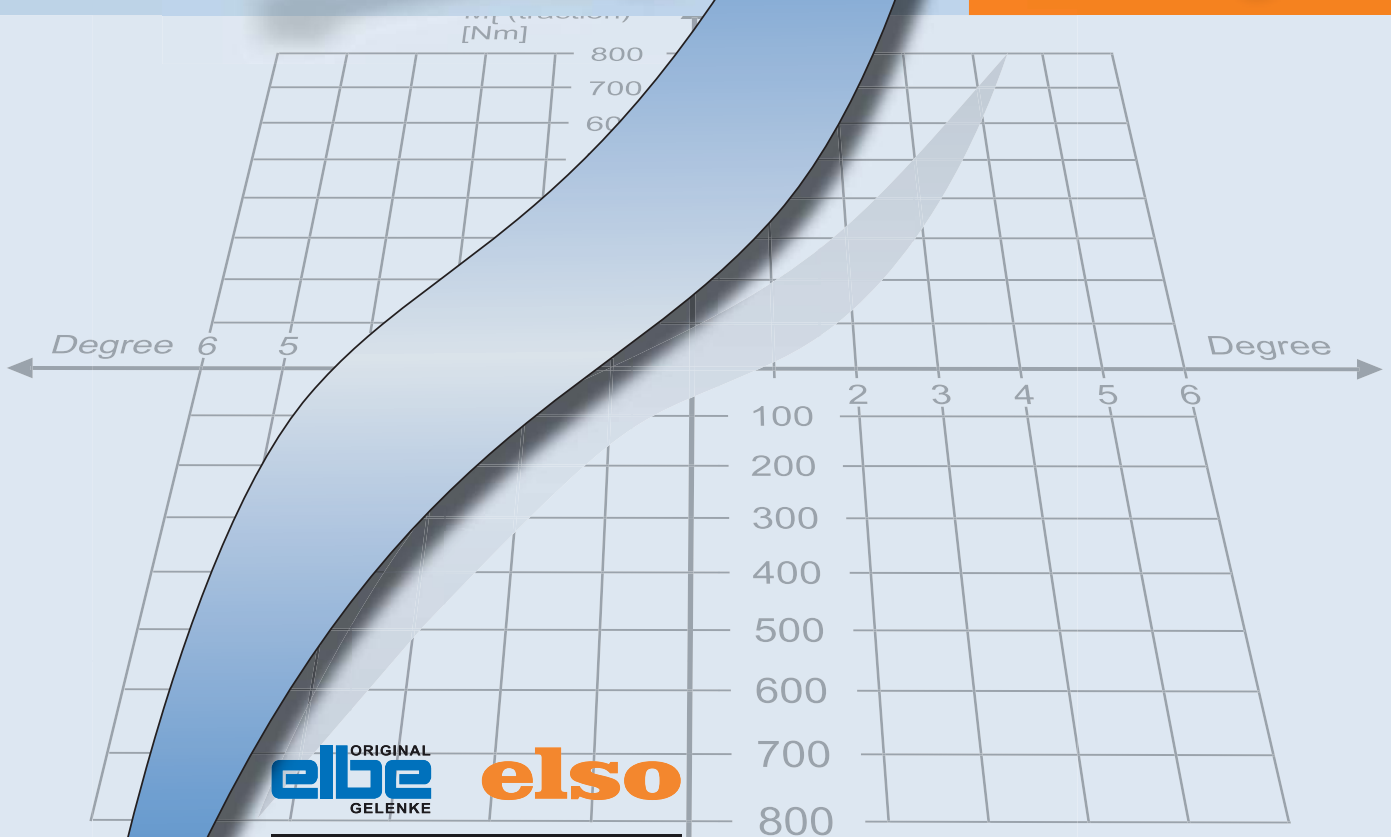


Joint disk couplings for vibration-free power transmission

NEW



Well-proven systems: Elbe joint disk couplings and SGF joint disk technology

Vibration-free and reliable power transmission – also with axial misalignment.

