 4x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



7.1 Gleitplatten  
7.1 Wear plates

7.1



7.1

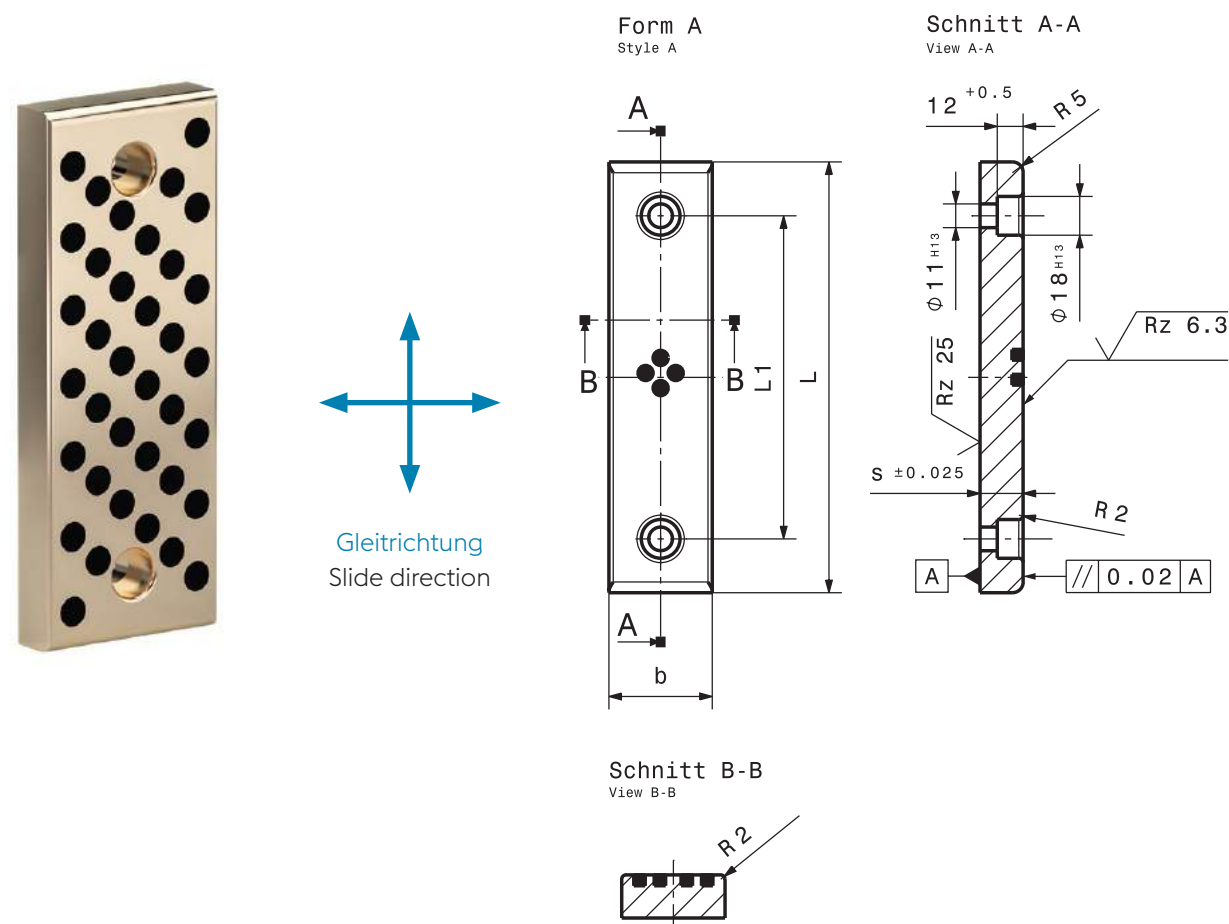
| Ident-No.<br>WF750/1A | b   | L<br>-0,1 | s<br>±0,025 | L1 | L2<br>±0,1 | b1<br>±0,1 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----------|-------------|----|------------|------------|---------------|------------------------------------------------------------|
| 18354                 | 125 | 250       | 20          | 20 | 100        | 85         | E             | 6x M12                                                     |
| 18483                 | 125 | 315       | 20          | 20 | 132        | 85         | E             | 6x M12                                                     |
| 18486                 | 160 | 50        | 20          | 25 | -          | 120        | D             | 2x M12                                                     |
| 18359                 | 160 | 80        | 20          | 20 | 35         | 120        | C             | 4x M12                                                     |
| 18348                 | 160 | 100       | 20          | 20 | 55         | 120        | C             | 4x M12                                                     |
| 18349                 | 160 | 125       | 20          | 20 | 80         | 120        | C             | 4x M12                                                     |
| 18350                 | 160 | 160       | 20          | 20 | 115        | 120        | C             | 4x M12                                                     |
| 18351                 | 160 | 200       | 20          | 20 | 155        | 120        | C             | 4x M12                                                     |
| 18355                 | 160 | 250       | 20          | 20 | 100        | 120        | E             | 6x M12                                                     |
| 18356                 | 160 | 315       | 20          | 20 | 132        | 120        | E             | 6x M12                                                     |
| 18357                 | 200 | 160       | 20          | 20 | 115        | 160        | C             | 4x M12                                                     |
| 18358                 | 200 | 200       | 20          | 20 | 155        | 160        | C             | 4x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

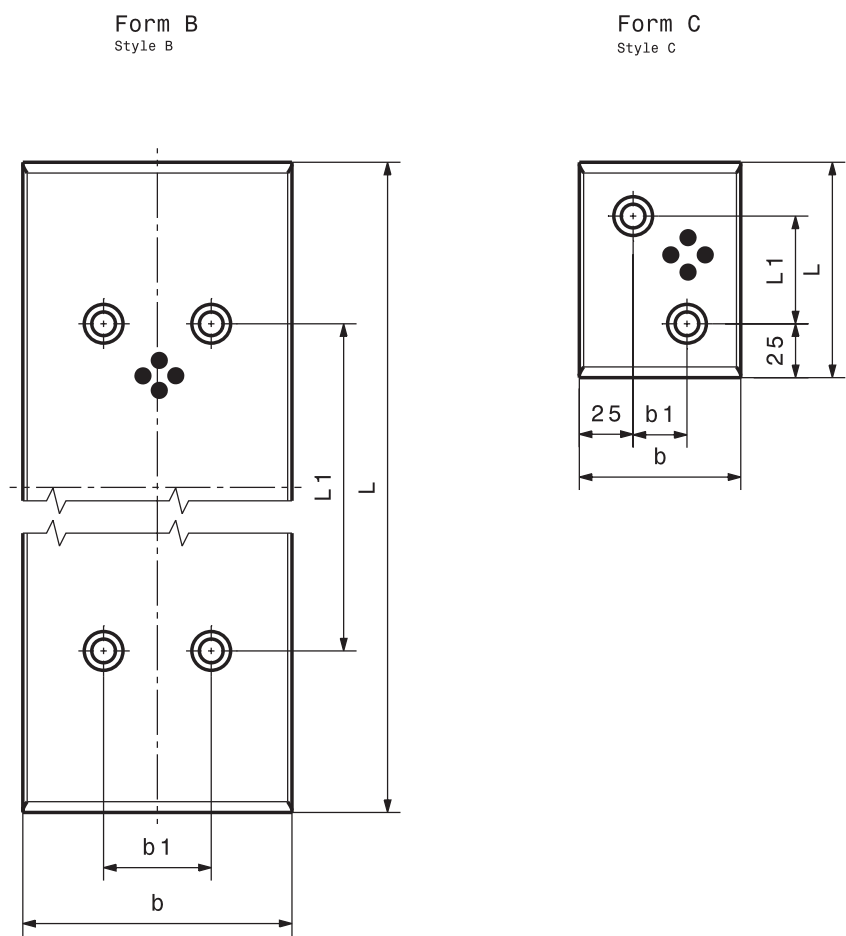
7.2 Gleitplatten  
7.2 Wear plates

7.2



| Ident-No.<br>WF750/1A | b  | L   | s<br>$\pm 0,025$ | L1  | b1 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----|------------------|-----|----|---------------|------------------------------------------------------------|
| 17180                 | 28 | 75  | 20               | 45  | -  | A             | 2x M10                                                     |
| 17181                 | 28 | 100 | 20               | 50  | -  | A             | 2x M10                                                     |
| 17184                 | 28 | 125 | 20               | 75  | -  | A             | 2x M10                                                     |
| 17182                 | 28 | 150 | 20               | 100 | -  | A             | 2x M10                                                     |
| 17183                 | 38 | 75  | 20               | 45  | -  | A             | 2x M10                                                     |
| 18930                 | 38 | 100 | 20               | 50  | -  | A             | 2x M10                                                     |
| 13269                 | 38 | 125 | 20               | 75  | -  | A             | 2x M10                                                     |
| 18931                 | 38 | 150 | 20               | 100 | -  | A             | 2x M10                                                     |
| 17185                 | 38 | 200 | 20               | 150 | -  | A             | 2x M10                                                     |
| 17150                 | 48 | 75  | 20               | 45  | -  | A             | 2x M10                                                     |
| 17151                 | 48 | 100 | 20               | 50  | -  | A             | 2x M10                                                     |
| 17152                 | 48 | 125 | 20               | 75  | -  | A             | 2x M10                                                     |
| 17153                 | 48 | 150 | 20               | 100 | -  | A             | 2x M10                                                     |
| 14371                 | 48 | 200 | 20               | 150 | -  | A             | 2x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



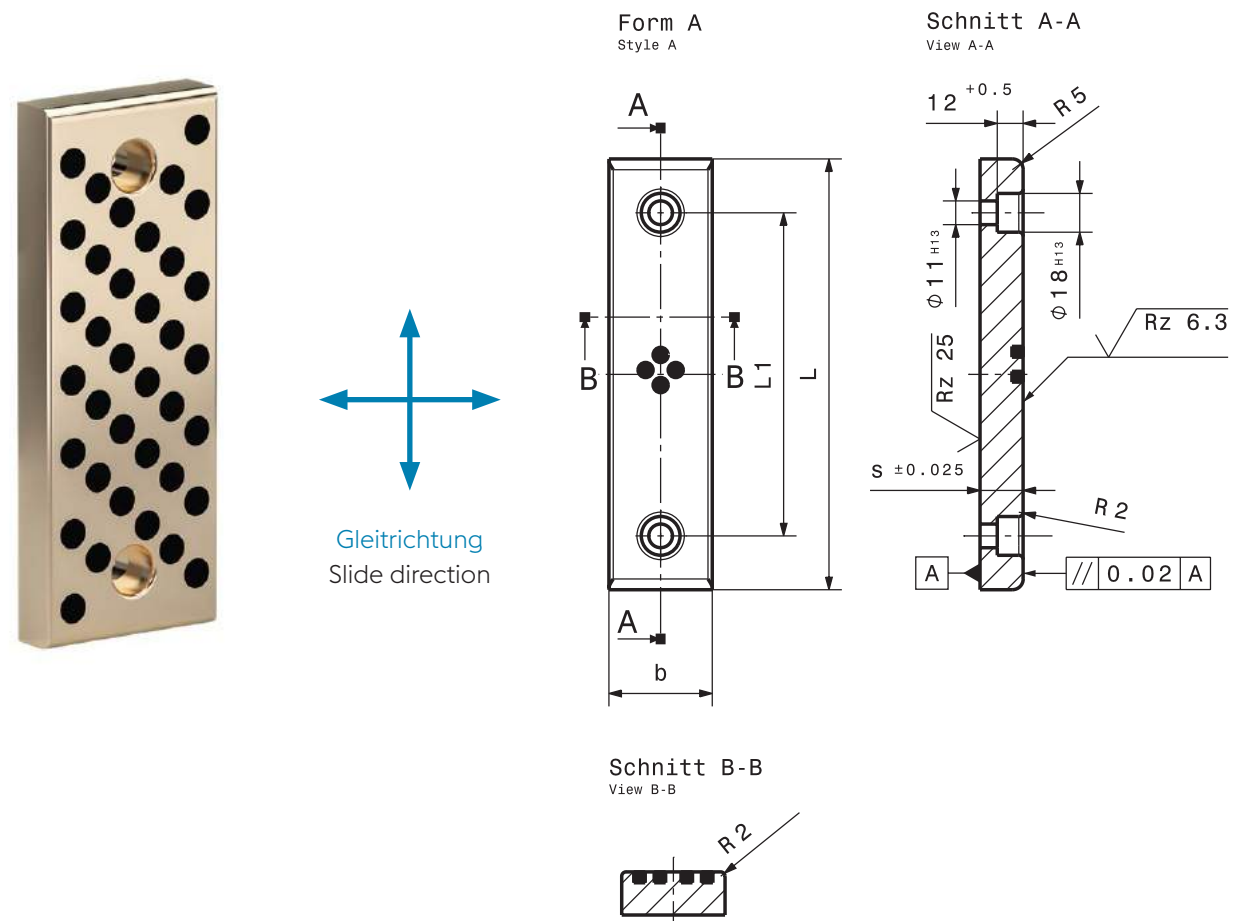
| Ident-No.<br>WF750/1A | b   | L   | s<br>$\pm 0,025$ | L1  | b1 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----|------------------|-----|----|---------------|------------------------------------------------------------|
| 17189                 | 58  | 75  | 20               | 45  | -  | A             | 2x M10                                                     |
| 17190                 | 58  | 100 | 20               | 50  | -  | A             | 2x M10                                                     |
| 17191                 | 58  | 150 | 20               | 100 | -  | A             | 2x M10                                                     |
| 17155                 | 75  | 75  | 20               | 45  | -  | A             | 2x M10                                                     |
| 17157                 | 75  | 100 | 20               | 50  | -  | A             | 2x M10                                                     |
| 17156                 | 75  | 125 | 20               | 75  | -  | A             | 2x M10                                                     |
| 18933                 | 75  | 150 | 20               | 100 | -  | A             | 2x M10                                                     |
| 17158                 | 75  | 200 | 20               | 150 | -  | A             | 2x M10                                                     |
| 18932                 | 75  | 100 | 20               | 50  | 25 | C             | 2x M10                                                     |
| 18934                 | 100 | 100 | 20               | 50  | 50 | B             | 4x M10                                                     |
| 17160                 | 100 | 125 | 20               | 75  | 50 | B             | 4x M10                                                     |
| 18935                 | 100 | 150 | 20               | 100 | 50 | B             | 4x M10                                                     |
| 17162                 | 100 | 200 | 20               | 150 | 50 | B             | 4x M10                                                     |
| 17163                 | 100 | 250 | 20               | 200 | 50 | B             | 4x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.2

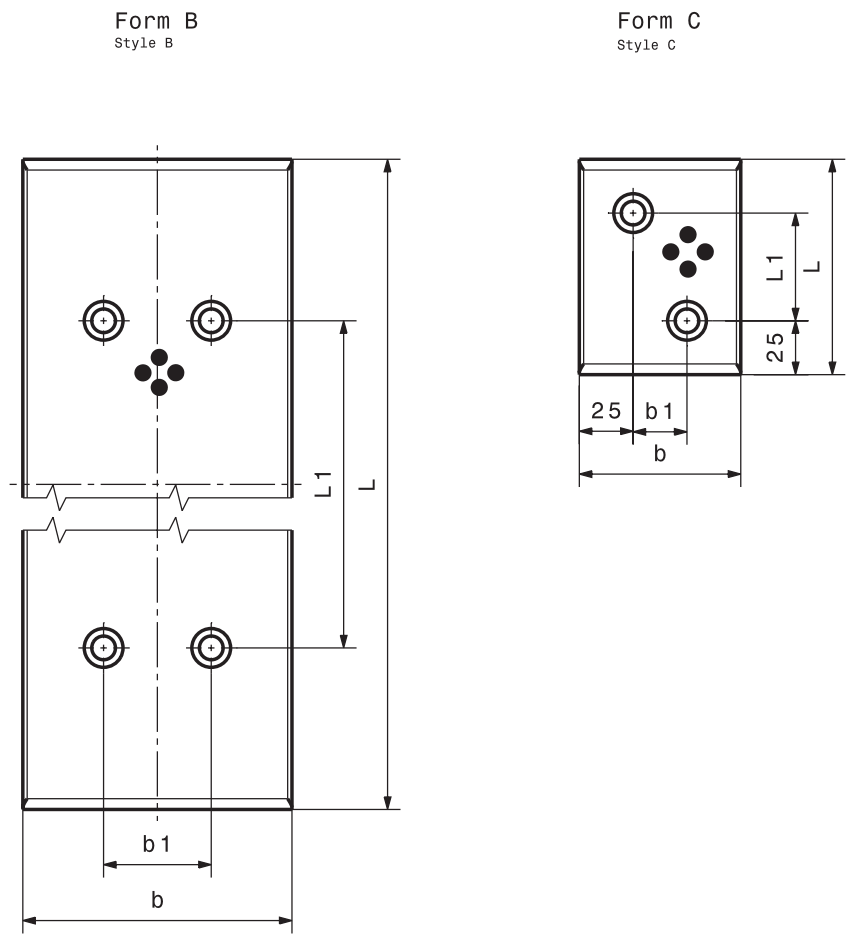
7.2 Gleitplatten  
7.2 Wear plates

7.2



| Ident-No.<br>WF750/1A | b   | L   | s<br>$\pm 0,025$ | L1  | b1  | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----|------------------|-----|-----|---------------|------------------------------------------------------------|
| 14799                 | 100 | 300 | 20               | 250 | 50  | B             | 4x M10                                                     |
| 15291                 | 125 | 125 | 20               | 75  | 50  | B             | 4x M10                                                     |
| 17164                 | 125 | 150 | 20               | 100 | 50  | B             | 4x M10                                                     |
| 17165                 | 125 | 200 | 20               | 150 | 50  | B             | 4x M10                                                     |
| 17166                 | 125 | 250 | 20               | 200 | 50  | B             | 4x M10                                                     |
| 14805                 | 125 | 300 | 20               | 250 | 50  | B             | 4x M10                                                     |
| 17159                 | 125 | 350 | 20               | 300 | 50  | B             | 4x M10                                                     |
| 17167                 | 150 | 150 | 20               | 100 | 100 | B             | 4x M10                                                     |
| 17168                 | 150 | 200 | 20               | 150 | 100 | B             | 4x M10                                                     |
| 17169                 | 150 | 250 | 20               | 200 | 100 | B             | 4x M10                                                     |
| 17192                 | 150 | 300 | 20               | 250 | 100 | B             | 4x M10                                                     |
| 17193                 | 200 | 200 | 20               | 150 | 150 | B             | 4x M10                                                     |
| 17194                 | 200 | 250 | 20               | 200 | 150 | B             | 4x M10                                                     |
| 17195                 | 200 | 300 | 20               | 250 | 150 | B             | 4x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

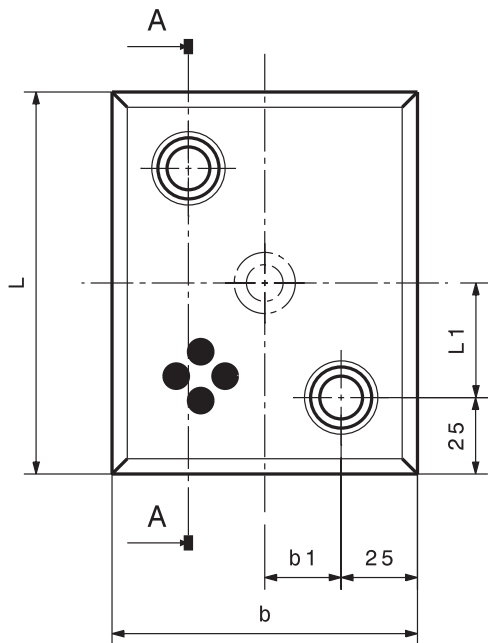
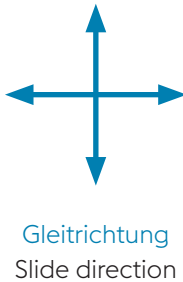


Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

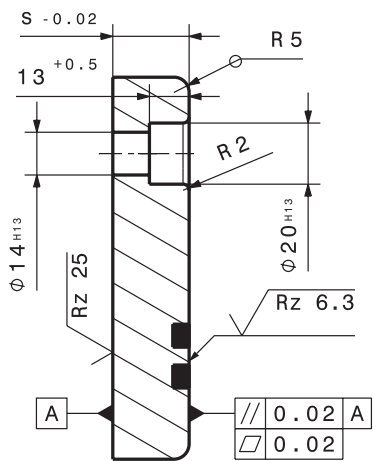
7.2

7.3 Gleitplatten  
7.3 Wear plates

7.3

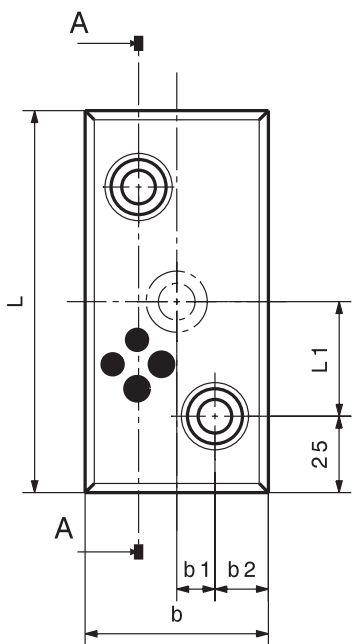
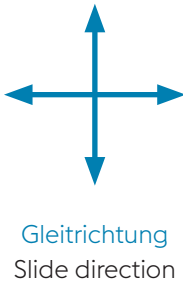


Section view A-A

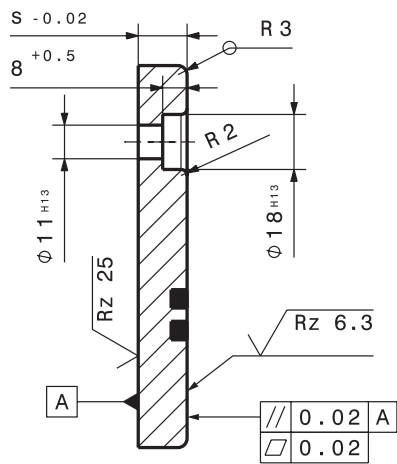


| Ident-No.<br>WF750/1A | b   | L   | s<br>-0,02 | L1   | b1   | b2 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----|------------|------|------|----|------------------------------------------------------------|
| 19030                 | 80  | 100 | 25         | 25   | 15   | -  | 2x M12                                                     |
| 19031                 | 80  | 125 | 25         | 37,5 | 15   | -  | 2x M12                                                     |
| 19032                 | 80  | 160 | 25         | 55   | 15   | -  | 2x M12                                                     |
| 19033                 | 80  | 200 | 25         | 75   | 15   | -  | 3x M12                                                     |
| 19034                 | 100 | 125 | 25         | 37,5 | 25   | -  | 2x M12                                                     |
| 19035                 | 100 | 160 | 25         | 55   | 25   | -  | 2x M12                                                     |
| 19036                 | 100 | 200 | 25         | 75   | 25   | -  | 3x M12                                                     |
| 19037                 | 125 | 125 | 25         | 37,5 | 37,5 | -  | 2x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



Section view A-A



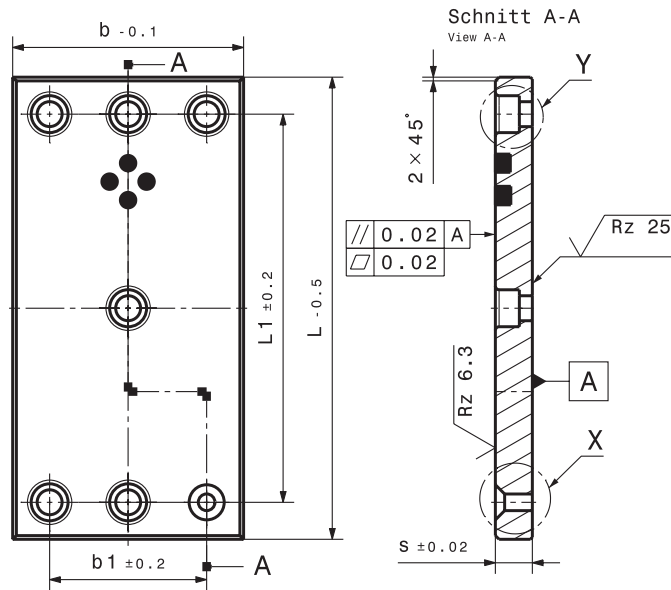
| Ident-No.<br>WF750/1A | b  | L   | s<br>-0,02 | L1   | b1   | b2   | Zylinderschraube<br>Cylinder head screw<br>DIN 7984 |
|-----------------------|----|-----|------------|------|------|------|-----------------------------------------------------|
| 19038                 | 60 | 100 | 16         | 25   | 12,5 | 17,5 | 2x M10                                              |
| 19039                 | 60 | 125 | 16         | 37,5 | 12,5 | 17,5 | 2x M10                                              |
| 19040                 | 60 | 160 | 16         | 55   | 12,5 | 17,5 | 2x M10                                              |
| 19041                 | 60 | 200 | 16         | 75   | 12,5 | 17,5 | 3x M10                                              |
| 19042                 | 80 | 100 | 16         | 25   | 15   | 25   | 2x M10                                              |
| 19043                 | 80 | 125 | 16         | 37,5 | 15   | 25   | 2x M10                                              |
| 19044                 | 80 | 160 | 16         | 55   | 15   | 25   | 2x M10                                              |
| 19045                 | 80 | 200 | 16         | 75   | 15   | 25   | 3x M10                                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.3

7.7 Gleitplatten  
7.7 Wear plates

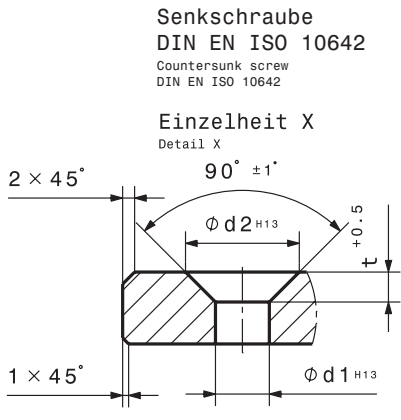
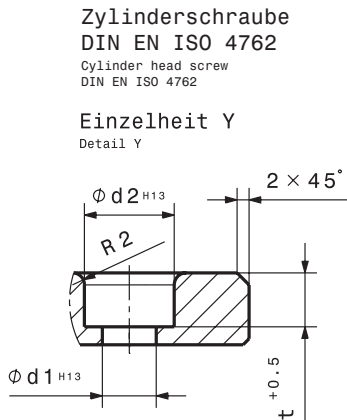
7.7



| Ident-No.<br>WF750/1A | b<br>-0,1 | L<br>-0,5 | s<br>±0,02 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----------|-----------|------------|------------|------------|---------------|-----------|-----------|-----------|------------------------------------------------------------|
| 18070                 | 125       | 100       | 20         | 85         | 60         |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18071                 | 125       | 160       | 20         | 85         | 120        |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18072                 | 125       | 250       | 20         | 85         | 210        |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18073                 | 100       | 100       | 16         | 60         | 60         |               | 11        | 18        | 11        | M10x20                                                     |
| 18074                 | 100       | 160       | 16         | 60         | 120        |               | 11        | 18        | 11        | M10x20                                                     |
| 18075                 | 100       | 250       | 16         | 60         | 210        |               | 11        | 18        | 11        | M10x20                                                     |
| 18076                 | 80        | 100       | 12         | 40         | 60         |               | 9         | 15        | 9         | M8x20                                                      |
| 18077                 | 80        | 160       | 12         | 40         | 120        |               | 9         | 15        | 9         | M8x20                                                      |
| 18078                 | 80        | 250       | 12         | 40         | 210        |               | 9         | 15        | 9         | M8x20                                                      |
| 18079                 | 80        | 100       | 20         | 40         | 60         |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18080                 | 80        | 160       | 20         | 40         | 120        |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18081                 | 80        | 250       | 20         | 40         | 210        |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18082                 | 60        | 100       | 16         | 30         | 60         |               | 11        | 18        | 11        | M10x20                                                     |
| 18069                 | 60        | 160       | 16         | 30         | 120        |               | 11        | 18        | 11        | M10x20                                                     |
| 18083                 | 60        | 160       | 16         | 30         | 120        |               | 11        | 18        | 11        | M10x20                                                     |
| 18084                 | 60        | 250       | 16         | 30         | 210        |               | 11        | 18        | 11        | M10x20                                                     |
| 18085                 | 50        | 100       | 20         | 20         | 60         |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18086                 | 50        | 160       | 20         | 20         | 120        |               | 13,5      | 20        | 13        | M12x25                                                     |
| 18087                 | 50        | 250       | 20         | 20         | 210        |               | 13,5      | 20        | 13        | M12x25                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.7

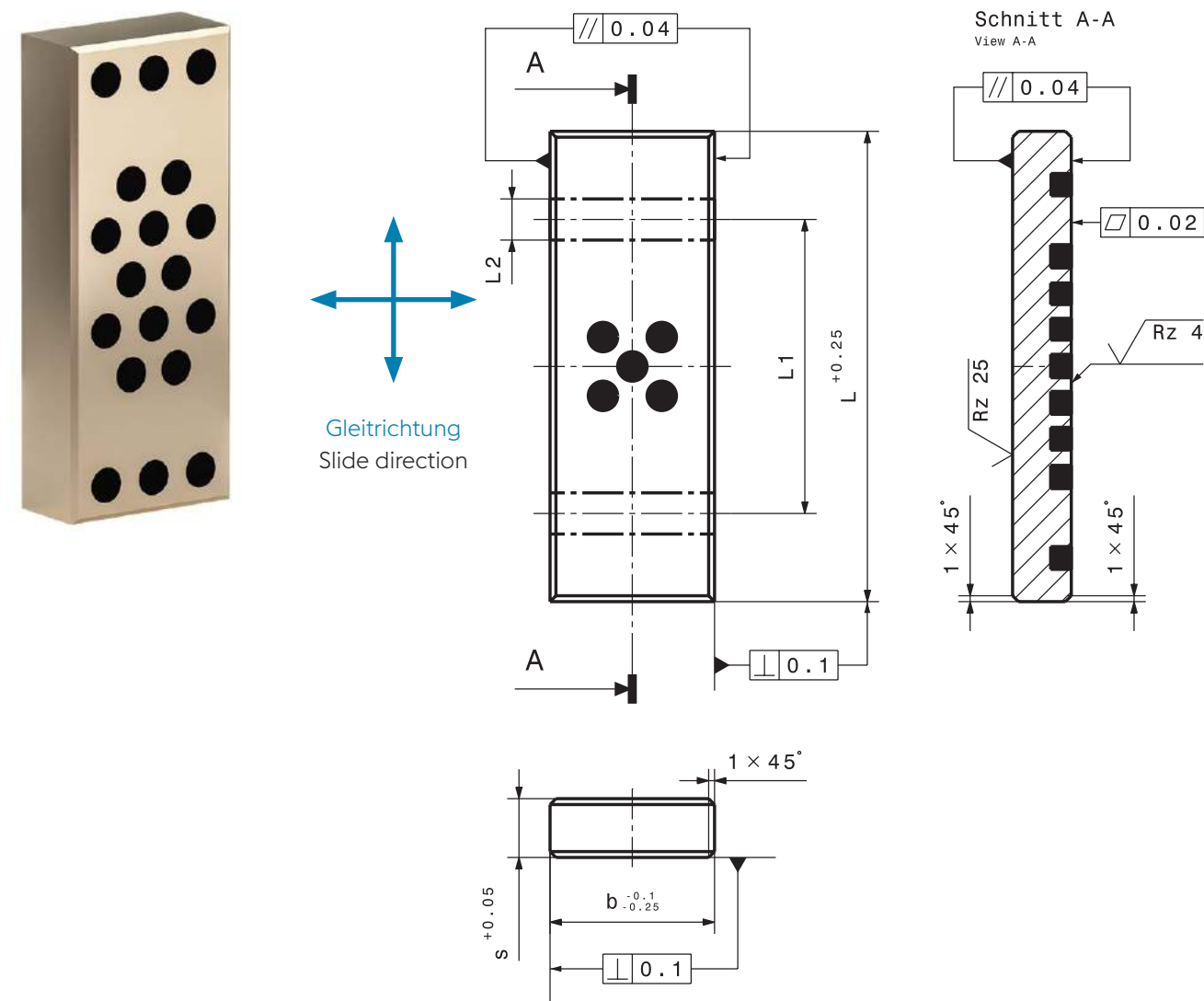


| Ident-No.<br>WF750/1A | b<br>-0,1 | L<br>-0,5 | s<br>±0,02 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Senkschraube<br>Countersunk screw<br>DIN EN ISO 10642 |
|-----------------------|-----------|-----------|------------|------------|------------|---------------|-----------|-----------|-----------|-------------------------------------------------------|
| 18088                 | 40        | 100       | 8          | -          | 60         |               | 9         | 16,4      | 5         | M8x15                                                 |
| 18089                 | 40        | 160       | 8          | -          | 120        |               | 9         | 16,4      | 5         | M8x15                                                 |
| 18090                 | 40        | 250       | 8          | -          | 210        |               | 9         | 16,4      | 5         | M8x15                                                 |

| Ident-No.<br>WF750/1A | b<br>-0,1 | L<br>-0,5 | s<br>±0,02 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----------|-----------|------------|------------|------------|---------------|-----------|-----------|-----------|------------------------------------------------------------|
| 18091                 | 40        | 100       | 12         | -          | 60         |               | 9         | 15        | 9         | M8x20                                                      |
| 18092                 | 40        | 160       | 12         | -          | 120        |               | 9         | 15        | 9         | M8x20                                                      |
| 18093                 | 40        | 250       | 12         | -          | 210        |               | 9         | 15        | 9         | M8x20                                                      |
| 18094                 | 40        | 100       | 16         | -          | 60         |               | 11        | 18        | 11        | M10x20                                                     |
| 18095                 | 40        | 160       | 16         | -          | 120        |               | 11        | 18        | 11        | M10x20                                                     |
| 18096                 | 40        | 250       | 16         | -          | 210        |               | 11        | 18        | 11        | M10x20                                                     |
| 18097                 | 30        | 100       | 12         | -          | 60         |               | 9         | 15        | 9         | M8x20                                                      |
| 18098                 | 30        | 160       | 12         | -          | 120        |               | 9         | 15        | 9         | M8x20                                                      |
| 18099                 | 30        | 250       | 12         | -          | 210        |               | 9         | 15        | 9         | M8x20                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.9 Gleitplatten  
7.9 Wear plates



| Ident-No.<br>WF750/1A | b<br>-0,1<br>-0,25 | L<br>$\pm 0,25$ | s<br>+0,05 | L1 | L2 <sup>1)</sup> |
|-----------------------|--------------------|-----------------|------------|----|------------------|
| 16700                 | 16                 | 40              | 8          | 15 | 6                |
| 16701                 | 18                 | 50              | 8          | 28 | 6                |
| 16702                 | 20                 | 63              | 10         | 32 | 7                |
| 16703                 | 25                 | 71              | 10         | 40 | 7                |
| 16704                 | 28                 | 80              | 10         | 50 | 7                |

1) Festschmierstofffreie Zone für Befestigung  
1) Area without solid lubricant macro-depots for fastening

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



## 7.11



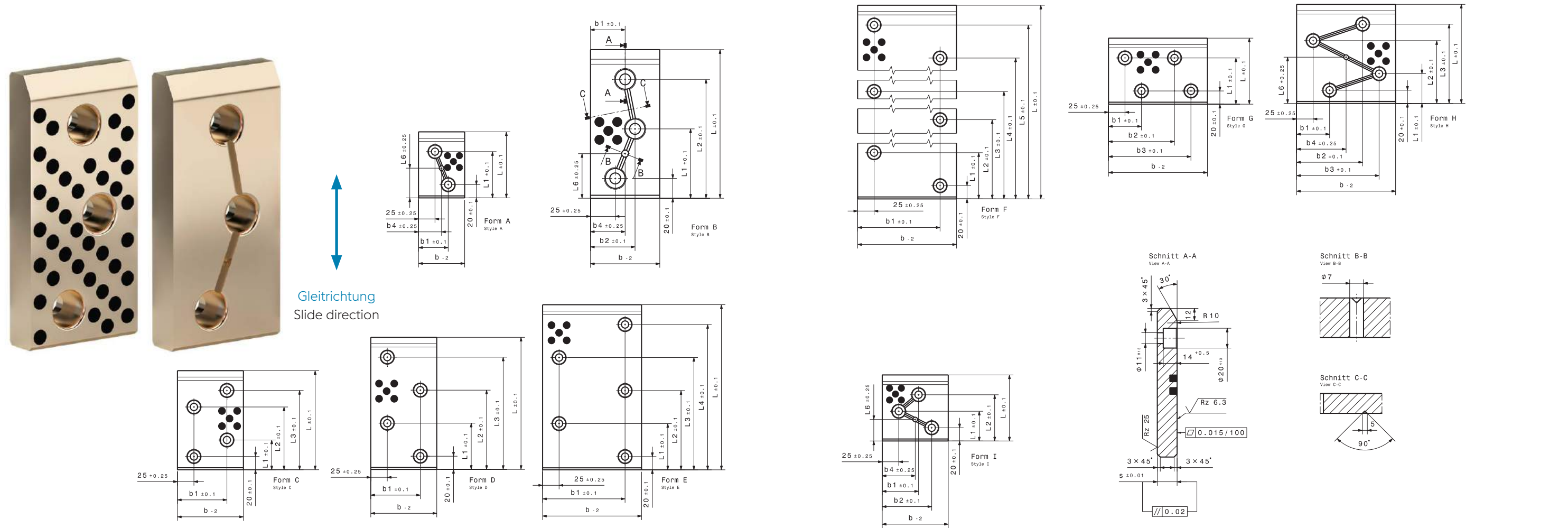
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 7.11



Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.12 Gleitplatten mit Schmiernut
7.12 Wear plates with oil groove

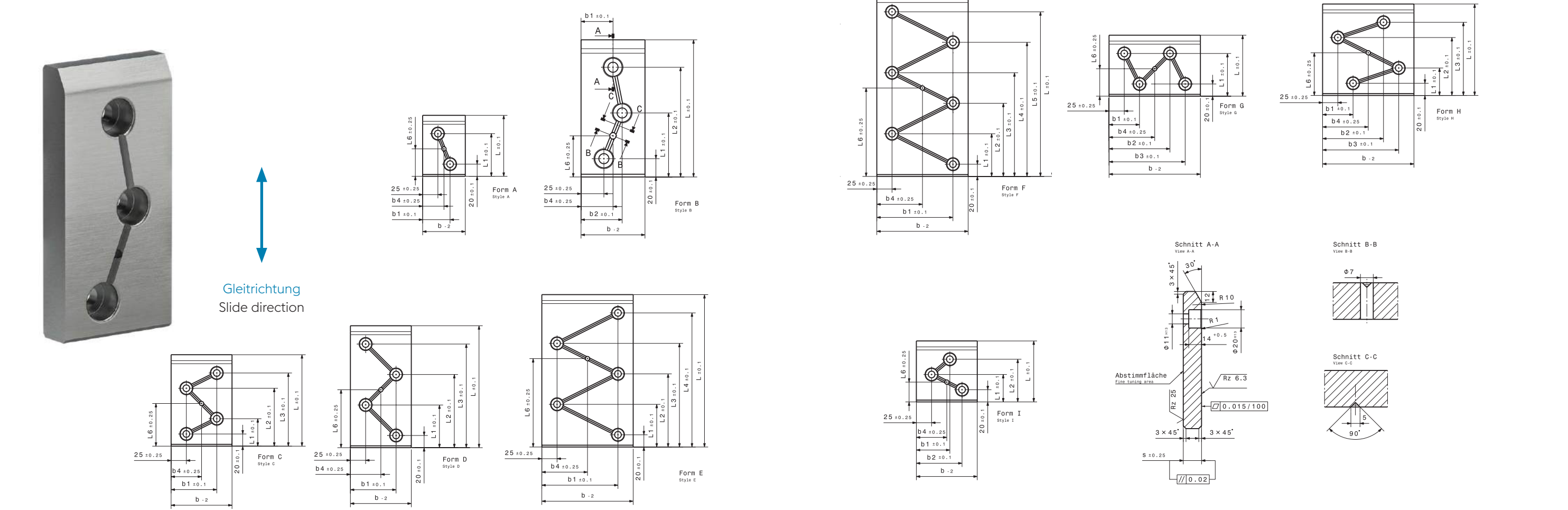


| Ident-No.<br>WF750/1A<br>ohne Nut / without groove | Ident-No.<br>CuZn25Al5<br>mit Nut / with groove | b<br>-2 | L<br>±0,1 | s<br>±0,01 | b1<br>±0,1 | b2<br>±0,1 | b3<br>±0,1 | L1<br>±0,1 | L2<br>±0,1 | L3<br>±0,1 | L4<br>±0,1 | L5<br>±0,1 | b4<br>±0,25 | L6<br>±0,25 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|----------------------------------------------------|-------------------------------------------------|---------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|---------------|------------------------------------------------------------|
| 18640                                              | 18696                                           | 70      | 100       | 20         | 45         | -          | -          | -          | -          | -          | -          | -          | 35          | 45          | A             | 2x M10                                                     |
| 18641                                              | 18697                                           | 70      | 150       | 20         | 35         | 45         | -          | -          | -          | -          | -          | -          | 35          | 45          | B             | 3x M10                                                     |
| 18642                                              | -                                               | 70      | 200       | 20         | 45         | -          | -          | -          | -          | -          | -          | -          | -           | -           | D             | 4x M10                                                     |
| 18643                                              | 18698                                           | 100     | 100       | 20         | 55         | 75         | -          | -          | -          | -          | -          | -          | 50          | 32,5        | I             | 3x M10                                                     |
| 18644                                              | -                                               | 100     | 150       | 20         | 75         | -          | -          | -          | -          | -          | -          | -          | -           | -           | C             | 4x M10                                                     |
| 18645                                              | -                                               | 100     | 200       | 20         | 75         | -          | -          | -          | -          | -          | -          | -          | -           | -           | D             | 4x M10                                                     |
| 18646                                              | -                                               | 100     | 250       | 20         | 75         | -          | -          | -          | -          | -          | -          | -          | -           | -           | E             | 5x M10                                                     |
| 18647                                              | -                                               | 100     | 300       | 20         | 75         | -          | -          | -          | -          | -          | -          | 270        | -           | -           | F             | 6x M10                                                     |
| 18648                                              | -                                               | 150     | 100       | 20         | 50         | 100        | 125        | -          | -          | -          | -          | -          | -           | -           | G             | 4x M10                                                     |
| 18649                                              | 18699                                           | 150     | 150       | 20         | 50         | 100        | 125        | -          | -          | -          | -          | -          | 75          | 70          | H             | 4x M10                                                     |
| 18650                                              | -                                               | 150     | 200       | 20         | 125        | -          | -          | -          | -          | -          | -          | -          | -           | -           | D             | 4x M10                                                     |
| 18651                                              | -                                               | 150     | 250       | 20         | 125        | -          | -          | -          | -          | -          | -          | -          | -           | -           | E             | 5x M10                                                     |
| 18652                                              | -                                               | 150     | 300       | 20         | 125        | -          | -          | -          | -          | -          | -          | 270        | -           | -           | F             | 6x M10                                                     |
| 18653                                              | -                                               | 200     | 100       | 20         | 75         | 125        | 175        | -          | -          | -          | -          | -          | -           | -           | G             | 4x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.12 Gleitplatten mit Schmiernut
7.12 Wear plates with oil groove

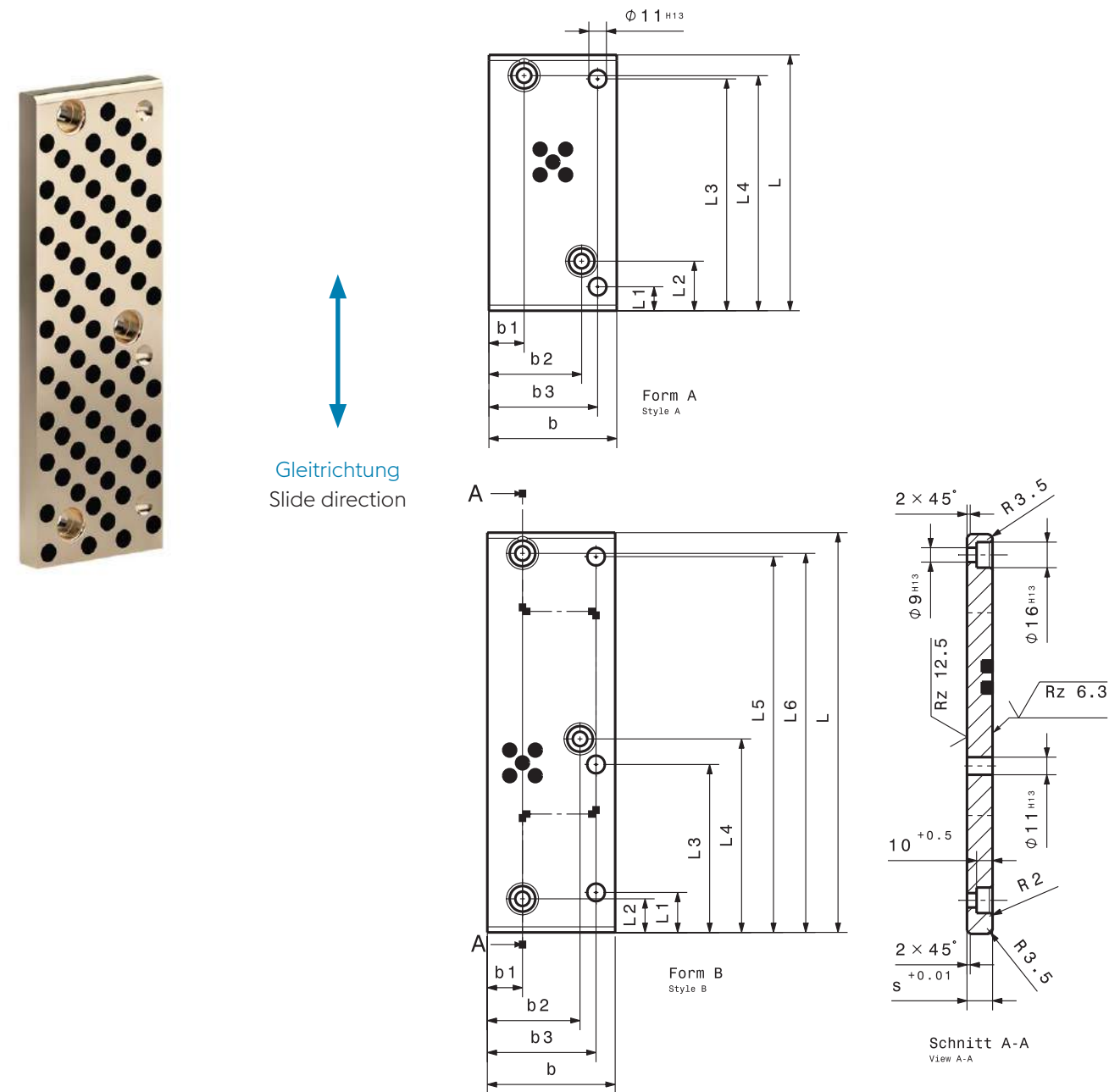


| Ident-No.<br>St 1 | b<br>-2 | L<br>±0,1 | s<br>±0,25 | b1<br>±0,1 | b2<br>±0,1 | b3<br>±0,1 | L1<br>±0,1 | L2<br>±0,1 | L3<br>±0,1 | L4<br>±0,1 | L5<br>±0,1 | b4<br>±0,25 | L6<br>±0,25 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|---------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|-------------|---------------|------------------------------------------------------------|
| 18734             | 70      | 100       | 21         | 45         | -          | -          | 70         | -          | -          | -          | -          | 35          | 45          | A             | 2x M10                                                     |
| 18735             | 70      | 150       | 21         | 35         | 45         | -          | 70         | 120        | -          | -          | -          | 35          | 45          | B             | 3x M10                                                     |
| 18736             | 70      | 200       | 21         | 45         | -          | -          | 70         | 120        | -          | -          | -          | 35          | 95          | D             | 4x M10                                                     |
| 18737             | 100     | 100       | 21         | 55         | 75         | -          | 45         | 70         | -          | -          | -          | 50          | 325         | I             | 3x M10                                                     |
| 18738             | 100     | 150       | 21         | 75         | -          | -          | 45         | 95         | -          | -          | -          | 50          | 70          | C             | 4x M10                                                     |
| 18739             | 100     | 200       | 21         | 75         | -          | -          | 70         | 120        | -          | -          | -          | 50          | 95          | D             | 4x M10                                                     |
| 18740             | 100     | 250       | 21         | 75         | -          | -          | 70         | 120        | -          | -          | -          | 50          | 145         | E             | 5x M10                                                     |
| 18741             | 100     | 300       | 21         | 75         | -          | -          | 70         | 120        | -          | -          | -          | 50          | 145         | F             | 6x M10                                                     |
| 18742             | 150     | 100       | 21         | 50         | 100        | 125        | 70         | -          | -          | -          | -          | 75          | 45          | G             | 4x M10                                                     |
| 18743             | 150     | 150       | 21         | 50         | 100        | 125        | 45         | 95         | -          | -          | -          | 75          | 70          | H             | 4x M10                                                     |
| 18744             | 150     | 200       | 21         | 125        | -          | -          | 70         | 120        | -          | -          | -          | 75          | 95          | D             | 4x M10                                                     |
| 18745             | 150     | 250       | 21         | 125        | -          | -          | 70         | 120        | -          | -          | -          | 75          | 145         | E             | 5x M10                                                     |
| 18746             | 150     | 300       | 21         | 125        | -          | -          | 70         | 120        | -          | -          | -          | 75          | 145         | F             | 6x M10                                                     |
| 18747             | 200     | 100       | 21         | 75         | 125        | 175        | 70         | -          | -          | -          | -          | 100         | 45          | G             | 4x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

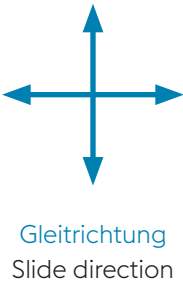
7.13 Gleitplatten  
7.13 Wear plates



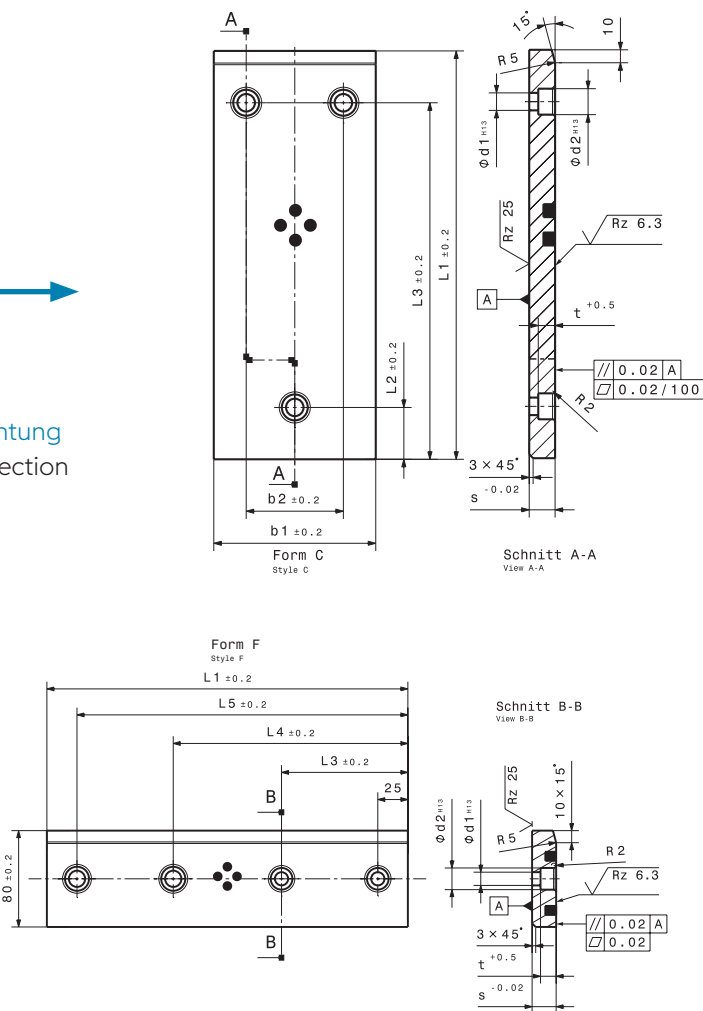
| Ident-No.<br>WF750/1A | b  | L   | s<br>+0,01 | b1 | b2 | b3 | L1 | L2 | L3  | L4  | L5  | L6  | Form<br>Style | Durchgangs-<br>bohrung<br>Through hole<br>$\phi 11_{H13}$ | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----|------------|----|----|----|----|----|-----|-----|-----|-----|---------------|-----------------------------------------------------------|------------------------------------------------------------|
| 18752                 | 50 | 160 | 16         | 19 | 31 | -  | -  | 21 | -   | 147 | -   | -   | A             | -                                                         | 2x M8                                                      |
| 18754                 | 50 | 250 | 16         | 19 | 31 | -  | -  | 21 | -   | 121 | -   | 237 | B             | -                                                         | 3x M8                                                      |
| 18753                 | 80 | 160 | 16         | 22 | 58 | 68 | 15 | 31 | 145 | 147 | -   | -   | A             | 2                                                         | 2x M8                                                      |
| 18755                 | 80 | 250 | 16         | 22 | 58 | 68 | 25 | 21 | 105 | 121 | 235 | 237 | B             | 3                                                         | 3x M8                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.14 Gleitplatten nach VDI 3357
7.14 Wear plates acc. VDI 3357



Gleitrichtung
Slide direction



LOCHBILD / HOLE PATTERN

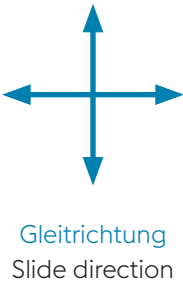
|                   |                   |                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Form A<br>Style A | Form B<br>Style B | Form C<br>Style C | Form D<br>Style D | Form E<br>Style E | Form F<br>Style F |
|                   |                   |                   |                   |                   |                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

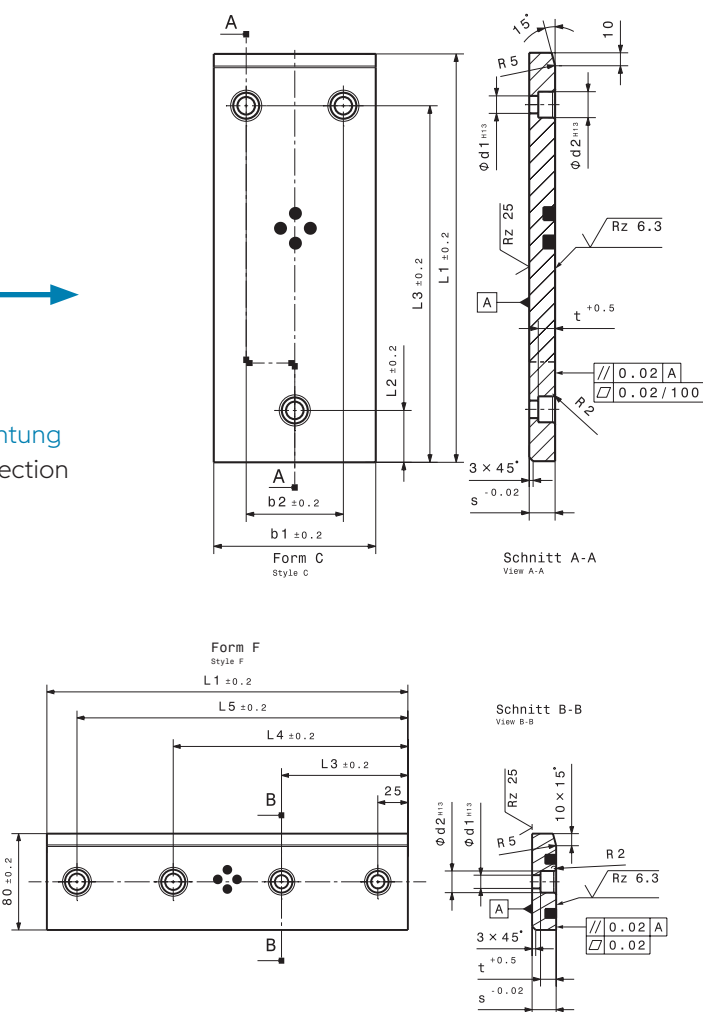
| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|---------------|------------------------------------------------------------|
| 19800                 | 50         | 80         | 20         | 25         | 55         | -          | -          | -          | 9         | 15        | 9         | A             | 2x M8x25                                                   |
| 19801                 | 50         | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19802                 | 50         | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19803                 | 50         | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19804                 | 50         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19837                 | 50         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19838                 | 50         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19839                 | 50         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19840                 | 50         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19841                 | 50         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19842                 | 50         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19805                 | 80         | 50         | 20         | 25         | -          | -          | -          | 30         | 9         | 15        | 9         | B             | 2x M8x25                                                   |
| 19806                 | 80         | 80         | 20         | 25         | 55         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19807                 | 80         | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19808                 | 80         | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19809                 | 80         | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19810                 | 80         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19829                 | 80         | 250        | 20         | 40         | 210        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19830                 | 80         | 315        | 20         | 40         | 275        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19843                 | 80         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19844                 | 80         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19845                 | 80         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19846                 | 80         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19847                 | 80         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19848                 | 80         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19811                 | 100        | 50         | 20         | 25         | -          | -          | -          | 50         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19812                 | 100        | 80         | 20         | 40         | -          | -          | -          | 50         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19813                 | 100        | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19814                 | 100        | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19815                 | 100        | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19816                 | 100        | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19831                 | 100        | 250        | 20         | 40         | 210        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19832                 | 100        | 315        | 20         | 40         | 275        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 19849                 | 100        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19924                 | 100        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62698                 | 100        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62699                 | 100        | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62700                 | 100        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62701                 | 100        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62702                 | 125        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

7.14 Gleitplatten nach VDI 3357
7.14 Wear plates acc. VDI 3357



Gleitrichtung
Slide direction



LOCHBILD / HOLE PATTERN

|                   |                   |                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Form A<br>Style A | Form B<br>Style B | Form C<br>Style C | Form D<br>Style D | Form E<br>Style E | Form F<br>Style F |
|                   |                   |                   |                   |                   |                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|---------------|------------------------------------------------------------|
| 62703                 | 125        | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62704                 | 125        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62705                 | 125        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19817                 | 125        | 50         | 20         | 25         | -          | -          | -          | 75         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19818                 | 125        | 80         | 20         | 40         | -          | -          | -          | 75         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19819                 | 125        | 100        | 20         | 25         | 75         | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19820                 | 125        | 125        | 20         | 25         | 100        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19821                 | 125        | 160        | 20         | 25         | 135        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19822                 | 125        | 200        | 20         | 25         | 175        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19833                 | 125        | 250        | 20         | 40         | 210        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19834                 | 125        | 315        | 20         | 40         | 275        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19925                 | 125        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19926                 | 125        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62706                 | 160        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62707                 | 160        | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62708                 | 160        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62709                 | 160        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62710                 | 160        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 62711                 | 160        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 19823                 | 160        | 50         | 20         | 25         | -          | -          | -          | 110        | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19824                 | 160        | 80         | 20         | 40         | -          | -          | -          | 110        | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 19825                 | 160        | 100        | 20         | 25         | 75         | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19826                 | 160        | 125        | 20         | 25         | 100        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19827                 | 160        | 160        | 20         | 25         | 135        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19828                 | 160        | 200        | 20         | 25         | 175        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19835                 | 160        | 250        | 20         | 40         | 210        | -          | -          | 110        | 13,5      | 20        | 13        | D             | 4x M12x25                                                  |
| 19836                 | 160        | 315        | 20         | 40         | 275        | -          | -          | 110        | 13,5      | 20        | 13        | D             | 4x M12x25                                                  |
| 19927                 | 160        | 250        | 20         | 40         | 210        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 19928                 | 160        | 315        | 20         | 40         | 275        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63876                 | 80         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63877                 | 80         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63878                 | 80         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63879                 | 80         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63880                 | 80         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63881                 | 80         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63882                 | 80         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



7.14 Gleitplatten nach VDI 3357
7.14 Wear plates acc. VDI 3357

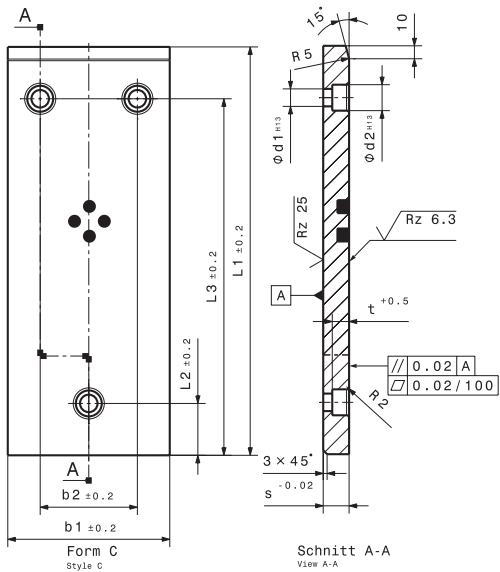
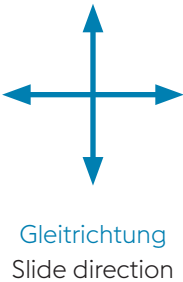


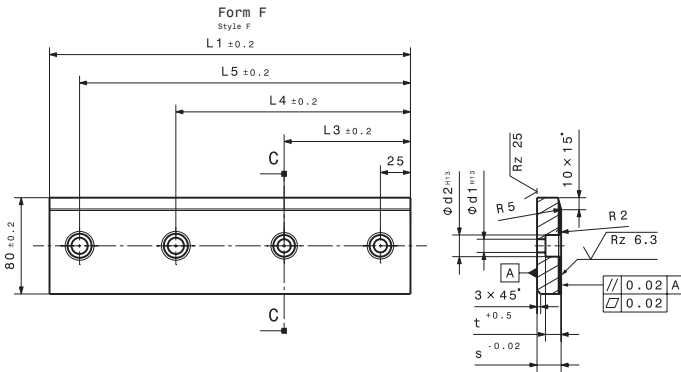
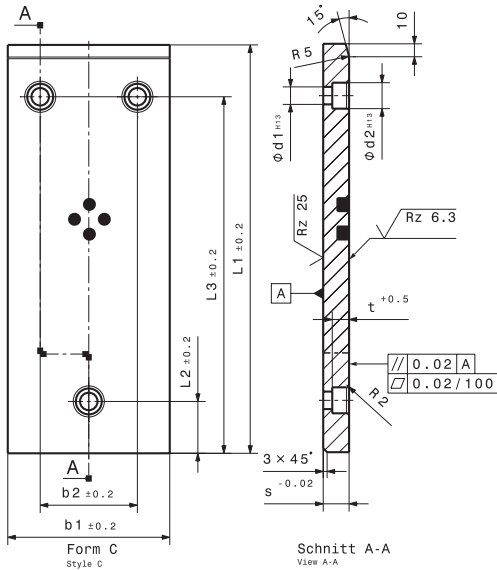
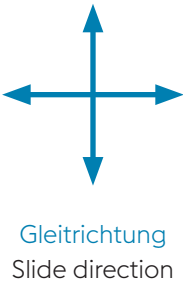
Table with 6 columns: Form A Style A, Form B Style B, Form C Style C, Form D Style D, Form E Style E, Form F Style F. Each column contains a diagram of a hole pattern with dimensions L1, L2, L3, L4, L5, b1, b2.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Table with 14 columns: Ident-No. St 1, b1 ±0,2, L1 ±0,2, s -0,02, L2 ±0,2, L3 ±0,2, L4 ±0,2, L5 ±0,2, b2 ±0,2, d1 H13, d2 H13, t +0,5, Form Style, Zylinderschraube Cylinder head screw DIN EN ISO 4762. Rows 19896 to 19939.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

7.14 Gleitplatten nach VDI 3357
7.14 Wear plates acc. VDI 3357



LOCHBILD / HOLE PATTERN

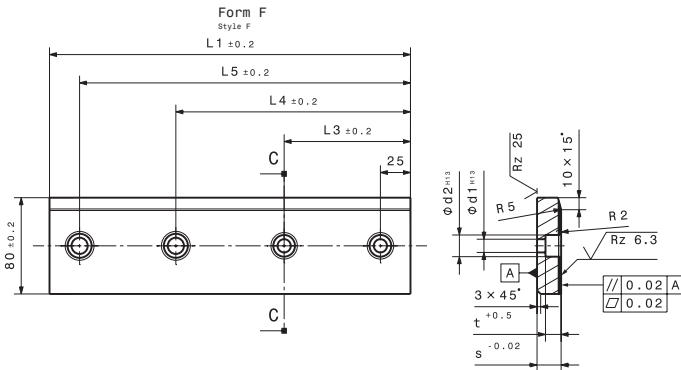
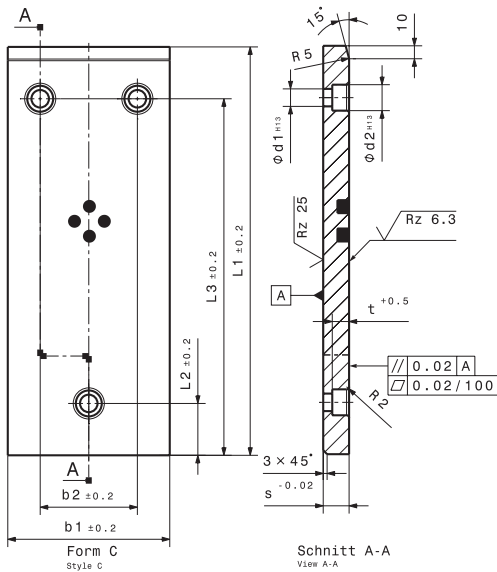
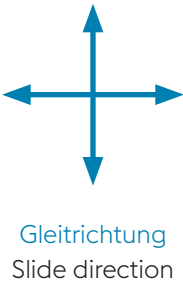
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|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Form A<br>Style A | Form B<br>Style B | Form C<br>Style C | Form D<br>Style D | Form E<br>Style E | Form F<br>Style F |
|                   |                   |                   |                   |                   |                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|---------------|------------------------------------------------------------|
| 63717               | 50         | 80         | 20         | 25         | 55         | -          | -          | -          | 9         | 15        | 9         | A             | 2x M8x25                                                   |
| 63718               | 50         | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63719               | 50         | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63720               | 50         | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63721               | 50         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63722               | 50         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63723               | 50         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63724               | 50         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63725               | 50         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63726               | 50         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63727               | 50         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63728               | 80         | 50         | 20         | 25         | -          | -          | -          | 30         | 9         | 15        | 9         | B             | 2x M8x25                                                   |
| 63729               | 80         | 80         | 20         | 25         | 55         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63730               | 80         | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63731               | 80         | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63732               | 80         | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63733               | 80         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63734               | 80         | 250        | 20         | 40         | 210        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63735               | 80         | 315        | 20         | 40         | 275        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63736               | 80         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63737               | 80         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63738               | 80         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63739               | 80         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63740               | 80         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63741               | 80         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63742               | 100        | 50         | 20         | 25         | -          | -          | -          | 50         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63743               | 100        | 80         | 20         | 40         | -          | -          | -          | 50         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63744               | 100        | 100        | 20         | 25         | 75         | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63745               | 100        | 125        | 20         | 25         | 100        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63746               | 100        | 160        | 20         | 25         | 135        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63747               | 100        | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63748               | 100        | 250        | 20         | 40         | 210        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63749               | 100        | 315        | 20         | 40         | 275        | -          | -          | -          | 13,5      | 20        | 13        | A             | 2x M12x25                                                  |
| 63750               | 100        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63751               | 100        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63820               | 100        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63821               | 100        | 300        | 20         | 40         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63822               | 100        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63823               | 100        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63824               | 125        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

7.14 Gleitplatten nach VDI 3357
7.14 Wear plates acc. VDI 3357



LOCHBILD / HOLE PATTERN

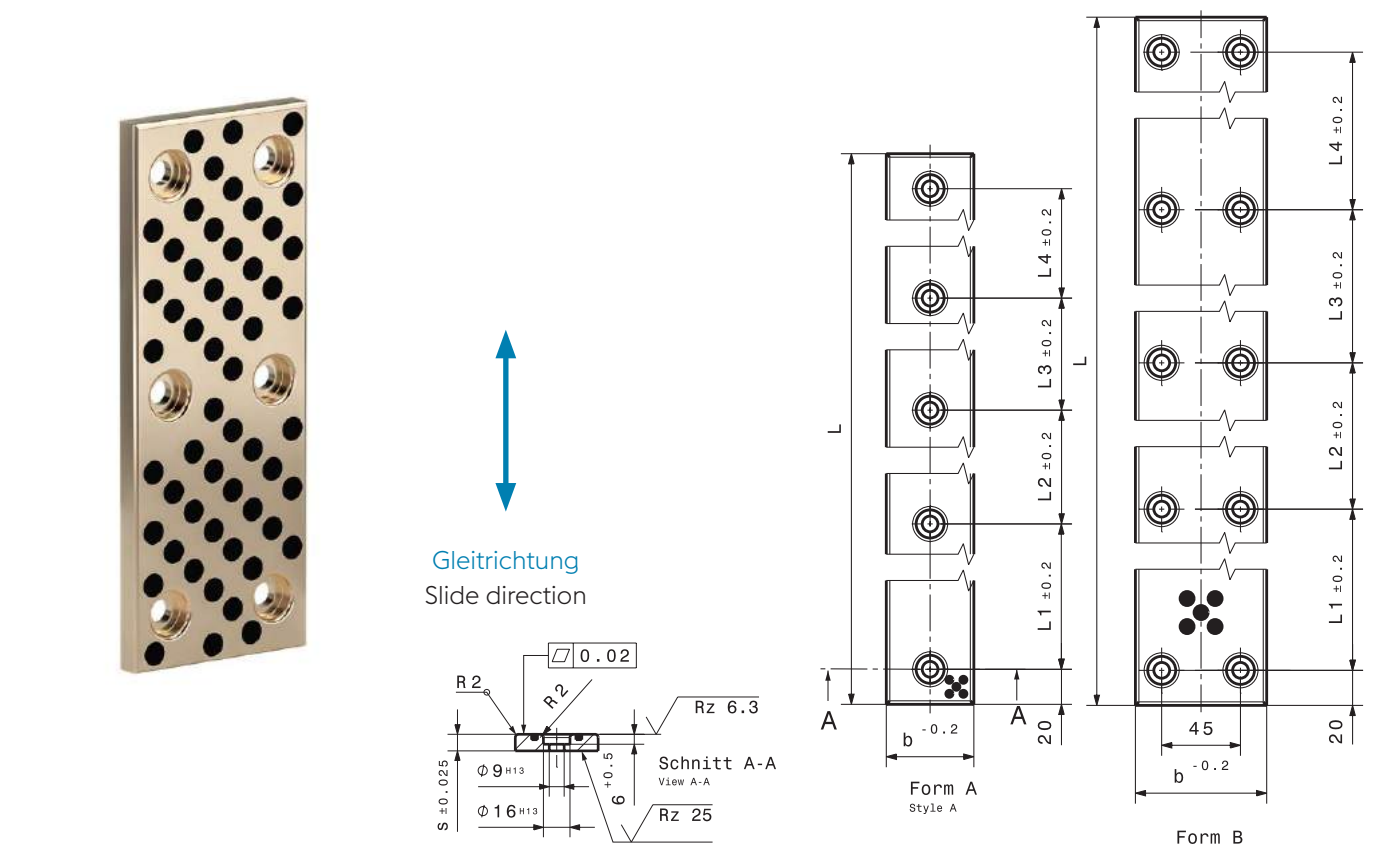
|                   |                   |                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Form A<br>Style A | Form B<br>Style B | Form C<br>Style C | Form D<br>Style D | Form E<br>Style E | Form F<br>Style F |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|---------------|------------------------------------------------------------|
| 63825               | 125        | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63826               | 125        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63827               | 125        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63752               | 125        | 50         | 20         | 25         | -          | -          | -          | 75         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63753               | 125        | 80         | 20         | 40         | -          | -          | -          | 75         | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63754               | 125        | 100        | 20         | 25         | 75         | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63755               | 125        | 125        | 20         | 25         | 100        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63756               | 125        | 160        | 20         | 25         | 135        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63757               | 125        | 200        | 20         | 25         | 175        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63758               | 125        | 250        | 20         | 40         | 210        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63759               | 125        | 315        | 20         | 40         | 275        | -          | -          | 75         | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63760               | 125        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63761               | 125        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63828               | 160        | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63829               | 160        | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63830               | 160        | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63831               | 160        | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63832               | 160        | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63833               | 160        | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | E             | 4x M12x25                                                  |
| 63762               | 160        | 50         | 20         | 25         | -          | -          | -          | 110        | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63763               | 160        | 80         | 20         | 40         | -          | -          | -          | 110        | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63764               | 160        | 100        | 20         | 25         | 75         | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63765               | 160        | 125        | 20         | 25         | 100        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63766               | 160        | 160        | 20         | 25         | 135        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63767               | 160        | 200        | 20         | 25         | 175        | -          | -          | 110        | 13,5      | 20        | 13        | C             | 3x M12x25                                                  |
| 63768               | 160        | 250        | 20         | 40         | 210        | -          | -          | 110        | 13,5      | 20        | 13        | D             | 4x M12x25                                                  |
| 63769               | 160        | 315        | 20         | 40         | 275        | -          | -          | 110        | 13,5      | 20        | 13        | D             | 4x M12x25                                                  |
| 63883               | 80         | 200        | 20         | 25         | 175        | -          | -          | -          | 13,5      | 20        | 13        | B             | 2x M12x25                                                  |
| 63884               | 80         | 250        | 20         | 25         | 85         | 165        | 225        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63885               | 80         | 300        | 20         | 25         | 105        | 195        | 275        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63886               | 80         | 350        | 20         | 25         | 125        | 225        | 325        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63887               | 80         | 400        | 20         | 25         | 145        | 255        | 375        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63888               | 80         | 450        | 20         | 25         | 165        | 285        | 425        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |
| 63889               | 80         | 500        | 20         | 25         | 175        | 325        | 475        | -          | 13,5      | 20        | 13        | F             | 4x M12x25                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

