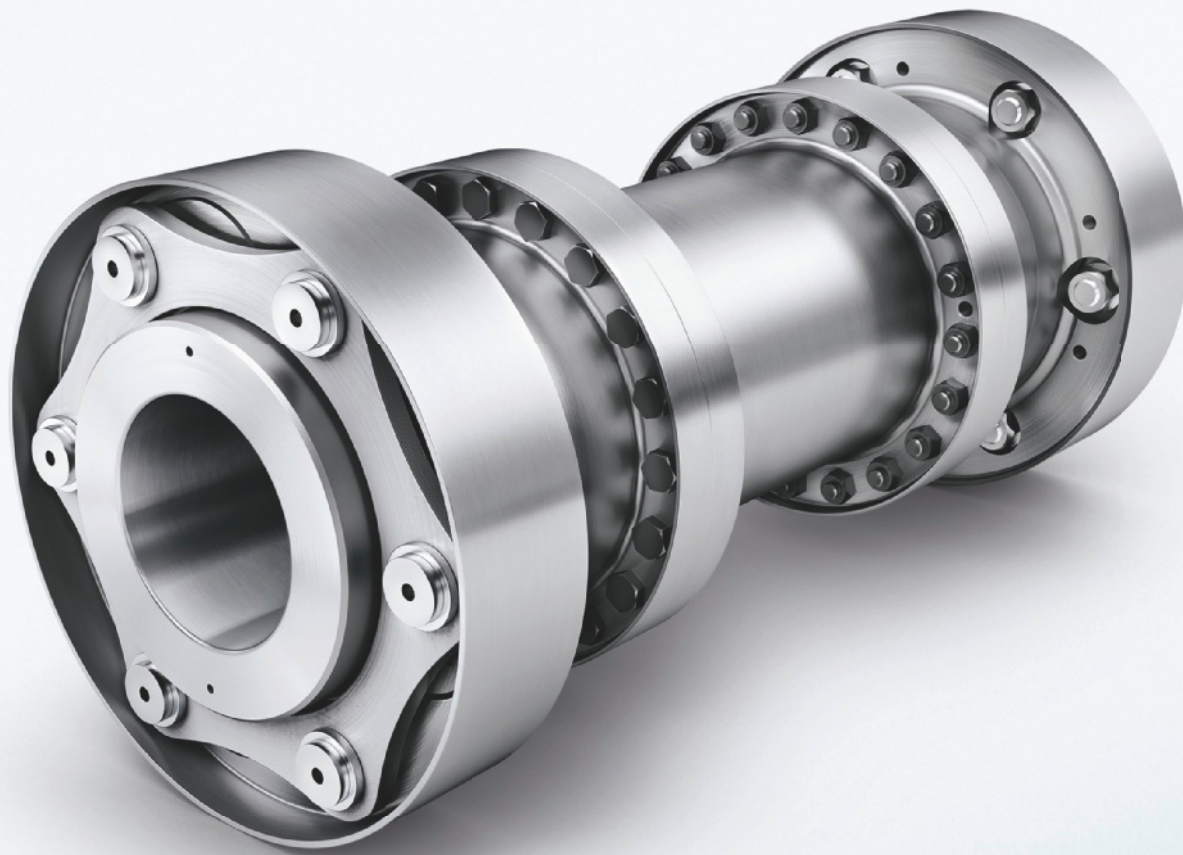


SIEMENS



ARPEX

High Performance Couplings







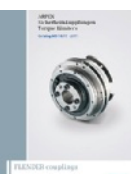










FLENDER couplings

Catalog
MD 10.2

Edition
2013

Answers for industry.

Related catalogs

<p>FLENDER Couplings Standard Couplings</p> <p>MD 10.1</p> <p>E86060-K5710-A111-A4-7600</p>		<p>Bucket Elevator Drives</p> <p>MD 20.2</p> <p>E86060-K5720-A121-A2-6300</p>	
<p>ARPEX Composite Couplings</p> <p>MD 10.5</p> <p>E86060-K5710-A151-A2-7400</p>		<p>PLANUREX 2 Planetary Gear Units</p> <p>MD 20.3</p> <p>E86060-K5720-A131-A2-6300</p>	
<p>ARPEX Couplings Miniature</p> <p>MD 10.10</p> <p>E86060-K5710-A211-A2-6300</p>		<p>Conveyor Drives</p> <p>MD 20.6</p> <p>E86060-K5720-A161-A2-6300</p>	
<p>ARPEX Torque Limiters</p> <p>MD 10.11</p> <p>E86060-K5710-A221-A2-7400</p>		<p>Marine Reduction Gearboxes</p> <p>MD 20.7</p> <p>E86060-K5720-A171-A1-7400</p>	
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<p>Gear Units Sizes 3–22</p> <p>MD 20.1</p> <p>E86060-K5720-A111-A2-6300</p>		<p>Products for Automation and Drives Interactive Catalog</p> <p>CA 01</p> <p>DVD: E86060-D4001-A510-D2-7600</p>	
<p>Gear Units Sizes 23–28</p> <p>MD 20.11</p> <p>E86060-K5720-A211-A2-6300</p>		<p>Industry Mall Information and Ordering Platform in the Internet:</p> <p>www.siemens.com/industrymall</p>	
<p>Gear Units Fast Track</p> <p>MD 20.12</p> <p>E86060-K5720-A221-A1-6300</p>			

ARPEX High Performance Couplings

Catalog MD 10.2 · 2013

Dear customer,

We are pleased to present you with the new Catalog MD 10.2 which supersedes Catalog MD 10.9. In it you will find everything you need to know about the latest range of FLENDER high performance couplings:



- Series ART – type XVX: For exacting requirements of the position of the center of gravity
- Series ART – type BVB: For average requirements of the position of the center of gravity
- Series ART – type MHM: For large shaft diameters
- Series ARE – type MHM: For medium-speed drives

All FLENDER high performance couplings are of course maintenance-free and wear-free. They offer the same performance and availability characteristics which for many years have been the bedrock of FLENDER's unequalled reputation as a coupling supplier.



We hope that you will often enjoy using Catalog MD 10.2 as a reference for placing new orders and look forward to receiving your queries about our products.

We will be glad to receive your suggestions and recommendations for improvement (please make reference to the catalog name) under catalogs.industry@siemens.com.



For the latest information and catalogs on the Internet, please go to www.siemens.com/couplings

Best regards,

A handwritten signature in blue ink that reads "N. Warning".

Nicola Warning
Head of BSS FLENDER Couplings

Siemens AG, Industry Sector, Drive Technologies, Mechanical Drives

FLENDER couplings

ARPEX

High Performance Couplings

Catalog MD 10.2 · 2013



THE INTERNATIONAL CERTIFICATION NETWORK
 The products and systems described in this catalog are manufactured/distributed under application of a certified quality management system in accordance with DIN EN ISO 9001 (Certified Registration No. 01 100 000708). The certificate is recognized by all IQNet countries.

Supersedes:
 Catalog MD 10.9 · 2011

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Answers for industry.

Siemens Industry answers the challenges in the manufacturing and the process industry as well as in the building automation business. Our drive and automation solutions based on Totally Integrated Automation (TIA) and Totally Integrated Power (TIP) are employed in all kinds of industry. In the manufacturing and the process industry. In industrial as well as in functional buildings.

Siemens offers automation, drive, and low-voltage switching technology as well as industrial software from standard products up to entire industry solutions. The industry software enables our industry customers to optimize the entire value chain – from product design and development through manufacture and sales up to after-sales service. Our electrical and mechanical components offer integrated technologies for the entire drive train – from couplings to gear units, from motors to control and drive solutions for all engineering industries. Our technology platform TIP offers robust solutions for power distribution.

Check out the opportunities our automation and drive solutions provide. And discover how you can sustainably enhance your competitive edge with us.

Benefits

ARPEX high performance couplings have been specially designed for use in high-speed applications. Created by designers with decades of experience using state-of-the-art development and manufacturing tools, ARPEX high performance couplings offer a dependable high-end solution for torsionally rigid torque transmission even with shaft misalignment.

The couplings are suitable for use in potentially explosive atmospheres in accordance with 94/9/EC and comply with the requirements of API 671/ISO 10441.

ARPEX high performance couplings can withstand temperatures between $-40\text{ }^{\circ}\text{C}$ and $+280\text{ }^{\circ}\text{C}$ in operation. On request they can also be specially equipped for use in other temperature ranges.

Application



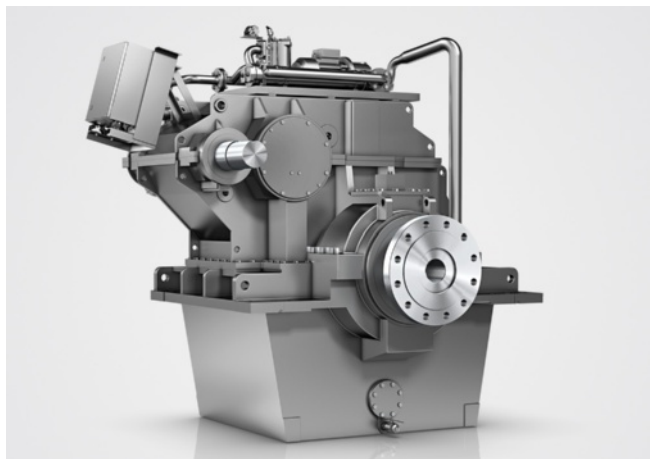
Generator drives



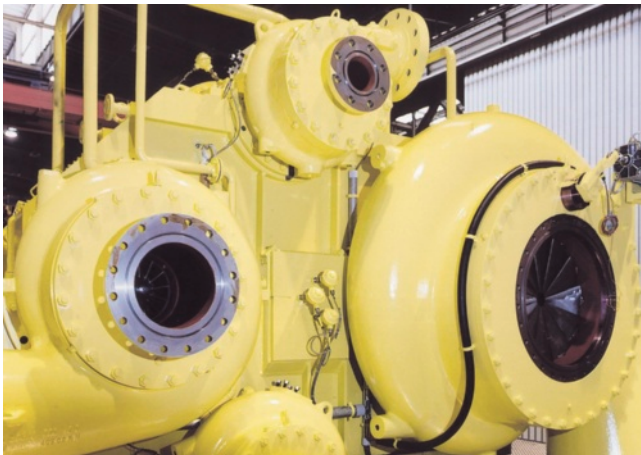
Boiler feed pumps



Gas and steam turbines



Marine drives



Turbo compressors



Test stands

Characteristic Features

Application (continued)

ARPEX high performance couplings from the ART and ARE series transmit torque by means of a patented¹⁾ conical screw connection and a hexagonal, octagonal or decagonal plate pack. They are suitable for torques ranging from 1 000 Nm to 588 500 Nm with a maximum permissible angular misalignment of between 0.16 ° and 0.35 °. The high-quality materials and compact design of the couplings make them light in weight, but capable of high peripheral speeds and torques.

Main areas of application, particularly in the oil and gas industries, the petrochemical industry and in the maritime field:

- Generator drives
- Gas and steam turbines
- Turbo compressors
- Boiler feed pumps
- Marine drives
- Test stands


Characteristics of the ARPEX ART and ARE high performance couplings:


- No lubrication necessary
- Backlash-free torque transmission thanks to plate packs with patented¹⁾, positive-locking conical screw connection
- Design in accordance with API 671/ISO 10441
- Easy to install with factory-assembled half couplings
- Compact, weight-optimized design
- Low restoring forces
- High balancing quality
- Couplings can be designed for potentially explosive environments in accordance with 94/9/EC



ARPEX coupling optionally suitable for operation in potentially explosive environments.

Complies with Directive 94/9/EC for:

CE  II 2G T2/T3/T4/T5/T6
 $-40\text{ °C} \leq T_a \leq +230\text{ °C}/+150\text{ °C}/+85\text{ °C}/+50\text{ °C}/+35\text{ °C}$

CE  II 2D T +120 °C $-40\text{ °C} \leq T_a \leq +70\text{ °C}$

CE  I M2

¹⁾ Protected by patent in a number of countries on the date of creation of this catalog.

Design

2 different series and 3 different types of the ARPEX high performance couplings are available. The series are differentiated according to the number of plate pack screw connections used, i.e. they feature either a hexagonal, an octagonal or a decagonal plate pack.