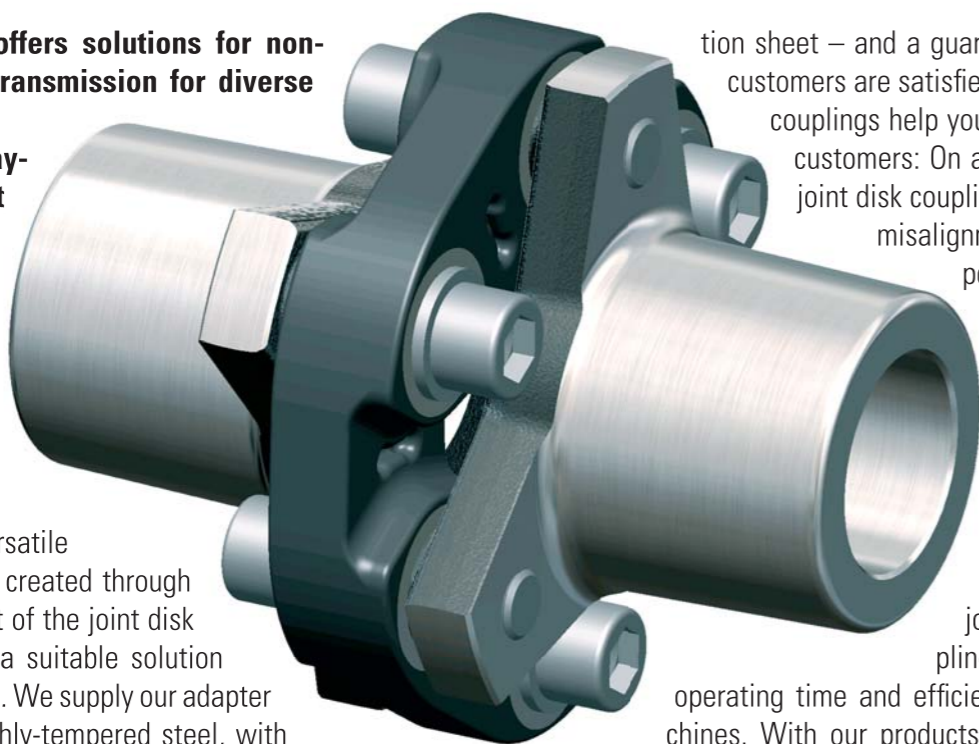
The Elbe Group offers solutions for non-vibrating power transmission for diverse applications.

The individual layout of the joint disk couplings and complete solutions in connection with cardan shafts guarantee a long service life.

Thanks to the versatile **options**, which are created through the individual layout of the joint disk couplings, there is a suitable solution for every application. We supply our adapter flange, made of highly-tempered steel, with various inner and outer profiles, fits or other connections. Upon request, the flanges can be coated or painted.

If you are looking for a **complete solution with cardan shafts**, we can also offer you the suitable product for problem-free and non-vibrating power transmission. A specific layout is necessary for each application, so contact our staff, who will be pleased to help you with the layout and find an ideal solution for your requirements. In order to specify your enquiry, you can use the questionnaire on page 11.

In **mechanical engineering**, nothing is more important than precision and reliability. Low downtimes and long service life are elementary components of any specifica-



tion sheet – and a guarantee that your customers are satisfied. Our joint disk couplings help you to satisfy your customers: On all rotary shafts, joint disk couplings balance out misalignments. They also permit axial misalignment and dampen vibrations.

Wherever anything moves in **agriculture**, the joint disk coupling increases the operating time and efficiency of the machines. With our products, you give your customers the assurance that there will be no failures, even under the toughest conditions of continuous use.

Additional important applications for joint disk couplings by Elbe are **systems engineering, pump construction, apparatus engineering and power train engineering**. There, the couplings serve as a link between the drive units, i.e. combustion or electric motor, on the one side and the gear unit, axles, couplings, compressors or pumps, on the other side. Thanks to the vibration cancellation and the compensation of misalignments, the service life of your system is increased significantly.

Robust and with a long service life

Industrial couplings from the Elbe Group

SGF (Süddeutsche Gelenkscheibenfabrik GmbH & Co. KG) has been a market leader in the manufacturing of joint disks for decades. Through the collaboration with the Elbe Group, you profit from the bundled competence of two companies with a long tradition. As a system partner, we offer you innovative solutions in power transmission with a new generation of drive components.

Through their elasticity and damping properties, the SGF joint disks have a vibration-dampening and **electric insulating** effect. In addition to the **noise decoupling** and damping of **torque peaks**, the changing of natural

frequencies of shaft trains are part of their special features. This improves the mechanical and acoustic comfort and protects the drive.

High torque with low weight

With our joint disc couplings, the torque is transmitted through loop packages made of textile fibres, which are embedded in vulcanised rubber. This design and the use of specialist technical textiles, allows high torque transmission with compact dimensions and low weight of the joint disk coupling.

The embedding of the threads in rubber provides a high level of protection against external damage. Cracks in the surface of the rubber do not necessarily lead to failure of the joint disks, as the torque transmission occurs through the loop packages.