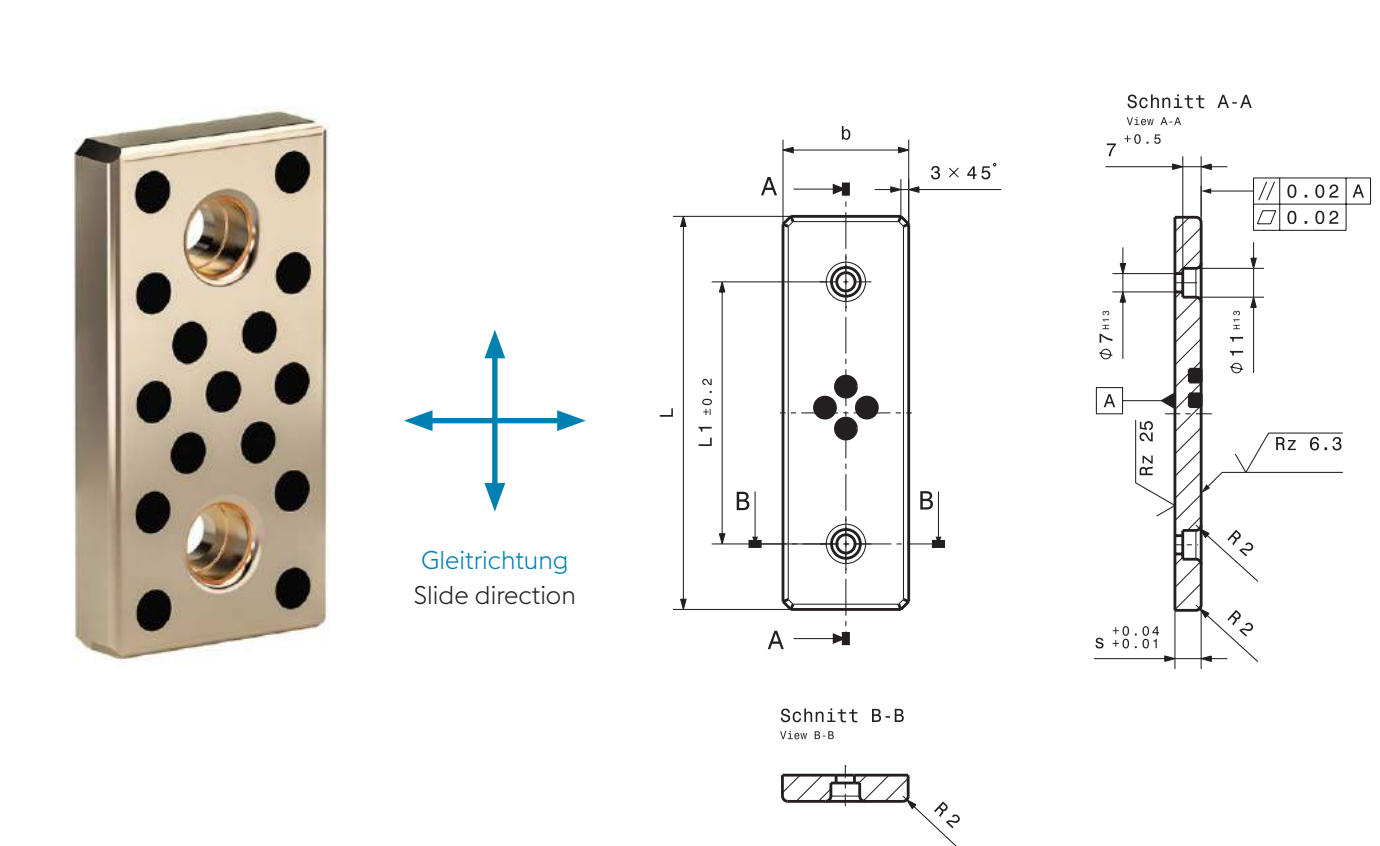
7.15 Gleitplatten  
7.15 Wear plates



| Ident-No.<br>WF750/1A | b<br>-0,2 | L   | s<br>$\pm 0,025$ | L1<br>$\pm 0,2$ | L2<br>$\pm 0,2$ | L3<br>$\pm 0,2$ | L4<br>$\pm 0,2$ | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN 7984 |
|-----------------------|-----------|-----|------------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------------------------------------------|
| 17340                 | 35        | 100 | 10               | 60              | -               | -               | -               | A             | 2x M8                                               |
| 17341                 | 35        | 150 | 10               | 55              | 55              | -               | -               | A             | 3x M8                                               |
| 17342                 | 35        | 200 | 10               | 55              | 50              | 55              | -               | A             | 4x M8                                               |
| 17343                 | 35        | 250 | 10               | 70              | 70              | 70              | -               | A             | 4x M8                                               |
| 17344                 | 35        | 300 | 10               | 65              | 65              | 65              | 65              | A             | 5x M8                                               |
| 17345                 | 35        | 350 | 10               | 80              | 75              | 75              | 80              | A             | 5x M8                                               |
| 17346                 | 50        | 100 | 10               | 60              | -               | -               | -               | A             | 2x M8                                               |
| 17347                 | 50        | 150 | 10               | 55              | 55              | -               | -               | A             | 3x M8                                               |
| 17348                 | 50        | 200 | 10               | 55              | 50              | 55              | -               | A             | 4x M8                                               |
| 17349                 | 50        | 250 | 10               | 70              | 70              | 70              | -               | A             | 4x M8                                               |
| 17350                 | 50        | 300 | 10               | 65              | 65              | 65              | 65              | A             | 5x M8                                               |
| 17351                 | 50        | 350 | 10               | 80              | 75              | 75              | 80              | A             | 5x M8                                               |
| 17352                 | 75        | 150 | 10               | 110             | -               | -               | -               | B             | 4x M8                                               |
| 17353                 | 75        | 200 | 10               | 80              | 80              | -               | -               | B             | 6x M8                                               |
| 17354                 | 75        | 250 | 10               | 105             | 105             | -               | -               | B             | 6x M8                                               |
| 17355                 | 75        | 300 | 10               | 85              | 90              | 85              | -               | B             | 8x M8                                               |
| 17356                 | 75        | 400 | 10               | 120             | 120             | 120             | -               | B             | 8x M8                                               |
| 17357                 | 75        | 500 | 10               | 115             | 115             | 115             | 115             | B             | 10x M8                                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.16 Gleitplatten  
7.16 Wear plates

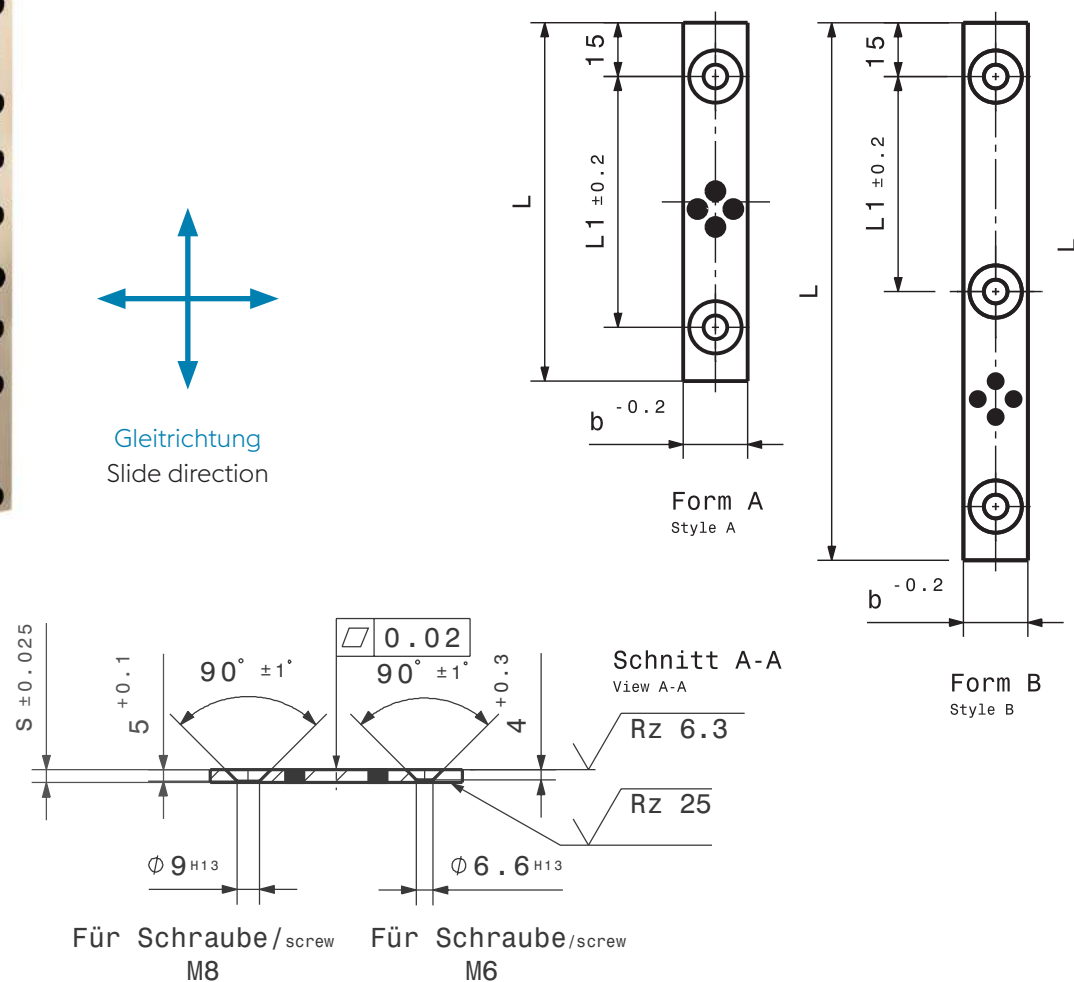
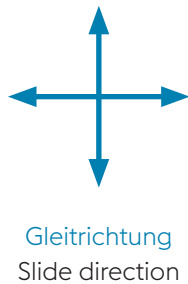


| Ident-No.<br>WF750/1A | b  | L   | s<br>+0,04<br>+0,01 | L1<br>$\pm 0,2$ | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----|---------------------|-----------------|------------------------------------------------------------|
| 17200                 | 18 | 75  | 10                  | 45              | 2x M6                                                      |
| 17201                 | 18 | 100 | 10                  | 50              | 2x M6                                                      |
| 17198                 | 18 | 125 | 10                  | 75              | 2x M6                                                      |
| 17202                 | 18 | 150 | 10                  | 100             | 2x M6                                                      |
| 17203                 | 28 | 75  | 10                  | 45              | 2x M6                                                      |
| 17204                 | 28 | 100 | 10                  | 50              | 2x M6                                                      |
| 17197                 | 28 | 125 | 10                  | 75              | 2x M6                                                      |
| 17205                 | 28 | 150 | 10                  | 100             | 2x M6                                                      |
| 17206                 | 38 | 75  | 10                  | 45              | 2x M6                                                      |
| 17207                 | 38 | 100 | 10                  | 50              | 2x M6                                                      |
| 17199                 | 38 | 125 | 10                  | 75              | 2x M6                                                      |
| 17208                 | 38 | 150 | 10                  | 100             | 2x M6                                                      |
| 17209                 | 48 | 75  | 10                  | 45              | 2x M6                                                      |
| 17210                 | 48 | 100 | 10                  | 50              | 2x M6                                                      |
| 17211                 | 48 | 125 | 10                  | 75              | 2x M6                                                      |
| 17212                 | 48 | 150 | 10                  | 100             | 2x M6                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

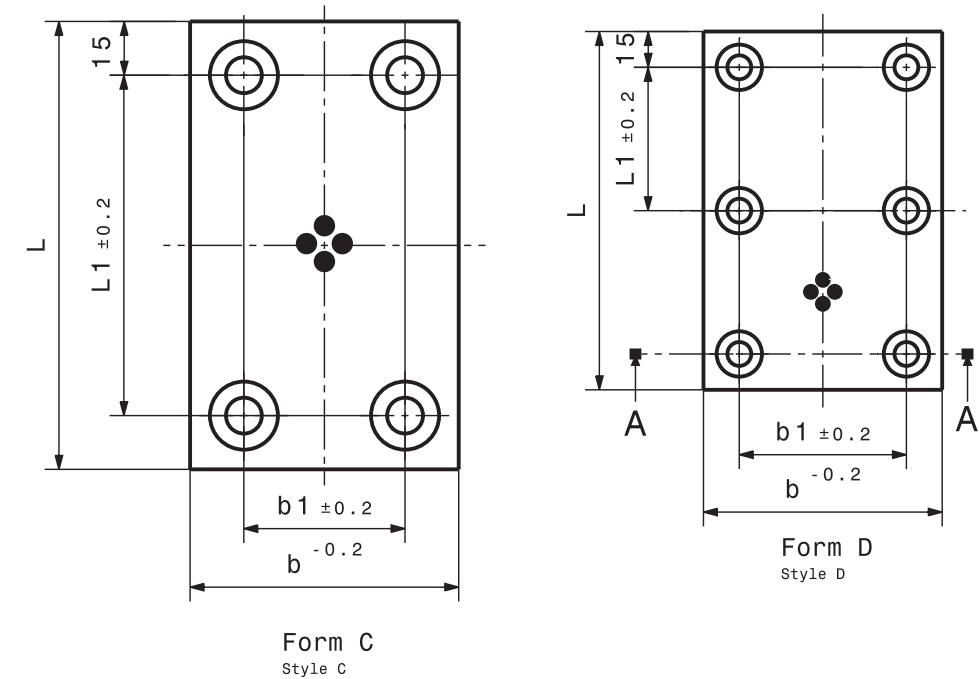
7.18 Gleitplatten  
7.18 Wear plates

7.18



| Ident-No.<br>WF750/1A | b<br>-0,2 | L   | s<br>±0,025 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | Senkschraube<br>Countersunk screw<br>DIN EN ISO 10642 |
|-----------------------|-----------|-----|-------------|------------|------------|---------------|-------------------------------------------------------|
| 18540                 | 18        | 50  | 5           | -          | 20         | A             | 2x M6                                                 |
| 18541                 | 18        | 75  | 5           | -          | 45         | A             | 2x M6                                                 |
| 18542                 | 18        | 100 | 5           | -          | 70         | A             | 2x M6                                                 |
| 18543                 | 18        | 150 | 5           | -          | 60         | B             | 3x M8                                                 |
| 18544                 | 28        | 50  | 5           | -          | 20         | A             | 2x M8                                                 |
| 18545                 | 28        | 75  | 5           | -          | 45         | A             | 2x M8                                                 |
| 18546                 | 28        | 100 | 5           | -          | 70         | A             | 2x M8                                                 |
| 18547                 | 28        | 150 | 5           | -          | 60         | B             | 3x M8                                                 |
| 18548                 | 38        | 50  | 5           | -          | 20         | A             | 2x M8                                                 |
| 18549                 | 38        | 75  | 5           | -          | 45         | A             | 2x M8                                                 |
| 18550                 | 38        | 100 | 5           | -          | 70         | A             | 2x M8                                                 |
| 18551                 | 38        | 150 | 5           | -          | 60         | B             | 3x M8                                                 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>WF750/1A | b<br>-0,2 | L   | s<br>±0,025 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | Senkschraube<br>Countersunk screw<br>DIN EN ISO 10642 |
|-----------------------|-----------|-----|-------------|------------|------------|---------------|-------------------------------------------------------|
| 18552                 | 48        | 75  | 5           | -          | 45         | A             | 2x M8                                                 |
| 18553                 | 48        | 100 | 5           | -          | 70         | A             | 2x M8                                                 |
| 18554                 | 48        | 125 | 5           | -          | 95         | A             | 2x M8                                                 |
| 18555                 | 48        | 150 | 5           | -          | 60         | B             | 3x M8                                                 |
| 18556                 | 75        | 75  | 5           | 45         | 45         | C             | 4x M8                                                 |
| 18557                 | 75        | 100 | 5           | 45         | 70         | C             | 4x M8                                                 |
| 18558                 | 75        | 125 | 5           | 45         | 95         | C             | 4x M8                                                 |
| 18559                 | 75        | 150 | 5           | 45         | 60         | D             | 6x M8                                                 |
| 18560                 | 100       | 100 | 5           | 70         | 70         | C             | 4x M8                                                 |
| 18561                 | 100       | 125 | 5           | 70         | 95         | C             | 4x M8                                                 |
| 18562                 | 100       | 150 | 5           | 70         | 60         | D             | 6x M8                                                 |

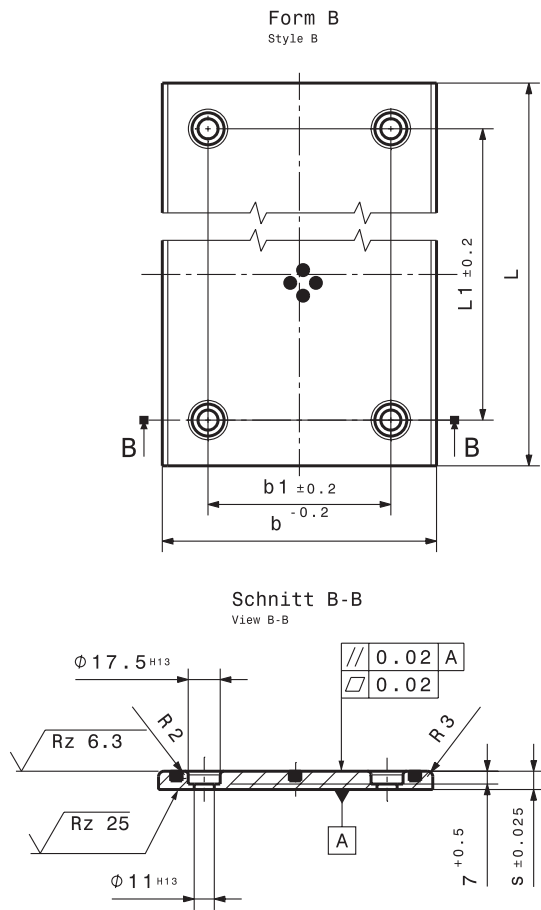
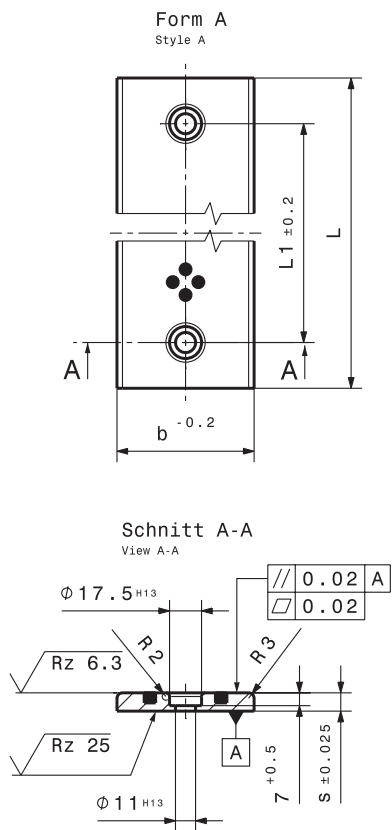
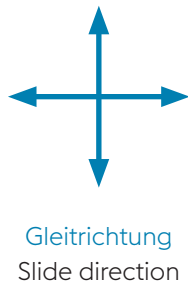
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.18



7.19 Gleitplatten  
7.19 Wear plates

7.19



7.19

| Ident-No.<br>WF750/1A | b<br>-0,2 | L   | s<br>±0,025 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN 7984 |
|-----------------------|-----------|-----|-------------|------------|------------|---------------|-----------------------------------------------------|
| 15493                 | 28        | 75  | 10          | -          | 45         | A             | 2x M10                                              |
| 13606                 | 28        | 100 | 10          | -          | 50         | A             | 2x M10                                              |
| 15274                 | 28        | 125 | 10          | -          | 75         | A             | 2x M10                                              |
| 14781                 | 28        | 150 | 10          | -          | 100        | A             | 2x M10                                              |
| 14369                 | 38        | 75  | 10          | -          | 45         | A             | 2x M10                                              |
| 14368                 | 38        | 100 | 10          | -          | 50         | A             | 2x M10                                              |
| 18867                 | 38        | 125 | 10          | -          | 75         | A             | 2x M10                                              |
| 18861                 | 38        | 150 | 10          | -          | 100        | A             | 2x M10                                              |
| 14795                 | 48        | 75  | 10          | -          | 45         | A             | 2x M10                                              |
| 14796                 | 48        | 100 | 10          | -          | 50         | A             | 2x M10                                              |
| 13344                 | 48        | 125 | 10          | -          | 75         | A             | 2x M10                                              |
| 13021                 | 48        | 150 | 10          | -          | 100        | A             | 2x M10                                              |
| 13229                 | 48        | 200 | 10          | -          | 150        | A             | 2x M10                                              |
| 13228                 | 75        | 75  | 10          | -          | 45         | A             | 2x M10                                              |
| 14800                 | 75        | 100 | 10          | -          | 50         | A             | 2x M10                                              |

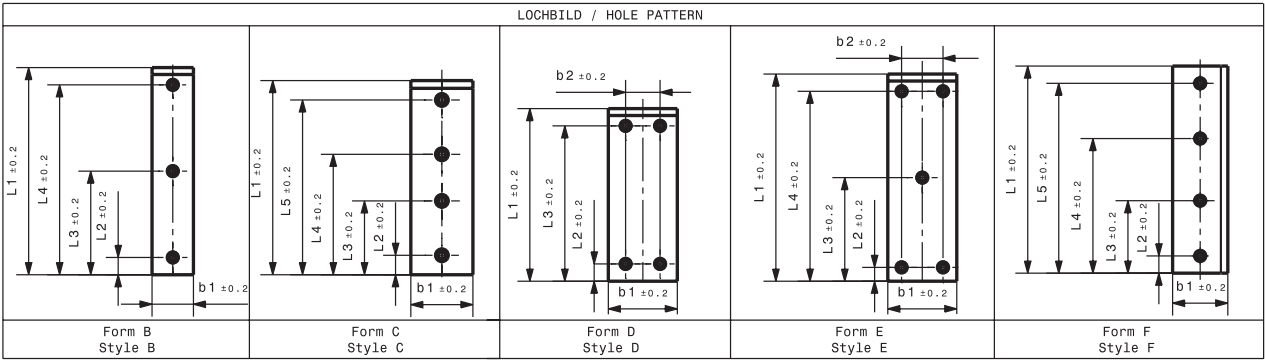
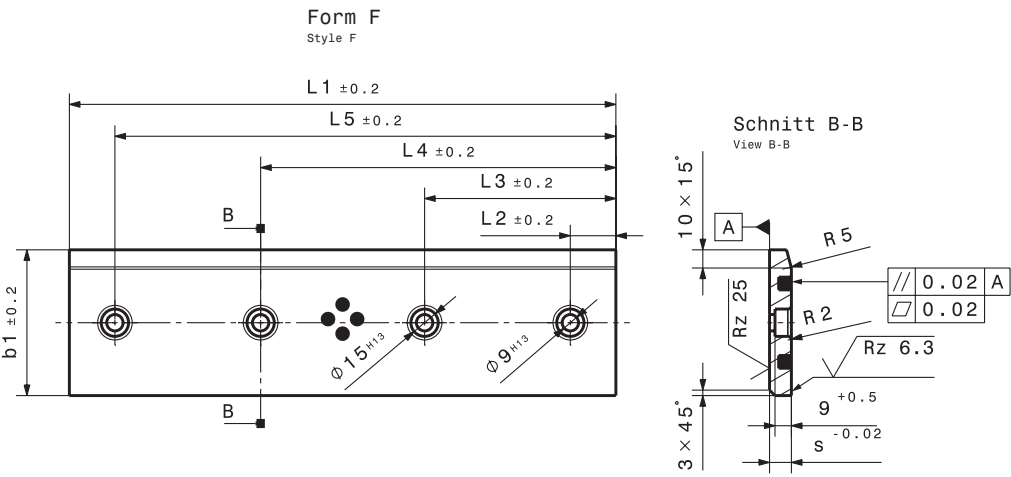
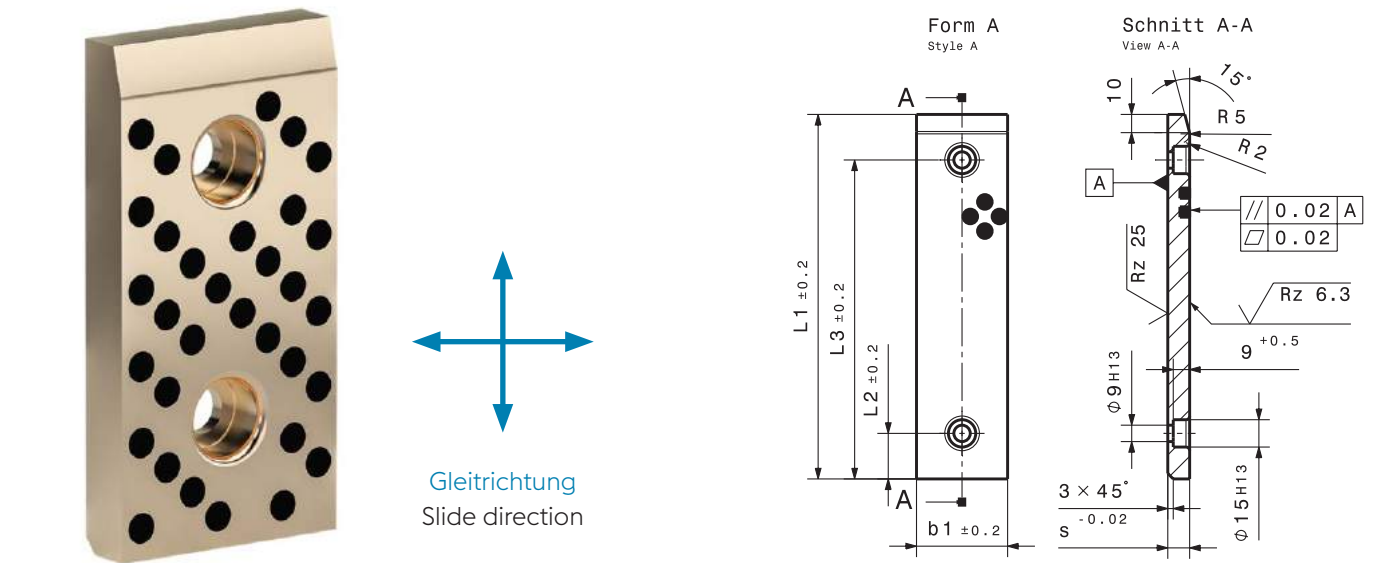
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | b<br>-0,2 | L   | s<br>±0,025 | b1<br>±0,2 | L1<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN 7984 |
|-----------------------|-----------|-----|-------------|------------|------------|---------------|-----------------------------------------------------|
| 15313                 | 75        | 125 | 10          | -          | 75         | A             | 2x M10                                              |
| 13020                 | 75        | 150 | 10          | -          | 100        | A             | 2x M10                                              |
| 13141                 | 75        | 200 | 10          | -          | 150        | A             | 2x M10                                              |
| 13337                 | 100       | 100 | 10          | 50         | 50         | B             | 4x M10                                              |
| 13345                 | 100       | 125 | 10          | 50         | 75         | B             | 4x M10                                              |
| 15190                 | 100       | 150 | 10          | 50         | 100        | B             | 4x M10                                              |
| 13031                 | 100       | 200 | 10          | 50         | 150        | B             | 4x M10                                              |
| 18862                 | 100       | 250 | 10          | 50         | 200        | B             | 4x M10                                              |
| 15312                 | 125       | 150 | 10          | 50         | 100        | B             | 4x M10                                              |
| 18863                 | 125       | 200 | 10          | 50         | 150        | B             | 4x M10                                              |
| 18864                 | 125       | 250 | 10          | 50         | 200        | B             | 4x M10                                              |
| 13035                 | 150       | 150 | 10          | 100        | 100        | B             | 4x M10                                              |
| 18865                 | 150       | 200 | 10          | 100        | 150        | B             | 4x M10                                              |
| 18866                 | 150       | 250 | 10          | 100        | 200        | B             | 4x M10                                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



7.21 Gleitplatten nach VDI 3357  
7.21 Wear plates acc. VDI 3357



| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18209                 | 25         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18208                 | 25         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18207                 | 25         | 250        | 12         | 25         | 125        | 225        | -          | -          | B             | 3x M8x20                                                   |
| 18210                 | 30         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18211                 | 30         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18212                 | 30         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18213                 | 30         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18214                 | 30         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18225                 | 30         | 250        | 12         | 25         | 125        | 225        | -          | -          | B             | 3x M8x20                                                   |
| 18218                 | 30         | 300        | 12         | 25         | 150        | 275        | -          | -          | B             | 3x M8x20                                                   |
| 18220                 | 40         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18221                 | 40         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18222                 | 40         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |

| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18223                 | 40         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18224                 | 40         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18240                 | 50         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18226                 | 50         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18241                 | 50         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18228                 | 50         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18229                 | 50         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18196                 | 50         | 250        | 12         | 25         | 85         | 165        | 225        | -          | C             | 4x M8x20                                                   |
| 18197                 | 50         | 300        | 12         | 25         | 105        | 195        | 275        | -          | C             | 4x M8x20                                                   |
| 18198                 | 50         | 350        | 12         | 25         | 125        | 225        | 325        | -          | C             | 4x M8x20                                                   |
| 18199                 | 50         | 400        | 12         | 25         | 145        | 255        | 375        | -          | C             | 4x M8x20                                                   |
| 18230                 | 60         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18231                 | 60         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

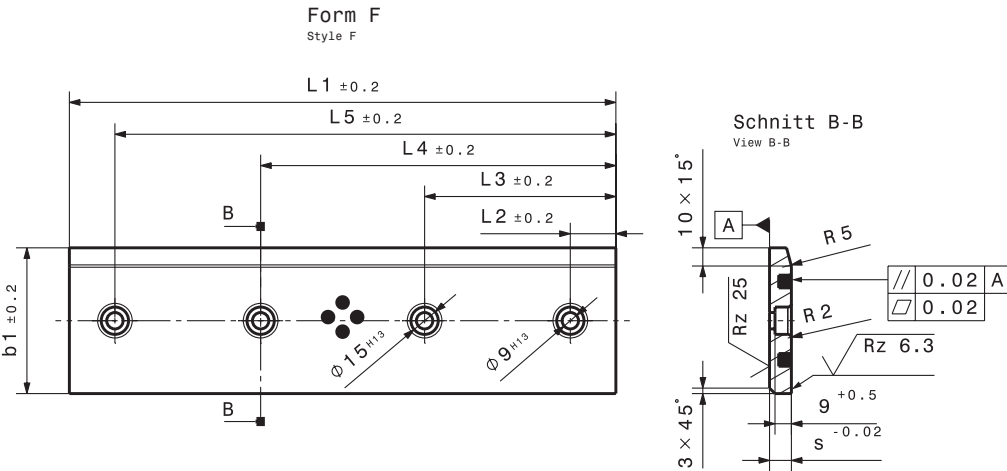
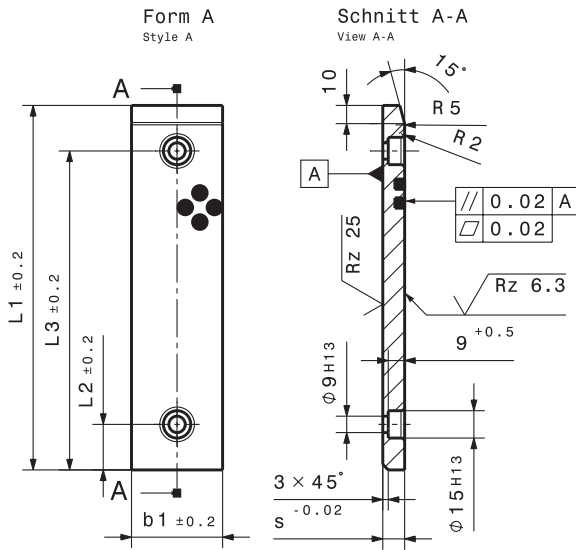
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.21 Gleitplatten nach VDI 3357  
7.21 Wear plates acc. VDI 3357

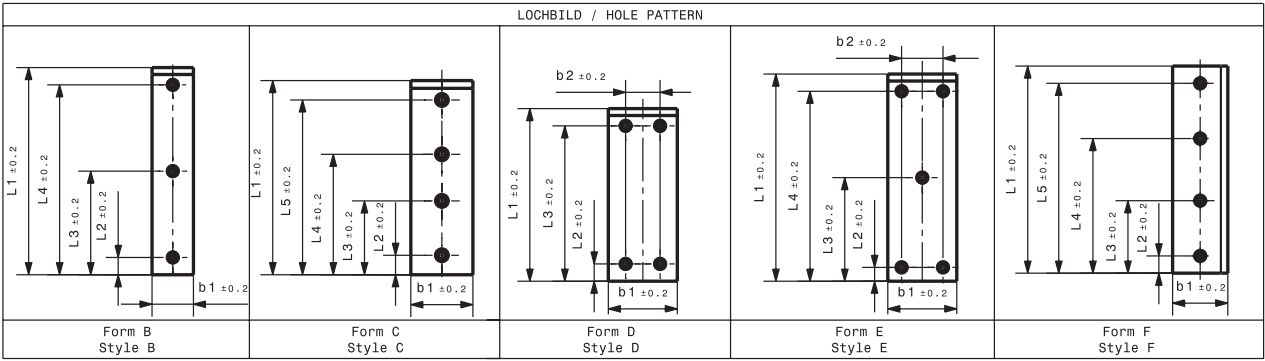
7.21



Gleitrichtung  
Slide direction



7.21



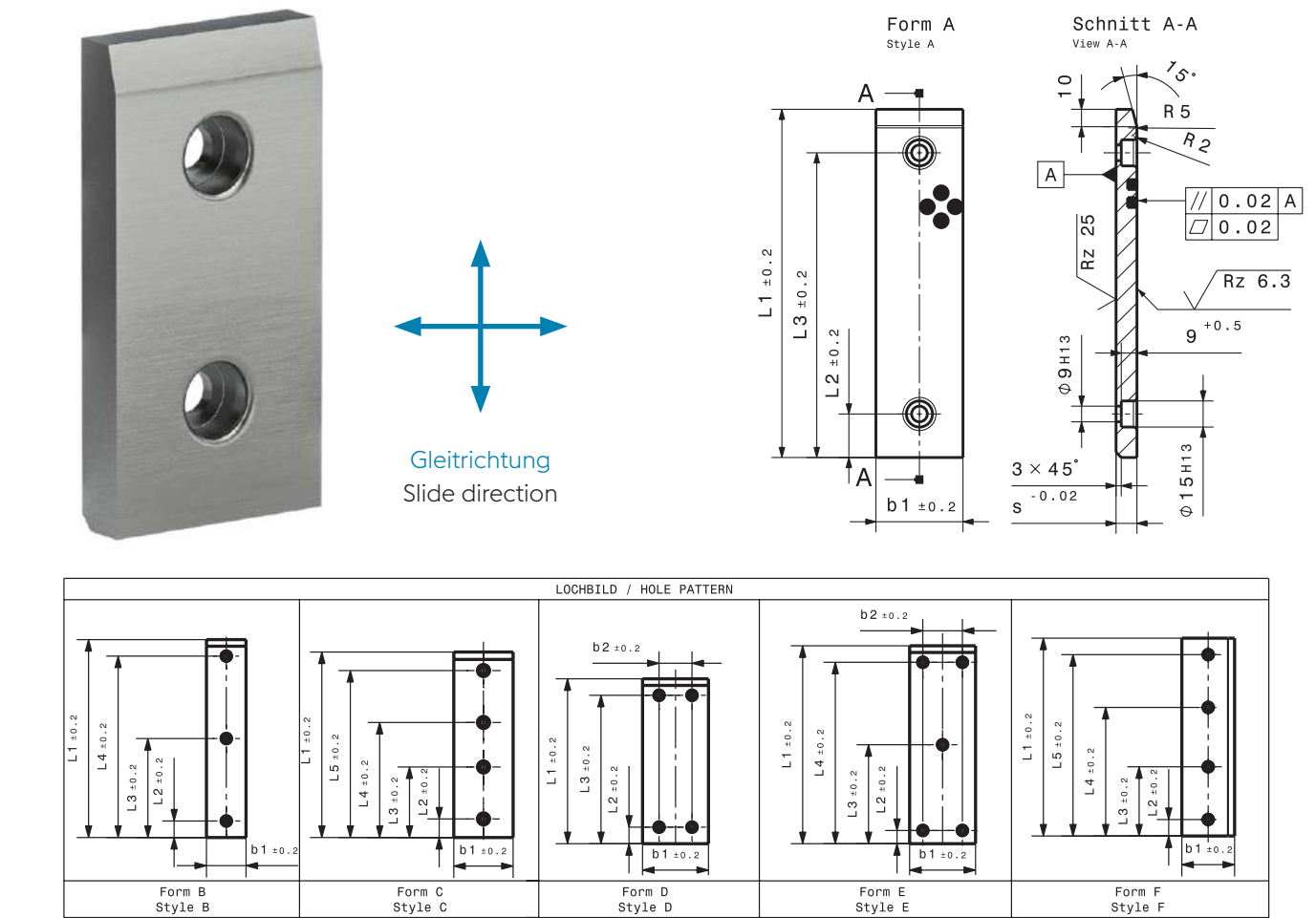
| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18232                 | 60         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18233                 | 60         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18234                 | 60         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 3x M8x20                                                   |
| 18236                 | 60         | 300        | 12         | 25         | 150        | 275        | -          | -          | B             | 3x M8x20                                                   |
| 18215                 | 80         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18239                 | 80         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18217                 | 80         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18235                 | 80         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18219                 | 80         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18227                 | 80         | 250        | 12         | 25         | 95         | 155        | 255        | -          | C             | 4x M8x20                                                   |
| 18237                 | 100        | 125        | 12         | 25         | 100        | -          | -          | 60         | D             | 4x M8x20                                                   |
| 18243                 | 100        | 160        | 12         | 20         | 135        | -          | -          | 60         | D             | 4x M8x20                                                   |
| 18206                 | 100        | 200        | 12         | 20         | 175        | -          | -          | 60         | D             | 4x M8x20                                                   |

| Ident-No.<br>WF750/1A | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18242                 | 100        | 250        | 12         | 25         | 225        | -          | -          | 50         | D             | 4x M8x20                                                   |
| 18216                 | 100        | 300        | 12         | 20         | 150        | 275        | -          | 60         | E             | 5x M8x20                                                   |
| 18315                 | 125        | 160        | 12         | 25         | 135        | -          | -          | 85         | D             | 4x M8x20                                                   |
| 22002                 | 150        | 160        | 12         | 25         | 135        | -          | -          | 110        | D             | 4x M8x20                                                   |
| 18238                 | 160        | 160        | 12         | 25         | 135        | -          | -          | 120        | D             | 4x M8x20                                                   |
| 64138                 | 80         | 200        | 12         | 25         | 175        | -          | -          | -          | F             | 2x M8x20                                                   |
| 64139                 | 80         | 250        | 12         | 25         | 85         | 165        | 225        | -          | F             | 4x M8x20                                                   |
| 64140                 | 80         | 300        | 12         | 25         | 105        | 195        | 275        | -          | F             | 4x M8x20                                                   |
| 64141                 | 80         | 350        | 12         | 25         | 125        | 225        | 325        | -          | F             | 4x M8x20                                                   |
| 64142                 | 80         | 400        | 12         | 25         | 145        | 255        | 375        | -          | F             | 4x M8x20                                                   |
| 64143                 | 80         | 450        | 12         | 25         | 165        | 285        | 425        | -          | F             | 4x M8x20                                                   |
| 64144                 | 80         | 500        | 12         | 25         | 175        | 325        | 475        | -          | F             | 4x M8x20                                                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.21 Gleitplatten nach VDI 3357
7.21 Wear plates acc. VDI 3357



| Ident-No.<br>St 1 | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18250             | 30         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18251             | 30         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18252             | 30         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18253             | 30         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18254             | 30         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18255             | 40         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18256             | 40         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18257             | 40         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18258             | 40         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |

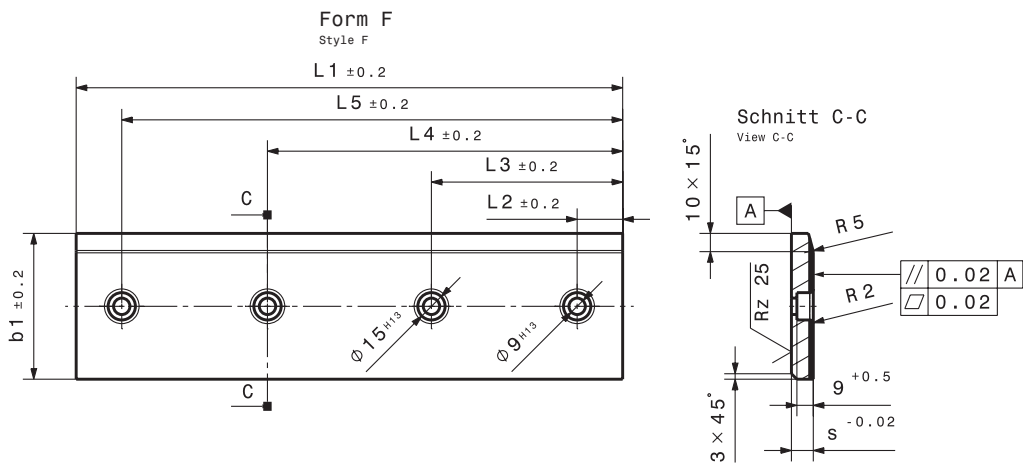
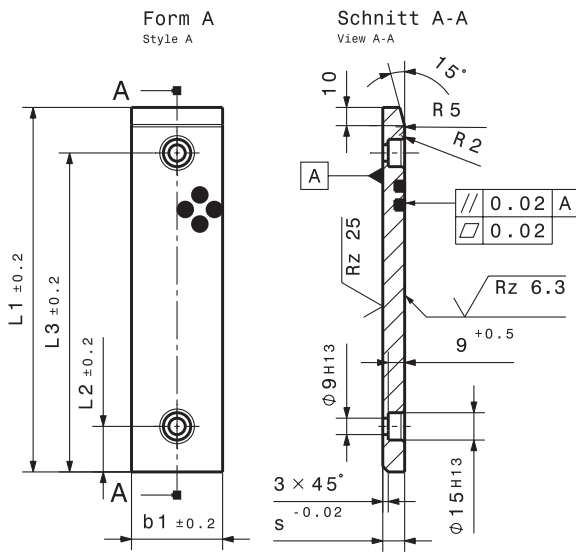
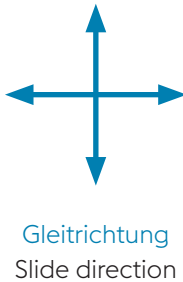
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 18259             | 40         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18260             | 50         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18261             | 50         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18262             | 50         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18263             | 50         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18264             | 50         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18265             | 60         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18266             | 60         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18267             | 60         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18268             | 60         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18269             | 60         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18246             | 60         | 255        | 12         | 25         | 127,5      | 230        | -          | -          | B             | 3x M8x20                                                   |
| 18247             | 60         | 300        | 12         | 25         | 150        | 275        | -          | -          | B             | 3x M8x20                                                   |
| 18270             | 80         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18271             | 80         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 18272             | 80         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18273             | 80         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18274             | 80         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 18298             | 80         | 250        | 12         | 25         | 70         | 180        | 225        | -          | C             | 4x M8x20                                                   |
| 18314             | 100        | 160        | 12         | 25         | 135        | -          | -          | 70         | D             | 4x M8x20                                                   |
| 18296             | 100        | 200        | 12         | 20         | 175        | -          | -          | 60         | D             | 4x M8x20                                                   |
| 18297             | 100        | 250        | 12         | 25         | 225        | -          | -          | 50         | D             | 4x M8x20                                                   |
| 18279             | 100        | 300        | 12         | 20         | 150        | 275        | -          | 60         | E             | 5x M8x20                                                   |
| 18317             | 125        | 145        | 12         | 25         | 120        | -          | -          | 85         | D             | 4x M8x20                                                   |
| 18316             | 125        | 160        | 12         | 25         | 135        | -          | -          | 85         | D             | 4x M8x20                                                   |
| 18392             | 150        | 145        | 12         | 25         | 120        | -          | -          | 110        | D             | 4x M8x20                                                   |
| 18391             | 150        | 160        | 12         | 25         | 135        | -          | -          | 110        | D             | 4x M8x20                                                   |

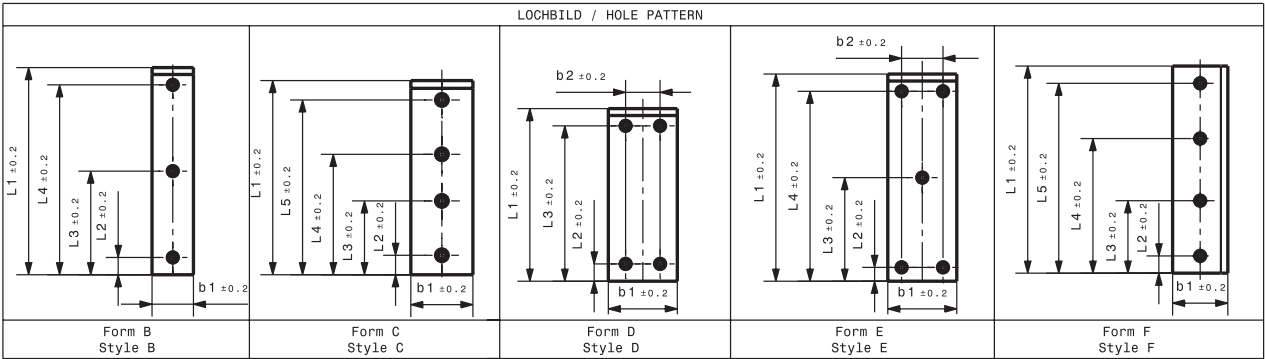
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.21 Gleitplatten nach VDI 3357  
7.21 Wear plates acc. VDI 3357

7.21



7.21



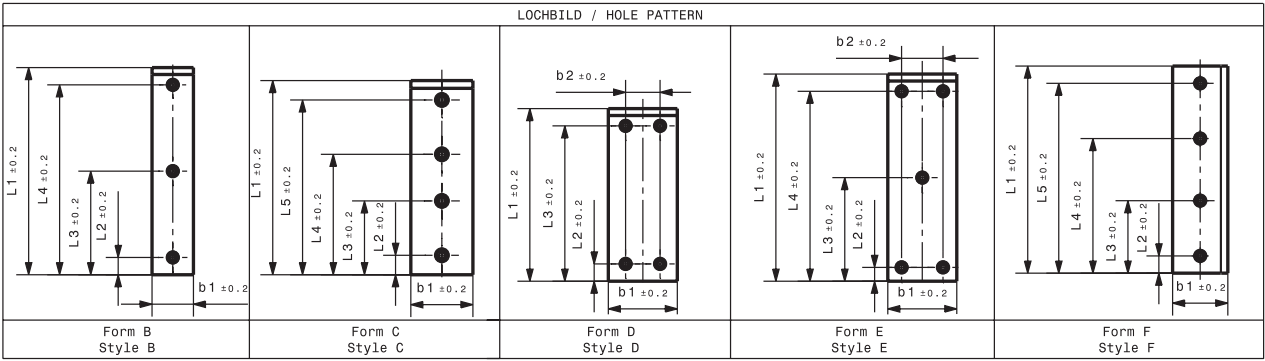
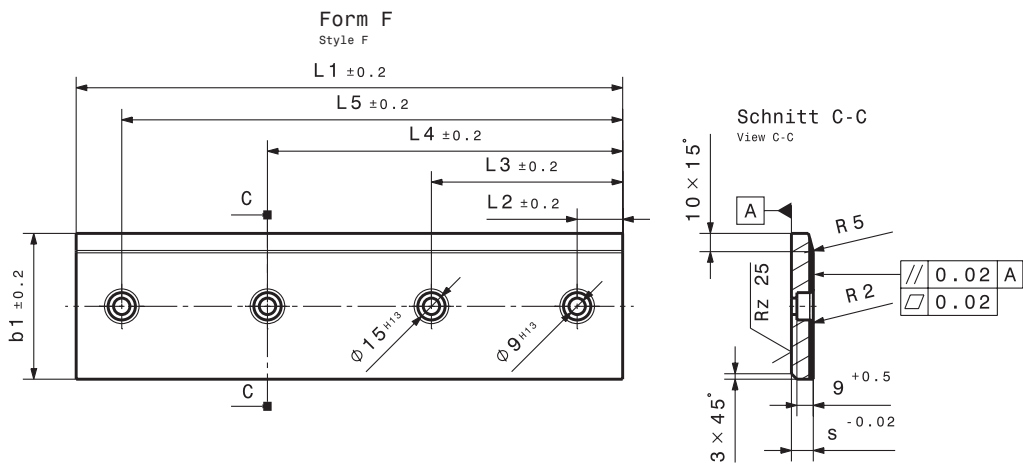
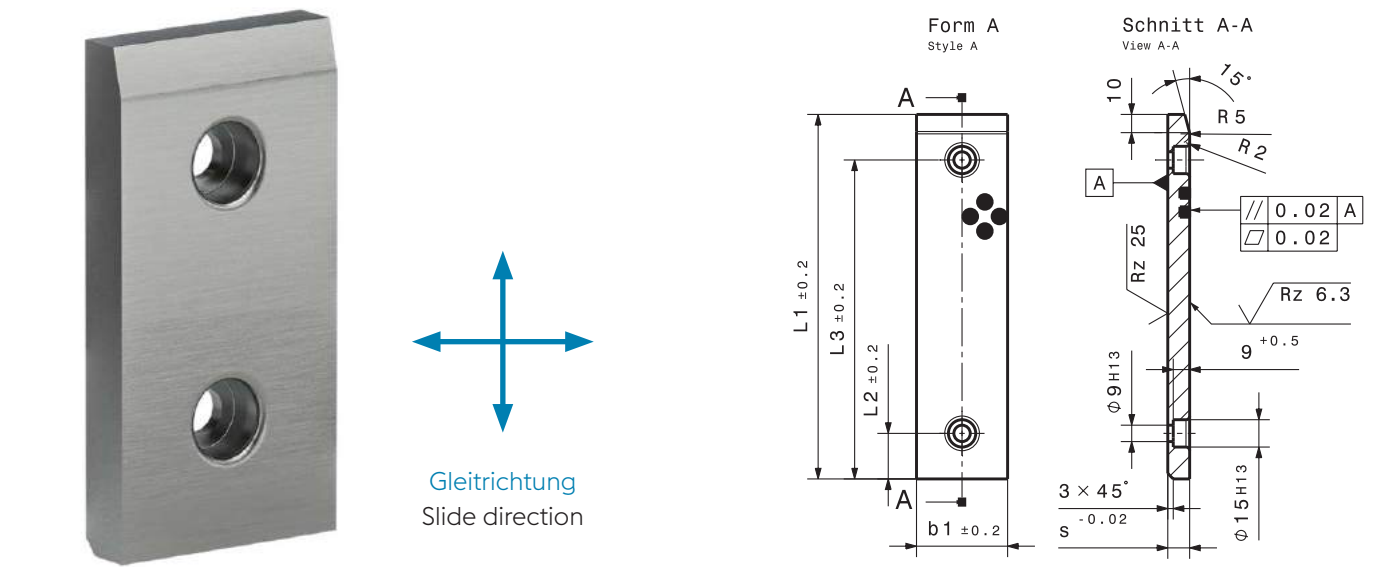
| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 63775               | 25         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63776               | 25         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63777               | 25         | 250        | 12         | 25         | 125        | 225        | -          | -          | B             | 3x M8x20                                                   |
| 63778               | 30         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63779               | 30         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63780               | 30         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63781               | 30         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63782               | 30         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63783               | 30         | 250        | 12         | 25         | 125        | 225        | -          | -          | B             | 3x M8x20                                                   |
| 63784               | 30         | 300        | 12         | 25         | 150        | 275        | -          | -          | B             | 3x M8x20                                                   |
| 63785               | 40         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63786               | 40         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63787               | 40         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |

| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 63788               | 40         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63789               | 40         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63790               | 50         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63791               | 50         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63792               | 50         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63793               | 50         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63794               | 50         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63795               | 50         | 250        | 12         | 25         | 85         | 165        | 225        | -          | C             | 4x M8x20                                                   |
| 63796               | 50         | 300        | 12         | 25         | 105        | 195        | 275        | -          | C             | 4x M8x20                                                   |
| 63797               | 50         | 350        | 12         | 25         | 125        | 225        | 325        | -          | C             | 4x M8x20                                                   |
| 63798               | 50         | 400        | 12         | 25         | 145        | 255        | 375        | -          | C             | 4x M8x20                                                   |
| 63799               | 60         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63800               | 60         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.21 Gleitplatten nach VDI 3357  
7.21 Wear plates acc. VDI 3357



| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 63801               | 60         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63802               | 60         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63803               | 60         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 3x M8x20                                                   |
| 63804               | 60         | 300        | 12         | 25         | 150        | 375        | -          | -          | B             | 3x M8x20                                                   |
| 63805               | 80         | 80         | 12         | 25         | 55         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63806               | 80         | 100        | 12         | 25         | 75         | -          | -          | -          | A             | 2x M8x20                                                   |
| 63807               | 80         | 125        | 12         | 25         | 100        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63808               | 80         | 160        | 12         | 25         | 135        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63809               | 80         | 200        | 12         | 25         | 175        | -          | -          | -          | A             | 2x M8x20                                                   |
| 63810               | 80         | 250        | 12         | 25         | 95         | 155        | 225        | -          | C             | 4x M8x20                                                   |
| 63811               | 100        | 125        | 12         | 25         | 100        | -          | -          | 60         | D             | 4x M8x20                                                   |
| 63812               | 100        | 160        | 12         | 20         | 135        | -          | -          | 60         | D             | 4x M8x20                                                   |
| 63813               | 100        | 200        | 12         | 20         | 175        | -          | -          | 60         | D             | 4x M8x20                                                   |

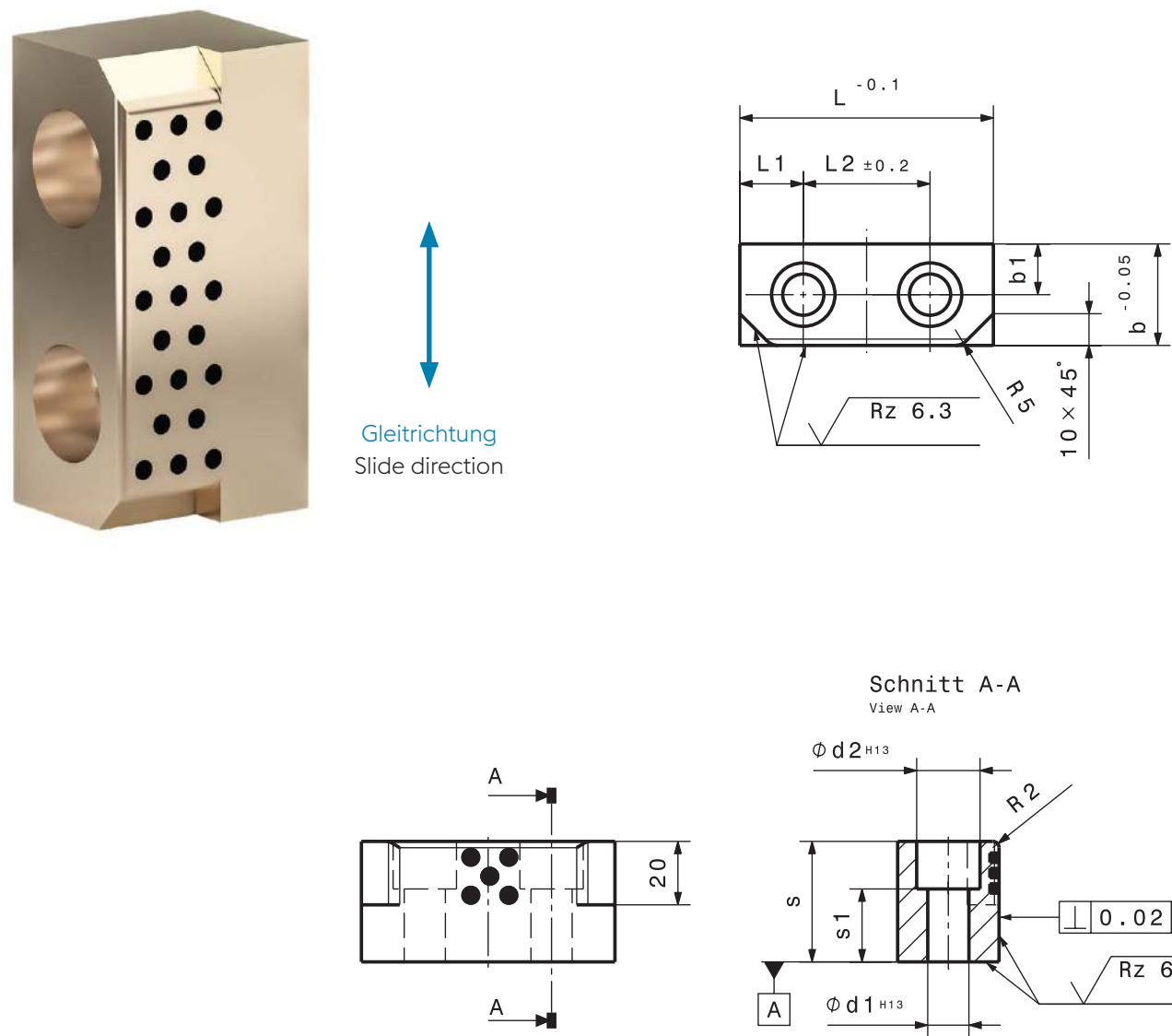
| Ident-No.<br>Sinter | b1<br>±0,2 | L1<br>±0,2 | s<br>-0,02 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | b2<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|------------------------------------------------------------|
| 63814               | 100        | 250        | 12         | 25         | 225        | -          | -          | 50         | D             | 4x M8x20                                                   |
| 63815               | 100        | 300        | 12         | 20         | 150        | 275        | -          | 60         | E             | 5x M8x20                                                   |
| 63816               | 125        | 160        | 12         | 25         | 135        | -          | -          | 85         | D             | 4x M8x20                                                   |
| 63817               | 150        | 160        | 12         | 25         | 135        | -          | -          | 110        | D             | 4x M8x20                                                   |
| 63818               | 160        | 160        | 12         | 25         | 135        | -          | -          | 120        | D             | 4x M8x20                                                   |
| 64145               | 80         | 200        | 12         | 25         | 175        | -          | -          | -          | F             | 2x M8x20                                                   |
| 64146               | 80         | 250        | 12         | 25         | 85         | 165        | 225        | -          | F             | 4x M8x20                                                   |
| 64147               | 80         | 300        | 12         | 25         | 105        | 195        | 275        | -          | F             | 4x M8x20                                                   |
| 64148               | 80         | 350        | 12         | 25         | 125        | 225        | 325        | -          | F             | 4x M8x20                                                   |
| 64149               | 80         | 400        | 12         | 25         | 145        | 255        | 375        | -          | F             | 4x M8x20                                                   |
| 64150               | 80         | 450        | 12         | 25         | 165        | 285        | 425        | -          | F             | 4x M8x20                                                   |
| 64151               | 80         | 500        | 12         | 25         | 175        | 325        | 475        | -          | F             | 4x M8x20                                                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.23 Führungsplatten

7.23 Guide plates

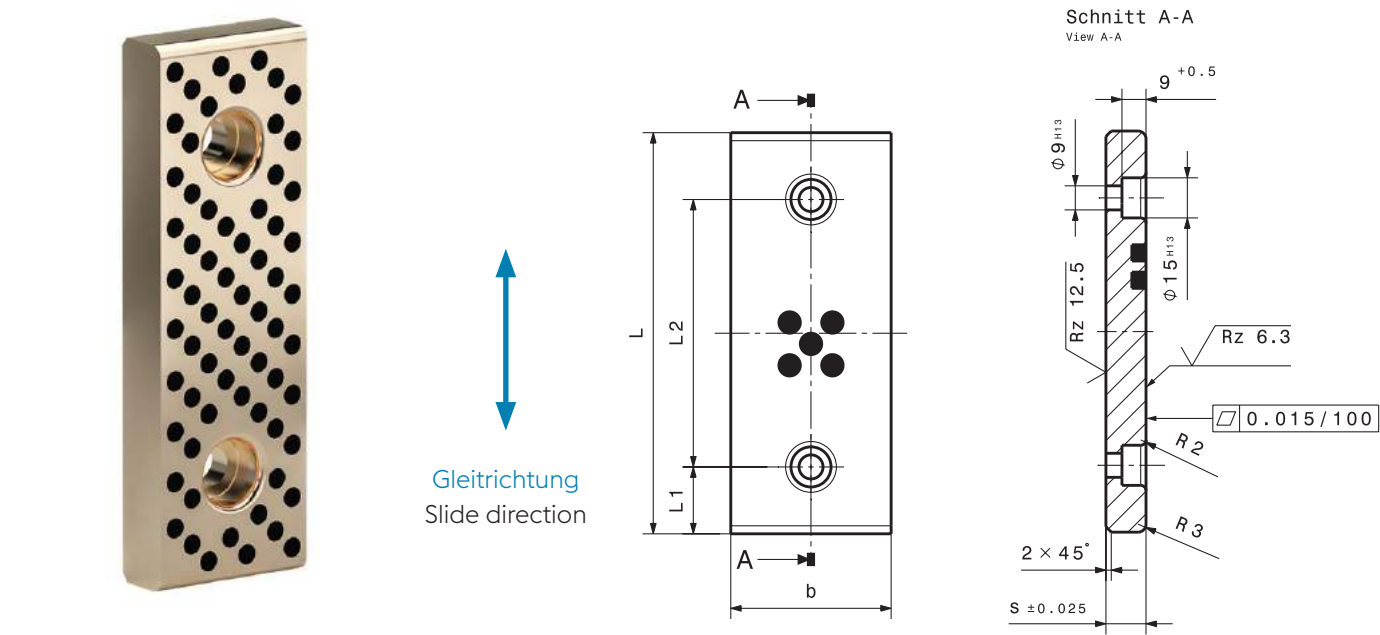


| Ident-No.<br>WF750/1A | b<br>-0,05 | L<br>-0,1 | s  | L1 | L2<br>±0,2 | b1 | s1 | Ø1<br>H13 | Ø2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|-----------|----|----|------------|----|----|-----------|-----------|------------------------------------------------------------|
| 14357                 | 25         | 60        | 30 | 15 | 30         | 11 | 18 | 11        | 17,5      | 2x M10                                                     |
| 15972                 | 32         | 60        | 38 | 15 | 30         | 16 | 23 | 13        | 20        | 2x M12                                                     |
| 15633                 | 32         | 80        | 38 | 20 | 40         | 16 | 23 | 13        | 20        | 2x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



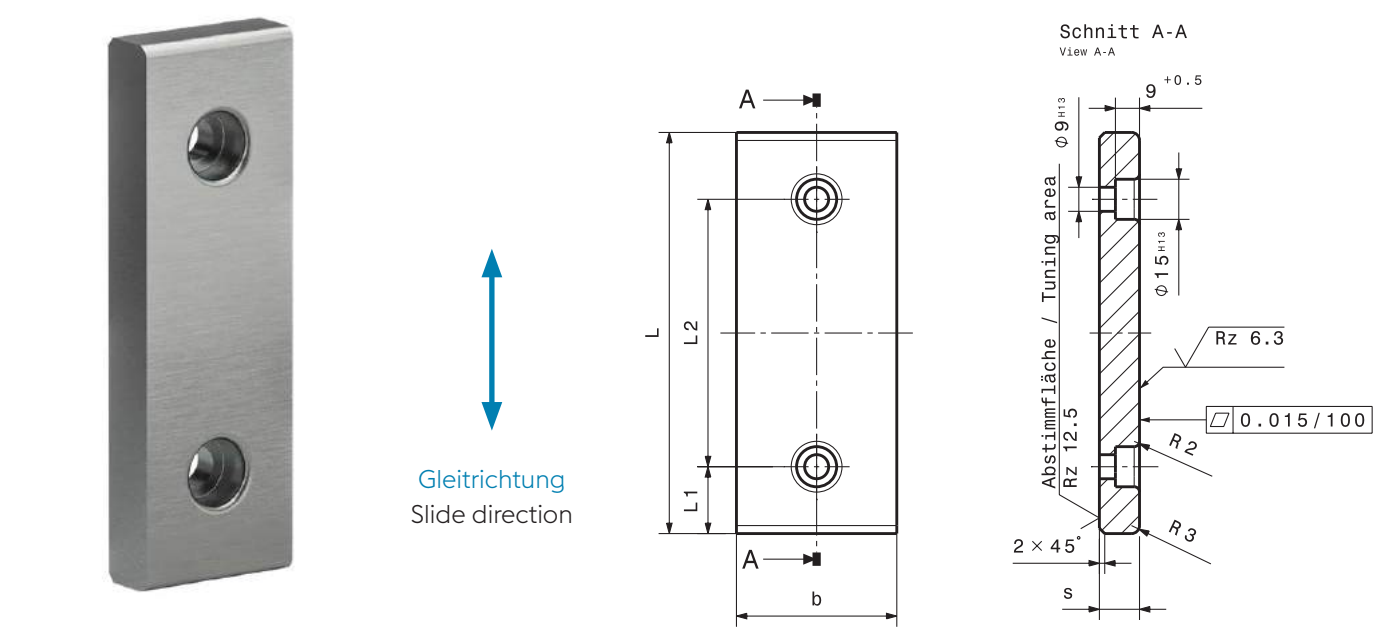
7.25 Gleitplatten  
7.25 Wear plates



| Ident-No.<br>WF750/1A | b  | L   | s<br>±0,025 | L1 | L2  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----|-------------|----|-----|------------------------------------------------------------|
| 19718                 | 40 | 75  | 15          | 15 | 45  | 2x M8                                                      |
| 19719                 | 40 | 100 | 15          | 25 | 50  | 2x M8                                                      |
| 19720                 | 40 | 125 | 15          | 25 | 75  | 2x M8                                                      |
| 19721                 | 40 | 150 | 15          | 25 | 100 | 2x M8                                                      |
| 19722                 | 60 | 75  | 15          | 15 | 45  | 2x M8                                                      |
| 19723                 | 60 | 100 | 15          | 25 | 50  | 2x M8                                                      |
| 19724                 | 60 | 125 | 15          | 25 | 75  | 2x M8                                                      |
| 19725                 | 60 | 150 | 15          | 25 | 100 | 2x M8                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

7.25 Gleitplatten  
7.25 Wear plates



| Ident-No.<br>St 1 | b  | L   | s<br>±0,025 | L1 | L2  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|----|-----|-------------|----|-----|------------------------------------------------------------|
| 19760             | 40 | 80  | 15,1        | 25 | 30  | 2x M8                                                      |
| 19761             | 40 | 100 | 15,1        | 25 | 50  | 2x M8                                                      |
| 19762             | 40 | 125 | 15,1        | 25 | 75  | 2x M8                                                      |
| 19763             | 40 | 160 | 15,1        | 25 | 110 | 2x M8                                                      |
| 19764             | 60 | 80  | 15,1        | 25 | 30  | 2x M8                                                      |
| 19765             | 60 | 100 | 15,1        | 25 | 50  | 2x M8                                                      |
| 19766             | 60 | 125 | 15,1        | 25 | 75  | 2x M8                                                      |
| 19767             | 60 | 160 | 15,1        | 25 | 110 | 2x M8                                                      |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 8. Deckplatten

### 8. Cover plates

8.1



Deckplatten  
Cover plates

8.2



Deckplatten mit/ohne Befestigungsbohrungen  
Cover plates with/without mounting holes

8.3



Deckplatten  
Cover plates

8.4



Deckplatten nach VDI 3357  
Cover plates acc. VDI 3357

8.5



Deckplatten  
Cover plates

8.7



Deckplatten  
Cover plates  
**Dicke** / **thickness** = 10 mm

8.8



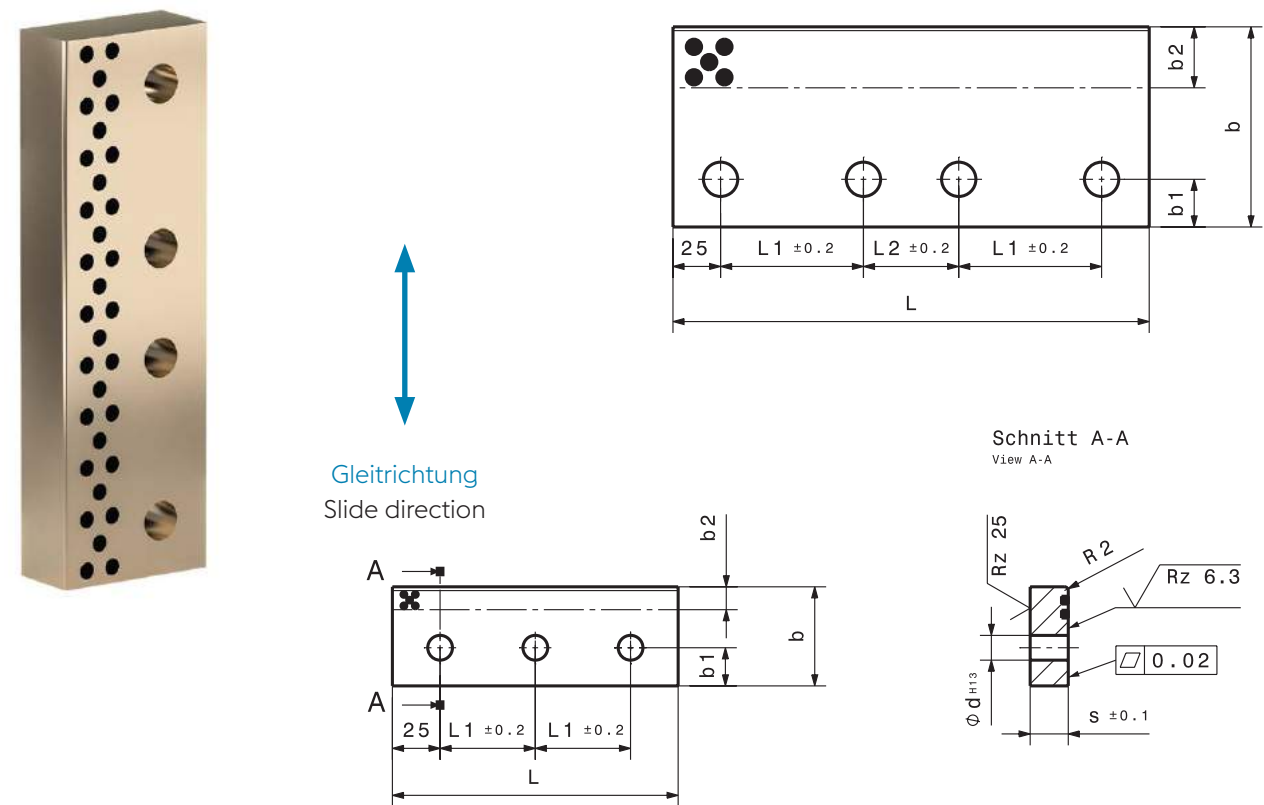
Deckplatten  
Cover plates

8.9



Deckleisten mit aufgeschraubten Gleitplatten  
Cover strips with screwed wear plates  
**WF750, Sinter** / **WF750, sinter**

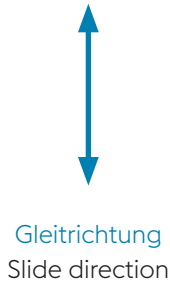
8.1 Deckplatten  
8.1 Cover plates



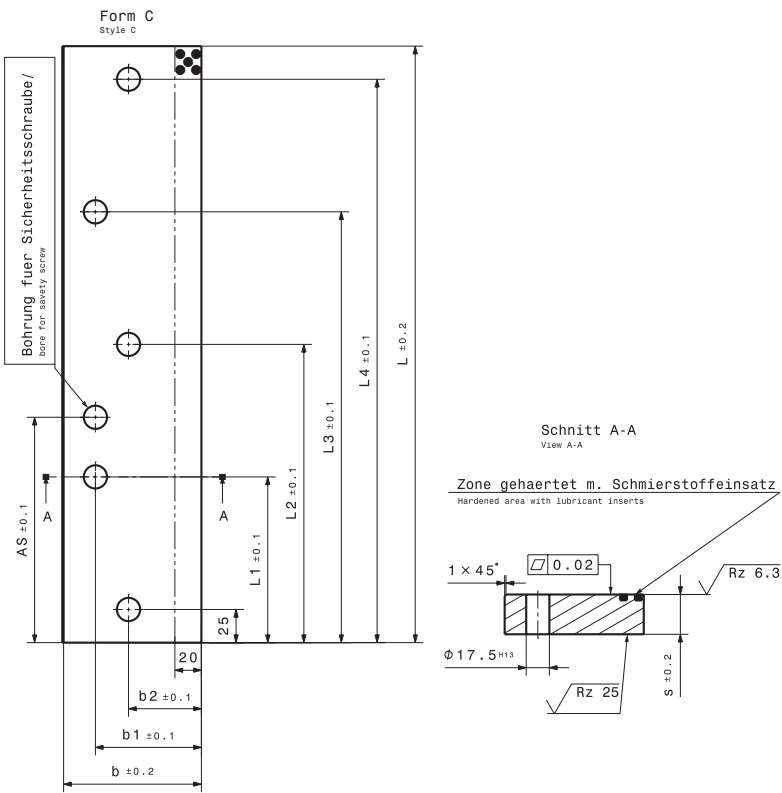
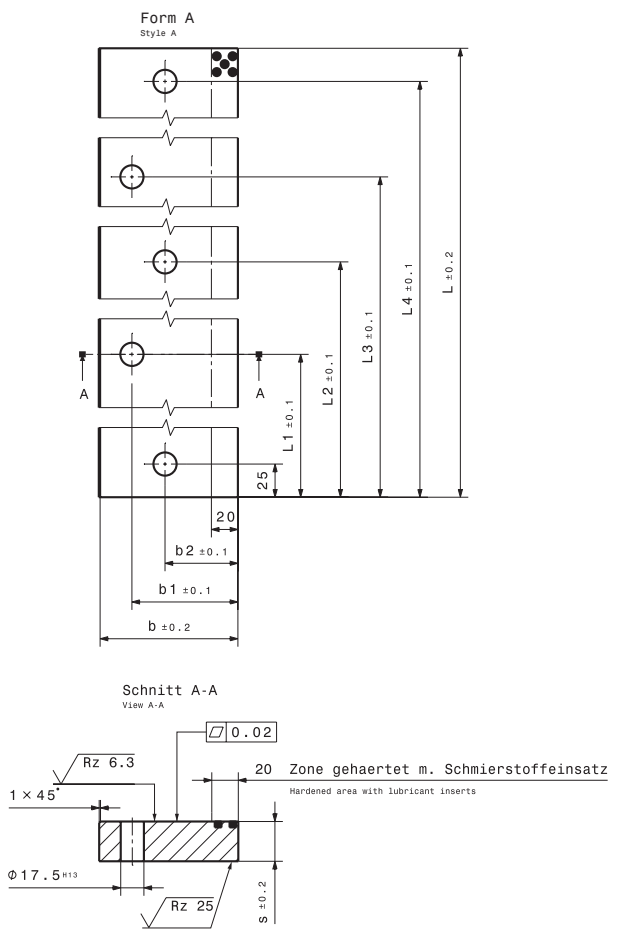
| Ident-No.<br>WF750/1A | b   | L   | s<br>±0,1 | b1 | b2 | L1<br>±0,2 | L2<br>±0,2 | Ød<br>H13 | Schrauben<br>Screws |
|-----------------------|-----|-----|-----------|----|----|------------|------------|-----------|---------------------|
| 17138                 | 52  | 150 | 20        | 20 | 12 | 50         | -          | 13,5      | 3x M12              |
| 17139                 | 52  | 200 | 20        | 20 | 12 | 75         | -          | 13,5      | 3x M12              |
| 17140                 | 52  | 250 | 20        | 20 | 12 | 75         | 50         | 13,5      | 4x M12              |
| 17141                 | 72  | 150 | 30        | 25 | 22 | 50         | -          | 17,5      | 3x M16              |
| 17142                 | 72  | 200 | 30        | 25 | 22 | 75         | -          | 17,5      | 3x M16              |
| 17143                 | 72  | 250 | 30        | 25 | 22 | 75         | 50         | 17,5      | 4x M16              |
| 17144                 | 77  | 150 | 35        | 25 | 27 | 50         | -          | 17,5      | 3x M16              |
| 17145                 | 77  | 200 | 35        | 25 | 27 | 75         | -          | 17,5      | 3x M16              |
| 17146                 | 77  | 250 | 35        | 25 | 27 | 75         | 50         | 17,5      | 4x M16              |
| 17147                 | 82  | 150 | 40        | 25 | 32 | 50         | -          | 17,5      | 3x M16              |
| 17148                 | 82  | 200 | 40        | 25 | 32 | 75         | -          | 17,5      | 3x M16              |
| 17149                 | 82  | 250 | 40        | 25 | 32 | 75         | 50         | 17,5      | 4x M16              |
| 17186                 | 105 | 150 | 40        | 25 | 32 | 50         | -          | 17,5      | 3x M16              |
| 17187                 | 105 | 200 | 40        | 25 | 32 | 50         | 50         | 17,5      | 4x M16              |
| 17188                 | 105 | 250 | 40        | 25 | 32 | 75         | 50         | 17,5      | 4x M16              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

8.2 Deckplatten mit/ohne Befestigungsbohrungen
8.2 Cover plates with/without mounting holes



Gleitrichtung
Slide direction



Form A / Style A: mit Befestigungsbohrungen / with mounting holes
Form B / Style B: ohne Befestigungsbohrungen / without mounting holes
Form C / Style C: mit Befestigungsbohrungen und Bohrung fuer Sicherheitsschraube / with mounting holes and bores for safety screw

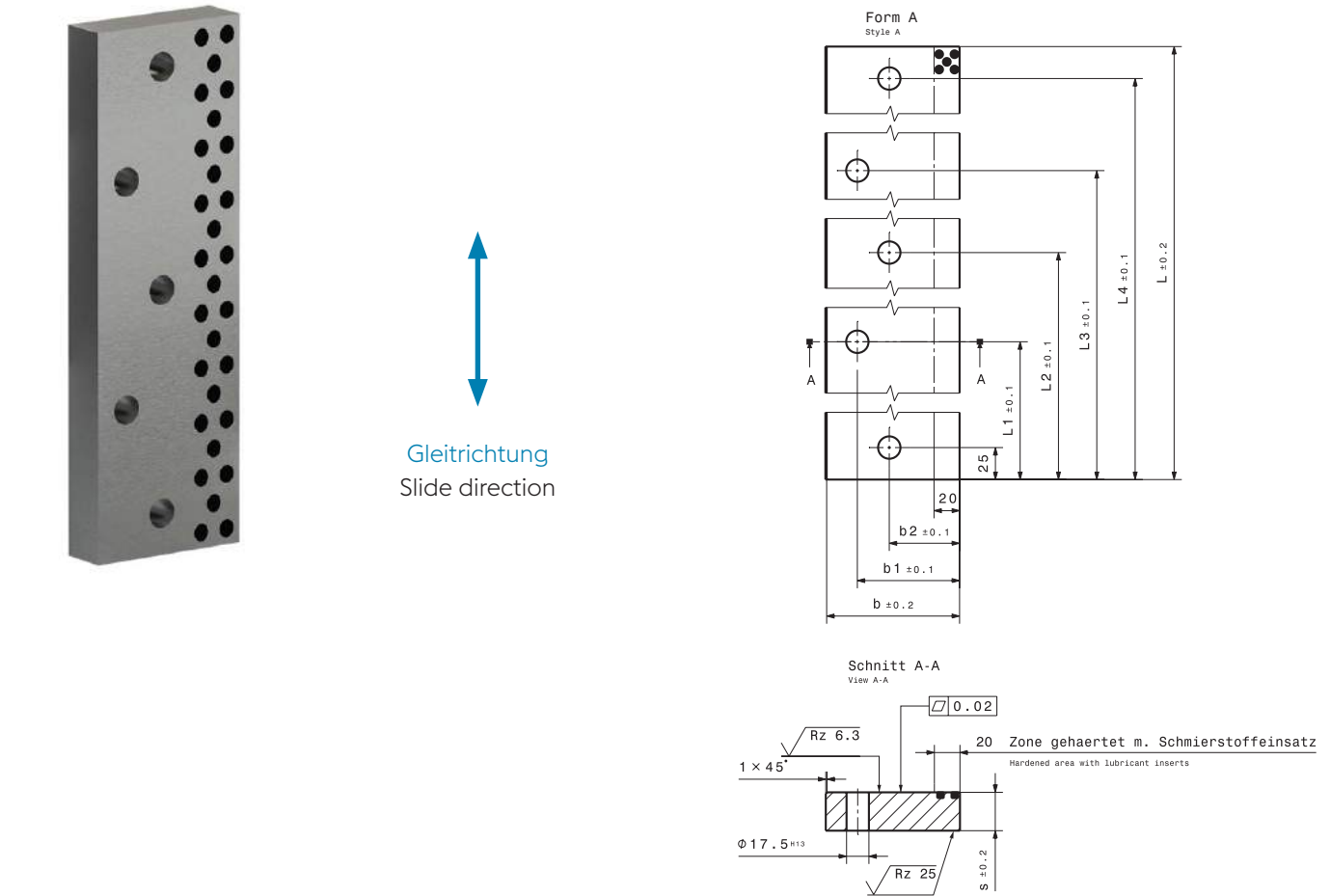
Table with 12 columns: Ident-No. WF St 1, b, L, s, b1, b2, L1, L2, L3, L4, Zylinderschraube Cylinder head screw, Form Style. Rows 16540 to 16154.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Table with 12 columns: Ident-No. WF St 1, b, L, s, b1, b2, L1, L2, L3, L4, Zylinderschraube Cylinder head screw, Form Style. Rows 16155 to 16165.