The version with six connecting elements allows the largest radial and axial shaft misalignment thanks to the high flexibility of the hexagonal plate pack design. This version is thus especially suitable for applications involving a large degree of thermal expansion.

The version with octagonal plate pack combines high torque capacity with high flexibility and thus offers a perfect solution for most high-speed applications.

The version with decagonal plate pack provides the highest torque capacity with small shaft misalignment and is thus especially suitable for applications with high peak torques and low misalignment requirements.

The types are differentiated according to the following features:

The compact, "reduced moment" XVX type minimizes the bending moment stress on the connecting shafts.

Type BVB is a lower-cost version of type XVX and is suitable for applications with lower requirements of the moment stresses on the connecting shafts.

Type MHM is designed for use with larger shaft diameters.

The ARE series couplings have been developed for use on medium-speed drives. They are a low-cost, light-weight version with high torque capacity.

All versions can also be supplied with flange connections to meet the customer's specifications.

The materials used to manufacture the high performance couplings have been carefully selected and the coupling geometry has been optimized using state-of-the-art FEA-based analysis.

All hubs, flanges, sleeves and plate pack screw connections are made of high-grade tempered steel. The highly flexible plates are made from stainless steel spring steel and generate very low restoring forces at the bearings. The patented¹⁾ conical plate pack screw connection permits positive-locked torque transmission. The intermediate spacers can be dismounted radially without moving the coupled machines.

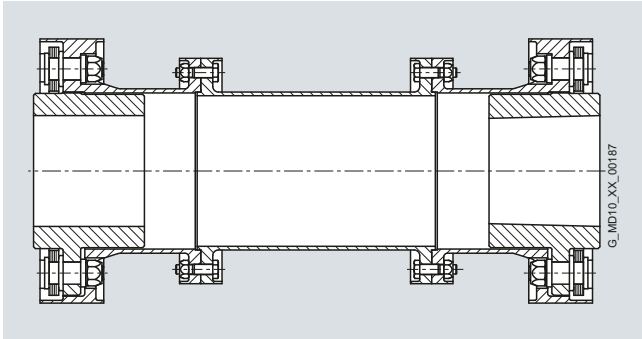
The couplings meet the requirements of API 671/ISO 10441.

¹⁾ Protected by patent in a number of countries on the date of creation of this catalog.

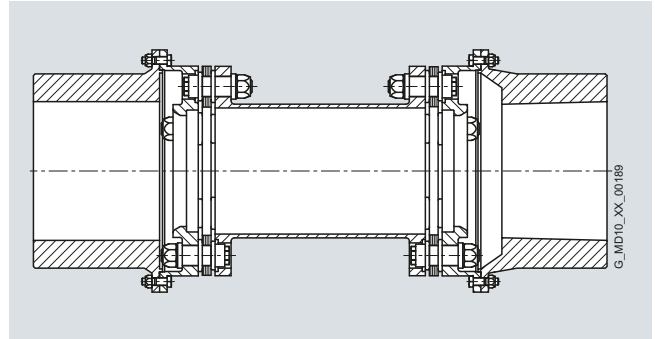
Coupling Types

Design (continued)

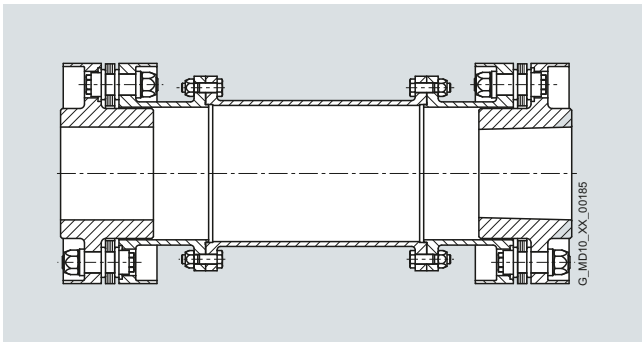
High performance coupling designs



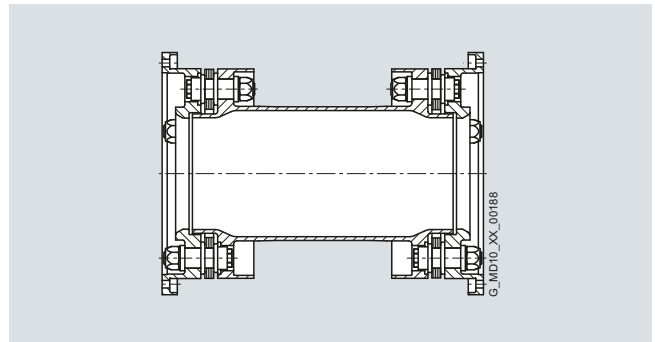
Series ART, type XVX



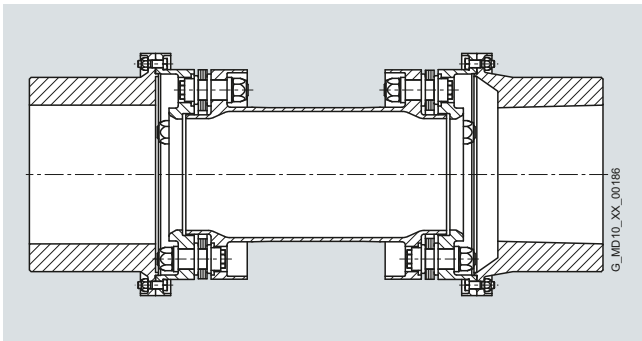
Series ARE, type MHM



Series ART, type BVB



Series ART and ARE, flange design



Series ART, type MHM

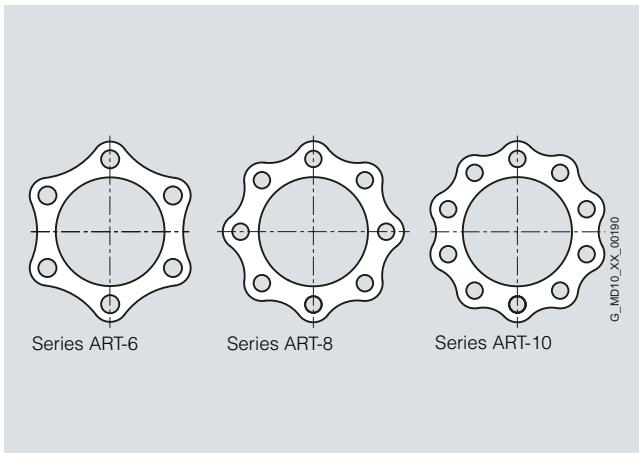
Design**Plates**

Plate shapes

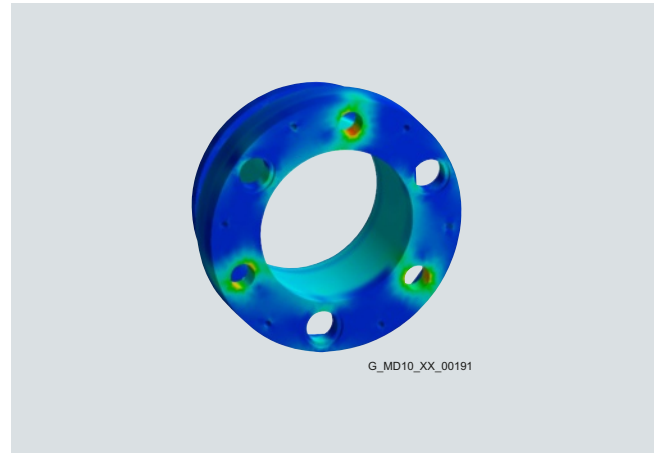
The operating principle of ARPEX high performance couplings is based on the flexibility of the plate packs. The plate packs combine high flexibility with high torque capacity. This means that torque is reliably transmitted even when shaft misalignments cannot be avoided.

The plates are made of hard-rolled spring steel which is stainless and has an extremely high tensile strength.

The use of very thin individual plates means that the restoring forces induced by shaft misalignment are comparatively low. This has a positive impact on the bearing service life of the coupled machines.

The scalloped design of the plates ensures even distribution of stress in the plates and also reduces the weight and the moment of inertia of the plates.

The plates are designed for unlimited service life with a high degree of operational safety.

FEA – development of ARPEX high performance couplings

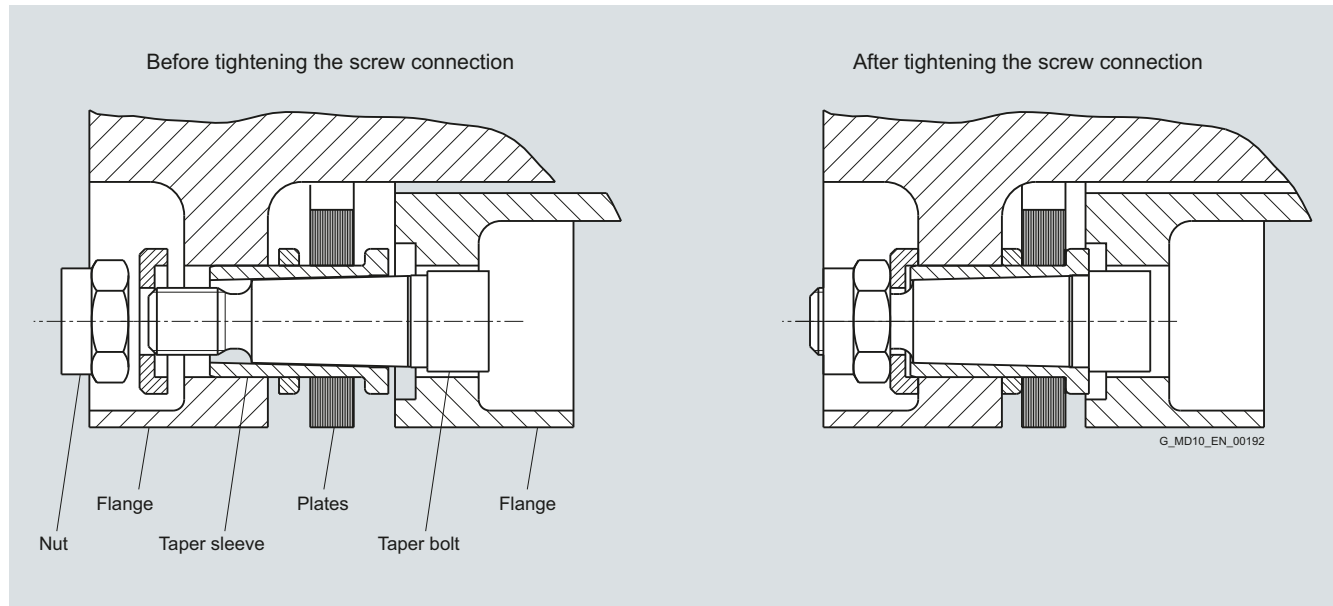
Stress distribution according to the Finite Element Analysis (FEA)

The weight, stiffness and stress distribution of all components of the ARPEX high performance couplings are optimized by FEA analysis. Extensive series of tests have been carried out in order to verify these FEA results and to assess the service life of the components with respect to fatigue life and fatigue limit.

Conical Plate Pack Screw Connection

Design

Patented¹⁾ conical screw connection



Design of the conical screw connection

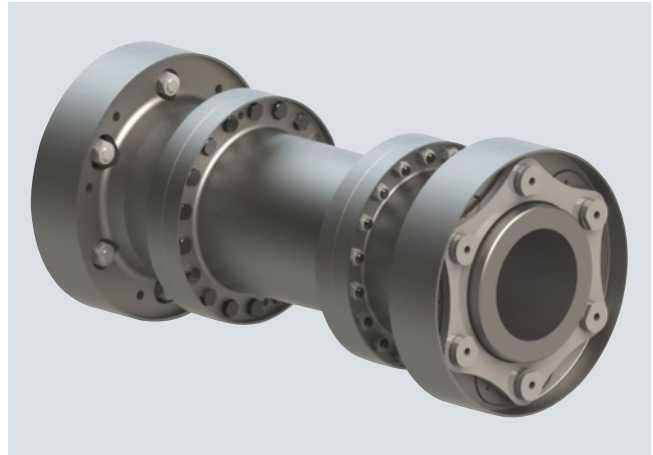
Advantages of the patented¹⁾ conical screw connection

- **Positive-locked torque transmission**
The main advantage of the conical screw connection over the use of close-fitting bolts is the creation of a real positive lock inside the plate pack screw connection. The positive lock is provided by expansion of the conical connection.
- **Functioning principle**
The taper bolt is pulled into the taper sleeve when the nut is tightened, causing the sleeve to expand. As a result, a positive backlash-free connection is reliably created between the taper bolt and the sleeve as well as between the sleeve, the flange and the plates.
This contrasts with typical plate pack screw connections which use close-fitting bolts to transmit torque by friction.
- **Light weight**
While providing the same torque capacity, the conical screw connection is lighter and has a lower moment of inertia than a close-fitting bolt connection.
- **Centering**
The centering accuracy attained by the use of the conical screw connection is exceptionally high, thus also ensuring high balancing quality.
- **Material**
All components of the screw connection are made of high-grade tempered steel.