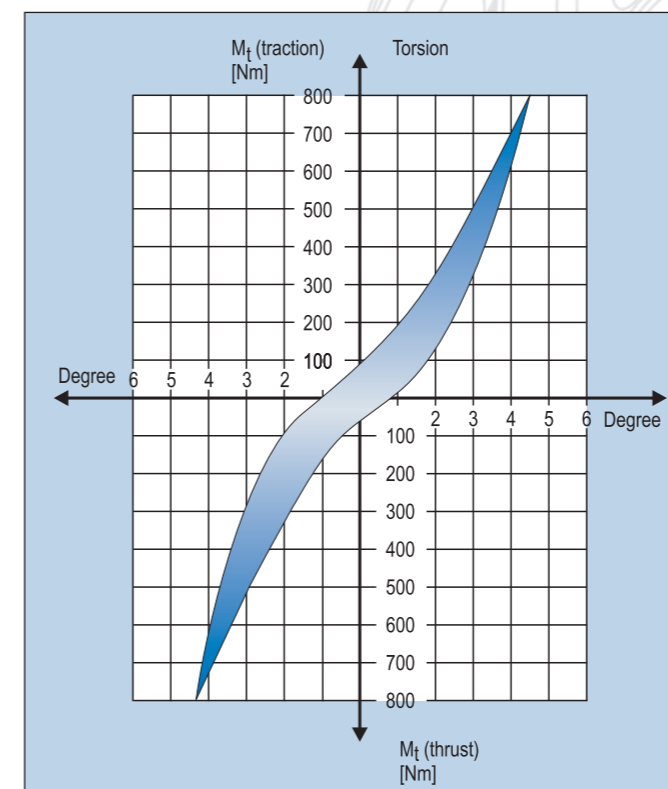
The **signs of wear** therefore differ distinctly from pure rubber couplings. Even if individual threads of a joint disk coupling are torn, in most cases, the joint disk can still fulfil its function for a certain time with a reduced collective load.

Service life of SGF joint disks

The service life can be laid out under consideration of torque, rpm, deflection angle, radial and axial misalignment, ambient temperatures and the characteristic of drives, according to customer requirements.

Ambient temperature:

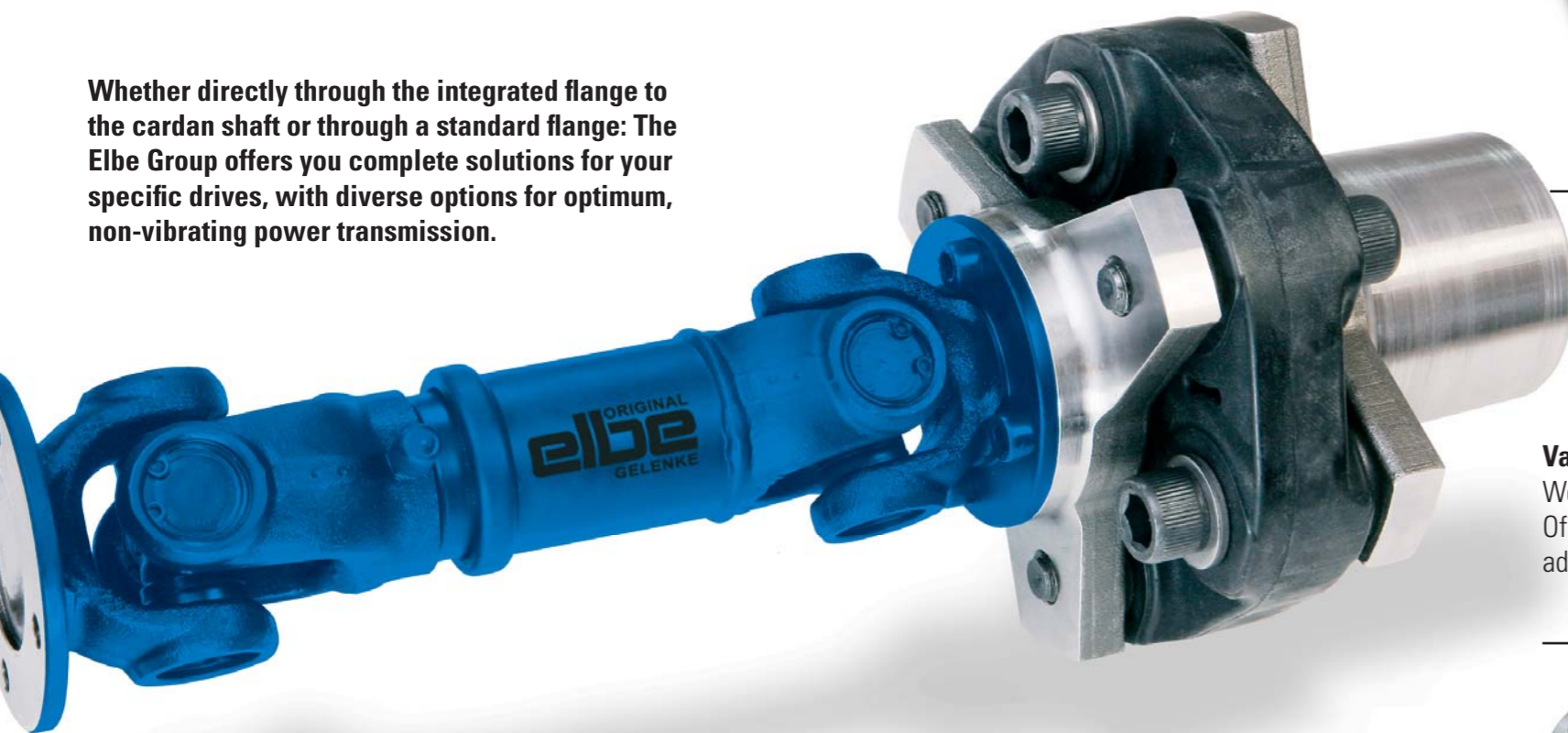
Resistant up to 100 °C in normal operation.
Short-term up to 110 °C (max. t10 = 10 min.).
For high-temperature applications, silicone is possible.