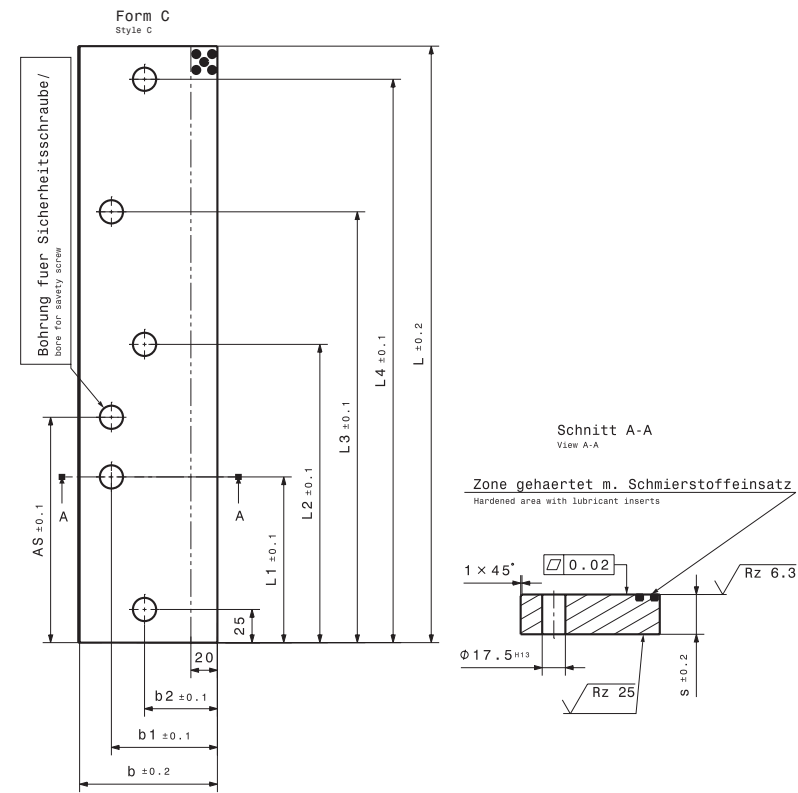
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

8.2 Deckplatten mit/ohne Befestigungsbohrungen
8.2 Cover plates with/without mounting holes



| Ident-No.<br>WF St 1 | b<br>±0,2 | L<br>±0,2 | s<br>±0,2 | b1<br>±0,1 | b2<br>±0,1 | L1<br>±0,1 | L2<br>±0,1 | L3<br>±0,1 | L4<br>±0,1 | Zylinderschraube<br>Cylinder head screw | Form<br>Style |
|----------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|-----------------------------------------|---------------|
| 16166                | 150       | 400       | 30        | 130        | 65         | 115        | 200        | 285        | 375        | 5x M16                                  | A             |
| 16167                | 150       | 450       | 30        | 130        | 65         | 125        | 225        | 325        | 425        | 5x M16                                  | A             |
| 15142                | 75        | 200       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 15129                | 75        | 250       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 15140                | 75        | 315       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 15373                | 75        | 350       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 15141                | 75        | 400       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 15354                | 75        | 450       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16131                | 100       | 200       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16132                | 100       | 250       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16133                | 100       | 315       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16134                | 100       | 350       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16135                | 100       | 400       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

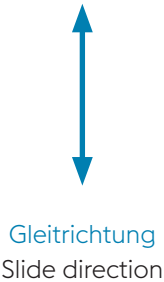


Form A / Style A: mit Befestigungsbohrungen / with mounting holes
Form B / Style B: ohne Befestigungsbohrungen / without mounting holes
Form C / Style C: mit Befestigungsbohrungen und Bohrung fuer Sicherheitsschraube / with mounting holes and bores for safety screw

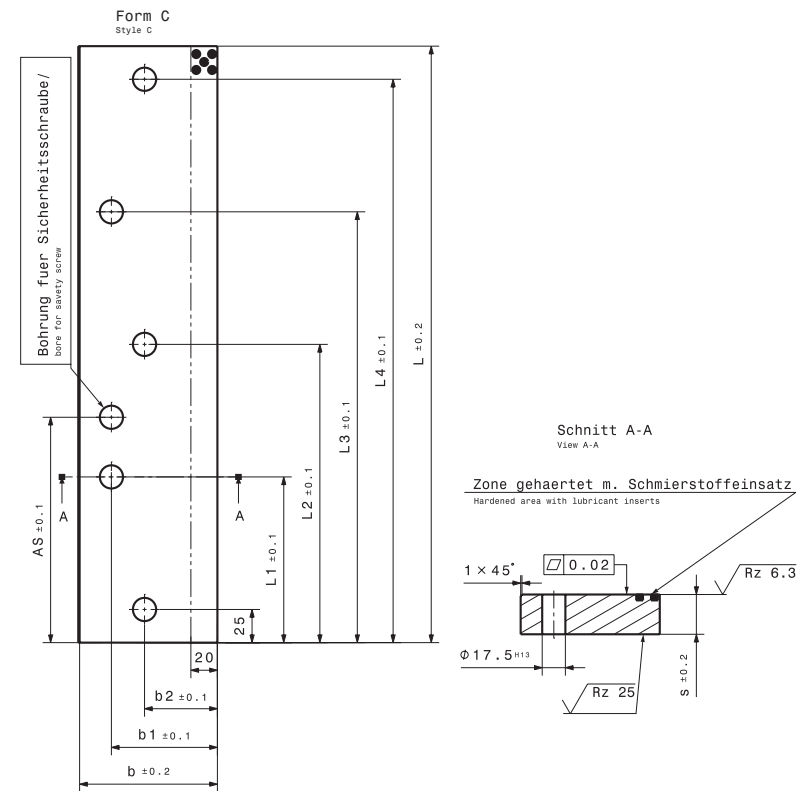
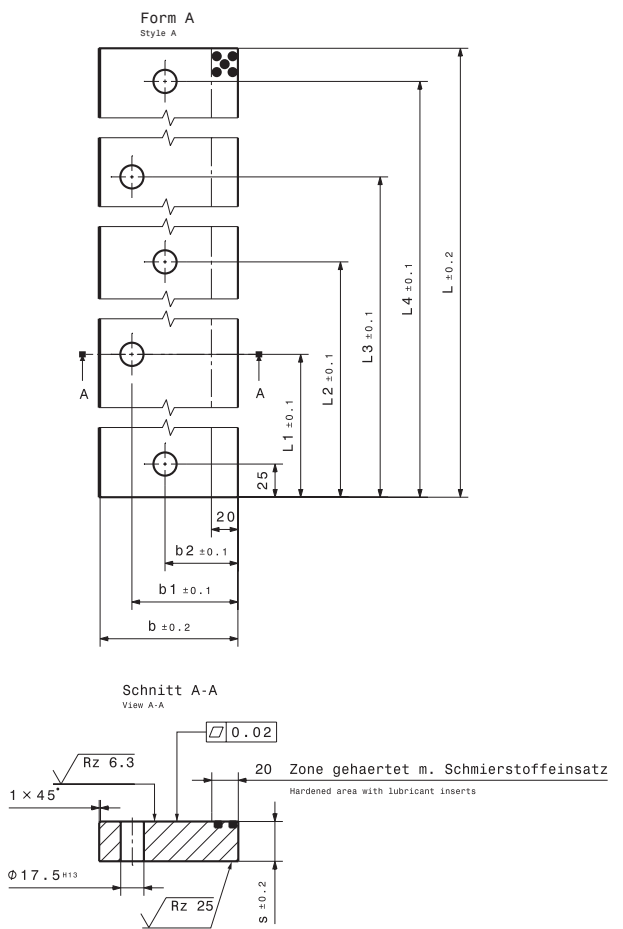
| Ident-No.<br>WF St 1 | b<br>±0,2 | L<br>±0,2 | s<br>±0,2 | b1<br>±0,1 | b2<br>±0,1 | L1<br>±0,1 | L2<br>±0,1 | L3<br>±0,1 | L4<br>±0,1 | Zylinderschraube<br>Cylinder head screw | Form<br>Style |
|----------------------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|-----------------------------------------|---------------|
| 16136                | 100       | 450       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16137                | 125       | 200       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16138                | 125       | 250       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16139                | 125       | 315       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16140                | 125       | 350       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16141                | 125       | 400       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16142                | 125       | 450       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16143                | 150       | 200       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16144                | 150       | 250       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16145                | 150       | 315       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16146                | 150       | 350       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16147                | 150       | 400       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |
| 16148                | 150       | 450       | 30        | -          | -          | -          | -          | -          | -          | -                                       | B             |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

8.2 Deckplatten mit/ohne Befestigungsbohrungen
8.2 Cover plates with/without mounting holes



Gleitrichtung
Slide direction



Form A / Style A: mit Befestigungsbohrungen / with mounting holes
Form B / Style B: ohne Befestigungsbohrungen / without mounting holes
Form C / Style C: mit Befestigungsbohrungen und Bohrung fuer Sicherheitsschraube / with mounting holes and bores for safety screw

Table with 13 columns: Ident-No. WF St 1, b, L, s, b1, b2, AS, L1, L2, L3, L4, Zylinderschraube, Form Style. Rows 63843 to 63852.

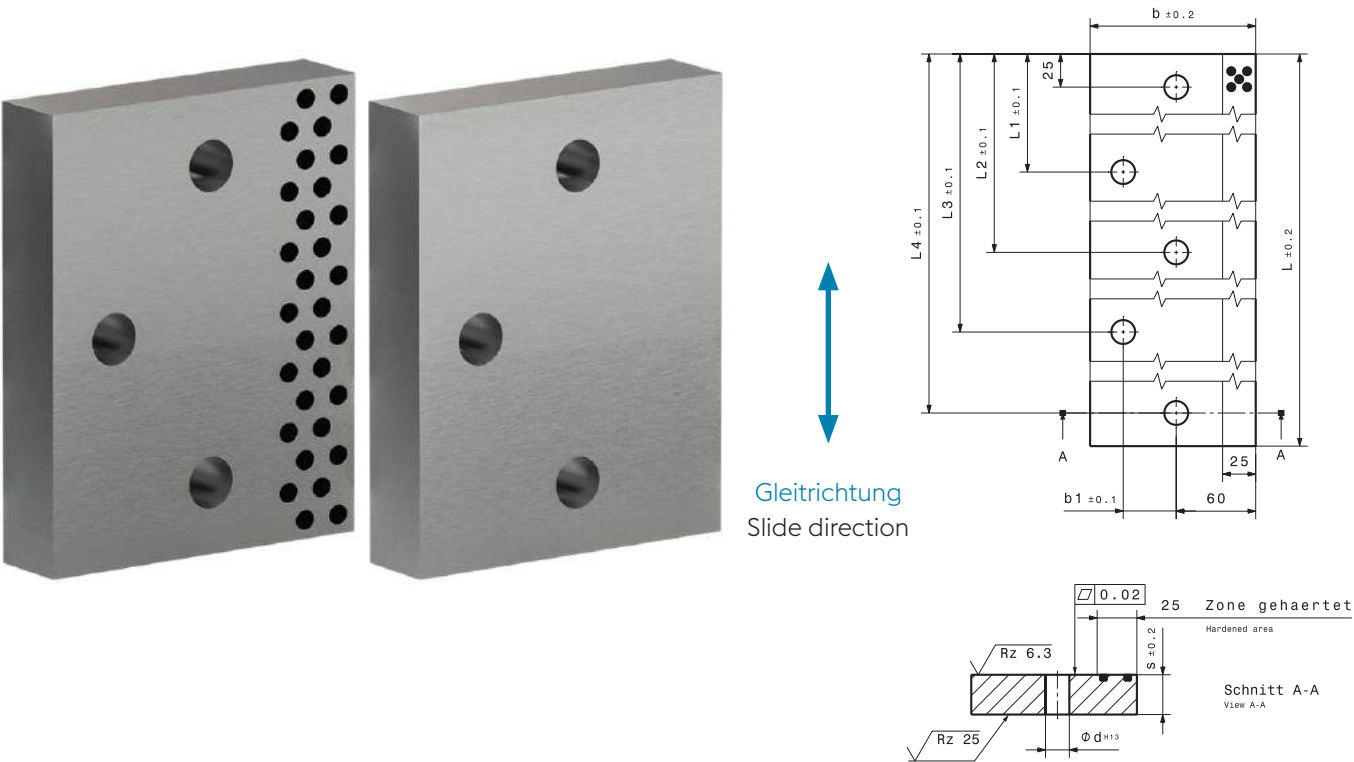
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Table with 13 columns: Ident-No. WF St 1, b, L, s, b1, b2, AS, L1, L2, L3, L4, Zylinderschraube, Form Style. Rows 63853 to 63865.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



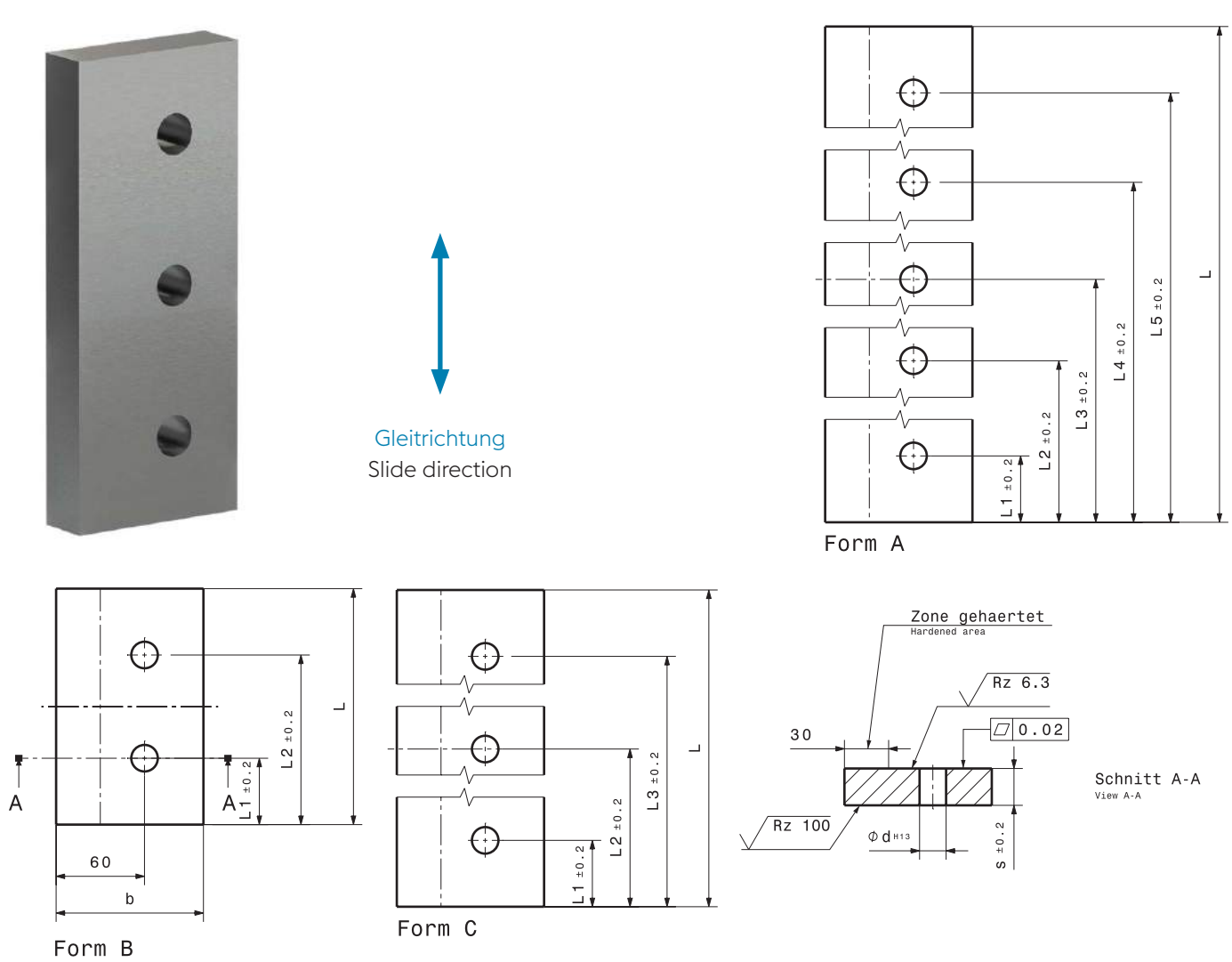
8.3 Deckplatten  
8.3 Cover plates



| Ident-No.<br>WF St 1 | Ident-No.<br>St 1 | b<br>$\pm 0,2$ | L<br>$\pm 0,2$ | s<br>$\pm 0,2$ | b1<br>$\pm 0,1$ | L1<br>$\pm 0,1$ | L2<br>$\pm 0,1$ | L3<br>$\pm 0,1$ | L4<br>$\pm 0,1$ | $\Phi d$<br>H13 | Zylinderschraube<br>Cylinder head screw |
|----------------------|-------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------------|
| 18452                | 18456             | 100            | 160            | 20             | 20              | 80              | 135             | -               | -               | 13,5            | 3x M12                                  |
| 18453                | 18457             | 100            | 200            | 20             | 20              | 100             | 175             | -               | -               | 13,5            | 3x M12                                  |
| 18454                | 18458             | 100            | 250            | 20             | 20              | 125             | 225             | -               | -               | 13,5            | 3x M12                                  |
| 18455                | 18459             | 100            | 300            | 20             | 20              | 87,5            | 150             | 212,5           | 275             | 13,5            | 5x M12                                  |
| 18384                | 18394             | 125            | 160            | 30             | 40              | 80              | 135             | -               | -               | 17,5            | 3x M16                                  |
| 18385                | 18395             | 125            | 250            | 30             | 40              | 125             | 225             | -               | -               | 17,5            | 3x M16                                  |
| 18386                | 18396             | 125            | 300            | 30             | 40              | 87,5            | 150             | 212,5           | 275             | 17,5            | 5x M16                                  |
| 18387                | 18397             | 125            | 350            | 30             | 40              | 100             | 175             | 250             | 325             | 17,5            | 5x M16                                  |
| 18388                | 18398             | 125            | 400            | 30             | 40              | 112,5           | 200             | 287,5           | 375             | 17,5            | 5x M16                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

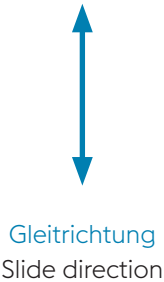
8.4 Deckplatten nach VDI 3357  
8.4 Cover plates acc. VDI 3357



| Ident-No.<br>St 1 | b   | L   | s<br>$\pm 0,2$ | L1<br>$\pm 0,2$ | L2<br>$\pm 0,2$ | L3<br>$\pm 0,2$ | L4<br>$\pm 0,2$ | L5<br>$\pm 0,2$ | $\Phi d$<br>H13 | Zylinderschraube<br>Cylinder head screw | Form<br>Style |
|-------------------|-----|-----|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------------------|---------------|
| 19292             | 100 | 160 | 25             | 45              | 115             | -               | -               | -               | 17,5            | 2x M16                                  | B             |
| 19293             | 100 | 200 | 25             | 45              | 155             | -               | -               | -               | 17,5            | 2x M16                                  | B             |
| 19294             | 100 | 250 | 25             | 45              | 125             | 205             | -               | -               | 17,5            | 3x M16                                  | C             |
| 19295             | 100 | 400 | 25             | 45              | 125             | 200             | 275             | 355             | 17,5            | 5x M16                                  | A             |
| 19296             | 100 | 160 | 30             | 45              | 115             | -               | -               | -               | 22              | 2x M20                                  | B             |
| 19297             | 100 | 200 | 30             | 45              | 155             | -               | -               | -               | 22              | 2x M20                                  | B             |
| 19298             | 100 | 250 | 30             | 45              | 125             | 205             | -               | -               | 22              | 3x M20                                  | C             |
| 19299             | 100 | 400 | 30             | 45              | 125             | 200             | 275             | 355             | 22              | 5x M20                                  | A             |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

8.5 Deckplatten
8.5 Cover plates



Gleitrichtung
Slide direction

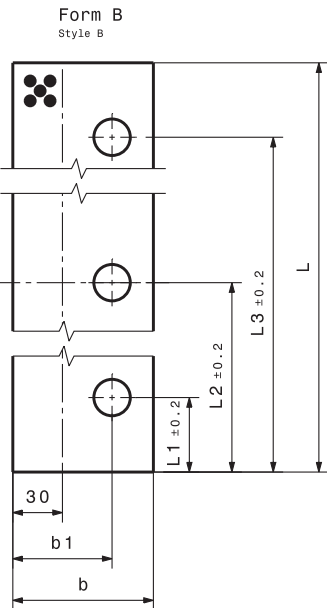
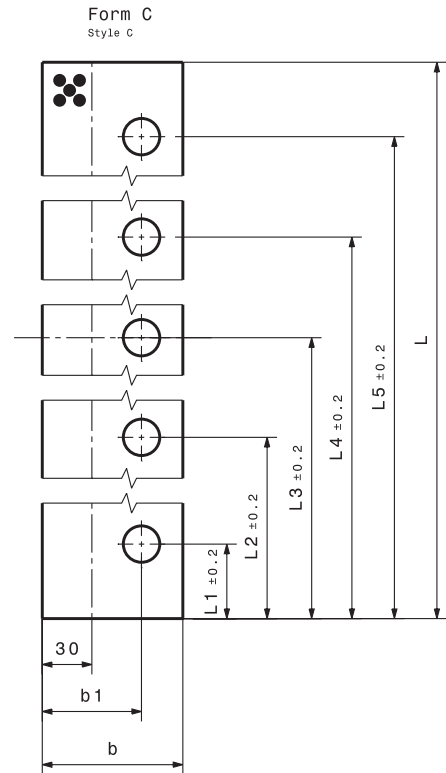
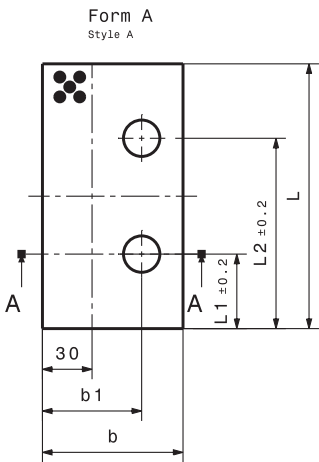
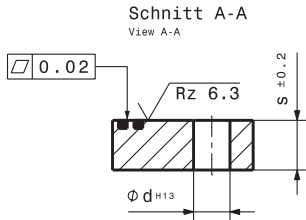


Table with 13 columns: Ident-No. WF750/1A, b, L, s ±0,2, b1, L1 ±0,2, L2 ±0,2, L3 ±0,2, L4 ±0,2, L5 ±0,2, Ød H13, Form Style, Zylinderschraube Cylinder head screw. Rows include various part numbers like 19122, 19123, 19124, 19125, 19135, 19136, 19356, 19083.

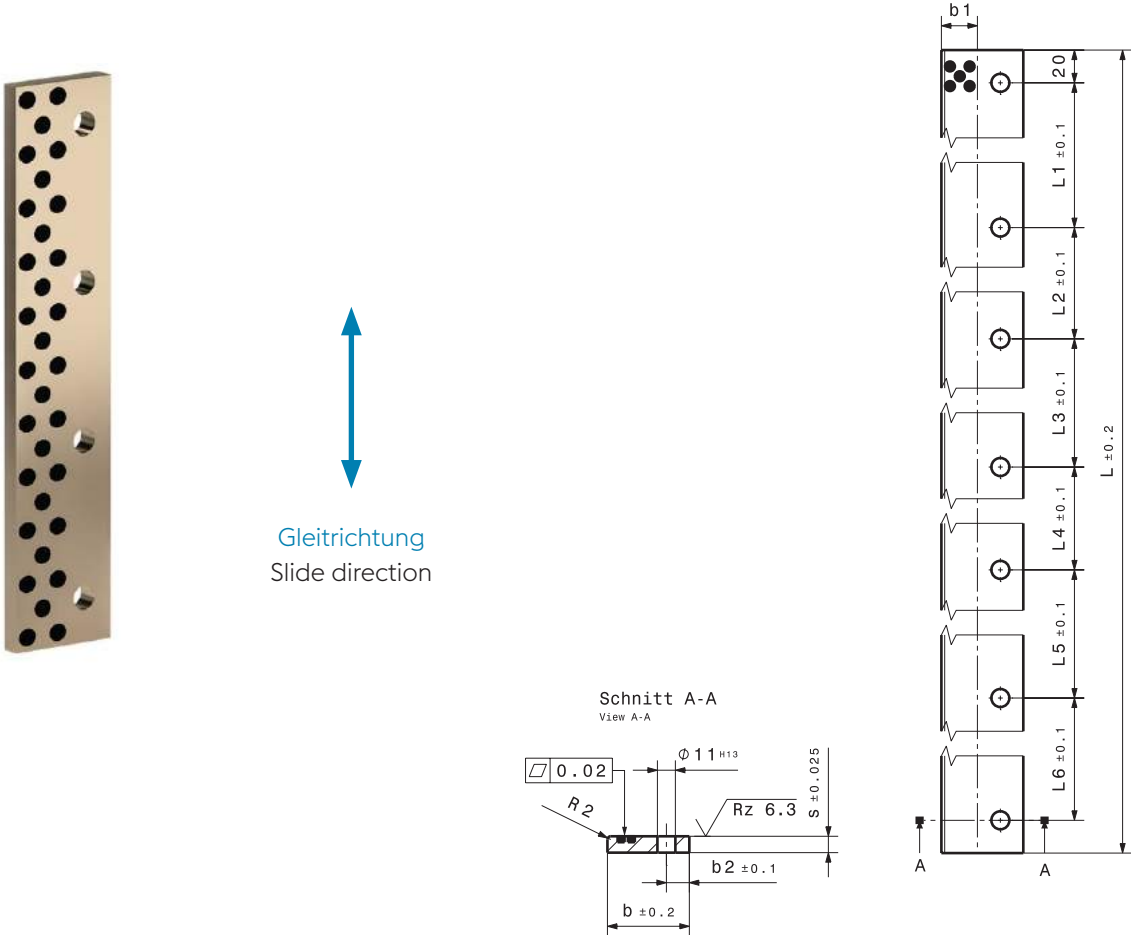
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Table with 13 columns: Ident-No. WF750/1A, b, L, s ±0,2, b1, L1 ±0,2, L2 ±0,2, L3 ±0,2, L4 ±0,2, L5 ±0,2, Ød H13, Form Style, Zylinderschraube Cylinder head screw. Rows include various part numbers like 19084, 19085, 19086, 19359, 14021, 14020, 19087, 19082, 19088, 14019, 19089, 19094, 19357.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

8.7 Deckplatten  
8.7 Cover plates

8.7

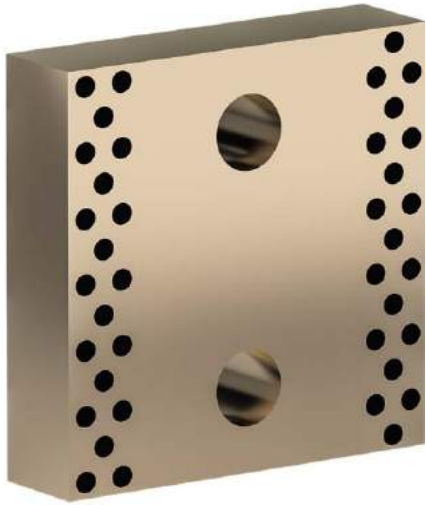


| Ident-No.<br>WF750/1A | b<br>±0,2 | L<br>±0,2 | s<br>±0,025 | L1<br>±0,1                                     | L2<br>±0,1 | L3<br>±0,1 | L4<br>±0,1 | L5<br>±0,1 | L6<br>±0,1 | b1 | b2<br>±0,1 | Schrauben<br>Screws     |
|-----------------------|-----------|-----------|-------------|------------------------------------------------|------------|------------|------------|------------|------------|----|------------|-------------------------|
| 18970                 | 32        | 100       | 10          | 60                                             | -          | -          | -          | -          | -          | 10 | 11         | 2x M10                  |
| 18971                 | 32        | 150       | 10          | 55                                             | 55         | -          | -          | -          | -          | 10 | 11         | 3x M10                  |
| 18969                 | 32        | 160       | 10          | 60                                             | 60         | -          | -          | -          | -          | 10 | 11         | 3x M10                  |
| 18972                 | 50        | 200       | 10          | 55                                             | 50         | 55         | -          | -          | -          | 30 | 14         | 4x M10                  |
| 18973                 | 50        | 250       | 10          | 70                                             | 70         | 70         | -          | -          | -          | 30 | 14         | 4x M10                  |
| 18974                 | 50        | 300       | 10          | 65                                             | 65         | 65         | 65         | -          | -          | 30 | 14         | 5x M10                  |
| 14084                 | 50        | 350       | 10          | 80                                             | 75         | 75         | 80         | -          | -          | 30 | 14         | 5x M10                  |
| 14908                 | 50        | 400       | 10          | 90                                             | 90         | 90         | 90         | -          | -          | 30 | 14         | 5x M10                  |
| 15326                 | 50        | 500       | 10          | 95                                             | 90         | 90         | 90         | 95         | -          | 30 | 14         | 6x M10                  |
| 14086                 | 50        | 600       | 10          | 115                                            | 110        | 110        | 115        | 115        | -          | 30 | 14         | 6x M10                  |
| 15719                 | 50        | 800       | 10          | 130                                            | 125        | 125        | 125        | 125        | 130        | 30 | 14         | 7x M10                  |
| 17179                 | 50        | 605       | 10          | Dickentoleranz ±0,1 / Thickness tolerance ±0,1 |            |            |            |            |            | 30 | -          | ungebohrt/without holes |
| 17809                 | 50        | 1005      | 10          |                                                |            |            |            |            |            | 30 | -          | ungebohrt/without holes |

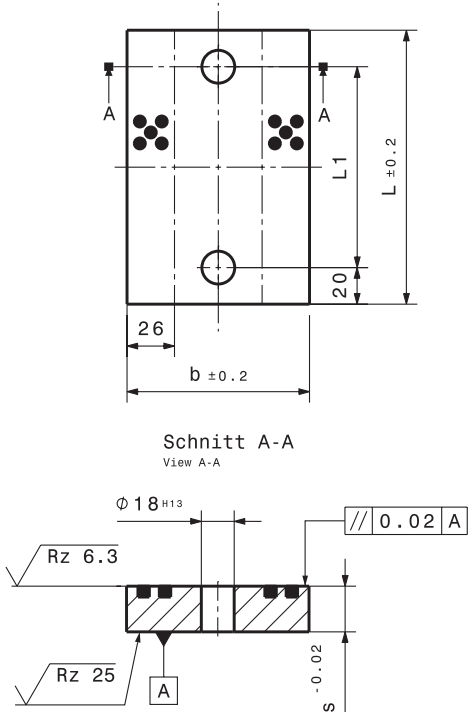
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

8.8 Deckplatten  
8.8 Cover plates

8.8



Gleitrichtung  
Slide direction

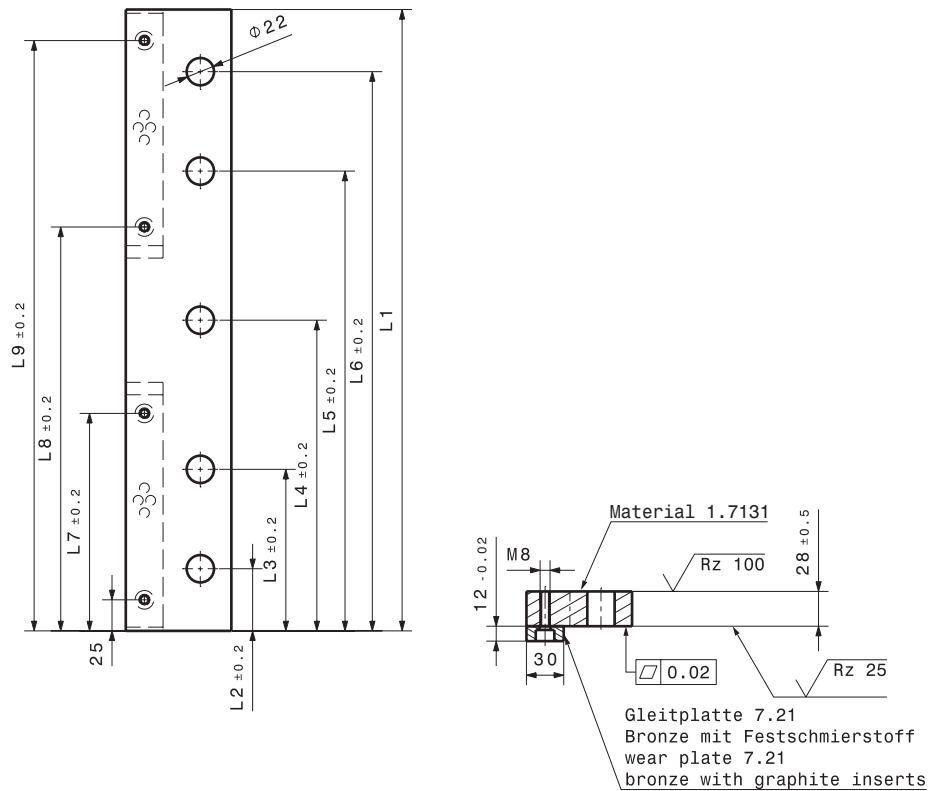
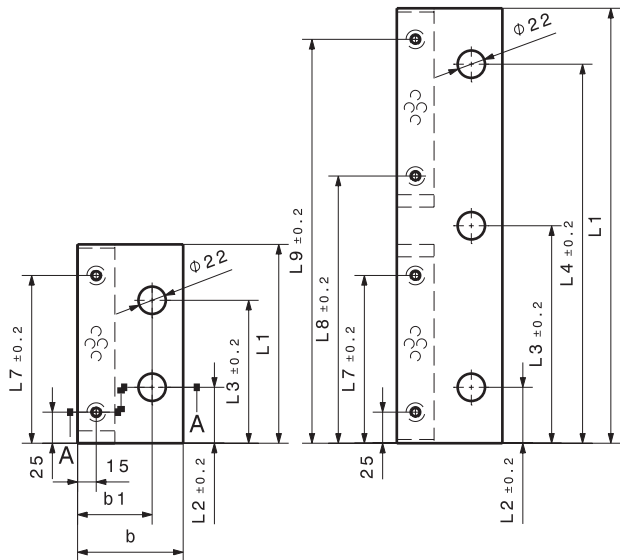
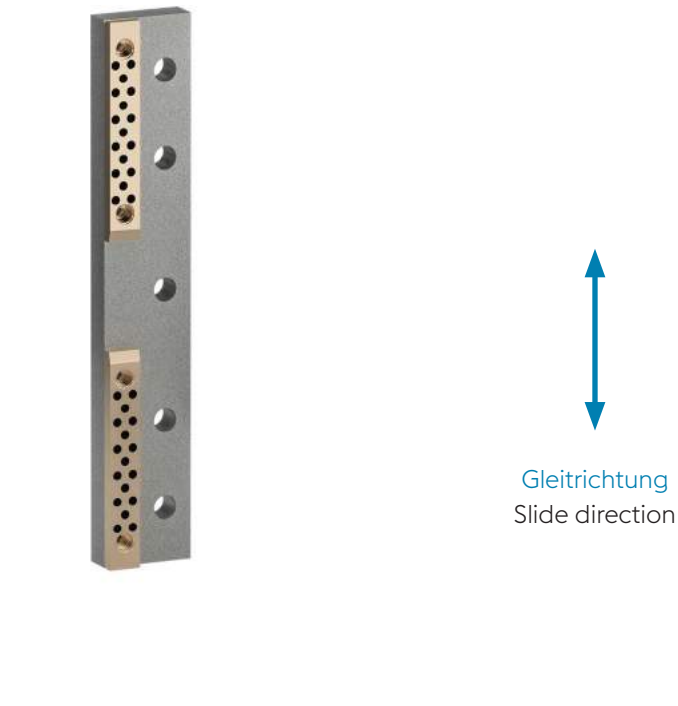


| Ident-No.<br>WF750/1A | b<br>±0,2 | L<br>±0,2 | s<br>-0,02 | L1  |
|-----------------------|-----------|-----------|------------|-----|
| 18380                 | 100       | 100       | 25         | 60  |
| 18381                 | 100       | 150       | 25         | 110 |
| 61500                 | 120       | 150       | 25         | 110 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

8.9 Deckleisten mit aufgeschraubten WF750/1A Gleitplatten

8.9 Cover strips with screwed WF750/1A wear plates

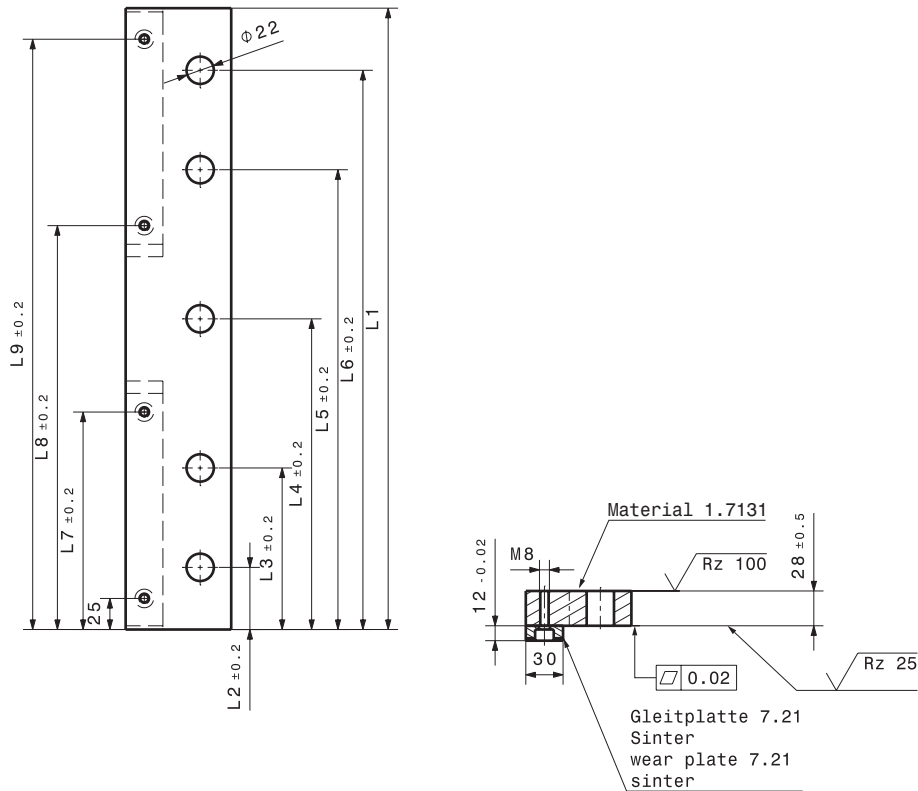
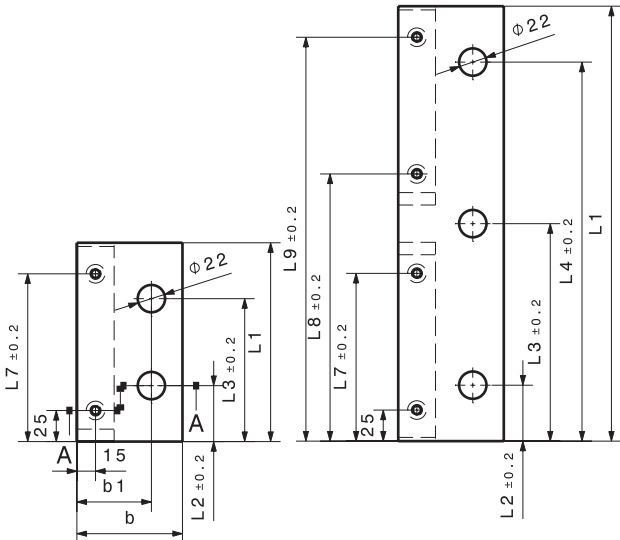
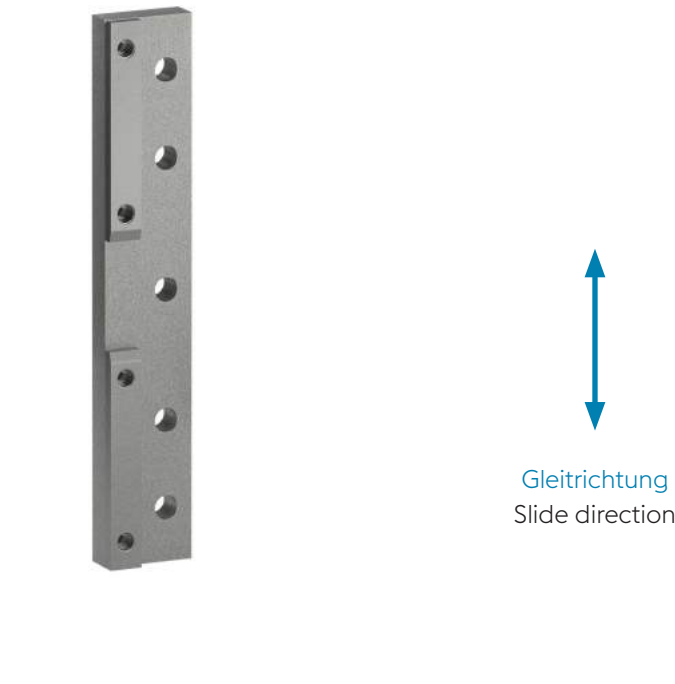


| Ident-No.<br>Baugruppe<br>Assembly | L1  | b   | b1 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | L6<br>±0,2 | L7<br>±0,2 |  | L8<br>±0,2 | L9<br>±0,2 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Ident-No.<br>Leiste 1.7131 / Bar 1.7131 | Ident-No.<br>Gleitplatte / Wearplate WF750<br>Chapter 7.21 |       |
|------------------------------------|-----|-----|----|------------|------------|------------|------------|------------|------------|--|------------|------------|------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------|-------|
| 62470                              | 160 | 85  | 60 | 45         | 115        | -          | -          | -          | 135        |  | -          | -          | 2x M20x60                                                  | 62500                                   | 18213                                                      | -     |
| 62476                              | 200 | 85  | 60 | 45         | 155        | -          | -          | -          | 175        |  | -          | -          | 2x M20x60                                                  | 62506                                   | 18214                                                      | -     |
| 62478                              | 250 | 85  | 60 | 45         | 125        | 205        | -          | -          | 100        |  | 150        | 225        | 3x M20x60                                                  | 62508                                   | 18212                                                      | 18212 |
| 62480                              | 300 | 85  | 60 | 45         | 150        | 255        | -          | -          | 75         |  | 125        | 275        | 3x M20x60                                                  | 62510                                   | 18211                                                      | 18214 |
| 62482                              | 350 | 85  | 60 | 45         | 175        | 305        | -          | -          | 135        |  | 215        | 325        | 3x M20x60                                                  | 62512                                   | 18213                                                      | 18213 |
| 62472                              | 400 | 85  | 60 | 45         | 125        | 200        | 275        | 355        | 175        |  | 225        | 375        | 5x M20x60                                                  | 62502                                   | 18214                                                      | 18214 |
| 62553                              | 450 | 85  | 60 | 50         | 130        | 225        | 320        | 400        | 175        |  | 275        | 425        | 5x M20x60                                                  | 62550                                   | 18214                                                      | 18214 |
| 62554                              | 500 | 85  | 60 | 50         | 130        | 250        | 370        | 450        | 175        |  | 325        | 475        | 5x M20x60                                                  | 62551                                   | 18214                                                      | 18214 |
| 62552                              | 160 | 125 | 75 | 45         | 115        | -          | -          | -          | 135        |  | -          | -          | 2x M20x60                                                  | 62549                                   | 18213                                                      | -     |
| 62477                              | 200 | 125 | 75 | 45         | 155        | -          | -          | -          | 175        |  | -          | -          | 2x M20x60                                                  | 62507                                   | 18214                                                      | -     |
| 62479                              | 250 | 125 | 75 | 45         | 125        | 205        | -          | -          | 100        |  | 150        | 225        | 3x M20x60                                                  | 62509                                   | 18212                                                      | 18212 |
| 62481                              | 300 | 125 | 75 | 45         | 150        | 255        | -          | -          | 75         |  | 125        | 275        | 3x M20x60                                                  | 62511                                   | 18211                                                      | 18214 |
| 62471                              | 350 | 125 | 75 | 45         | 175        | 305        | -          | -          | 135        |  | 215        | 325        | 3x M20x60                                                  | 62501                                   | 18213                                                      | 18213 |
| 62473                              | 400 | 125 | 75 | 45         | 125        | 200        | 275        | 355        | 175        |  | 225        | 375        | 5x M20x60                                                  | 62503                                   | 18214                                                      | 18214 |
| 62474                              | 450 | 125 | 75 | 50         | 130        | 225        | 320        | 400        | 175        |  | 275        | 425        | 5x M20x60                                                  | 62504                                   | 18214                                                      | 18214 |
| 62475                              | 500 | 125 | 75 | 50         | 130        | 250        | 370        | 450        | 175        |  | 325        | 475        | 5x M20x60                                                  | 62505                                   | 18214                                                      | 18214 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

8.9 Deckleisten mit aufgeschraubten Sinter Gleitplatten
8.9 Cover strips with screwed sinter wear plates



| Ident-No.<br>Baugruppe<br>Assembly | L1  | b   | b1 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | L6<br>±0,2 | L7<br>±0,2 |  | L8<br>±0,2 | L9<br>±0,2 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Ident-No.<br>Leiste 1.7131 / Bar 1.7131 | Ident-No.<br>Gleitplatte / Wearplate Sinter<br>Chapter 7.21 |       |
|------------------------------------|-----|-----|----|------------|------------|------------|------------|------------|------------|--|------------|------------|------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------|-------|
| 63920                              | 160 | 85  | 60 | 45         | 115        | -          | -          | -          | 135        |  | -          | -          | 2x M20x60                                                  | 62500                                   | 63781                                                       | -     |
| 63921                              | 200 | 85  | 60 | 45         | 155        | -          | -          | -          | 175        |  | -          | -          | 2x M20x60                                                  | 62506                                   | 63782                                                       | -     |
| 63922                              | 250 | 85  | 60 | 45         | 125        | 205        | -          | -          | 100        |  | 150        | 225        | 3x M20x60                                                  | 62508                                   | 63780                                                       | 63780 |
| 63923                              | 300 | 85  | 60 | 45         | 150        | 255        | -          | -          | 75         |  | 125        | 275        | 3x M20x60                                                  | 62510                                   | 63779                                                       | 63782 |
| 63924                              | 350 | 85  | 60 | 45         | 175        | 305        | -          | -          | 135        |  | 215        | 325        | 3x M20x60                                                  | 62512                                   | 63781                                                       | 63781 |
| 63925                              | 400 | 85  | 60 | 45         | 125        | 200        | 275        | 355        | 175        |  | 225        | 375        | 5x M20x60                                                  | 62502                                   | 63782                                                       | 63782 |
| 63926                              | 450 | 85  | 60 | 50         | 130        | 225        | 320        | 400        | 175        |  | 275        | 425        | 5x M20x60                                                  | 62550                                   | 63782                                                       | 63782 |
| 63927                              | 500 | 85  | 60 | 50         | 130        | 250        | 370        | 450        | 175        |  | 325        | 475        | 5x M20x60                                                  | 62551                                   | 63782                                                       | 63782 |
| 63928                              | 160 | 125 | 75 | 45         | 115        | -          | -          | -          | 135        |  | -          | -          | 2x M20x60                                                  | 62549                                   | 63781                                                       | -     |
| 63929                              | 200 | 125 | 75 | 45         | 155        | -          | -          | -          | 175        |  | -          | -          | 2x M20x60                                                  | 62507                                   | 63782                                                       | -     |
| 63930                              | 250 | 125 | 75 | 45         | 125        | 205        | -          | -          | 100        |  | 150        | 225        | 3x M20x60                                                  | 62509                                   | 63780                                                       | 63780 |
| 63931                              | 300 | 125 | 75 | 45         | 150        | 255        | -          | -          | 75         |  | 125        | 275        | 3x M20x60                                                  | 62511                                   | 63779                                                       | 63782 |
| 63932                              | 350 | 125 | 75 | 45         | 175        | 305        | -          | -          | 135        |  | 215        | 325        | 3x M20x60                                                  | 62501                                   | 63781                                                       | 63781 |
| 63933                              | 400 | 125 | 75 | 45         | 125        | 200        | 275        | 355        | 175        |  | 225        | 375        | 5x M20x60                                                  | 62503                                   | 63782                                                       | 63782 |
| 63934                              | 450 | 125 | 75 | 50         | 130        | 225        | 320        | 400        | 175        |  | 275        | 425        | 5x M20x60                                                  | 62504                                   | 63782                                                       | 63782 |
| 63935                              | 500 | 125 | 75 | 50         | 130        | 250        | 370        | 450        | 175        |  | 325        | 475        | 5x M20x60                                                  | 62505                                   | 63782                                                       | 63782 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

9. Flachleisten  
9. Plain wearstripes

- 9.1



Flachleisten  
Plain wearstripes  
**Dicke / thickness** = 4 mm, 5 mm, 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm
- 9.2



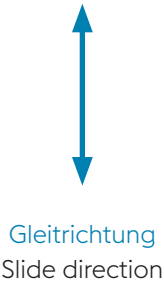
Flachleisten  
Plain wearstripes  
**Dicke / thickness** = 5 mm, 6 mm
- 9.3



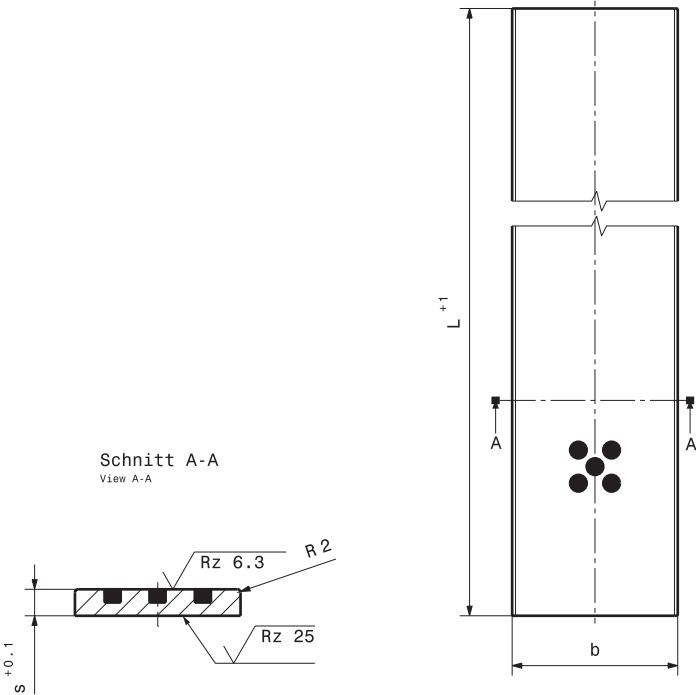
Flachleisten  
Plain wearstripes  
**Dicke / thickness** = 8 mm, 10 mm, 12 mm



9.1 Flachleisten
9.1 Plain wearstripes



Gleitrichtung
Slide direction



Es ist jeder Zuschnitt bis 1.005 mm Länge lieferbar.
Any length up to 1,005 mm is available.

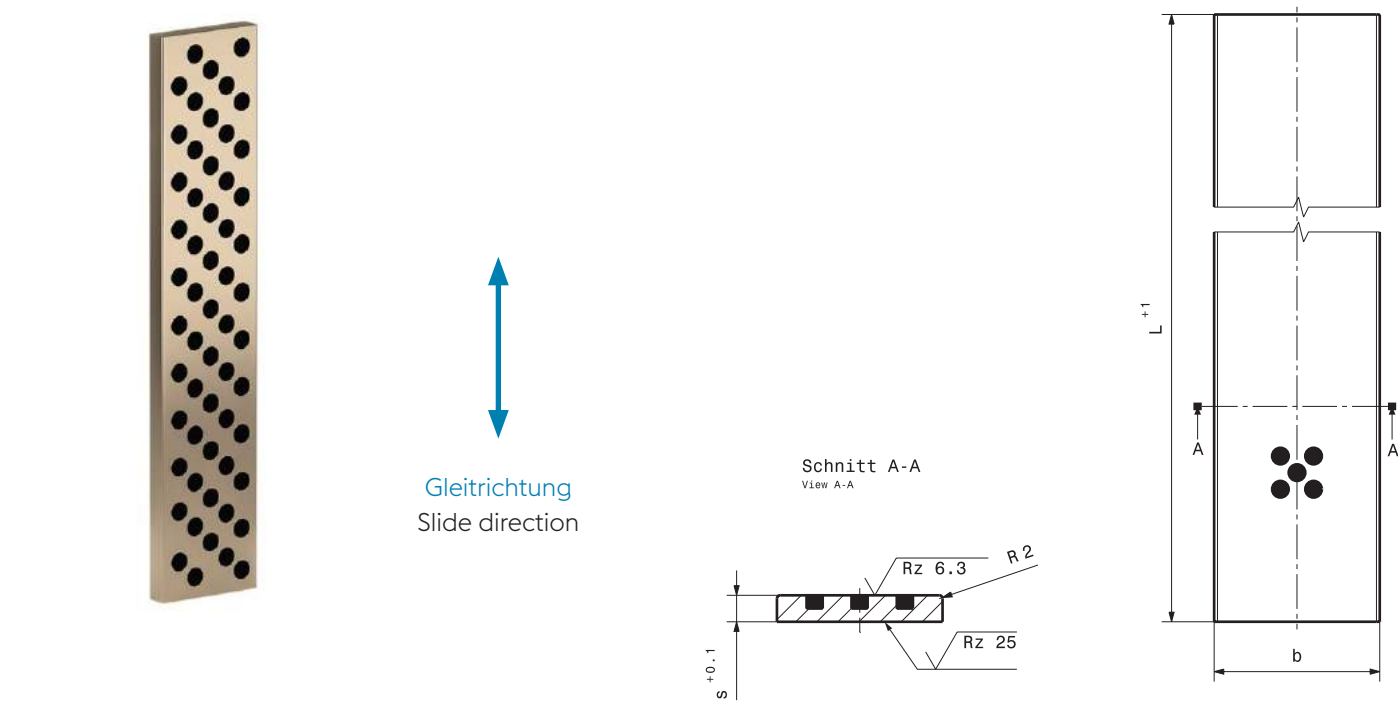
| Ident-No.<br>WF750/1A | b  | s<br>+0,1 | L<br>+1 |
|-----------------------|----|-----------|---------|
| 19700                 | 20 | 4         | 305     |
| 17634                 | 20 | 10        | 605     |
| 17636                 | 20 | 10        | 1005    |
| 17635                 | 20 | 12        | 1005    |
| 19701                 | 25 | 5         | 305     |
| 17266                 | 25 | 5         | 500     |
| 17620                 | 25 | 5         | 605     |
| 17814                 | 25 | 5         | 1005    |
| 17267                 | 30 | 6         | 500     |
| 17621                 | 30 | 6         | 605     |
| 17810                 | 30 | 6         | 1005    |
| 17600                 | 30 | 8         | 500     |
| 17622                 | 30 | 8         | 605     |
| 17811                 | 30 | 8         | 1005    |
| 17637                 | 30 | 10        | 1005    |
| 17613                 | 30 | 12        | 605     |
| 17604                 | 35 | 10        | 500     |
| 17623                 | 35 | 10        | 605     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | b  | s<br>+0,1 | L<br>+1 |
|-----------------------|----|-----------|---------|
| 15379                 | 35 | 10        | 1005    |
| 17268                 | 40 | 8         | 500     |
| 17624                 | 40 | 8         | 605     |
| 17800                 | 40 | 8         | 1005    |
| 17601                 | 40 | 10        | 500     |
| 17625                 | 40 | 10        | 605     |
| 17801                 | 40 | 10        | 1005    |
| 17269                 | 40 | 12        | 500     |
| 17626                 | 40 | 12        | 605     |
| 17802                 | 40 | 12        | 1005    |
| 17270                 | 40 | 16        | 500     |
| 17813                 | 40 | 16        | 605     |
| 17610                 | 40 | 16        | 1005    |
| 17612                 | 50 | 8         | 1005    |
| 17602                 | 50 | 10        | 500     |
| 17627                 | 50 | 10        | 605     |
| 17803                 | 50 | 10        | 1005    |
| 17603                 | 50 | 12        | 500     |
| 17628                 | 50 | 12        | 605     |
| 17804                 | 50 | 12        | 1005    |
| 17815                 | 50 | 20        | 605     |
| 17823                 | 50 | 20        | 1005    |
| 13226                 | 60 | 8         | 605     |
| 17608                 | 60 | 8         | 1005    |
| 15839                 | 60 | 10        | 605     |
| 17822                 | 60 | 10        | 1005    |
| 17629                 | 60 | 12        | 605     |
| 17805                 | 60 | 12        | 1005    |
| 17605                 | 60 | 16        | 500     |
| 17630                 | 60 | 16        | 605     |
| 17806                 | 60 | 16        | 1005    |
| 17633                 | 60 | 20        | 500     |
| 17812                 | 60 | 20        | 1005    |
| 13232                 | 75 | 12        | 605     |
| 13238                 | 75 | 12        | 1005    |
| 13977                 | 80 | 12        | 500     |
| 14678                 | 80 | 12        | 605     |
| 17820                 | 80 | 12        | 1005    |
| 17606                 | 80 | 16        | 500     |
| 17631                 | 80 | 16        | 605     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

9.1 Flachleisten  
9.1 Plain wearstripes

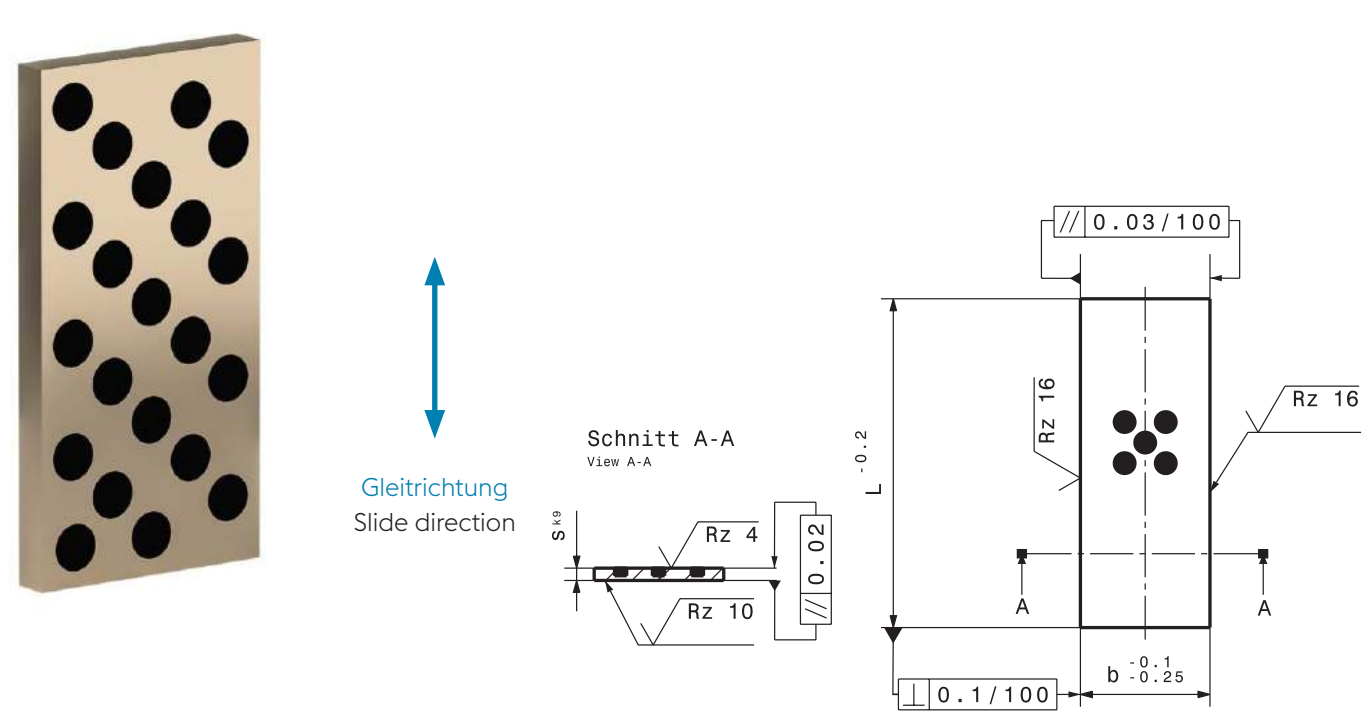


Es ist jeder Zuschnitt bis 1.005 mm Länge lieferbar.  
Any length up to 1,005 mm is available.

| Ident-No.<br>WF750/1A | b   | s<br>+0,1 | L<br>+1 |
|-----------------------|-----|-----------|---------|
| 17807                 | 80  | 16        | 1005    |
| 17607                 | 80  | 20        | 500     |
| 17632                 | 80  | 20        | 605     |
| 17808                 | 80  | 20        | 1005    |
| 14197                 | 100 | 10        | 500     |
| 17611                 | 100 | 10        | 1005    |
| 17609                 | 100 | 12        | 1005    |
| 17816                 | 100 | 16        | 605     |
| 14737                 | 100 | 20        | 500     |
| 17821                 | 100 | 20        | 1005    |
| 17817                 | 125 | 20        | 605     |
| 17824                 | 125 | 20        | 1005    |
| 17825                 | 160 | 20        | 1005    |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

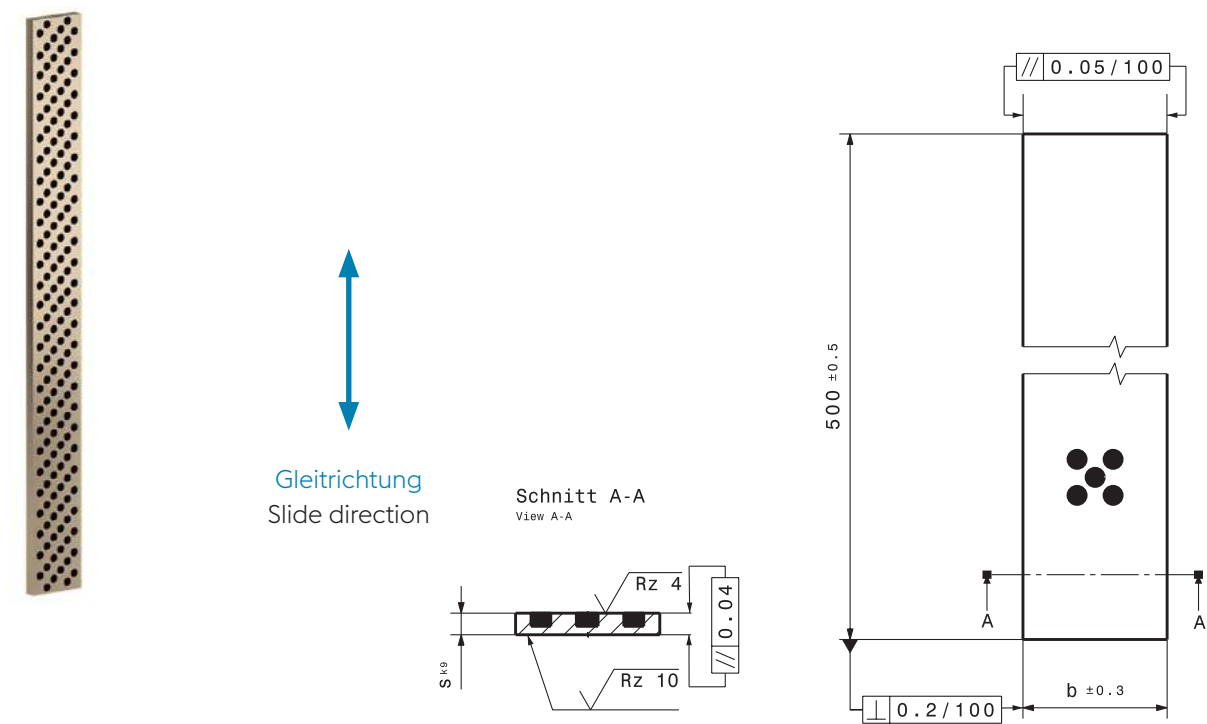
9.2 Flachleisten  
9.2 Plain wearstripes



| Ident-No.<br>WF750/1A | b<br>-0,1<br>-0,25 | s<br>k9 | L<br>-0,2 |
|-----------------------|--------------------|---------|-----------|
| 16710                 | 25                 | 5       | 50        |
| 16711                 | 25                 | 5       | 71        |
| 16712                 | 25                 | 5       | 90        |
| 16713                 | 40                 | 5       | 50        |
| 16714                 | 40                 | 5       | 71        |
| 16715                 | 40                 | 5       | 90        |
| 16716                 | 40                 | 6       | 80        |
| 16717                 | 40                 | 6       | 100       |
| 16718                 | 40                 | 6       | 125       |
| 16719                 | 40                 | 6       | 160       |
| 16720                 | 40                 | 6       | 200       |
| 16721                 | 63                 | 6       | 80        |
| 16722                 | 63                 | 6       | 100       |
| 16723                 | 63                 | 6       | 125       |
| 16724                 | 63                 | 6       | 160       |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

9.3 Flachleisten  
9.3 Plain wearstripes



| Ident-No.<br>WF750/1A | b<br>±0,3 | s<br>±0,05 |
|-----------------------|-----------|------------|
| 16705                 | 32        | 8          |
| 16706                 | 50        | 10         |
| 16707                 | 80        | 12         |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 10. Mehrflächenführungen

### 10. Multiple area guiding stripes

- 10.1  Führungsleisten mit 1, 2 oder 3 Gleitflächen  
Multiple area guiding stripes with 1, 2 or 3 sliding areas
- 10.2  Führungsleisten mit 2 Gleitflächen  
Multiple area guiding stripes with 2 sliding areas  
**Dicke / thickness** = 25 mm
- 10.5  Führungsleisten mit 4 Gleitflächen  
Multiple area guiding stripes with 4 sliding areas
- 10.6  Führungsleisten mit 2 Gleitflächen  
Multiple area guiding stripes with 2 sliding areas
- 10.8  Führungsleisten mit 2 Gleitflächen  
Multiple area guiding stripes with 2 sliding areas

