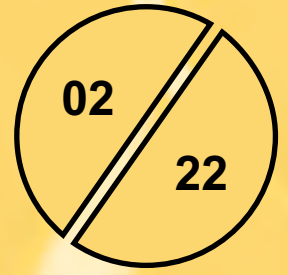


Quality products for Mechanical  
& Fluid Power



# N-EUPEX<sup>®</sup> CLAW COUPLINGS



**N-EUPEX<sup>®</sup>, RUPEX<sup>®</sup> and N-BIPEX<sup>®</sup>**  
**Flexible Couplings**

Flexible Flender couplings have a wide range of possible applications. A broad standard modular system as well as specially designed application specific couplings are available.



**N-EUPEX**  
 cam couplings  
 Rated torque: 19 Nm ... 85,000 Nm



**RUPEX**  
 pin-and-bush couplings  
 Rated torque: 200 Nm ... 1,300,000 Nm



**N-BIPEX**  
 cam couplings  
 Rated torque: 12 Nm ... 1,300 Nm

**ELPEX<sup>®</sup>, ELPEX-B<sup>®</sup> and ELPEX-S<sup>®</sup>**  
**Highly Flexible Couplings**

ELPEX<sup>®</sup> couplings are free of circumferential back-lash. Their damping capacity and low torsional stiffness make them especially well-suited for coupling machines with widely variable torque characteristics or large shaft misalignment.



**ELPEX**  
 elastic ring couplings  
 Rated torque: 1,600 Nm ... 90,000 Nm



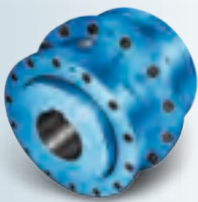
**ELPEX-B**  
 elastic tire couplings  
 Rated torque: 24 Nm ... 14,500 Nm



**ELPEX-S**  
 rubber disk couplings  
 Rated torque: 330 Nm ... 63,000 Nm

**ZAPEX<sup>®</sup> gear couplings and ARPEX<sup>®</sup> all-steel couplings**  
**Torsionally Rigid Couplings**

For transmission of high torques, we offer both ARPEX all-steel disc couplings and ZAPEX gear couplings in a range of versions. The applications vary according to specific requirements, with respect to shaft misalignment, temperature and torque.



**ZAPEX**  
 gear couplings  
 Rated torque: 1,300 Nm ... 7,200,000 Nm



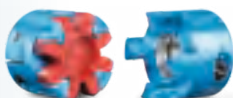
**ARPEX**  
 high performance disc couplings  
 Rated torque: 1,000 Nm ... 80,000 Nm



**N-ARPEX and ARPEX**  
 all-steel disc couplings  
 Rated torque: 92 Nm ... 2,000,000 Nm

**BIPEX-S<sup>®</sup> and SIPEX<sup>®</sup>**  
**Backlash-Free Couplings**

The vibration-damping, electrically insulating plug-in BIPEX-S elastomer couplings and SIPEX metal bellows couplings deliver especially accurate component positioning.



**BIPEX-S and SIPEX**  
 Rated torque: 0.1 Nm ... 5,000 Nm





**FLUDEX® couplings are hydrodynamic fluid couplings which operate on the Fottinger principle.**

FLUDEX® couplings limit starting and maximum torque in the drive train and, through the property of rotational slip, serve as an aid to starting the motor, as overload protection in the event of fault and for isolating torsional vibration. To compensate for shaft misalignment, the FLUDEX® coupling is combined with a displacement coupling e.g. of the N-EUPEX® type.

#FLUDEX

**Railway Couplings**

Couplings for rail vehicles developed, tested and produced for reliability and safety.



ZBG series [read info ...](#)



LBK series [read info ...](#)



GKG series [read info ...](#)



MBG series [read info ...](#)



MBG-ISO series [read info ...](#)



ARS series [read info ...](#)

Couplings designed for partially and fully suspended drives which can be mounted between motor and gear unit or gear unit and wheel-set shaft. Designed and tested to withstand the high forces created by axle loads of up to 32 t, motor speeds of over 6,000 rpm and driving speeds of more than 400 km/h. All models tested under extreme conditions to guarantee maximum reliability. A broad range of products in all necessary sizes and designs as standard.

**FLENDER Railway Couplings offer:**

- » High quality.
- » 100% component traceability.
- » Great depth within an extensive product range.
- » Component compatibility with Flender gear units for rail vehicles.
- » Low maintenance costs and a high level of serviceability.

#railway-couplings





The collage shows several pages from the FLENDER manual:

- Top Left:** 'Fitting Recommendations' section with diagrams of shaft-hub connections and a table of dimensions.
- Top Middle:** 'Key Symbols' section with a table of symbols and their meanings.
- Top Right:** 'Technical Information' section with a table of technical data.
- Middle Left:** 'Key Symbols' section with a table of symbols and their meanings.
- Middle Right:** 'Technical Information' section with a table of technical data.
- Bottom Right:** 'Typical coupling solutions for different example applications' section with a table of application-specific solutions.



See the **FLENDER COUPLINGS INTRODUCTION** for:

- » Shaft coupling types.
- » Shaft misalignment.
- » Balancing.
- » Shaft hub connections.
- » Key to symbols & selection of coupling series.
- » Typical coupling solutions for different applications.
- » Selection of coupling size.
- » Checking shaft hub connection & environmental conditions.
- » Fitting recommendations including DIN ISO 286 details.
- » Cylindrical shaft ends, extract from DIN 748 Part 1 (long) & central holes according to DIN 332 Part 2.
- » Parallel Key Connections to Din 6885-1.

— #couplings-technical-info —



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**FLENDER** **Flender**  
9,544 followers  
1w •

<https://lnkd.in/eArCCRi>

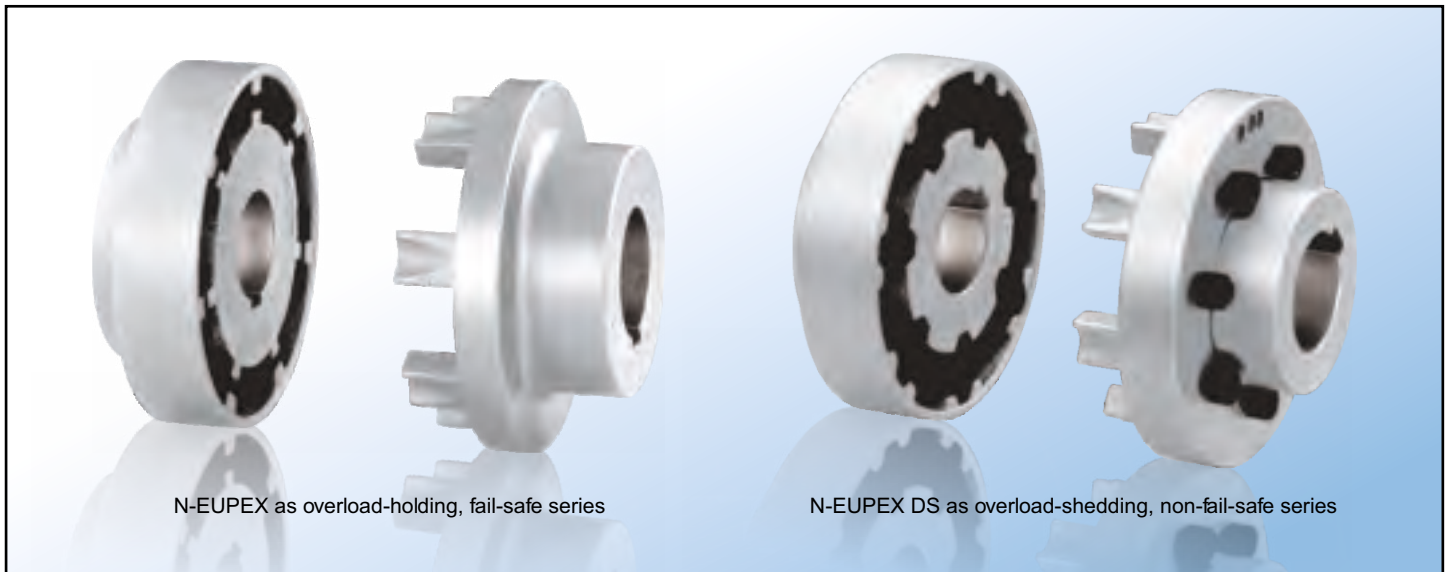
New distribution partnership in the UK: We have now partnered with **jbj Techniques Limited** as the official partner for our whole couplings range in the United Kingdom and kicked off our cooperation by a digital signing of the partnership contract. JBJ has a wealth of experience in established and niche applications, such examples are: Mechanical drives for subsea wave energy, steel works crucible handling equipment or marine winch drives. We are happy to have them on our side for our UK coupling customers, especially for the supply of the recently optimized N-EUPEX!


Get to know the industry benchmark in couplings and reach out to **Mat Jackson**, Product Manager Couplings at Flender UK, and **Mike Davis**, Managing Director at JBJ for further queries.





Learn more about our couplings range here: <https://lnkd.in/dAir-av>

**#flender #couplings #neupex #newpartnership #cooperation #WeMoveTheWorld**





 Coupling suitable for use in potentially explosive atmospheres.

  Complies with the current ATEX Directive for:  
 II 2G Ex h IIC T6 ... T4 Gb X  
 II 2D Ex h IIIC T85 °C ... 110 °C Db X  
 IM2 Ex h Mb X

#### Note about ATEX compliance

Both series are ATEX certified, but importantly it must be noted that the N-Eupex coupling is ATEX compliant as long as the coupling is operated in accordance with the installation, operation and maintenance manual. More importantly the maintenance aspect, replacing the elastomers prior to failure. This is due to the fail-safe design allowing torque transmission should the elastomers fail.