The integrated coupling connection

insures optimum power transmission right up to the component

Whether directly through the integrated flange to the cardan shaft or through a standard flange: The Elbe Group offers you complete solutions for your specific drives, with diverse options for optimum, non-vibrating power transmission.



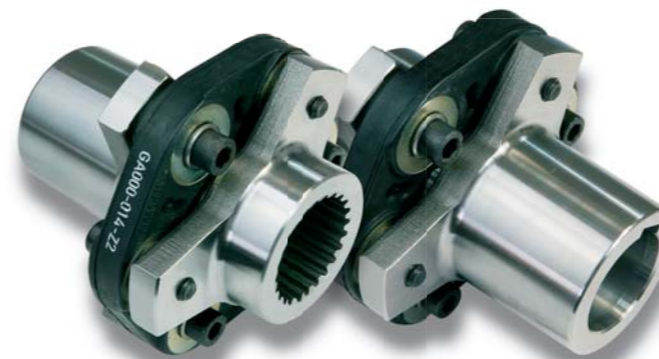
Also for custom designs

For all standard flanges from our program, we always have the necessary raw parts in stock. This way, we are able to supply even small numbers of units in the shortest time – in the same quality as series parts, of course. And all standard flanges can be supplied with various coatings, e.g. galvanised, painted or powder-coated.



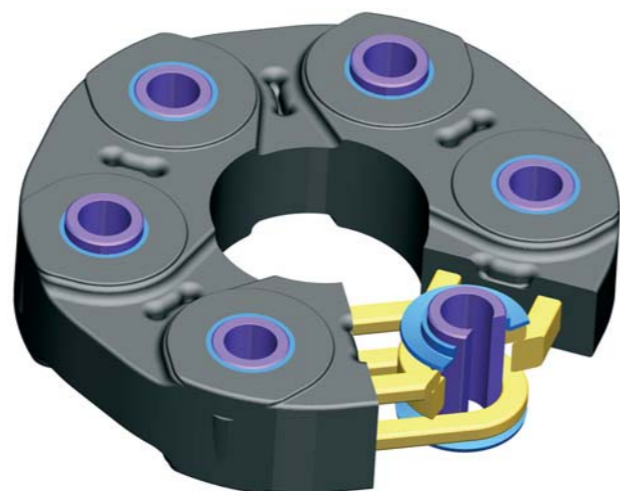
Variety in every size

We offer our three-arm flanges in various sizes. Of course, with all conventional flange mountings for adaptation to diverse drive units.



Large variety of options

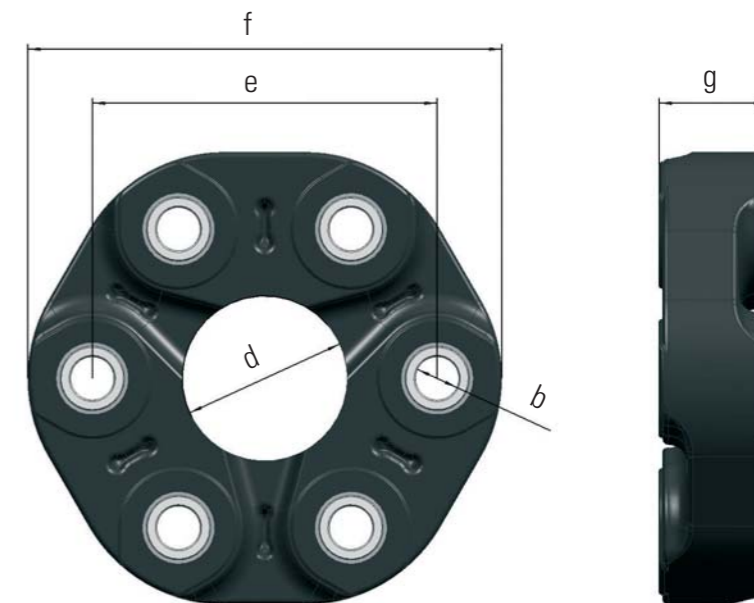
Options for gentle power transmission



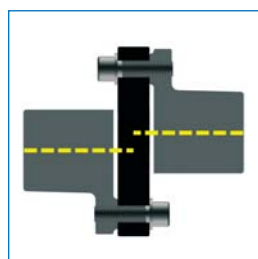
The SGF joint disk:

Overview of advantages

- Insulation and reduction of noises and vibrations
- Damping of torque peaks and therefore protection of downstream components (e.g. rear axle drive)
- Compensation of axial power unit movements
- High degree of efficiency
- Maintenance-free

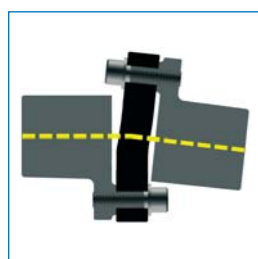


Different rigidities in different directions. Load/deflection directions.