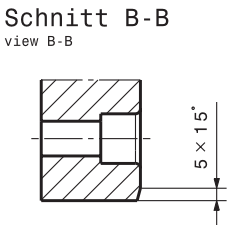
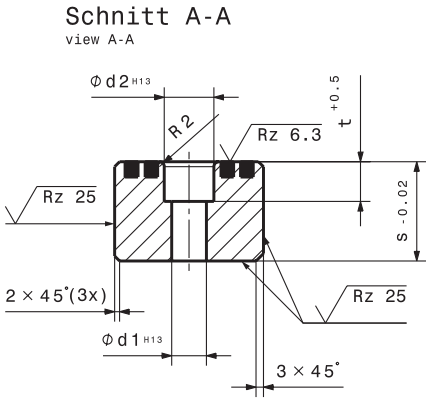
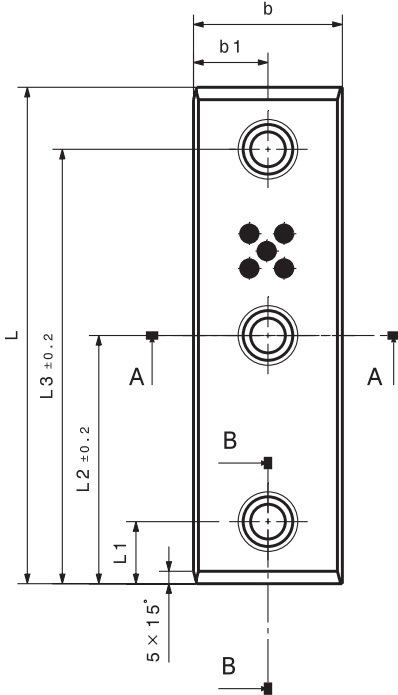
10.1

Führungsleisten mit einer Gleitfläche

10.1 Guiding stripes with 1 sliding area



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | b  | L   | s<br>-0,02 | L1 | L2<br>±0,2 | L3<br>±0,2 | b1 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----|-----|------------|----|------------|------------|----|-----------|-----------|-----------|------------------------------------------------------------|
| 19702                 | 60 | 125 | 30         | 25 | 100        | -          | 30 | 13,5      | 20        | 13        | 2x M12x35                                                  |
| 19703                 | 60 | 160 | 30         | 25 | 135        | -          | 30 | 13,5      | 20        | 13        | 2x M12x35                                                  |
| 19704                 | 60 | 200 | 30         | 25 | 100        | 175        | 30 | 13,5      | 20        | 13        | 3x M12x35                                                  |
| 19707                 | 60 | 125 | 40         | 25 | 100        | -          | 30 | 13,5      | 20        | 13        | 2x M12x45                                                  |
| 19708                 | 60 | 160 | 40         | 25 | 135        | -          | 30 | 13,5      | 20        | 13        | 2x M12x45                                                  |
| 19709                 | 60 | 200 | 40         | 25 | 100        | 175        | 30 | 13,5      | 20        | 13        | 3x M12x45                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

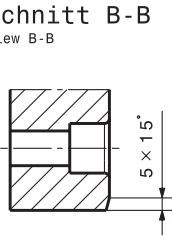
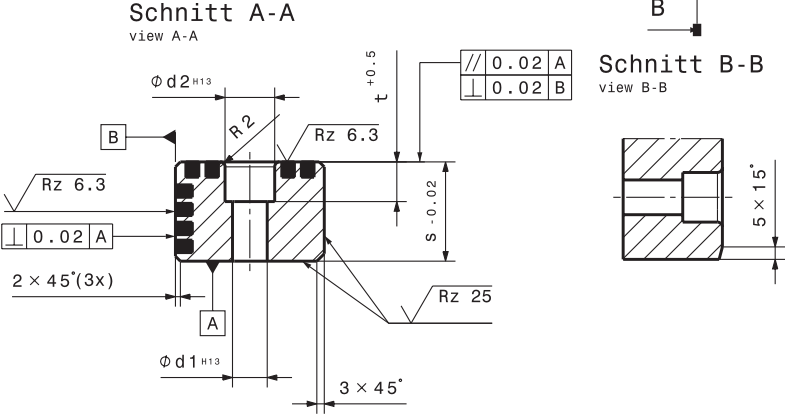
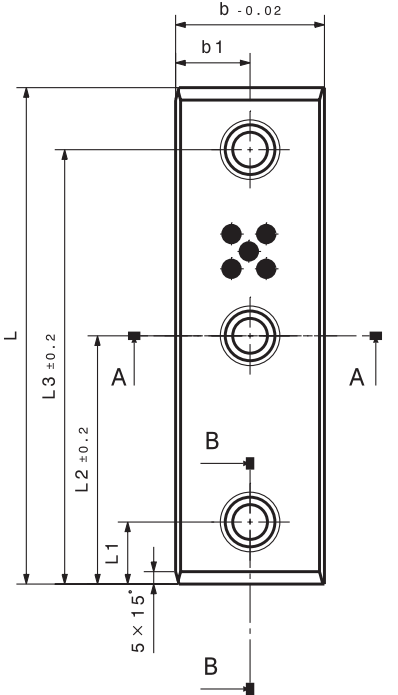
10.1

Führungsleisten mit 2 Gleitflächen nach VDI 3357

10.1 Multiple area guiding stripes with 2 sliding areas acc. VDI 3357



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | b<br>-0,02 | L   | s<br>-0,02 | L1 | L2<br>±0,2 | L3<br>±0,2 | b1 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|-----|------------|----|------------|------------|----|-----------|-----------|-----------|------------------------------------------------------------|
| 19658                 | 60         | 125 | 30         | 25 | 100        | -          | 30 | 13,5      | 20        | 13        | 2x M12x35                                                  |
| 19659                 | 60         | 150 | 30         | 25 | 125        | -          | 30 | 13,5      | 20        | 13        | 2x M12x35                                                  |
| 19713                 | 60         | 160 | 30         | 25 | 135        | -          | 30 | 13,5      | 20        | 13        | 2x M12x35                                                  |
| 19660                 | 60         | 200 | 30         | 25 | 100        | 175        | 30 | 13,5      | 20        | 13        | 3x M12x35                                                  |
| 19661                 | 60         | 125 | 40         | 25 | 100        | -          | 30 | 13,5      | 20        | 13        | 2x M12x45                                                  |
| 19662                 | 60         | 150 | 40         | 25 | 125        | -          | 30 | 13,5      | 20        | 13        | 2x M12x45                                                  |
| 19714                 | 60         | 160 | 40         | 25 | 135        | -          | 30 | 13,5      | 20        | 13        | 2x M12x45                                                  |
| 19663                 | 60         | 200 | 40         | 25 | 100        | 175        | 30 | 13,5      | 20        | 13        | 3x M12x45                                                  |

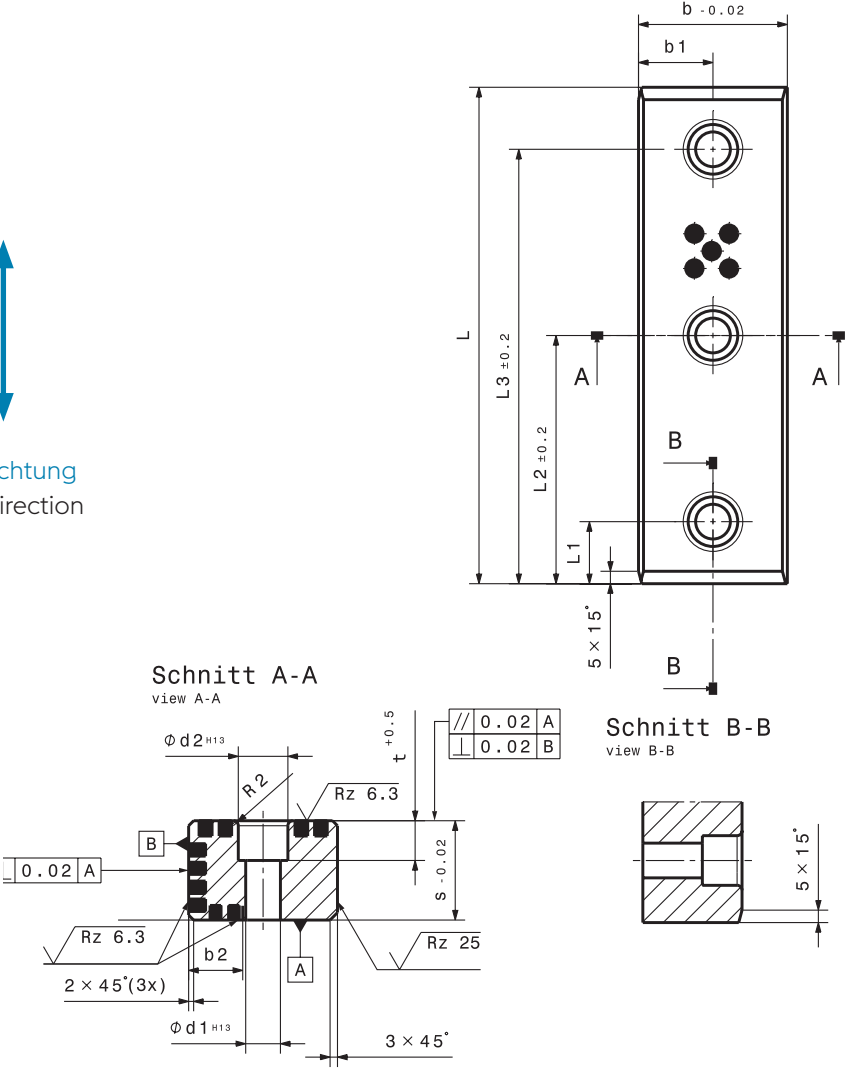
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

10.1 Führungsleisten mit 3 Gleitflächen

10.1 Multiple area guiding stripes with 3 sliding areas



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | b<br>-0,02 | L   | s  | L1 | L2<br>±0,2 | L3<br>±0,2 | b1 | b2 | d1<br>H13 | d2<br>H13 | t<br>+0,5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|-----|----|----|------------|------------|----|----|-----------|-----------|-----------|------------------------------------------------------------|
| 19664                 | 70         | 125 | 32 | 25 | 100        | -          | 40 | 25 | 13,5      | 20        | 16        | 2x M12x40                                                  |
| 19665                 | 70         | 150 | 32 | 25 | 125        | -          | 40 | 25 | 13,5      | 20        | 16        | 2x M12x40                                                  |
| 19666                 | 70         | 200 | 32 | 25 | 100        | 175        | 40 | 25 | 13,5      | 20        | 16        | 3x M12x40                                                  |
| 19667                 | 90         | 125 | 45 | 25 | 100        | -          | 55 | 30 | 17,5      | 26        | 21        | 2x M16x50                                                  |
| 19668                 | 90         | 150 | 45 | 25 | 75         | 125        | 55 | 30 | 17,5      | 26        | 21        | 3x M16x50                                                  |
| 19669                 | 90         | 200 | 45 | 25 | 100        | 175        | 55 | 30 | 17,5      | 26        | 21        | 3x M16x50                                                  |

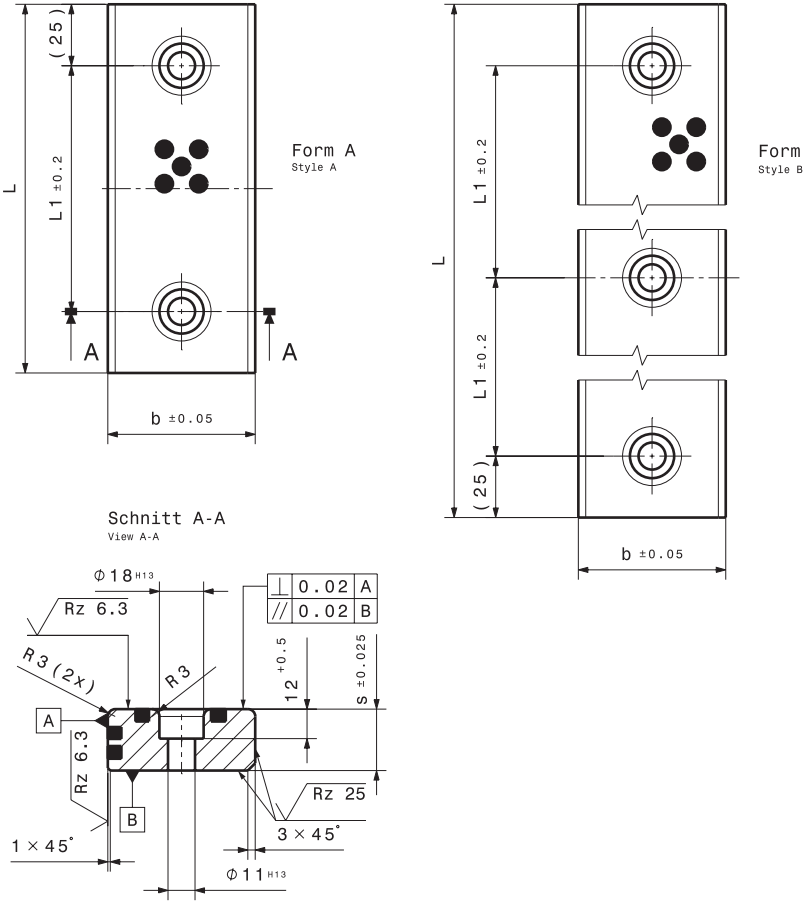
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

10.2 Führungsleisten mit 2 Gleitflächen

10.2 Multiple area guiding stripes with 2 sliding areas



Gleitrichtung  
Slide direction



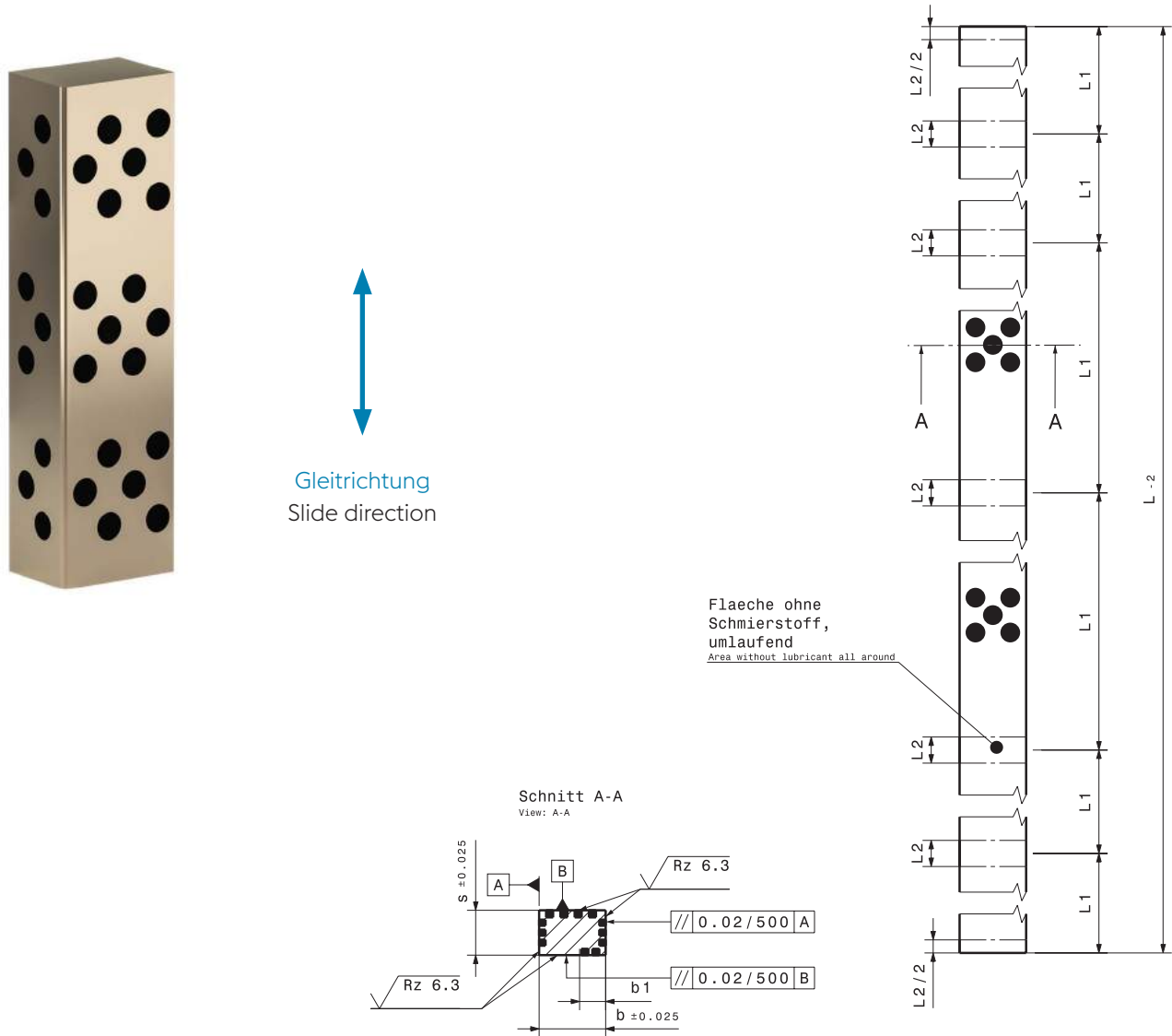
| Ident-No.<br>WF750/1A | b<br>±0,05 | L   | s<br>±0,025 | L1<br>±0,2 | Form<br>Style | Zylinderschraube<br>Cylinder head screw |
|-----------------------|------------|-----|-------------|------------|---------------|-----------------------------------------|
| 18400                 | 50         | 150 | 25          | 100        | A             | 2x M10                                  |
| 18401                 | 50         | 200 | 25          | 150        | A             | 2x M10                                  |
| 18402                 | 50         | 250 | 25          | 100        | B             | 3x M10                                  |
| 18406                 | 75         | 150 | 25          | 100        | A             | 2x M10                                  |
| 18407                 | 75         | 200 | 25          | 75         | B             | 3x M10                                  |
| 18408                 | 75         | 250 | 25          | 100        | B             | 3x M10                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



10.5 Führungsleisten mit 4 Gleitflächen
10.5 Multiple area guiding stripes with 4 sliding areas

10.5



| Ident-No.<br>WF750/1A | b<br>±0,025 | L<br>-2 | s<br>±0,025 | b1 | L1 | L2 |
|-----------------------|-------------|---------|-------------|----|----|----|
| 17243                 | 15,3        | 75      | 10,3        | 6  | 25 | 6  |
| 17244                 | 15,3        | 100     | 10,3        | 6  | 25 | 6  |
| 17245                 | 15,3        | 125     | 10,3        | 6  | 25 | 6  |
| 17246                 | 15,3        | 150     | 10,3        | 6  | 25 | 6  |
| 17247                 | 15,3        | 175     | 10,3        | 6  | 25 | 6  |
| 17248                 | 15,3        | 200     | 10,3        | 6  | 25 | 6  |
| 17249                 | 15,3        | 225     | 10,3        | 6  | 25 | 6  |
| 17250                 | 15,3        | 250     | 10,3        | 6  | 25 | 6  |
| 17251                 | 15,3        | 275     | 10,3        | 6  | 25 | 6  |

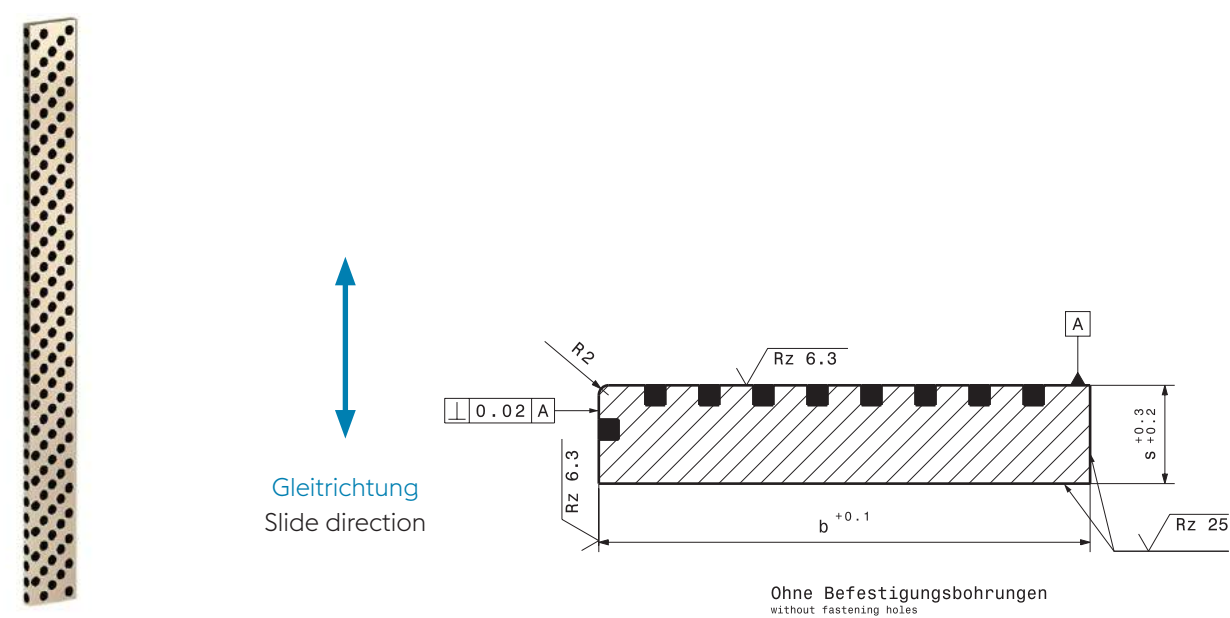
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | b<br>±0,025 | L<br>-2 | s<br>±0,025 | b1 | L1 | L2 |
|-----------------------|-------------|---------|-------------|----|----|----|
| 17310                 | 15,3        | 300     | 10,3        | 6  | 25 | 6  |
| 17370                 | 25,3        | 105     | 15,3        | 8  | 35 | 8  |
| 17371                 | 25,3        | 140     | 15,3        | 8  | 35 | 8  |
| 17372                 | 25,3        | 175     | 15,3        | 8  | 35 | 8  |
| 17373                 | 25,3        | 210     | 15,3        | 8  | 35 | 8  |
| 17374                 | 25,3        | 245     | 15,3        | 8  | 35 | 8  |
| 17375                 | 25,3        | 280     | 15,3        | 8  | 35 | 8  |
| 17376                 | 25,3        | 315     | 15,3        | 8  | 35 | 8  |
| 17377                 | 25,3        | 350     | 15,3        | 8  | 35 | 8  |
| 17378                 | 25,3        | 385     | 15,3        | 8  | 35 | 8  |
| 17379                 | 25,3        | 420     | 15,3        | 8  | 35 | 8  |
| 17380                 | 25,3        | 455     | 15,3        | 8  | 35 | 8  |
| 17381                 | 25,3        | 490     | 15,3        | 8  | 35 | 8  |
| 17382                 | 35,3        | 135     | 25,3        | 12 | 45 | 10 |
| 17383                 | 35,3        | 180     | 25,3        | 12 | 45 | 10 |
| 17384                 | 35,3        | 225     | 25,3        | 12 | 45 | 10 |
| 17385                 | 35,3        | 270     | 25,3        | 12 | 45 | 10 |
| 17386                 | 35,3        | 315     | 25,3        | 12 | 45 | 10 |
| 17387                 | 35,3        | 360     | 25,3        | 12 | 45 | 10 |
| 17388                 | 35,3        | 405     | 25,3        | 12 | 45 | 10 |
| 17389                 | 35,3        | 450     | 25,3        | 12 | 45 | 10 |
| 17390                 | 35,3        | 495     | 25,3        | 12 | 45 | 10 |
| 17391                 | 45,3        | 165     | 35,3        | 16 | 55 | 12 |
| 17392                 | 45,3        | 220     | 35,3        | 16 | 55 | 12 |
| 17393                 | 45,3        | 275     | 35,3        | 16 | 55 | 12 |
| 17394                 | 45,3        | 330     | 35,3        | 16 | 55 | 12 |
| 17395                 | 45,3        | 385     | 35,3        | 16 | 55 | 12 |
| 17396                 | 45,3        | 440     | 35,3        | 16 | 55 | 12 |
| 17397                 | 45,3        | 495     | 35,3        | 16 | 55 | 12 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

10.5

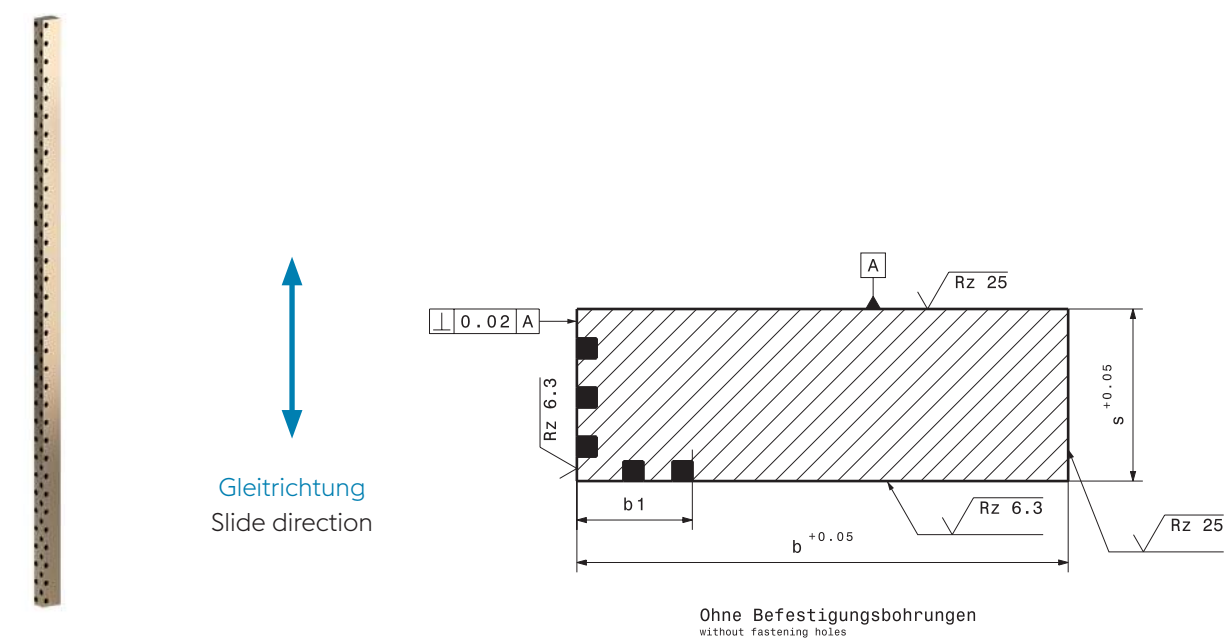
10.6 Führungsleisten mit 2 Gleitflächen
10.6 Multiple area guiding stripes with 2 sliding areas



| Ident-No.<br>WF750/1A | b<br>+0,1 | L    | s<br>+0,3<br>+0,2 |
|-----------------------|-----------|------|-------------------|
| 17650                 | 25        | 305  | 5                 |
| 17651                 | 30        | 305  | 6                 |
| 14992                 | 40        | 605  | 8                 |
| 15535                 | 35        | 605  | 10                |
| 14607                 | 50        | 605  | 10                |
| 13538                 | 40        | 605  | 12                |
| 13775                 | 80        | 605  | 12                |
| 13905                 | 60        | 605  | 16                |
| 13271                 | 80        | 605  | 20                |
| 14661                 | 100       | 605  | 20                |
| 17652                 | 40        | 1005 | 8                 |
| 17653                 | 35        | 1005 | 10                |
| 17654                 | 50        | 1005 | 10                |
| 17655                 | 40        | 1005 | 12                |
| 17656                 | 80        | 1005 | 12                |
| 17657                 | 60        | 1005 | 16                |
| 17660                 | 50        | 1005 | 20                |
| 17661                 | 60        | 1005 | 20                |
| 17658                 | 80        | 1005 | 20                |
| 17659                 | 100       | 1005 | 20                |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

10.8 Führungsleisten mit 2 Gleitflächen
10.8 Multiple area guiding stripes with 2 sliding areas



| Ident-No.<br>WF750/1A | Länge<br>Length | b<br>+0,05 | s<br>+0,05 | b1 |
|-----------------------|-----------------|------------|------------|----|
| 16390                 | 650             | 15         | 10         | 4  |
| 16391                 | 650             | 25         | 15         | 8  |
| 16392                 | 1005            | 35         | 25         | 12 |
| 16393                 | 1005            | 45         | 35         | 15 |

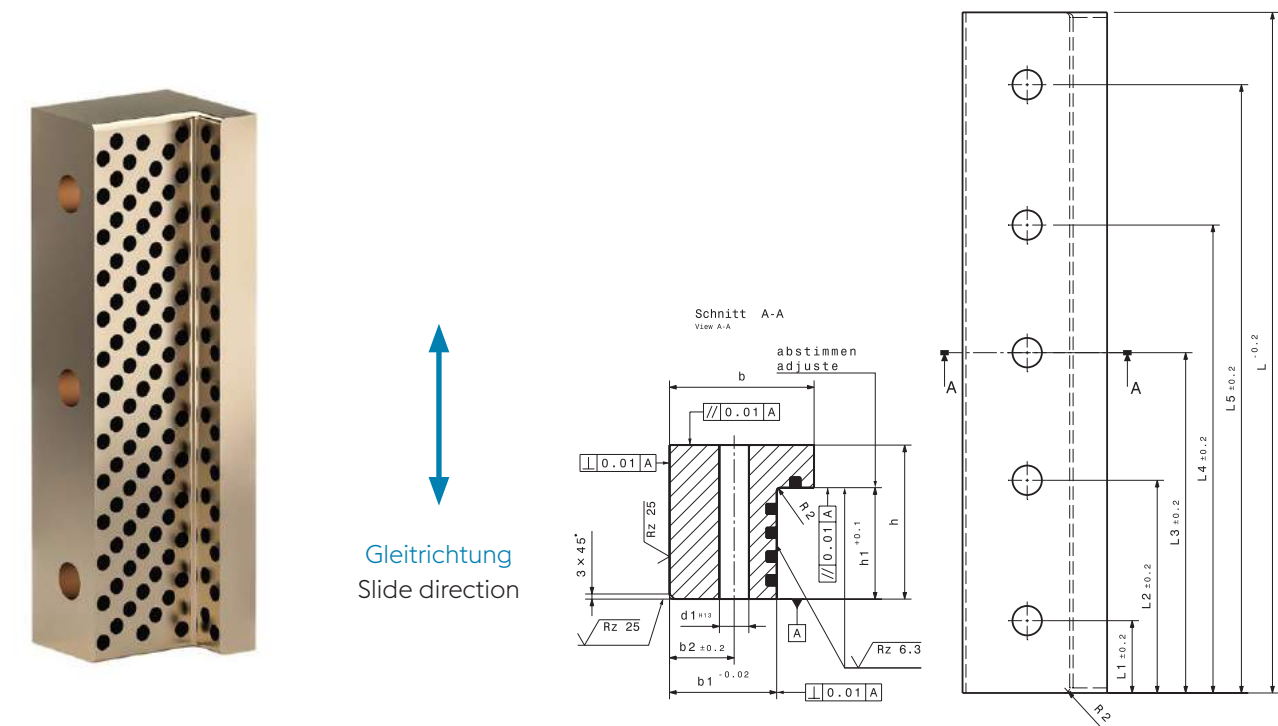
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

## 11. Winkelleisten

### 11. L-Gibs

- |      |                                                                                       |                                                                                       |
|------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 11.1 |    | Winkelleisten mit Abstimmfläche nach VDI 3357<br>L-Gibs with adept area acc. VDI 3357 |
| 11.3 |    | Winkelleisten mit/ohne Befestigungsbohrungen<br>L-Gibs with/without mounting holes    |
| 11.4 |    | Winkelleisten<br>L-Gibs                                                               |
| 11.5 |    | Winkelleisten ohne Befestigungsbohrungen<br>L-Gibs without mounting holes             |
| 11.6 |   | Winkelleisten<br>L-Gibs                                                               |
| 11.7 |  | Winkelleisten<br>L-Gibs                                                               |

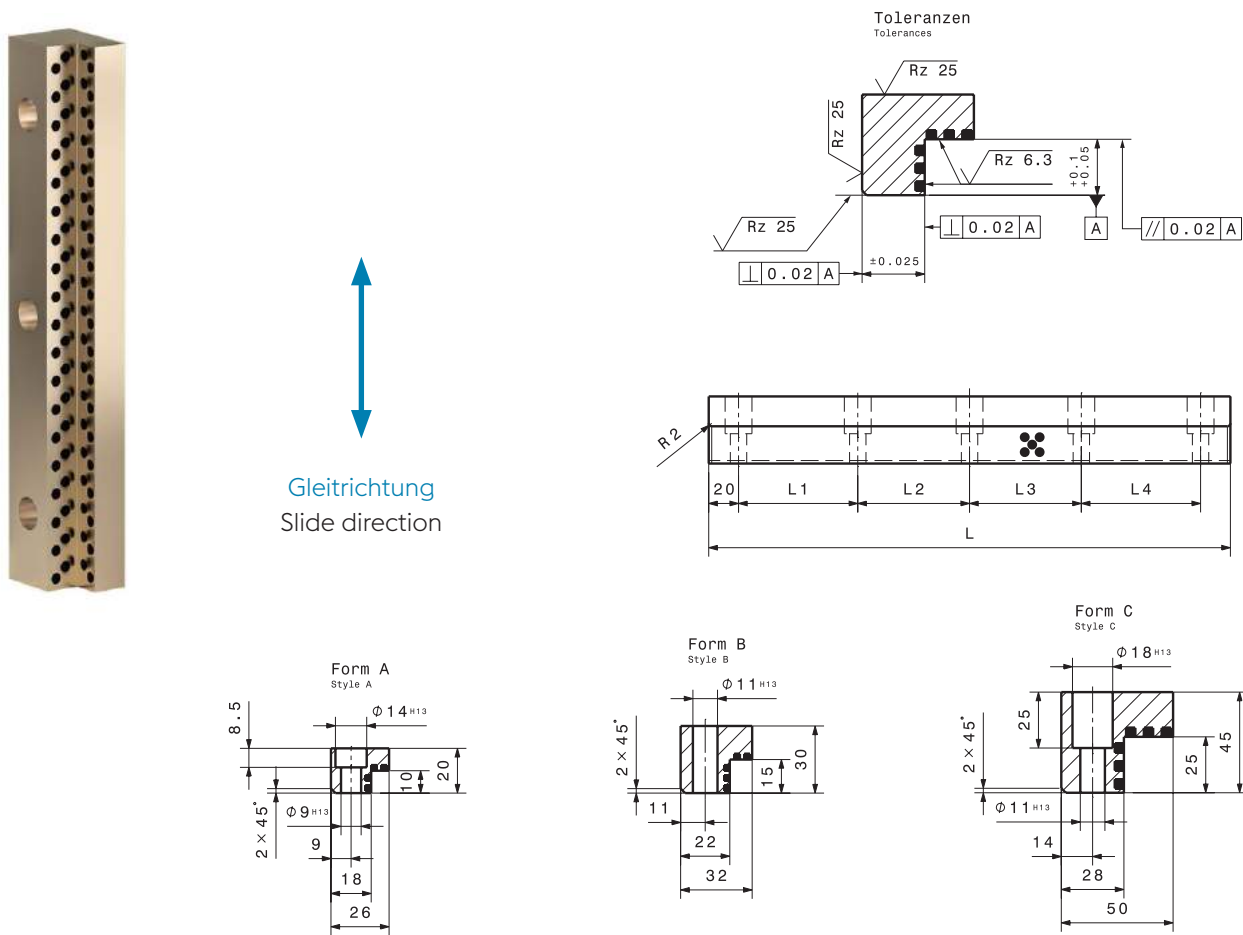
11.1 Winkelleisten mit Abstimmfläche nach VDI 3357  
11.1 L-Gibs with adept area acc. VDI 3357



| Ident-No.<br>WF750/1A | b   | L<br>-0,2 | b1<br>-0,02 | h     | b2<br>±0,2 | h1<br>±0,1 | L1<br>±0,2 | L2<br>±0,2 | L3<br>±0,2 | L4<br>±0,2 | L5<br>±0,2 | d1<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----------|-------------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|------------------------------------------------------------|
| 19540                 | 25  | 125       | 18          | 15,5  | 9          | 8,5        | 27,5       | 97,5       | -          | -          | -          | 9         | 2x M8                                                      |
| 19541                 | 25  | 160       | 18          | 15,5  | 9          | 8,5        | 27,5       | 132,5      | -          | -          | -          | 9         | 2x M8                                                      |
| 19542                 | 32  | 125       | 22          | 30,5  | 11         | 15,5       | 27,5       | 97,5       | -          | -          | -          | 11        | 2x M10                                                     |
| 19543                 | 32  | 160       | 22          | 30,5  | 11         | 15,5       | 27,5       | 132,5      | -          | -          | -          | 11        | 2x M10                                                     |
| 19544                 | 32  | 200       | 22          | 30,5  | 11         | 15,5       | 27,5       | 172,5      | -          | -          | -          | 11        | 2x M10                                                     |
| 19050                 | 45  | 100       | 30          | 50,5  | 15         | 34,5       | 27,5       | 72,5       | -          | -          | -          | 13,5      | 2x M12                                                     |
| 19049                 | 45  | 125       | 30          | 50,5  | 15         | 34,5       | 27,5       | 97,5       | -          | -          | -          | 13,5      | 2x M12                                                     |
| 19051                 | 45  | 160       | 30          | 50,5  | 15         | 34,5       | 27,5       | 132,5      | -          | -          | -          | 13,5      | 2x M12                                                     |
| 19052                 | 55  | 100       | 37          | 55,5  | 20         | 39,5       | 27,5       | 72,5       | -          | -          | -          | 13,5      | 2x M12                                                     |
| 19053                 | 55  | 160       | 37          | 55,5  | 20         | 39,5       | 27,5       | 132,5      | -          | -          | -          | 13,5      | 2x M12                                                     |
| 19054                 | 70  | 160       | 50          | 75,5  | 30         | 55,5       | 35         | 125        | -          | -          | -          | 17,5      | 2x M16                                                     |
| 19055                 | 70  | 200       | 50          | 75,5  | 30         | 55,5       | 35         | 165        | -          | -          | -          | 17,5      | 2x M16                                                     |
| 19056                 | 70  | 250       | 50          | 75,5  | 30         | 55,5       | 35         | 125        | 215        | -          | -          | 17,5      | 3x M16                                                     |
| 19063                 | 70  | 400       | 50          | 75,5  | 30         | 55,5       | 35         | 125        | 200        | 275        | 365        | 17,5      | 5x M16                                                     |
| 19057                 | 85  | 160       | 63          | 90,5  | 38         | 65,5       | 42,5       | 117,5      | -          | -          | -          | 22        | 2x M20                                                     |
| 19058                 | 85  | 200       | 63          | 90,5  | 38         | 65,5       | 42,5       | 157,5      | -          | -          | -          | 22        | 2x M20                                                     |
| 19059                 | 85  | 250       | 63          | 90,5  | 38         | 65,5       | 42,5       | 125        | 207,5      | -          | -          | 22        | 3x M20                                                     |
| 19064                 | 85  | 400       | 63          | 90,5  | 38         | 65,5       | 42,5       | 125        | 200        | 275        | 357,5      | 22        | 5x M20                                                     |
| 19060                 | 100 | 160       | 75          | 100,5 | 45         | 75,5       | 45         | 115        | -          | -          | -          | 26        | 2x M24                                                     |
| 19061                 | 100 | 200       | 75          | 100,5 | 45         | 75,5       | 45         | 155        | -          | -          | -          | 26        | 2x M24                                                     |
| 19062                 | 100 | 250       | 75          | 100,5 | 45         | 75,5       | 45         | 125        | 205        | -          | -          | 26        | 3x M24                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

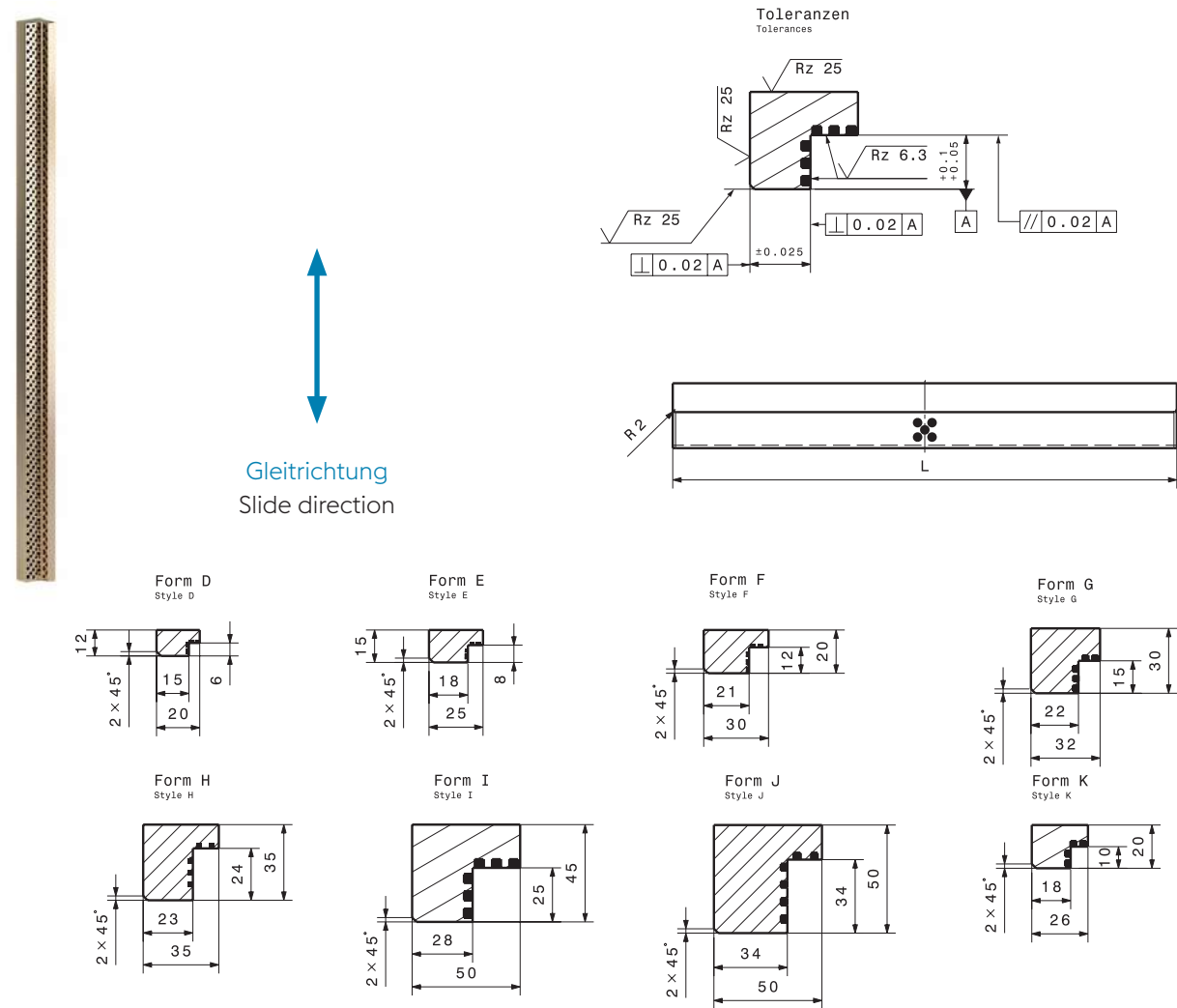
11.3 Winkelleisten mit Befestigungsbohrungen
11.3 L-Gibs with mounting holes



| Ident-No.<br>WF750/1A | L   | L1 | L2 | L3 | L4 | Form<br>Style | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|----|----|----|----|---------------|------------------------------------------------------------|
| 19500                 | 100 | 60 | -  | -  | -  | A             | 2x M8                                                      |
| 19501                 | 150 | 55 | 55 | -  | -  | A             | 3x M8                                                      |
| 19502                 | 200 | 55 | 50 | 55 | -  | A             | 4x M8                                                      |
| 19503                 | 100 | 60 | -  | -  | -  | B             | 2x M10                                                     |
| 19504                 | 150 | 55 | 55 | -  | -  | B             | 3x M10                                                     |
| 19505                 | 200 | 55 | 50 | 55 | -  | B             | 4x M10                                                     |
| 19506                 | 250 | 70 | 70 | 70 | -  | B             | 4x M10                                                     |
| 19507                 | 200 | 55 | 50 | 55 | -  | C             | 4x M10                                                     |
| 19508                 | 250 | 70 | 70 | 70 | -  | C             | 4x M10                                                     |
| 19509                 | 300 | 65 | 65 | 65 | 65 | C             | 5x M10                                                     |
| 19510                 | 350 | 80 | 75 | 75 | 80 | C             | 5x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

11.3 Winkelleisten ohne Befestigungsbohrungen
11.3 L-Gibs without mounting holes

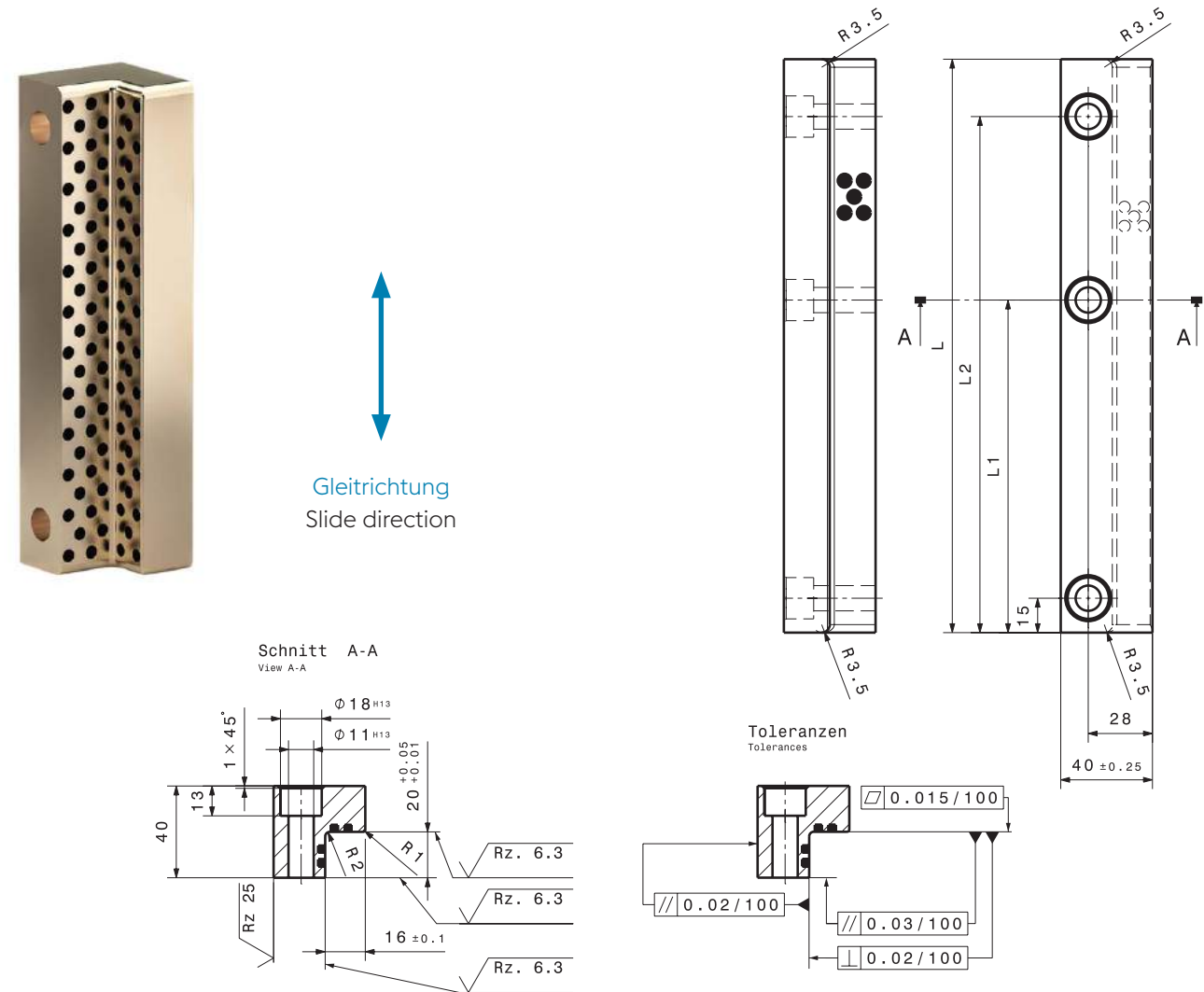


| Ident-No.<br>WF750/1A | L   | Ident-No.<br>WF750/1A | L   | Ident-No.<br>WF750/1A | L    | Form<br>Style |
|-----------------------|-----|-----------------------|-----|-----------------------|------|---------------|
| 19470                 |     | 19480                 |     | -                     | -    | D             |
| 19471                 |     | 19481                 |     | 19491                 |      | E             |
| 19472                 |     | 19482                 |     | 19492                 |      | F             |
| 19473                 |     | 19483                 |     | 19493                 |      | G             |
| 19474                 | 500 | 19484                 | 605 | 19494                 | 1005 | H             |
| 19475                 |     | 19485                 |     | 19495                 |      | I             |
| 19476                 |     | 19486                 |     | 19496                 |      | J             |
| 19477                 |     | 19487                 |     | 19497                 |      | K             |

Es ist jeder Zuschnitt bis 1.005 mm Länge lieferbar.
Any length up to 1,005 mm is available.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

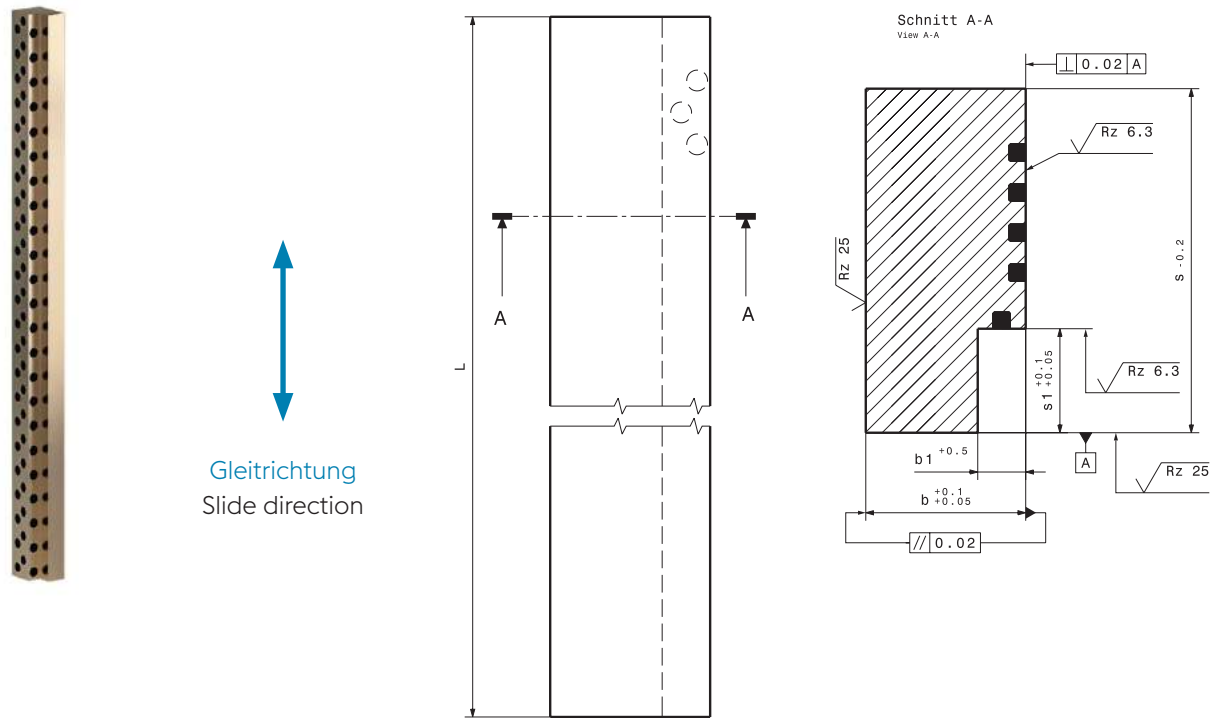
11.4 Winkelleisten  
11.4 L-Gibs



| Ident-No.<br>WF750/1A | L   | L1  | L2  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----|-----|------------------------------------------------------------|
| 18965                 | 160 | 145 | -   | 2x M10                                                     |
| 18966                 | 250 | 145 | 225 | 3x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

11.5 Winkelleisten ohne Befestigungsbohrungen  
11.5 L-Gibs without mounting holes



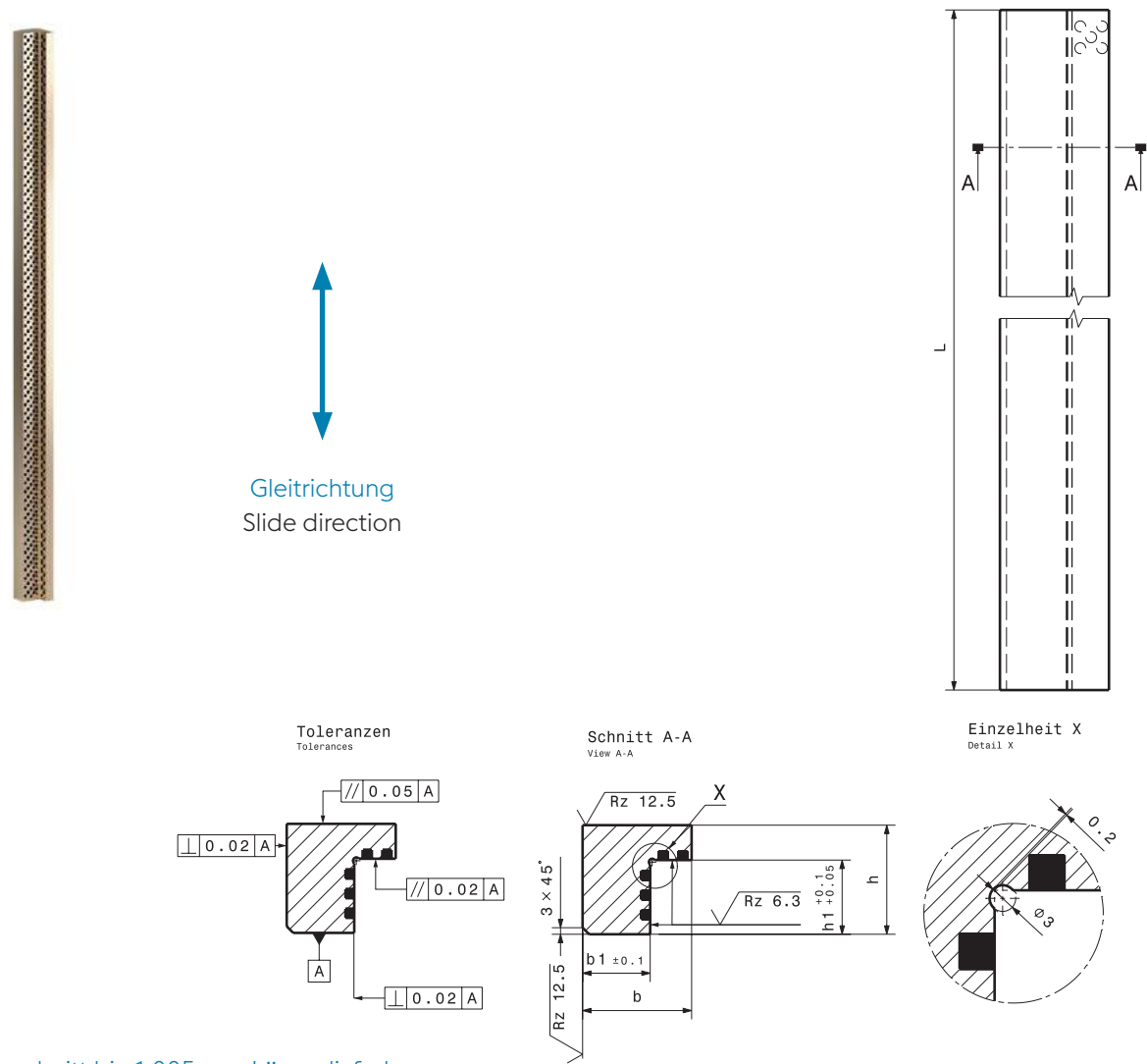
Es ist jeder Zuschnitt bis 605 mm Länge lieferbar. (max. 205 mm bei Ident-No. 17689)  
Any length up to 605 mm is available. (max. 205 mm for Ident-No. 17689)

| Ident-No.<br>WF750/1A | b<br>+0,1<br>+0,05 | s<br>-0,2 | L   | b1<br>+0,5 | s1<br>+0,1<br>+0,05 |
|-----------------------|--------------------|-----------|-----|------------|---------------------|
| 17689                 | 15                 | 12        | 205 | 5          | 5                   |
| 17690                 | 20                 | 17        | 605 | 5          | 7                   |
| 17691                 | 20                 | 22        | 605 | 5          | 7                   |
| 17692                 | 28                 | 27        | 605 | 8          | 10                  |
| 17693                 | 28                 | 36        | 605 | 8          | 10                  |
| 17694                 | 28                 | 46        | 605 | 8          | 10                  |
| 17695                 | 40                 | 66        | 605 | 12         | 22                  |
| 17696                 | 40                 | 86        | 605 | 12         | 26                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



11.6 Winkelleisten  
11.6 L-Gibs



Es ist jeder Zuschnitt bis 1.005 mm Länge lieferbar.  
Any length up to 1,005 mm is available.

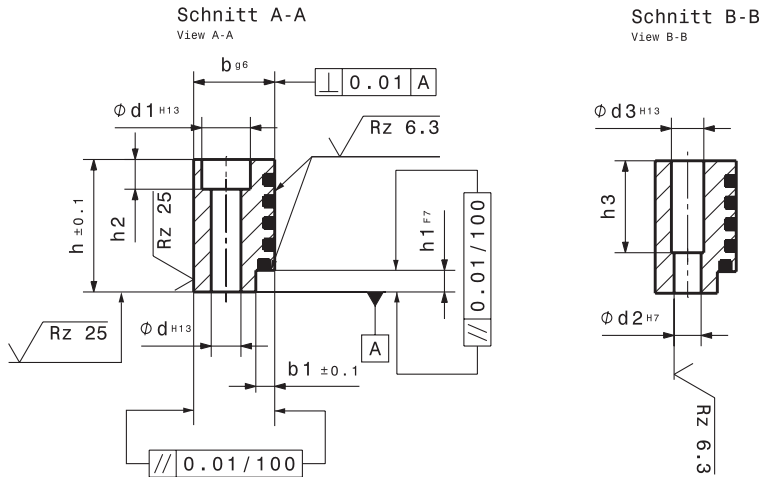
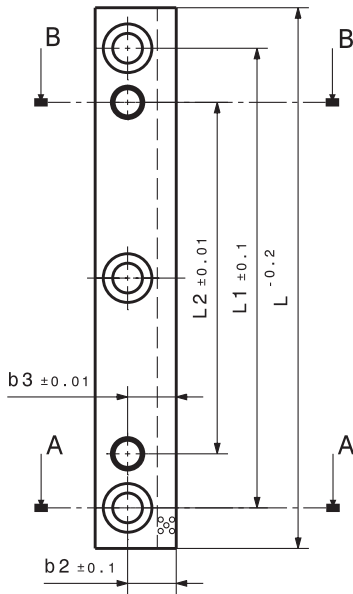
| Ident-No.<br>WF750/1A | L    | h  | b  | h1<br>+0,1<br>+0,05 | b1<br>±0,1 |
|-----------------------|------|----|----|---------------------|------------|
| 18150                 | 1005 | 35 | 35 | 24                  | 20         |
| 18151                 | 1005 | 50 | 50 | 34                  | 31         |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

11.7 Winkelleisten  
11.7 L-Gibs



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | b<br>g6 | L<br>-0,2 | h<br>±0,1 | b1<br>±0,1 | b2<br>±0,1 | b3<br>±0,01 | L1<br>±0,1 | L2<br>±0,01 |  | h1<br>F7 | h2  | h3  | Ød<br>H13 | Ød1<br>H13 | Ød2<br>H7 | Ød3<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|---------|-----------|-----------|------------|------------|-------------|------------|-------------|--|----------|-----|-----|-----------|------------|-----------|------------|------------------------------------------------------------|
| 16730                 | 16      | 50        | 11        | 5          | 9,5        | 9,5         | 34         | 14          |  | 4        | 5,7 | -   | 5,5       | 10         | 5         | -          | 2x M5                                                      |
| 16731                 | 16      | 71        | 11        | 5          | 9,5        | 9,5         | 55         | 35          |  | 4        | 5,7 | -   | 5,5       | 10         | 5         | -          | 2x M5                                                      |
| 16732                 | 16      | 90        | 11        | 5          | 9,5        | 9,5         | 74         | 54          |  | 4        | 5,7 | -   | 5,5       | 10         | 5         | -          | 3x M5                                                      |
| 16733                 | 20      | 80        | 19        | 5          | 12         | 12          | 64         | 40          |  | 5        | 6,8 | 9,5 | 6,6       | 11         | 6         | 7          | 2x M6                                                      |
| 16734                 | 20      | 100       | 19        | 5          | 12         | 12          | 84         | 60          |  | 5        | 6,8 | 9,5 | 6,6       | 11         | 6         | 7          | 2x M6                                                      |
| 16735                 | 20      | 125       | 19        | 5          | 12         | 12          | 109        | 85          |  | 5        | 6,8 | 9,5 | 6,6       | 11         | 6         | 7          | 3x M6                                                      |
| 16736                 | 25      | 100       | 31        | 6          | 15,5       | 15,5        | 80         | 50          |  | 6        | 9   | 19  | 9         | 15         | 8         | 9          | 2x M8                                                      |
| 16737                 | 25      | 125       | 31        | 6          | 15,5       | 15,5        | 105        | 75          |  | 6        | 9   | 19  | 9         | 15         | 8         | 9          | 2x M8                                                      |
| 16738                 | 25      | 160       | 31        | 6          | 15,5       | 15,5        | 140        | 110         |  | 6        | 9   | 19  | 9         | 15         | 8         | 9          | 3x M8                                                      |
| 16739                 | 30      | 125       | 49        | 7          | 18         | 18          | 95         | 55          |  | 8        | 11  | 34  | 11        | 18         | 10        | 12         | 2x M10                                                     |
| 16740                 | 30      | 160       | 49        | 7          | 18         | 18          | 130        | 90          |  | 8        | 11  | 34  | 11        | 18         | 10        | 12         | 2x M10                                                     |
| 16741                 | 30      | 200       | 49        | 7          | 18         | 18          | 170        | 130         |  | 8        | 11  | 34  | 11        | 18         | 10        | 12         | 3x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 12. Überlaufkeile mit/ohne Rollen

### 12. Cam stroke plates with/without rollers

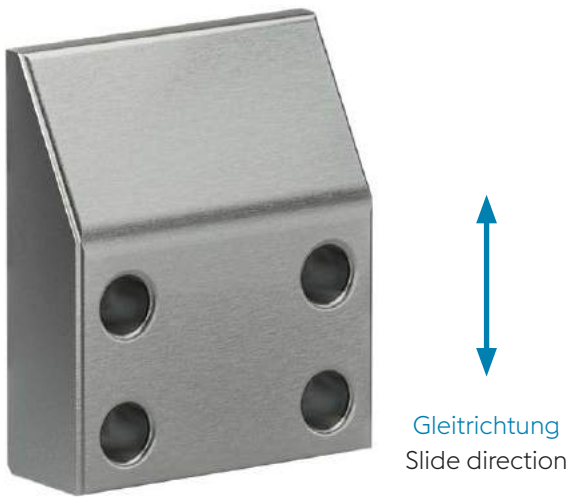
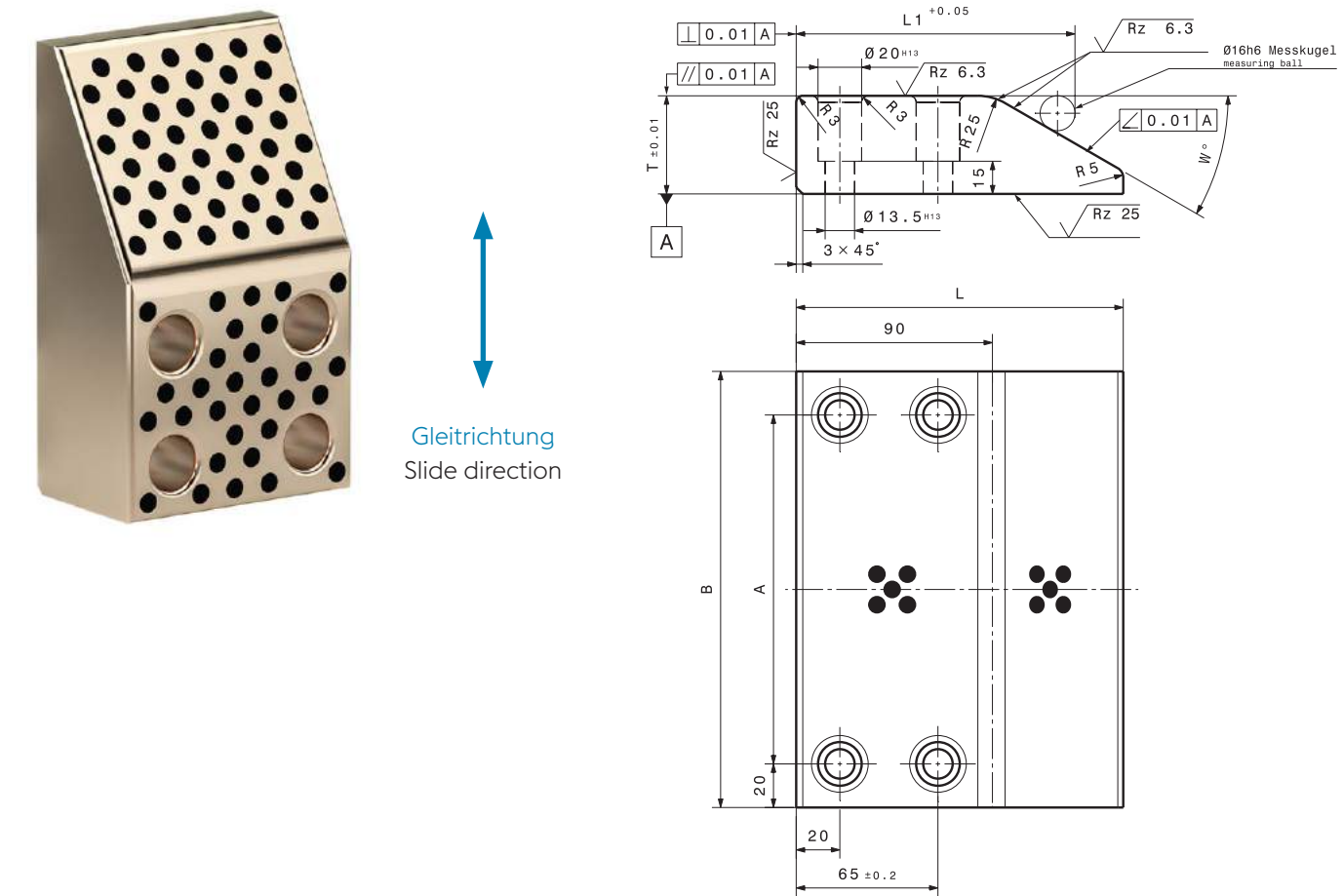
12.1  Überlaufkeile nach VDI 3357  
Cam stroke plates acc. VDI 3357  
WF750, Stahl / WF750, steel

12.2  Überlaufkeile  
Cam stroke plates  
WF750, Stahl / WF750, steel

12.3  Überlaufkeile  
Cam stroke plates  
WF750, Stahl / WF750, steel

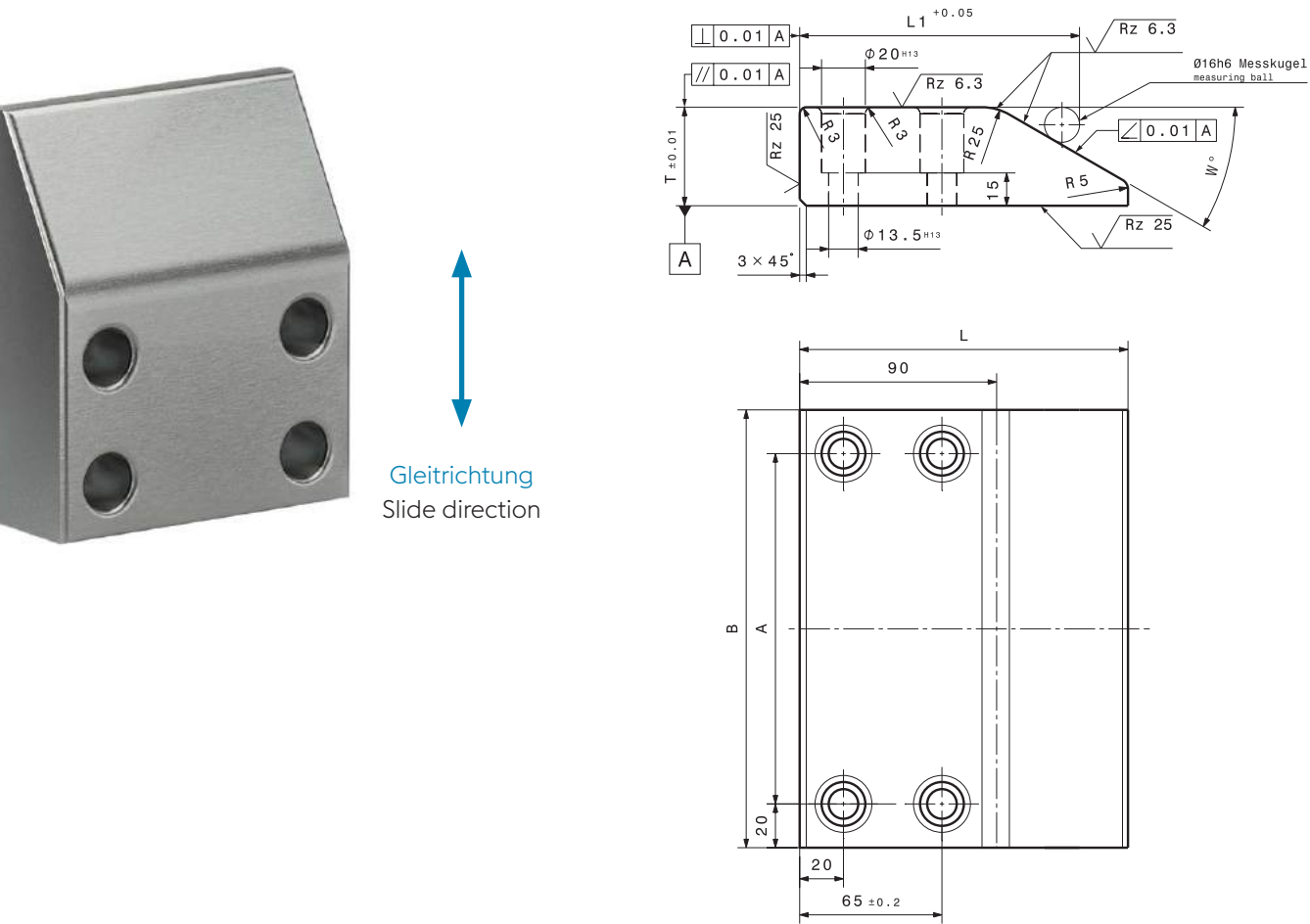
12.7  Überlaufkeile mit Rollen senkrecht/waagrecht  
Cam stroke plates with rollers vertical/horizontal

12.1 Überlaufkeile nach VDI 3357  
12.1 Cam stroke plates acc. VDI 3357



| Ident-No.<br>WF750/1A | B   | L   | T<br>±0,01 | A   | L1<br>+0,05 | W°  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|-----|------------|-----|-------------|-----|------------------------------------------------------------|
| 18590                 | 100 | 170 | 45         | 60  | 143,37      | 20° | 4x M12x40                                                  |
| 18591                 | 125 | 170 | 45         | 85  | 143,37      | 20° | 4x M12x40                                                  |
| 18592                 | 150 | 170 | 45         | 110 | 143,37      | 20° | 4x M12x40                                                  |
| 18596                 | 200 | 170 | 45         | 160 | 143,37      | 20° | 4x M12x40                                                  |
| 18421                 | 100 | 150 | 45         | 60  | 127,86      | 30° | 4x M12x40                                                  |
| 18422                 | 100 | 170 | 60         | 60  | 127,86      | 30° | 4x M12x40                                                  |
| 18424                 | 125 | 150 | 45         | 85  | 127,86      | 30° | 4x M12x40                                                  |
| 18425                 | 125 | 170 | 60         | 85  | 127,86      | 30° | 4x M12x40                                                  |
| 14814                 | 150 | 150 | 45         | 110 | 127,86      | 30° | 4x M12x40                                                  |
| 14798                 | 150 | 170 | 60         | 110 | 127,86      | 30° | 4x M12x40                                                  |
| 18597                 | 200 | 150 | 45         | 160 | 127,86      | 30° | 4x M12x40                                                  |
| 18598                 | 200 | 170 | 60         | 160 | 127,86      | 30° | 4x M12x40                                                  |