If complete ATEX safety is required, without needing to adhere to the N-Eupex maintenance requirements, then the N-Eupex DS is the coupling to use.

N-EUPEX and N-EUPEX DS claw couplings (also known as pin / cam couplings) connect machines. They compensate for shaft misalignment, generating only low restorative forces. The torque is transmitted through elastomer elements, so the coupling has typically flexible rubber properties.

N-EUPEX couplings are overload-holding. By contrast, the N-EUPEX DS series is designed so that overload or advanced wear causes irreparable damage to the elastomer elements. The metal parts of N-EUPEX DS couplings can then rotate freely against one another without contact.

### Benefits

N-EUPEX couplings are designed on the modular principle and have a very simple construction. N-EUPEX types are made up of subassemblies to suit requirements. The couplings are assembled by simply fitting the coupling halves together. Wear is restricted to the elastomer elements, which must be replaced at the end of their service life.

Depending on type, the elastomer elements can be changed without moving the coupled machines.

The coupling parts are readily available from stock and are mostly finish-machined, i.e. with finished bore, keyway, set screw and balancing.

Please note that if the couplings are finished machined / bored and keyed in the jbj Techniques machine shop, the couplings will be supplied un-balanced, unless specifically requested.

### Application

The N-EUPEX coupling is available as a catalogue standard in 23 sizes with a rated torque up to and 85,000 Nm. The coupling is suitable for use at ambient temperatures of between -30 °C and +80 °C. By using alternative elastomer elements, the permissible ambient temperature range can be extended to between -50 °C and +100 °C. Frequently, the coupling is used to connect the motor to the gear unit input shaft. The coupling is suitable especially for drives with uniform to average dynamic loads.

Examples of applications are pump drives, ventilator drives or crane running gear. Furthermore, N-EUPEX couplings can be used as add-on couplings, particularly on FLUDEX fluid couplings or ARPEX AKR safety couplings. In the case of drives with a diesel engine, N-EUPEX couplings are suitable for driven machines with a low mass moment of inertia. In the case of diesel engine drives, the actual dynamic coupling load should be checked by measurement or torsional vibration calculations.

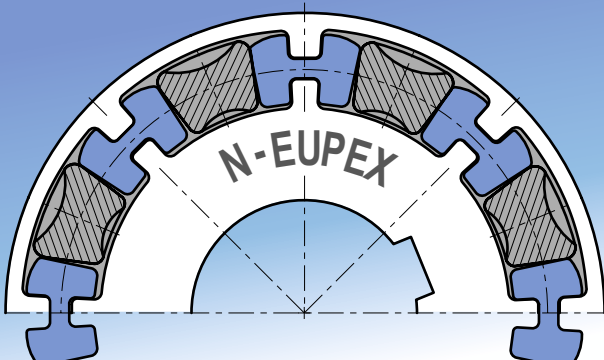
### Design and Configurations

N-EUPEX and N-EUPEX DS couplings consist of two hub parts mounted on the machine shafts. The coupling parts are connected positively by means of elastomer elements. On the two-part variant, the elastomer elements can be changed only if one of the coupled machines is moved. On the three-part variants, the bolted cam ring can be released and moved to enable the element to be changed without moving the coupled machines.




**Elastomer element of the N-EUPEX series**

The elements of the N-EUPEX coupling are subjected to compression. If the elements are irreparably damaged, the hub parts come into contact with metal. This "emergency operation capability" is required, e.g., in the case of fire pump drives.

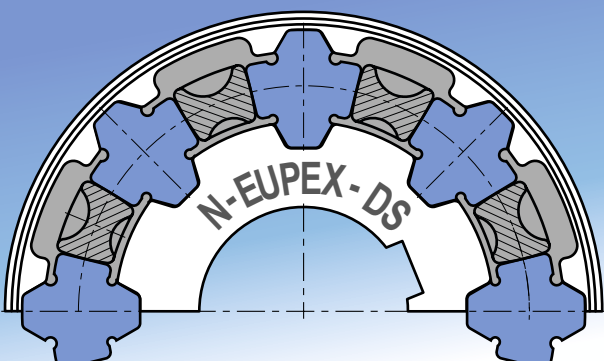


**Overload holding, fail-safe series**




**Elastomer flexible of the N-EUPEX DS series**

The elements of the N-EUPEX DS series are subjected to compression and bending forces. If the elements are irreparably damaged, the metal parts turn against one another without contact, and the power transmission is separated. Fitting new elements will make the coupling usable again. The capacity of the N-EUPEX DS series to shed overloads is especially in demand for highly sensitive machines.



**Overload shedding, non-fail-safe series**



**Materials**

- » Adapters and hubs: Grey cast iron EN-GJL-250
- » Brake disks: EN-GJS-400 spheroidal graphite cast iron or S355J2G3 steel
- » Brake drums: Grey cast iron EN-GJL-250
- » Low-temperature application: Shock loads in the drive caused by e.g. starting of drives with large masses to be accelerated (e.g. in fan drives) result in high component loads, particularly at low temperatures. For such applications a particularly robust coupling series must be selected. Of the flexible couplings, the RUPEX pin-and-bush coupling is especially suited for this.

**Flexible materials**

Material/description	Hardness	Marking	Ambient temperature
<b>N-EUPEX series</b>			
NBR standard type	80 ShoreA	Element, black with blue stripe	-30 °C ... +80 °C
NBR electrically insulating	80 ShoreA	Element, green	-30 °C ... +80 °C
NBR soft	65 ShoreA	Element, black with green stripe	-30 °C ... +80 °C
NBR hard	90 ShoreA	Element, black with magenta stripe	-30 °C ... +80 °C
NBR normal low-backlash	80 ShoreA	Element, black with yellow stripe	-30 °C ... +80 °C
NBR soft low-backlash	65 ShoreA	Element, black with white stripe	-30 °C ... +80 °C
NR for low temperature	80 ShoreA	Element, black with orange stripe	-50 °C ... +50 °C
HNBR high temperature	80 ShoreA	Element, black with red stripe	-10 °C ... +100 °C
<b>N-EUPEX DS series</b>			
NBR hard	90 ShoreA	Element, black	-30 °C ... +80 °C



- » The technical data and part numbers do not include the flexible variants NBR low-backlash, HNBR high temperature and NR low temperature.
- » Technical data, prices and part numbers on request.

## Types of N-EUPEX pin coupling

Type	Description
A	Fail-safe, 3-part
B	Fail-safe, 2-part
D	Fail-safe, 3-part, flange variant
E	Fail-safe, 2-part, flange variant
H	Fail-safe, with adapter
O	Fail-safe, 2-part, with brake drum
P	Fail-safe, 3-part, with brake drum
EBD	Fail-safe, 2-part, with brake disk
DBD	Fail-safe, 3-part, with brake disk
DBDR	Fail-safe, 3-part, with brake disk, brake disk radially dismountable
ADS	Non-fail-safe, 3-part
BDS	Non-fail-safe, 2-part
HDS	Non-fail-safe, with adapter

## Types of N-EUPEX pin coupling on request

Type	Description
AT	Fail-safe, 3-part, with Taper clamping bush
BT	Fail-safe, 2-part, with Taper clamping bush
G	Fail-safe, 2-part, with intermediate shaft
F	Fail-safe, 3-part, with intermediate shaft
K	Fail-safe, 3-part, with brake drum to customer's requirement
L	Fail-safe, 2-part, with brake drum to customer's requirement
M	Fail-safe, 2-part, with flange dimensions to SAE J620d

Further application-related coupling types are available. Dimension sheets for and information on these are available on request.

## Function

The motor torque is transmitted to the hub on the drive side via the shaft-hub connection, which is mostly designed as a keyway connection. The torque is transmitted to the hub on the output side with the aid of elastomer elements. The hub on the output side further transmits the torque to the driven machine or a gear unit placed in between. Because of the primarily compression-loaded elastomer elements, the coupling has a progressive torsional stiffness. In the case of the N-EUPEX DS coupling series, the elastomer element is subjected to bending and compression loads.

In the event of overload or advanced wear, the coupling disconnects positively and the elements are irreparably damaged. The metal parts then rotate without touching one another.

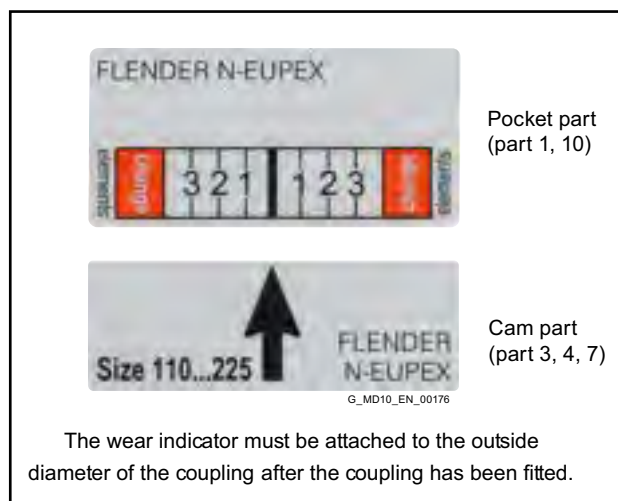
After new elastomer elements are fitted, the N-EUPEX DS coupling is once more operable.