¹⁾ Protected by patent in a number of countries on the date of creation of this catalog.

Overview

- The coupling components are arranged in such a way as to minimize the moment stresses on the connecting shafts; ideally suited for turbine compressor drives with exacting requirements with respect to the position of the center of gravity and the weight of the half coupling
- The "X" subassemblies are preassembled at the factory. The spacer "V", which can be separately mounted or removed, can be installed radially in such a way that there is no need to move the driving or the driven machine. As a result, the coupled machines can be separated quickly.
- The spacer length of the coupling is variable. It is also possible to adjust the torsional spring stiffness to suit individual applications.
- Reduced-windage design



Series ART High Performance Couplings

Type XVX

Technical data

The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

Please contact your Siemens representative for information about special applications.

Size	Power ratings ¹⁾			Coupling data ²⁾						
	T_{KN} Nm	$T_{peak} 10^3$ Nm	$n_{k \max}$ rpm	CG mm	M kg	J kgm ²	C_T MNm/rad	+/- $K_{a \max}$ mm	$F_{a \max}$ N	+/- $K_{w \max}$ °
118-6	1200	2860	32300	13.0	7.2	0.012	0.070	2.2	976	0.35
146-6	2600	6190	26100	15.0	11.7	0.029	0.126	2.4	1266	
170-6	4500	10700	22400	19.5	16.5	0.056	0.205	3	1844	
201-6	7400	17600	19000	23.0	25.1	0.120	0.359	3.6	2511	
233-6	11600	27600	16300	26.5	39.8	0.266	0.578	4.2	3212	
255-6	16200	38600	14900	30.5	51.3	0.408	0.846	4.6	3975	
286-6	23000	54800	13300	35.5	69.5	0.690	1.25	5.4	4889	
311-6	30100	71700	12200	37.5	88.9	1.05	1.72	5.8	5890	
337-6	38200	91000	11300	41.0	111	1.53	2.26	6.4	7052	
363-6	45900	109300	10500	42.5	136	2.17	2.85	6.6	7534	
400-6	63200	150500	9500	46.0	172	3.24	3.95	7	9000	
431-6	86200	205300	8800	49.0	223	4.90	5.34	7.6	11719	
489-6	126100	300400	7800	57.0	320	9.20	8.43	8.8	16305	
544-6	182200	434000	7000	61.5	446	15.9	12.4	9.6	20324	
605-6	248400	591700	6300	70.0	599	26.5	17.6	11	25115	
651-6	304800	726000	5800	76.5	725	36.9	22.2	11.8	28379	
170-8	6400	15200	22400	19.5	16.9	0.058	0.252	1.8	2113	0.25
201-8	10700	25500	19000	23.0	26.9	0.128	0.532	2.2	2772	
233-8	16400	39100	16300	26.0	42.6	0.280	0.893	2.6	3334	
255-8	22700	54100	14900	30.0	54.6	0.428	1.27	2.8	3987	
286-8	32400	77200	13300	35.0	73.5	0.730	1.88	3.4	5769	
311-8	42700	101700	12200	37.0	93.1	1.09	2.57	3.6	6638	
337-8	54200	129100	11300	40.5	117	1.60	3.45	4	8012	
363-8	65100	155100	10500	42.0	143	2.26	4.31	4.2	8760	
400-8	90300	215100	9500	45.5	180	3.38	5.86	4.4	10269	
431-8	123000	293000	8800	48.5	234	5.20	7.98	4.8	13462	
489-8	180200	429200	7800	56.5	333	9.60	12.5	5.6	18577	
544-8	259500	618100	7000	60.5	468	16.6	18.6	6.2	23673	
605-8	354600	844700	6300	69.5	625	27.4	26.4	7	28208	
651-8	434200	1034300	5800	75.5	758	38.4	33.4	7.6	32668	

¹⁾ The maximum speeds n_{\max} might be lower in the case of spacers with a DBSE dimension in excess of 457.2 mm (18").

²⁾ The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

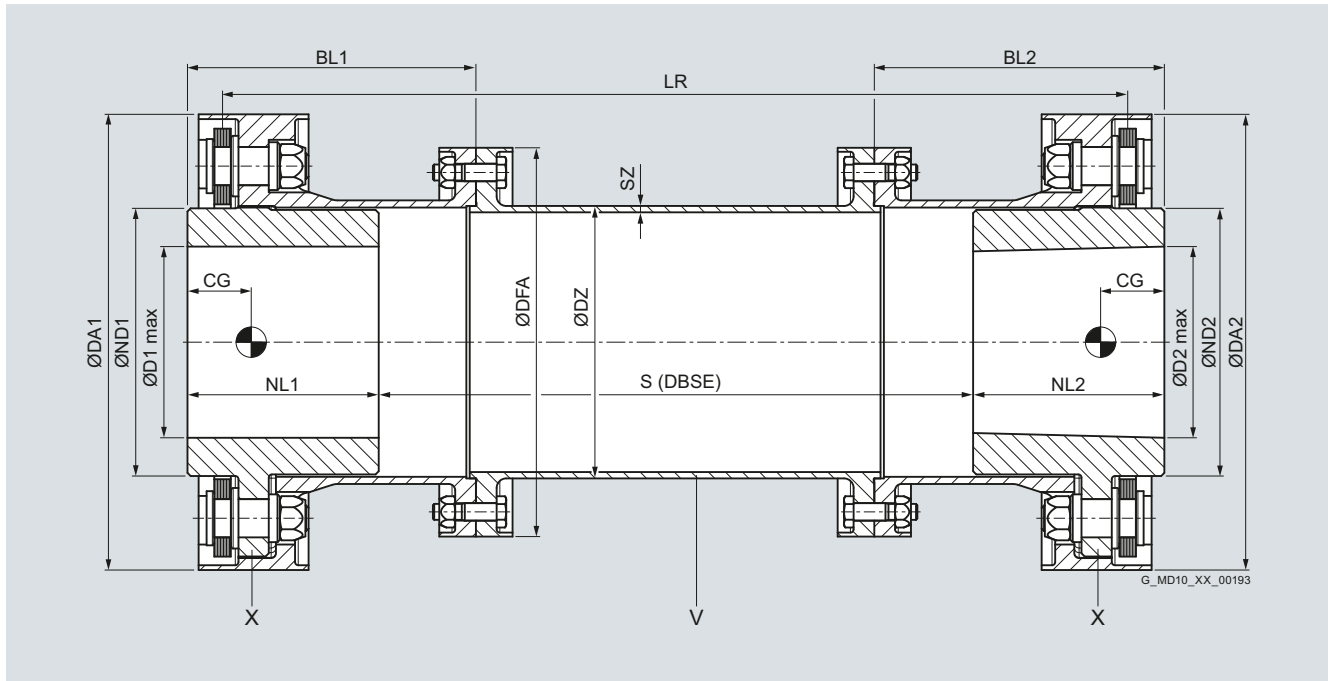
The permissible radial misalignment can be calculated using the following equation:

$$K_r = \tan K_w \times LR$$

$$K_r, LR \text{ in mm; } K_w \text{ in } ^\circ$$

T_{KN}	Rated coupling torque
T_{peak}	Maximum permissible torque for 10^3 load changes
$n_{k \max}$	Maximum permissible coupling speed
CG	Position of center of gravity
M	Mass
J	Moment of inertia
C_T	Torsional stiffness
$K_{a \max}$	Permissible axial misalignment (for complete coupling)
$F_{a \max}$	Maximum axial force (for complete coupling)
$K_{w \max}$	Permissible angular misalignment

Dimensional drawings



Size	DA1/DA2 mm	D1/D2 _{max} ¹⁾ mm	ND1/ND2 mm	NL1/NL2 ¹⁾ mm	BL1/BL2 mm	LR ²⁾ mm	DZ mm	SZ mm	DFA mm	S _{min} mm
118-6	118	45	63	45	76	525.2	68	3	109	116
146-6	146	55	77	55	92	544.2	82	3	131	135
170-6	170	65	92	65	109	558.2	97	3	148	155
201-6	201	80	114	80	133	586.2	118	3	171	174
233-6	233	95	133	95	153	612.2	137	3	207	197
255-6	255	105	148	105	170	626.2	156	5	221	212
286-6	286	120	168	120	182	651.2	171	4	244	212
311-6	311	130	183	130	197	670.2	187	4.5	266	235
337-6	337	140	198	140	212	686.2	202	5	283	244
363-6	363	150	210	150	227	705.2	214	5.5	306	263
400-6	400	160	224	160	242	719.2	230	6.5	323	278
431-6	431	170	240	170	258	734.2	247	7.5	349	301
489-6	489	200	280	200	302	788.2	287	8.5	394	344
544-6	544	220	308	220	331	824.2	316	9.5	444	391
605-6	605	250	350	250	376	878.2	358	11	492	422
651-6	651	270	378	270	406	913.2	388	12	522	447
170-8	170	65	92	65	109	558.2	98	3	148	155
201-8	201	80	114	80	133	586.2	122	4	172	174
233-8	233	95	133	95	153	612.2	141	4.5	207	197
255-8	255	105	148	105	170	626.2	156	5	221	212
286-8	286	120	168	120	182	651.2	176	5.5	244	212
311-8	311	130	183	130	197	670.2	193	6	266	235
337-8	337	140	198	140	212	686.2	208	7	283	244
363-8	363	150	210	150	227	705.2	221	7.5	306	263
400-8	400	160	224	160	242	719.2	236	8.5	323	278
431-8	431	170	240	170	258	734.2	255	10	349	301
489-8	489	200	280	200	302	788.2	296	11	394	344
544-8	544	220	308	220	331	824.2	327	13	444	391
605-8	605	250	350	250	376	878.2	371	15	492	422
651-8	651	270	378	270	406	913.2	400	16	522	447

¹⁾ The hub bore and hub length are standard dimensions. Please contact your Siemens representative for information about special applications.

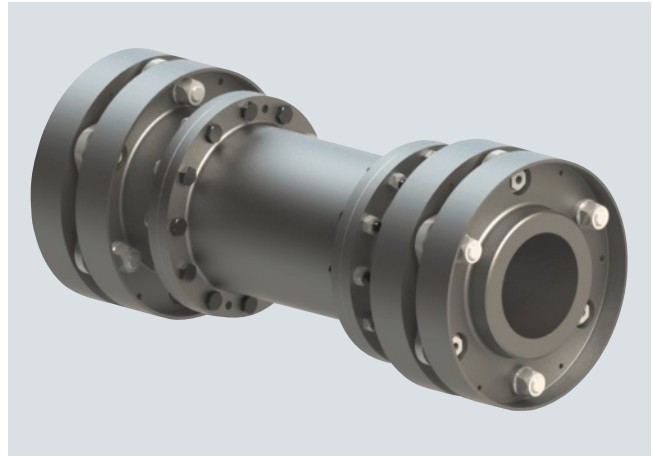
²⁾ The LR dimension refers to a DBSE dimension of 457.2 mm or the dimension S_{min} if S_{min} > 457.2 mm.

Series ART High Performance Couplings

Type BVB

Overview

- The coupling components are arranged in such a way as to reduce the moment stresses on the connecting shafts; ideally suited for turbine compressor drives with average requirements with respect to the position of the center of gravity and the weight of the half coupling
- The "B" subassemblies are preassembled at the factory. The spacer "V", which can be separately mounted or removed, can be installed radially in such a way that there is no need to move the driving or the driven machine. As a result, the coupled machines can be separated quickly.
- The spacer length of the coupling is variable. It is also possible to adjust the torsional spring stiffness to suit individual applications.
- Reduced-windage design



Technical data

The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

Please contact your Siemens representative for information about special applications.