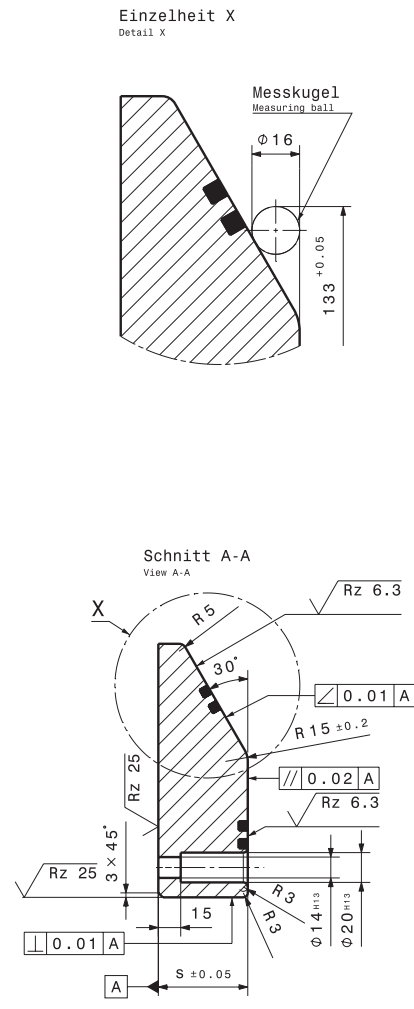
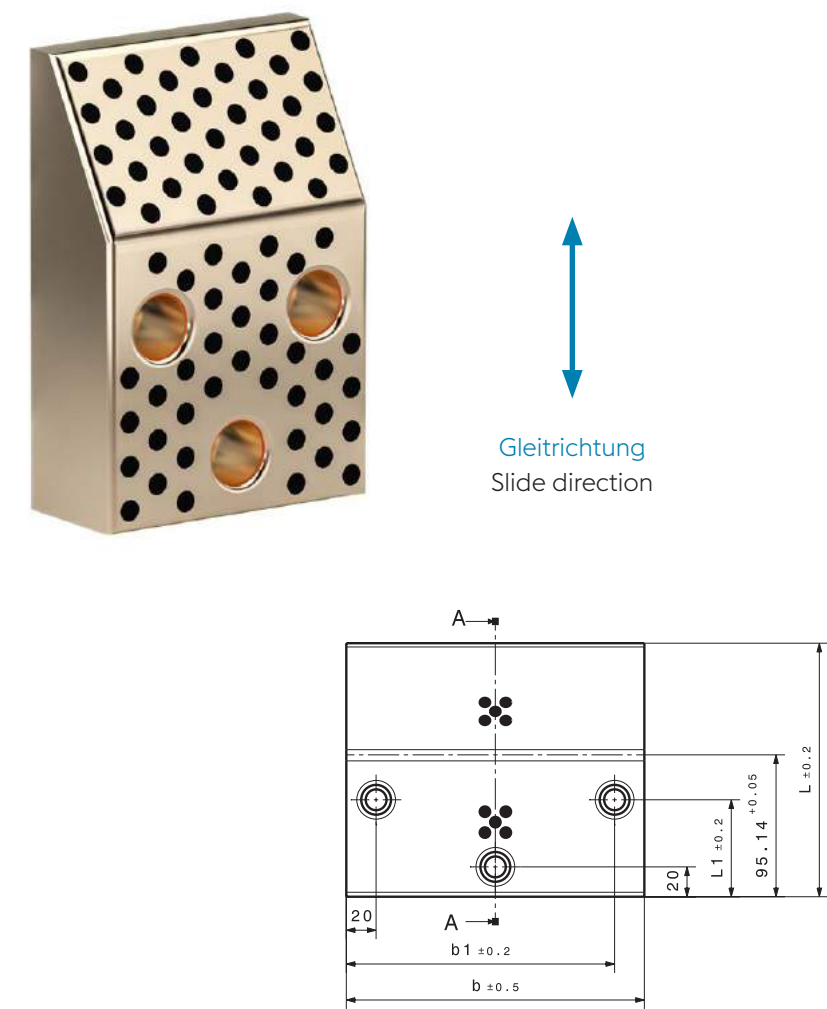
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>St 1 | Ident-No.<br>St 2 | B   | L   | T<br>±0,01 | A   | L1<br>+0,05 | W°  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|-------------------|-----|-----|------------|-----|-------------|-----|------------------------------------------------------------|
| 18320             | 63590             | 100 | 170 | 45         | 60  | 143,37      | 20° | 4x M12x40                                                  |
| 18321             | 63591             | 125 | 170 | 45         | 85  | 143,37      | 20° | 4x M12x40                                                  |
| 18322             | 63592             | 150 | 170 | 45         | 110 | 143,37      | 20° | 4x M12x40                                                  |
| 18323             | 63593             | 200 | 170 | 45         | 160 | 143,37      | 20° | 4x M12x40                                                  |
| 18324             | 63594             | 100 | 150 | 45         | 60  | 127,86      | 30° | 4x M12x40                                                  |
| 18325             | 63595             | 100 | 170 | 60         | 60  | 127,86      | 30° | 4x M12x40                                                  |
| 18326             | 63596             | 125 | 150 | 45         | 85  | 127,86      | 30° | 4x M12x40                                                  |
| 18327             | 63597             | 125 | 170 | 60         | 85  | 127,86      | 30° | 4x M12x40                                                  |
| 18328             | 63598             | 150 | 150 | 45         | 110 | 127,86      | 30° | 4x M12x40                                                  |
| 18329             | 63599             | 150 | 170 | 60         | 110 | 127,86      | 30° | 4x M12x40                                                  |
| 18318             | 63600             | 200 | 150 | 45         | 160 | 127,86      | 30° | 4x M12x40                                                  |
| 18319             | 63601             | 200 | 170 | 60         | 160 | 127,86      | 30° | 4x M12x40                                                  |

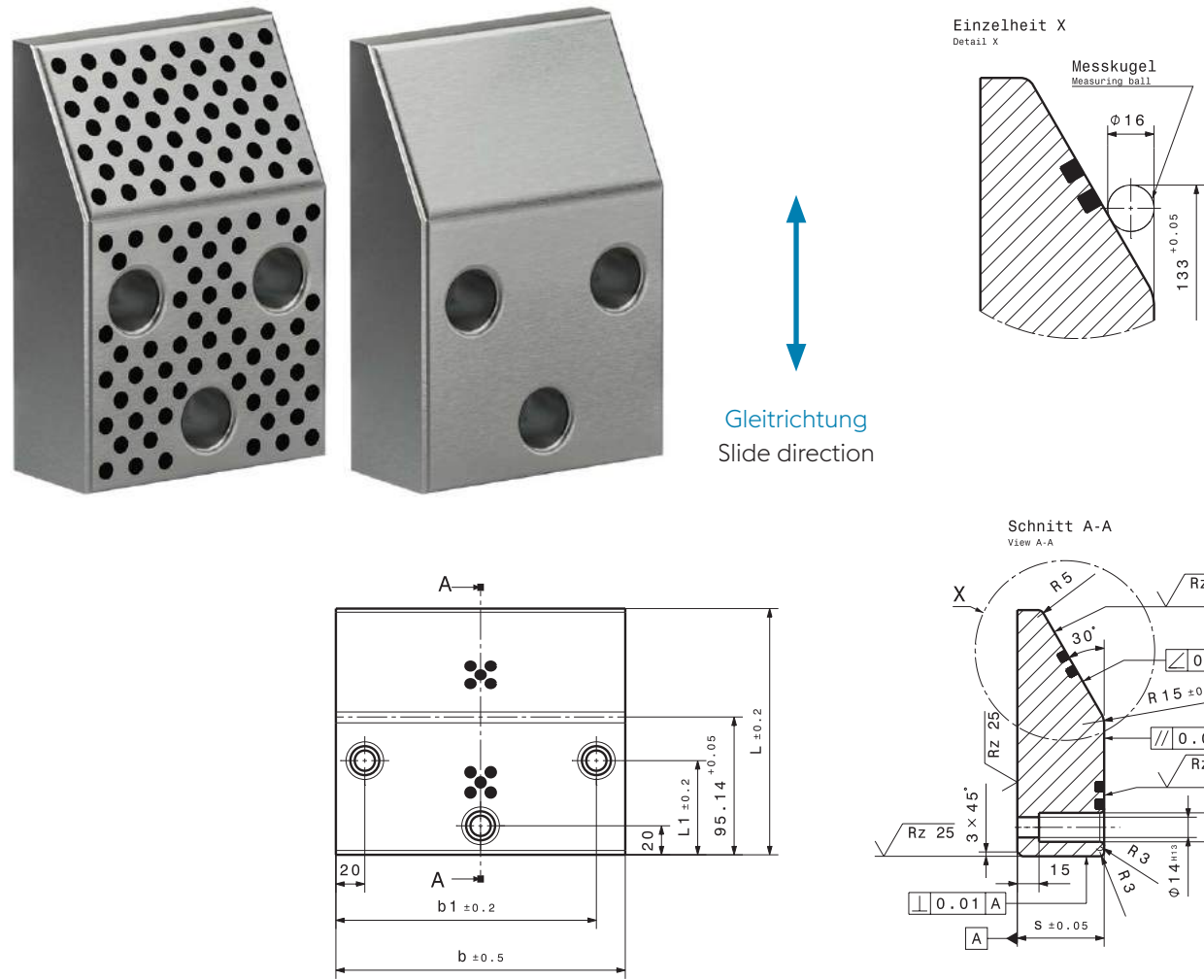
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

12.2 Überlaufkeile  
12.2 Cam stroke plates



| Ident-No.<br>WF750/1A | b<br>$\pm 0.5$ | L<br>$\pm 0.2$ | s<br>$\pm 0.05$ | b1<br>$\pm 0.2$ | L1<br>$\pm 0.2$ | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|----------------|----------------|-----------------|-----------------|-----------------|------------------------------------------------------------|
| 19342                 | 100            | 125            | 30              | 80              | 70              | 3x M12                                                     |
| 19343                 | 125            | 125            | 30              | 105             | 70              | 3x M12                                                     |
| 19407                 | 160            | 125            | 30              | 140             | 70              | 3x M12                                                     |
| 19344                 | 100            | 150            | 45              | 80              | 65              | 3x M12                                                     |
| 19345                 | 125            | 150            | 45              | 105             | 65              | 3x M12                                                     |
| 19408                 | 160            | 150            | 45              | 140             | 65              | 3x M12                                                     |
| 19346                 | 100            | 170            | 60              | 80              | 65              | 3x M12                                                     |
| 19347                 | 125            | 170            | 60              | 105             | 65              | 3x M12                                                     |
| 19409                 | 160            | 170            | 60              | 140             | 65              | 3x M12                                                     |

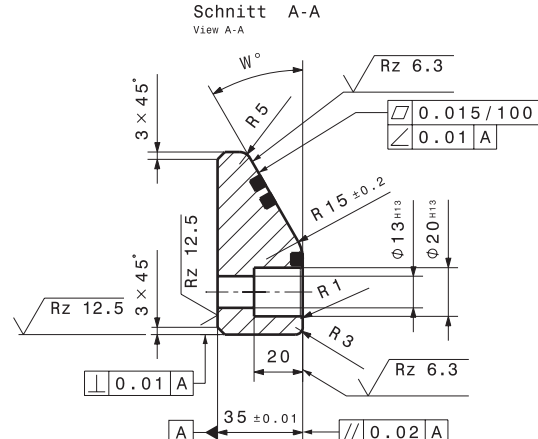
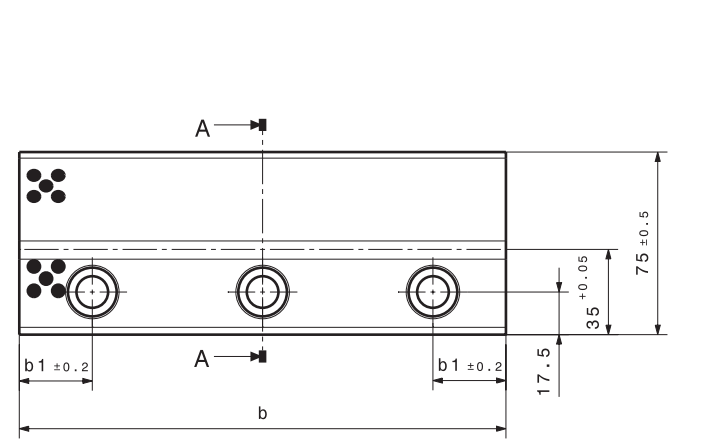
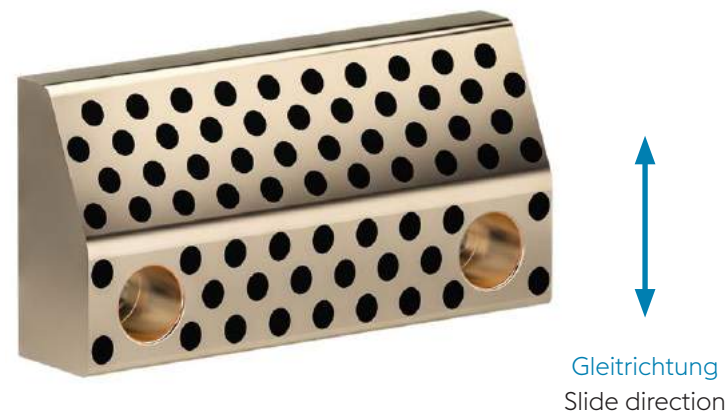
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>WF St 1 | Ident-No.<br>St 1 | b<br>$\pm 0.5$ | L<br>$\pm 0.2$ | s<br>$\pm 0.05$ | b1<br>$\pm 0.2$ | L1<br>$\pm 0.2$ | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|----------------------|-------------------|----------------|----------------|-----------------|-----------------|-----------------|------------------------------------------------------------|
| 19390                | 19348             | 100            | 125            | 30              | 80              | 70              | 3x M12                                                     |
| 19391                | 19349             | 125            | 125            | 30              | 105             | 70              | 3x M12                                                     |
| -                    | 19427             | 160            | 125            | 30              | 140             | 70              | 3x M12                                                     |
| 19392                | 19350             | 100            | 150            | 45              | 80              | 65              | 3x M12                                                     |
| 19393                | 19351             | 125            | 150            | 45              | 105             | 65              | 3x M12                                                     |
| -                    | 19428             | 160            | 150            | 45              | 140             | 65              | 3x M12                                                     |
| 19394                | 19352             | 100            | 170            | 60              | 80              | 65              | 3x M12                                                     |
| 19395                | 19353             | 125            | 170            | 60              | 105             | 65              | 3x M12                                                     |
| -                    | 19426             | 160            | 170            | 60              | 140             | 65              | 3x M12                                                     |

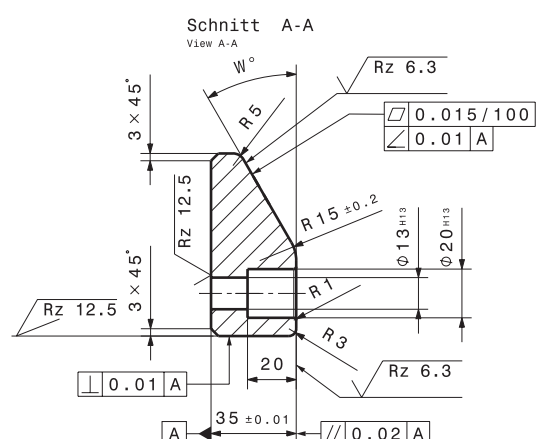
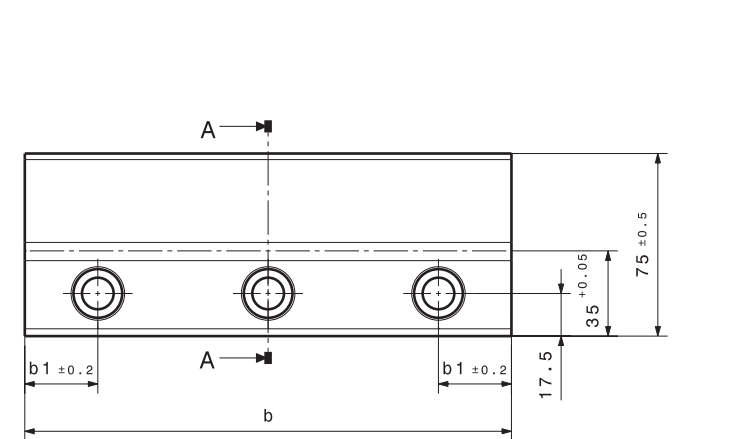
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

12.3 Überlaufkeile  
12.3 Cam stroke plates



| Ident-No.<br>WF750/1A | b   | b1<br>±0,2 | W°  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|------------|-----|------------------------------------------------------------|
| 18190                 | 100 | 20         | 25° | 2x M12                                                     |
| 18191                 | 100 | 20         | 30° | 2x M12                                                     |
| 18192                 | 150 | 20         | 25° | 2x M12                                                     |
| 18193                 | 150 | 20         | 30° | 2x M12                                                     |
| 18194                 | 200 | 30         | 25° | 3x M12                                                     |
| 18195                 | 200 | 30         | 30° | 3x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

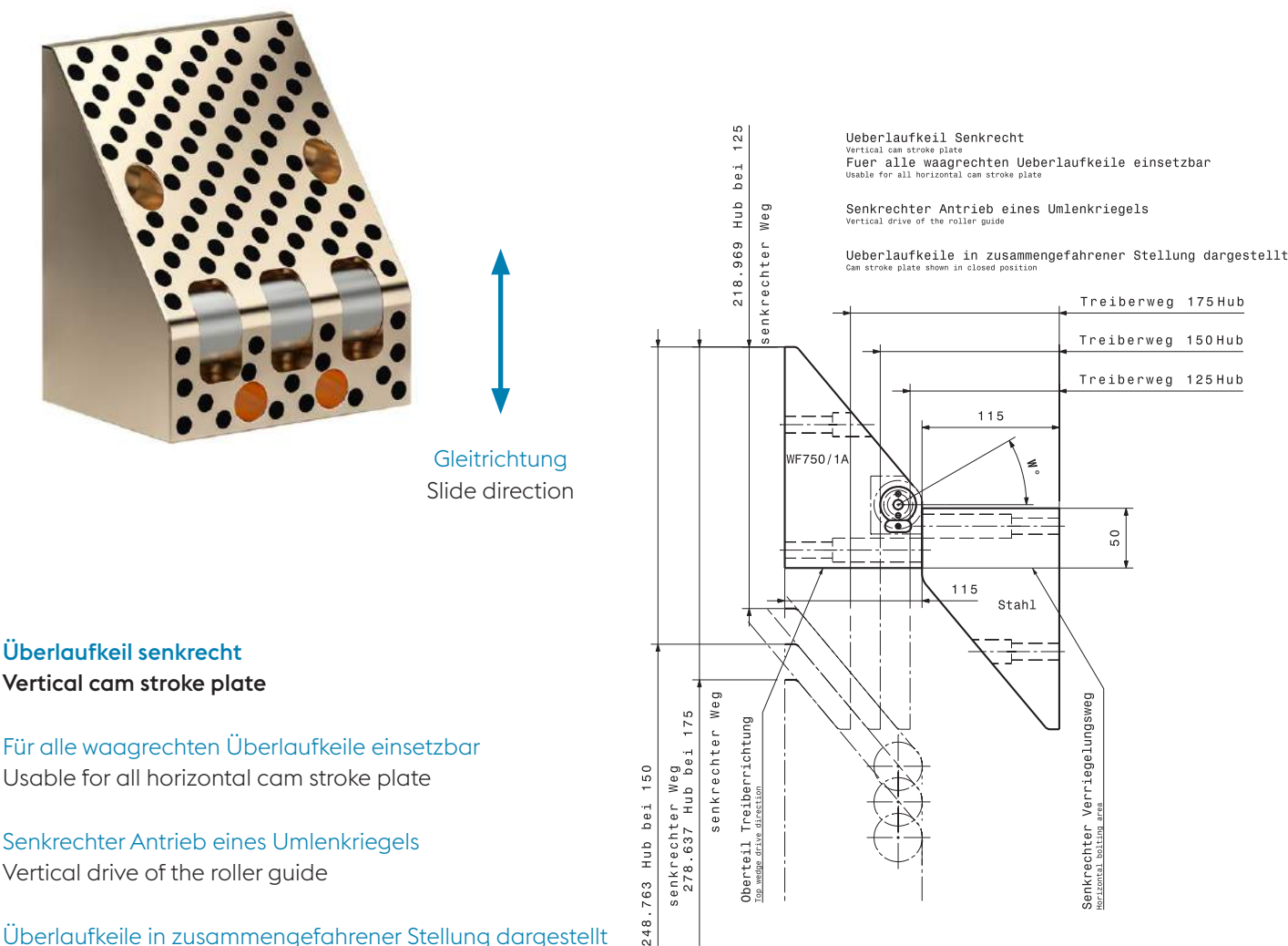


| Ident-No.<br>St 1 | b   | b1<br>±0,2 | W°  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|-----|------------|-----|------------------------------------------------------------|
| 18200             | 100 | 20         | 25° | 2x M12                                                     |
| 18201             | 100 | 20         | 30° | 2x M12                                                     |
| 18202             | 150 | 20         | 25° | 2x M12                                                     |
| 18203             | 150 | 20         | 30° | 2x M12                                                     |
| 18204             | 200 | 30         | 25° | 3x M12                                                     |
| 18205             | 200 | 30         | 30° | 3x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



12.7 Überlaufkeile mit Rollen senkrecht
12.7 Cam stroke plates with rollers vertical



Überlaufkeil senkrecht
Vertical cam stroke plate

Für alle waagrecht Überlaufkeile einsetzbar
Usable for all horizontal cam stroke plate

Senkrechter Antrieb eines Umlenkriegels
Vertical drive of the roller guide

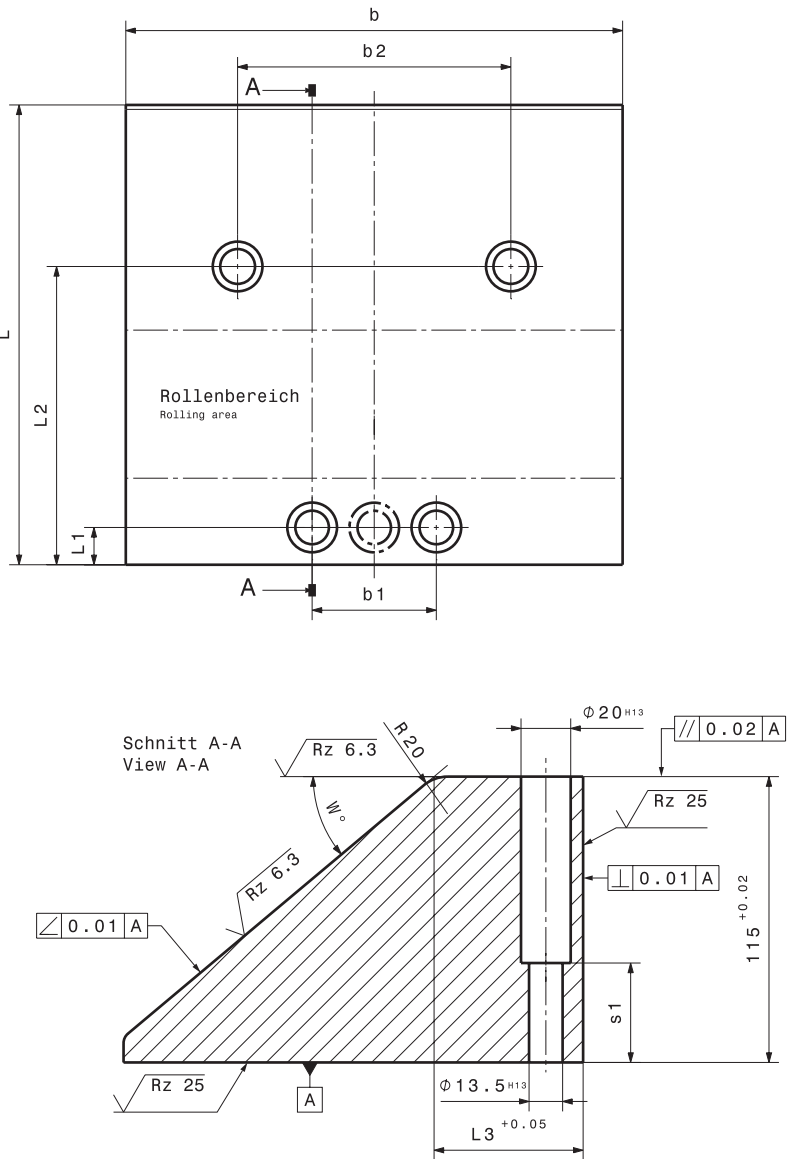
Überlaufkeile in zusammengefahrner Stellung dargestellt
Cam stroke plate shown in closed position

Die senkrechten Überlaufkeile sind für alle drei Hubvarianten einsetzbar.
The vertical cam stroke plates are employable with all 3 stroke variations.

Achtung: Die zulässige Überrollkraft darf nicht durch die Schieberrückholkraft und das Schiebergewicht überschritten werden!
Attention: The permitted over roll force must not exceed the cam return force and the cam weight.

Auswahl-Hinweis:
Anhand der zu erwartenden Endkraft des Füllschiebers werden die vertikalen Treibkräfte (Breite, Hub und Anzahl) ausgewählt und auf einem Umlenkriegel platziert. Die Auswahl des senkrechten Überlaufkeiles richtet sich nach der Rückzugskraft des Füllschiebers und des Umlenkriegels, sowie deren Gewichte. Dabei darf die maximale Überrollkraft in keinem Fall überschritten werden (im Bedarfsfall mehrere Überlaufkeile nebeneinander vorsehen).

Selection recommendation:
Given the expected end force of the active driver, the vertical cam stroke plates (with stroke and quantity) should be selected and placed on the roller. The choice of the vertical cam stroke plates depends on the return force of the active driver and the roller as well as their respective weights. In this respect, the max. over roll force must not be exceeded ( if necessary, use more cam stroke plates next to each other)

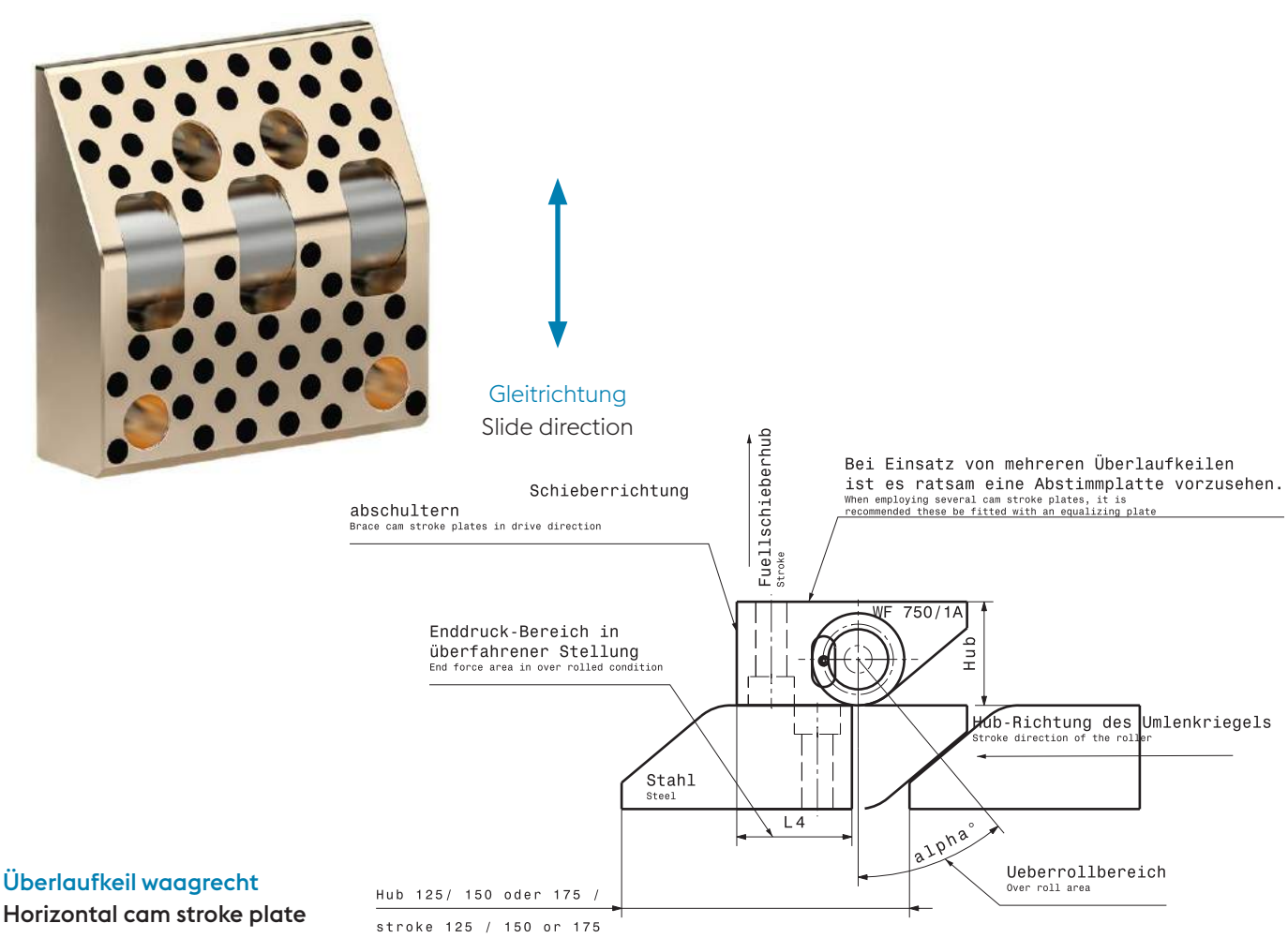


| Ident-No.<br>WF750/1A<br>mit Rollen/with rollers | Ident-No.<br>St 1 | W°  | Senkrechter Weg bei Hub<br>Vertical path by stroke | Presskraft max.<br>Press force max.<br>to | Überrollkraft max.<br>Over roll force max.<br>to | L   | b   | L1 | L2  | L3<br>+0,05 | L4 | b1 | s1 | b2  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Rollen<br>Rollers |
|--------------------------------------------------|-------------------|-----|----------------------------------------------------|-------------------------------------------|--------------------------------------------------|-----|-----|----|-----|-------------|----|----|----|-----|------------------------------------------------------------|-------------------|
| 16850                                            | 16855             | 40° | Hub 125 = 218,9                                    | 15                                        | 4                                                | 185 | 100 | 15 | 120 | 60          | 50 | -  | 40 | 60  | 3x M12                                                     | 2                 |
| 16851                                            | 16856             | 40° | Hub 150 = 248,7                                    | 20                                        | 4                                                | 185 | 125 | 15 | 120 | 60          | 50 | -  | 40 | 85  | 3x M12                                                     | 2                 |
| 16852                                            | 16857             | 40° | Hub 175 = 278,6                                    | 25                                        | 6                                                | 185 | 150 | 15 | 120 | 60          | 50 | 50 | 40 | 110 | 4x M12                                                     | 3                 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

12.7 Überlaufkeile mit Rollen waagrecht
12.7 Cam stroke plates with rollers horizontal



Überlaufkeil waagrecht
Horizontal cam stroke plate

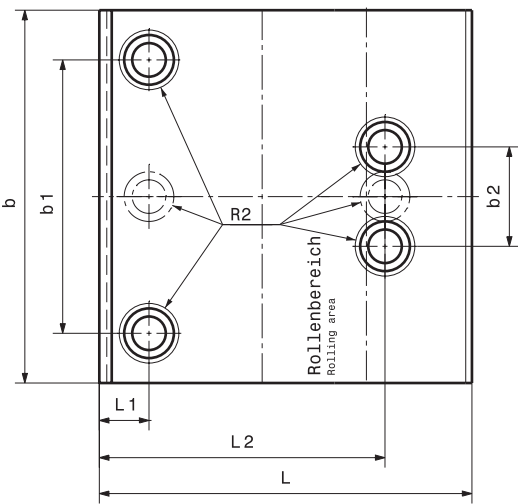
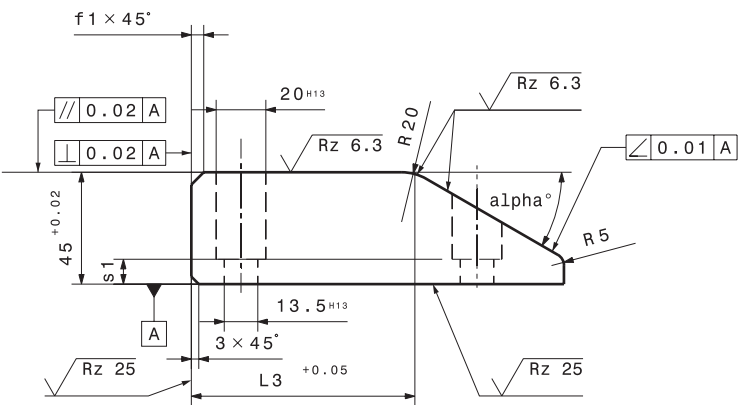
Waagrechter Überlaufkeil in zusammengefahrner Stellung dargestellt
Horizontal cam stroke plates shown in closed position

Alle funktionsrelevanten Fertigungsmaße liegen innerhalb von 0,02 mm.
All finished dimensions relevant to the function lie within 0.02 mm.

Achtung: Die senkrechten Überlaufkeile dürfen bei Enddruck nicht in Bewegung sein (Umlenkegels muss überfahren!). Des weiteren müssen die Rollen immer überfahren und dürfen nicht im Enddruckbereich liegen. Das Freischleifen ist nicht zulässig, da es die angegebenen Presskraftangaben reduziert.
Attention: The vertical cam stroke plates must not be in motion at end force (roller must driver over). Thereafter the roller must drive over and not lie in the end force area. Face to face sliding is not permitted as this will reduce the given press power.

Der Einsatz eines senkrechten Überlaufkeiles mit 30 anstatt von 40 hat keinen Einfluss auf die Kräfte, erleichtert jedoch die Arbeit des senkrechten Überlaufkeils.
The use of a 30 or 40 has no influence on the power but reduces the work of the vertical dirve wedge.

Breite, Anzahl und Hub entsprechend der erforderlichen Endkraft ist vom Konstrukteur auszuwählen.
Width, stroke and necessary end force to be determined in design.

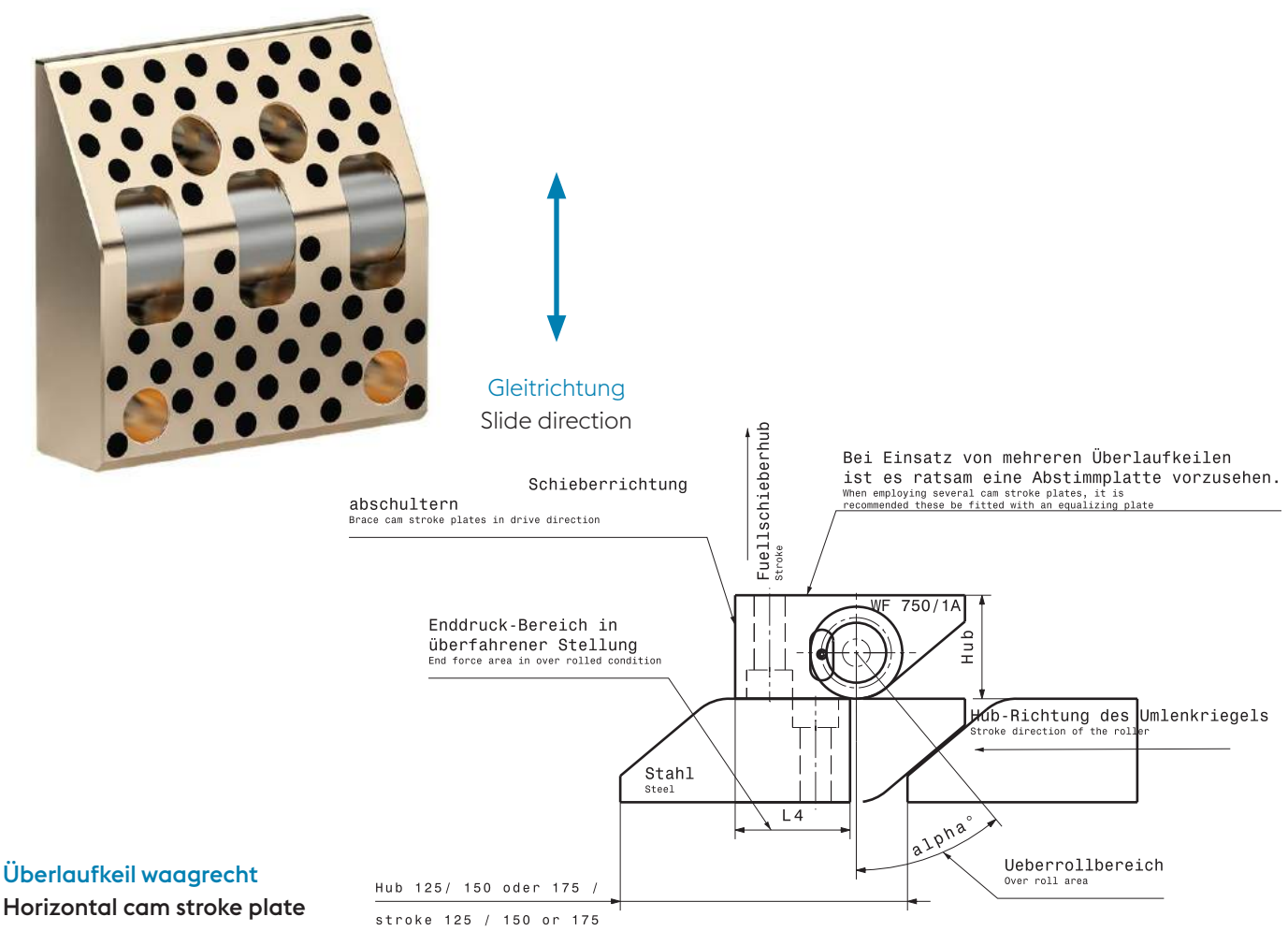


| Ident-No.<br>WF750/1A<br>mit Rollen/with rollers | Ident-No.<br>St 1 | Ident-No.<br>St 2 | W°  | Hub max.<br>Stroke max. | Treibweg<br>Drive | Presskraft max.<br>Press force max.<br>to |  | Überrollkraft max.<br>Over roll force max.<br>to | L   | b   | L1 | L2 | L3  | L4<br>+0,05 | b1  | s1   | b2  | f1 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Rollen<br>Rollers |
|--------------------------------------------------|-------------------|-------------------|-----|-------------------------|-------------------|-------------------------------------------|--|--------------------------------------------------|-----|-----|----|----|-----|-------------|-----|------|-----|----|------------------------------------------------------------|-------------------|
| 16860                                            | 16865             | -                 | 40° | 45                      | 125               | 15                                        |  | 4                                                | 100 | 100 | 15 | -  | 60  | 50          | 60  | 32,5 | -   | 2  | 2x M12                                                     | 2                 |
| 16861                                            | 16866             | -                 | 40° | 45                      | 125               | 20                                        |  | 4                                                | 100 | 125 | 15 | -  | 60  | 50          | 85  | 32,5 | -   | 2  | 2x M12                                                     | 2                 |
| 16862                                            | 16867             | -                 | 40° | 45                      | 125               | 25                                        |  | 6                                                | 100 | 150 | 15 | -  | 60  | 50          | 110 | 32,5 | -   | 2  | 2x M12                                                     | 3                 |
| 16870                                            | 16875             | -                 | 40° | 45                      | 150               | 30                                        |  | 4                                                | 125 | 100 | 40 | -  | 85  | 75          | 60  | 32,5 | -   | 2  | 2x M12                                                     | 2                 |
| 16871                                            | 16876             | -                 | 40° | 45                      | 150               | 40                                        |  | 4                                                | 125 | 125 | 40 | -  | 85  | 75          | 85  | 32,5 | -   | 2  | 2x M12                                                     | 2                 |
| 16872                                            | 16877             | -                 | 40° | 45                      | 150               | 50                                        |  | 6                                                | 125 | 150 | 15 | 40 | 85  | 75          | -   | 32,5 | 110 | 2  | 3x M12                                                     | 3                 |
| 16880                                            | 16885             | -                 | 40° | 45                      | 175               | 40                                        |  | 4                                                | 150 | 100 | 15 | 65 | 110 | 100         | -   | 32,5 | 60  | 2  | 3x M12                                                     | 2                 |
| 16881                                            | 16886             | -                 | 40° | 45                      | 175               | 50                                        |  | 4                                                | 150 | 125 | 15 | 65 | 110 | 100         | -   | 32,5 | 85  | 2  | 3x M12                                                     | 2                 |
| 16882                                            | 16887             | -                 | 40° | 45                      | 175               | 60                                        |  | 6                                                | 150 | 150 | 15 | 65 | 110 | 100         | 110 | 32,5 | 110 | 2  | 4x M12                                                     | 3                 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

12.7 Überlaufkeile mit Rollen waagrecht
12.7 Cam stroke plates with rollers horizontal



Überlaufkeil waagrecht
Horizontal cam stroke plate

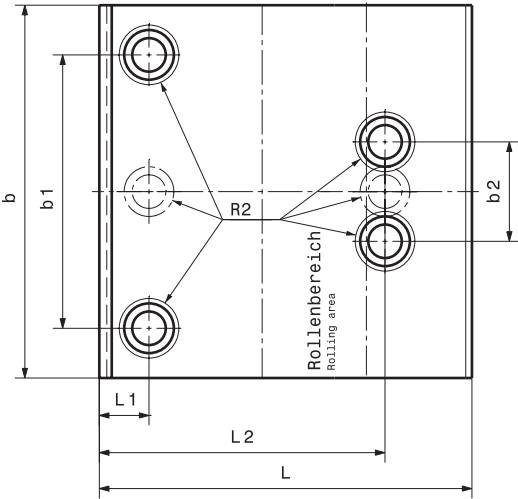
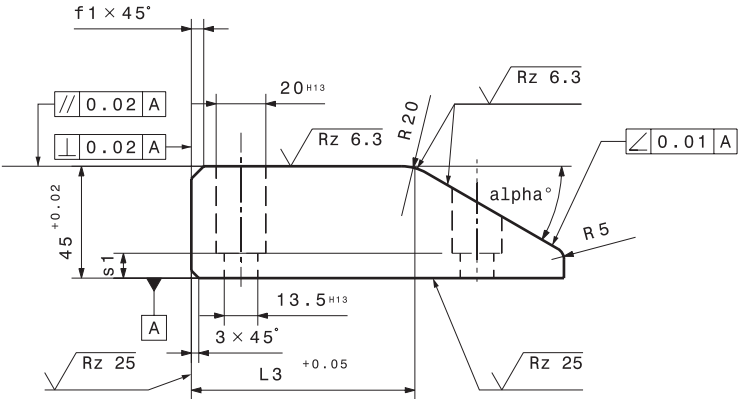
Waagrechter Überlaufkeil in zusammengefahrener Stellung dargestellt
Horizontal cam stroke plates shown in closed position

Alle funktionsrelevanten Fertigungsmaße liegen innerhalb von 0,02 mm.
All finished dimensions relevant to the function lie within 0.02 mm.

Achtung: Die senkrechten Überlaufkeile dürfen bei Enddruck nicht in Bewegung sein (Umlenkegels muss überfahren!). Des weiteren müssen die Rollen immer überfahren und dürfen nicht im Enddruckbereich liegen. Das Freischleifen ist nicht zulässig, da es die angegebenen Presskraftangaben reduziert.
Attention: The vertical cam stroke plates must not be in motion at end force (roller must driver over). Thereafter the roller must drive over and not lie in the end force area. Face to face sliding is not permitted as this will reduce the given press power.

Der Einsatz eines senkrechten Überlaufkeiles mit 30 anstatt von 40 hat keinen Einfluss auf die Kräfte, erleichtert jedoch die Arbeit des senkrechten Überlaufkeils.
The use of a 30 or 40 has no influence on the power but reduces the work of the vertical dirve wedge.

Breite, Anzahl und Hub entsprechend der erforderlichen Endkraft ist vom Konstrukteur auszuwählen.
Width, stroke and necessary end force to be determined in design.



| Ident-No.<br>WF750/1A<br>mit Rollen/with rollers | Ident-No.<br>St 1 | Ident-No.<br>St 2 | W°  | Hub max.<br>Stroke max. | Treibweg<br>Drive | Presskraft max.<br>Press force max.<br>to |  | Überrollkraft max.<br>Over roll force max.<br>to | L   | b   | L1 | L2  | L3 | L4<br>+0,05 | b1  | s1 | b2 | f1 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 | Rollen<br>Rollers |
|--------------------------------------------------|-------------------|-------------------|-----|-------------------------|-------------------|-------------------------------------------|--|--------------------------------------------------|-----|-----|----|-----|----|-------------|-----|----|----|----|------------------------------------------------------------|-------------------|
| 16890                                            | 16895             | -                 | 30° | 45                      | 150               | 15                                        |  | 4                                                | 115 | 100 | 15 | 85  | 60 | 50          | 60  | 10 | -  | 2  | 3x M12                                                     | 2                 |
| 16891                                            | 16896             | -                 | 30° | 45                      | 150               | 20                                        |  | 4                                                | 115 | 125 | 15 | 85  | 60 | 50          | 85  | 10 | -  | 2  | 3x M12                                                     | 2                 |
| 16892                                            | 16897             | -                 | 30° | 45                      | 150               | 25                                        |  | 6                                                | 115 | 150 | 15 | 85  | 60 | 50          | 110 | 10 | 40 | 2  | 4x M12                                                     | 3                 |
| 16900                                            | 16905             | -                 | 30° | 45                      | 175               | 30                                        |  | 4                                                | 140 | 100 | 20 | 110 | 85 | 75          | 60  | 10 | -  | 2  | 3x M12                                                     | 2                 |
| 16901                                            | 16906             | -                 | 30° | 45                      | 175               | 40                                        |  | 4                                                | 140 | 125 | 20 | 110 | 85 | 75          | 85  | 10 | -  | 2  | 3x M12                                                     | 2                 |
| 16902                                            | 16907             | -                 | 30° | 45                      | 175               | 50                                        |  | 6                                                | 140 | 150 | 20 | 110 | 85 | 75          | 110 | 10 | 40 | 2  | 4x M12                                                     | 3                 |
| 16908                                            | -                 | 16911             | 30° | 45                      | 175               | 30                                        |  | 4                                                | 150 | 100 | 20 | 115 | 90 | 75          | 60  | 10 | -  | 5  | 3x M12                                                     | 2                 |
| 16909                                            | -                 | 16912             | 30° | 45                      | 175               | 40                                        |  | 4                                                | 150 | 125 | 20 | 115 | 90 | 75          | 85  | 10 | -  | 5  | 3x M12                                                     | 2                 |
| 16910                                            | -                 | 16913             | 30° | 45                      | 175               | 50                                        |  | 6                                                | 150 | 150 | 20 | 115 | 90 | 75          | 110 | 10 | 40 | 5  | 4x M12                                                     | 3                 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

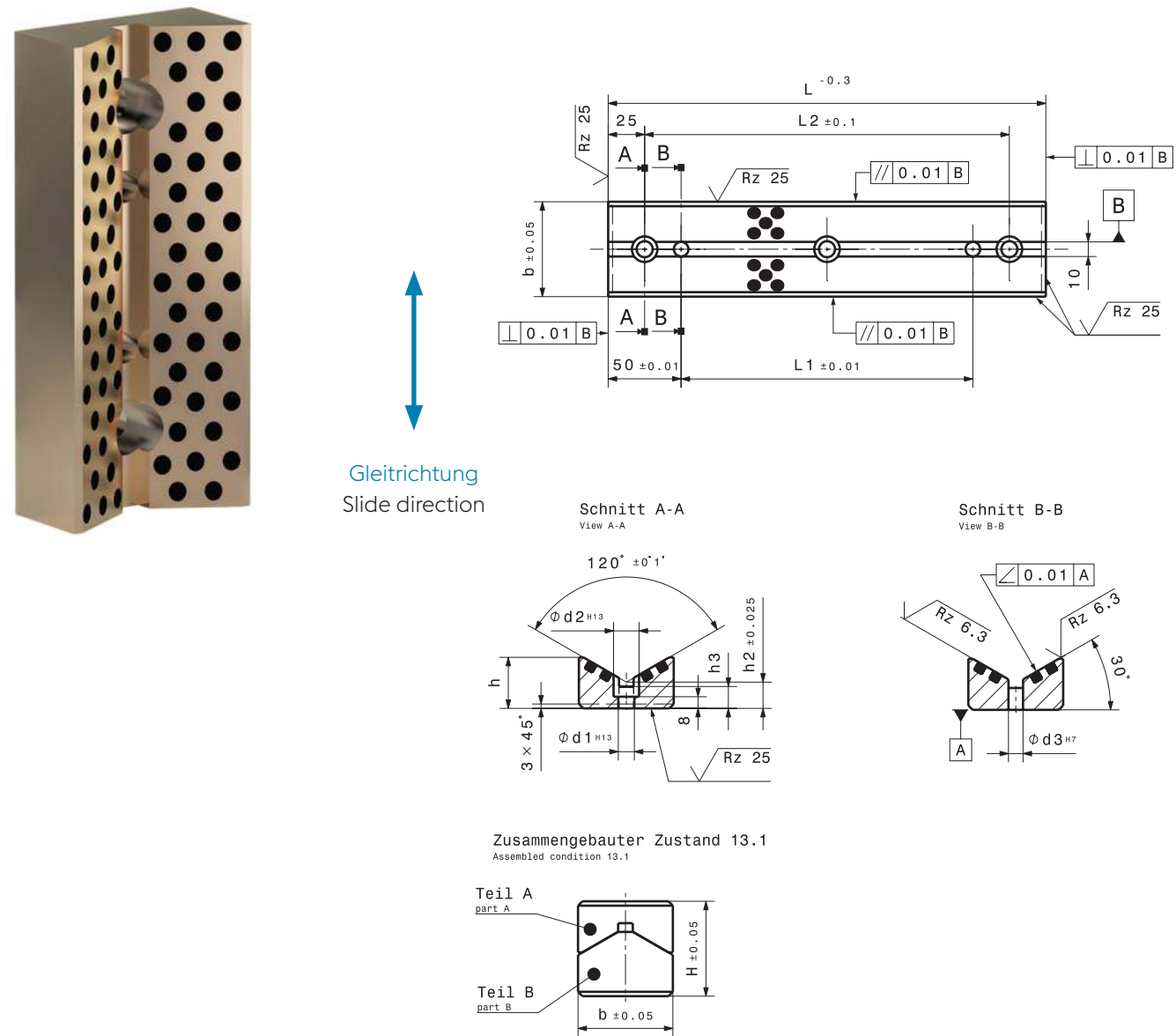
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

## 13. Prismenführungen

### 13. Prism guides

- 13.1  Prismenführungen  
Prism guides  
WF750, Stahl / WF750, steel
- 13.2  Prismenführungen  
Prism guides  
WF750, Stahl / WF750, steel
- 13.6  Prismenführungen  
Prism guides  
WF750, Stahl / WF750, steel
- 13.7  Prismenführungen nach VDI 3357  
Prism guides acc. VDI 3357  
WF750, Stahl / WF750, steel

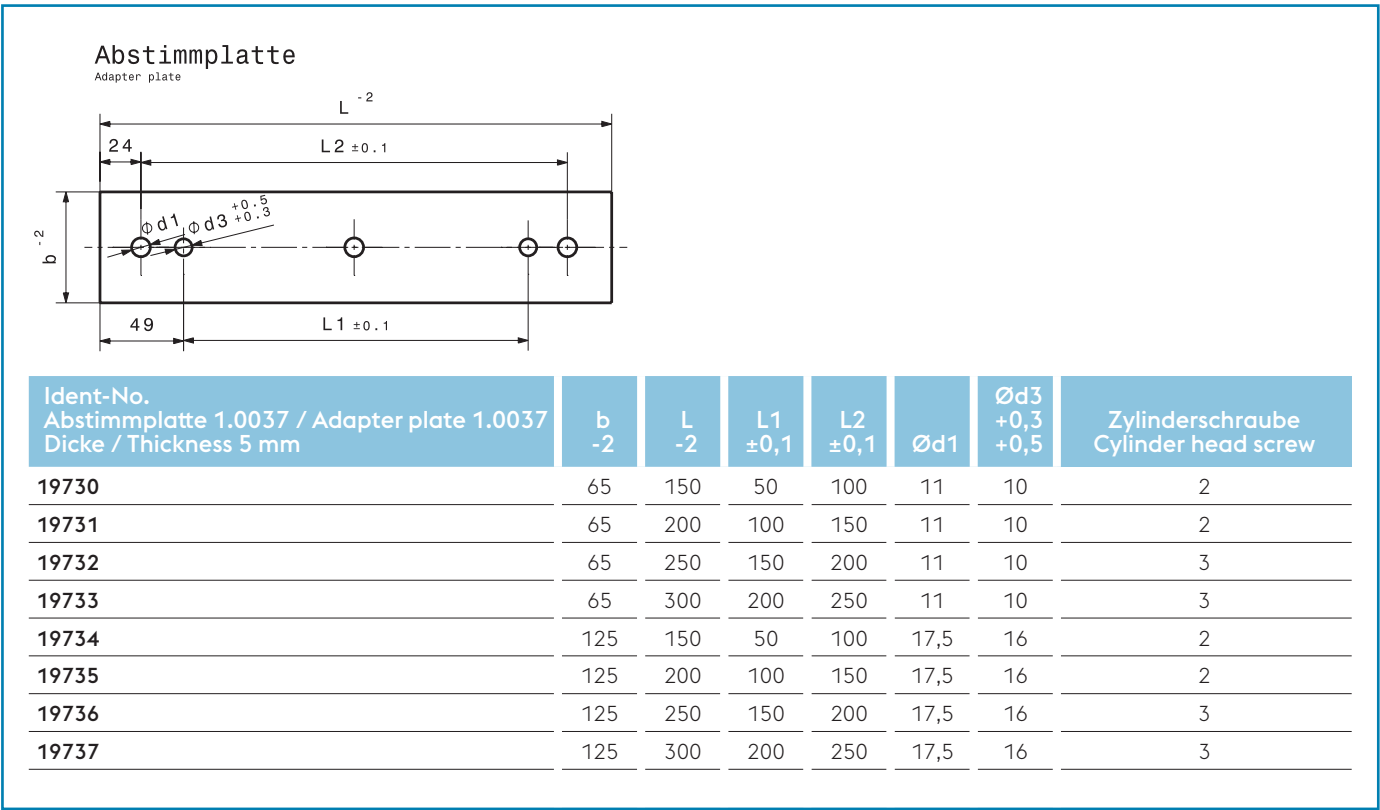
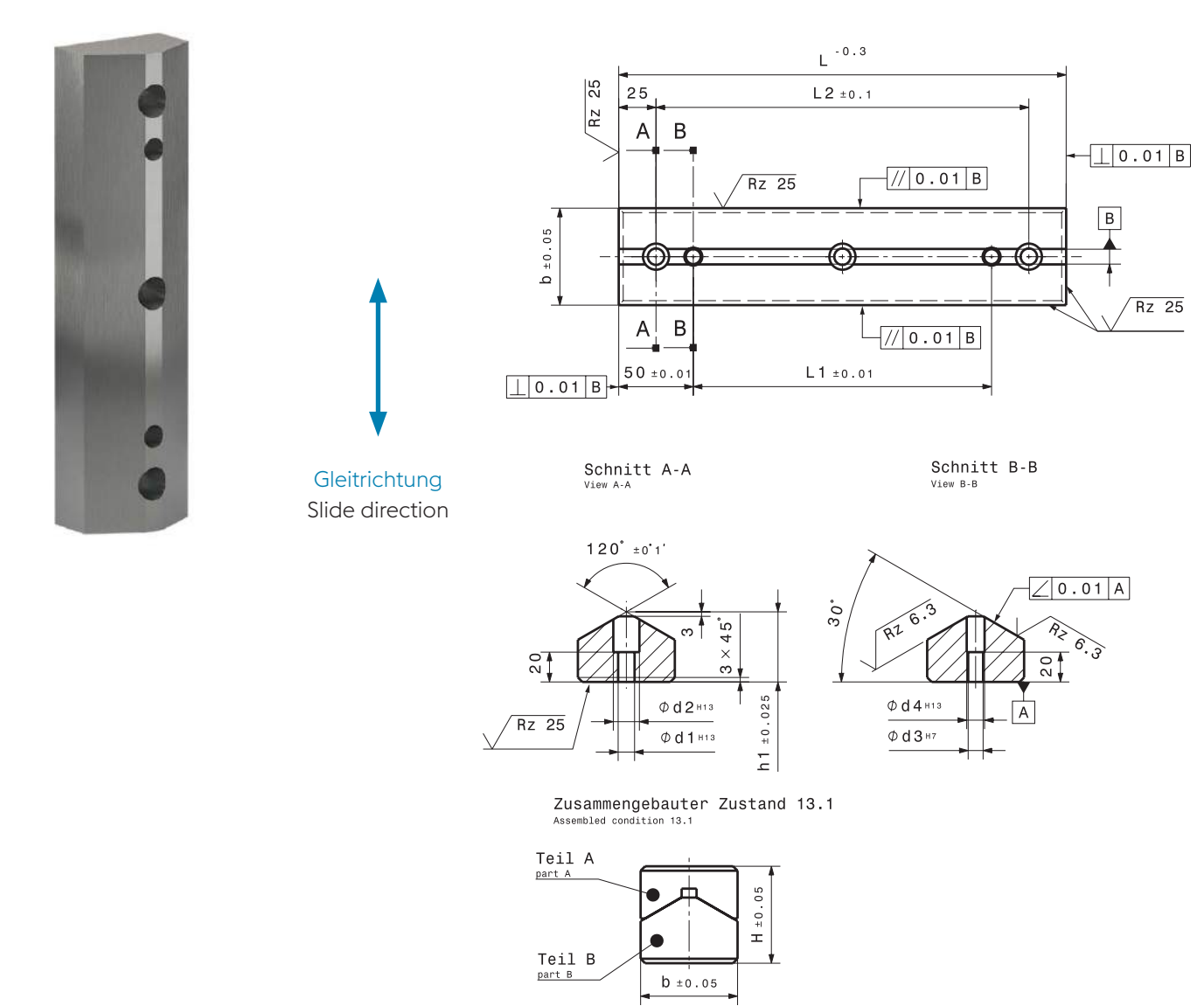
13.1 Prismenführungen – Teil A  
13.1 Cam bottom plates – part A



| Ident-No.<br>WF750/1A<br>Teil A / Part A | b<br>±0,05 | L<br>-0,3 | h  | L1<br>±0,01 | L2<br>±0,1 | h2<br>±0,025 | h3 | H<br>±0,05 | Ød1<br>H13 | Ød2<br>H13 | Ød3<br>H7 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|------------------------------------------|------------|-----------|----|-------------|------------|--------------|----|------------|------------|------------|-----------|------------------------------------------------------------|
| 18880                                    | 65         | 150       | 35 | 50          | 100        | 18           | 15 | 65         | 11         | 18         | 10        | 2x M10                                                     |
| 18882                                    | 65         | 200       | 35 | 100         | 150        | 18           | 15 | 65         | 11         | 18         | 10        | 2x M10                                                     |
| 18884                                    | 65         | 250       | 35 | 150         | 200        | 18           | 15 | 65         | 11         | 18         | 10        | 3x M10                                                     |
| 18886                                    | 65         | 300       | 35 | 200         | 250        | 18           | 15 | 65         | 11         | 18         | 10        | 3x M10                                                     |
| 18888                                    | 125        | 150       | 60 | 50          | 100        | 33           | 30 | 85         | 17,5       | 26         | 16        | 2x M16                                                     |
| 18890                                    | 125        | 200       | 60 | 100         | 150        | 33           | 30 | 85         | 17,5       | 26         | 16        | 2x M16                                                     |
| 18892                                    | 125        | 250       | 60 | 150         | 200        | 33           | 30 | 85         | 17,5       | 26         | 16        | 3x M16                                                     |
| 18894                                    | 125        | 300       | 60 | 200         | 250        | 33           | 30 | 85         | 17,5       | 26         | 16        | 3x M16                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

13.1 Prismenführungen – Teil B
13.1 Cam bottom plates – part B

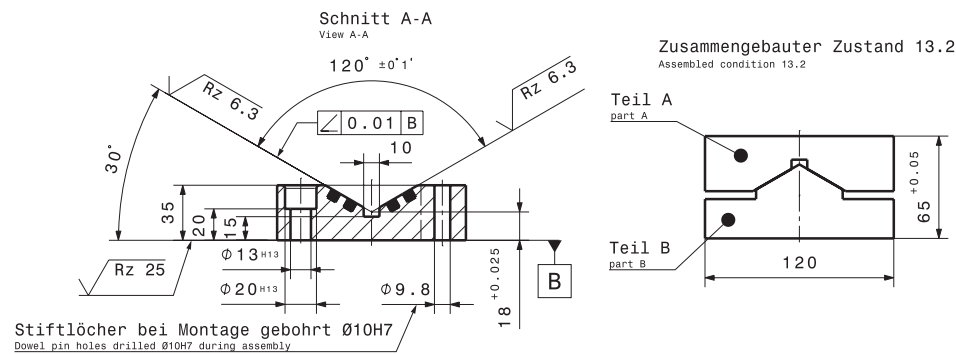
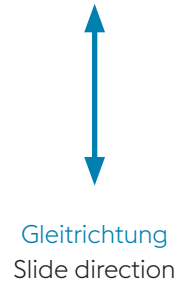


| Ident-No.<br>St 1<br>Teil B / Part B | Ident-No.<br>Abstimmplatte Stahl / Adapter plate Steel<br>Dicke / Thickness 5 mm | b<br>±0,05 | L<br>-0,3 | L1<br>±0,01 | L2<br>±0,1 | h1<br>±0,025 | H  | Ød1<br>H13 | Ød2<br>H13 | Ød3<br>H7 | Ød4<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|--------------------------------------|----------------------------------------------------------------------------------|------------|-----------|-------------|------------|--------------|----|------------|------------|-----------|------------|------------------------------------------------------------|
| 18881                                | 19730                                                                            | 65         | 150       | 50          | 100        | 47           | 65 | 11         | 18         | 10        | 12         | 2x M10                                                     |
| 18883                                | 19731                                                                            | 65         | 200       | 100         | 150        | 47           | 65 | 11         | 18         | 10        | 12         | 2x M10                                                     |
| 18885                                | 19732                                                                            | 65         | 250       | 150         | 200        | 47           | 65 | 11         | 18         | 10        | 12         | 3x M10                                                     |
| 18887                                | 19733                                                                            | 65         | 300       | 200         | 250        | 47           | 65 | 11         | 18         | 10        | 12         | 3x M10                                                     |
| 18889                                | 19734                                                                            | 125        | 150       | 50          | 100        | 52           | 85 | 17,5       | 26         | 16        | 18         | 2x M16                                                     |
| 18891                                | 19735                                                                            | 125        | 200       | 100         | 150        | 52           | 85 | 17,5       | 26         | 16        | 18         | 2x M16                                                     |
| 18893                                | 19736                                                                            | 125        | 250       | 150         | 200        | 52           | 85 | 17,5       | 26         | 16        | 18         | 3x M16                                                     |
| 18895                                | 19737                                                                            | 125        | 300       | 200         | 250        | 52           | 85 | 17,5       | 26         | 16        | 18         | 3x M16                                                     |

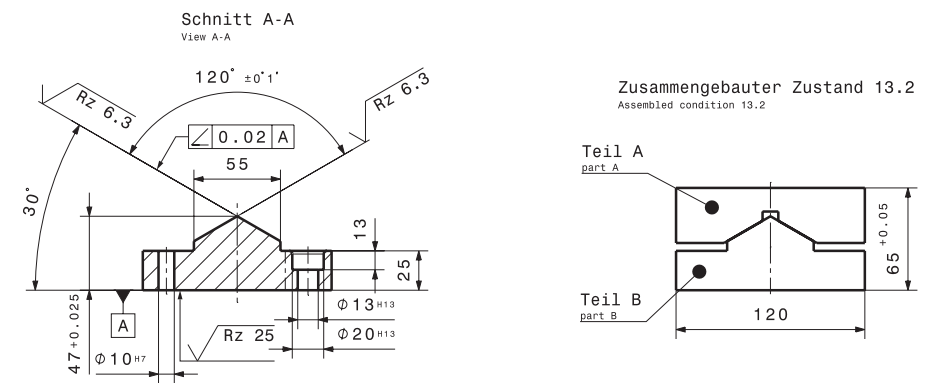
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



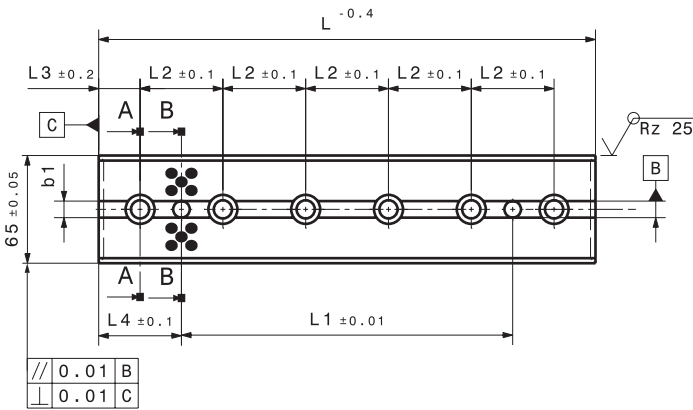


Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

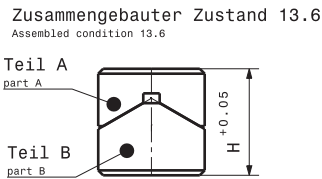
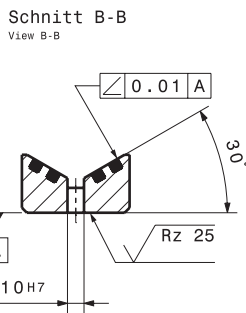
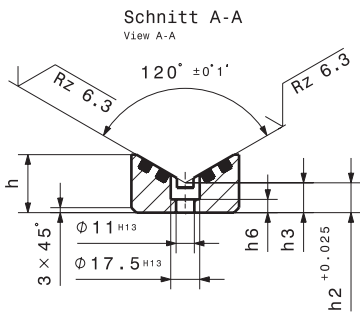


Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

13.6 Prismenführungen  
13.6 Cam bottom plates

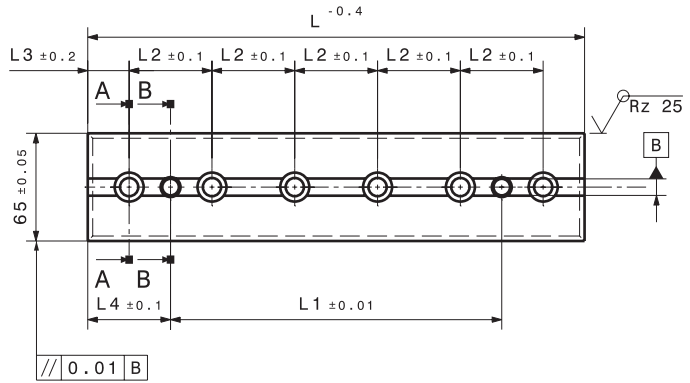


Gleitrichtung  
Slide direction

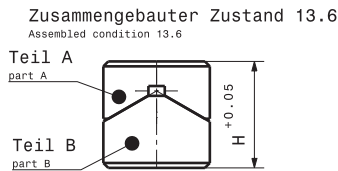
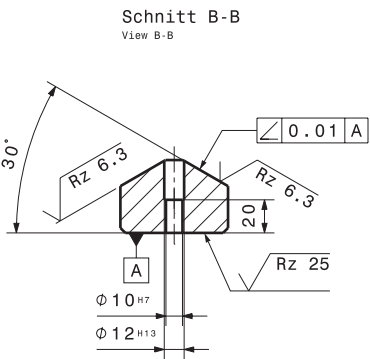
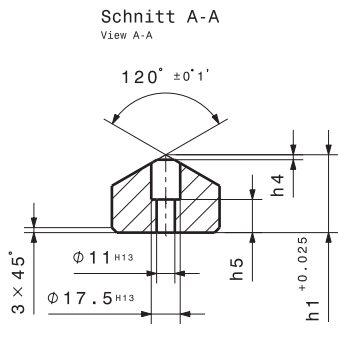


| Ident-No.<br>WF750/1A<br>Teil A / Part A | L<br>-0,4 | h  | L1<br>±0,01 | L2<br>±0,1 | L3<br>±0,2 | L4<br>±0,1 | h2<br>+0,025 | h3 | h6 | H<br>+0,05 | b1 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|------------------------------------------|-----------|----|-------------|------------|------------|------------|--------------|----|----|------------|----|------------------------------------------------------------|
| 15603                                    | 100       | 35 | 20          | 60         | 20         | 40         | 18           | 15 | 8  | 65         | 10 | 2x M10                                                     |
| 17280                                    | 150       | 35 | 50          | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 3x M10                                                     |
| 17282                                    | 200       | 35 | 100         | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 4x M10                                                     |
| 17284                                    | 250       | 35 | 150         | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 5x M10                                                     |
| 17286                                    | 300       | 35 | 200         | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 6x M10                                                     |
| 64420                                    | 350       | 35 | 250         | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 7x M10                                                     |
| 64221                                    | 400       | 35 | 300         | 50         | 25         | 50         | 18           | 15 | 8  | 65         | 10 | 8x M10                                                     |
| 15587                                    | 100       | 37 | 20          | 60         | 20         | 40         | 20           | 20 | 10 | 50         | 13 | 2x M10                                                     |
| 14763                                    | 125       | 37 | 25          | 75         | 25         | 50         | 20           | 20 | 10 | 50         | 13 | 2x M10                                                     |
| 15463                                    | 150       | 37 | 50          | 100        | 25         | 50         | 20           | 20 | 10 | 50         | 13 | 2x M10                                                     |
| 14324                                    | 200       | 37 | 100         | 75         | 25         | 50         | 20           | 20 | 10 | 50         | 13 | 3x M10                                                     |
| 17276                                    | 250       | 37 | 150         | 100        | 25         | 50         | 20           | 20 | 10 | 50         | 13 | 3x M10                                                     |
| 17278                                    | 300       | 37 | 200         | 125        | 25         | 50         | 20           | 20 | 10 | 50         | 13 | 3x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



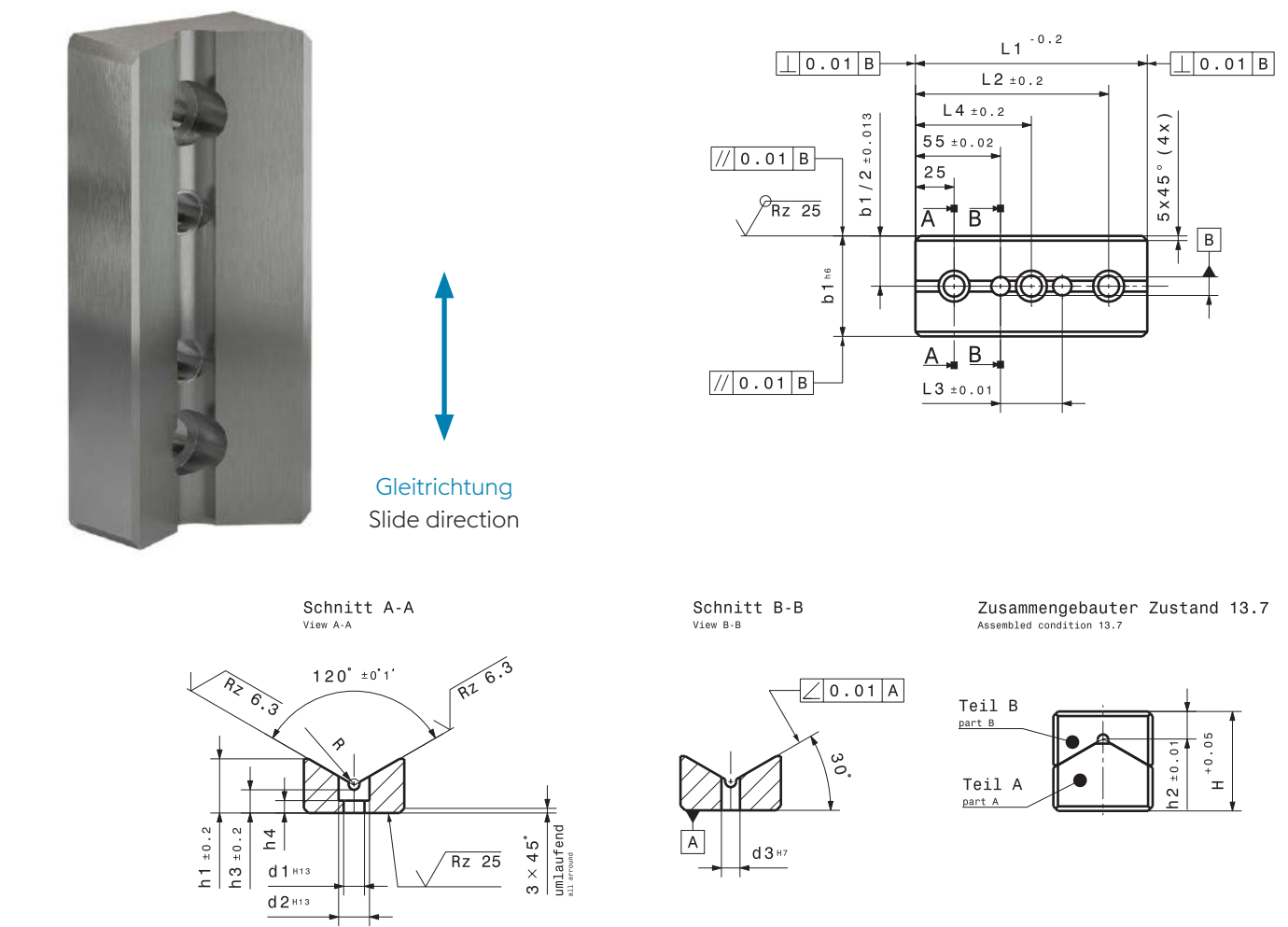
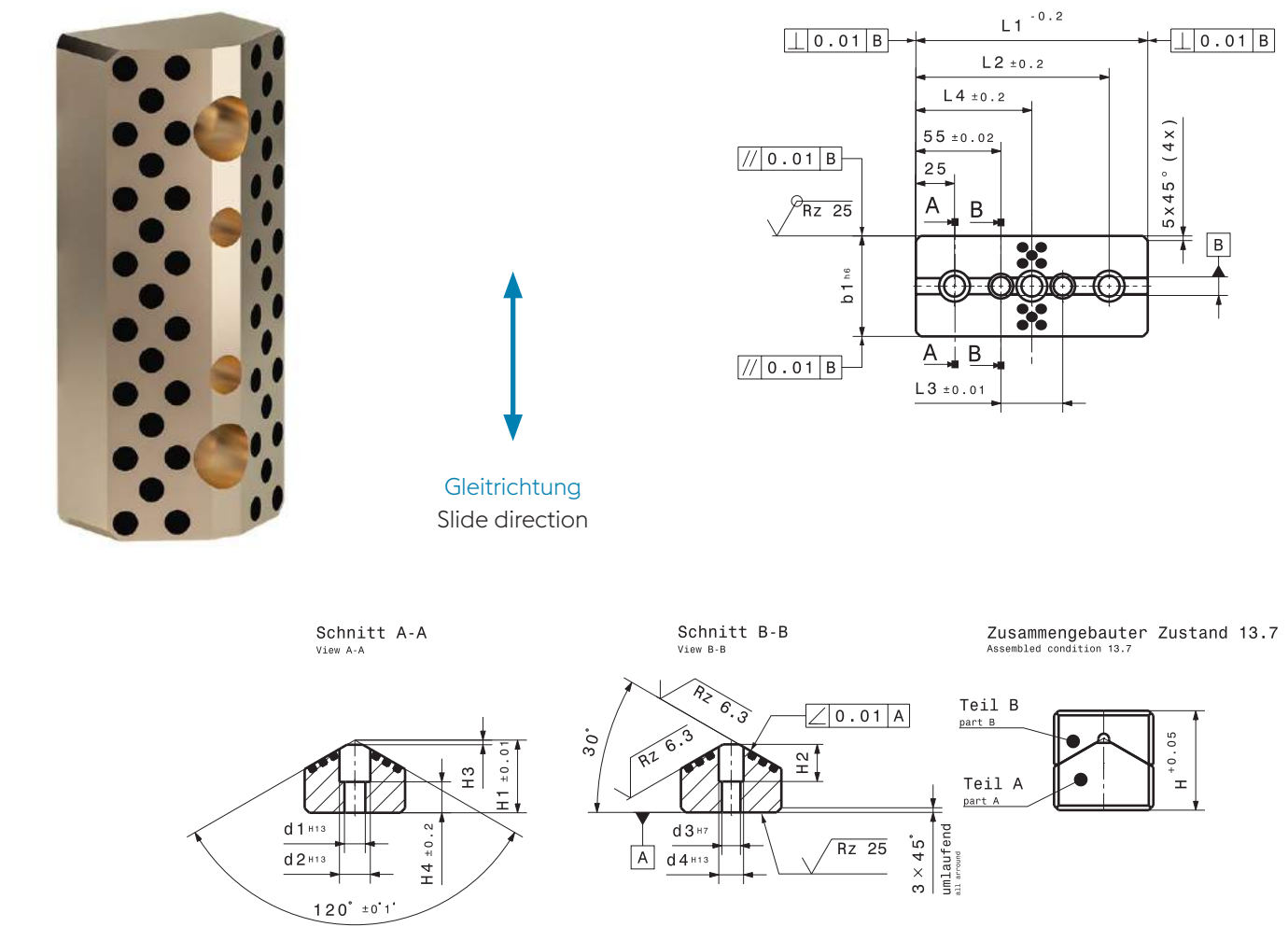
Gleitrichtung  
Slide direction



| Ident-No.<br>St 1<br>Teil B / Part B | L<br>-0,4 | L1<br>±0,01 | L2<br>±0,1 | L3<br>±0,2 | L4<br>±0,1 | h1<br>+0,025 | h4 | h5 | H<br>+0,05 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|--------------------------------------|-----------|-------------|------------|------------|------------|--------------|----|----|------------|------------------------------------------------------------|
| 15604                                | 100       | 20          | 60         | 20         | 40         | 47           | 3  | 20 | 65         | 2x M10                                                     |
| 17281                                | 150       | 50          | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 3x M10                                                     |
| 17283                                | 200       | 100         | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 4x M10                                                     |
| 17285                                | 250       | 150         | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 5x M10                                                     |
| 17287                                | 300       | 200         | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 6x M10                                                     |
| 64418                                | 350       | 250         | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 7x M10                                                     |
| 64419                                | 400       | 300         | 50         | 25         | 50         | 47           | 3  | 20 | 65         | 8x M10                                                     |
| 15713                                | 100       | 20          | 60         | 20         | 40         | 30           | 4  | 10 | 50         | 2x M10                                                     |
| 14812                                | 125       | 25          | 75         | 25         | 50         | 30           | 4  | 10 | 50         | 2x M10                                                     |
| 15469                                | 150       | 50          | 100        | 25         | 50         | 30           | 4  | 10 | 50         | 2x M10                                                     |
| 14323                                | 200       | 100         | 75         | 25         | 50         | 30           | 4  | 10 | 50         | 3x M10                                                     |
| 17277                                | 250       | 150         | 100        | 25         | 50         | 30           | 4  | 10 | 50         | 3x M10                                                     |
| 17279                                | 300       | 200         | 125        | 25         | 50         | 30           | 4  | 10 | 50         | 3x M10                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