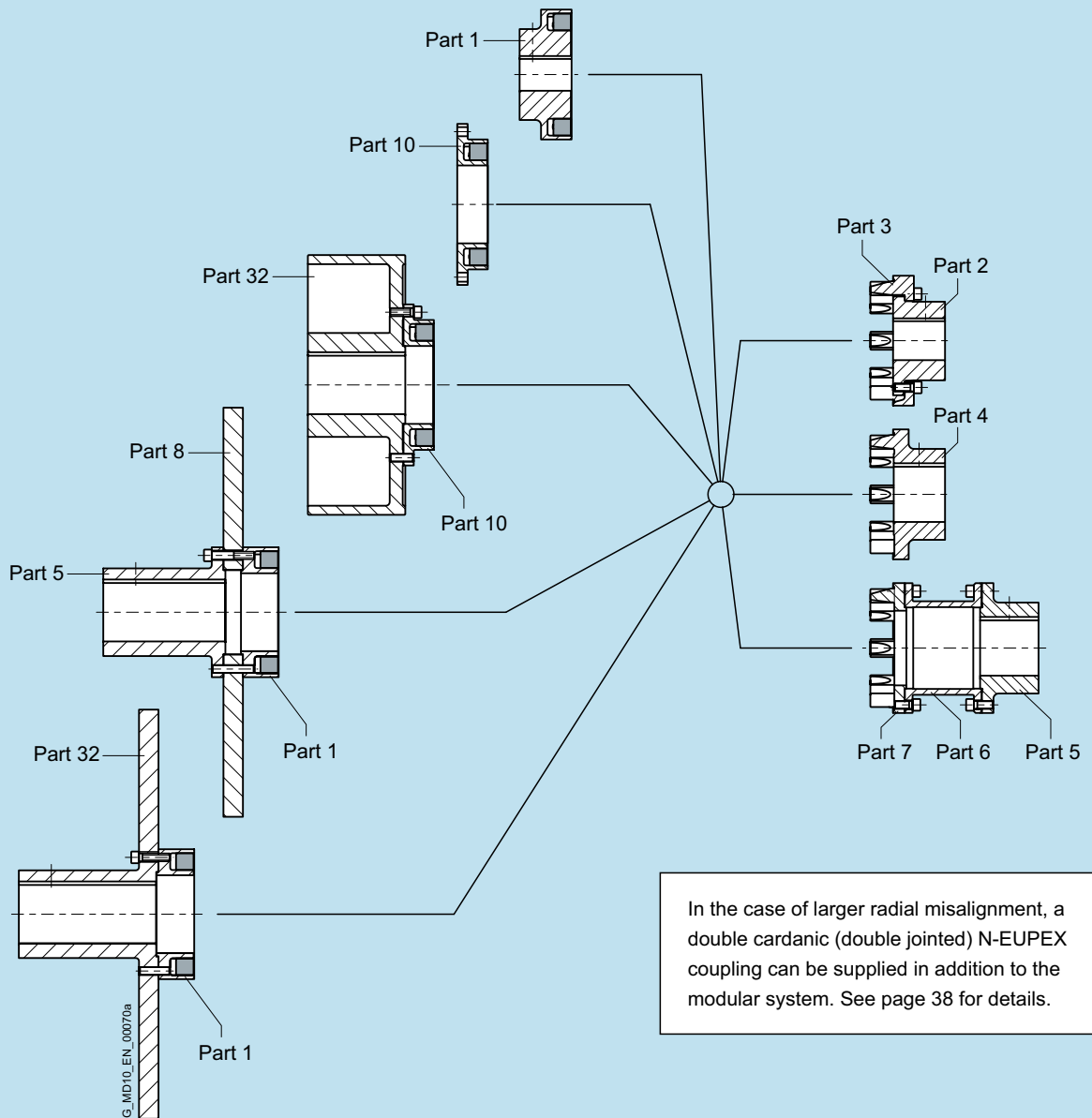
N-EUPEX DS couplings are maintenance-free, even in potentially explosive environments, so long as the possible torque interruption does not lead to an unacceptable disruption of the production process.

## Wear indicator for N-EUPEX couplings (optional)

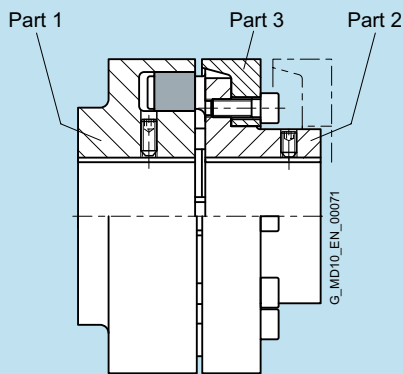
The wear indicator for N-EUPEX couplings enables the condition of the element to be easily assessed. The wear condition can also be ascertained with the aid of a stroboscope while the coupling is rotating. The production process can therefore continue undisturbed.

If the stroboscope is to be used in a potentially explosive environment, please contact jbj Techniques technical office telephone: +44 (0)1737 767493 or email: info@jbj.co.uk for information about the equipment.

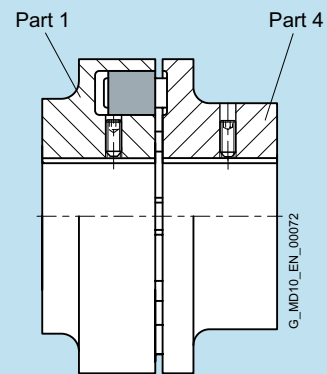




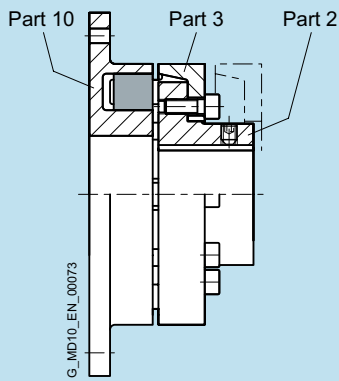
In the case of larger radial misalignment, a double cardanic (double jointed) N-EUPEX coupling can be supplied in addition to the modular system. See page 38 for details.



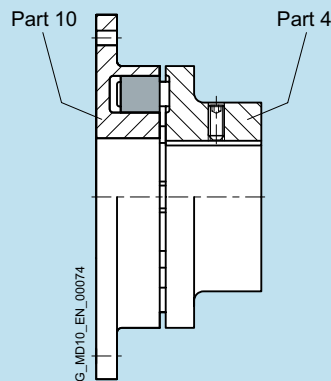
Types A and ADS



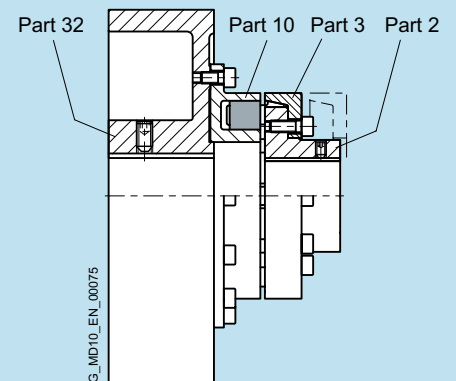
Types B and BDS



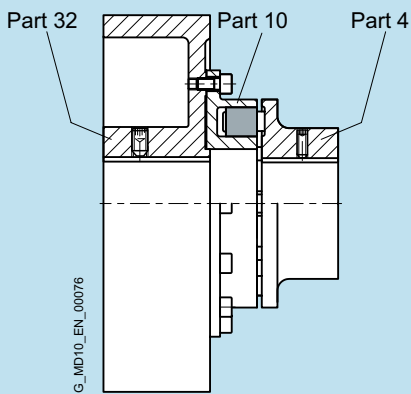
Type D



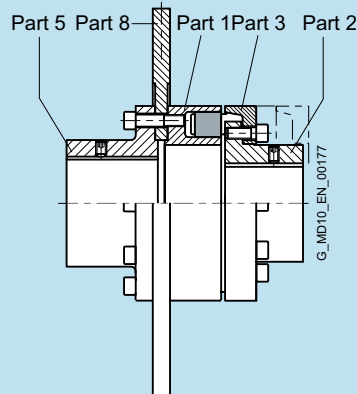
Type E



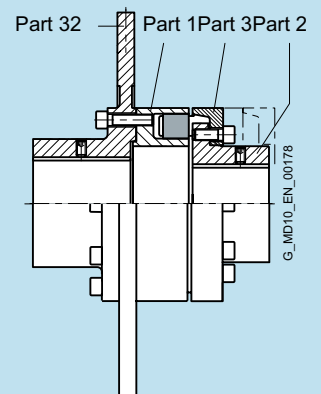
Type P



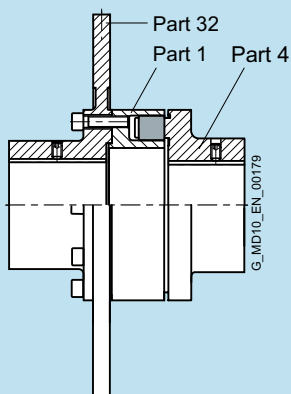
Type O



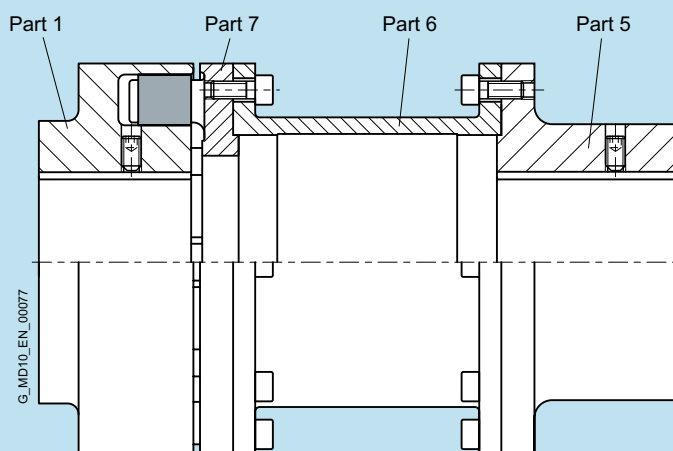
Type DBDR



Type DBD



Type EBD



Types H and HDS

Note: Further application-related coupling types are available. Dimension sheets for and information on these are available on request.