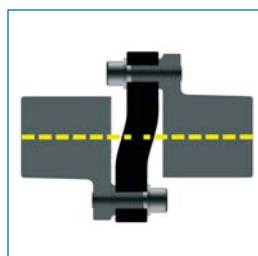
Radial misalignment/eccentricity

To a minor extent, depending on the size and rigidity of the relevant joint disk.



Deflection angle

The maximum permanent deflection angle is 2 to 3 degrees, depending on the type of reinforcement of the joint disk.

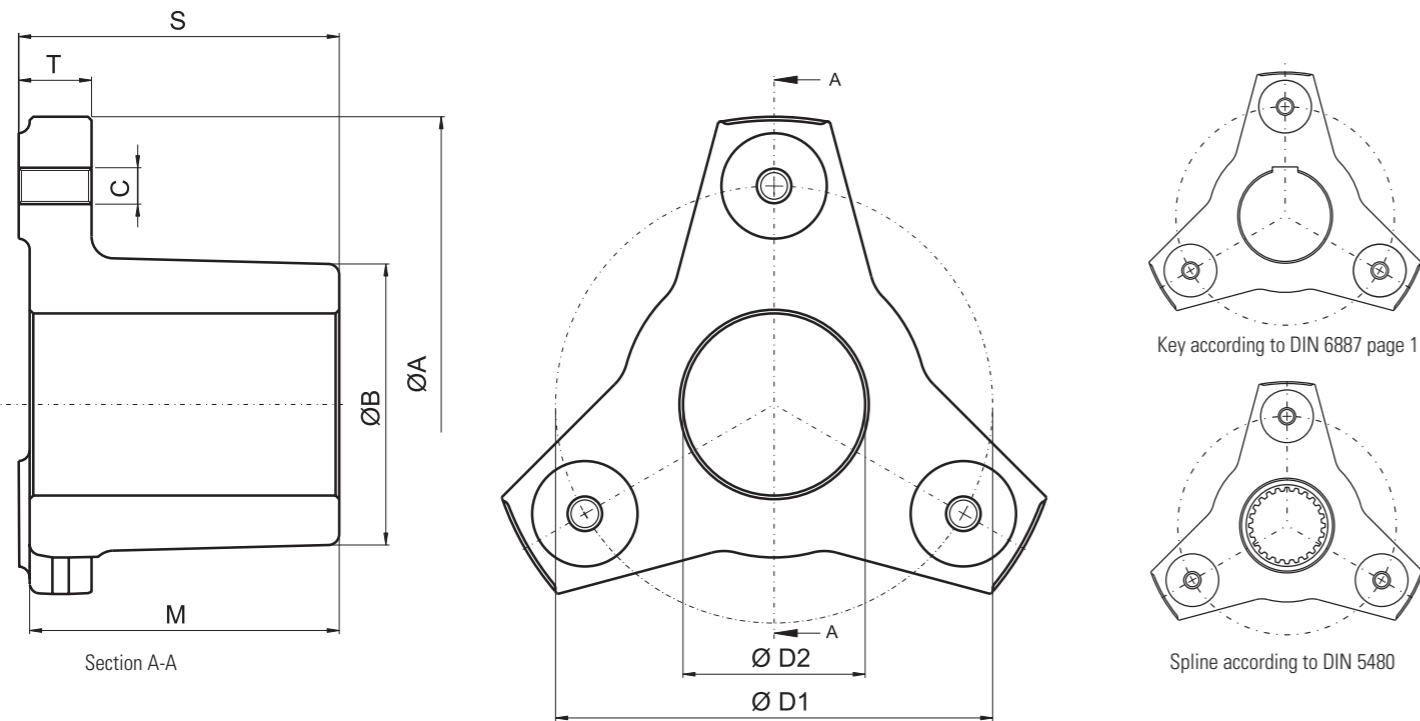


Axial misalignment

The axial misalignment can amount of a maximum of ± 2 millimetres.