13.7 Prismenführungen nach VDI 3357  
13.7 Cam bottom plates acc. VDI 3357



| Ident-No.<br>WF750/1A<br>Teil A / Part A | b1<br>h6 | H1<br>±0,01 | L1<br>-0,2 | L2<br>±0,2 | L3<br>±0,01 | L4<br>±0,2 | H<br>+0,05 | H2 | H3 | H4<br>±0,2 | d1<br>H13 | d2<br>H13 | d3<br>H7 | d4<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|------------------------------------------|----------|-------------|------------|------------|-------------|------------|------------|----|----|------------|-----------|-----------|----------|-----------|------------------------------------------------------------|
| 16010                                    | 65       | 47          | 150        | 125        | 45          | -          | 65         | 20 | 3  | 20         | 13,5      | 20        | 12       | 14        | 2x M12                                                     |
| 16011                                    | 65       | 47          | 200        | 175        | 95          | -          | 65         | 20 | 3  | 20         | 13,5      | 20        | 12       | 14        | 2x M12                                                     |
| 16012                                    | 65       | 47          | 250        | 225        | 145         | 125        | 65         | 20 | 3  | 20         | 13,5      | 20        | 12       | 14        | 3x M12                                                     |
| 16009                                    | 65       | 47          | 300        | 275        | 195         | 150        | 65         | 20 | 3  | 20         | 13,5      | 20        | 12       | 14        | 3x M12                                                     |
| 16000                                    | 125      | 57          | 150        | 125        | 45          | -          | 85         | 20 | 5  | 15         | 17,5      | 26        | 16       | 18        | 2x M16                                                     |
| 16001                                    | 125      | 57          | 200        | 175        | 95          | -          | 85         | 20 | 5  | 15         | 17,5      | 26        | 16       | 18        | 2x M16                                                     |
| 16002                                    | 125      | 57          | 250        | 225        | 145         | 125        | 85         | 20 | 5  | 15         | 17,5      | 26        | 16       | 18        | 3x M16                                                     |
| 16003                                    | 125      | 57          | 300        | 275        | 195         | 150        | 85         | 20 | 5  | 15         | 17,5      | 26        | 16       | 18        | 3x M16                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1<br>Teil B / Part B | b1<br>h6 | h1<br>±0,2 | L1<br>-0,2 | L2<br>±0,2 | L3<br>±0,01 | L4<br>±0,2 | H<br>+0,05 | h2<br>±0,01 | h3<br>±0,2 | h4 | R  | d1<br>H13 | d2<br>H13 | d3<br>H7 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|--------------------------------------|----------|------------|------------|------------|-------------|------------|------------|-------------|------------|----|----|-----------|-----------|----------|------------------------------------------------------------|
| 16015                                | 65       | 35         | 150        | 125        | 45          | -          | 65         | 18          | 15         | 8  | 7  | 13,5      | 20        | 12       | 2x M12                                                     |
| 16016                                | 65       | 35         | 200        | 175        | 95          | -          | 65         | 18          | 15         | 8  | 7  | 13,5      | 20        | 12       | 2x M12                                                     |
| 16017                                | 65       | 35         | 250        | 225        | 145         | 125        | 65         | 18          | 15         | 8  | 7  | 13,5      | 20        | 12       | 3x M12                                                     |
| 16008                                | 65       | 35         | 300        | 275        | 195         | 150        | 65         | 18          | 15         | 8  | 7  | 13,5      | 20        | 12       | 3x M12                                                     |
| 16004                                | 125      | 60         | 150        | 125        | 45          | -          | 85         | 28          | 24         | 15 | 10 | 17,5      | 26        | 16       | 2x M16                                                     |
| 16005                                | 125      | 60         | 200        | 175        | 95          | -          | 85         | 28          | 24         | 15 | 10 | 17,5      | 26        | 16       | 2x M16                                                     |
| 16006                                | 125      | 60         | 250        | 225        | 145         | 125        | 85         | 28          | 24         | 15 | 10 | 17,5      | 26        | 16       | 3x M16                                                     |
| 16007                                | 125      | 60         | 300        | 275        | 195         | 150        | 85         | 28          | 24         | 15 | 10 | 17,5      | 26        | 16       | 3x M16                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 14. Laschen- und Rechteckführungen, Verriegelungen

### 14. Guide bars, rectangular guide blocks, lockings

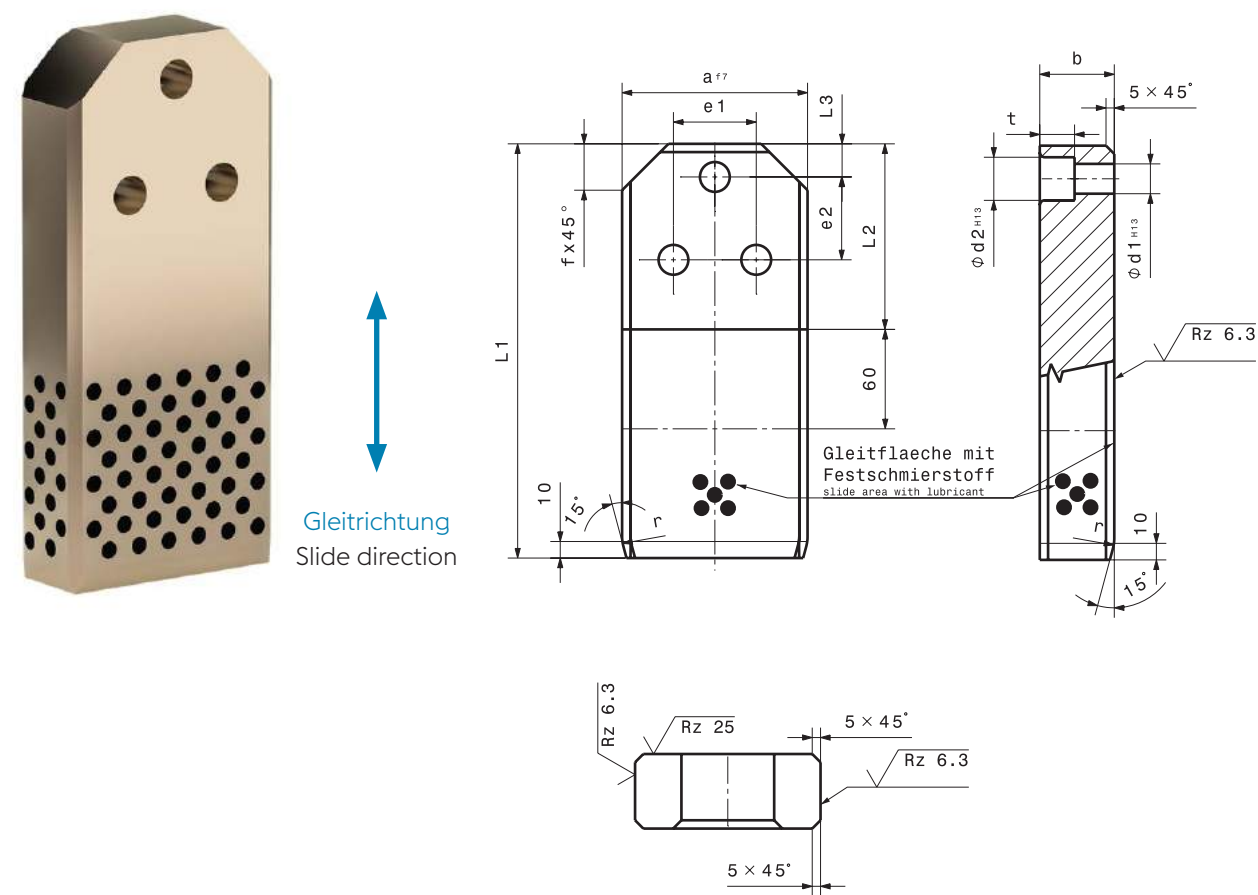
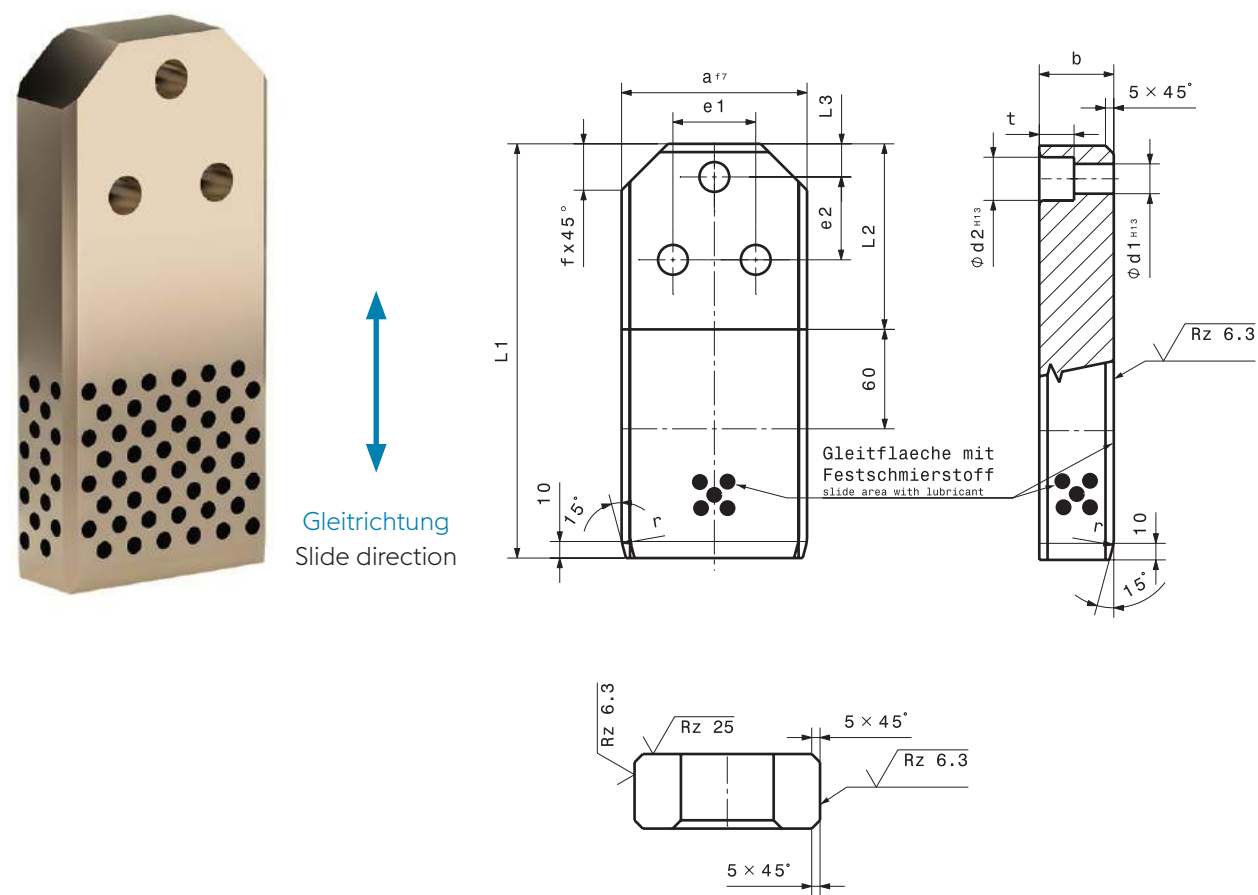
14.1  Laschenführungen nach VDI 3387  
Guide bars acc. VDI 3387  
WF750, Stahl / WF750, steel

14.2  Rechteckführungen  
Rectangular guide blocks

14.3  Verriegelungen  
Lockings

14.1 Laschenführungen nach VDI 3387

14.1 Guide bars acc. VDI 3387



| Ident-No.<br>WF750/1A | a<br>f7 | L1  | b  | e1 | e2 | f  | r  | t  | L2 | L3 | Ød1<br>H13 | Ød2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|---------|-----|----|----|----|----|----|----|----|----|------------|------------|------------------------------------------------------------|
| 19150                 | 63      | 180 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19151                 | 63      | 200 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19152                 | 63      | 224 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19153                 | 63      | 180 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19154                 | 63      | 200 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19155                 | 63      | 224 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19156                 | 71      | 180 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19157                 | 71      | 200 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19158                 | 71      | 224 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19159                 | 71      | 180 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19160                 | 71      | 200 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19161                 | 71      | 224 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |

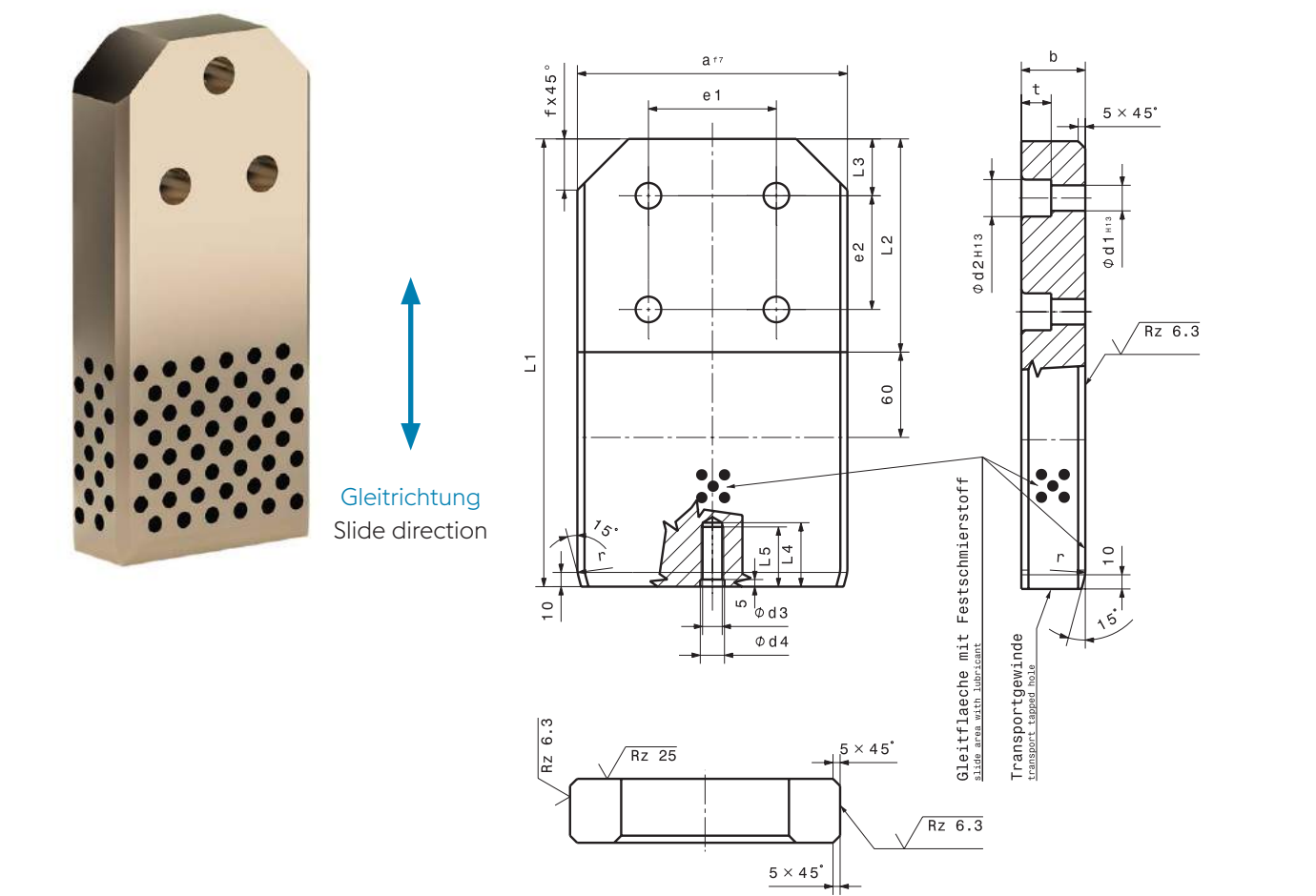
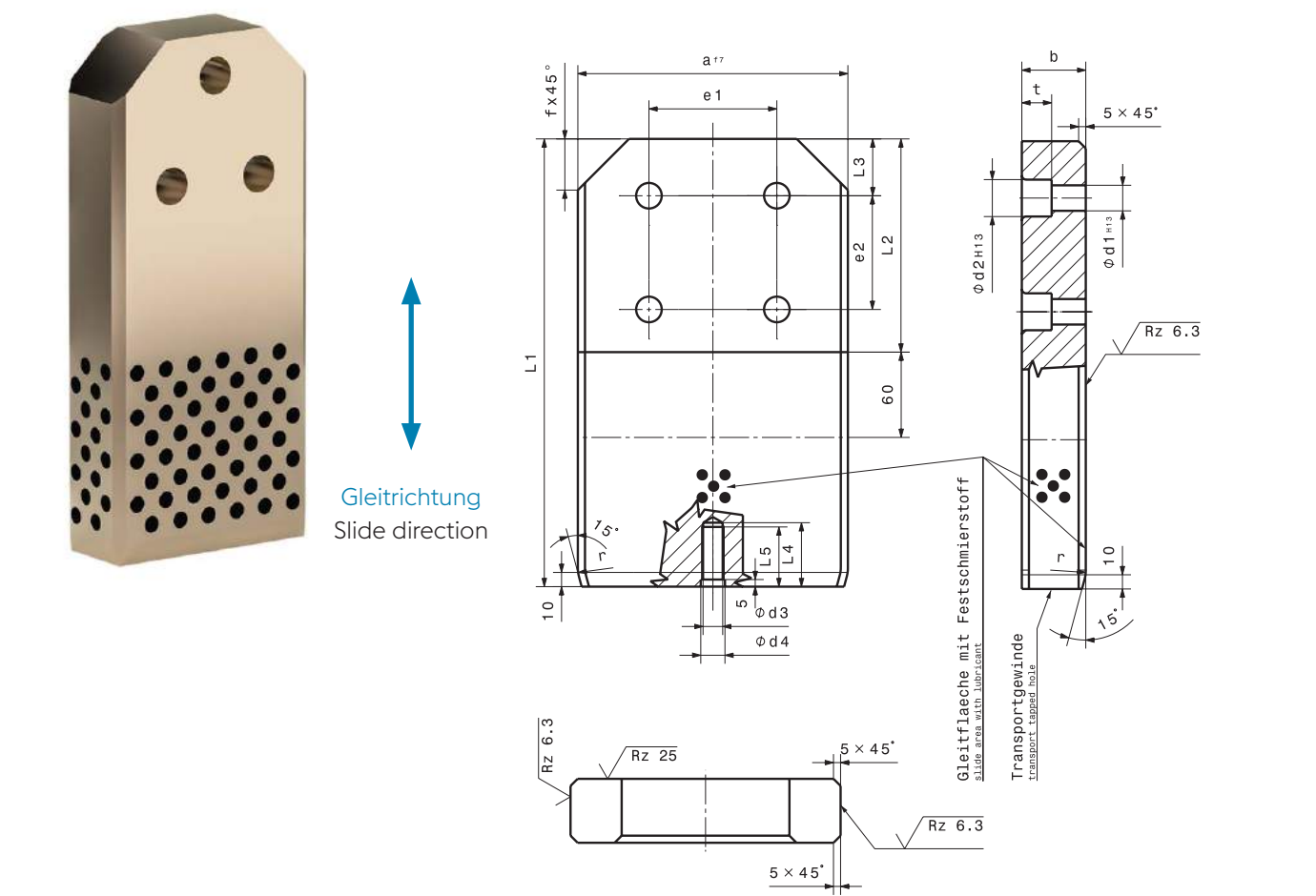
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | a<br>f7 | L1  | b  | e1 | e2 | f  | r  | t  | L2  | L3 | Ød1<br>H13 | Ød2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|---------|-----|----|----|----|----|----|----|-----|----|------------|------------|------------------------------------------------------------|
| 19162                 | 90      | 200 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19163                 | 90      | 224 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19164                 | 90      | 250 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19165                 | 90      | 200 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19166                 | 90      | 224 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19167                 | 90      | 250 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19168                 | 112     | 200 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19169                 | 112     | 224 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19170                 | 112     | 250 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19171                 | 112     | 200 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19172                 | 112     | 224 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19173                 | 112     | 250 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

14.1 Laschenführungen nach VDI 3387

14.1 Guide bars acc. VDI 3387



| Ident-No.<br>WF750/1A | a<br>f7 | L1  | b  | e1 | e2 | f  | r    | t    | L2  | L3 | Ød1<br>H13 | Ød2<br>H13 | L4 | L5 | Ød3 | Ød4 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|---------|-----|----|----|----|----|------|------|-----|----|------------|------------|----|----|-----|-----|------------------------------------------------------------|
| 19174                 | 140     | 315 | 45 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19242                 | 140     | 355 | 45 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19175                 | 140     | 400 | 45 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19176                 | 140     | 315 | 56 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19177                 | 140     | 400 | 56 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19178                 | 190     | 315 | 45 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19179                 | 190     | 400 | 45 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19180                 | 190     | 315 | 56 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19181                 | 190     | 400 | 56 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19182                 | 190     | 315 | 71 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |
| 19183                 | 190     | 400 | 71 | 90 | 80 | 36 | 31,5 | 25,5 | 150 | 40 | 22         | 33         | 45 | 37 | M16 | 17  | 4x M20                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

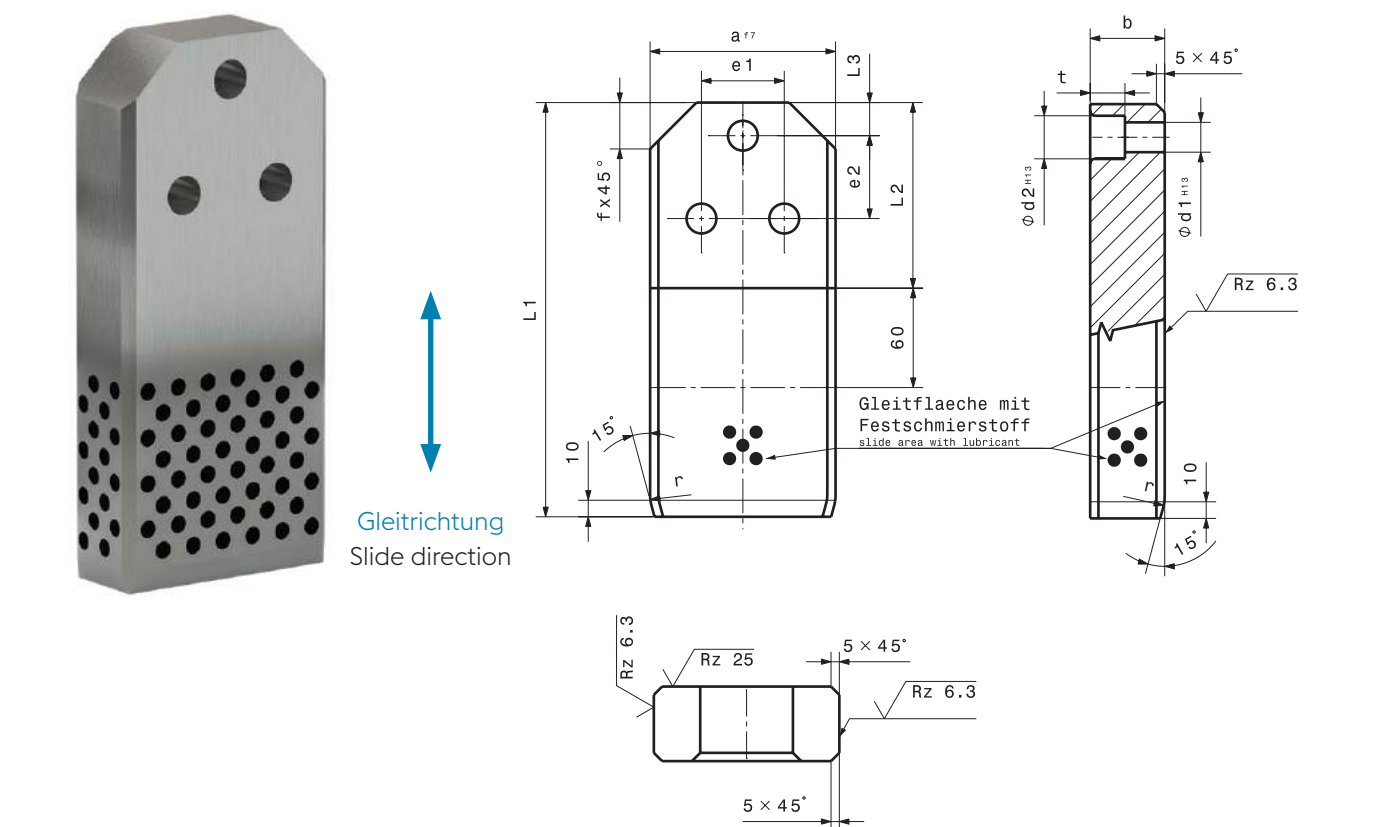
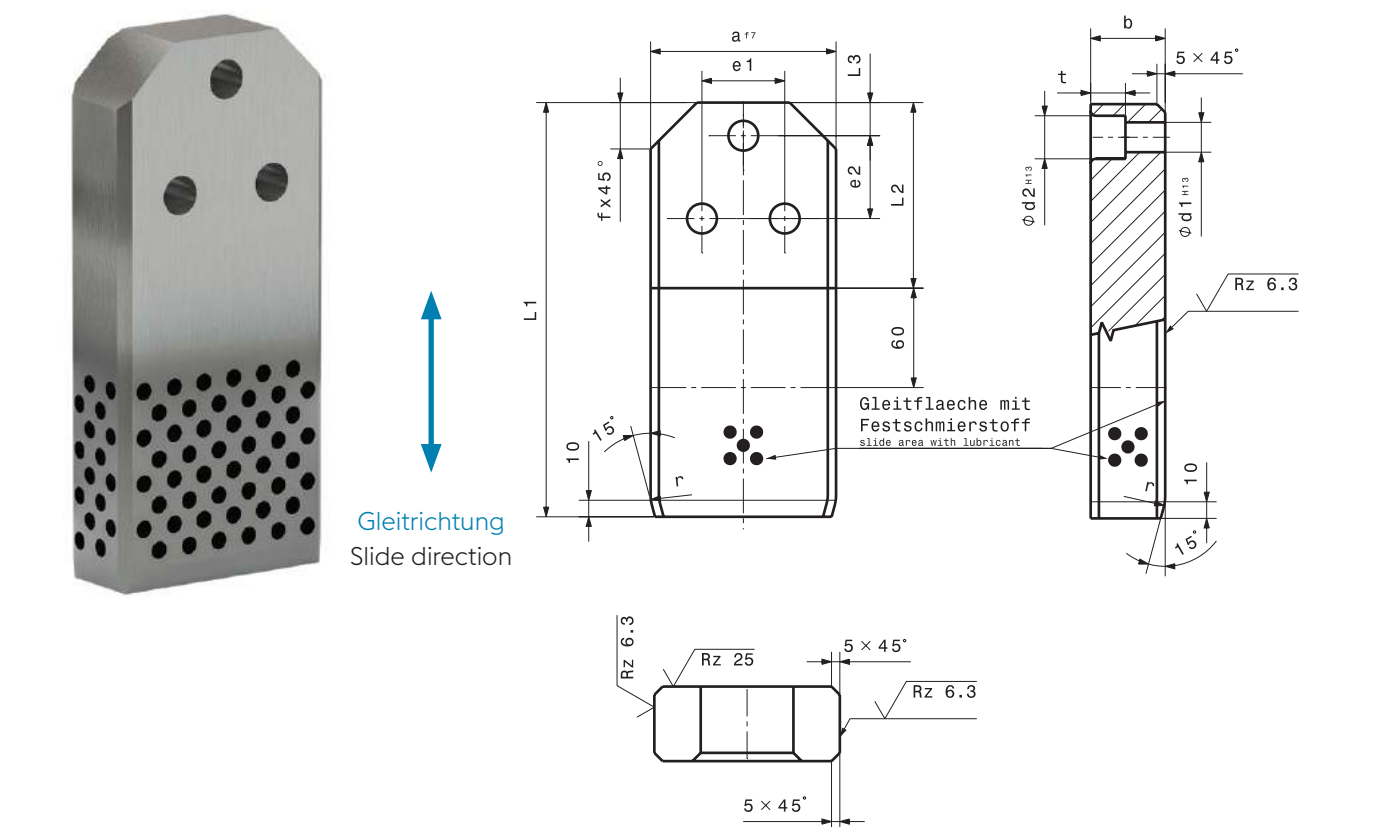
| Ident-No.<br>WF750/1A | a<br>f7 | L1  | b  | e1  | e2  | f  | r    | t    | L2  | L3 | Ød1<br>H13 | Ød2<br>H13 | L4 | L5 | Ød3 | Ød4 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|---------|-----|----|-----|-----|----|------|------|-----|----|------------|------------|----|----|-----|-----|------------------------------------------------------------|
| 19184                 | 240     | 500 | 56 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19185                 | 240     | 630 | 56 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19186                 | 240     | 500 | 71 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19187                 | 240     | 630 | 71 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19188                 | 240     | 500 | 90 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19189                 | 240     | 630 | 90 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19190                 | 290     | 500 | 56 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19191                 | 290     | 630 | 56 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19192                 | 290     | 500 | 71 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 45 | 37 | M16 | 17  | 4x M24                                                     |
| 19193                 | 290     | 630 | 71 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 49 | 41 | M20 | 21  | 4x M24                                                     |
| 19194                 | 290     | 500 | 90 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 49 | 41 | M20 | 21  | 4x M24                                                     |
| 19195                 | 290     | 630 | 90 | 160 | 160 | 36 | 31,5 | 30,5 | 250 | 40 | 26         | 40         | 49 | 41 | M20 | 21  | 4x M24                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



14.1 Laschenführungen nach VDI 3387

14.1 Guide bars acc. VDI 3387



| Ident-No.<br>WF St 1 | a<br>f7 | L1  | b  | b1 | e2 | f  | r  | t  | L2 | L3 | Ød1<br>H13 | Ød2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|----------------------|---------|-----|----|----|----|----|----|----|----|----|------------|------------|------------------------------------------------------------|
| 19196                | 63      | 180 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19197                | 63      | 200 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19198                | 63      | 224 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19199                | 63      | 180 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19200                | 63      | 200 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19201                | 63      | 224 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19202                | 71      | 180 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19203                | 71      | 200 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19204                | 71      | 224 | 25 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19205                | 71      | 180 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19206                | 71      | 200 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |
| 19207                | 71      | 224 | 36 | 36 | 50 | 18 | 16 | 16 | 90 | 20 | 14         | 20         | 3x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF St 1 | a<br>f7 | L1  | b  | b1 | e2 | f  | r  | t  | L2  | L3 | Ød1<br>H13 | Ød2<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|----------------------|---------|-----|----|----|----|----|----|----|-----|----|------------|------------|------------------------------------------------------------|
| 19208                | 90      | 200 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19209                | 90      | 224 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19210                | 90      | 250 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19211                | 90      | 200 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19212                | 90      | 224 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19213                | 90      | 250 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19214                | 112     | 200 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19215                | 112     | 224 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19216                | 112     | 250 | 36 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19217                | 112     | 200 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19218                | 112     | 224 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |
| 19219                | 112     | 250 | 45 | 50 | 50 | 28 | 25 | 21 | 100 | 20 | 18         | 26         | 3x M16                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 14.1 Guide bars acc. VDI 3387



## 14.1

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

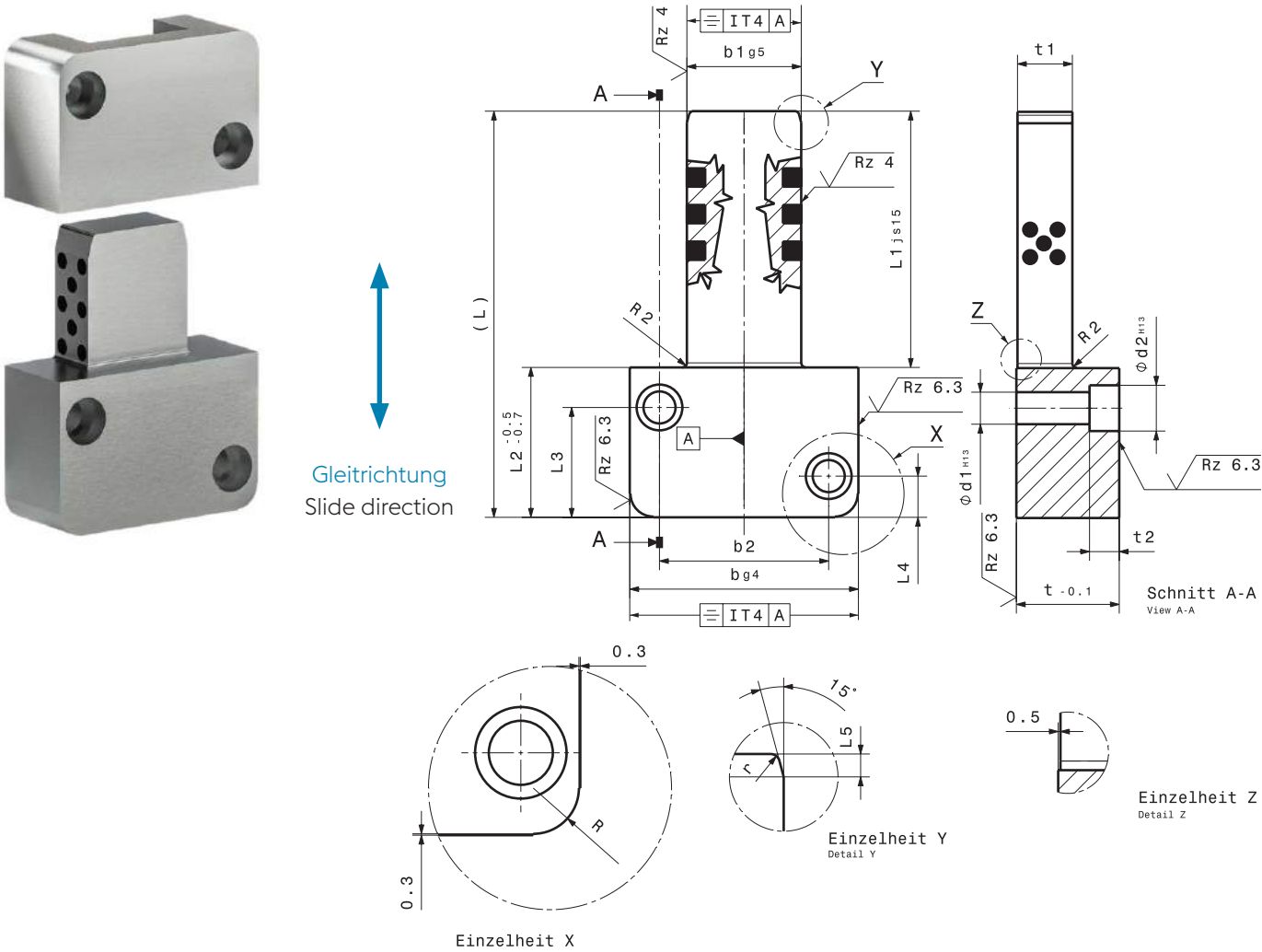
## 14.1 Guide bars acc. VDI 3387



## 14.1

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

14.2 Rechteckführungen
14.2 Rectangular guide blocks



| Ident-No.<br>WF St 1 | L   | b<br>g4 | t<br>-0,1 | L1<br>js15 | L2<br>-0,5<br>-0,7 | L3 | L4 | b1<br>g5 | b2 |
|----------------------|-----|---------|-----------|------------|--------------------|----|----|----------|----|
| 20240                | 42  | 40      | 20        | 20         | 22                 | 15 | 7  | 16       | 26 |
| 20241                | 52  | 45      | 22        | 25         | 27                 | 19 | 7  | 20       | 31 |
| 20242                | 68  | 50      | 25        | 32         | 36                 | 27 | 9  | 25       | 35 |
| 20243                | 86  | 63      | 32        | 40         | 46                 | 35 | 11 | 32       | 45 |
| 20244                | 106 | 85      | 36        | 50         | 56                 | 40 | 15 | 40       | 60 |
| 20245                | 122 | 100     | 40        | 56         | 66                 | 48 | 18 | 50       | 74 |
| 20250                | 62  | 40      | 20        | 40         | 22                 | 15 | 7  | 16       | 26 |
| 20251                | 77  | 45      | 22        | 50         | 27                 | 19 | 7  | 20       | 31 |
| 20252                | 99  | 50      | 25        | 63         | 36                 | 27 | 9  | 25       | 35 |
| 20253                | 126 | 63      | 32        | 80         | 46                 | 35 | 11 | 32       | 45 |
| 20254                | 156 | 85      | 36        | 100        | 56                 | 40 | 15 | 40       | 60 |
| 20255                | 178 | 100     | 40        | 112        | 66                 | 48 | 18 | 50       | 74 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

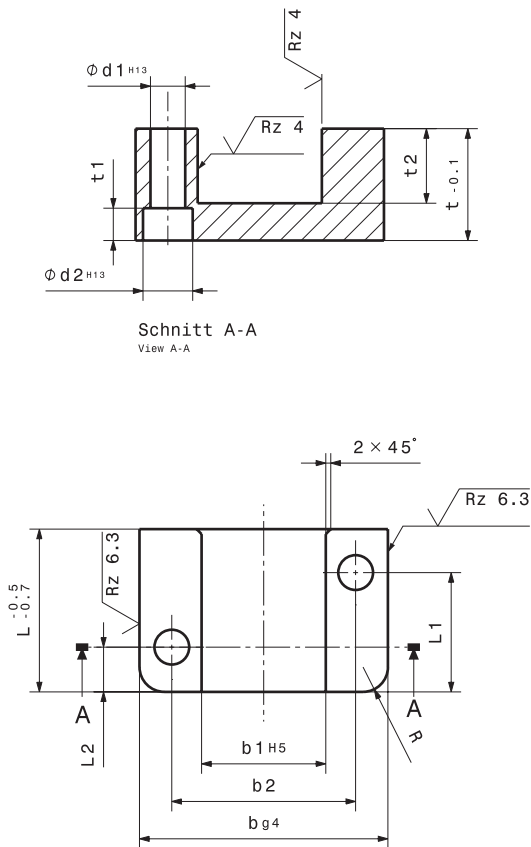
| t1 | t2  | Ød1<br>H13 | Ød2<br>H13 | R  | r   | L5 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|----|-----|------------|------------|----|-----|----|------------------------------------------------------------|
| 11 | 6,9 | 6,6        | 11         | 6  | 1,5 | 4  | 2x M6                                                      |
| 13 | 6,9 | 6,6        | 11         | 6  | 2   | 5  | 2x M6                                                      |
| 14 | 6,9 | 6,6        | 11         | 8  | 2   | 7  | 2x M6                                                      |
| 19 | 9   | 9          | 15         | 8  | 2   | 8  | 2x M8                                                      |
| 22 | 11  | 11         | 18         | 10 | 2   | 10 | 2x M10                                                     |
| 24 | 13  | 14         | 20         | 10 | 2   | 10 | 2x M12                                                     |
| 11 | 6,9 | 6,6        | 11         | 6  | 1,5 | 4  | 2x M6                                                      |
| 13 | 6,9 | 6,6        | 11         | 6  | 2   | 5  | 2x M6                                                      |
| 14 | 6,9 | 6,6        | 11         | 8  | 2   | 7  | 2x M6                                                      |
| 19 | 9   | 9          | 15         | 8  | 2   | 8  | 2x M8                                                      |
| 22 | 11  | 11         | 18         | 10 | 2   | 10 | 2x M10                                                     |
| 24 | 13  | 14         | 20         | 10 | 2   | 10 | 2x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

14.2 Führungsaufnahmen zu Rechteckführungen  
14.2 Guide block for rectangular guide blocks



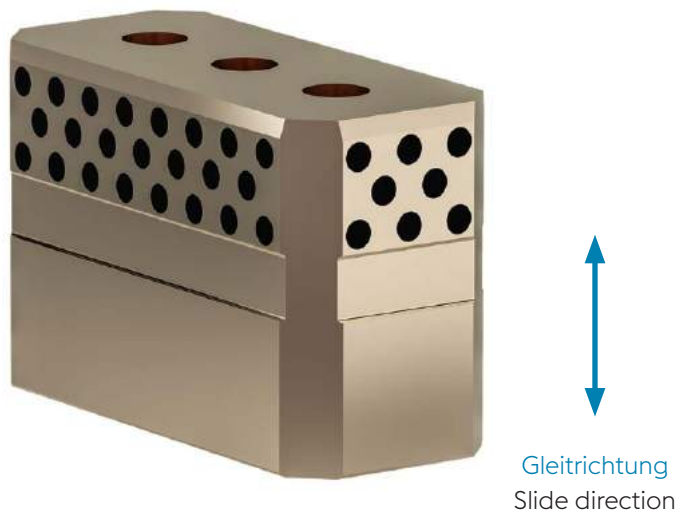
Gleitrichtung  
Slide direction



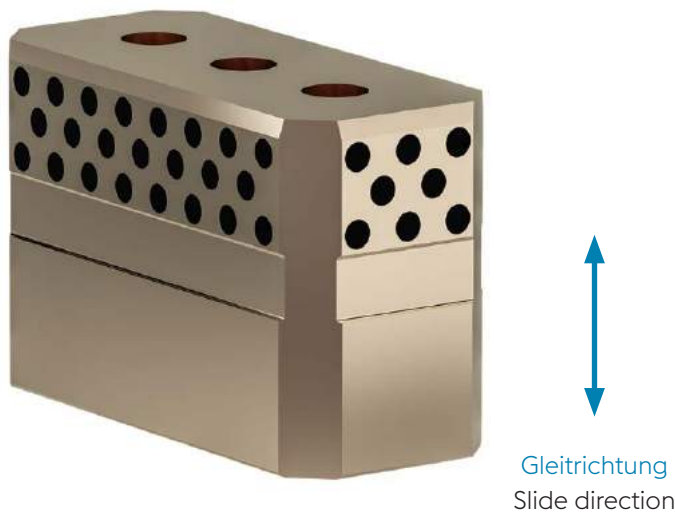
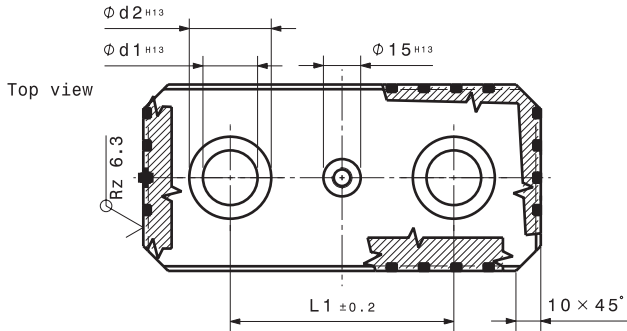
| Ident-No.<br>St 1 | L<br>-0,5<br>-0,7 | b<br>g4 | t<br>-0,1 | L1 | L2 | b1<br>H5 | b2 | t1  | t2 | Ød1<br>H13 | Ød2<br>H13 | R  | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-------------------|-------------------|---------|-----------|----|----|----------|----|-----|----|------------|------------|----|------------------------------------------------------------|
| 20230             | 22                | 40      | 20        | 15 | 7  | 16       | 26 | 6,9 | 12 | 6,6        | 11         | 6  | 2x M6                                                      |
| 20231             | 27                | 45      | 22        | 19 | 7  | 20       | 31 | 6,9 | 14 | 6,6        | 11         | 6  | 2x M6                                                      |
| 20232             | 36                | 50      | 25        | 27 | 9  | 25       | 35 | 6,9 | 15 | 6,6        | 11         | 8  | 2x M6                                                      |
| 20233             | 46                | 63      | 32        | 35 | 11 | 32       | 45 | 9   | 20 | 9          | 15         | 8  | 2x M8                                                      |
| 20234             | 56                | 85      | 36        | 40 | 15 | 40       | 60 | 11  | 23 | 11         | 18         | 10 | 2x M10                                                     |
| 20235             | 66                | 100     | 40        | 48 | 18 | 50       | 74 | 13  | 25 | 14         | 20         | 10 | 2x M12                                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

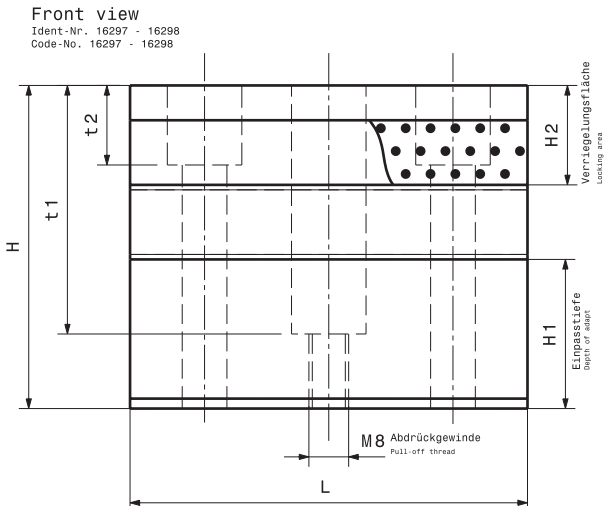
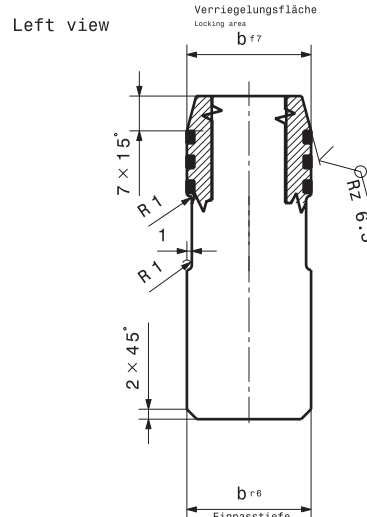
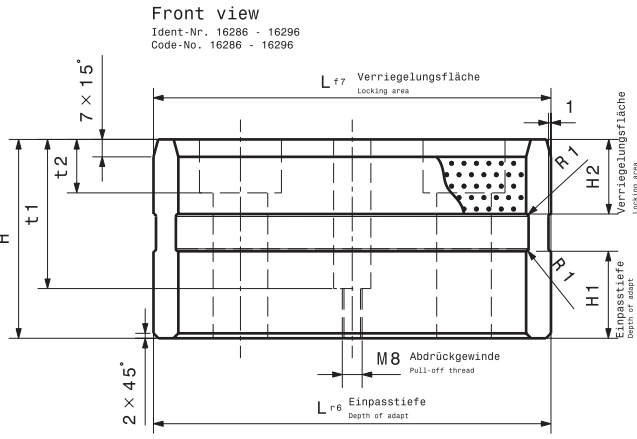
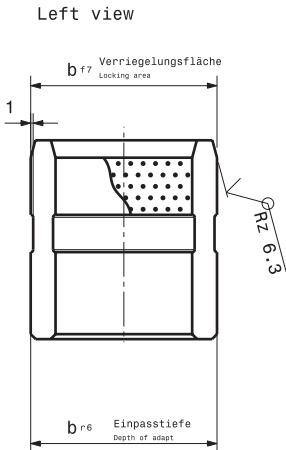
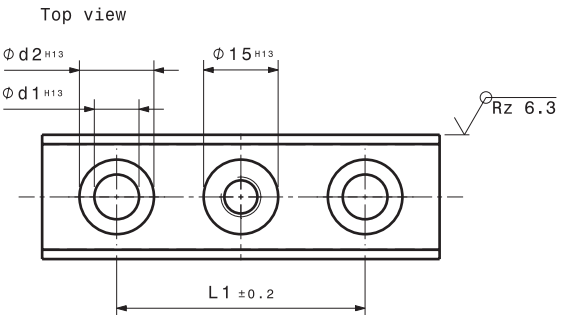
14.3 Verriegelungen  
14.3 Lockings



Gleitrichtung  
Slide direction



Gleitrichtung  
Slide direction



| Ident-No.<br>WF750/1A | L<br>r6/f7 | b<br>r6/f7 | H  | L1<br>$\pm 0.2$ | t1 | t2   | H1 | H2 | $\phi d1$<br>H13 | $\phi d2$<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|------------|------------|----|-----------------|----|------|----|----|------------------|------------------|------------------------------------------------------------|
| 16286                 | 80         | 35         | 80 | 50              | 60 | 13   | 35 | 30 | 13,5             | 20               | 2x M12x90                                                  |
| 16287                 | 100        | 35         | 80 | 60              | 60 | 13   | 35 | 30 | 13,5             | 20               | 2x M12x90                                                  |
| 16288                 | 125        | 35         | 80 | 80              | 60 | 13   | 35 | 30 | 13,5             | 20               | 2x M12x90                                                  |
| 16289                 | 160        | 35         | 80 | 100             | 60 | 13   | 35 | 30 | 13,5             | 20               | 2x M12x90                                                  |
| 16290                 | 100        | 55         | 80 | 60              | 60 | 17,5 | 35 | 30 | 17,5             | 26               | 2x M16x90                                                  |
| 16291                 | 125        | 55         | 80 | 70              | 60 | 17,5 | 35 | 30 | 17,5             | 26               | 2x M16x90                                                  |
| 16293                 | 160        | 55         | 80 | 100             | 60 | 17,5 | 35 | 30 | 17,5             | 26               | 2x M16x90                                                  |
| 16294                 | 100        | 75         | 80 | 50              | 60 | 21,5 | 35 | 30 | 22               | 33               | 2x M20x90                                                  |
| 16295                 | 125        | 75         | 80 | 70              | 60 | 21,5 | 35 | 30 | 22               | 33               | 2x M20x90                                                  |
| 16296                 | 160        | 75         | 80 | 90              | 60 | 21,5 | 35 | 30 | 22               | 33               | 2x M20x90                                                  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>WF750/1A | L   | b<br>r6/f7 | H  | L1<br>$\pm 0.2$ | t1 | t2 | H1 | H2 | $\phi d1$<br>H13 | $\phi d2$<br>H13 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|-----------------------|-----|------------|----|-----------------|----|----|----|----|------------------|------------------|------------------------------------------------------------|
| 16297                 | 80  | 25         | 65 | 50              | 50 | 16 | 30 | 20 | 9                | 15               | 2x M8x80                                                   |
| 16298                 | 100 | 25         | 65 | 70              | 50 | 16 | 30 | 20 | 9                | 15               | 2x M8x80                                                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

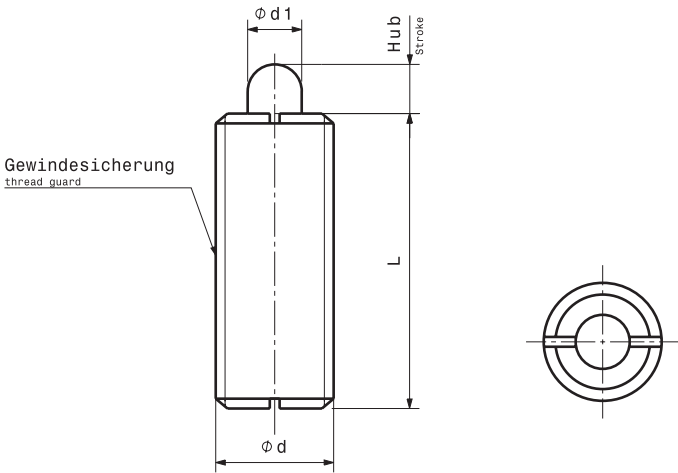


## 16. Druckstücke, Kantenheber, Federbolzen

### 16. Spring ball plungers, flange lifters, spring bolts

- 16.2  Federnde Druckstücke  
Springloaded triggers
- 16.3  Federnde Druckstücke, langer Hub  
Springloaded triggers, long strike
- 16.5  Ziehteilheber mit Führungsbuchse  
Spring bolt with guide bush
- 16.6  Gasdruckfedern  
Gas springs
- 16.7  Kantenheber  
Flange lifters
- 16.10  Federbolzen  
Spring bolts

16.2 Federnde Druckstücke  
16.2 Springloaded triggers



\* Werkstoff: Material:  
Druckstueckgehaeuse, 34 CrMoS4, schwarz chromiert  
Trigger housing, 34 CrMoS4, black chromated  
Druckbolzen, C80W2, 36-40 HRC  
Springloaded trigger, C80W2, 36-40 HRC

Große Belastung / schwarz-chrom. Nase  
High load / black-chrom nose

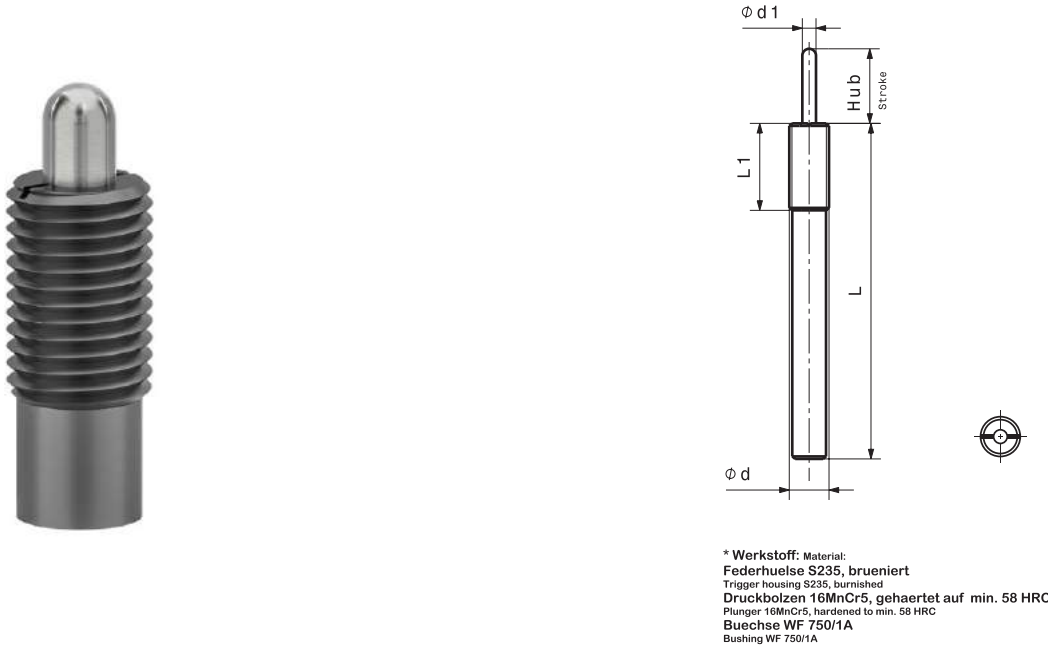
| Ident-No. | Bezeichnung<br>Type | Ød         | L  | Hub<br>Stroke | Ød1 | Federkraft min.<br>Spring force min.<br>N | Federkraft max.<br>Spring force max.<br>N |
|-----------|---------------------|------------|----|---------------|-----|-------------------------------------------|-------------------------------------------|
| 19415     | SP-3H               | M3 x 0,5   | 10 | 1,5           | 1   | 0,5                                       | 3                                         |
| 19416     | SP-4H               | M4 x 0,7   | 12 | 2             | 1,6 | 2                                         | 10                                        |
| 19410     | SP-5H               | M5 x 0,8   | 20 | 3             | 2   | 4                                         | 20                                        |
| 19411     | SP-6H               | M6 x 1     | 25 | 3             | 2,5 | 8                                         | 30                                        |
| 19412     | SP-8H               | M8 x 1,25  | 25 | 3             | 3,1 | 8                                         | 30                                        |
| 19413     | SP-10H              | M10 x 1,5  | 30 | 5             | 3,8 | 10                                        | 50                                        |
| 19414     | SP-12H              | M12 x 1,75 | 30 | 5             | 5,5 | 10                                        | 50                                        |

Kleine Belastung / silber-chrom. Nase  
Low load / silver-chrom nose

| Ident-No. | Bezeichnung<br>Type | Ød         | L  | Hub<br>Stroke | Ød1 | Federkraft min.<br>Spring force min.<br>N | Federkraft max.<br>Spring force max.<br>N |
|-----------|---------------------|------------|----|---------------|-----|-------------------------------------------|-------------------------------------------|
| 19420     | SP-5LS              | M5 x 0,8   | 13 | 3             | 2   | 2                                         | 8                                         |
| 19421     | SP-5L               | M5 x 0,8   | 20 | 3             | 2   | 2                                         | 10                                        |
| 19422     | SP-6L               | M6 x 1     | 25 | 3             | 2,5 | 3                                         | 10                                        |
| 19423     | SP-8L               | M8 x 1,25  | 25 | 3             | 3,1 | 3                                         | 10                                        |
| 19424     | SP-10L              | M10 x 1,5  | 30 | 5             | 3,8 | 3                                         | 15                                        |
| 19425     | SP-12L              | M12 x 1,75 | 30 | 5             | 5,5 | 2                                         | 10                                        |

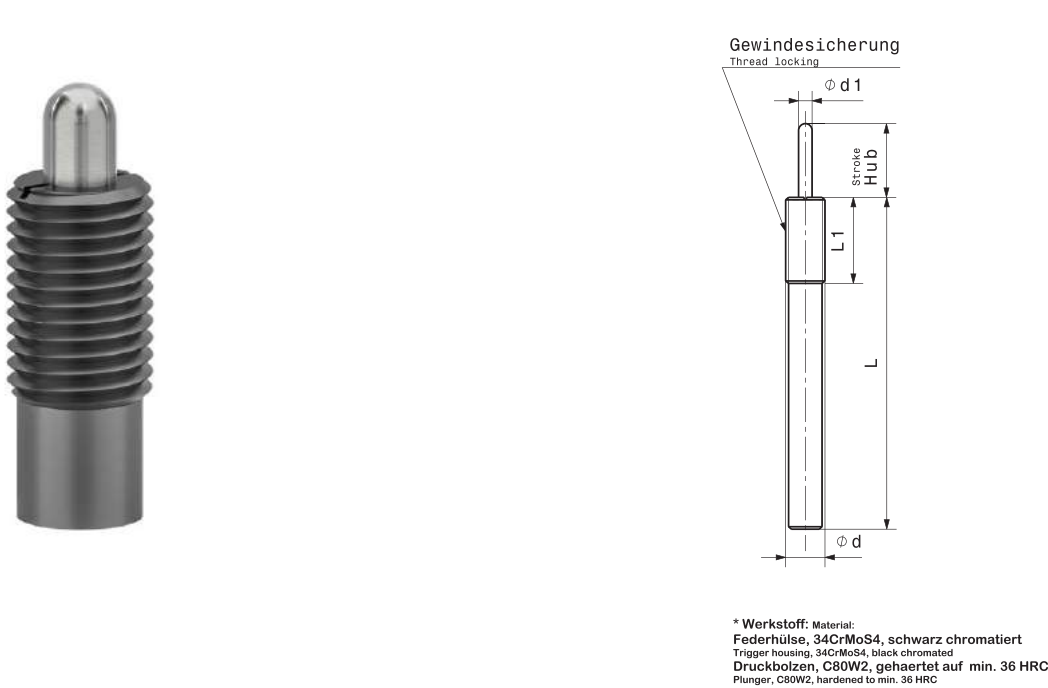
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

16.3 Federnde Druckstücke, langer Hub
16.3 Springloaded triggers, long strike



\* Werkstoff: Material:
Federhülse S235, brüniert
Trigger housing S235, burnished
Druckbolzen 16MnCr5, gehärtet auf min. 58 HRC
Plunger 16MnCr5, hardened to min. 58 HRC
Buechse WF 750/1A
Bushing WF 750/1A

16.3 Federnde Druckstücke, langer Hub
16.3 Springloaded triggers, long strike



\* Werkstoff: Material:
Federhülse, 34CrMoS4, schwarz chromatiert
Trigger housing, 34CrMoS4, black chromated
Druckbolzen, C80W2, gehärtet auf min. 36 HRC
Plunger, C80W2, hardened to min. 36 HRC

16.3

Federndes Druckstück mit wartungsfreier Führungsbuchse ohne Gewindegewinde
Springloaded triggers with maintenance free guide bushing, with thread guard

Table with 10 columns: Ident-No., Ød, Ident-No., Ød, L, Hub Stroke, Ød1, L1, Federkraft min. Spring force min. N, Federkraft max. Spring force max. N. It lists various trigger models and their specifications.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Federndes Druckstück ohne wartungsfreier Führungsbuchse mit Gewindegewinde
Springloaded triggers without maintenance free guide bushing, with thread guard

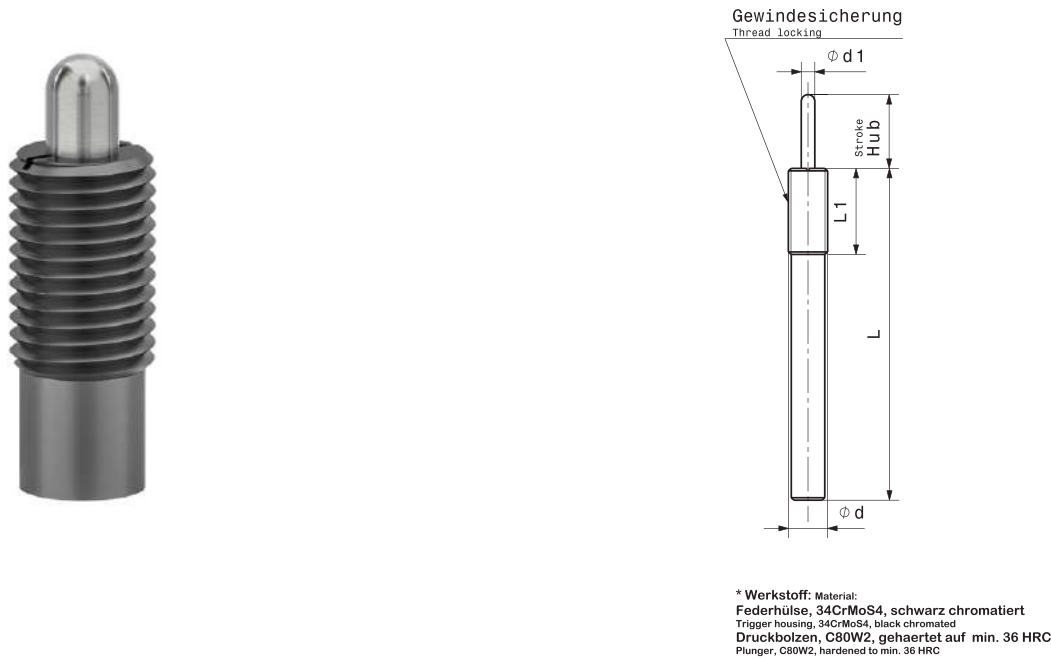
Hohe Belastung / dunkle Ausführung
High load / dark finishing

Table with 10 columns: Ident-No., Bezeichnung Type, Ød, L, Hub Stroke, Ød1, L1, Federkraft min. Spring force min. N, Federkraft max. Spring force max. N. It lists various trigger models and their specifications.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

16.3

16.3 Federnde Druckstücke, langer Hub
16.3 Springloaded triggers, long strike



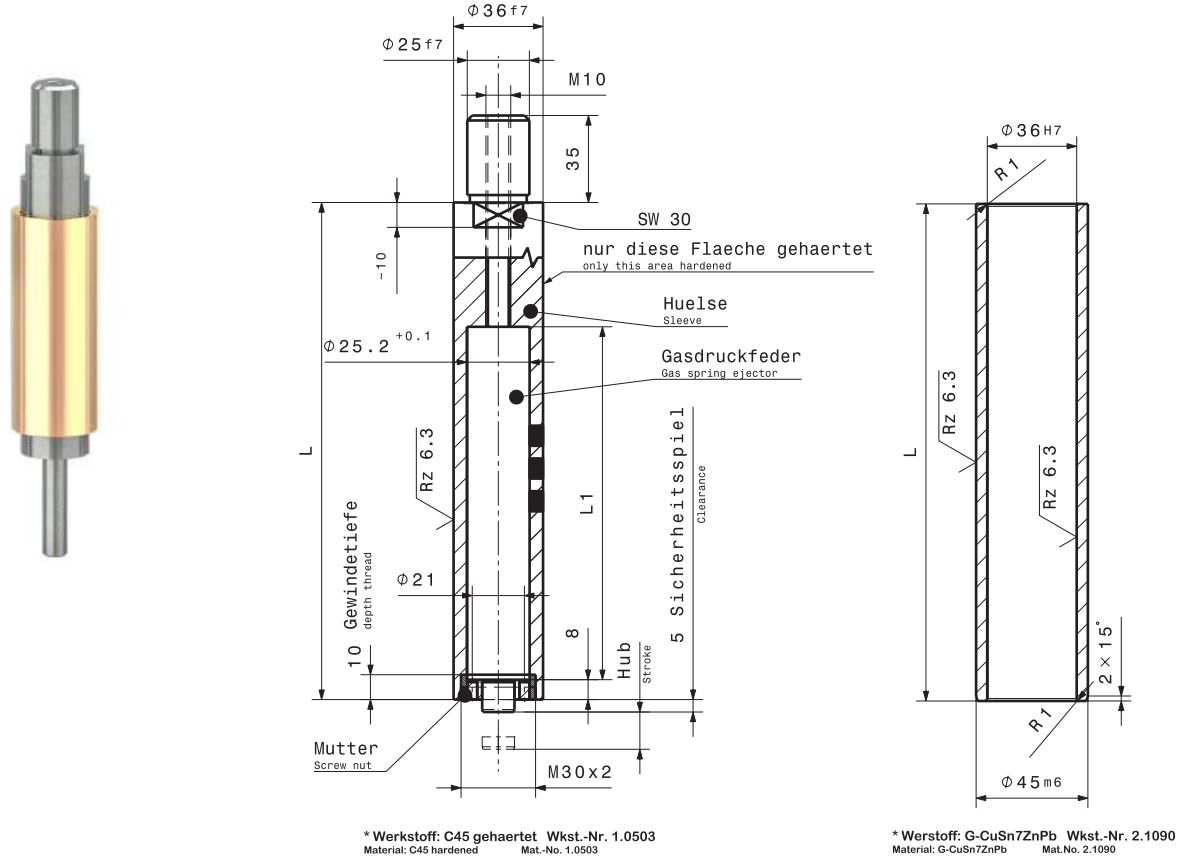
16.3 Federndes Druckstück ohne wartungsfreier Führungsbuchse mit Gewindesicherung
Springloaded triggers without maintenance free guide bushing, with thread guard

Geringe Belastung / helle Ausführung
Low load / light finishing

Table with 9 columns: Ident-No., Bezeichnung Type, Ød, L, Hub Stroke, Ød1, L1, Federkraft min. Spring force min. N, Federkraft max. Spring force max. N. It lists various trigger models and their specifications.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

16.5 Ziehteilheber mit Führungsbuchse
16.5 Spring bolt with guide bush



Ziehteilanheber
Spring bolt

Table with 5 columns: Ident-No., L, L1, Federhub Spring stroke, Nutzhub Stroke. It lists various spring bolt models and their specifications.

Lieferzustand: Gasdruckfeder mit 150 bar gefüllt
Delivery condition: Gas spring charged to 150 bar

Table with 3 columns: Federkraft Spring force N, Ident-No. Hülse Sleeve, Ident-No. Gasdruckfeder Gas spring. It lists various spring bolt models and their specifications.

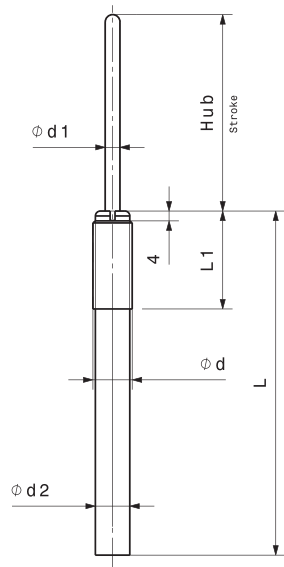
Buchse
Bushing

Table with 2 columns: Ident-No. G-CuSn7ZnPb, L. It lists various bushing models and their specifications.

Buchse nicht im Lieferumfang enthalten (gesondert bestellen)
Bushing not included (order separately)

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

16.6 Gasdruckfedern
16.6 Gas springs

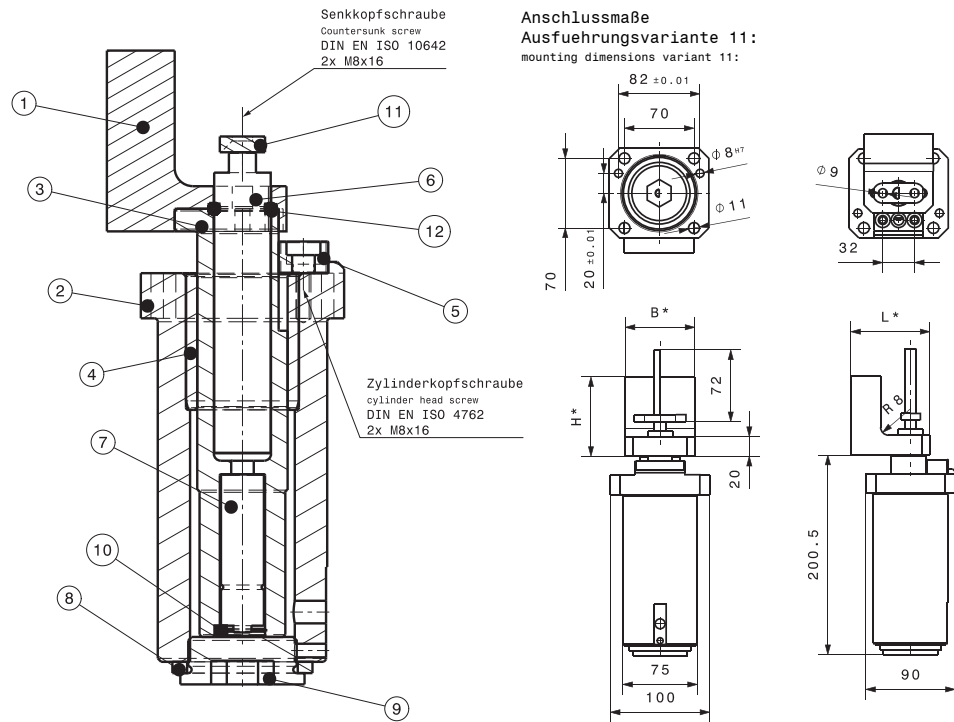


Lieferzustand: Gasdruckfeder mit 150 bar gefüllt
Delivery condition: Gas spring charged to 150 bar
Es ist eine unterschiedliche Befüllung von 20 bar bis zu 150 bar möglich.
The gas springs can be charged to a pressure of 20 bar up to 150 bar.