Size	Power ratings ¹⁾			Coupling data ²⁾						
	T_{KN} Nm	$T_{peak} 10^3$ Nm	$n_{k \max}$ rpm	CG mm	M kg	J kgm ²	C_T MNm/rad	+/- $K_{a \max}$ mm	$F_{a \max}$ N	+/- $K_{w \max}$ °
95-6	1000	2380	40200	21.5	4.9	0.006	0.048	1.6	957	0.35
121-6	2300	5480	31600	25.5	8.4	0.016	0.110	2	1533	
144-6	4000	9530	26500	30.0	13.7	0.036	0.201	2.4	2030	
173-6	6700	16000	22100	35.5	21.0	0.081	0.378	3	2880	
202-6	10600	25200	18900	38.5	30.4	0.155	0.623	3.8	4174	
220-6	14700	35000	17400	45.5	42.7	0.269	0.896	4	4752	
249-6	21000	50000	15300	51.5	57.5	0.470	1.34	4.6	5882	
268-6	27000	64300	14300	55.0	72.8	0.690	1.79	5	7267	
296-6	35000	83400	12900	60.5	93.0	1.07	2.43	5.6	8811	
318-6	42000	100000	12000	64.0	114	1.51	3.02	5.8	9521	
347-6	57000	135800	11000	68.5	146	2.30	4.56	6	10767	
388-6	82000	195300	9800	78.0	204	4.02	6.72	7	14535	
435-6	119000	283500	8800	87.5	286	7.16	10.2	8	20333	
498-6	177000	421600	7700	98.5	413	13.6	15.8	9.2	27263	
542-6	234000	557400	7000	108.5	549	21.5	21.1	10	31840	
592-6	292000	695500	6500	116.0	678	31.4	26.8	11	36493	
144-8	5700	13600	26500	30.0	14.0	0.037	0.248	1.6	2863	0.25
173-8	9600	22900	22100	35.5	21.5	0.083	0.472	1.8	3217	
202-8	15000	35700	18900	38.5	31.1	0.159	0.792	2.4	4917	
220-8	20500	48800	17400	45.5	43.6	0.277	1.16	2.6	5521	
249-8	29500	70300	15300	52.0	58.7	0.482	1.77	3	6845	
268-8	38300	91200	14300	55.5	74.0	0.706	2.38	3.2	8171	
296-8	49700	118400	12900	60.5	94.6	1.09	3.28	3.6	9837	
318-8	59500	141700	12000	64.0	117	1.56	4.09	3.8	10930	
347-8	81500	194100	11000	69.0	149	2.36	5.83	3.8	11820	
388-8	117000	278700	9800	78.5	208	4.12	8.73	4.4	15923	
435-8	170000	404900	8800	88.0	290	7.30	13.4	5	21643	
498-8	252000	600300	7700	99.0	420	13.9	20.8	5.8	29124	
542-8	334000	795600	7000	109.0	559	22.0	28.3	6.4	35525	
592-8	416000	990900	6500	116.5	690	32.2	36.3	7.2	42806	
220-10	26800	63800	17400	45.5	44.5	0.284	1.31	1.6	5351	0.16
249-10	38300	91200	15300	52.0	59.7	0.493	2.02	2	7173	
268-10	49400	117700	14300	55.5	75.3	0.721	2.73	2	7522	
296-10	64000	152400	12900	60.5	96.1	1.12	3.77	2.4	9856	
318-10	76500	182200	12000	64.5	120	1.60	4.71	2.4	9946	
347-10	105100	250300	11000	69.0	152	2.42	6.78	2.4	10976	
388-10	151800	361600	9800	79.0	212	4.23	10.2	2.8	14454	
435-10	219600	523100	8800	88.0	295	7.46	15.2	3.2	19324	
498-10	324800	773700	7700	99.0	427	14.2	24.7	3.8	26834	
542-10	430000	1024300	7000	109.5	569	22.5	33.8	4	29918	
592-10	535000	1274400	6500	116.5	702	32.9	43.5	4.6	37536	

¹⁾ The maximum speeds n_{\max} might be lower in the case of spacers with a DBSE dimension in excess of 457.2 mm (18").

²⁾ The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

The permissible radial misalignment can be calculated using the following equation:

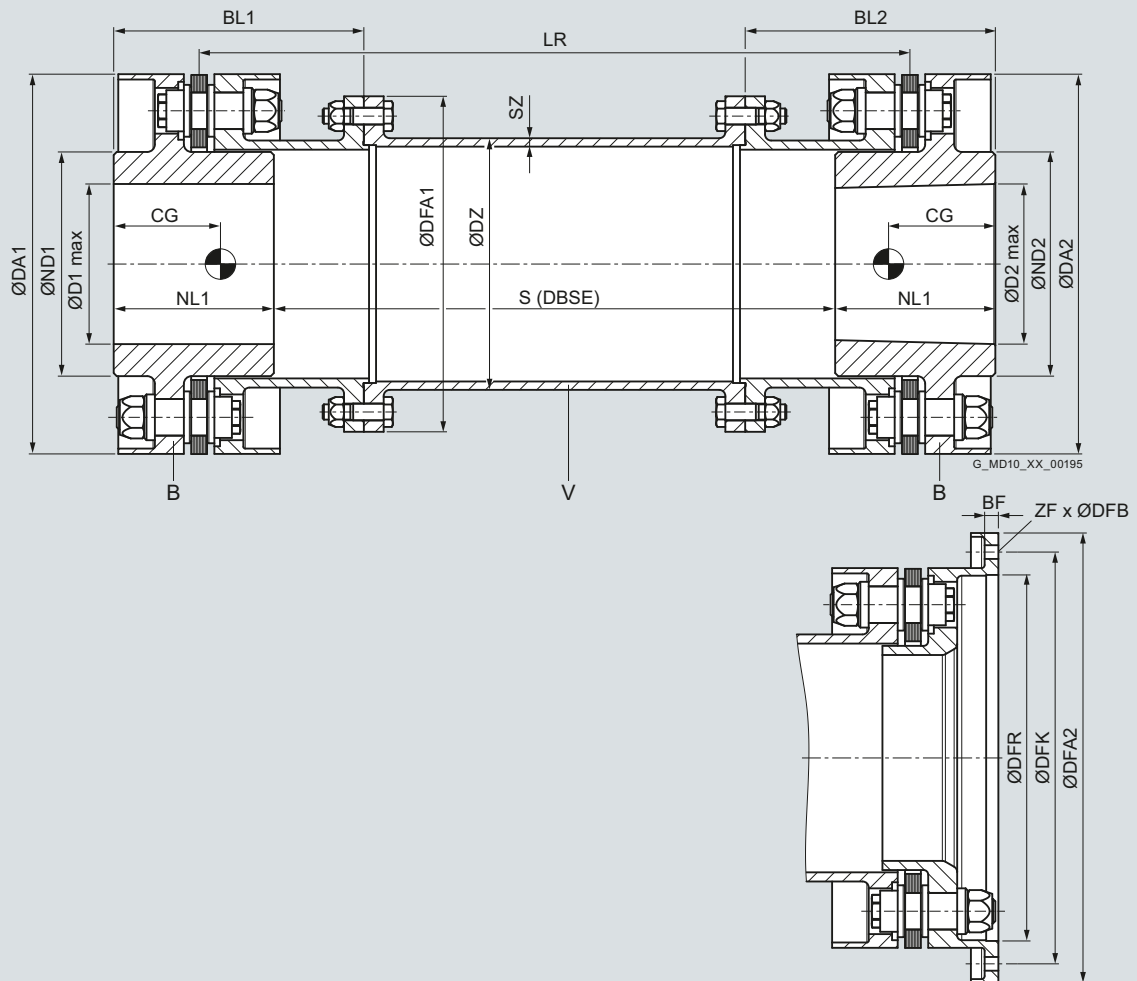
$$K_r = \tan K_w \times LR$$

$$K_r, LR \text{ in mm; } K_w \text{ in } ^\circ$$

T_{KN}	Rated coupling torque
T_{peak}	Maximum permissible torque for 10^3 load changes
$n_{k \max}$	Maximum permissible coupling speed
CG	Position of center of gravity
M	Mass
J	Moment of inertia
C_T	Torsional stiffness
$K_{a \max}$	Permissible axial misalignment (for complete coupling)
$F_{a \max}$	Maximum axial force (for complete coupling)
$K_{w \max}$	Permissible angular misalignment

Series ART High Performance Couplings Type BVB

Dimensional drawings



Series ART High Performance Couplings

Type BVB

Dimensional drawings (continued)

Size	DA1/ DA2	D1/ D2 _{max} ¹⁾	ND1/ ND2	NL1/ NL2 ¹⁾	BL1/BL2	LR ²⁾	DZ	SZ	DFA1	S _{min}	DFK	DFA2	DFR	DFB	ZF	BF
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Qty.	mm
95-6	95	35	49	35	78	481.2	61	2.5	94	131	112	132	92	6	6	7.5
121-6	121	45	63	45	87	492.2	79	3	112	129	138	158	116	6	6	7.5
144-6	144	55	77	55	105	502.2	90	4	133	155	161	182	140	6	8	7.5
173-6	173	70	98	70	118	520.2	112	4	155	151	194	220	167	9	8	9
202-6	202	80	112	80	125	534.2	127	5	170	145	223	249	194	9	10	9
220-6	220	90	126	95	143	550.2	145	5	200	168	241	266	212	9	12	9
249-6	249	105	147	105	164	555.2	165	5.5	220	190	270	295	240	9	16	9
268-6	268	110	154	115	179	568.2	182	6	238	208	295	328	258	11	10	13
296-6	296	120	168	125	190	576.2	200	6.5	256	210	323	355	285	11	12	13
318-6	318	130	182	135	200	589.2	210	7	278	220	347	382	306	13	10	14
347-6	347	140	196	145	215	599.2	235	8	303	230	376	410	334	13	12	14
388-6	388	160	224	165	240	618.2	260	9.5	335	260	422	462	373	15	12	15.5
435-6	435	180	252	185	277	636.2	295	10.5	370	294	469	510	418	15	16	15.5
498-6	498	210	294	215	312	674.2	335	12	415	304	535	580	478	17	16	18
542-6	542	230	322	240	337	704.2	370	13.5	464	324	579	625	518	17	18	18
592-6	592	250	350	260	357	729.2	400	14	494	324	630	680	568	17	20	18
144-8	144	55	77	55	105	502.2	90	4	133	155	161	182	140	6	10	7.5
173-8	173	70	98	70	118	520.2	112	4	155	151	194	220	167	9	10	9
202-8	202	80	112	80	125	534.2	127	5	170	145	223	249	194	9	12	9
220-8	220	90	126	95	143	550.2	145	5	200	168	241	266	212	9	16	9
249-8	249	105	147	105	164	555.2	165	5.5	220	190	270	295	240	9	20	9
268-8	268	110	154	115	179	568.2	182	6	238	208	295	328	258	11	16	13
296-8	296	120	168	125	190	576.2	200	6.5	256	210	323	355	285	11	16	13
318-8	318	130	182	135	200	589.2	210	7	278	220	347	382	306	13	16	14
347-8	347	140	196	145	215	599.2	235	8	303	230	376	410	334	13	16	14
388-8	388	160	224	165	240	618.2	260	9.5	335	260	422	462	373	15	16	15.5
435-8	435	180	252	185	277	636.2	295	10.5	370	294	469	510	418	15	24	15.5
498-8	498	210	294	215	312	674.2	335	12	415	304	535	580	478	17	20	18
542-8	542	230	322	240	337	704.2	370	13.5	464	324	579	625	518	17	24	18
592-8	592	250	350	260	357	729.2	400	14	494	324	630	680	568	17	30	18
220-10	220	90	126	95	143	550.2	145	5	200	168	241	266	212	9	20	9
249-10	249	105	147	105	164	555.2	165	5.5	220	190	270	295	240	9	24	9
268-10	268	110	154	115	179	568.2	182	6	238	208	295	328	258	11	20	13
296-10	296	120	168	125	190	576.2	200	6.5	256	210	323	355	285	11	24	13
318-10	318	130	182	135	200	589.2	210	7	278	220	347	382	306	13	20	14
347-10	347	140	196	145	215	599.2	235	8	303	230	376	410	334	13	20	14
388-10	388	160	224	165	240	618.2	260	9.5	335	260	422	462	373	15	20	15.5
435-10	435	180	252	185	277	636.2	295	10.5	370	294	469	510	418	15	30	15.5
498-10	498	210	294	215	312	674.2	335	12	415	304	535	580	478	17	30	18
542-10	542	230	322	240	337	704.2	370	13.5	464	324	579	625	518	17	32	18
592-10	592	250	350	260	357	729.2	400	14	494	324	630	680	568	17	36	18

¹⁾ The hub bore and hub length are standard dimensions. Please contact your Siemens representative for information about special applications.

