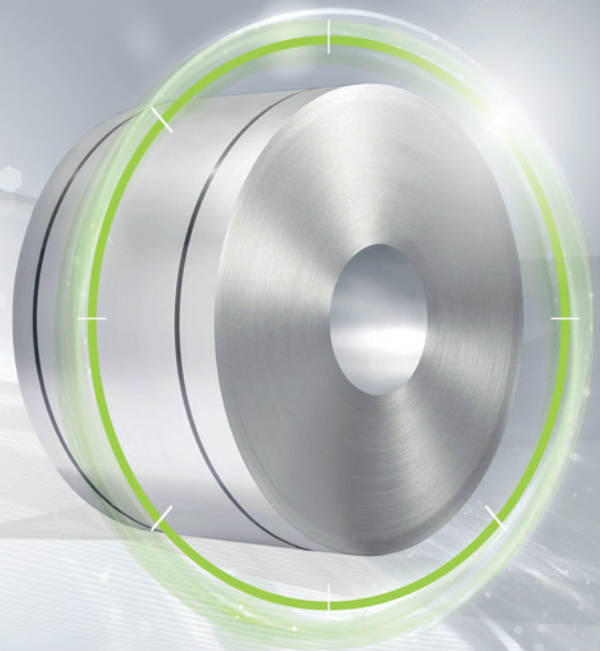


FULLY
PROCESSED

isovac high-perm 800-65 A

The specialist with the highest permeability

Manufactured in the most modern production lines, this fully processed isovac® grade exhibits highly homogeneous properties across the width and length of the entire strip. The result is excellent and consistent processability in the manufacture of highly efficient electrical components.

The optimum adjustment of texture increases magnetizability and reduces core losses of isovac HP 800-65 A. This increase in efficiency makes it possible to maintain the same level of performance while reducing component size and saving material, weight and costs. This also means that a higher level of performance can be achieved with the same component size.

Upon request, isovac HP 800-65 A can be supplied with an electrical steel insulation system and can be used directly in as-delivered condition.

Convincing advantages:

- » Increased performance achieved by increasing torque based on higher magnetizability (improvement by up to 0.05 T at J25, J50, J100)
- » Possible cost optimization through less material usage, less weight and less space requirement resulting from downsizing while maintaining the same level of performance
- » Best processability through consistent mechanical properties and homogeneous, clean surfaces
- » Excellent stackability resulting from high dimensional accuracy in rolling direction and perpendicular to rolling direction (thickness tolerance)
- » Innovative electrical steel insulation systems upon request

voestalpine supplies isovac HP 800-65 A, an electrical steel of the highest quality. We offer you a customer-focused overall package of products, service and logistics in addition to all the advantages of our integrated metallurgical facility and Steel Service Centers.

Grade named according to conventional international standards:

Grade named according to isovac®	DIN EN 10106		IEC 60404-8-4	JIS C2552	GOST 21427.2	ASTM A677	AISI	IS648	GB/T2521.1
	Material No.	Abbreviation							
isovac HP 800-65 A	1.0827	M800-65A	M800-65A 5	65A800	2122	64F500	M-47	65C800	65W800

Mechanical properties:

Tensile test according to DIN EN ISO 6892-1 and hardness according to DIN EN ISO 6507-1 (Typical values);
Test direction: Transverse

Grade named according to isovac®	Yield strength R_{eH} [MPa]	0.2 %-Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation A_{80} [%]	Hardness HV5 [-]
isovac HP 800-65 A	250	240	385	25	120

Magnetic properties:

in as-delivered condition (Typical values)

Test direction: Mean value from longitudinal and transverse measurements at 50 Hz (60 Hz), single-sheet test

Grade named according to isovac®	Specific total loss				Magnetic polarization			Relative permeability 1.5 T μ_r [-]
	1.0 T P10		1.5 T P15		2500 A/m J25	5000 A/m J50	10000 A/m J100	
	50 Hz [W/kg]	60 Hz [W/lb]	50 Hz [W/kg]	60 Hz [W/lb]	[T]	[T]	[T]	
isovac HP 800-65 A	2.40	1.42	5.40	3.19	1.68	1.76	1.86	2900