Performance data of the N-Eupex series (single joint coupling)										
Size	Rated torque for flexible type			Maximum torque		Torsional stiffness at 50% capacity utilization for flexible type			Permitted shaft misalignment at speed $n = 1500 \text{ rpm}$ <sup>1)</sup>	
	65 ShoreA $T_{KN}$ (Nm)	80 ShoreA $T_{KN}$ (Nm)	90 ShoreA $T_{KN}$ (Nm)	65 ShoreA $T_{Kmax}$ (Nm)	80/90 ShoreA $T_{Kmax}$ (Nm)	65 ShoreA $C_{Tdyn} 50\%$ (kNm/rad)	80 ShoreA $C_{Tdyn} 50\%$ (kNm/rad)	90 ShoreA $C_{Tdyn} 50\%$ (kNm/rad)	Radial $\Delta K_r$ (mm)	Angle $\Delta K_w$ (°)
58	12	28	34	36	70	0.22	0.75	1.51	0.2	0.15
68	23	48	58	69	120	0.42	1.26	2.79	0.2	0.15
80	40	85	100	120	212	1.13	3.21	6.81	0.2	0.12
95	69	140	160	207	350	1.77	5.32	10.86	0.2	0.12
110	110	225	270	330	562	2.70	8.15	17.47	0.2	0.10
125	165	345	400	495	862	4.0	12.3	25.5	0.25	0.10
140	250	500	600	750	1250	6.0	18	37.6	0.25	0.10
160	385	840	1000	1150	2100	12.2	39.4	82.8	0.3	0.10
180	600	1250	1500	1800	3125	20.6	63.6	135.5	0.3	0.10
200	935	1950	2300	2800	4875	34.2	106.8	216.6	0.3	0.09
225	1380	2300	2700	4150	5750	52	131	267	0.35	0.09
250	1930	3900	4600	5800	9750	73	221	451	0.35	0.08
280	2700	5500	6600	8100	13750	103	313	639	0.4	0.08
315	3850	7100	8500	11550	17750	186	472	1037	0.4	0.08
350	5335	10800	12900	16000	27000	255	708	1444	0.5	0.08
400	7150	14000	16800	21450	35000	343	997	2108	0.5	0.08
440	9350	19000	22800	28050	47500	427	1280	2943	0.6	0.08
480	11550	25100	30000	34650	62750	550	1781	3763	0.6	0.07
520	14630	32400	38800	43890	81000	650	2124	4485	0.65	0.07
560	20130	39000	46000	60390	97500	1095	3119	6899	0.65	0.07
610	26400	49000	58000	79200	122500	1422	3873	8542	0.75	0.07
660	33990	63000	75000	101970	157500	1799	4834	10689	0.8	0.07
710	42900	71000	85000	128700	177500	2339	5608	12225	0.9	0.07

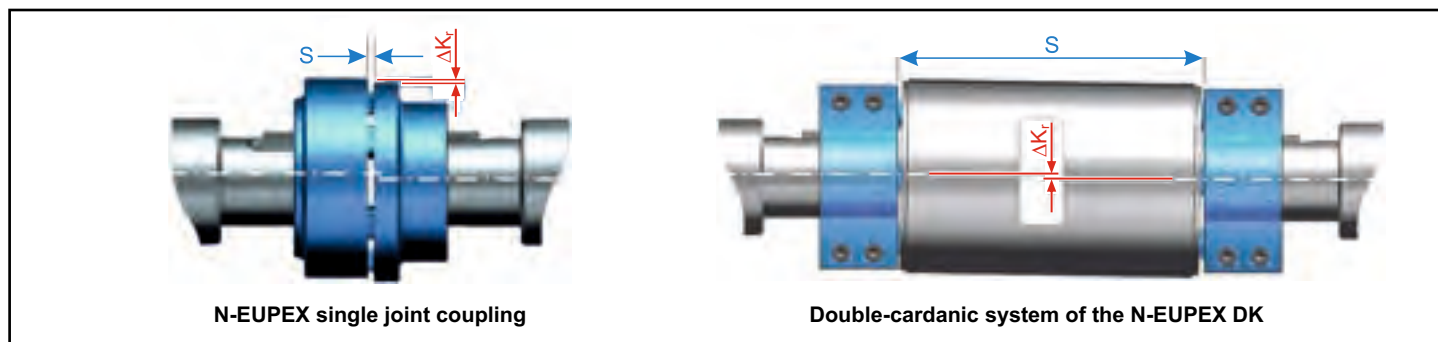
1) Maximum speed for the respective type must be noted. For additional allowable shaft misalignment information, please refer to the operating instructions.

For maximum coupling torque:  $T_{Kmax} = 3,0 \cdot T_{KN}$

For coupling overload torque:  $T_{KOL} = 3,5 \cdot T_{KN}$

For coupling fatigue torque:  $T_{KW} = 0,15 \cdot T_{KN}$ , where  $T_N > T_W$  must be adhered to.

**N-EUPEX shaft distance S and radial misalignment  $\Delta K_r$**



**N-EUPEX (single-joint coupling)** Radial misalignment  $\Delta K_r$  and angular misalignment  $\Delta K_w$ , as well as changes in gap dimension are equalized in a elastomer joint. Values for  $\Delta_s$  can be found in the respective type selection tables.

**N-EUPEX DK (two-joint coupling)** Radial misalignment  $\Delta K_r$  and angular misalignment  $\Delta K_w$ , as well as changes in gap dimension are equalized in two elastomer joints. Values for  $\Delta_s$  can be found in the corresponding type selection tables.





Performance data of the N-Eupex DK series (two joint coupling)									
Size	Rated torque 90 ShoreA $T_{KN}$ (Nm)	Maximum torque 90 ShoreA $T_{KN}$ (Nm)	Torsional stiffness at 50% capacity utilization for flexible type 90 ShoreA $C_{Tdyn} 50\%$ (kNm/rad)	Permitted shaft misalignment at speed $n = 1500 \text{ rpm}^1$					
				S = 100 mm $\Delta K_{r100}$ (mm)	S = 140 mm $\Delta K_{r140}$ (mm)	S = 180 mm $\Delta K_{r180}$ (mm)	S = 200 mm $\Delta K_{r200}$ (mm)	S = 250 mm $\Delta K_{r250}$ (mm)	Angle <sup>2)</sup> $\Delta K_w$ (°)
68	48	120	1.18	1.2	–	–	–	–	0.20
80	85	212	2.95	1.2	1.7	–	–	–	0.20
95	140	350	4.84	1.1	1.6	–	–	–	0.20
110	225	562	7.44	1.0	1.5	2.1	–	–	0.20
125	345	862	11.2	1.0	1.5	2.0	2.3	–	0.10
140	500	1250	16.1	0.9	1.4	1.8	2.1	2.7	0.10
160	840	2100	35.4	–	1.3	1.8	2.1	2.7	0.10
180	1250	3125	57.6	–	1.3	1.8	2.0	2.6	0.10
200	1950	4875	93.5	–	1.2	1.7	2.0	2.6	0.10
225	2300	5750	118	–	–	1.7	1.9	2.6	0.10

- 1) The maximum speed for the respective type must be noted. Refer to the operating instructions for additional information on allowable shaft misalignment.
- 2) The angular misalignment  $\Delta K_w$  refers to the maximum additional tilting of the shaft axes.

For coupling fatigue torque:  $T_{KW} = 0,15 \cdot T_{KN}$ , where  $T_N > T_W$  must be adhered to.

**Torsional stiffness and damping (single-joint or two-joint coupling)**

The values stated in the above table apply to a capacity utilization of 50 %, an excitation amplitude of 10 % TKN with the frequency 10 Hz and an ambient temperature of 20 °C. The dynamic torsional stiffness is load-dependent and increases in proportion to capacity utilization. The following table shows the correction factors for different rated loads.

$C_{Tdyn} = C_{Tdyn 50\%} \cdot FKC$

	Load $T_N / T_{KN}$						
	20%	40%	50%	60%	70%	80%	100%
Correction factor FKC 65/80/90 ShoreA	0.50	0.82	1.00	1.20	1.40	1.63	2.10

**The damping coefficient is  $\Psi = 1.4$**

Torsional stiffness and damping is further dependent on the ambient temperature and the frequency and amplitude of the torsional vibration excitation. More precise torsional stiffness and damping parameters on request. With flexible couplings the manufacturing process of the rubber elements and their aging primarily influence the stiffness value CTdyn. For this reason calculation must be made with a tolerance for the dynamic stiffness of ± 20 %. The specified damping coefficient  $\Psi$  is a minimum value with the result that the damping performance of the coupling corresponds at least to the specified value.

**Permitted shaft misalignment**

The permitted shaft misalignment depends on the operating speed. As the speed increases, lower shaft misalignment values are permitted. The correction factors for different speeds are specified in the following table. The maximum speed for the respective coupling size must be noted!