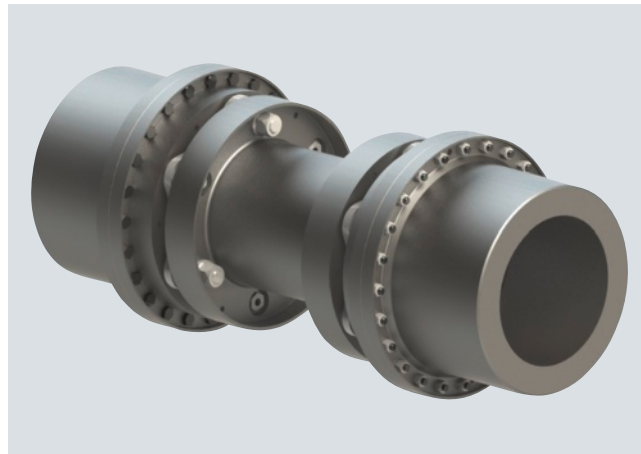
²⁾ The LR dimension refers to a DBSE dimension of 457.2 mm or the dimension S_{min} if S_{min} > 457.2 mm.

Series ART High Performance Couplings

Type MHM

Overview

- The hubs "M" of this coupling design have a larger bore capacity than the BVB type. The MHM type variant is thus used for applications involving large shaft diameters such as electric motors or generator drives
- The factory-mounted subassembly "H" can be installed or removed radially in such a way that there is no need to move the driving or the driven machine. As a result, the coupled machines can be separated quickly for maintenance purposes.
- The flanges of the subassembly can also be adapted to the flange shafts of large gas and steam turbines.
- The spacer length of the coupling is variable. It is also possible to adjust the torsional spring stiffness to suit individual applications.
- Reduced-windage design



Series ART High Performance Couplings

Type MHM

Technical data

The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

Please contact your Siemens representative for information about special applications.

Size	Power ratings ¹⁾			Coupling data ²⁾						
	T_{KN} Nm	$T_{peak} 10^3$ Nm	$n_{k \max}$ rpm	CG mm	M kg	J kgm ²	C_T MNm/rad	+/- $K_{a \max}$ mm	$F_{a \max}$ N	+/- $K_{w \max}$ °
95-6	1100	2620	30300	66.0	8.1	0.013	0.050	1.6	903	0.35
121-6	2530	6030	25100	80.0	13.8	0.033	0.105	2	1428	
144-6	4400	10500	21700	92.0	22.8	0.080	0.186	2.4	1861	
173-6	7370	17600	17900	109.5	39.1	0.205	0.396	3	2623	
202-6	11700	27900	15800	119.0	57.0	0.401	0.616	3.8	3803	
220-6	16200	38600	14700	135.5	77.2	0.651	0.927	4	4322	
249-6	23100	55000	13300	154.5	106	1.10	1.49	4.6	5338	
268-6	29700	70700	12000	164.0	137	1.73	1.95	5	6583	
296-6	38500	91700	11000	177.5	180	2.75	2.71	5.6	7961	
318-6	46200	110000	10200	190.5	222	3.94	3.42	5.8	8557	
347-6	62700	149400	9500	207.0	277	5.66	4.84	6	9691	
388-6	90200	214900	8500	235.5	400	10.4	7.47	7	13112	
435-6	130900	311800	7700	257.5	557	18.4	11.6	8	17812	
498-6	194700	463800	6700	294.5	824	35.3	17.8	9.2	23421	
542-6	257400	613100	6200	320.0	1055	53.5	22.9	10	27787	
592-6	321200	765100	5700	345.0	1332	79.2	29.3	11	32050	
144-8	6300	15000	21700	93.5	23.4	0.082	0.245	1.6	2724	0.25
173-8	10600	25200	17900	111.5	40.5	0.211	0.569	1.8	2997	
202-8	16500	39300	15800	121.5	59.1	0.411	0.941	2.4	4538	
220-8	22600	53800	14700	138.0	79.6	0.667	1.38	2.6	5149	
249-8	32500	77400	13300	157.0	109	1.13	2.17	3	6264	
268-8	42100	100300	12000	167.0	141	1.77	2.91	3.2	7460	
296-8	54700	130300	11000	180.5	184	2.80	4.06	3.6	8971	
318-8	65500	156000	10200	193.5	228	4.03	5.23	3.8	9913	
347-8	89700	213700	9500	210.0	284	5.78	7.36	3.8	10740	
388-8	128700	306600	8500	238.0	407	10.6	11.2	4.4	14336	
435-8	187000	445400	7700	260.5	566	18.6	17.6	5	19388	
498-8	277200	660300	6700	297.5	838	35.8	26.9	5.8	25954	
542-8	367400	875100	6200	323.5	1075	54.3	35.0	6.4	31690	
592-8	457600	1090000	5700	349.0	1356	80.5	45.2	7.2	38359	
220-10	29500	70300	14700	140.5	82.0	0.682	1.74	1.6	5204	0.16
249-10	42100	100300	13300	160.0	112	1.16	2.79	2	6841	
268-10	54300	129300	12000	169.5	145	1.80	3.75	2	7112	
296-10	70400	167700	11000	183.5	189	2.86	5.19	2.4	9263	
318-10	84200	200600	10200	196.5	233	4.10	6.66	2.4	9257	
347-10	115600	275400	9500	213.5	291	5.90	9.32	2.4	10272	
388-10	167000	397800	8500	241.0	416	10.7	14.3	2.8	13306	
435-10	241600	575500	7700	263.5	577	19.0	22.2	3.2	17609	
498-10	357300	851100	6700	301.5	854	36.4	34.0	3.8	24255	
542-10	473000	1126700	6200	327.5	1095	55.1	44.3	4	26927	
592-10	588500	1401800	5700	353.0	1379	81.6	57.0	4.6	33840	

¹⁾ The maximum speeds n_{\max} might be lower in the case of spacers with a DBSE dimension in excess of 457.2 mm (18").

²⁾ The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

The permissible radial misalignment can be calculated using the following equation:

$$K_r = \tan K_w \times LR$$

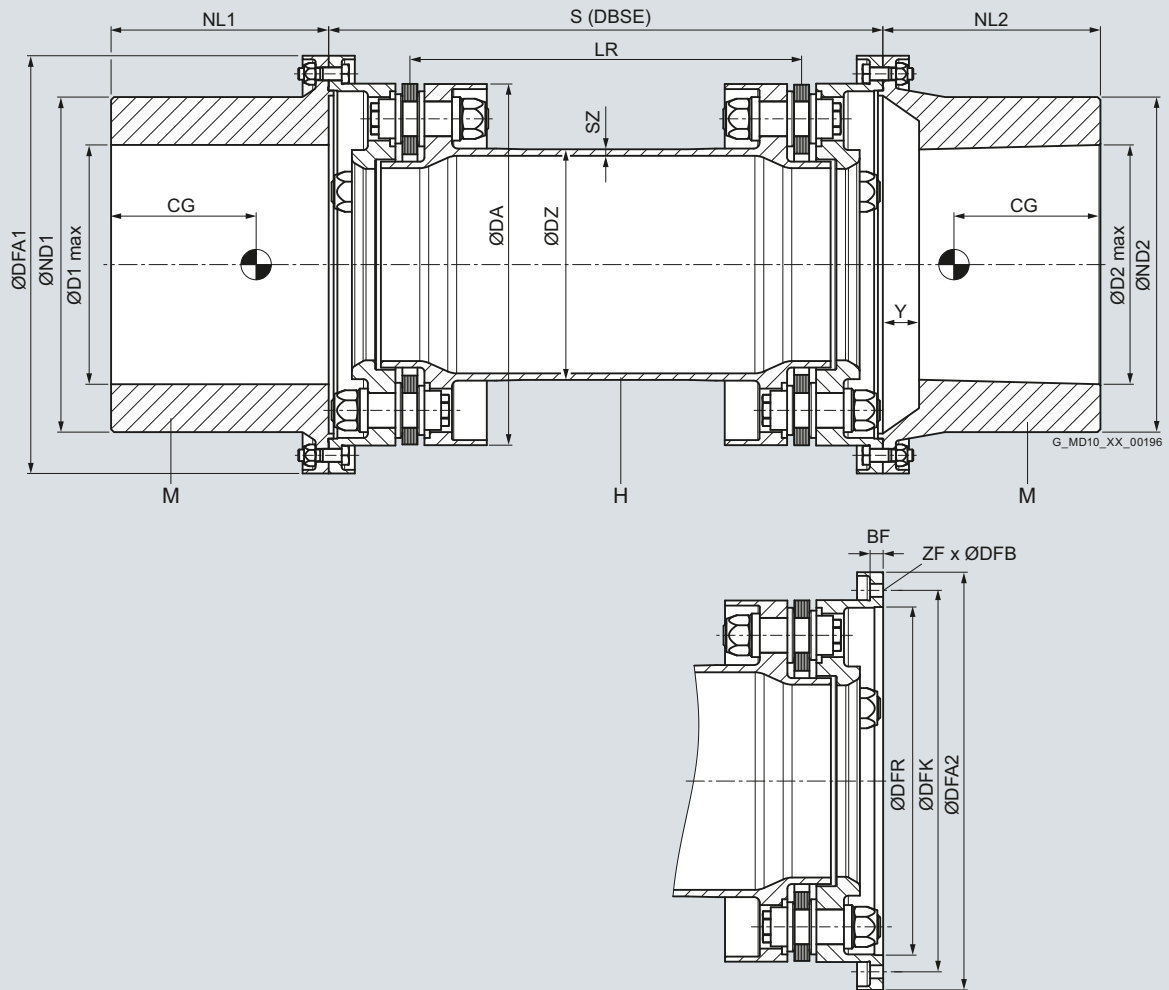
$$K_r, LR \text{ in mm; } K_w \text{ in } ^\circ$$

T_{KN}	Rated coupling torque
T_{peak}	Maximum permissible torque for 10^3 load changes
$n_{k \max}$	Maximum permissible coupling speed
CG	Position of center of gravity
M	Mass
J	Moment of inertia
C_T	Torsional stiffness
$K_{a \max}$	Permissible axial misalignment (for complete coupling)
$F_{a \max}$	Maximum axial force (for complete coupling)
$K_{w \max}$	Permissible angular misalignment

Series ART High Performance Couplings

Type MHM

Dimensional drawings



Series ART High Performance Couplings

Type MHM

Dimensional drawings (continued)