Order No.	Type	Tk _{max.} [Nm]	Tk _{nom.} [Nm] computed		Md _{Fraction} [Nm] computed		Hole circle Ø e [mm]	Middle hole Ø d [mm]	Joint disk outside Ø f [mm]	Joint disk body thickness g [mm]	Bushing internal Ø b [mm]	Mass-moment of inertia x 10 ⁴ [kgm ²]	Computed burst speed n _{max} rpm	Screw set	Tightening torque Nm
			Traction	Thrust	Traction	Thrust									
1.075.845.0001	GA000-017	200	100	100	1.000	1.000	75	39	101	16	10,15	5,20	17.000	0.000.193.0001	64
1.075.845.0002	GA000-024	420	210	210	2.100	2.100	75	39	101	24	10,15	5,40	17.000	0.000.193.0003	64
1.080.845.0001	GA000-023	460	230	230	2.300	2.300	80	40	115	20	12,15	5,60	14.900	0.000.193.0004	110
1.080.845.0002	GA000-013	520	260	260	2.600	2.600	80	40	115	22	12,15	6,20	14.900	0.000.193.0004	110
1.085.845.0001	GA000-025	420	210	210	2.100	2.100	85	40	120	18	10,15	5,80	14.300	0.000.193.0002	64
1.096.845.0001	GA000-029	840	420	420	4.200	4.200	96	46	132	30	12,15	12,20	13.000	0.000.193.0005	110
1.106.845.0001	GA000-014-Z2	560	280	280	2.240	2.240	106	63	143	18	10,15	11,05	12.000	0.000.193.0002	64
1.120.845.0001	GA000-012-Z2	800	400	400	4.000	4.000	120	70	160	20	10,15	19,80	10.700	0.000.193.0003	64
1.120.845.0002	GA000-015	1.480	740	740	7.400	7.400	120	65	162	30	16,15	27,80	10.600	0.000.193.0006	137
1.120.845.0003	GA000-016	960	480	480	4.800	4.800	120	65	162	30	16,15	30,00	10.600	0.000.193.0006	137
1.140.845.0001	GA000-018	2.240	1.120	1.120	11.200	11.200	140	70	195	33	16,15	74,60	8.800	0.000.193.0006	275
1.140.845.0002	GA000-018-Z1	2.240	1.120	1.120	11.200	11.200	140	70	195	33	18,15	70,50	8.800	0.000.193.0007	390
1.140.845.0003	GA000-019	2.800	1.400	1.400	11.200	11.200	140	70	195	33	18,15	72,20	8.800	0.000.193.0007	390
1.140.845.0004	GA000-019-Z01	2.800	1.400	1.400	11.200	11.200	140	70	195	33	16,15	76,20	8.800	0.000.193.0006	275
1.160.845.0001	GA000-026	3.100	1.550	1.550	12.400	12.400	160	80	218	33	20,15	106,04	5.200	0.000.193.0009	270
1.180.845.0001	GA000-030	2.600	1.300	1.300	13.000	13.000	180	98	237	47	22,15	171,60	7.200	0.000.193.0011	720
1.180.845.0002	GA000-027	4.080	2.040	2.040	20.400	20.400	180	98	237	37	22,15	156,80	7.200	0.000.193.0010	360
1.200.845.0001	GE-000-012	4.000	2.000	2.000	16.000	16.000	200	102	262	37	20	273,00	6.500	0.000.193.0009	540
1.220.845.0001	S34	4.390	2.195	2.195	17.559	17.559	220	125	280	37	24,15	279,78	4.000	0.000.193.0012	465