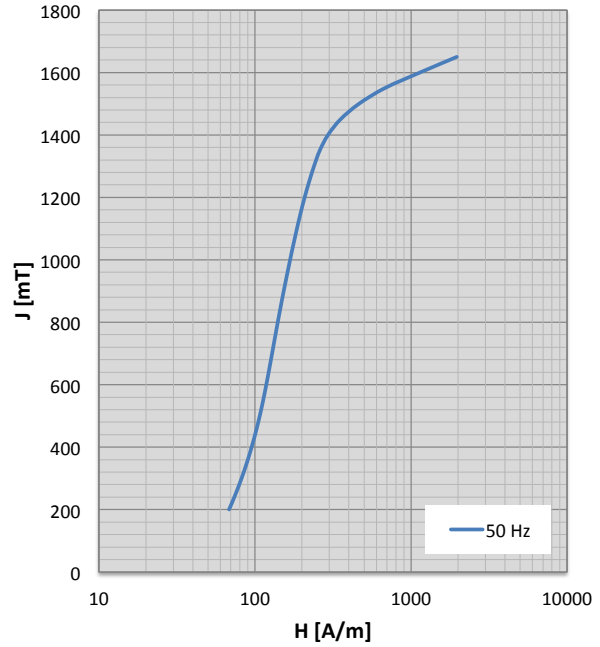
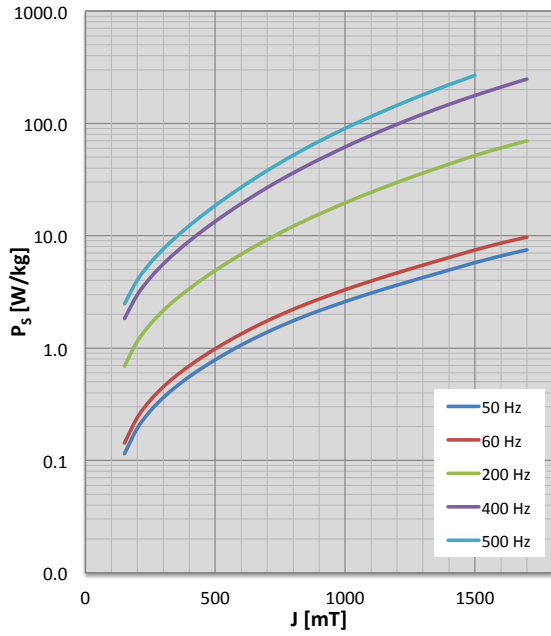
Physical properties:

Typical values

Grade named according to isovac®	Density ρ [g/cm³]	Specific electrical resistance ρ_s [$\mu\Omega\text{cm}$]	Thermal conductivity λ [W/mK]
isovac HP 800-65 A	7.80	28.2	42

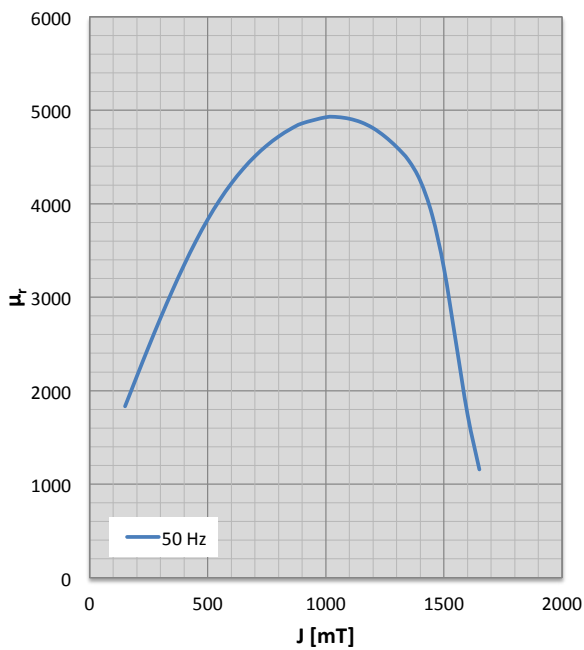
Characteristics P_s/J loss curve and characteristics J/H magnetization curve

Test direction: Mean value from longitudinal and transverse measurements at indicated frequencies, single-sheet test



Characteristics μ_r/J permeability curve

Test direction: Mean value from longitudinal and transverse measurements at 50 Hz, single-sheet test



Frequency dependence of magnetic properties

Test direction: Mean value longitudinal and transverse at indicated frequencies and polarizations, single-sheet test