Size	DA	D1/ D2 _{max} ¹⁾	ND1/ ND2	NL1/ NL2 ¹⁾	LR ²⁾	Y	DZ	SZ	S _{min}	DFK	DFA1/ DFA2	DFR	DFB	ZF	BF
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Qty.	mm
95-6	95	60	84	70	411.2	10	56	3	122	106	126	92	6	6	7.5
121-6	121	75	105	90	402.2	13	71	3	140	132	152	116	6	10	7.5
144-6	144	95	133	110	392.2	13	85	3	168	155	176	140	6	16	7.5
173-6	173	115	161	135	380.2	15	107	3.5	193	187	213	167	9	12	9
202-6	202	135	189	150	374.2	15	121	3.5	206	216	242	194	9	16	9
220-6	220	150	210	175	360.2	20	136	4	237	234	259	212	9	18	9
249-6	249	165	231	200	345.2	25	159	4.5	273	263	288	240	9	24	9
268-6	268	180	252	210	338.2	25	167	5	295	286	319	258	11	18	13
296-6	296	200	280	230	326.2	25	182	5.5	318	314	346	285	11	20	13
318-6	318	215	301	250	319.2	25	196	5.5	335	338	373	306	13	16	14
347-6	347	230	322	270	309.2	25	212	6.5	360	367	401	334	13	20	14
388-6	388	260	364	310	288.2	30	242	7	405	411	451	373	15	18	15.5
435-6	435	295	413	340	273.0	35	273	8.5	464	458	499	418	15	24	15.5
498-6	498	335	469	390	308.0	40	318	10	521	523	568	478	17	24	18
542-6	542	365	511	425	333.0	45	347	10.5	566	567	613	518	17	28	18
592-6	592	395	553	460	353.0	50	379	11	601	617	667	568	17	30	18
144-8	144	95	133	110	392.2	13	86	3.5	168	155	176	140	6	20	7.5
173-8	173	115	161	135	380.2	15	109	4.5	193	187	213	167	9	16	9
202-8	202	135	189	150	374.2	15	124	5	206	216	242	194	9	20	9
220-8	220	150	210	175	360.2	20	139	5.5	237	234	259	212	9	24	9
249-8	249	165	231	200	345.2	25	161	6	273	263	288	240	9	32	9
268-8	268	180	252	210	338.2	25	170	7	295	286	319	258	11	24	13
296-8	296	200	280	230	326.2	25	186	7.5	318	314	346	285	11	28	13
318-8	318	215	301	250	319.2	25	200	8	335	338	373	306	13	24	14
347-8	347	230	322	270	309.2	25	217	9.5	360	367	401	334	13	28	14
388-8	388	260	364	310	288.2	30	246	10	405	411	451	373	15	28	15.5
435-8	435	295	413	340	273.0	35	278	11.5	464	458	499	418	15	32	15.5
498-8	498	335	469	390	308.0	40	322	14	521	523	568	478	17	32	18
542-8	542	365	511	425	333.0	45	352	15	566	567	613	518	17	40	18
592-8	592	395	553	460	353.0	50	384	16	601	617	667	568	17	44	18
220-10	220	150	210	175	360.2	20	139	7	237	234	259	212	9	32	9
249-10	249	165	231	200	345.2	25	161	8	273	263	288	240	9	40	9
268-10	268	180	252	210	338.2	25	170	9.5	295	286	319	258	11	30	13
296-10	296	200	280	230	326.2	25	185	10	318	314	346	285	11	36	13
318-10	318	215	301	250	319.2	25	200	10.5	335	338	373	306	13	28	14
347-10	347	230	322	270	309.2	25	216	12.5	360	367	401	334	13	36	14
388-10	388	260	364	310	288.2	30	246	14	405	411	451	373	15	32	15.5
435-10	435	295	413	340	273.0	35	278	15.5	464	458	499	418	15	44	15.5
498-10	498	335	469	390	308.0	40	321	18.5	521	523	568	478	17	40	18
542-10	542	365	511	425	333.0	45	352	20.5	566	567	613	518	17	48	18
592-10	592	395	553	460	353.0	50	383	21	601	617	667	568	17	52	18

¹⁾ The hub bore and hub length are standard dimensions. Please contact your Siemens representative for information about special applications.

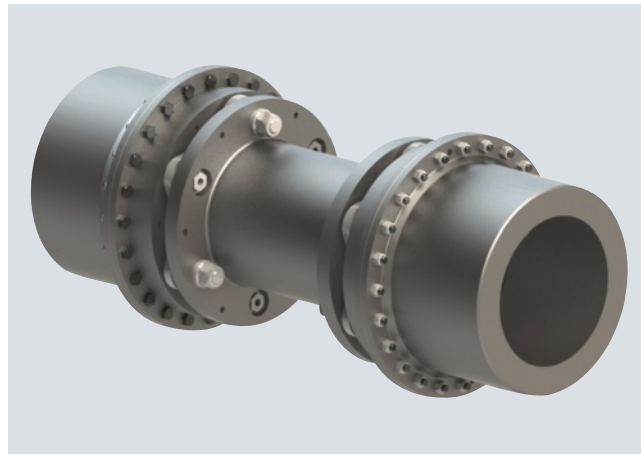
²⁾ The LR dimension refers to a DBSE dimension of 457.2 mm or the dimension S_{min} if S_{min} > 457.2 mm.

Series ARE Couplings for Medium-Speed Drives

Type MHM

Overview

- The ARE series has been developed for medium-speed drives with exacting requirements with respect to the coupling half weight.
- The factory-mounted subassembly "H" can be installed or removed radially in such a way that there is no need to move the driving or the driven machine. As a result, the coupled machines can be separated quickly for maintenance purposes.
- The flanges of the subassembly can also be adapted to large flange shafts.
- The spacer length of the coupling is variable. It is also possible to adjust the torsional spring stiffness to suit individual applications.



Technical data

The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

Please contact your Siemens representative for information about special applications.

Size	Power ratings ¹⁾			Coupling data ²⁾						
	T_{KN} Nm	$T_{peak} 10^3$ Nm	$n_{k \max}$ rpm	CG mm	M kg	J kgm ²	C_T MNm/rad	+/- $K_a \max$ mm	$F_a \max$ N	+/- $K_w \max$ °
95-6	1000	2500	16700	65.0	7.8	0.012	0.050	1.6	903	0.35
121-6	2300	5350	13800	79.0	13.4	0.032	0.105	2	1428	
144-6	4000	9050	11900	90.5	22.0	0.077	0.186	2.4	1861	
173-6	6700	15600	9900	108.0	37.8	0.196	0.396	3	2623	
202-6	10600	23600	8700	117.5	55.6	0.388	0.657	3.8	3803	
220-6	14700	28900	8100	133.0	74.8	0.630	0.916	4	4322	
249-6	21000	40100	7300	151.5	102	1.07	1.47	4.6	5338	
268-6	27000	51600	6600	170.0	132	1.66	1.93	5	6583	
296-6	35000	67300	6100	174.5	174	2.66	2.68	5.6	7961	
318-6	42000	83300	5600	187.0	215	3.81	3.38	5.8	8557	
347-6	57000	113300	5200	203.5	269	5.48	4.79	6	9691	
388-6	82000	159300	4700	231.0	388	10.1	7.33	7	13112	
435-6	119000	230600	4200	252.5	540	17.8	11.4	8	17812	
498-6	177000	291800	3700	287.5	794	34.0	18.4	9.2	23421	
542-6	234000	377700	3400	312.5	1018	51.6	24.8	10	27787	
592-6	292000	476000	3100	337.0	1286	76.5	32.5	11	32050	
144-8	5700	12100	11900	93.0	23.0	0.079	0.273	1.6	2724	0.25
173-8	9600	20800	9900	110.0	39.2	0.202	0.569	1.8	2997	
202-8	15000	31500	8700	119.5	57.2	0.396	0.930	2.4	4538	
220-8	20500	38500	8100	135.0	76.7	0.643	1.29	2.6	5149	
249-8	29500	53500	7300	153.5	105	1.09	2.07	3	6264	
268-8	38300	68800	6600	163.5	136	1.70	2.81	3.2	7460	
296-8	49700	89600	6100	177.0	178	2.71	3.90	3.6	8971	
318-8	59500	111000	5600	190.0	221	3.89	5.08	3.8	9913	
347-8	81500	151100	5200	206.0	275	5.58	7.04	3.8	10740	
388-8	117000	212400	4700	233.4	394	10.2	11.0	4.4	14336	
435-8	170000	307600	4200	255.0	548	18.0	17.1	5	19388	
498-8	252000	389100	3700	290.0	804	34.5	27.8	5.8	25954	
542-8	334000	503600	3400	315.4	1032	52.3	37.8	6.4	31690	
592-8	416000	634700	3100	340.5	1304	77.7	50.5	7.2	38359	
220-10	26800	48100	8100	137.0	78.6	0.657	1.63	1.6	5204	0.16
249-10	38300	66900	7300	156.0	108	1.11	2.65	2	6841	
268-10	49400	86000	6600	165.5	139	1.73	3.53	2	7112	
296-10	64000	112000	6100	179.0	182	2.76	4.90	2.4	9263	
318-10	76500	138800	5600	192.0	225	3.96	6.33	2.4	9257	
347-10	105100	188900	5200	209.0	281	5.70	8.85	2.4	10272	
388-10	151800	265500	4700	236.0	401	10.4	13.7	2.8	13306	
435-10	219600	384500	4200	258.0	557	18.3	21.6	3.2	17609	
498-10	324800	486400	3700	293.0	816	35.0	35.1	3.8	24255	
542-10	430000	629500	3400	318.5	1046	53.0	47.7	4	26927	
592-10	535000	793400	3100	343.5	1320	78.6	63.6	4.6	33840	

¹⁾ The maximum speeds n_{\max} might be lower in the case of spacers with a DBSE dimension in excess of 457.2 mm (18").

²⁾ The following specifications relating to weight, mass inertia and torsional spring stiffness refer to a coupling of standard dimensions with maximum hub bores and a DBSE dimension of 457.2 mm or the dimension S_{\min} if $S_{\min} > 457.2$ mm.

The permissible radial misalignment can be calculated using the following equation:

$$K_r = \tan K_w \times LR$$

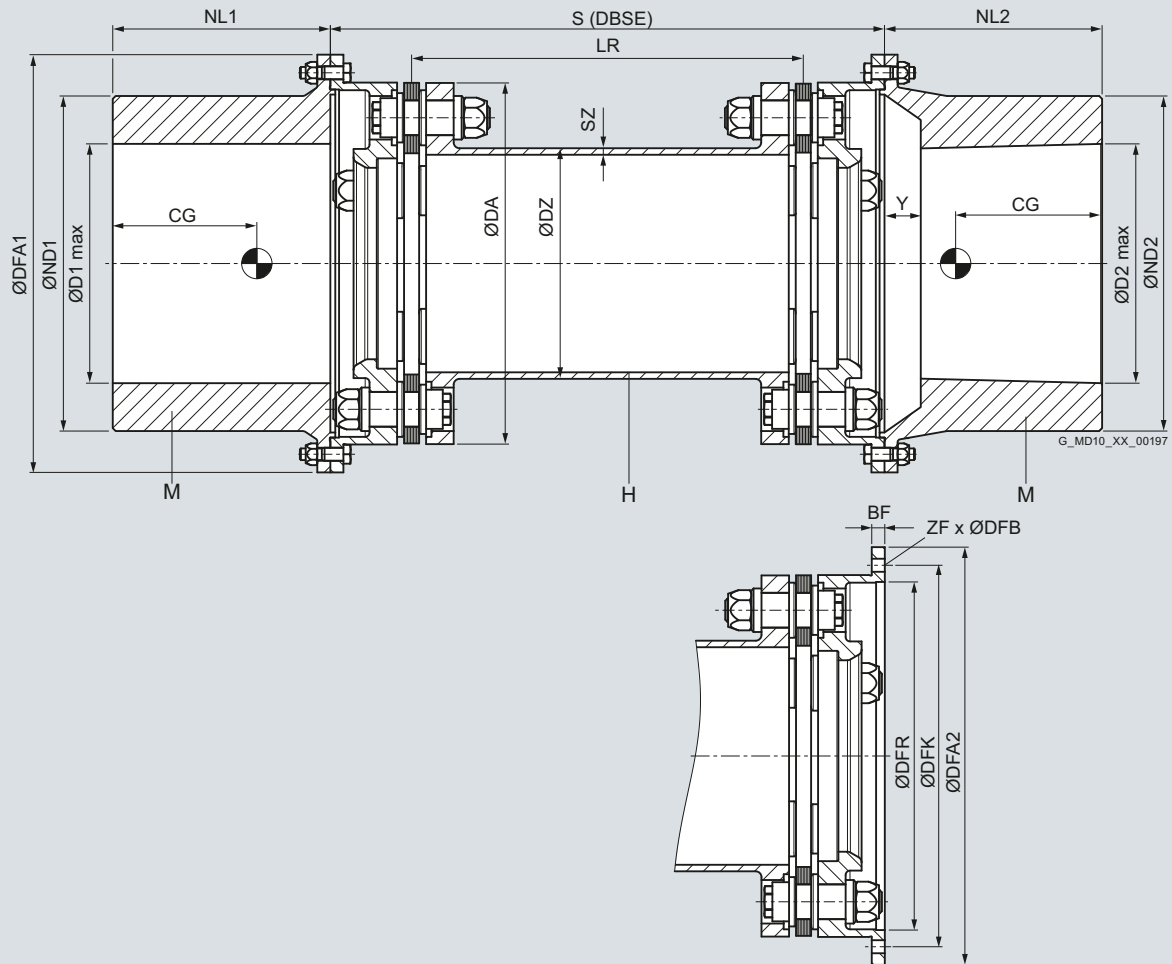
$$K_r, LR \text{ in mm; } K_w \text{ in } ^\circ$$