Adaptation with three-arm flange

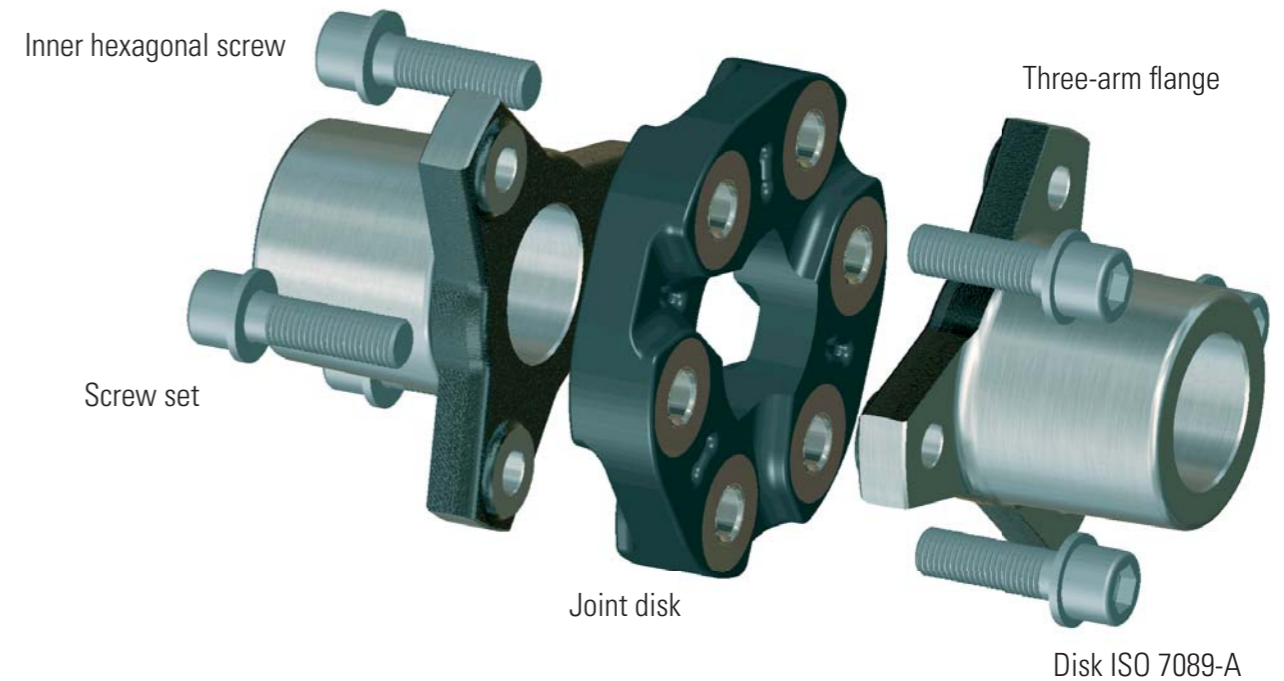


Order No.	1.075.230	1.080.230	1.085.230	1.096.230	1.106.230	1.120.230	1.140.230	1.160.230	1.180.230	1.200.230	1.220.230
D1 mm	75	80	85	96	106	120	140	160	180	200	220
D2* max. H7 mm	30	32	35	40	45	50	62	65	80	90	100
S mm	53	58	63	71	81	88	105	110	125	140	155
M mm	50	55	60	68	78	85	100	105	120	135	150
T mm	13	15	13	15	17	20	24	29	28	30	30
A mm	99	111	116	129	140	158	191	216	233	254	277
B mm	44	46,5	53	60,5	67	77	92,5	100	121	137,5	157
C mm	M 10	M 12	M 10	M 12	M 10	M 10/M 16	M 16/M 18	M 20	M 22	M 20	M 24
J x 10 ⁴ kg/m ²	3,85	6,55	8,71	16,6	29,3	52,1	123	187	351	621	1040

J = Mass moment of inertia without drill holes

- * Customised version possible (e.g. drill hole, keyway, gears, var. profiles)
- Material: Tempered steel
- Three-arm flanges can also be supplied with various coatings. (galvanised, painted, powder coated, ...)

Assembly instructions



Surface finish:

The threads should be free from oil and grease. For polished and phosphated parts, suitable corrosion inhibitors are admissible.

Hardening properties:

The thread lock compound begins hardening shortly after the thread is screwed in. Adjustment and tightening should therefore be completed within 5 minutes. The hardening time amounts to approx. 24 hours at 23 °C and approx. 15 minutes at 70 °C. After hardening is completed, loosening is prevented in a temperature range from -30 °C to +110 °C.

Shelf life:

The screws with a coated thread have a shelf life of approx. 4 years at room temperature.

Reusability:

Threads with this coating can be used several times subject to compliance with the general conditions (oil-free and grease-free thread). However, as unexpected conditions can occur, it is not recommended to use screws again once the lock has been broken.

Screw sets

each comprised of 3 screws and 3 washers for one flange

Order-No.	ISK screw DIN EN 4762 DIN 267- Part 27 microencapsulated	Washer ISO 7089 Form A - 300HV
0.000.193.0001	1.000.926.7022 M 10x30 - 10.9	1.000.710.7020
0.000.193.0002	1.000.926.7023 M 10x35 - 10.9	1.000.710.7020
0.000.193.0003	1.000.926.7024 M 10x40 - 10.9	1.000.710.7020
0.000.193.0004	1.000.926.7025 M 12x40 - 10.9	1.000.710.7021
0.000.193.0005	1.000.926.7026 M 12x50 - 10.9	1.000.710.7021
0.000.193.0006	1.000.926.7027 M 16x55 - 10.9	1.000.710.7022
0.000.193.0007	1.000.926.7028 M 18x60 - 10.9	1.000.710.7023
0.000.193.0008	1.000.926.7029 M 20x60 - 10.9	1.000.710.7024
0.000.193.0009	1.000.926.7030 M 20x65 - 10.9	1.000.710.7024
0.000.193.0010	1.000.926.7031 M 22x70 - 10.9	1.000.710.7025
0.000.193.0011	1.000.926.7032 M 22x80 - 10.9	1.000.710.7025
0.000.193.0012	1.000.926.7033 M 24x70 - 10.9	1.000.710.7026

Your direct contact



The Elbe Group is a market-leading company in the production of joint drives for vehicle construction and mechanical engineering. The globally active group of companies produces at locations in Germany, Italy, Hungary, Brazil and the USA with more than 1100 employees.