$\Delta K_{perm} = \Delta K_{1500} \cdot FKV$

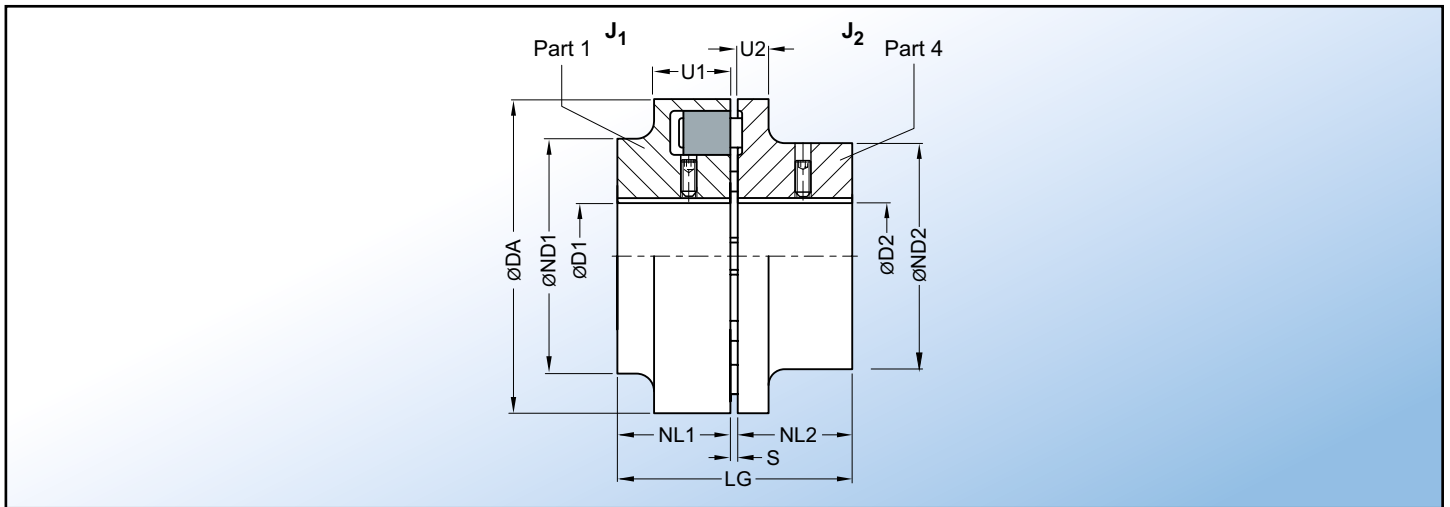
	Speed in rpm			
	500	1000	1500	3000
Correction factor FKV	1.7	1.2	1.0	0.7

For fitting, the maximum gap dimension of  $S_{max.} = S + \Delta S$  and the minimum gap dimension of  $S_{min.} = S - \Delta S$  are permitted. Shaft misalignments  $\Delta K_r$  and  $\Delta K_w$  may occur simultaneously.



Three Phase Motor Size	Motor Output at $\approx 3000$ rpm $P_M$ (kW)	N-EUPEX Coupling Size	Motor Output at $\approx 1500$ rpm $P_M$ (kW)	N-EUPEX Coupling Size	Motor Output at $\approx 1000$ rpm $P_M$ (kW)	N-EUPEX Coupling Size	Motor Output at $\approx 1000$ rpm $P_M$ (kW)	N-EUPEX Coupling Size	DE Shaft End D x E according to IEC	
									D (mm)	E (mm)
56	0.09	58	0.06	58					9	20
56	0.12	58	0.09	58					9	20
63	0.18	58	0.12	58					11	23
63	0.25	58	0.18	58					11	23
71	0.37	58	0.25	58					14	30
71	0.55	58	0.37	58					14	30
80	0.75	58	0.55	58	0.37	58			19	40
80	1.1	58	0.75	58	0.55	58			19	40
90 S	1.5	58	1.1	58	0.75	58			24	50
90 L	2.2	58	1.5	58	1.1	58			24	50
100 L	3	68	2.2	68	1.5	68	0.75	68	28	60
100 L			3	68			1.1	68	28	60
112 M	4	68	4	68	2.2	68	1.5	68	28	60
132 S	5.5	80	5.5	80	3	80	2.2	80	38	80
132 S	7.5	80							38	80
132 M			7.5	80	4	80	3	80	38	80
132 M					5.5	80			38	80
160 M	11	80	11	95	7.5	95	4	80	42	110
160 M	15	80					5.5	95	42	110
160 L	18.5	80	15	95	11	95	7.5	95	42	110
180 M	22	95	18.5	110					48	110
180 L			22	110	15	110	11	110	48	110
200 L	30	110	30	125	18.5	110	15	125	55	110
200 L	37	110			22	125			55	110
225 S									55	110
225 S			37	125			18.5	125	60	140
225 M	45	110							55	110
225 M			45	140	30	140	22	140	60	140
250 M	55	125							60	140
250 M			55	140	37	140	30	140	65	140
280 S	75	140							65	140
280 S			75	180	45	180	37	180	75	140
280 M	90	140							65	140
280 M			90	180	55	180	45	180	75	140
315 S	110	140							65	140
315 S			110	180	75	180	55	180	80	170
315 M	132	160							65	140
315 M			132	180	90	180	75	180	80	170
315 L	160	160							65	140
315 L	200	160							65	140
315 L			160	200	110	200	90	200	80	170
315 L			200	200	132	200	110	200	80	170
315 L					160	200	132	225	85	170
315	250	180							65	140
315	315	200							65	140
315			250	225	200	250			85	170
355	355	200							75	140
355	400	200							75	140
355	500	225							75	140





Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)													Mass Moment of Inertia $J_1/J_2$ kgm <sup>2</sup>	Part Number <sup>1)</sup>	Weight m (kg)	
			Bore, keyway to DIN 6885					DA	ND1	ND2	NL1/ NL2	S	$\Delta S$ +/-	U1	U2				LG
			D1		D2 <sup>2)</sup>		Part 40 <sup>3)</sup>												
min	max	min	max	max															
58	28	9000	-	24	-	25	32	58	58	40	20	3	1.0	20	8	43	0.0001	2LC0170-0AA	0.4
68	48	8400	-	28	-	30	40	68	68	50	20	3	1.0	20	8	43	0.0002	2LC0170-1AA	0.6
80	85	7200	-	38	-	42	48	80	80	68	30	3	1.0	30	10	63	0.0006	2LC0170-2AA	1.3
95	140	6600	-	48	-	48	60	95	76	76	35	3	1.0	30	12	73	0.0012	2LC0170-3AA	1.8
110	225	6300	-	55	-	55	70	110	86	86	40	3	1.0	34	14	83	0.0024	2LC0170-4AA	2.8
125	345	6100	-	60	-	60	82	125	100	100	50	3	1.0	36	18	103	0.005	2LC0170-5AA	4.7
140	500	5800	-	65	-	65	90	140	100	100	55	3	1.0	34	20	113	0.007	2LC0170-6AA	5.7
160	840	5100	-	70	-	70	105	160	108	108	60	4	2.0	39	20	124	0.01	2LC0170-7AA	7.8
180	1250	4500	-	80	-	80	120	180	125	125	70	4	2.0	42	20	144	0.02	2LC0170-8AA	12
200	1950	4000	-	85	-	85	130	200	140	140	80	4	2.0	47	24	164	0.04	2LC0171-0AA	17
225	2300	3600	-	90	-	90	150	225	150	150	90	4	2.0	52	18	184	0.06	2LC0171-1AA	23
250	3900	3300	46	100	46	100	170	250	165	165	100	5.5	2.5	60	18	205.5	0.11	2LC0171-2AA	30
280	5500	3000	49	110	54	110	190	280	180	180	110	5.5	2.5	65	20	225.5	0.18	2LC0171-3AA	41

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- With finished bore.
- With finished bore.

**Notes**

- » Weights and mass moments of inertia apply to maximum bore diameters.
- » The product numbers apply to standard elements of 80 ShoreA; the product number for alternative element types is available on request.

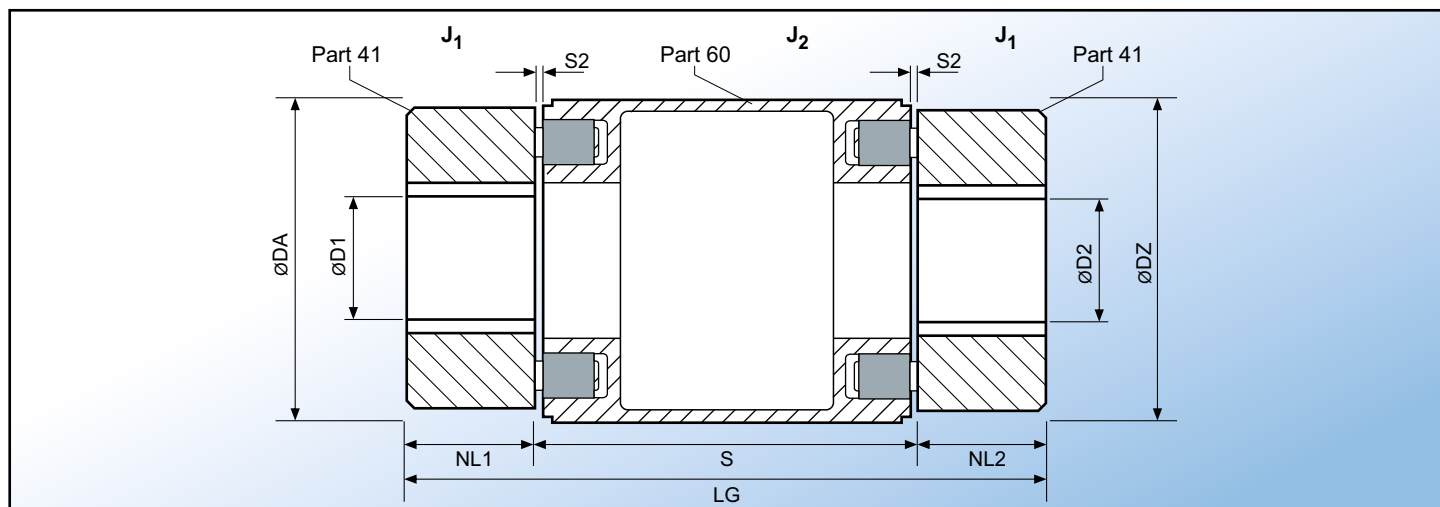
**Ordering example**

- » N-EUPEX B coupling, size 95
- » Part 1: Bore D1 42H7 mm, keyway to DIN 6885-1 and set screw.
- » Part 2: Bore D2 32H7 mm, keyway to DIN 6885-1 and set screw.