Table with 10 columns: Ident-No., Hub Stroke, L, L1, Ød, Ød1, Ød2, Federkraft MPa Spring force MPa 20 bar, Federkraft MPa Spring force MPa 150 bar, Ident-No. Befülladapter Charging adapter, Ident-No. Entladeadapter Discharging adapter. It lists various gas spring models and their specifications.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

16.7 Kantenheber
16.7 Flange lifters



\*Bei Konstruktion festlegen und in der Bestellung angeben
\*Specify at construction and establish in the order

Lieferumfang Ausführung 11:
Scope of delivery variant 11:

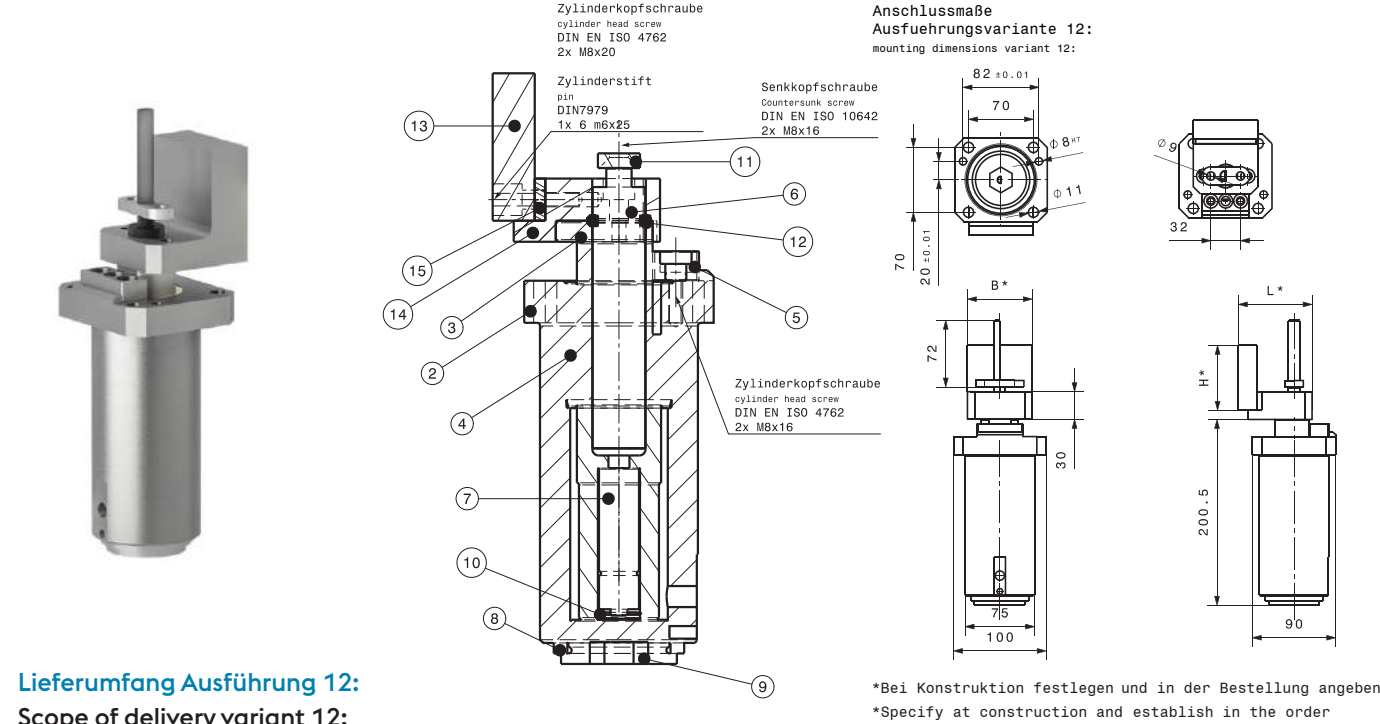
Table with 6 columns: Teil Part, Bezeichnung Description, Ident-No., and three additional columns for parts 9-12. It details the components included in the delivery scope for variant 11.

Ausführungsvariante 11
Design variant 11

Table with 5 columns: Ident-No., Abkratzerkopf Lifter Block, L, B, H. It provides dimensions for the lifter block in different configurations.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

16.7 Kantenheber
16.7 Flange lifters



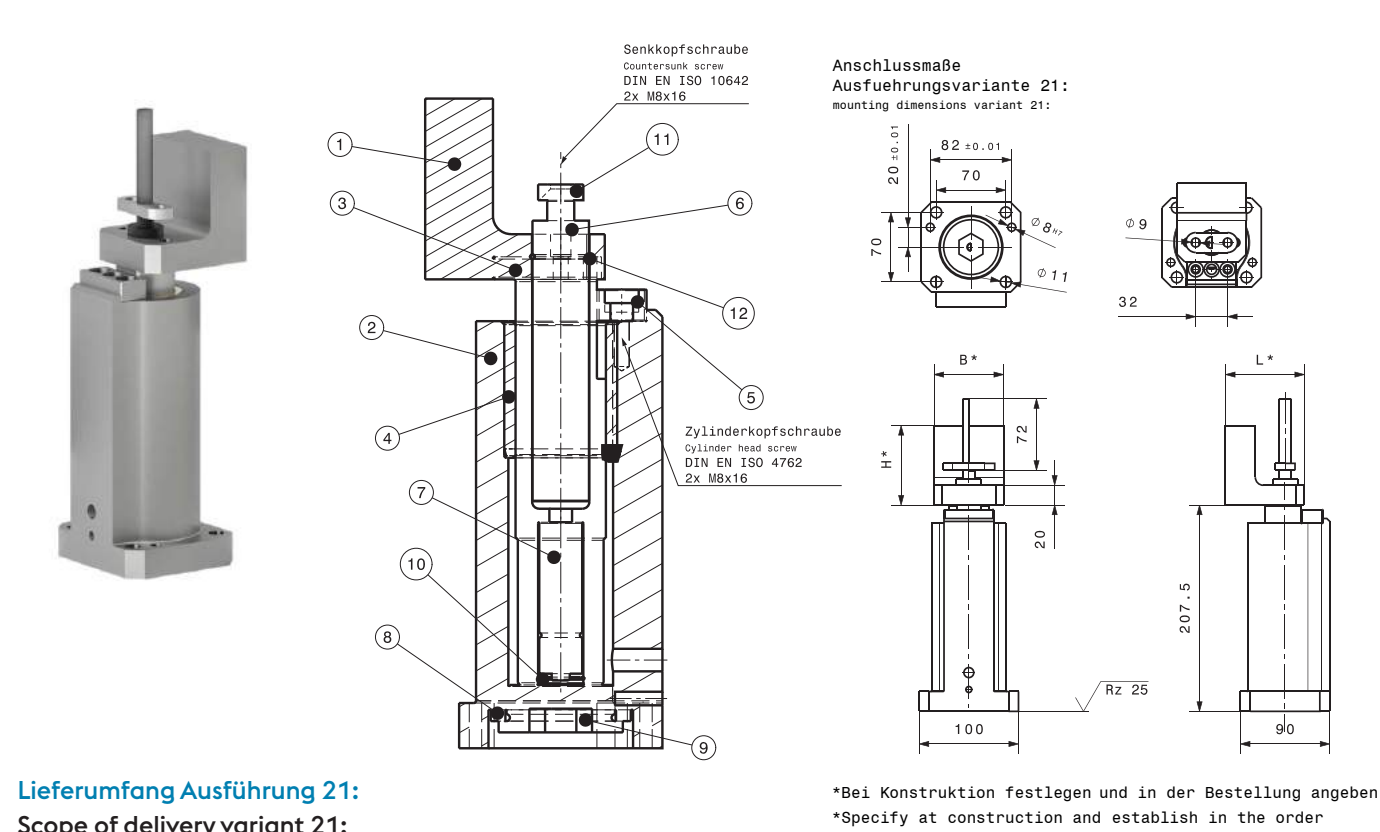
Lieferumfang Ausführung 12:
Scope of delivery variant 12:

Table with 3 columns: Teil Part, Bezeichnung Description, Ident-No. Rows include parts 2 to 11 such as Gehäuse, Führungseinheit, and Gasdruckfeder.

Ausführungsvariante 12
Design variant 12

Table with 5 columns: Ident-No., Abkratzerkopf Lifter Block, L, B, H. Rows 64127 and 64515 show different configurations.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



Lieferumfang Ausführung 21:
Scope of delivery variant 21:

Table with 3 columns: Teil Part, Bezeichnung Description, Ident-No. Rows include parts 1 to 8 such as Abkratzerkopf, Gehäuse, and Gasdruckfeder.

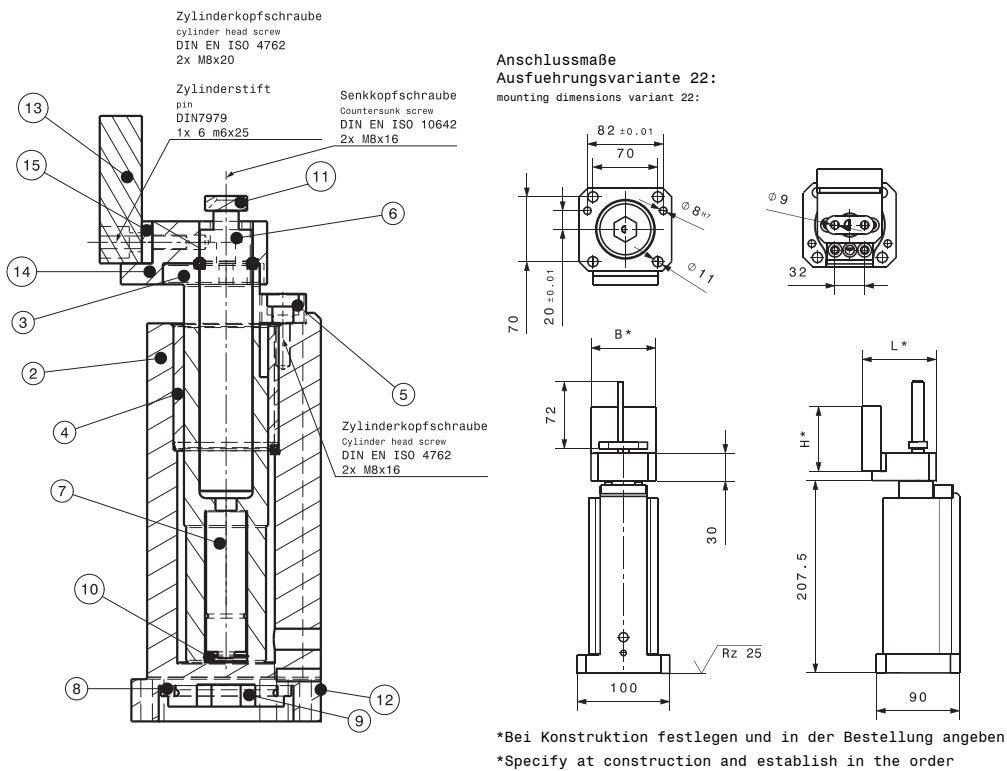
Ausführungsvariante 21
Design variant 21

Table with 5 columns: Ident-No., Abkratzerkopf Lifter Block, L, B, H. Rows 64128 and 64130 show different configurations.

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



16.7 Kantenheber  
16.7 Flange lifters



Lieferumfang Ausführung 22:  
Scope of delivery variant 22:

| Teil Part | Bezeichnung Description                                                        | Ident-No. |
|-----------|--------------------------------------------------------------------------------|-----------|
| 2         | Gehäuse Housing                                                                | 22364     |
| 3         | Führungseinheit Guide unit                                                     | 111822    |
| 4         | Führungsbuchse Guide bushing<br>di = 40 mm, da = 50 mm, L = 60 mm              | 17039     |
| 5         | Verdrehsicherung Twist lock                                                    | 111823    |
| 6         | Gasdruckfeder Gas spring                                                       | 101554    |
| 7         | Gasdruckfeder (Anfangskraft nur 0,7 kN) Gas spring (Initial force only 0.7 kN) | 111324    |
| 8         | Abstimmzscheibe Shim                                                           | 22362     |
| 9         | Verschlussschraube (DIN 908/48x1,5) Lock screw (DIN 908/48x1.5)                | 22361     |
| 10        | Sicherungsring (DIN 472/20x1) Retaining ring (DIN 472/20x1)                    | 23211     |
| 11        | Abstimmplatte Adjustment plate                                                 | 111824    |

| Teil Part | Bezeichnung Description                                                     | Ident-No. |
|-----------|-----------------------------------------------------------------------------|-----------|
| 12        | Haltering (für Gasdruckfeder Teil 6) Retaining ring (for gas spring part 6) | 111325    |
| 13        | Abkratzerklinge Lifter blade                                                | 113803    |
| 14        | Trägereil Base                                                              | 113804    |
| 15        | Abstimmplatte Adjustment plate<br>39D 20631/50                              | 22547     |
|           | 2 x Zylinderkopfschrauben 2 x Cylinder head screw<br>DIN EN ISO 4762 M8x16  | 112572    |
|           | 2 x Senkkopfschrauben 2 x Countersunk screw<br>DIN EN ISO 10642 M8x16       | 112995    |
|           | 2 x Zylinderkopfschrauben 2 x Cylinder head screw<br>DIN EN ISO 4762 M8x20  | 23029     |
|           | Zylinderstift Pin<br>DIN 7979 6 M6x24                                       | 113801    |

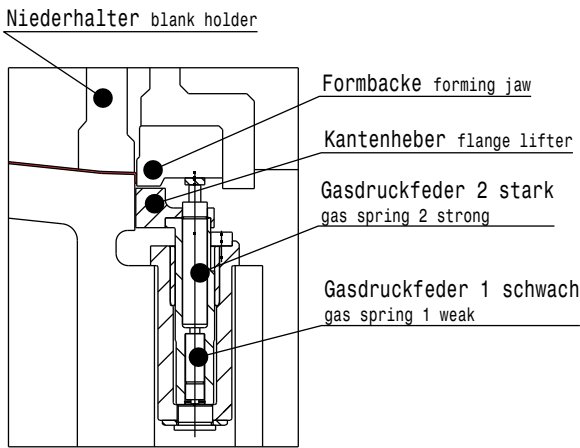
Patentanmeldung: 102015000411.5  
Patent application: 102015000411.5

Ausführungsvariante 22  
Design variant 22

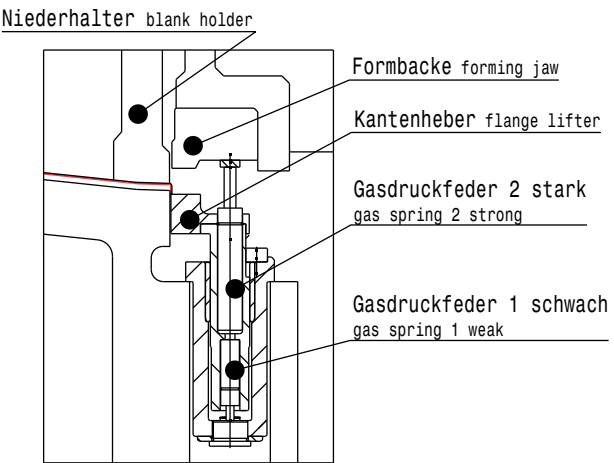
| Ident-No. | Abkratzerkopf Lifter Block | L  | B  | H  |
|-----------|----------------------------|----|----|----|
| 64128     | ohne / without             | -  | -  | -  |
| 64516     | 3-teilig / 3 parts         | 80 | 70 | 80 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Funktionsprinzip functional principle



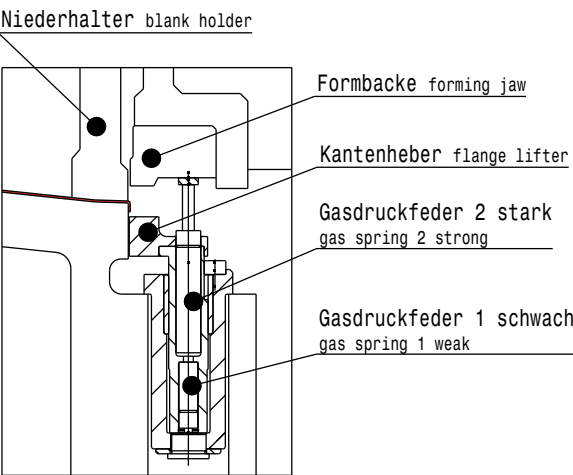
Oberteil mit Formbacke hebt ab.  
Niederhalter hält während des Rückhubes das Bauteil auf der Form. Gasdruckfeder 2 hält Gasdruckfeder 1. Dadurch verdrängt der Kantenheber nicht das Bauteil und eine Verformung des Bauteiles ist ausgeschlossen.  
The upper part of the tool lifts off with the forming jaw. The blank holder keeps the workpiece in the lower form during the return stroke. Gas spring 2 keeps gas spring 1 compressed. This prevents deformation of the workpiece during the return stroke.



Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

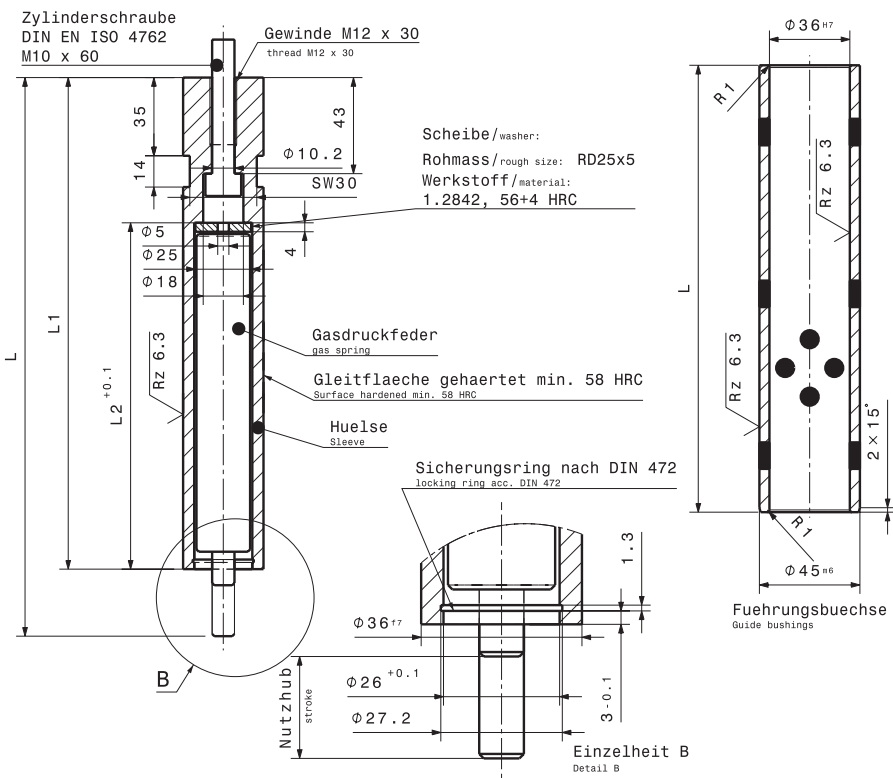
Werkzeug UT  
Kantenheber ist verdrängt bei geschlossenem Werkzeug  
The flange lifter is compressed in the closed tool position

- Komponenten  
Component Parts:
- Formbacke-> forming jaw
  - Kantenheber-> flange lifter
  - Gasdruckfeder 2 stark -> gas spring 2 strong
  - Gasdruckfeder 1 schwach -> gas spring 1 weak
  - Niederhalter -> blank holder



Werkzeug OT  
Nach Abheben des Niederhalters hebt der Kantenheber das Bauteil durch die Gasdruckfeder 1 aus der Form.  
After the blank holder has been lifted off, the flange lifter pushes the workpiece out of the form with the gas spring 1

16.10 Federbolzen  
16.10 Spring bolts



Federbolzen  
Spring bolts

| Ident-No. | Hub<br>Spring stroke | Nutzhub<br>Stroke | L1  | L2<br>+0,1 | L   | Federkraft<br>Spring force | Ident-No.<br>Gasdruckfeder<br>Gas spring | Ident-No.<br>Hülse<br>Sleeve |
|-----------|----------------------|-------------------|-----|------------|-----|----------------------------|------------------------------------------|------------------------------|
| 19511     | 63                   | 50                | 182 | 118        | 241 | 1600                       | 101553                                   | 19512                        |
| 19513     | 80                   | 65                | 200 | 135        | 276 | 1600                       | 101554                                   | 19514                        |
| 19515     | 100                  | 80                | 220 | 155        | 316 | 1600                       | 101555                                   | 19516                        |

Führungsbuchse  
Guide bushings

| Ident-No.<br>WF750/1A | L   | Hub<br>Stroke |
|-----------------------|-----|---------------|
| 18016                 | 115 | 50            |
| 18017                 | 145 | 65            |
| 18018                 | 170 | 80            |

Buchse nicht im Lieferumfang enthalten (gesondert bestellen)  
Bushing not included (order separately)

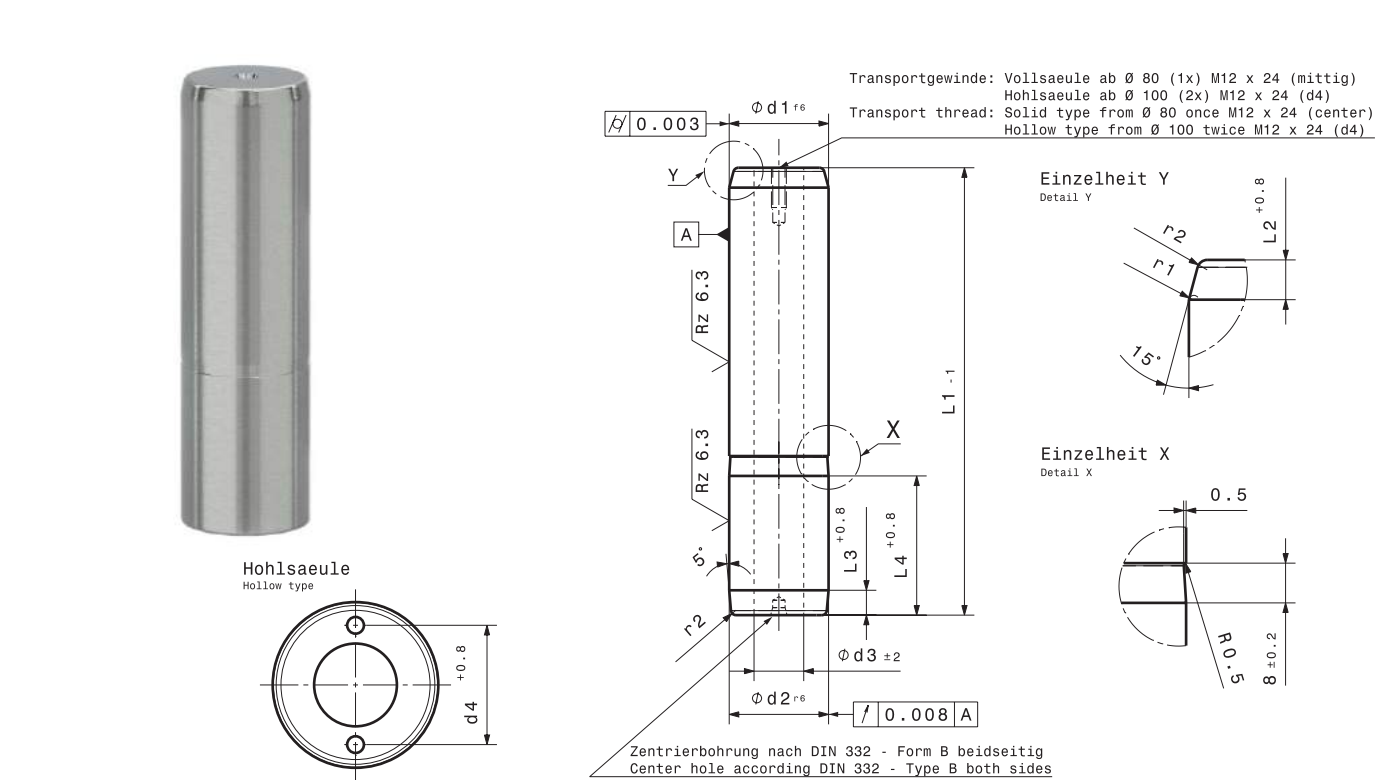
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 17. Säulen, Tragzapfen

### 17. Guide posts, trunnions

- |       |                                                                                       |                                                                                                    |
|-------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 17.1  |    | Führungssäulen ohne Nut nach DIN 9833, Form D<br>Guide posts without groove acc. DIN 9833, style D |
| 17.1  |    | Führungssäulen mit Nut für Sicherungsplatte<br>Guide posts with groove for safety plate            |
| 17.1  |    | Führungssäulen mit Nut für Sprengring<br>Guide post with groove for spring ring                    |
| 17.1  |    | Führungssäulen mit Nut nach FCA<br>Guide posts with groove acc. FCA                                |
| 17.2  |    | Führungssäulen mit ungehärtetem Fuß<br>Guide posts with no hardened bottom                         |
| 17.4  |   | Führungssäulen mit Klammer<br>Guide posts with clamp                                               |
| 17.7  |  | Führungssäulen ohne Klammer<br>Guide posts without clamp                                           |
| 17.8  |  | Bolzen mit Achshalter<br>Bolts with axle support                                                   |
| 17.11 |  | Tragzapfen nach VDI 3366<br>Trunnions acc. VDI 3366                                                |
| 17.12 |  | Tragbolzen mit Ringsicherung nach VDI 3366<br>Liftig bolts with retaining ring acc. VDI 3366       |

17.1 Führungssäulen ohne Nut nach DIN 9833, Form D
17.1 Guide posts without groove acc. DIN 9833, style D



Buchsen siehe Kapitel 3.1
Bushings see Chapter 3.1

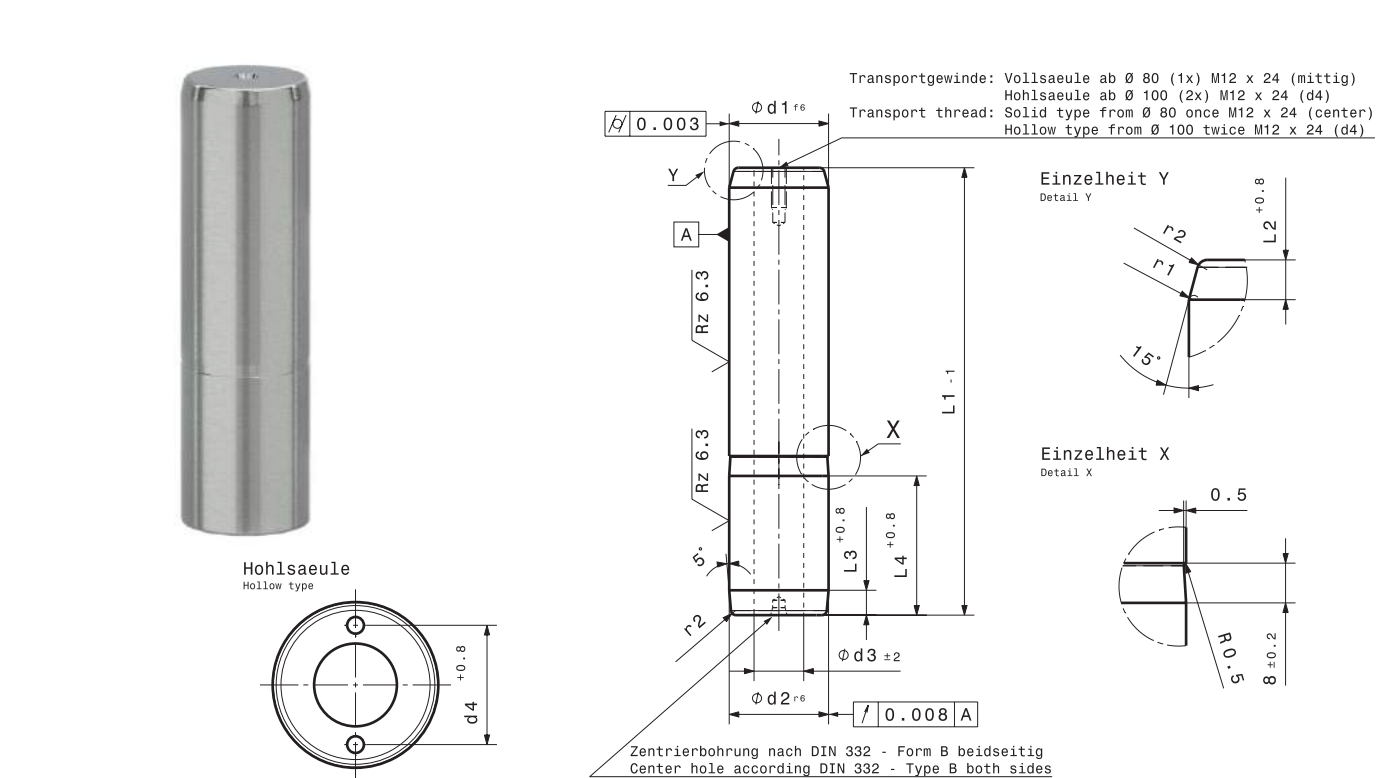
| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | r1 | r2 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|----|
| 31010             | 23        | 25        | -         | -           | 100      | 4          | 4          | 40         | 3  | 2  |
| 31011             | 23        | 25        | -         | -           | 125      | 4          | 4          | 40         | 3  | 2  |
| 31012             | 23        | 25        | -         | -           | 160      | 4          | 4          | 40         | 3  | 2  |
| 31013             | 25        | 25        | -         | -           | 100      | 8          | 4          | 40         | 3  | 2  |
| 31014             | 25        | 25        | -         | -           | 125      | 8          | 4          | 40         | 3  | 2  |
| 31015             | 25        | 25        | -         | -           | 140      | 8          | 4          | 40         | 3  | 2  |
| 31016             | 25        | 25        | -         | -           | 160      | 8          | 4          | 40         | 3  | 2  |
| 31017             | 25        | 25        | -         | -           | 180      | 8          | 4          | 40         | 3  | 2  |
| 31009             | 25        | 25        | -         | -           | 200      | 8          | 4          | 40         | 3  | 2  |
| 31018             | 32        | 32        | -         | -           | 125      | 8          | 4          | 45         | 3  | 2  |
| 31019             | 32        | 32        | -         | -           | 140      | 8          | 4          | 45         | 3  | 2  |
| 31020             | 32        | 32        | -         | -           | 160      | 8          | 4          | 45         | 3  | 2  |
| 31021             | 32        | 32        | -         | -           | 180      | 8          | 4          | 45         | 3  | 2  |
| 31022             | 32        | 32        | -         | -           | 200      | 8          | 4          | 45         | 3  | 2  |
| 31024             | 40        | 40        | -         | -           | 125      | 8          | 4          | 56         | 3  | 2  |
| 31025             | 40        | 40        | -         | -           | 140      | 8          | 4          | 56         | 3  | 2  |
| 31026             | 40        | 40        | -         | -           | 160      | 8          | 4          | 56         | 3  | 2  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | r1 | r2  |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|-----|
| 31027             | 40        | 40        | -         | -           | 180      | 8          | 4          | 56         | 3  | 2   |
| 31028             | 40        | 40        | -         | -           | 200      | 8          | 4          | 56         | 3  | 2   |
| 31029             | 40        | 40        | -         | -           | 224      | 8          | 4          | 56         | 3  | 2   |
| 31030             | 40        | 40        | -         | -           | 250      | 8          | 4          | 56         | 3  | 2   |
| 31031             | 40        | 40        | -         | -           | 280      | 8          | 4          | 56         | 3  | 2   |
| 31032             | 40        | 40        | -         | -           | 315      | 8          | 4          | 56         | 3  | 2   |
| 31033             | 42        | 40        | -         | -           | 224      | 8          | 4          | 56         | 3  | 2   |
| 31034             | 42        | 40        | -         | -           | 250      | 8          | 4          | 56         | 3  | 2   |
| 31035             | 42        | 40        | -         | -           | 280      | 8          | 4          | 56         | 3  | 2   |
| 31036             | 50        | 50        | -         | -           | 160      | 10         | 4          | 70         | 5  | 2,5 |
| 31037             | 50        | 50        | -         | -           | 180      | 10         | 4          | 70         | 5  | 2,5 |
| 31038             | 50        | 50        | -         | -           | 200      | 10         | 4          | 70         | 5  | 2,5 |
| 31039             | 50        | 50        | -         | -           | 224      | 10         | 4          | 70         | 5  | 2,5 |
| 31040             | 50        | 50        | -         | -           | 250      | 10         | 4          | 70         | 5  | 2,5 |
| 31041             | 50        | 50        | -         | -           | 280      | 10         | 4          | 70         | 5  | 2,5 |
| 31042             | 50        | 50        | -         | -           | 315      | 10         | 4          | 70         | 5  | 2,5 |
| 31043             | 50        | 50        | -         | -           | 355      | 10         | 4          | 70         | 5  | 2,5 |
| 31044             | 50        | 50        | -         | -           | 400      | 10         | 4          | 70         | 5  | 2,5 |
| 31045             | 52        | 50        | -         | -           | 224      | 10         | 4          | 70         | 5  | 2,5 |
| 31046             | 52        | 50        | -         | -           | 250      | 10         | 4          | 70         | 5  | 2,5 |
| 31047             | 52        | 50        | -         | -           | 280      | 10         | 4          | 70         | 5  | 2,5 |
| 31048             | 52        | 50        | -         | -           | 355      | 10         | 4          | 70         | 5  | 2,5 |
| 31049             | 63        | 63        | -         | -           | 180      | 10         | 4          | 80         | 6  | 2,5 |
| 31050             | 63        | 63        | -         | -           | 200      | 10         | 4          | 80         | 6  | 2,5 |
| 31051             | 63        | 63        | -         | -           | 224      | 10         | 4          | 80         | 6  | 2,5 |
| 31052             | 63        | 63        | -         | -           | 250      | 10         | 4          | 80         | 6  | 2,5 |
| 31053             | 63        | 63        | -         | -           | 280      | 10         | 4          | 80         | 6  | 2,5 |
| 31054             | 63        | 63        | -         | -           | 315      | 10         | 4          | 80         | 6  | 2,5 |
| 31055             | 63        | 63        | -         | -           | 355      | 10         | 4          | 80         | 6  | 2,5 |
| 31056             | 63        | 63        | -         | -           | 400      | 10         | 4          | 80         | 6  | 2,5 |
| 31057             | 63        | 63        | -         | -           | 450      | 10         | 4          | 80         | 6  | 2,5 |
| 31058             | 63        | 63        | -         | -           | 500      | 10         | 4          | 80         | 6  | 2,5 |
| 31059             | 65        | 63        | -         | -           | 250      | 10         | 4          | 80         | 6  | 2,5 |
| 31060             | 65        | 63        | -         | -           | 280      | 10         | 4          | 80         | 6  | 2,5 |
| 31061             | 65        | 63        | -         | -           | 315      | 10         | 4          | 80         | 6  | 2,5 |
| 31062             | 80        | 80        | -         | -           | 200      | 10         | 4          | 100        | 8  | 3   |
| 31063             | 80        | 80        | -         | -           | 224      | 10         | 4          | 100        | 8  | 3   |
| 31064             | 80        | 80        | -         | -           | 250      | 10         | 4          | 100        | 8  | 3   |
| 31065             | 80        | 80        | -         | -           | 280      | 10         | 4          | 100        | 8  | 3   |
| 31066             | 80        | 80        | -         | -           | 315      | 10         | 4          | 100        | 8  | 3   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.1 Führungssäulen ohne Nut nach DIN 9833, Form D
17.1 Guide posts without groove acc. DIN 9833, style D



Buchsen siehe Kapitel 3.1
Bushings see Chapter 3.1

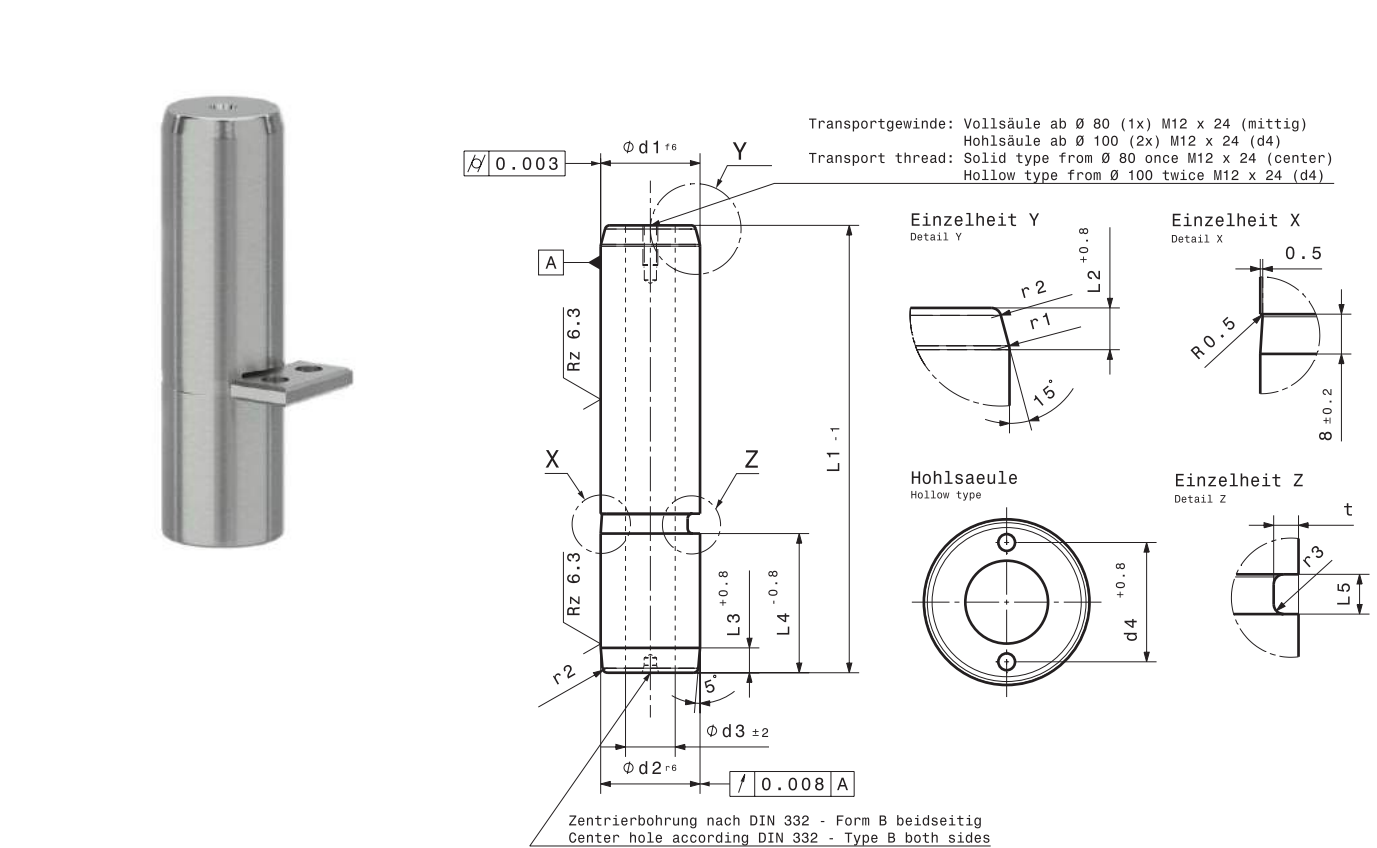
| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | r1 | r2 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|----|
| 31067             | 80        | 80        | -         | -           | 355      | 10         | 4          | 100        | 8  | 3  |
| 31068             | 80        | 80        | -         | -           | 400      | 10         | 4          | 100        | 8  | 3  |
| 31069             | 80        | 80        | -         | -           | 450      | 10         | 4          | 100        | 8  | 3  |
| 31070             | 80        | 80        | -         | -           | 500      | 10         | 4          | 100        | 8  | 3  |
| 31200             | 80        | 80        | 40        | -           | 250      | 10         | 4          | 100        | 8  | 3  |
| 31201             | 80        | 80        | 40        | -           | 280      | 10         | 4          | 100        | 8  | 3  |
| 31202             | 80        | 80        | 40        | -           | 315      | 10         | 4          | 100        | 8  | 3  |
| 31203             | 80        | 80        | 40        | -           | 355      | 10         | 4          | 100        | 8  | 3  |
| 31204             | 80        | 80        | 40        | -           | 400      | 10         | 4          | 100        | 8  | 3  |
| 31071             | 100       | 100       | -         | -           | 224      | 10         | 4          | 125        | 10 | 3  |
| 31072             | 100       | 100       | -         | -           | 250      | 10         | 4          | 125        | 10 | 3  |
| 31073             | 100       | 100       | -         | -           | 280      | 10         | 4          | 125        | 10 | 3  |
| 31074             | 100       | 100       | -         | -           | 315      | 10         | 4          | 125        | 10 | 3  |
| 31075             | 100       | 100       | -         | -           | 355      | 10         | 4          | 125        | 10 | 3  |
| 31076             | 100       | 100       | -         | -           | 400      | 10         | 4          | 125        | 10 | 3  |
| 31077             | 100       | 100       | -         | -           | 450      | 10         | 4          | 125        | 10 | 3  |
| 31078             | 100       | 100       | -         | -           | 500      | 10         | 4          | 125        | 10 | 3  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | r1 | r2 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|----|
| 31079             | 100       | 100       | -         | -           | 560      | 10         | 4          | 125        | 10 | 3  |
| 31205             | 100       | 100       | 50        | 72          | 280      | 10         | 4          | 125        | 10 | 3  |
| 31206             | 100       | 100       | 50        | 72          | 315      | 10         | 4          | 125        | 10 | 3  |
| 31207             | 100       | 100       | 50        | 72          | 355      | 10         | 4          | 125        | 10 | 3  |
| 31208             | 100       | 100       | 50        | 72          | 400      | 10         | 4          | 125        | 10 | 3  |
| 31209             | 100       | 100       | 50        | 72          | 450      | 10         | 4          | 125        | 10 | 3  |
| 31210             | 100       | 100       | 50        | 72          | 500      | 10         | 4          | 125        | 10 | 3  |
| 31211             | 100       | 100       | 50        | 72          | 550      | 10         | 4          | 125        | 10 | 3  |
| 31212             | 100       | 100       | 50        | 72          | 600      | 10         | 4          | 125        | 10 | 3  |
| 31213             | 100       | 100       | 50        | 72          | 650      | 10         | 4          | 125        | 10 | 3  |
| 31080             | 115       | 115       | -         | -           | 400      | 10         | 5          | 140        | 10 | 3  |
| 31081             | 115       | 115       | -         | -           | 500      | 10         | 5          | 140        | 10 | 3  |
| 31082             | 125       | 125       | -         | -           | 315      | 12         | 5          | 140        | 12 | 4  |
| 31083             | 125       | 125       | -         | -           | 355      | 12         | 5          | 140        | 12 | 4  |
| 31084             | 125       | 125       | -         | -           | 400      | 12         | 5          | 140        | 12 | 4  |
| 31085             | 125       | 125       | -         | -           | 450      | 12         | 5          | 140        | 12 | 4  |
| 31086             | 125       | 125       | -         | -           | 500      | 12         | 5          | 140        | 12 | 4  |
| 31214             | 125       | 125       | 65        | 90          | 315      | 12         | 5          | 140        | 12 | 4  |
| 31215             | 125       | 125       | 65        | 90          | 355      | 12         | 5          | 140        | 12 | 4  |
| 31216             | 125       | 125       | 65        | 90          | 400      | 12         | 5          | 140        | 12 | 4  |
| 31217             | 125       | 125       | 65        | 90          | 450      | 12         | 5          | 140        | 12 | 4  |
| 31218             | 125       | 125       | 65        | 90          | 500      | 12         | 5          | 140        | 12 | 4  |
| 31219             | 125       | 125       | 65        | 90          | 550      | 12         | 5          | 140        | 12 | 4  |
| 31220             | 125       | 125       | 65        | 90          | 560      | 12         | 5          | 140        | 12 | 4  |
| 31221             | 125       | 125       | 65        | 90          | 600      | 12         | 5          | 140        | 12 | 4  |
| 31222             | 125       | 125       | 65        | 90          | 650      | 12         | 5          | 140        | 12 | 4  |
| 31223             | 125       | 125       | 65        | 90          | 670      | 12         | 5          | 140        | 12 | 4  |
| 31087             | 160       | 160       | -         | -           | 355      | 12         | 5          | 180        | 18 | 4  |
| 31088             | 160       | 160       | -         | -           | 400      | 12         | 5          | 180        | 18 | 4  |
| 31089             | 160       | 160       | -         | -           | 450      | 12         | 5          | 180        | 18 | 4  |
| 31090             | 160       | 160       | -         | -           | 500      | 12         | 5          | 180        | 18 | 4  |
| 31091             | 160       | 160       | -         | -           | 560      | 12         | 5          | 180        | 18 | 4  |
| 31224             | 160       | 160       | 95        | 132         | 355      | 12         | 5          | 180        | 18 | 4  |
| 31225             | 160       | 160       | 95        | 132         | 400      | 12         | 5          | 180        | 18 | 4  |
| 31226             | 160       | 160       | 95        | 132         | 450      | 12         | 5          | 180        | 18 | 4  |
| 31227             | 160       | 160       | 95        | 132         | 500      | 12         | 5          | 180        | 18 | 4  |
| 31228             | 160       | 160       | 95        | 132         | 560      | 12         | 5          | 180        | 18 | 4  |
| 31229             | 160       | 160       | 95        | 132         | 670      | 12         | 5          | 180        | 18 | 4  |

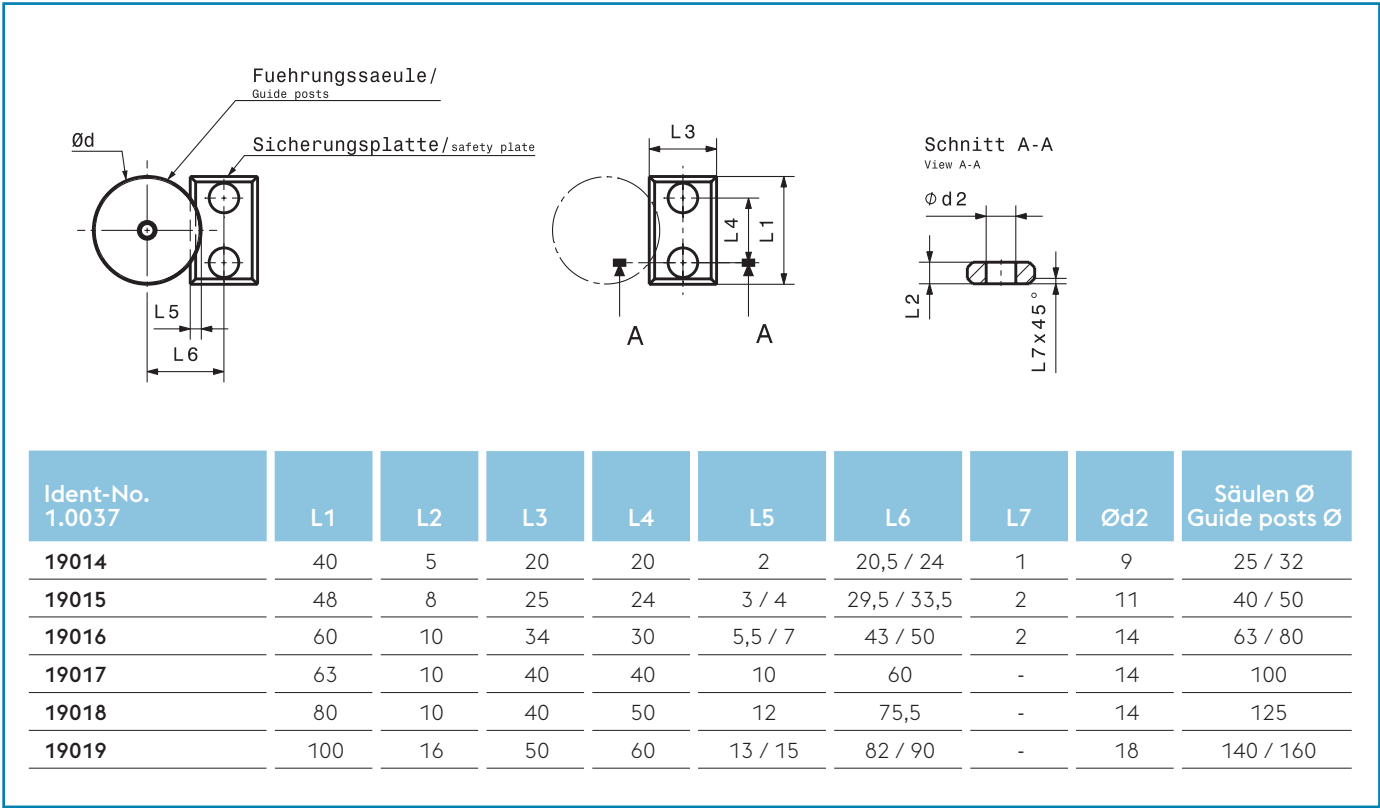
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.1 Führungssäulen mit Nut für Sicherungsplatte
17.1 Guide posts with groove for safety plate



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>-0,8 | L5 | t | r1 | r2 | r3 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|---|----|----|----|
| 31113             | 25        | 25        | -         | -           | 100      | 8          | 4          | 40         | 7  | 3 | 3  | 2  | 1  |
| 31114             | 25        | 25        | -         | -           | 125      | 8          | 4          | 40         | 7  | 3 | 3  | 2  | 1  |
| 31115             | 25        | 25        | -         | -           | 140      | 8          | 4          | 40         | 7  | 3 | 3  | 2  | 1  |
| 31116             | 25        | 25        | -         | -           | 160      | 8          | 4          | 40         | 7  | 3 | 3  | 2  | 1  |
| 31117             | 25        | 25        | -         | -           | 180      | 8          | 4          | 40         | 7  | 3 | 3  | 2  | 1  |
| 31118             | 32        | 32        | -         | -           | 125      | 8          | 4          | 45         | 7  | 3 | 3  | 2  | 1  |
| 31119             | 32        | 32        | -         | -           | 140      | 8          | 4          | 45         | 7  | 3 | 3  | 2  | 1  |
| 31120             | 32        | 32        | -         | -           | 160      | 8          | 4          | 45         | 7  | 3 | 3  | 2  | 1  |
| 31121             | 32        | 32        | -         | -           | 180      | 8          | 4          | 45         | 7  | 3 | 3  | 2  | 1  |
| 31122             | 32        | 32        | -         | -           | 200      | 8          | 4          | 45         | 7  | 3 | 3  | 2  | 1  |
| 31125             | 40        | 40        | -         | -           | 140      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31126             | 40        | 40        | -         | -           | 160      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31127             | 40        | 40        | -         | -           | 180      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31128             | 40        | 40        | -         | -           | 200      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31129             | 40        | 40        | -         | -           | 224      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31130             | 40        | 40        | -         | -           | 250      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |
| 31131             | 40        | 40        | -         | -           | 280      | 8          | 4          | 56         | 10 | 4 | 3  | 2  | 2  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

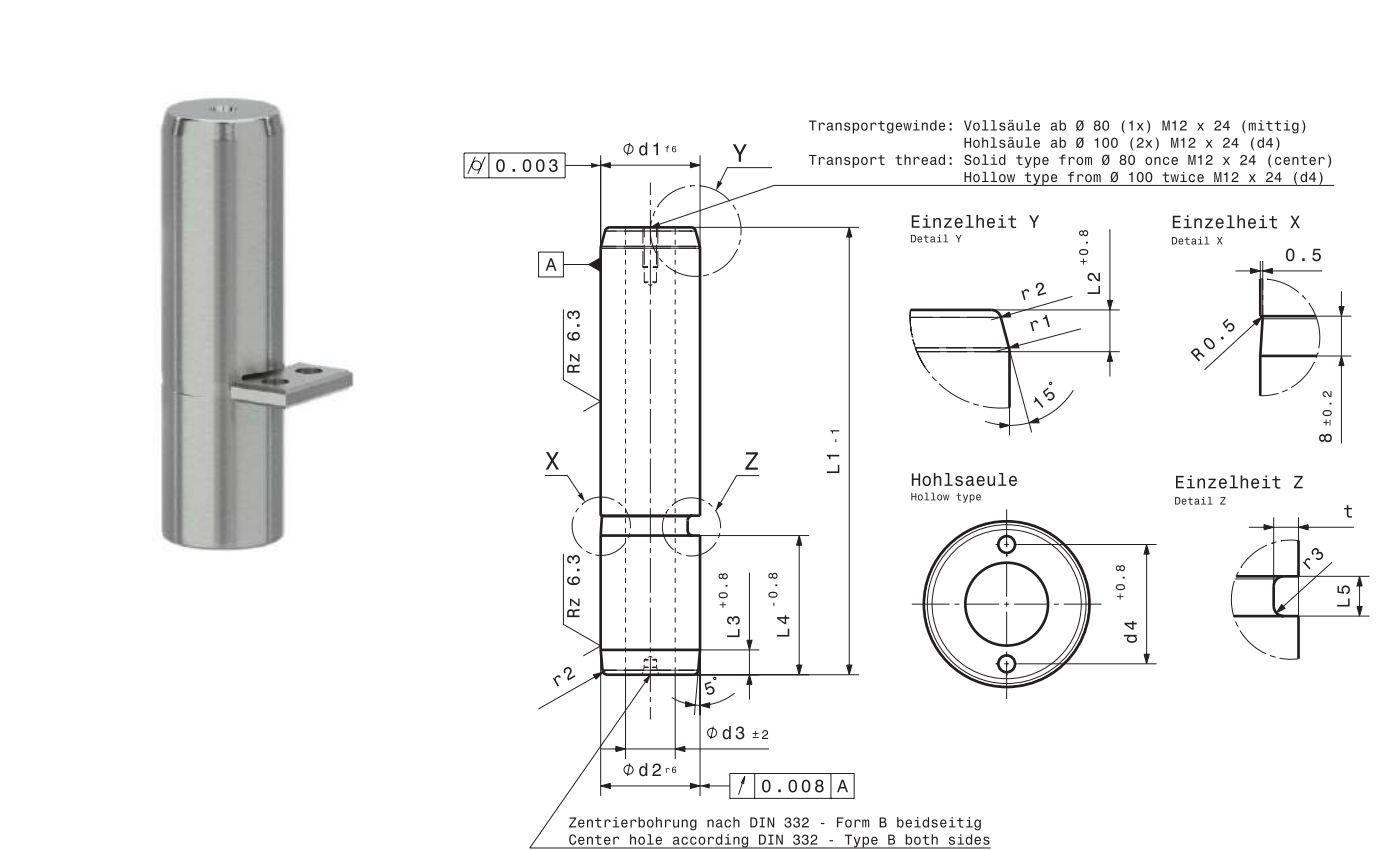


| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>-0,8 | L5 | t   | r1 | r2  | r3 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|-----|----|-----|----|
| 31136             | 50        | 50        | -         | -           | 160      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31137             | 50        | 50        | -         | -           | 180      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31138             | 50        | 50        | -         | -           | 200      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31139             | 50        | 50        | -         | -           | 224      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31140             | 50        | 50        | -         | -           | 250      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31141             | 50        | 50        | -         | -           | 280      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31142             | 50        | 50        | -         | -           | 315      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31143             | 50        | 50        | -         | -           | 355      | 10         | 4          | 70         | 10 | 5   | 5  | 2,5 | 2  |
| 31149             | 63        | 63        | -         | -           | 180      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31150             | 63        | 63        | -         | -           | 200      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31151             | 63        | 63        | -         | -           | 224      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31152             | 63        | 63        | -         | -           | 250      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31153             | 63        | 63        | -         | -           | 280      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31154             | 63        | 63        | -         | -           | 315      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31155             | 63        | 63        | -         | -           | 355      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31156             | 63        | 63        | -         | -           | 400      | 10         | 4          | 80         | 12 | 6,5 | 6  | 2,5 | 2  |
| 31163             | 80        | 80        | -         | -           | 224      | 10         | 4          | 100        | 12 | 8   | 8  | 3   | 2  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

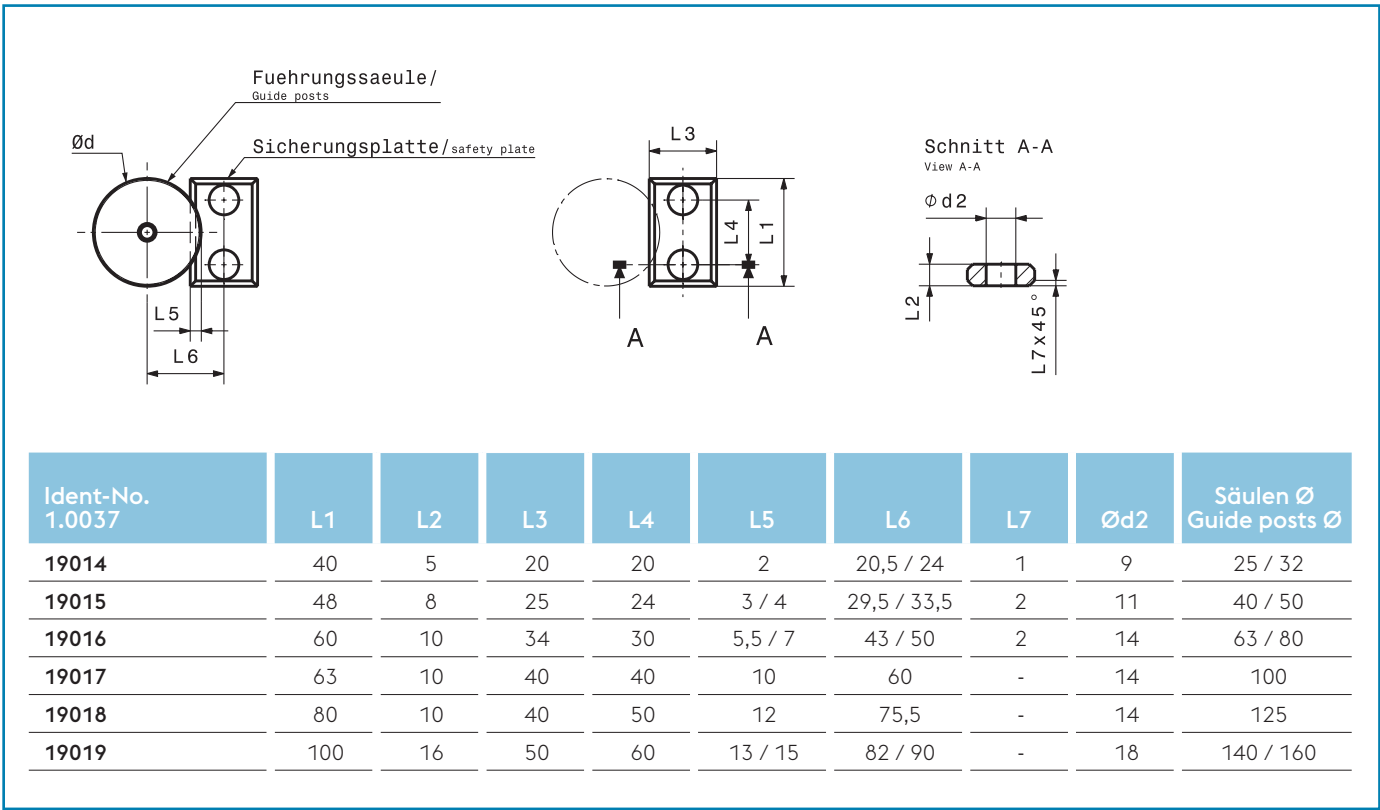


17.1 Führungssäulen mit Nut für Sicherungsplatte
17.1 Guide posts with groove for safety plate



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>-0,8 | L5 | t    | r1 | r2 | r3 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|------|----|----|----|
| 31164             | 80        | 80        | -         | -           | 250      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31165             | 80        | 80        | -         | -           | 280      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31166             | 80        | 80        | -         | -           | 315      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31167             | 80        | 80        | -         | -           | 355      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31168             | 80        | 80        | -         | -           | 400      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31300             | 80        | 80        | 40        | -           | 250      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31301             | 80        | 80        | 40        | -           | 280      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31302             | 80        | 80        | 40        | -           | 315      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31303             | 80        | 80        | 40        | -           | 355      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31304             | 80        | 80        | 40        | -           | 400      | 10         | 4          | 100        | 12 | 8    | 8  | 3  | 2  |
| 31173             | 100       | 100       | -         | -           | 280      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31174             | 100       | 100       | -         | -           | 315      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31175             | 100       | 100       | -         | -           | 355      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31176             | 100       | 100       | -         | -           | 400      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31305             | 100       | 100       | 50        | 72          | 280      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31306             | 100       | 100       | 50        | 72          | 315      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31307             | 100       | 100       | 50        | 72          | 355      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |

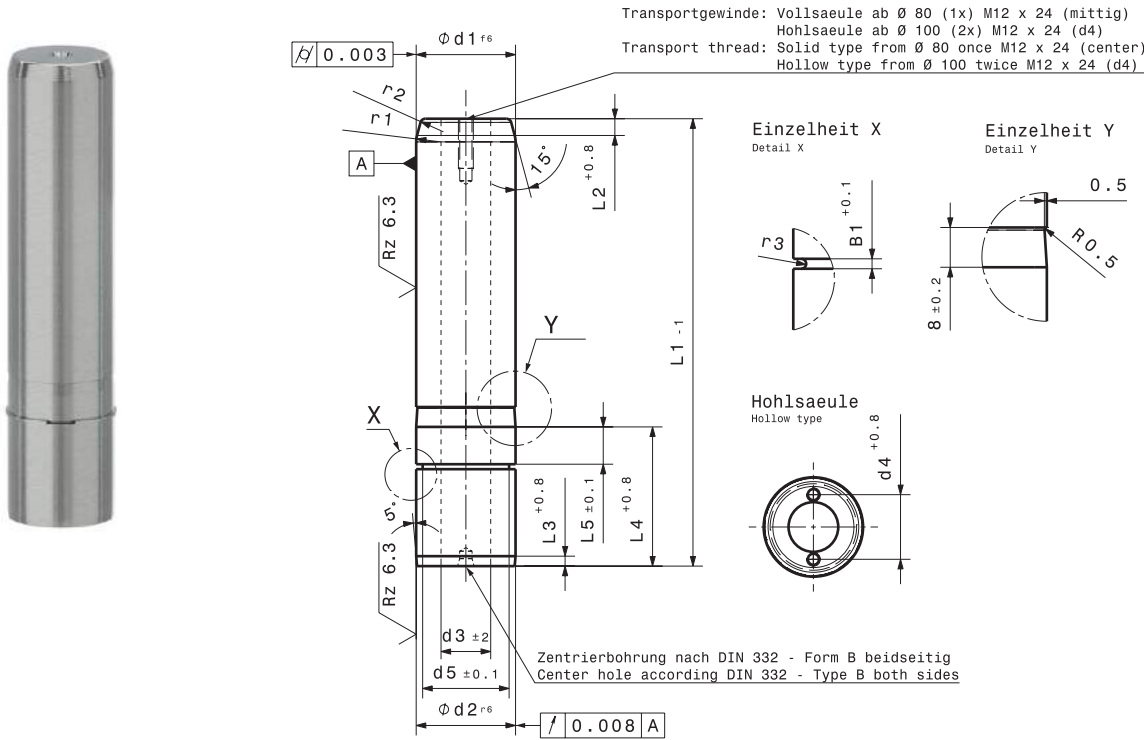
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>-0,8 | L5 | t    | r1 | r2 | r3 |
|-------------------|-----------|-----------|-----------|-------------|----------|------------|------------|------------|----|------|----|----|----|
| 31308             | 100       | 100       | 50        | 72          | 400      | 10         | 4          | 125        | 12 | 10,5 | 10 | 3  | 2  |
| 31185             | 125       | 125       | -         | -           | 450      | 12         | 5          | 140        | 12 | 12,5 | 12 | 4  | 2  |
| 31315             | 125       | 125       | 65        | 90          | 355      | 12         | 5          | 140        | 12 | 12,5 | 12 | 4  | 2  |
| 31316             | 125       | 125       | 65        | 90          | 400      | 12         | 5          | 140        | 12 | 12,5 | 12 | 4  | 2  |
| 31317             | 125       | 125       | 65        | 90          | 450      | 12         | 5          | 140        | 12 | 12,5 | 12 | 4  | 2  |
| 31318             | 125       | 125       | 65        | 90          | 500      | 12         | 5          | 140        | 12 | 12,5 | 12 | 4  | 2  |

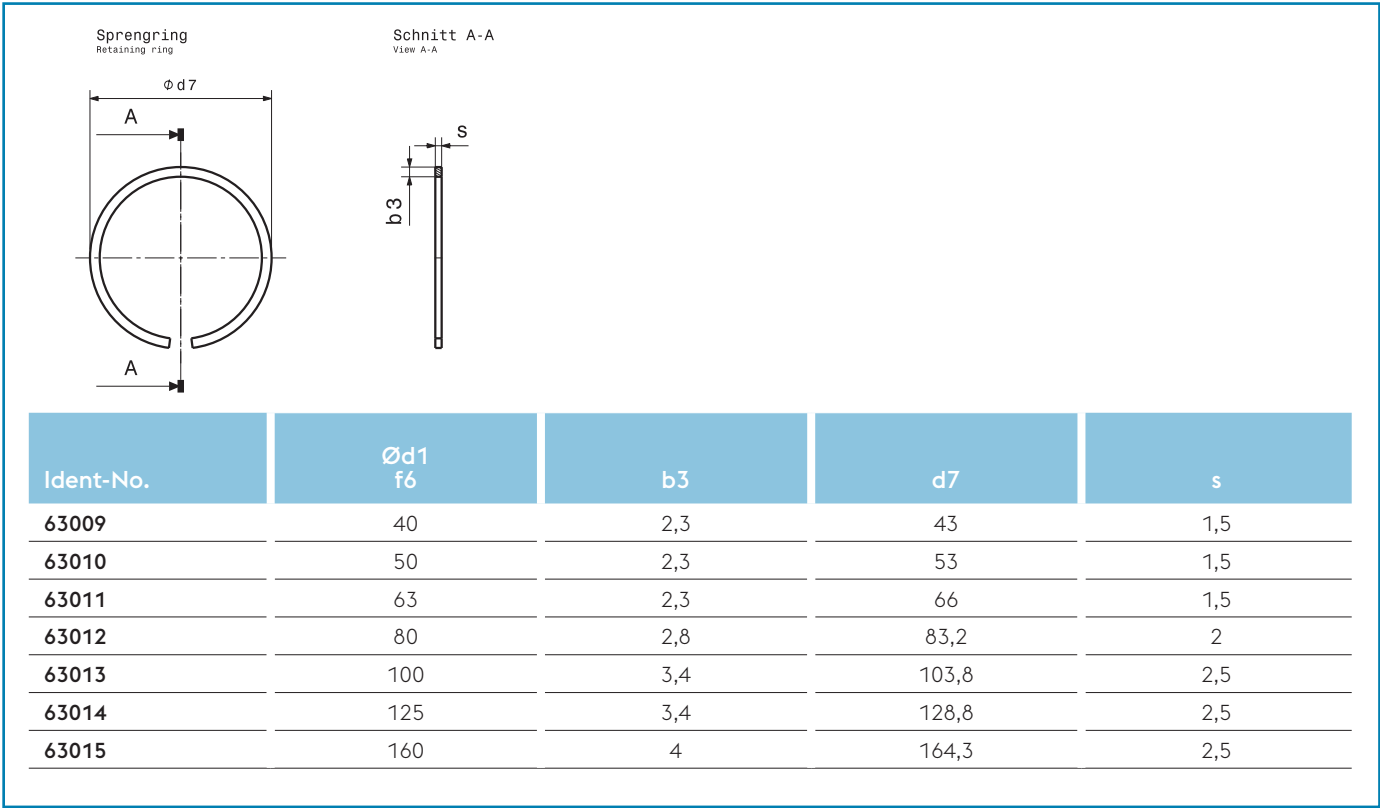
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.1 Führungssäulen mit Nut für Sprengring
17.1 Guide post with groove for spring ring



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | Ød5<br>±0,1 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | L5<br>±0,1 | B1<br>+0,1 | r1 | r2  | r3 |
|-------------------|-----------|-----------|-----------|-------------|-------------|----------|------------|------------|------------|------------|------------|----|-----|----|
| 31400             | 40        | 40        | -         | -           | 33          | 160      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31401             | 40        | 40        | -         | -           | 33          | 180      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31402             | 40        | 40        | -         | -           | 33          | 200      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31403             | 40        | 40        | -         | -           | 33          | 224      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31404             | 40        | 40        | -         | -           | 33          | 250      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31405             | 40        | 40        | -         | -           | 33          | 280      | 8          | 4          | 56         | 15         | 2          | 3  | 2   | 1  |
| 31406             | 50        | 50        | -         | -           | 43          | 160      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31407             | 50        | 50        | -         | -           | 43          | 180      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31408             | 50        | 50        | -         | -           | 43          | 200      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31409             | 50        | 50        | -         | -           | 43          | 224      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31410             | 50        | 50        | -         | -           | 43          | 250      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31411             | 50        | 50        | -         | -           | 43          | 280      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31412             | 50        | 50        | -         | -           | 43          | 315      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31413             | 50        | 50        | -         | -           | 43          | 355      | 10         | 4          | 70         | 15         | 2          | 5  | 2,5 | 1  |
| 31414             | 63        | 63        | -         | -           | 55,7        | 180      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1  |
| 31415             | 63        | 63        | -         | -           | 55,7        | 200      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1  |
| 31416             | 63        | 63        | -         | -           | 55,7        | 224      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1  |
| 31417             | 63        | 63        | -         | -           | 55,7        | 250      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1  |
| 31418             | 63        | 63        | -         | -           | 55,7        | 280      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1  |

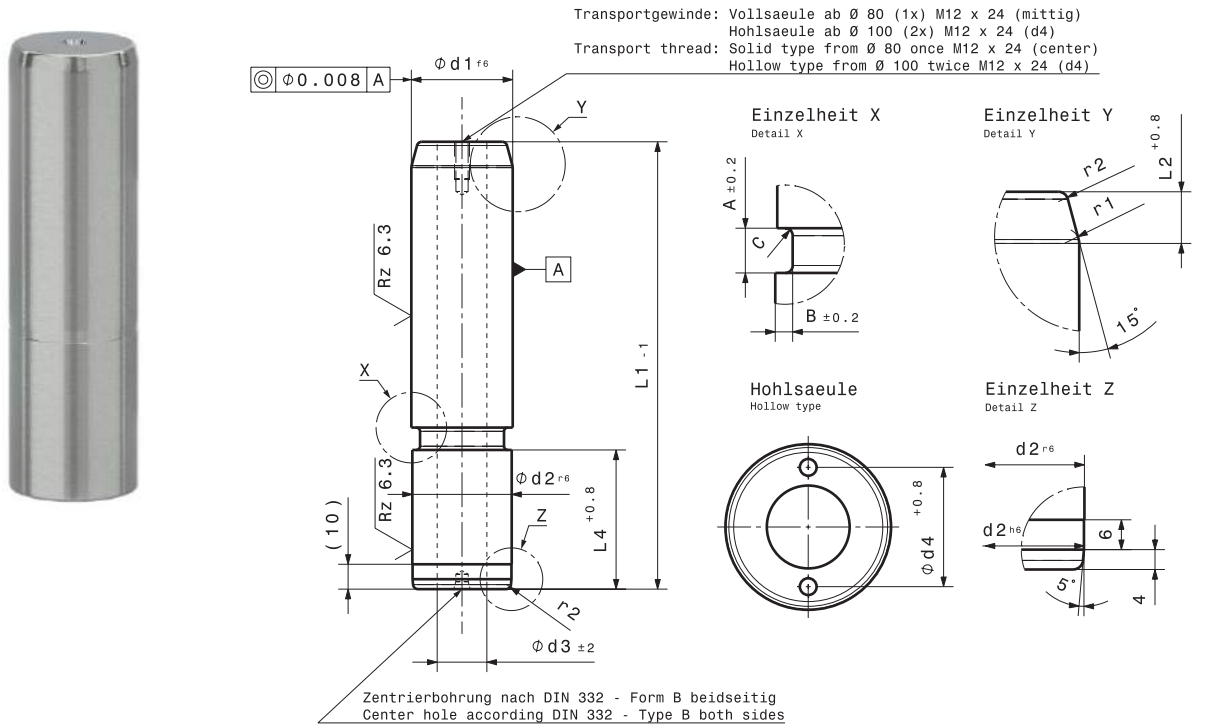
Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 | Ød3<br>±2 | Ød4<br>+0,8 | Ød5<br>±0,1 | L1<br>-1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | L5<br>±0,1 | B1<br>+0,1 | r1 | r2  | r3   |
|-------------------|-----------|-----------|-----------|-------------|-------------|----------|------------|------------|------------|------------|------------|----|-----|------|
| 31419             | 63        | 63        | -         | -           | 55,7        | 315      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1    |
| 31420             | 63        | 63        | -         | -           | 55,7        | 355      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1    |
| 31421             | 63        | 63        | -         | -           | 55,7        | 400      | 10         | 4          | 80         | 15         | 2          | 6  | 2,5 | 1    |
| 31422             | 80        | 80        | -         | -           | 71,4        | 224      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31423             | 80        | 80        | -         | -           | 71,4        | 250      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31424             | 80        | 80        | -         | -           | 71,4        | 280      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31425             | 80        | 80        | -         | -           | 71,4        | 315      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31426             | 80        | 80        | -         | -           | 71,4        | 355      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31427             | 80        | 80        | -         | -           | 71,4        | 400      | 10         | 4          | 100        | 21         | 2,1        | 8  | 3   | 1,05 |
| 31428             | 100       | 100       | 50        | 72          | 89,9        | 280      | 10         | 4          | 125        | 31         | 2,6        | 10 | 3   | 1,3  |
| 31429             | 100       | 100       | 50        | 72          | 89,9        | 315      | 10         | 4          | 125        | 31         | 2,6        | 10 | 3   | 1,3  |
| 31430             | 100       | 100       | 50        | 72          | 89,9        | 355      | 10         | 4          | 125        | 31         | 2,6        | 10 | 3   | 1,3  |
| 31431             | 100       | 100       | 50        | 72          | 89,9        | 400      | 10         | 4          | 125        | 31         | 2,6        | 10 | 3   | 1,3  |
| 31432             | 125       | 125       | 65        | 90          | 114,9       | 355      | 12         | 5          | 140        | 31         | 2,6        | 12 | 4   | 1,3  |
| 31433             | 125       | 125       | 65        | 90          | 114,9       | 400      | 12         | 5          | 140        | 31         | 2,6        | 12 | 4   | 1,3  |
| 31434             | 125       | 125       | 65        | 90          | 114,9       | 450      | 12         | 5          | 140        | 31         | 2,6        | 12 | 4   | 1,3  |
| 31435             | 160       | 160       | 95        | 132         | 148,9       | 450      | 12         | 5          | 180        | 31         | 2,6        | 18 | 4   | 1,3  |
| 31436             | 160       | 160       | 95        | 132         | 148,9       | 500      | 12         | 5          | 180        | 31         | 2,6        | 18 | 4   | 1,3  |
| 31437             | 160       | 160       | 95        | 132         | 148,9       | 560      | 12         | 5          | 180        | 31         | 2,6        | 18 | 4   | 1,3  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