T_{KN}	Rated coupling torque
T_{peak}	Maximum permissible torque for 10^3 load changes
$n_{k \max}$	Maximum permissible coupling speed
CG	Position of center of gravity
M	Mass
J	Moment of inertia
C_T	Torsional stiffness
$K_a \max$	Permissible axial misalignment (for complete coupling)
$F_a \max$	Maximum axial force (for complete coupling)
$K_w \max$	Permissible angular misalignment

Series ARE Couplings for Medium-Speed Drives

Type MHM

Dimensional drawings



Dimensional drawings (continued)

Size	DA	D1/ D2 _{max} ¹⁾	ND1/ ND2	NL1/ NL2 ¹⁾	LR ²⁾	Y	DZ	SZ	S _{min}	DFK	DFA1/ DFA2	DFR	DFB	ZF	BF
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Qty.	mm
95-6	95	60	84	70	411.2	10	56	3	117	106	126	92	6	6	7.5
121-6	121	75	105	90	402.2	13	71	3	135	132	152	116	6	10	7.5
144-6	144	95	133	110	392.2	13	85	3	160	155	176	140	6	16	7.5
173-6	173	115	161	135	380.2	15	107	3.5	184	187	213	167	9	12	9
202-6	202	135	189	150	374.2	15	122	4	196	216	242	194	9	16	9
220-6	220	150	210	175	360.2	20	136	4	224	234	259	212	9	18	9
249-6	249	165	231	200	345.2	25	159	4.5	254	263	288	240	9	24	9
268-6	268	180	252	210	338.2	25	167	5	268	286	319	258	11	18	13
296-6	296	200	280	230	326.2	25	182	5.5	302	314	346	285	11	20	13
318-6	318	215	301	250	319.2	25	196	5.5	316	338	373	306	13	16	14
347-6	347	230	322	270	309.2	25	212	6.5	336	367	401	334	13	20	14
388-6	388	260	364	310	288.2	30	242	7	378	411	451	373	15	18	15.5
435-6	435	295	413	340	266.2	35	272	8	422	458	499	418	15	24	15.5
498-6	498	335	469	390	253.0	40	316	9	466	523	568	478	17	24	18
542-6	542	365	511	425	273.0	45	345	9.5	506	567	613	518	17	28	18
592-6	592	395	553	460	288.0	50	377	10	536	617	667	568	17	30	18
144-8	144	95	133	110	392.2	13	87	4	160	155	176	140	6	20	7.5
173-8	173	115	161	135	380.2	15	109	4.5	184	187	213	167	9	16	9
202-8	202	135	189	150	374.2	15	124	5	196	216	242	194	9	20	9
220-8	220	150	210	175	360.2	20	138	5	224	234	259	212	9	24	9
249-8	249	165	231	200	345.2	25	161	5.5	254	263	288	240	9	32	9
268-8	268	180	252	210	338.2	25	170	6.5	268	286	319	258	11	24	13
296-8	296	200	280	230	326.2	25	185	7	302	314	346	285	11	28	13
318-8	318	215	301	250	319.2	25	200	7.5	316	338	373	306	13	24	14
347-8	347	230	322	270	309.2	25	216	8.5	336	367	401	334	13	28	14
388-8	388	260	364	310	288.2	30	247	9.5	378	411	451	373	15	28	15.5
435-8	435	295	413	340	266.2	35	277	10.5	422	458	499	418	15	32	15.5
498-8	498	335	469	390	253.0	40	321	11.5	466	523	568	478	17	32	18
542-8	542	365	511	425	273.0	45	351	12.5	506	567	613	518	17	40	18
592-8	592	395	553	460	288.0	50	384	13.5	536	617	667	568	17	44	18
220-10	220	150	210	175	360.2	20	140	6	224	234	259	212	9	32	9
249-10	249	165	231	200	345.2	25	162	7	254	263	288	240	9	40	9
268-10	268	180	252	210	338.2	25	171	8	268	286	319	258	11	30	13
296-10	296	200	280	230	326.2	25	187	8.5	302	314	346	285	11	36	13
318-10	318	215	301	250	319.2	25	201	9	316	338	373	306	13	28	14
347-10	347	230	322	270	309.2	25	218	10.5	336	367	401	334	13	36	14
388-10	388	260	364	310	288.2	30	248	11.5	378	411	451	373	15	32	15.5
435-10	435	295	413	340	266.2	35	280	13	422	458	499	418	15	44	15.5
498-10	498	335	469	390	253.0	40	324	14.5	466	523	568	478	17	40	18
542-10	542	365	511	425	273.0	45	355	15.5	506	567	613	518	17	48	18
592-10	592	395	553	460	288.0	50	387	16.5	536	617	667	568	17	52	18

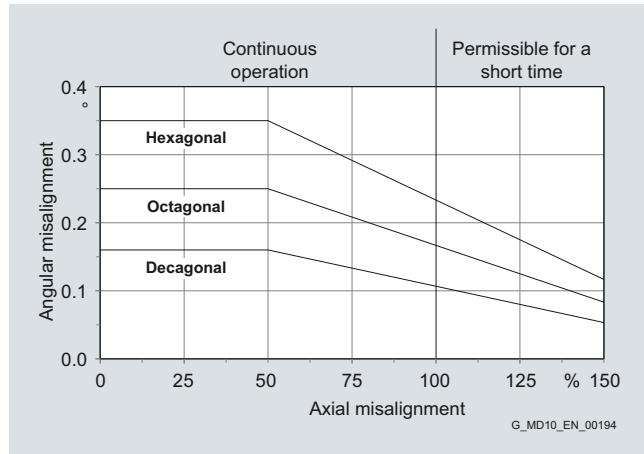
¹⁾ The hub bore and hub length are standard dimensions. Please contact your Siemens representative for information about special applications.

²⁾ The LR dimension refers to a DBSE dimension of 457.2 mm or the dimension S_{min} if S_{min} > 457.2 mm.

Axial and Angular Misalignment

Characteristics

Axial shaft misalignment as a function of angular misalignment



Technical Information

Overview

Balancing

It is basically possible to balance the couplings according to any of the methods described in API 671/ISO 10441, in accordance with DIN ISO 1940 Part 1 or in compliance with similar standards/regulations.

The following options are provided by API 671:

- Component balance (individual balancing of all components) with the possibility of exchanging identical parts
- Assembly check balance to verify the balance of individual components, balance can be corrected only by repeating the component balance; individual components can be assembled in any position
- Assembly check balance with balance correction of the complete coupling; none of the individual components can be exchanged

Transport and assembly aid

The plate packs are immobilized by means of shipping screws for the purpose of balancing, transportation and assembly. These screws protect the plates against damage during transportation or assembly.

It is absolutely essential to remove the shipping screws before the coupling is commissioned.

Axial pretensioning

If it is known in advance that the shaft distance has changed, e.g. as a result of thermal expansion, it is possible to axially pretension the plate packs so that the coupling remains in a neutral position during operation.

Shim packs

The couplings for tapered hub bores are supplied with shim packs. These allow the shaft distance to be corrected by +/- the thickness of one pack.

Shaft-hub connection

ARPEX high performance couplings are normally designed with tapered bores for hydraulic oil assembly or disassembly. Flange versions are also available.

Detailed information must be supplied to ensure accurate design of the hub bores or flanges.

Safety precautions

The purchaser must take measures to prevent any accidental contact with rotating parts.

Assembly and removal of the couplings

All types of ARPEX high performance couplings are designed such that there is no need to move the couplings and coupled machines axially during assembly/removal of the couplings.

Assembly and commissioning

ARPEX high performance couplings must be assembled and commissioned in accordance with Operating Instructions BA 8706, a copy of which is enclosed with every shipped coupling unit.

As-supplied condition

ARPEX high performance couplings are shipped as complete coupling units with preassembled plate packs.

Type XVX is shipped with preassembled "X" subassemblies.

Type BVB is shipped with preassembled "B" subassemblies.

Type MHM is shipped with preassembled "H" subassembly.

These coupling components must not be disassembled without prior consultation with Siemens AG.

Technical changes

Dimensions and technical data might change as a result of future product developments.

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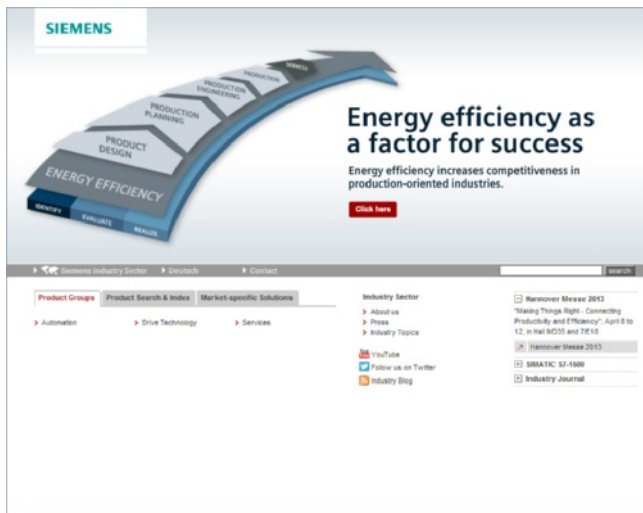
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Appendix Online Services

Information and Ordering in the Internet and on DVD

Siemens Industry Automation and Drive Technologies in the WWW



A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

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Under the address

www.siemens.com/industry

you will find everything you need to know about products, systems and services.

Product Selection Using the Interactive Catalog CA 01 of Industry



Detailed information together with convenient interactive functions:

The interactive catalog CA 01 covers more than 80 000 products and thus provides a full summary of the Siemens Industry Automation and Drive Technologies product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives. All information is linked into a user interface which is easy to work with and intuitive.

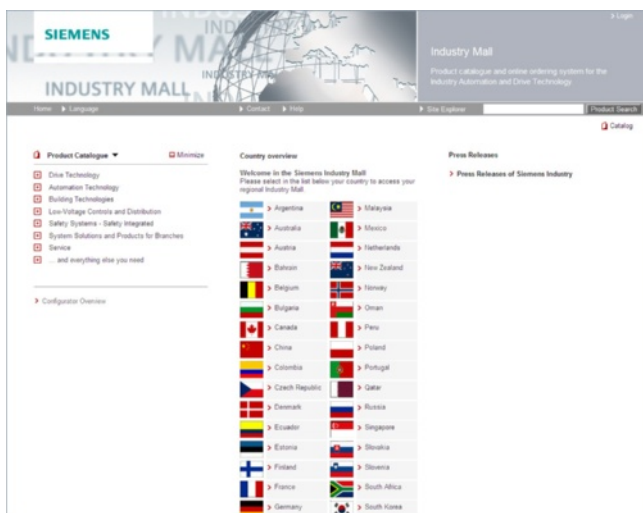
After selecting the product of your choice you can order at the press of a button, by fax or by online link.

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or on DVD.

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Data transfer via EDIFACT allows the whole procedure from selection through ordering to tracking of the order to be carried out online via the Internet.