**Ordering code: 2LC0100-3AA99-0AA0-Z L0X+M0T**

<sup>1)</sup>To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk  
<sup>2)</sup>The hub diameter HD1 can be smaller for small bores.  
<sup>3)</sup>Version with part 40 (jumbo hub) available on request.





Size	Rated Torque Flexible Type 80 ShoreA T <sub>KN</sub> (Nm)	Speed n <sub>Kmax</sub> (rpm)	Bore, keyway to DIN 6885		Dimensions (mm)										Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)
			D1		DA	DZ	NL1/ NI2	Preferred dimensions	Available standard dimensions	ΔS +/-	S2	P	LG	J <sub>1</sub> /J <sub>2</sub> kgm <sup>2</sup>	J <sub>1</sub> /J <sub>2</sub> kgm <sup>2</sup>			
			min	max														
68	48	5500	20	40	68	70	30	100		1	2	15	160	0.0004	0.0003	2LC0170-1BA	1.66	
80	85	5300	25	48	80	86	34	100	140	1	2	16	168	0.001	0.001	2LC0170-2BA	2.64	
95	140	5100	25	60	95	100	40	100	140	1	2	18	180	0.002	0.002	2LC0170-3BA	4.0	
110	225	4800	30	70	110	120	45	100	140, 180	1	2	21	190	0.004	0.005	2LC0170-4BA	6.0	
125	345	4600	30	82	125	130	50	140	100, 180, 200	1	2.5	24	240	0.008	0.007	2LC0170-5BA	8.2	
140	500	4400	40	90	140	150	54	140	100, 180, 200, 250	1	2.5	26	248	0.013	0.014	2LC0170-6BA	11.8	
160	840	4000	40	105	160	170	70	140	180, 200, 250	1.5	3	30	280	0.030	0.024	2LC0170-7BA	18.3	
180	1250	3700	40	120	180	190	75	180	140, 200, 250	1.5	3	32	330	0.051	0.043	2LC0170-8BA	24.8	
200	1950	3400	45	130	200	210	80	180	140, 200, 250	1.5	3.5	35	340	0.085	0.069	2LC0171-0BA	33.7	
225	2300	3000	45	150	225	240	90	180	200, 250	1.5	3.5	39	360	0.152	0.123	2LC0171-1BA	46.9	

**Configurable variants<sup>1)</sup>**

- » ØD1 With finished bore.
- » ØD2 With finished bore.

**Notes**

- » The total length, weight and mass moments of inertia apply to maximal bores and shaft distances according to the preferred dimension.
- » Recommended shaft tolerances j6 to p6
- » A combination of part 60 with other coupling parts as part 41 is not permitted.

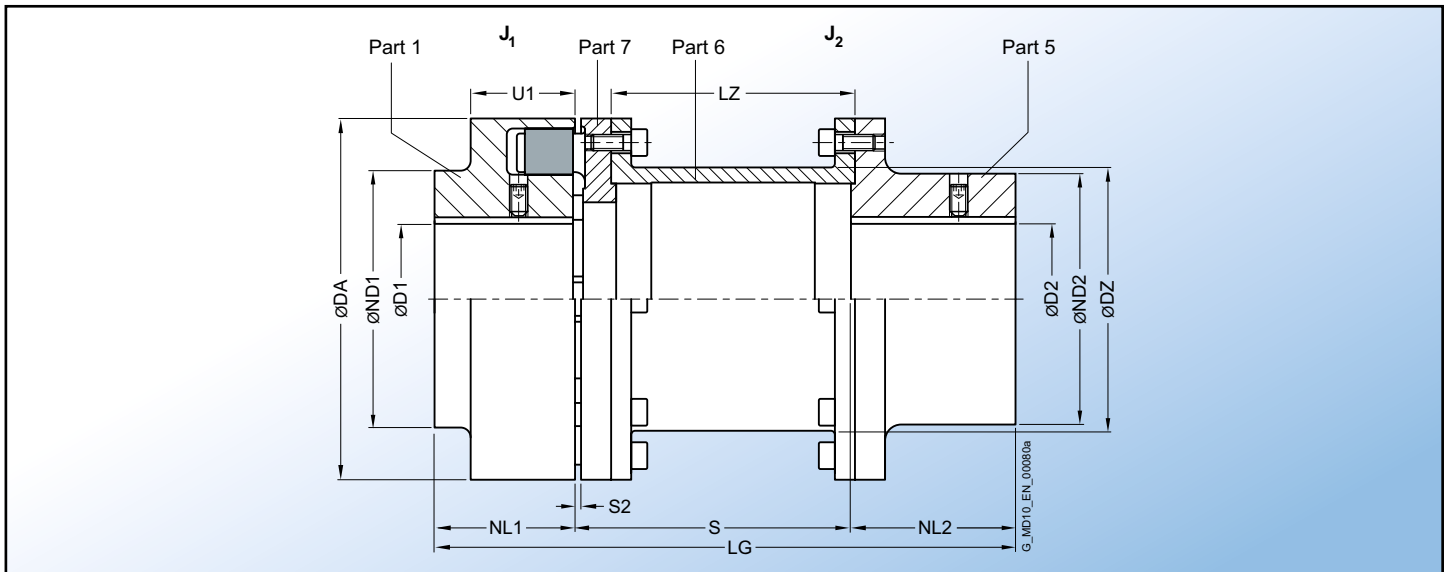
**Ordering example**

- » N-EUPEX DK coupling, size 95, S = 100 mm
- » Part 41-1: Bore D1 42 mm, with keyway as per DIN 6885-1 recommended shaft tolerances j6 to p6
- » Part 41-2: Bore D1 32 mm, with keyway as per DIN 6885-1, recommended shaft tolerances j6 to p6.

**Ordering code: 2LC0170-3BA99-0AA0 L0X+M0T**

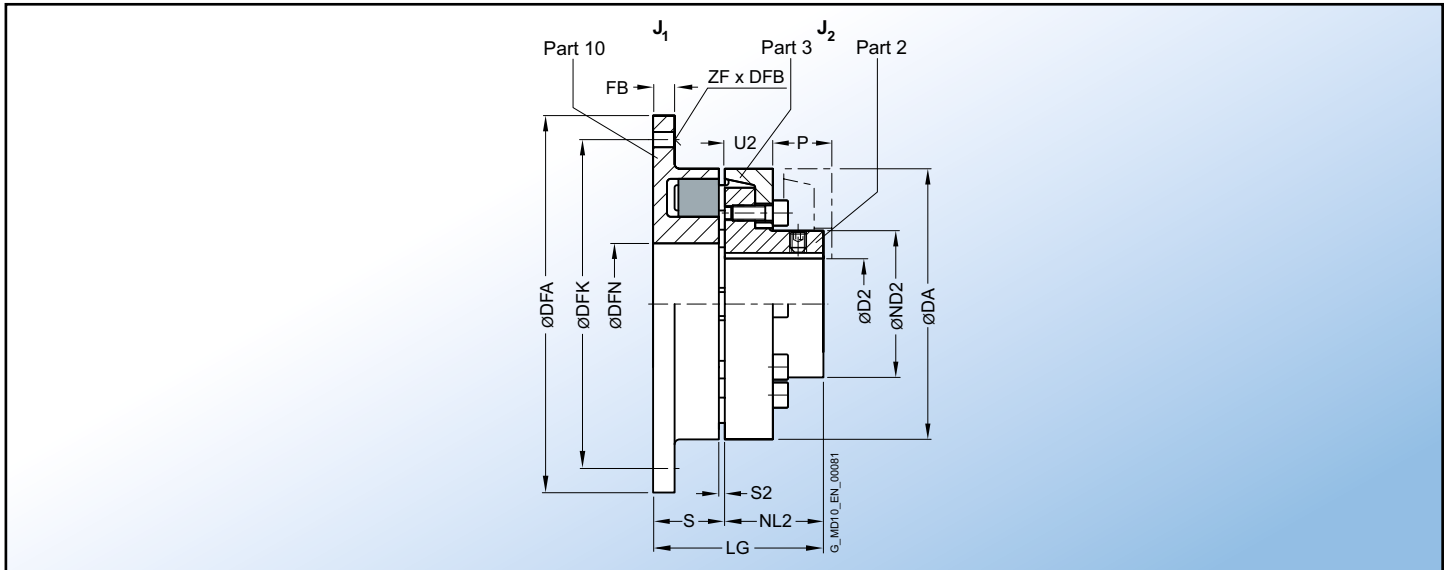
<sup>1)</sup>To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk

<sup>2)</sup>Special lengths on request.



Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)													Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)	
			Bore, keyway to DIN 6885-1				DA	ND1 <sup>(2)</sup>	ND2	NL1	NL2	S	S2	LZ	DZ	LG	$J_1$ (kgm <sup>2</sup> )			$J_2$ (kgm <sup>2</sup> )
			D1		D2															
min	max	min	max																	
80	85	7200	-	38	-	38	80	80	55	30	45	100	5	87	51	175	0.0006	0.001	2LC0170-2AG	2.4
												140		127		215		0.001		2.5
95	140	6600	-	48	-	48	95	76	70	35	45	100	5	87	63	180	0.0009	0.003	2LC0170-3AG	3.3
												140		127		220		0.003		3.6
110	225	6300	-	55	-	55	110	86	80	40	50	100	5	85	73	190	0.003	0.005	2LC0170-4AG	4.8
											50			140		230		0.006		5.0
											60			180		280		0.006		5.6
125	345	6100	-	60	-	60	125	100	90	50	50	100	5	85	85	200	0.005	0.01	2LC0170-5AG	6.9
											50			140		240		0.01		7.4
											60			180		290		0.011		7.8
											70			200		320		0.012		8.1
140	500	5800	-	65	-	65	140	100	100	55	65	100	5	82	91	220	0.007	0.018	2LC0170-6AG	9.6
											65			140		260		0.019		10.1
											65			180		300		0.02		10.6
											65			200		320		0.021		10.9
160	840	5100	-	70	-	70	160	108	108	60	70	100	6	81.5	111	230	0.013	0.03	2LC0170-7AG	12.5
											70			140		270		0.032		13
											70			180		310		0.034		14
											70			200		330		0.035		14
											80	250	231.5		390		0.037	2LC0170-7AG	15	





Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)									Flange Connection Dimensions (mm)						Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)
			Bore, keyway to DIN 6885-1		DA	ND2	NL2	S	$\Delta S$ +/-	S2	LG	DFA h8	DFN H7	DFK	FB	ZF	DFB	$J_1$ (kgm <sup>2</sup> )	$J_2$ (kgm <sup>2</sup> )		
			D2 min	D2 max																	
110	225	6300	-	45	110	62	40	30	1.0	3	70	144	62	128	10	6	9	0.0033	0.002	2LC0170-4AD1	2.6
																	M8			2LC0170-4AD2	
125	345	6000	-	55	125	75	50	34	1.0	3	84	158	75	142	10	6	9	0.005	0.004	2LC0170-5AD1	3.5
																	M8			2LC0170-5AD2	
140	500	5300	-	60	140	82	55	37	1.0	3	92	180	82	160	13	6	11	0.010	0.007	2LC0170-6AD1	5.4
																	M10			2LC0170-6AD2	
160	840	4800	-	70	160	95	60	43	2.0	4	103	200	95	180	13	7	11	0.016	0.013	2LC0170-7AD1	7.1
																	M10			2LC0170-7AD2	
180	1250	4300	-	80	180	108	70	46	2.0	4	116	220	110	200	13	8	11	0.025	0.023	2LC0170-8AD1	9.5
																	M10			2LC0170-8AD2	
200	1950	3900	-	90	200	122	80	51	2.0	4	131	248	120	224	16	8	14	0.049	0.04	2LC0171-0AD1	14
																	M12			2LC0171-0AD2	
225	2300	3600	-	100	225	138	90	56	2.0	4	146	274	135	250	16	8	14	0.076	0.07	2LC0171-1AD1	19
																	M12			2LC0171-1AD2	
250	3900	3000	-	115	250	155	100	65.5	2.5	5.5	165.5	314	150	282	20	8	18	0.15	0.13	2LC0171-2AD1	28
																	M16			2LC0171-2AD2	
280	5500	3000	54	125	280	172	110	70.5	2.5	5.5	180.5	344	170	312	20	8	18	0.23	0.2	2LC0171-3AD1	35
																	M16			2LC0171-3AD2	





Size	Rated Torque Flexible Type 80 ShoreA T <sub>KN</sub> (Nm)	Speed n <sub>Kmax</sub> (rpm)	Dimensions (mm)									Flange Connection Dimensions (mm)						Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)
			Bore, keyway to DIN 6885-1		DA	ND2	NL2	S	ΔS +/-	S2	LG	DFA h8	DFN H7	DFK	FB	ZF	DFB	J <sub>1</sub> (kgm <sup>2</sup> )	J <sub>2</sub> (kgm <sup>2</sup> )		
			D2 min	D2 max																	
315	7100	2500	45	145	315	200	125	75.5	2.5	5.5	200.5	380	200	348	22	9	18 M16	0.4	0.37	2LC0171-4AD1 2LC0171-4AD2	48
350	10800	2200	60	165	350	230	140	79.5	2.5	5.5	219.5	430	225	390	25	9	22 M20	0.7	0.64	2LC0171-5AD1 2LC0171-5AD2	68
400	14000	2000	65	180	400	250	160	83.5	2.5	5.5	243.5	480	265	440	25	10	22 M20	1.1	1.1	2LC0171-6AD1 2LC0171-6AD2	89
440	19000	1800	80	190	440	265	180	93.5	2.5	7.5	273.5	520	295	480	25	10	22 M20	1.6	1.7	2LC0171-7AD1 2LC0171-7AD2	117
480	25100	1800	90	215	480	300	190	97.5	2.5	7.5	287.5	575	325	528	30	10	26 M24	2.6	2.7	2LC0171-8AD1 2LC0171-8AD2	149
520	32400	1500	100	225	520	315	210	109.5	2.5	7.5	319.5	615	355	568	30	10	26 M24	3.6	3.8	2LC0172-0AD1 2LC0172-0AD2	182

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- » With finished bore.
- » With finished bore.

**Ordering example**

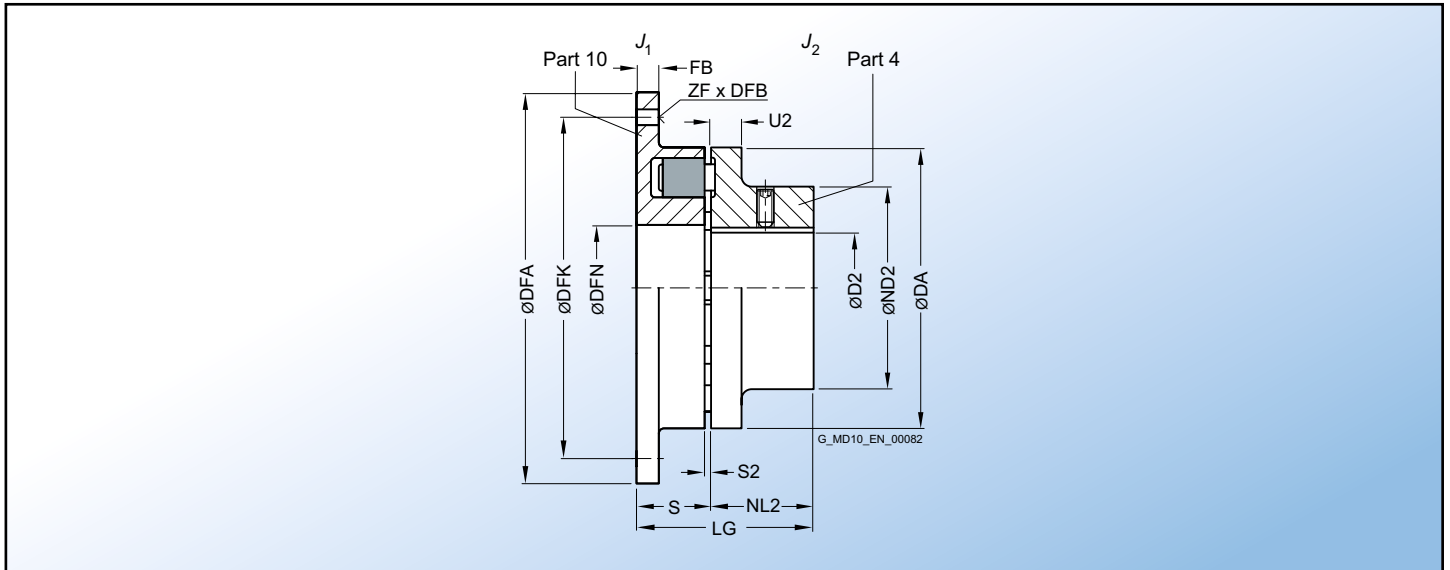
- » N-EUPEX D coupling, size 125.
- » Part 10: with through bores.
- » Part 2: Bore D2 38H7 mm, with keyway to DIN 6885-1 and set screw.

**Notes**

- » For dimension U1, see type A on Page 10.
- » The hub diameter of the component part is assigned according to the diameter of the finished bore. Where bore diameters overlap, the component with the smaller hub diameter is always selected.
- » Weights and mass moments of inertia apply to maximum bore diameters.
- » The product numbers apply to standard elements of 80 ShoreA; the product number for alternative element types is available on request.