17.1 Führungssäulen mit Nut nach FCA
17.1 Guide posts with groove acc. FCA



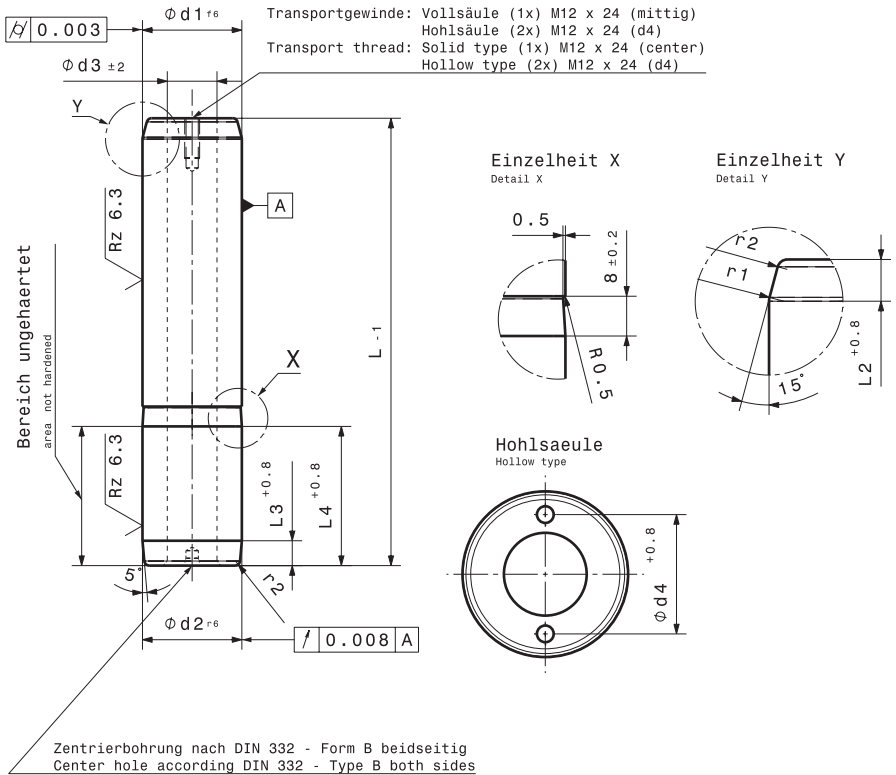
| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 / h6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L4<br>+0,8 | r1 | r2  | A<br>±0,2 | B<br>±0,2 | C   |
|-------------------|-----------|----------------|-----------|-------------|----------|------------|------------|----|-----|-----------|-----------|-----|
| 64187             | 25        | 25             | -         | -           | 100      | 4          | 40         | 3  | 2   | 6         | 2,5       | 1   |
| 64188             | 25        | 25             | -         | -           | 125      | 4          | 40         | 3  | 2   | 6         | 2,5       | 1   |
| 64189             | 25        | 25             | -         | -           | 140      | 4          | 40         | 3  | 2   | 6         | 2,5       | 1   |
| 64190             | 25        | 25             | -         | -           | 160      | 4          | 40         | 3  | 2   | 6         | 2,5       | 1   |
| 64191             | 25        | 25             | -         | -           | 180      | 4          | 40         | 3  | 2   | 6         | 2,5       | 1   |
| 64192             | 32        | 32             | -         | -           | 100      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64193             | 32        | 32             | -         | -           | 125      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64194             | 32        | 32             | -         | -           | 140      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64195             | 32        | 32             | -         | -           | 160      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64196             | 32        | 32             | -         | -           | 180      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64197             | 32        | 32             | -         | -           | 200      | 8          | 45         | 3  | 2   | 6         | 2,5       | 1   |
| 64198             | 40        | 40             | -         | -           | 160      | 10         | 56         | 3  | 2   | 9         | 3,5       | 1,5 |
| 64199             | 40        | 40             | -         | -           | 180      | 10         | 56         | 3  | 2   | 9         | 3,5       | 1,5 |
| 64200             | 40        | 40             | -         | -           | 200      | 10         | 56         | 3  | 2   | 9         | 3,5       | 1,5 |
| 64201             | 40        | 40             | -         | -           | 224      | 10         | 56         | 3  | 2   | 9         | 3,5       | 1,5 |
| 64202             | 40        | 40             | -         | -           | 250      | 10         | 56         | 3  | 2   | 9         | 3,5       | 1,5 |
| 64203             | 50        | 50             | -         | -           | 160      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |
| 64204             | 50        | 50             | -         | -           | 180      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6 / h6 | Ød3<br>±2 | Ød4<br>+0,8 | L1<br>-1 | L2<br>+0,8 | L4<br>+0,8 | r1 | r2  | A<br>±0,2 | B<br>±0,2 | C   |
|-------------------|-----------|----------------|-----------|-------------|----------|------------|------------|----|-----|-----------|-----------|-----|
| 64205             | 50        | 50             | -         | -           | 200      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |
| 64206             | 50        | 50             | -         | -           | 224      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |
| 64207             | 50        | 50             | -         | -           | 250      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |
| 64208             | 50        | 50             | -         | -           | 280      | 10         | 70         | 5  | 2,5 | 9         | 3,5       | 1,5 |
| 64209             | 63        | 63             | -         | -           | 250      | 10         | 80         | 6  | 2,5 | 11        | 5,5       | 2   |
| 64210             | 63        | 63             | -         | -           | 280      | 10         | 80         | 6  | 2,5 | 11        | 5,5       | 2   |
| 64214             | 80        | 80             | -         | -           | 250      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64215             | 80        | 80             | -         | -           | 280      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64229             | 80        | 80             | 40        | -           | 250      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64230             | 80        | 80             | 40        | -           | 280      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64211             | 63        | 63             | -         | -           | 315      | 10         | 80         | 6  | 2,5 | 11        | 5,5       | 2   |
| 64212             | 63        | 63             | -         | -           | 355      | 10         | 80         | 6  | 2,5 | 11        | 5,5       | 2   |
| 64213             | 63        | 63             | -         | -           | 400      | 10         | 80         | 6  | 2,5 | 11        | 5,5       | 2   |
| 64216             | 80        | 80             | -         | -           | 315      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64217             | 80        | 80             | -         | -           | 355      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64218             | 80        | 80             | -         | -           | 400      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64231             | 80        | 80             | 40        | -           | 315      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64232             | 80        | 80             | 40        | -           | 355      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64233             | 80        | 80             | 40        | -           | 400      | 10         | 100        | 8  | 3   | 11        | 5,5       | 2   |
| 64219             | 100       | 100            | -         | -           | 315      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64220             | 100       | 100            | -         | -           | 355      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64221             | 100       | 100            | -         | -           | 400      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64222             | 100       | 100            | -         | -           | 450      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64223             | 100       | 100            | -         | -           | 500      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64234             | 100       | 100            | 50        | 74          | 315      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64235             | 100       | 100            | 50        | 74          | 355      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64236             | 100       | 100            | 50        | 74          | 400      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64237             | 100       | 100            | 50        | 74          | 450      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64238             | 100       | 100            | 50        | 74          | 500      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64239             | 100       | 100            | 50        | 74          | 550      | 10         | 125        | 10 | 3   | 11        | 5,5       | 2   |
| 64224             | 125       | 125            | -         | -           | 355      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64225             | 125       | 125            | -         | -           | 400      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64226             | 125       | 125            | -         | -           | 450      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64227             | 125       | 125            | -         | -           | 500      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64228             | 125       | 125            | -         | -           | 550      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64240             | 125       | 125            | 65        | 84          | 355      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64241             | 125       | 125            | 65        | 84          | 400      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64242             | 125       | 125            | 65        | 84          | 450      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64243             | 125       | 125            | 65        | 84          | 500      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |
| 64244             | 125       | 125            | 65        | 84          | 550      | 12         | 140        | 12 | 4   | 11        | 5,5       | 2   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

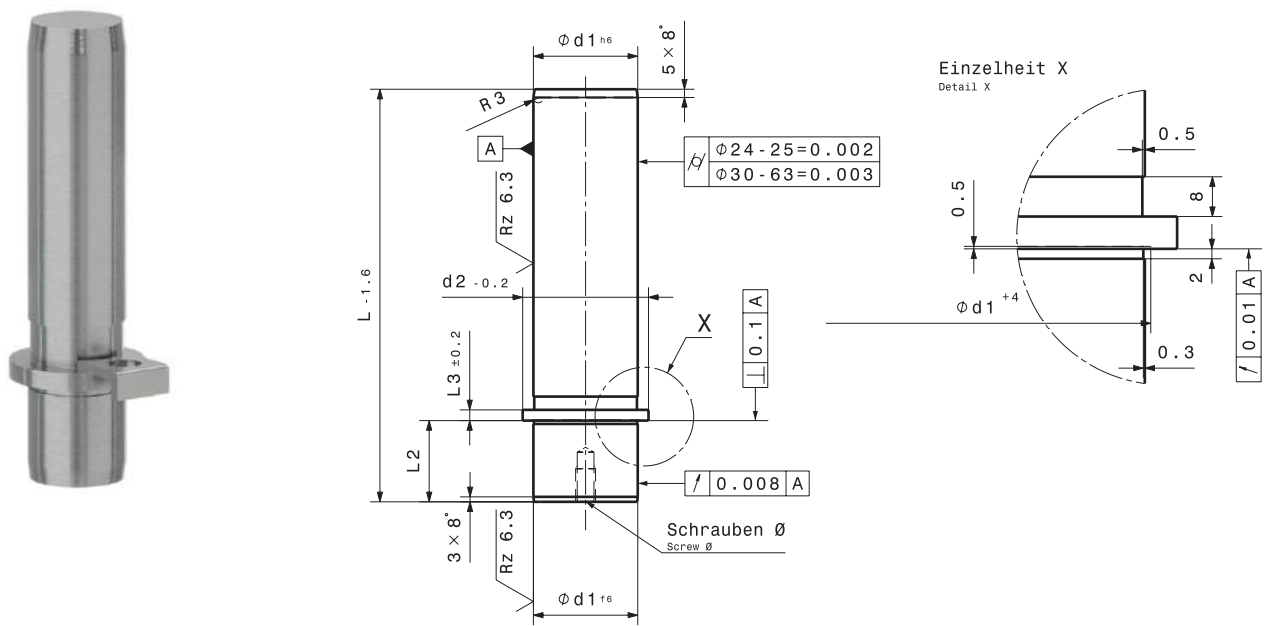
17.2 Führungssäulen mit ungehärtetem Fuß
17.2 Guide posts with no hardened bottom



| Ident-No.<br>St 1 | Ød1<br>f6 | Ød2<br>r6<br>ungehärtet / not hardened | Ød3<br>±2 | Ød4<br>+0,8 | L<br>-0,1 | L2<br>+0,8 | L3<br>+0,8 | L4<br>+0,8 | r1 | r2 |
|-------------------|-----------|----------------------------------------|-----------|-------------|-----------|------------|------------|------------|----|----|
| 63636             | 80        | 80                                     | -         | -           | 250       | 10         | 4          | 100        | 8  | 3  |
| 63637             | 80        | 80                                     | -         | -           | 280       | 10         | 4          | 100        | 8  | 3  |
| 63638             | 80        | 80                                     | -         | -           | 315       | 10         | 4          | 100        | 8  | 3  |
| 63639             | 80        | 80                                     | -         | -           | 355       | 10         | 4          | 100        | 8  | 3  |
| 63282             | 100       | 100                                    | -         | -           | 280       | 10         | 4          | 125        | 10 | 3  |
| 31550             | 100       | 100                                    | -         | -           | 315       | 10         | 4          | 125        | 10 | 3  |
| 31580             | 100       | 100                                    | 50        | 72          | 315       | 10         | 4          | 125        | 10 | 3  |
| 31551             | 100       | 100                                    | -         | -           | 355       | 10         | 4          | 125        | 10 | 3  |
| 31581             | 100       | 100                                    | 50        | 72          | 355       | 10         | 4          | 125        | 10 | 3  |
| 31552             | 100       | 100                                    | -         | -           | 400       | 10         | 4          | 125        | 10 | 3  |
| 31582             | 100       | 100                                    | 50        | 72          | 400       | 10         | 4          | 125        | 10 | 3  |
| 31553             | 125       | 125                                    | -         | -           | 355       | 12         | 5          | 140        | 12 | 4  |
| 31583             | 125       | 125                                    | 65        | 90          | 355       | 12         | 5          | 140        | 12 | 4  |
| 31555             | 125       | 125                                    | -         | -           | 400       | 12         | 5          | 140        | 12 | 4  |
| 31586             | 125       | 125                                    | 65        | 90          | 400       | 12         | 5          | 140        | 12 | 4  |
| 31554             | 125       | 125                                    | -         | -           | 450       | 12         | 5          | 140        | 12 | 4  |
| 31584             | 125       | 125                                    | 65        | 90          | 450       | 12         | 5          | 140        | 12 | 4  |
| 31585             | 160       | 160                                    | 95        | 132         | 450       | 12         | 5          | 180        | 18 | 4  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.4 Führungssäulen mit Klammer
17.4 Guide posts with clamp



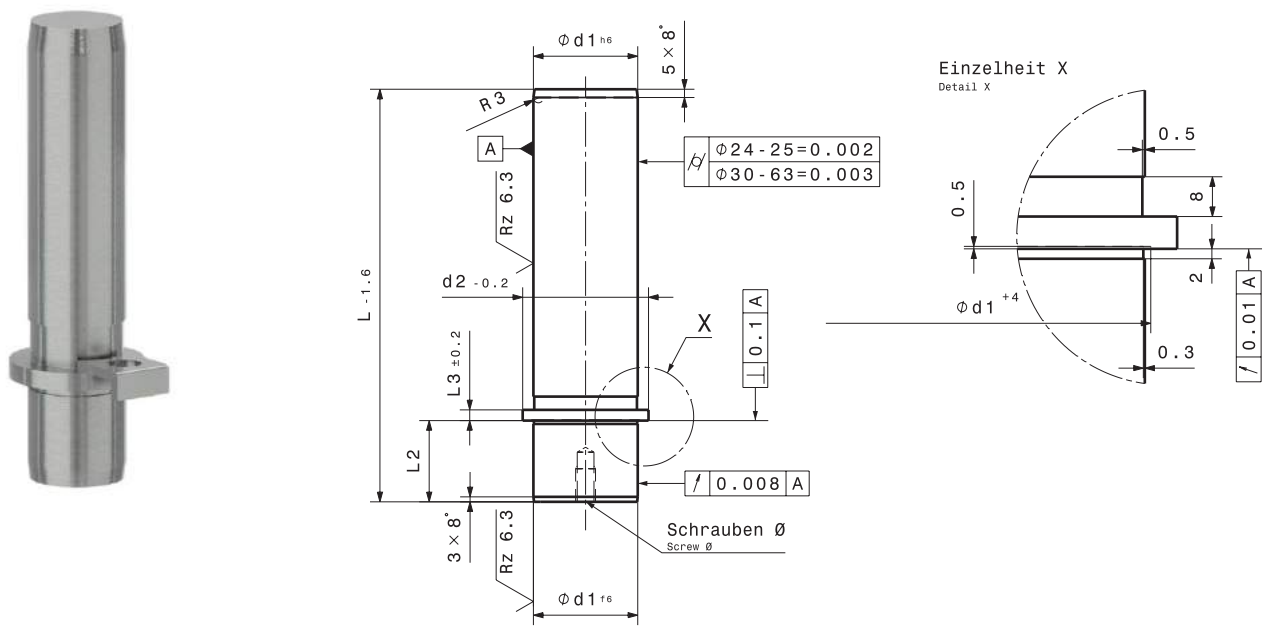
| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20300             | 18           | 26          | 90        | 20 | 3,5        | M6                     | 19795                        |
| 20301             | 18           | 26          | 100       | 20 | 3,5        | M6                     |                              |
| 20302             | 18           | 26          | 110       | 20 | 3,5        | M6                     |                              |
| 20303             | 18           | 26          | 120       | 20 | 3,5        | M6                     |                              |
| 20304             | 18           | 26          | 130       | 20 | 3,5        | M6                     |                              |
| 20305             | 18           | 26          | 140       | 20 | 3,5        | M6                     |                              |
| 20306             | 18           | 26          | 150       | 20 | 3,5        | M6                     |                              |
| 20307             | 18           | 26          | 160       | 20 | 3,5        | M6                     |                              |
| 20308             | 18           | 26          | 170       | 20 | 3,5        | M6                     |                              |
| 20309             | 18           | 26          | 180       | 20 | 3,5        | M6                     |                              |
| 20310             | 19           | 26          | 90        | 20 | 3,5        | M6                     |                              |
| 20311             | 19           | 26          | 100       | 20 | 3,5        | M6                     |                              |
| 20312             | 19           | 26          | 110       | 20 | 3,5        | M6                     |                              |
| 20313             | 19           | 26          | 120       | 20 | 3,5        | M6                     |                              |
| 20314             | 19           | 26          | 130       | 20 | 3,5        | M6                     |                              |
| 20315             | 19           | 26          | 140       | 20 | 3,5        | M6                     |                              |
| 20316             | 19           | 26          | 150       | 20 | 3,5        | M6                     |                              |
| 20317             | 19           | 26          | 160       | 20 | 3,5        | M6                     |                              |
| 20318             | 19           | 26          | 170       | 20 | 3,5        | M6                     |                              |
| 20319             | 19           | 26          | 180       | 20 | 3,5        | M6                     |                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20320             | 24           | 33          | 94        | 24 | 5          | M6                     | 19796                        |
| 20321             | 24           | 33          | 104       | 24 | 5          | M6                     |                              |
| 20322             | 24           | 33          | 114       | 24 | 5          | M6                     |                              |
| 20323             | 24           | 33          | 124       | 24 | 5          | M6                     |                              |
| 20324             | 24           | 33          | 134       | 24 | 5          | M6                     |                              |
| 20325             | 24           | 33          | 144       | 24 | 5          | M6                     |                              |
| 20326             | 24           | 33          | 154       | 24 | 5          | M6                     |                              |
| 20327             | 24           | 33          | 164       | 24 | 5          | M6                     |                              |
| 20328             | 24           | 33          | 174       | 24 | 5          | M6                     |                              |
| 20329             | 24           | 33          | 184       | 24 | 5          | M6                     |                              |
| 20330             | 24           | 33          | 194       | 24 | 5          | M6                     |                              |
| 20331             | 24           | 33          | 204       | 24 | 5          | M6                     |                              |
| 20332             | 25           | 33          | 94        | 24 | 5          | M6                     |                              |
| 20333             | 25           | 33          | 104       | 24 | 5          | M6                     |                              |
| 20334             | 25           | 33          | 114       | 24 | 5          | M6                     |                              |
| 20335             | 25           | 33          | 124       | 24 | 5          | M6                     |                              |
| 20336             | 25           | 33          | 134       | 24 | 5          | M6                     |                              |
| 20337             | 25           | 33          | 144       | 24 | 5          | M6                     |                              |
| 20338             | 25           | 33          | 154       | 24 | 5          | M6                     |                              |
| 20339             | 25           | 33          | 164       | 24 | 5          | M6                     |                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.4 Führungssäulen mit Klammer
17.4 Guide posts with clamp



| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20340             | 25           | 33          | 174       | 24 | 5          | M6                     | 19796                        |
| 20341             | 25           | 33          | 184       | 24 | 5          | M6                     |                              |
| 20342             | 25           | 33          | 194       | 24 | 5          | M6                     |                              |
| 20343             | 25           | 33          | 204       | 24 | 5          | M6                     |                              |
| 20344             | 32           | 41          | 120       | 30 | 6,5        | M8                     |                              |
| 20345             | 32           | 41          | 130       | 30 | 6,5        | M8                     | 19797                        |
| 20346             | 32           | 41          | 140       | 30 | 6,5        | M8                     |                              |
| 20347             | 32           | 41          | 150       | 30 | 6,5        | M8                     |                              |
| 20348             | 32           | 41          | 160       | 30 | 6,5        | M8                     |                              |
| 20349             | 32           | 41          | 170       | 30 | 6,5        | M8                     |                              |
| 20350             | 32           | 41          | 180       | 30 | 6,5        | M8                     |                              |
| 20351             | 32           | 41          | 190       | 30 | 6,5        | M8                     |                              |
| 20352             | 32           | 41          | 200       | 30 | 6,5        | M8                     |                              |
| 20353             | 32           | 41          | 210       | 30 | 6,5        | M8                     |                              |
| 20354             | 32           | 41          | 230       | 30 | 6,5        | M8                     |                              |
| 20355             | 32           | 41          | 250       | 30 | 6,5        | M8                     |                              |
| 20356             | 32           | 41          | 270       | 30 | 6,5        | M8                     |                              |
| 20357             | 32           | 41          | 310       | 30 | 6,5        | M8                     |                              |
| 20358             | 40           | 51          | 137       | 37 | 6,5        | M8                     |                              |
| 20359             | 40           | 51          | 147       | 37 | 6,5        | M8                     |                              |

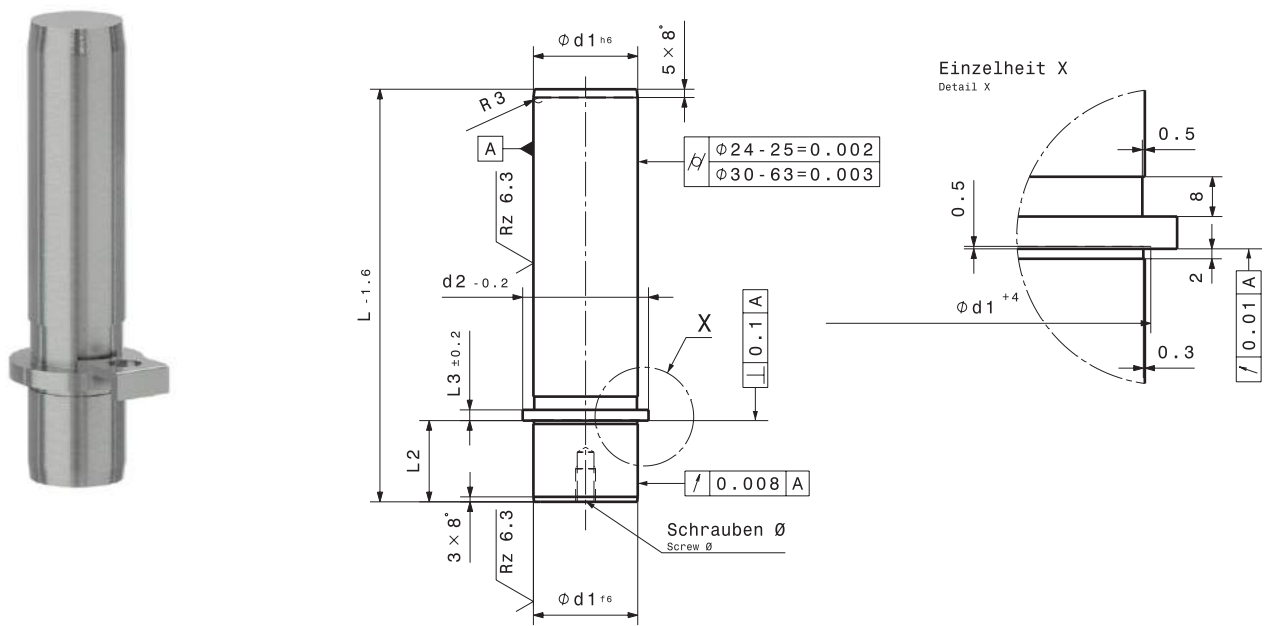
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20360             | 40           | 51          | 157       | 37 | 6,5        | M8                     | 19797                        |
| 20361             | 40           | 51          | 167       | 37 | 6,5        | M8                     |                              |
| 20362             | 40           | 51          | 177       | 37 | 6,5        | M8                     |                              |
| 20363             | 40           | 51          | 187       | 37 | 6,5        | M8                     |                              |
| 20364             | 40           | 51          | 197       | 37 | 6,5        | M8                     |                              |
| 20365             | 40           | 51          | 207       | 37 | 6,5        | M8                     |                              |
| 20366             | 40           | 51          | 217       | 37 | 6,5        | M8                     |                              |
| 20367             | 40           | 51          | 237       | 37 | 6,5        | M8                     |                              |
| 20368             | 40           | 51          | 257       | 37 | 6,5        | M8                     |                              |
| 20369             | 40           | 51          | 277       | 37 | 6,5        | M8                     |                              |
| 20370             | 40           | 51          | 317       | 37 | 6,5        | M8                     |                              |
| 20371             | 50           | 64          | 155       | 45 | 6,5        | M10                    |                              |
| 20372             | 50           | 64          | 165       | 45 | 6,5        | M10                    |                              |
| 20373             | 50           | 64          | 175       | 45 | 6,5        | M10                    |                              |
| 20374             | 50           | 64          | 185       | 45 | 6,5        | M10                    |                              |
| 20375             | 50           | 64          | 195       | 45 | 6,5        | M10                    |                              |
| 20376             | 50           | 64          | 205       | 45 | 6,5        | M10                    |                              |
| 20377             | 50           | 64          | 215       | 45 | 6,5        | M10                    |                              |
| 20378             | 50           | 64          | 225       | 45 | 6,5        | M10                    |                              |
| 20379             | 50           | 64          | 245       | 45 | 6,5        | M10                    |                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium



17.4 Führungssäulen mit Klammer
17.4 Guide posts with clamp



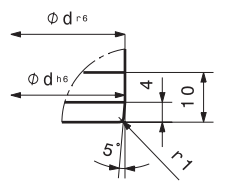
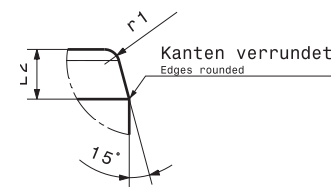
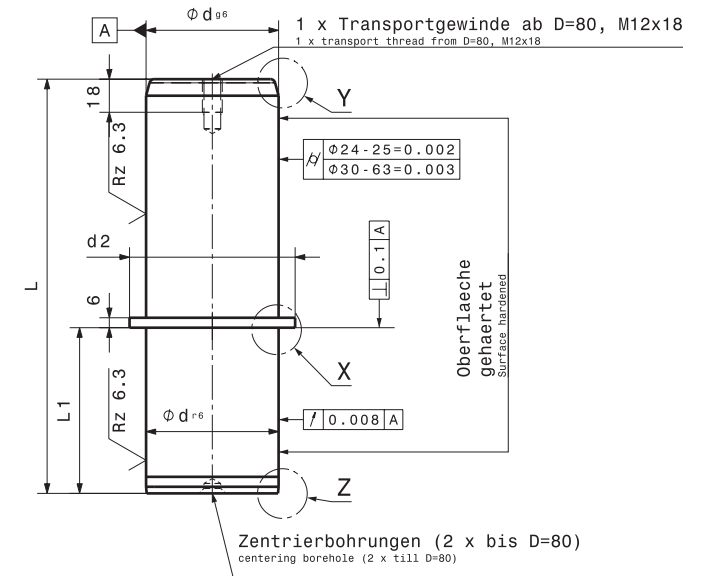
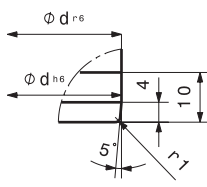
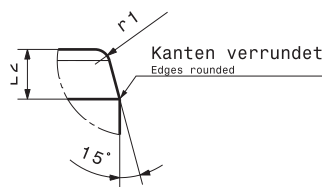
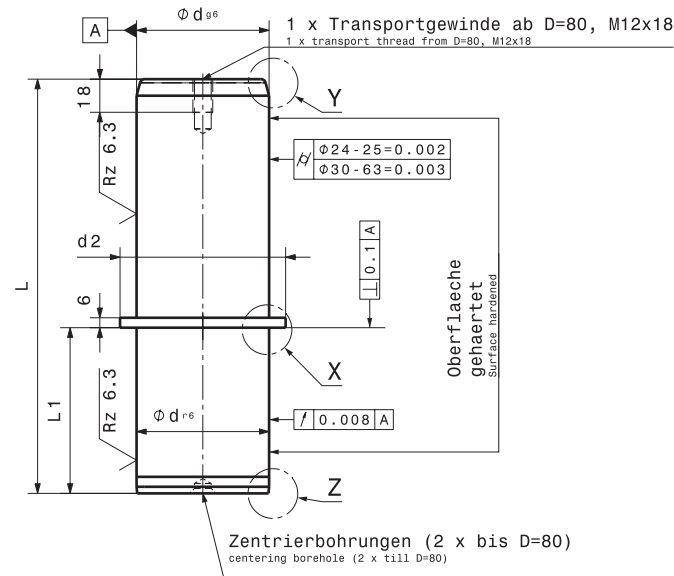
| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20380             | 50           | 64          | 265       | 45 | 6,5        | M10                    | 19797                        |
| 20381             | 50           | 64          | 285       | 45 | 6,5        | M10                    |                              |
| 20382             | 50           | 64          | 325       | 45 | 6,5        | M10                    |                              |
| 20383             | 50           | 64          | 365       | 45 | 6,5        | M10                    |                              |
| 20384             | 50           | 64          | 425       | 45 | 6,5        | M10                    |                              |
| 20385             | 50           | 64          | 445       | 45 | 6,5        | M10                    |                              |
| 20386             | 63           | 76          | 169       | 49 | 6,5        | M12                    |                              |
| 20387             | 63           | 76          | 189       | 49 | 6,5        | M12                    |                              |
| 20388             | 63           | 76          | 209       | 49 | 6,5        | M12                    |                              |
| 20389             | 63           | 76          | 229       | 49 | 6,5        | M12                    |                              |
| 20390             | 63           | 76          | 249       | 49 | 6,5        | M12                    |                              |
| 20391             | 63           | 76          | 269       | 49 | 6,5        | M12                    |                              |
| 20392             | 63           | 76          | 289       | 49 | 6,5        | M12                    |                              |
| 20393             | 63           | 76          | 329       | 49 | 6,5        | M12                    |                              |
| 20394             | 63           | 76          | 369       | 49 | 6,5        | M12                    |                              |
| 20395             | 63           | 76          | 409       | 49 | 6,5        | M12                    |                              |
| 20396             | 63           | 76          | 449       | 49 | 6,5        | M12                    |                              |
| 20408             | 63           | 76          | 464       | 49 | 6,5        | M12                    |                              |
| 20409             | 63           | 76          | 479       | 49 | 6,5        | M12                    |                              |
| 20397             | 80           | 93          | 180       | 60 | 6,5        | M12                    |                              |

| Ident-No.<br>St 1 | Ød1<br>h6/f6 | Ød2<br>-0,2 | L<br>-1,6 | L2 | L3<br>±0,2 | Schrauben Ø<br>Screw Ø | Ident-No.<br>Klammer / Clamp |
|-------------------|--------------|-------------|-----------|----|------------|------------------------|------------------------------|
| 20398             | 80           | 93          | 200       | 60 | 6,5        | M12                    | 19797                        |
| 20399             | 80           | 93          | 220       | 60 | 6,5        | M12                    |                              |
| 20400             | 80           | 93          | 240       | 60 | 6,5        | M12                    |                              |
| 20401             | 80           | 93          | 260       | 60 | 6,5        | M12                    |                              |
| 20402             | 80           | 93          | 280       | 60 | 6,5        | M12                    |                              |
| 20403             | 80           | 93          | 300       | 60 | 6,5        | M12                    |                              |
| 20404             | 80           | 93          | 340       | 60 | 6,5        | M12                    |                              |
| 20405             | 80           | 93          | 380       | 60 | 6,5        | M12                    |                              |
| 20406             | 80           | 93          | 420       | 60 | 6,5        | M12                    |                              |
| 20407             | 80           | 93          | 460       | 60 | 6,5        | M12                    |                              |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

## 17.7 Guide posts without clamp



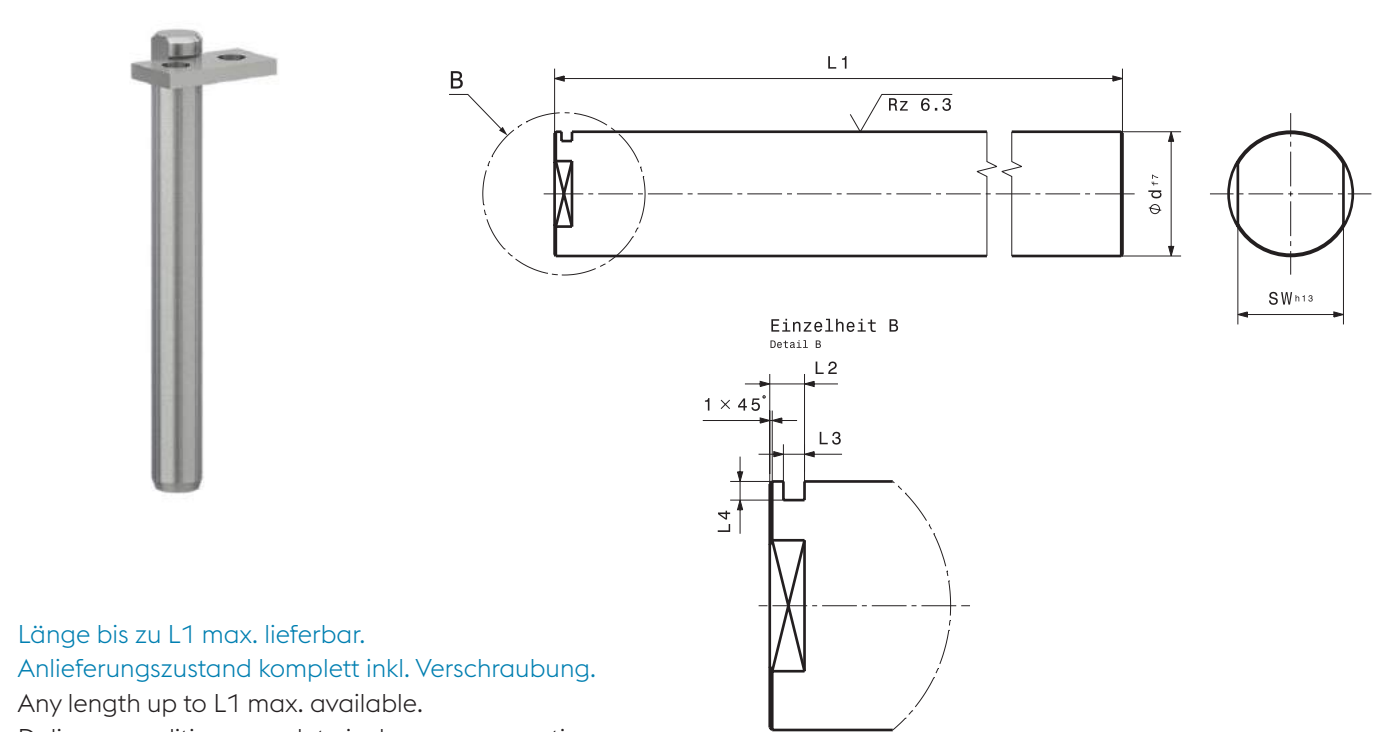
| Ident-No.<br>St 1 | Ød<br>h6/r6/g6 | L   | Ød2 | L1 | L2 | r1  |
|-------------------|----------------|-----|-----|----|----|-----|
| 20496             | 32             | 140 | 40  | 45 | 8  | 2   |
| 20497             | 32             | 160 | 40  | 45 | 8  | 2   |
| 20498             | 32             | 180 | 40  | 45 | 8  | 2   |
| 20499             | 32             | 200 | 40  | 45 | 8  | 2   |
| 20500             | 40             | 160 | 50  | 56 | 8  | 2   |
| 20501             | 40             | 180 | 50  | 56 | 8  | 2   |
| 20502             | 40             | 200 | 50  | 56 | 8  | 2   |
| 20503             | 40             | 225 | 50  | 56 | 8  | 2   |
| 20504             | 40             | 250 | 50  | 56 | 8  | 2   |
| 20505             | 50             | 160 | 63  | 70 | 10 | 2,5 |
| 20506             | 50             | 180 | 63  | 70 | 10 | 2,5 |
| 20507             | 50             | 200 | 63  | 70 | 10 | 2,5 |
| 20508             | 50             | 225 | 63  | 70 | 10 | 2,5 |
| 20509             | 50             | 250 | 63  | 70 | 10 | 2,5 |
| 20510             | 50             | 280 | 63  | 70 | 10 | 2,5 |
| 20511             | 50             | 315 | 63  | 70 | 10 | 2,5 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

| Ident-No.<br>St 1 | Ød<br>h6/r6/g6 | L   | Ød2 | L1  | L2 | r1  |
|-------------------|----------------|-----|-----|-----|----|-----|
| 20512             | 63             | 200 | 80  | 80  | 10 | 2,5 |
| 20513             | 63             | 225 | 80  | 80  | 10 | 2,5 |
| 20514             | 63             | 250 | 80  | 80  | 10 | 2,5 |
| 20515             | 63             | 280 | 80  | 80  | 10 | 2,5 |
| 20516             | 63             | 315 | 80  | 80  | 10 | 2,5 |
| 20517             | 63             | 355 | 80  | 80  | 10 | 2,5 |
| 20518             | 63             | 400 | 80  | 80  | 10 | 2,5 |
| 20519             | 80             | 250 | 100 | 100 | 10 | 3   |
| 20520             | 80             | 280 | 100 | 100 | 10 | 3   |
| 20521             | 80             | 315 | 100 | 100 | 10 | 3   |
| 20522             | 80             | 355 | 100 | 100 | 10 | 3   |
| 20523             | 80             | 400 | 100 | 100 | 10 | 3   |
| 20524             | 100            | 315 | 125 | 125 | 10 | 3   |
| 20525             | 100            | 355 | 125 | 125 | 10 | 3   |
| 20526             | 100            | 400 | 125 | 125 | 10 | 3   |
| 20527             | 100            | 450 | 125 | 125 | 10 | 3   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

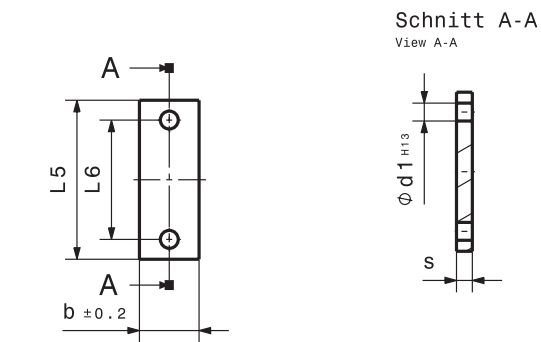
17.8 Bolzen mit Achshalter
17.8 Bolts with axle support



Länge bis zu L1 max. lieferbar.
Anlieferungszustand komplett inkl. Verschraubung.
Any length up to L1 max. available.
Delivery condition complete incl. screw connection.

| Ident-No. | Ident-No.<br>Achshalter<br>axle support | Ød<br>f7 | L1<br>max. | L2 | L3  | L4  | SW<br>h13 |
|-----------|-----------------------------------------|----------|------------|----|-----|-----|-----------|
| 20180     | 20170                                   | 8        | 70         | 7  | 3,5 | 2,5 | 6         |
| 20181     |                                         | 10       | 90         | 7  | 3,5 | 2,5 | 8         |
| 20182     |                                         | 12       | 140        | 7  | 3,5 | 3,5 | 10        |
| 20183     |                                         | 13       | 170        | 7  | 3,5 | 3,5 | 10        |
| 20184     |                                         | 16       | 190        | 7  | 3,5 | 3,5 | 13        |
| 20185     | 20171                                   | 20       | 290        | 9  | 4,5 | 4,5 | 17        |
| 20186     |                                         | 25       | 340        | 9  | 4,5 | 4,5 | 17        |
| 20187     |                                         | 30       | 340        | 9  | 4,5 | 5,5 | 24        |
| 20188     |                                         | 32       | 340        | 9  | 4,5 | 5,5 | 24        |
| 20198     |                                         | 35       | 390        | 9  | 4,5 | 5,5 | 27        |
| 20189     | 20172                                   | 36       | 390        | 9  | 4,5 | 5,5 | 27        |
| 20190     |                                         | 40       | 390        | 9  | 4,5 | 5,5 | 36        |
| 20191     |                                         | 50       | 530        | 12 | 5,5 | 6   | 36        |
| 20192     |                                         | 60       | 580        | 12 | 5,5 | 6   | 46        |
| 20193     |                                         | 63       | 580        | 12 | 5,5 | 6   | 50        |
| 20194     | 20173                                   | 70       | 580        | 12 | 5,5 | 6   | 55        |
| 20195     |                                         | 80       | 580        | 14 | 8,5 | 7,5 | 65        |
| 20196     |                                         | 90       | 580        | 14 | 8,5 | 7,5 | 75        |
| 20197     |                                         | 100      | 580        | 14 | 8,5 | 7,5 | 85        |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

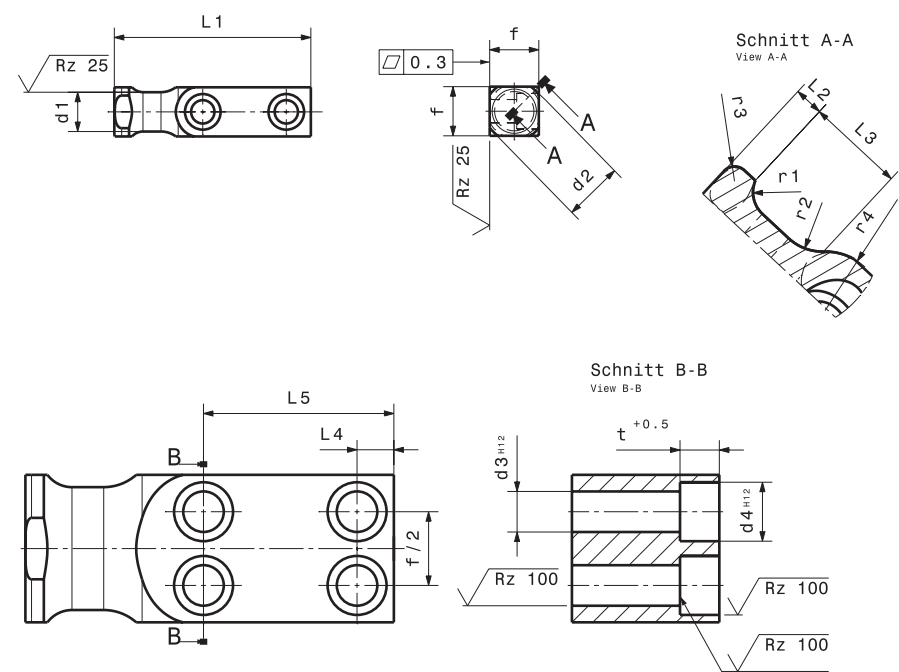


| Ident-No.<br>1.0037 ungehärtet<br>1.0037 unhardened | L5 | b<br>±0,2 | L6 | s | Ø d1<br>H13 | Ød<br>Bolzen<br>Bolts | Zylinderschraube mit Federring<br>Cylinder head screw with spring washer<br>DIN EN ISO 4762 |
|-----------------------------------------------------|----|-----------|----|---|-------------|-----------------------|---------------------------------------------------------------------------------------------|
| 20170                                               | 25 | 13        | 13 | 3 | 5,5         | 8-16                  | M5x10                                                                                       |
| 20171                                               | 40 | 13        | 25 | 4 | 5,5         | 20-40                 | M5x11                                                                                       |
| 20172                                               | 60 | 20        | 45 | 5 | 6,6         | 50-70                 | M6x12                                                                                       |
| 20173                                               | 80 | 30        | 60 | 8 | 9           | 80-100                | M8x16                                                                                       |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

17.11 Tragzapfen nach VDI 3366

17.11 Trunnions acc. VDI 3366



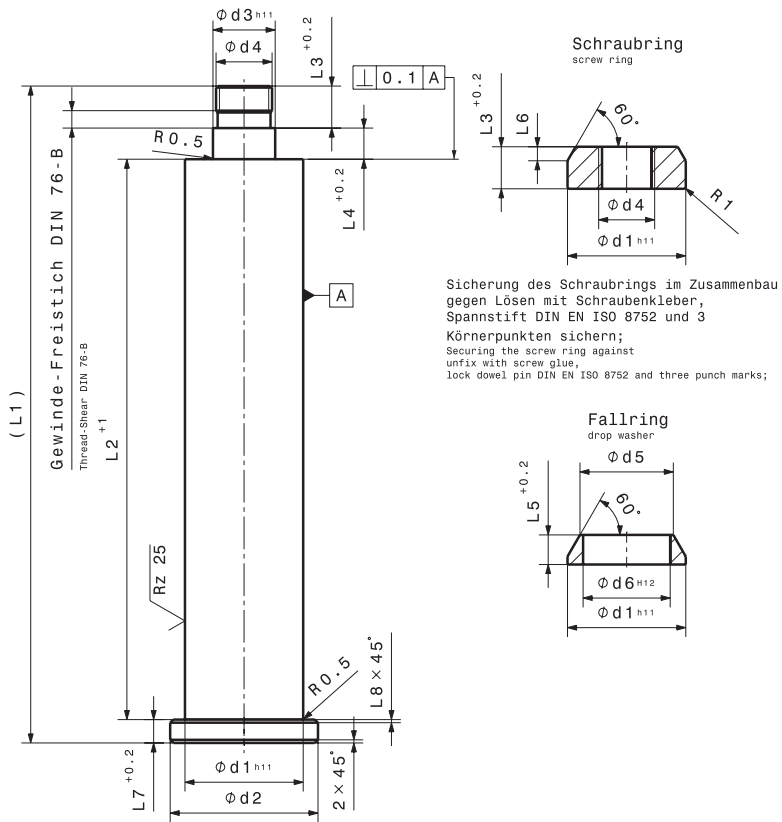
| Ident-No.<br>1.0577 | Ød1 | Ød2 | Ød3<br>H12 | Ød4<br>H12 | t<br>+0,5 | f   | L1  | L2 | L3 |  | L4 | L5  | r1   | r2 | r3 | r4 | Zylinderschraube<br>Cylinder head screw<br>DIN EN ISO 4762 |
|---------------------|-----|-----|------------|------------|-----------|-----|-----|----|----|--|----|-----|------|----|----|----|------------------------------------------------------------|
|                     |     |     |            |            |           |     |     |    |    |  |    |     |      |    |    |    |                                                            |
| 16480               | 16  | 24  | 9,5        | 14,5       | 9         | 20  | 80  | 6  | 20 |  | 10 | 44  | 6    | 10 | 3  | 12 | 2x M8x30                                                   |
| 16481               | 20  | 30  | 11,5       | 17,5       | 11        | 25  | 90  | 8  | 25 |  | 10 | 47  | 8    | 12 | 3  | 12 | 2x M10x35                                                  |
| 16482               | 25  | 40  | 14         | 20         | 13        | 35  | 100 | 8  | 30 |  | 12 | 50  | 10   | 15 | 3  | 15 | 2x M12x40                                                  |
| 16483               | 32  | 50  | 18         | 26         | 17,5      | 40  | 120 | 10 | 32 |  | 16 | 62  | 10   | 15 | 3  | 20 | 2x M16x55                                                  |
| 16484               | 40  | 60  | 23         | 33         | 21,5      | 50  | 140 | 10 | 40 |  | 18 | 72  | 12,5 | 20 | 3  | 20 | 2x M20x70                                                  |
| 16485               | 50  | 70  | 27         | 39         | 25,5      | 60  | 160 | 12 | 45 |  | 22 | 81  | 12,5 | 20 | 5  | 25 | 2x M24x80                                                  |
| 16486               | 63  | 90  | 23         | 33         | 21,5      | 80  | 200 | 12 | 50 |  | 20 | 98  | 15   | 25 | 5  | 35 | 4x M20x100                                                 |
| 16487               | 80  | 110 | 27         | 39         | 25,5      | 100 | 250 | 15 | 65 |  | 25 | 125 | 20   | 35 | 5  | 45 | 4x M24x120                                                 |
| 16488               | 100 | 130 | 33         | 48         | 32        | 120 | 300 | 15 | 80 |  | 30 | 155 | 25   | 40 | 5  | 55 | 4x M30x140                                                 |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

17.12 Tragbolzen mit Ringsicherung nach VDI 3366

17.12 Liftig bolts with retaining ring acc. VDI 3366



| Ident-No.<br>1.7131 | Ød1<br>h11 | Ød2 | Ød3<br>h11 | Ød4 | Ød5 | Ød6<br>H12 | L1  | L2<br>+1 | L3<br>+0,2 | L4<br>+0,2 | L5<br>+0,2 | L6 | L7<br>+0,2 | L8 |
|---------------------|------------|-----|------------|-----|-----|------------|-----|----------|------------|------------|------------|----|------------|----|
| 16470               | 32         | 40  | 13         | M10 | 24  | 21         | 175 | 145      | 10         | 10         | 9          | 5  | 10         | 2  |
| 16471               | 40         | 50  | 16         | M12 | 30  | 28         | 225 | 188      | 13         | 14         | 13         | 6  | 10         | 2  |
| 16472               | 50         | 60  | 24         | M20 | 38  | 36         | 273 | 230      | 16         | 16         | 15         | 7  | 11         | 2  |
| 16473               | 63         | 75  | 30         | M24 | 48  | 45         | 347 | 295      | 20         | 18         | 17         | 8  | 14         | 3  |
| 16474               | 76         | 95  | 40         | M36 | 60  | 56         | 422 | 360      | 27         | 20         | 19         | 9  | 15         | 6  |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel  
Measurements without tolerance specification – DIN ISO 2768 medium

## 18. Zentriereinheiten

### 18. Centering units

18.1



Zentriereinheiten  
Centering units

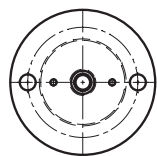
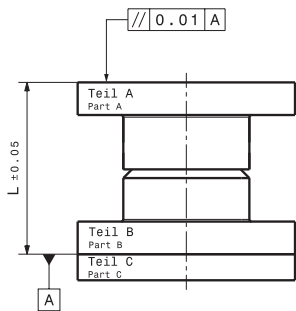
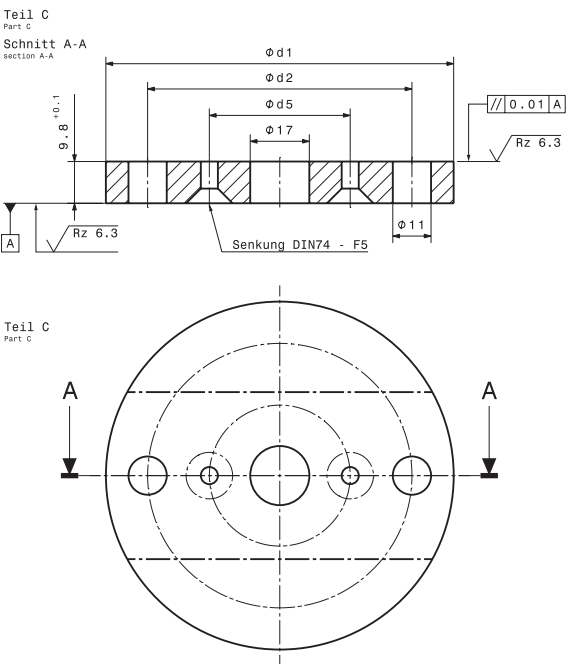
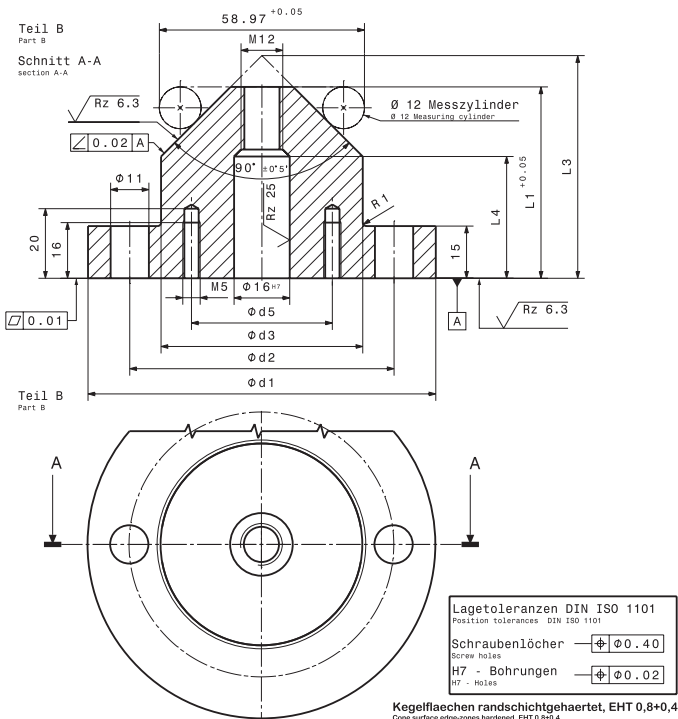
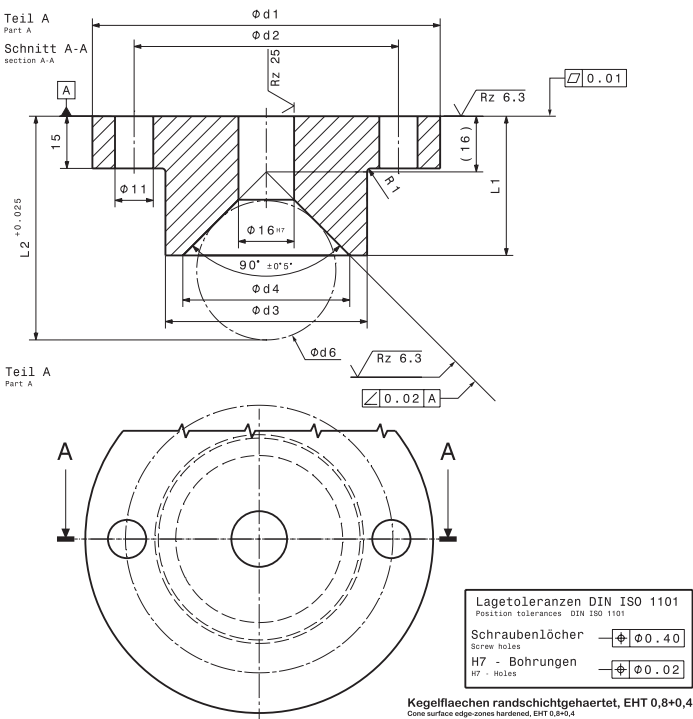
18.2



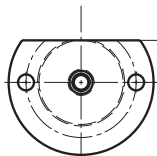
Zentriereinheiten  
Centering units



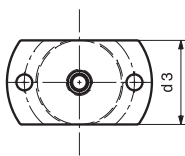
18.1 Zentriereinheiten
18.1 Centering units



Draufsichten/View from top
Ausführung 10 und 12
Design 10 and 12



Ausführung 14 und 16
Design 14 and 16



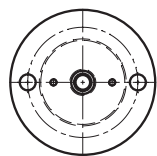
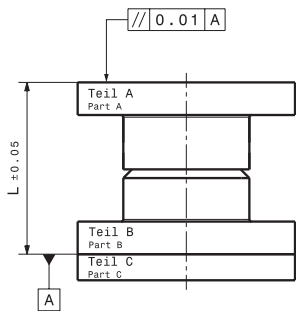
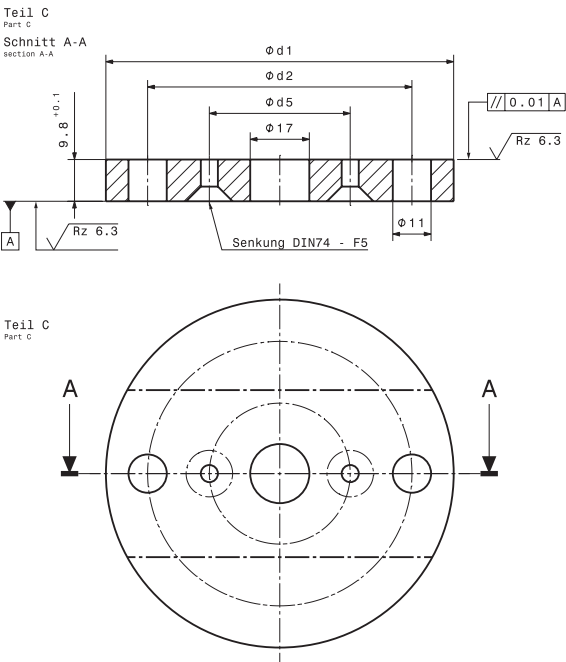
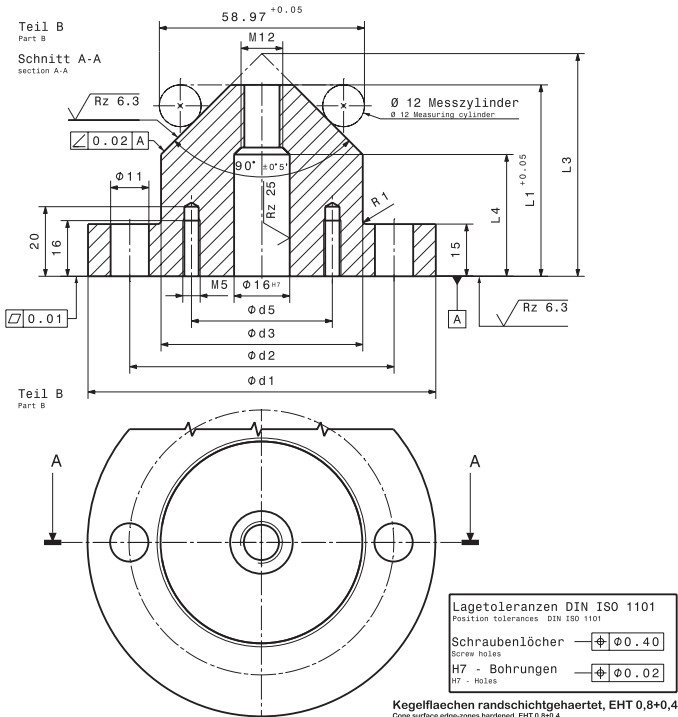
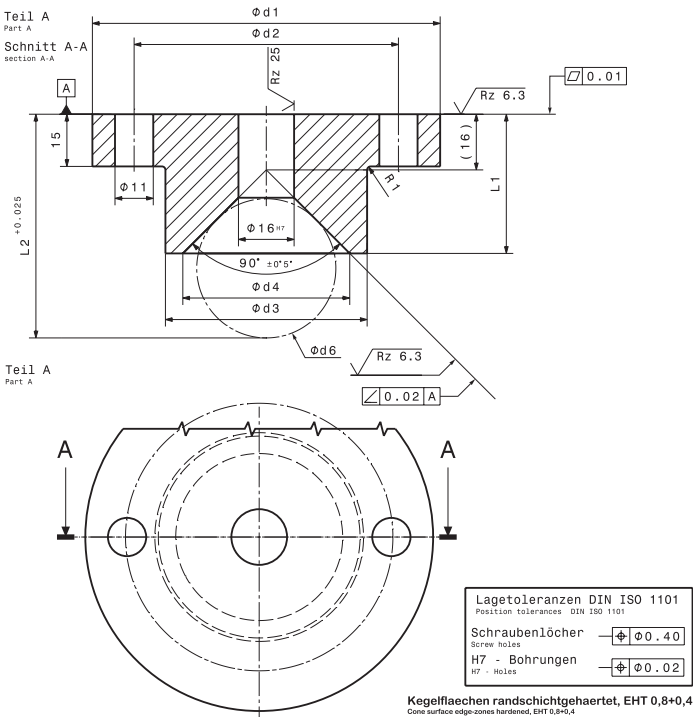
Ausführung 18 und 20
Design 18 and 20

| Ident-No.<br>St 1 | Ident-No.<br>Zusammenbau<br>Assembly |           | Ød1 | Ød2 | Ød3 | Ød4 | Ød5  |      | Ød6<br>Messkugel<br>Measuring ball | L<br>±0,05 | L1<br>±0,05 | L2<br>±0,025 | L3<br>±0,025 | L4 | Teil<br>Part | Ausführung<br>Design |
|-------------------|--------------------------------------|-----------|-----|-----|-----|-----|------|------|------------------------------------|------------|-------------|--------------|--------------|----|--------------|----------------------|
|                   | A + B                                | A + B + C |     |     |     |     |      |      |                                    |            |             |              |              |    |              |                      |
| 19930             | 62591                                | 62947     | 100 | 76  | 58  | 48  | -    |      | 40                                 | 80         | 40          | 64,28        | -            | -  | A            | 10                   |
| 19931             |                                      |           | 100 | 76  | 58  | -   | 40,5 |      | -                                  | 80         | 55          | -            | 64           | 35 | B            | 10                   |
| 62939             |                                      |           | -   | 100 | 76  | -   | -    | 40,5 |                                    | -          | -           | -            | -            | -  | -            | C                    |
| 19932             | 62592                                | 63127     | 120 | 96  | 78  | 68  | -    |      | 50                                 | 90         | 50          | 76,36        | -            | -  | A            | 12                   |
| 19933             |                                      |           | 120 | 96  | 78  | -   | 50,5 |      | -                                  | 90         | 65          | -            | 74           | 45 | B            | 12                   |
| 63124             |                                      |           | -   | 120 | 96  | -   | -    | 50,5 |                                    | -          | -           | -            | -            | -  | -            | C                    |
| 62483             | 62593                                | 63128     | 100 | 76  | 58  | 48  | -    |      | 40                                 | 80         | 40          | 64,28        | -            | -  | A            | 14                   |
| 62484             |                                      |           | 100 | 76  | 58  | -   | 40,5 |      | -                                  | 80         | 55          | -            | 64           | 35 | B            | 14                   |
| 63081             |                                      |           | -   | 100 | 76  | 58  | -    | 40,5 |                                    | -          | -           | -            | -            | -  | -            | C                    |

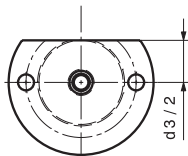
Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

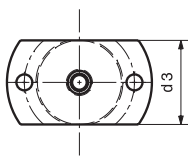
18.1 Zentriereinheiten
18.1 Centering units



Draufsichten/View from top
Ausführung 10 und 12
Design 10 and 12



Ausführung 14 und 16
Design 14 and 16



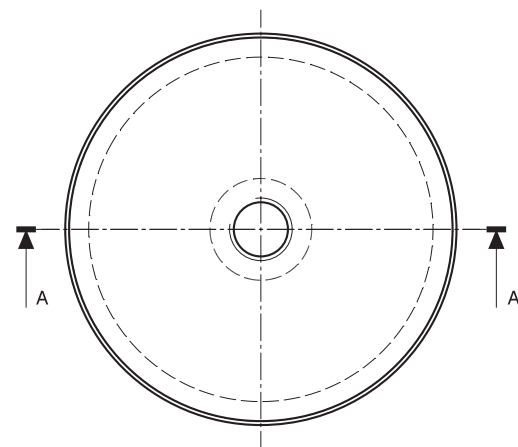
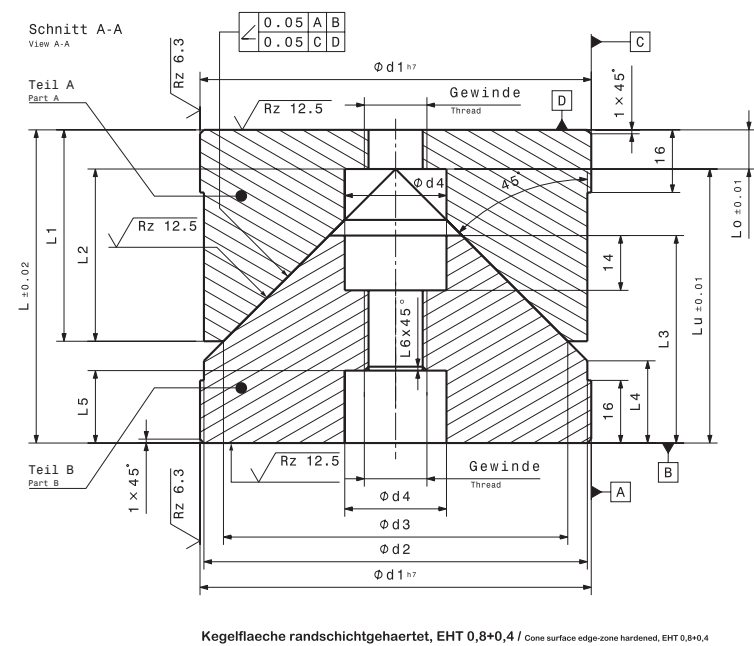
Ausführung 18 und 20
Design 18 and 20

| Ident-No.<br>St 1 | Ident-No.<br>Zusammenbau<br>Assembly |           | Ød1 | Ød2 | Ød3 | Ød4 | Ød5  |  |  | Ød6<br>Messkugel<br>Measuring ball | L<br>±0,05 | L1<br>±0,05 | L2<br>±0,025 | L3<br>±0,025 | L4 | Teil<br>Part | Ausführung<br>Design |
|-------------------|--------------------------------------|-----------|-----|-----|-----|-----|------|--|--|------------------------------------|------------|-------------|--------------|--------------|----|--------------|----------------------|
|                   | A + B                                | A + B + C |     |     |     |     |      |  |  |                                    |            |             |              |              |    |              |                      |
| 62485             | 62594                                | 63129     | 120 | 96  | 78  | 68  | -    |  |  | 50                                 | 90         | 50          | 76,36        | -            | -  | A            | 16                   |
| 62486             |                                      |           | 120 | 96  | 78  | -   | 50,5 |  |  | -                                  | 90         | 65          | -            | 74           | 45 | B            | 16                   |
| 63125             |                                      |           | 120 | 96  | 78  | -   | 50,5 |  |  | -                                  | -          | -           | -            | -            | -  | C            | 16                   |
| 62487             | 62595                                | 62942     | 100 | 76  | 58  | 48  | -    |  |  | 40                                 | 80         | 40          | 64,28        | -            | -  | A            | 18                   |
| 62488             |                                      |           | 100 | 76  | 58  | -   | 40,5 |  |  | -                                  | 80         | 55          | -            | 64           | 35 | B            | 18                   |
| 62941             |                                      |           | 100 | 76  | 58  | -   | 40,5 |  |  | -                                  | -          | -           | -            | -            | -  | C            | 18                   |
| 62489             | 62596                                | 63130     | 120 | 96  | 78  | 68  | -    |  |  | 50                                 | 90         | 50          | 76,36        | -            | -  | A            | 20                   |
| 62490             |                                      |           | 120 | 96  | 78  | -   | 50,5 |  |  | -                                  | 90         | 65          | -            | 74           | 45 | B            | 20                   |
| 63126             |                                      |           | 120 | 96  | 78  | -   | 50,5 |  |  | -                                  | -          | -           | -            | -            | -  | C            | 20                   |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

18.2 Zentriereinheiten
18.2 Centering units



| Ident-No.<br>St 1 | Ød1<br>h7 | Ød2 | Ød3 | Ød4 | L<br>±0,02 | Lo theor.<br>±0,01 | Lu theor.<br>±0,01 |  | L1 | L2 | L3 | L4 | L5   | L6 | Gewinde<br>Thread | Teil<br>Part |
|-------------------|-----------|-----|-----|-----|------------|--------------------|--------------------|--|----|----|----|----|------|----|-------------------|--------------|
| 19934             | 100       | 98  | 88  | 26  | 80         | 10                 | -                  |  | 54 | 44 | -  | -  | -    | -  | M16               | A            |
| 19935             | 100       | 98  | -   | 26  | 80         | -                  | 70                 |  | -  | -  | 53 | 21 | 18,5 | 2  | M16               | B            |
| 19936             | 75        | 74  | 62  | 20  | 65         | 9                  | -                  |  | 40 | 30 | -  | -  | -    | -  | M12               | A            |
| 19937             | 75        | 74  | -   | 20  | 65         | -                  | 56                 |  | -  | -  | 42 | 19 | 13   | 1  | M12               | B            |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

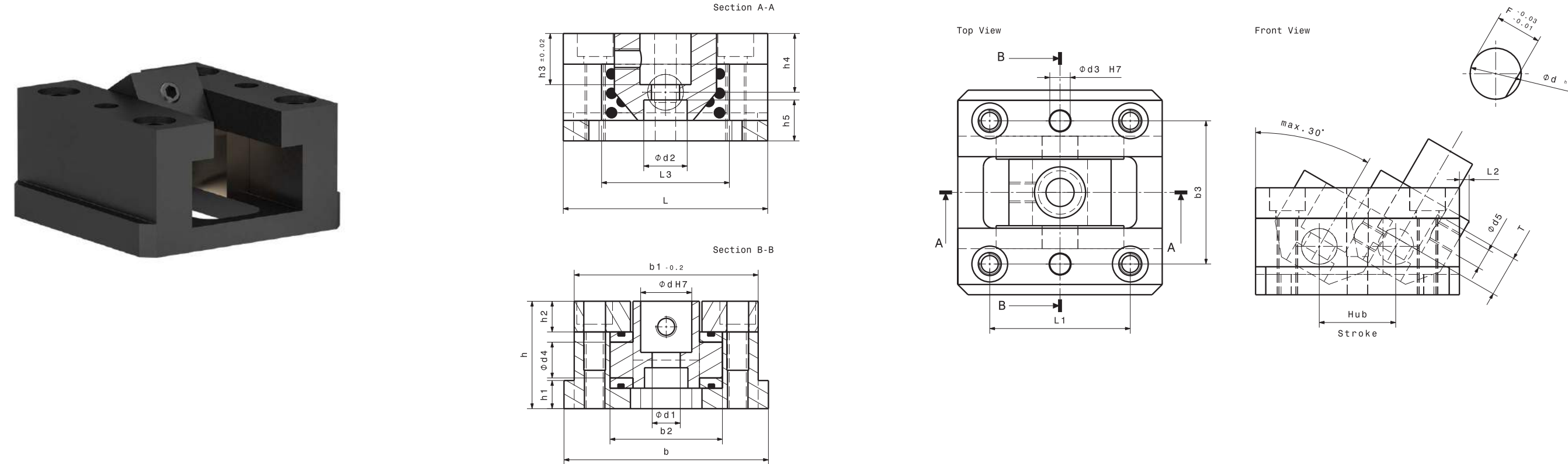
## 19. Bolzenführungen

### 19. Bolt guides

#### 19.1 Bolzenführungen

##### Bolt guides

19.1 Bolzenführungen
19.1 Bolt guides



| Ident-No. | b   | L   | h  | b1<br>-0,2 | b2 | b3  | L1  | L2  | L3 | h1 | h2 | h3<br>±0,02 |  | h4   | h5   | Ød<br>H7 | Ød1 | Ød2  | Ød3<br>H7 | Ød4 | Ød5 | F<br>-0,03<br>-0,1 | T  | Hub<br>Stroke | Zylinderschraube<br>Cylinder head screw |
|-----------|-----|-----|----|------------|----|-----|-----|-----|----|----|----|-------------|--|------|------|----------|-----|------|-----------|-----|-----|--------------------|----|---------------|-----------------------------------------|
| 19980     | 33  | 32  | 22 | 30         | 19 | 24  | 20  | 3,6 | 20 | 5  | 7  | 8           |  | 12,5 | 10   | 8        | 8   | 4,5  | 3         | 7   | M4  | 7                  | 8  | 10            | M3                                      |
| 19981     | 45  | 45  | 27 | 40         | 25 | 32  | 30  | 4,5 | 25 | 5  | 8  | 10          |  | 15,5 | 12,5 | 10       | 10  | 5,5  | 4         | 9   | M5  | 9                  | 9  | 18            | M4                                      |
| 19982     | 57  | 50  | 32 | 51         | 31 | 39  | 35  | 5   | 30 | 7  | 10 | 12          |  | 18   | 15   | 12       | 11  | 7    | 6         | 10  | M6  | 11                 | 10 | 20            | M6                                      |
| 19983     | 65  | 65  | 36 | 58         | 38 | 46  | 40  | 5   | 40 | 8  | 10 | 16          |  | 20   | 15   | 16       | 14  | 9    | 6         | 12  | M8  | 14,5               | 12 | 25            | M6                                      |
| 19984     | 80  | 80  | 42 | 72         | 44 | 56  | 55  | 5   | 50 | 11 | 12 | 20          |  | 23   | 16   | 20       | 17  | 11   | 8         | 14  | M8  | 18                 | 16 | 30            | M8                                      |
| 19985     | 93  | 90  | 50 | 85         | 52 | 66  | 65  | 6   | 55 | 15 | 15 | 25          |  | 28   | 17   | 25       | 20  | 14   | 10        | 16  | M10 | 22,5               | 20 | 35            | M10                                     |
| 19986     | 101 | 100 | 55 | 93         | 60 | 74  | 70  | 7   | 60 | 15 | 15 | 30          |  | 30   | 17   | 30       | 20  | 14   | 10        | 18  | M10 | 27                 | 25 | 40            | M10                                     |
| 19987     | 120 | 120 | 62 | 110        | 70 | 85  | 80  | 8   | 75 | 15 | 18 | 35          |  | 35   | 18   | 35       | 26  | 14   | 10        | 20  | M10 | 32                 | 30 | 45            | M12                                     |
| 19988     | 130 | 135 | 70 | 120        | 80 | 95  | 90  | 8   | 85 | 15 | 18 | 40          |  | 40   | 19   | 40       | 26  | 17,5 | 10        | 25  | M12 | 36                 | 35 | 50            | M12                                     |
| 19989     | 140 | 150 | 80 | 130        | 90 | 105 | 110 | 10  | 95 | 15 | 20 | 45          |  | 45   | 24   | 45       | 26  | 17,5 | 10        | 30  | M12 | 40                 | 40 | 55            | M12                                     |

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

Maße ohne Toleranzangabe – DIN ISO 2768 mittel
Measurements without tolerance specification – DIN ISO 2768 medium