For joint disk couplings in connection with cardan shafts:



G. Elbe & Sohn GmbH & Co. KG

Gerokstraße 100
D-74321 Bietigheim-Bissingen
info@elbe.elbe-group.de
Headquarters: Phone: +49 (0) 7142/353-0
Sales: Phone: +49 (0) 7142/353-452

For joint disk couplings::



ELSO Elbe GmbH & Co. KG

Hans-Elbe-Straße 2
D-97461 Hofheim/Unterfranken
info@elso.elbe-group.de

Headquarters: Phone: +49 (0) 9523/189-0
Sales: Phone: +49 (0) 9523/189-94

Technical questionnaire

In order to send you the information regarding your request as quickly as possible, we request that you fill out the questionnaire with as much detail as possible.

In case of questions or lack of clarity, please feel free to contact us! Our employees will be pleased to assist you with the selection and calculation.

General project information

Project description: _____ Project dates: _____
Company name: _____ Contact with telephone no.: _____
Planned annual quantity / total: _____
Is it you already related uses?
yes , which _____
no
Zip Code/City: _____
Street: _____ E-Mail: _____

Technical data

Type of driven machine: Petrol Diesel Electric Max. speed, shaft speed: _____ rpm⁻¹
Number of cylinders: _____ From the elastic coupling to the transmission torque: _____ Nm
Power output HP or KW: _____ HP _____ KW Do collective loads/torque peaks exist or are they known of: _____
At which speed it reaches the specified output: _____ rpm⁻¹ Rotary direction of the power transmission: one-sided or reversing

Use data

Ambient temperature (max.; with continuous operation; collective temperature): _____ °C Do specific requirements exist regarding elasticity or vibration properties?
Medium surrounding the joint disk: _____
Installation situation of the coupling (e.g. motor-drive-joint disk-shaft): _____ Which deflection angle must the joint disk compensate? _____ °
Which axial and radial misalignments require compensation?
Are critical speed ranges known of for the layout? Axial: _____ mm
yes , which _____ no Radial: _____ mm

Installation conditions (in combination with cardan shafts)

When coupling two shafts, should only one joint or a double joint be used? _____ Mass properties of the driving mass to the driven mass (moments of inertia): _____
Weight of the cardan shaft: _____ kg _____

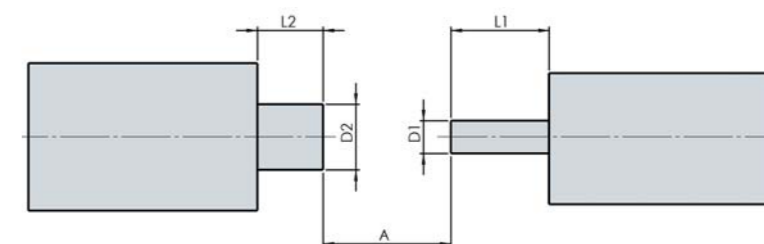
Additional information/documents for use

Do you have additional drawings, specifications, sketches or other documents that could help us with the product layout? (Please enclose) _____ Does other key data exist that we need to consider for the joint disk layout? (environmental constraints, material constraints, high impact factors, etc.): _____
Which safety regulations need to be complied with?: _____

Dimensions for shaft connections with standard flanges

Please enter the dimensions here, on the basis of the sketch for your application:

L1 _____ mm
L2 _____ mm
D1 _____ mm
D2 _____ mm
A _____ mm



Fax reply technical questionnaire: +49 (0) 9523/189-10

G. Elbe & Sohn GmbH & Co. KG

Gerokstraße 100
D-74321 Bietigheim-Bissingen
Phone: +49 (0) 7142/353-0
Fax: +49 (0) 7142/353-350
info@elbe.elbe-group.de

ELSO Elbe GmbH & Co. KG

Hans-Elbe-Straße 2
D-97461 Hofheim/Unterfranken
Phone: +49 (0) 9523/189-0
Fax: +49 (0) 9523/189-10
info@elso.elbe-group.de

ELBE Italia s.r.l.

Via Onedo 10
I-23821 Abbadia Lariana (LC)
Phone: +39 0 341/739 111
Fax: +39 0 341/702 022
info@elbeitalia.it

ELSO Elbe Hungária Bt.

Kistályai út.18
H-3300 Eger
Phone: +36 36 524 100
Fax: +36 36 524 101
info@elsoun.elbe-group.de

ELBE Italia Sud s.r.l.

Zona Industriale di Viggiano
I-85050 Grumento Nova (PZ)
Phone: +39 0 975/355 111
Fax: +39 0 975/311 265
infosud@elbeitalia.it

Elbe & Sohn, Inc.

1875 Dewey Lane
USA - South Haven, MI 49090
Phone: +1 269 637 7999
Fax: +1 269 637 2254
info@elbeusa.com

ORIGINAL
elbe
GELENKE

elso

Companies in the Elbe-Group

WHAT DRIVES YOU, DRIVES US

WWW.ELBE-GROUP.COM