50 Hz				60 Hz				200 Hz			
J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]
				100	53	0.05	1522	100	58	0.24	1392
150	61	0.11	1831	150	60	0.14	1849	150	68	0.69	1621
200	68	0.19	2154	200	68	0.24	2172	200	79	1.15	1845
250	75	0.28	2470	250	75	0.34	2488	250	89	1.63	2061
300	82	0.36	2777	300	81	0.45	2793	300	99	2.16	2263
350	89	0.46	3069	350	88	0.57	3083	350	110	2.73	2447
400	95	0.56	3345	400	95	0.69	3354	400	121	3.37	2610
450	101	0.67	3600	450	101	0.83	3604	450	132	4.09	2745
500	107	0.79	3832	500	107	0.98	3828	500	143	4.90	2849
550	113	0.92	4037	550	113	1.15	4023	550	155	5.81	2920
600	118	1.06	4217	600	119	1.34	4191	600	167	6.84	2959
650	123	1.22	4373	650	124	1.53	4335	650	180	7.97	2973
700	129	1.39	4508	700	130	1.75	4455	700	193	9.23	2966
750	134	1.56	4622	750	136	1.97	4556	750	208	10.61	2942
800	140	1.75	4719	800	142	2.21	4639	800	223	12.11	2908
850	146	1.94	4798	850	148	2.46	4706	850	240	13.76	2866
900	153	2.15	4860	900	155	2.73	4756	900	258	15.54	2820
1000	168	2.59	4925	1000	170	3.30	4806	1000	296	19.59	2717
1050	176	2.83	4927	1050	179	3.62	4804	1050	317	21.87	2663
1100	186	3.08	4909	1100	188	3.95	4783	1100	338	24.32	2610
1150	196	3.35	4871	1150	198	4.29	4742	1150	360	26.96	2558
1200	208	3.63	4809	1200	210	4.66	4680	1200	383	29.79	2506
1250	222	3.93	4719	1250	224	5.05	4592	1250	408	32.83	2451
1300	239	4.24	4606	1300	241	5.47	4463	1300	433	36.09	2401
1350	260	4.58	4465	1350	263	5.92	4285	1350	458	39.56	2357
1400	294	4.94	4244	1400	296	6.39	4075	1400	486	43.33	2299
1450	353	5.34	3879	1450	351	6.91	3816	1450	522	47.43	2202
1500	464	5.75	3310	1500	456	7.46	3353	1500	597	51.71	2032
1550	679	6.17	2530	1550	663	8.01	2584	1550	768	56.01	1767
1600	1140	6.60	1745	1600	1117	8.58	1761	1600	1192	60.43	1443
1650	1965	7.04	1157	1650	1934	9.14	1152	1650	1994	65.07	1101
1700	3064	7.48	740	1700	3029	9.71	734	1700	3082	69.87	753

Frequency dependence of magnetic properties

Test direction: Mean value longitudinal and transverse at indicated frequencies and polarizations, single-sheet test

400 Hz				500 Hz			
J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]	J [mT]	H [A/m]	P _s [W/kg]	μ _r [-]
100	68	0.71	1190	100	72	0.98	1111
150	81	1.82	1355	150	86	2.47	1258
200	94	2.98	1515	200	101	4.03	1400
250	108	4.23	1667	250	116	5.72	1534
300	123	5.61	1805	300	132	7.61	1656
350	138	7.17	1926	350	149	9.78	1760
400	154	8.96	2025	400	167	12.28	1843
450	171	11.02	2097	450	187	15.18	1900
500	190	13.40	2138	500	210	18.56	1928
550	211	16.14	2146	550	234	22.47	1923
600	233	19.27	2125	600	261	26.97	1891
650	257	22.81	2084	650	290	32.12	1840
700	282	26.79	2028	700	321	37.96	1776
750	309	31.24	1964	750	355	44.54	1707
800	338	36.18	1901	800	391	51.92	1640
850	369	41.63	1843	850	429	60.15	1581
900	402	47.66	1789	900	470	69.24	1528
1000	474	61.61	1689	1000	557	90.14	1435
1050	512	69.63	1638	1050	603	102.01	1391
1100	553	78.37	1589	1100	651	114.95	1348
1150	595	87.83	1542	1150	703	129.10	1305
1200	639	98.06	1498	1200	757	144.61	1264
1250	685	109.08	1457	1250	814	161.53	1225
1300	733	120.93	1415	1300	873	179.59	1188
1350	784	133.63	1371	1350	939	199.26	1148
1400	834	147.21	1338	1400	1010	220.56	1106
1450	884	161.70	1317	1450	1077	242.54	1073
1500	946	176.99	1264	1500	1149	267.61	1040
1550	1067	193.04	1141				
1600	1420	210.11	971				
1650	2155	228.40	787				
1700	3183	247.60	596				

Available Dimensions

Grade named according to isovac®	Delivery form	Width [mm]	Length [mm]
isovac HP 800-65 A	Wide strip / Slit strip	19 – 1590	-
	Cut-to-length sheets	300 – 1590	300 – 5000

Deliverable coating systems

Grade named according to isovac®	Uncoated	C-3	Backlack	C-5	C-6
isovac HP 800-65 A	✔	✔	☰	✔	✔

✔ Available ☰ On request

The information and product properties contained in this printed material are non-binding and serve the sole purpose of technical orientation. They do not replace individual advisory services provided by our sales and customer service teams. The product information and characteristics set forth herein shall not be considered as guaranteed properties unless explicitly stipulated in a separate contractual agreement. For this reason, voestalpine shall not grant any warranty nor be held liable for properties and/or specifications other than those subject to explicit agreement. This also applies to the suitability and applicability of products for certain applications as well as to the further processing of materials into final products. All application risks and suitability risks shall be borne by the customer. The General Terms of Sale for Goods and Services of the voestalpine Steel Division shall apply to all materials supplied by the voestalpine Steel Division and can be accessed using the following link: www.voestalpine.com/stahl/en/The-Steel-Division/General-Terms-of-Sale

Technical changes are reserved. Errors and misprints are excepted. No part of this publication may be reprinted without explicit written permission by voestalpine Stahl GmbH.

Please find further information
and downloadable files at
www.voestalpine.com/isovac