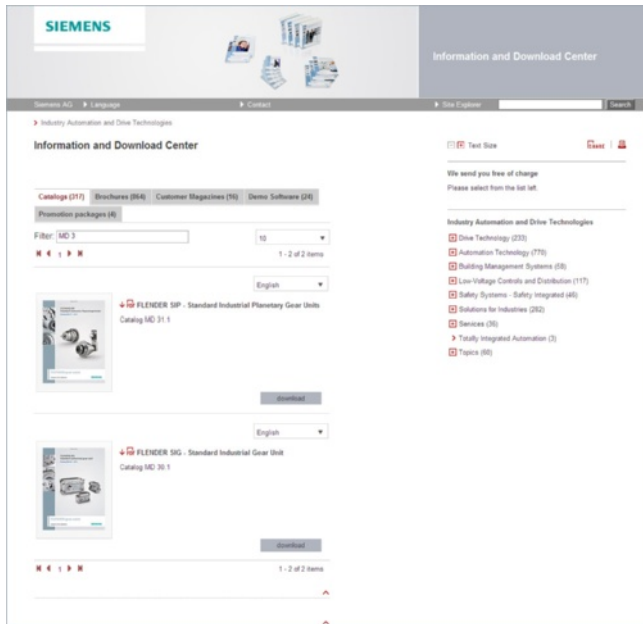
Numerous functions are available to support you.

For example, powerful search functions make it easy to find the required products, which can be immediately checked for availability. Customer-specific discounts and preparation of quotes can be carried out online as well as order tracking and tracing.

Please visit the Industry Mall on the Internet under:

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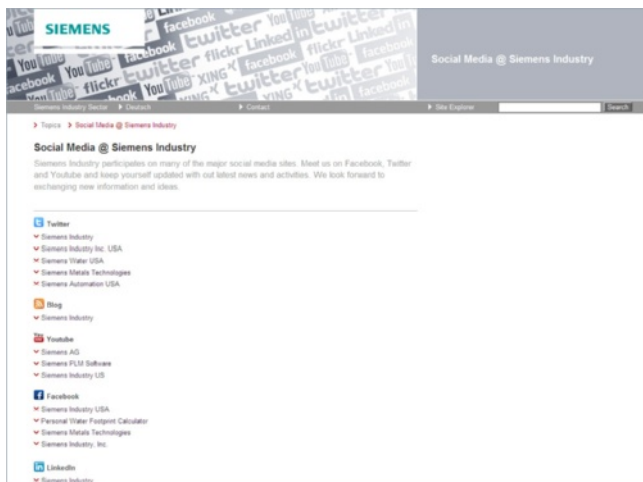
In addition to numerous other useful documents, you can also find the catalogs listed on the back inside cover of this catalog in the Information and Download Center. Without having to register, you can download these catalogs in PDF format or increasingly as digital page-turning e-books.

The filter dialog box above the first catalog displayed makes it possible to carry out targeted searches. If you enter "MD 3" for example, you will find both the MD 30.1 and MD 31.3 catalogs. If you enter "ST 70" both the ST 70 catalog and the associated news or add-ons are displayed.

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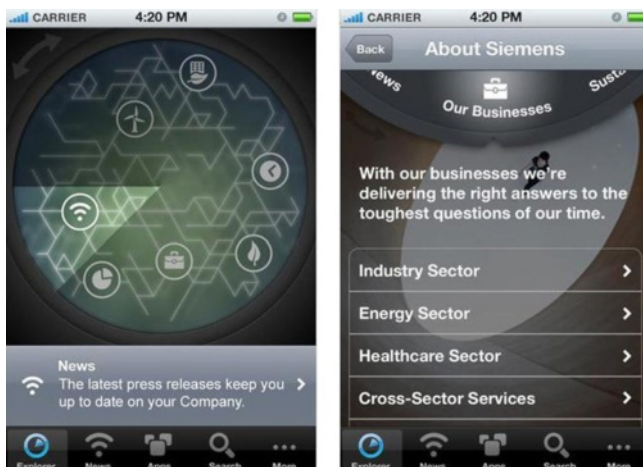
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Appendix Industry Services

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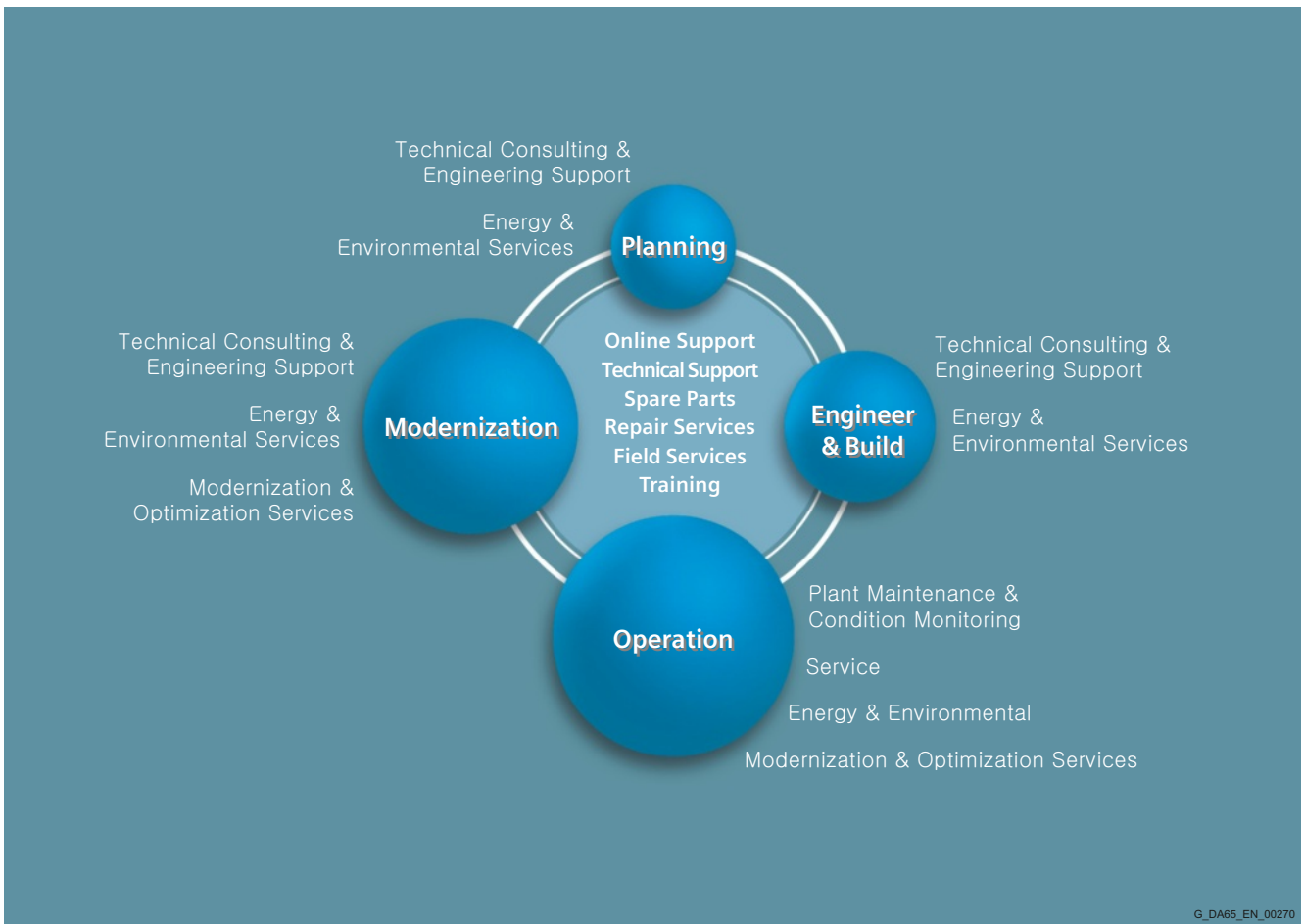


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The content, in six languages, is increasingly multimediated – and now also available as a mobile app. Online support's "Technical Forum" offers users the opportunity to share information with each other. The "Support Request" option can be used to contact Siemens' technical support experts. The latest content, software updates, and news via newsletters and Twitter ensure that industry users are always up to date.



www.siemens.com/industry/onlinesupport

Online Support App



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You have access to FAQs, manuals, certificates, characteristics curves, application examples, product notices (e.g. announcements of new products) and information on successor products in the event that a product is discontinued.

Just scan the product code printed on the product directly using the camera of your mobile device to immediately see all technical information available on this product at a glance. The graphical CAx information (3D model, circuit diagrams or EPLAN macros) is also displayed. You can forward this information to your workplace using the e-mail function.

The search function retrieves product information and articles and supports you with a personalized suggestion list. You can find your favorite pages – articles you need frequently – under "mySupport". You also receive selected news on new functions, important articles or events in the News section.

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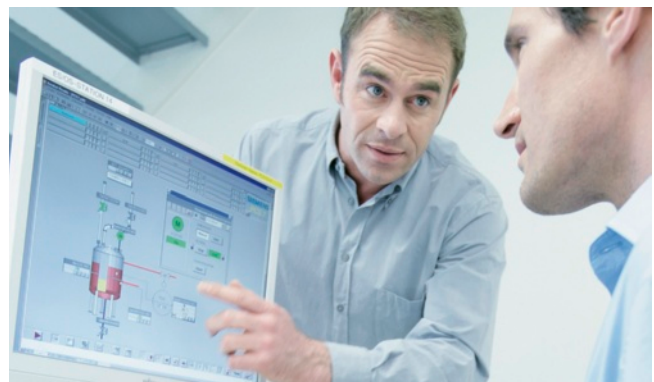


The app is available free of charge from the Apple App Store (iOS) or from Google Play (Android).

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Technical Support

The ability to quickly analyze system and error messages and take appropriate action are key factors in ensuring that plants run safely and efficiently. Questions can arise at any time and in any industry, whether it's an individual product or a complete automation solution. Siemens technical support offers individual technical assistance in matters related to functionality, how to operate, applications, and fault clearance in industrial products and systems – at any time and globally, over the phone, by e-mail, or via remote access. Experienced experts from Siemens answer incoming questions promptly. Depending on the requirements, they first consult specialists in the areas of development, on-site services, and sales. Technical support is also available for discontinued products that are no longer available. Using the support request number, any inquiry can be clearly identified and systematically tracked.



<http://support.automation.siemens.com/WW/view/en/16605032>

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1. General Provisions

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to the following Terms and Conditions of Sale and Delivery (hereinafter referred to as "T&C"). Please note that the scope, the quality and the conditions for supplies and services, including software products, by any Siemens entity having a registered office outside Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. The following T&C apply exclusively for orders placed with Siemens Aktiengesellschaft, Germany.

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For customers with a seat or registered office in Germany, the following applies subordinate to the T&C:

- the "General Terms of Payment"¹⁾ and,
- for software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office in Germany"¹⁾ and,
- for other supplies and services, the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"¹⁾.

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- the "General Terms of Payment"¹⁾ and,
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The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation.

An exact explanation of the metal factor can be downloaded at:

www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

To calculate the surcharge (except in the cases of dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

3. Additional Terms and Conditions

The dimensions are in mm. In Germany, according to the German law on units in measuring technology, data in inches apply only to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the individual pages of this catalog - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

4. Export regulations

We shall not be obligated to fulfill any agreement if such fulfillment is prevented by any impediments arising out of national or international foreign trade or customs requirements or any embargoes and/or other sanctions.

Export of goods listed in this catalog may be subject to licensing requirements. We will indicate in the delivery details whether licenses are required under German, European and US export lists. Goods labeled with "AL" not equal to "N" are subject to European or German export authorization when being exported out of the EU. Goods labeled with "ECCN" not equal to "N" are subject to US re-export authorization.

The export indications can be viewed in advance in the description of the respective goods on the Industry Mall, our online catalog system. Only the export labels "AL" and "ECCN" indicated on order confirmations, delivery notes and invoices are authoritative.

Even without a label, or with label "AL:N" or "ECCN:N", authorization may be required i .a. due to the final disposition and intended use of goods.

If you transfer goods (hardware and/or software and/or technology as well as corresponding documentation, regardless of the mode of provision) delivered by us or works and services (including all kinds of technical support) performed by us to a third party worldwide, you must comply with all applicable national and international (re-)export control regulations.

If required for the purpose of conducting export control checks, you (upon request by us) shall promptly provide us with all information pertaining to the particular end customer, final disposition and intended use of goods delivered by us respectively works and services provided by us, as well as to any export control restrictions existing in this relation.

The products listed in this catalog may be subject to European/German and/or US export regulations. Any export requiring approval is therefore subject to authorization by the relevant authorities.

Errors excepted and subject to change without prior notice.

1) The text of the Terms and Conditions of Siemens AG can be downloaded at www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

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