**Ordering code: 2LC0100-5AD19-0AA0-Z M0V**

<sup>1)</sup> To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk



Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)									Flange Connection Dimensions (mm)						Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)
			Bore, keyway to DIN 6885		DA	Nd2	NL2	S	$\Delta S$ +/-	S2	LG	DFA h8	DFN H7	DFK	FB	ZF	DFB	$J_1$ (kgm <sup>2</sup> )	$J_2$ (kgm <sup>2</sup> )		
			D2 min	D2 max																	
68	48	8400	-	30	68	50	20	23	1.0	3	43	90	34	80	7	6	5.5	0.0004	0.0002	2LC0170-1AC1	0.7
																	M5			2LC0170-1AC2	
80	85	7200	-	42	80	68	30	24	1.0	3	54	106	42	94	8	6	6.6	0.0008	0.0006	2LC0170-2AC1	1.2
																	M6			2LC0170-2AC2	
95	140	6600	-	48	95	76	35	27	1.0	3	62	120	52	108	8	6	6.6	0.0013	0.0012	2LC0170-3AC1	1.7
																	M6			2LC0170-3AC2	
110	225	6300	-	55	110	86	40	30	1.0	3	70	144	62	128	10	6	9	0.0033	0.0024	2LC0170-4AC1	2.6
																	M8			2LC0170-4AC2	
125	345	6000	-	60	125	100	50	34	1.0	3	84	158	75	142	10	6	9	0.005	0.005	2LC0170-5AC1	4.0
																	M8			2LC0170-5AC2	
140	500	5300	-	65	140	100	55	37	1.0	3	92	180	82	160	13	6	11	0.010	0.007	2LC0170-6AC1	5.5
																	M10			2LC0170-6AC2	
160	840	4800	-	70	160	108	60	43	2.0	4	103	200	95	180	13	7	11	0.016	0.01	2LC0170-7AC1	7.1
																	M10			2LC0170-7AC2	



Size	Rated Torque Flexible Type 80 ShoreA T <sub>KN</sub> (Nm)	Speed n <sub>Kmax</sub> (rpm)	Dimensions (mm)									Flange Connection Dimensions (mm)						Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)
			Bore, keyway to DIN 6885		DA	Nd2	NL2	S	ΔS +/-	S2	LG	DFA h8	DFN H7	DFK	FB	ZF	DFB	J <sub>1</sub> (kgm <sup>2</sup> )	J <sub>2</sub> (kgm <sup>2</sup> )		
			min	max																	
180	1250	4300	-	80	180	125	70	46	2.0	4	116	220	110	200	13	8	11 M10	0.025	0.02	2LC0170-8AC1 2LC0170-8AC2	10
200	1950	3900	-	85	200	140	80	51	2.0	4	131	248	120	224	16	8	14 M12	0.049	0.04	2LC0171-0AC1 2LC0171-0AC2	15
225	2300	3600	-	90	225	150	90	56	2.0	4	146	274	135	250	16	8	14 M12	0.076	0.06	2LC0171-1AC1 2LC0171-1AC2	19
250	3900	3000	46	100	250	165	100	65.5	2.5	5.5	165.5	314	150	282	20	8	18 M16	0.15	0.11	2LC0171-2AC1 2LC0171-2AC2	26
280	5500	3000	54	110	280	180	110	70.5	2.5	5.5	180.5	344	170	312	20	8	18 M16	0.23	0.18	2LC0171-3AC1 2LC0171-3AC2	34

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- With finished bore.
- With finished bore.

**Notes**

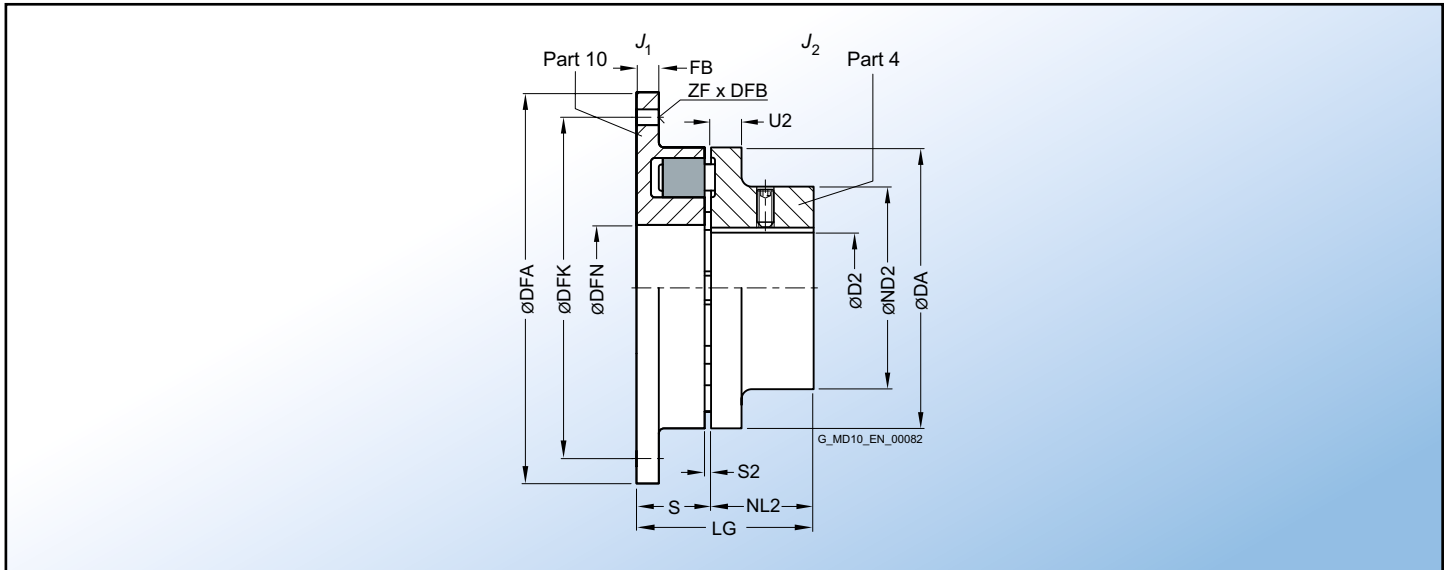
- » For dimension U1, see type A on Page 10.
- » Weights and mass moments of inertia apply to maximum bore diameters.
- » The product numbers apply to standard elements of 80 ShoreA; the product code for alternative element types is available on request.

**Ordering example**

- » N-EUPEX E coupling, size 125.
- » Part 10: with through bores.
- » Part 4: Bore D2 38H7 mm, with keyway to DIN 6885-1 and set screw.

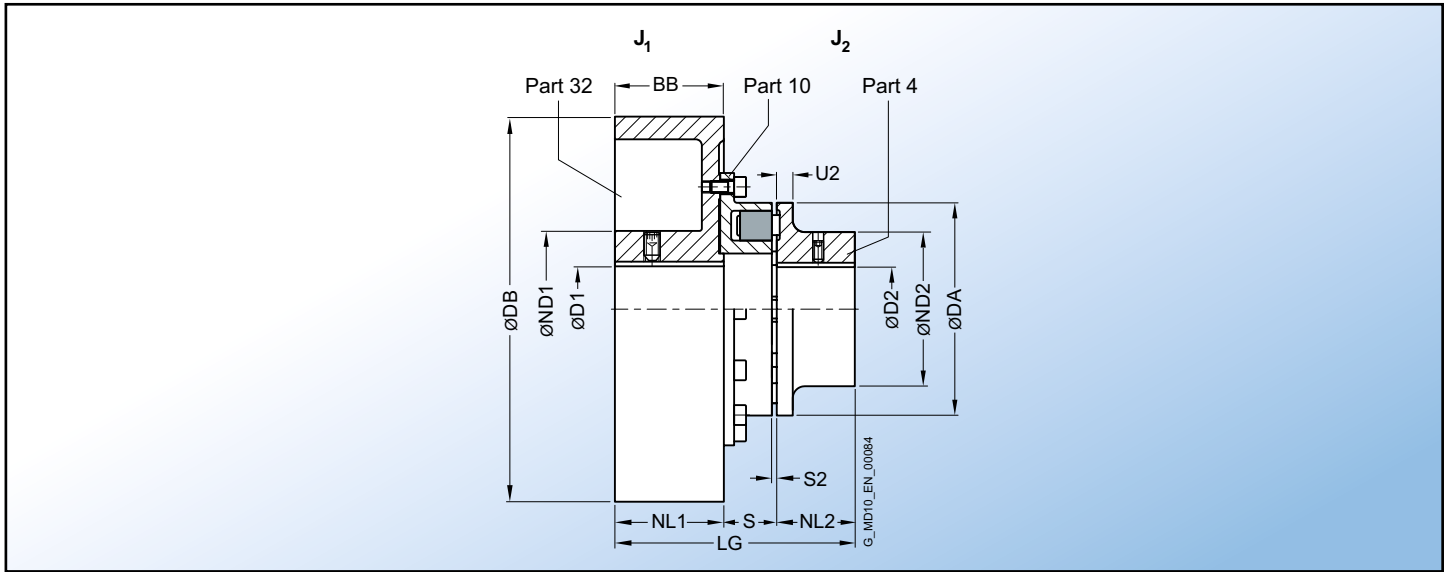
**Ordering code: 2LC0100-5AC19-0AA0-Z M0V**

<sup>1)</sup> To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk



Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)														Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)	
			Bore, keyway to DIN 6885-1				DA	ND1	ND2	NL1/BB	NL2	S	$\Delta S$ +/-	S2	DB	U2	LG	$J_1$ (kgm <sup>2</sup> )			$J_2$ (kgm <sup>2</sup> )
			D1		D2																
min	max	min	max																		
125	345	4800	-	55	-	55	125	84	75	75	50	31	1.0	3	200	23	156	0.043	0.004	2LC0170-5AF	11
140	500	3800	-	60	-	60	140	128	82	95	55	34	1.0	3	250	28	184	0.13	0.007	2LC0170-6AF	21
160	840	3800	-	70	-	70	160	128	95	95	60	40	2.0	4	250	28	195	0.14	0.013	2LC0170-7AF	21
180	1250	3800	-	80	-	80	180	128	108	95	70	41	2.0	4	250	30	206	0.16	0.023	2LC0170-8AF	27
		3000	-	80	128	118		43		315		231			0.35		2LC0170-8AF			34	
200	1950	3000	-	80	-	90	200	128	122	118	80	48	2.0	4	315	32	246	0.37	0.04	2LC0171-0AF	39
		2400	-	90	160	150		48		400		278			1.1		2LC0171-0AF			59	
		1900	-	110	175	190		48		500		318			2.8		2LC0171-0AF			97	
225	2300	3000	-	80	-	100	225	128	138	118	90	51	2.0	4	315	38	259	0.39	0.07	2LC0171-1AF	46
		2400	-	90	160	150		53		400		293			1.1		2LC0171-1AF			64	
		1900	38	110	175	190		53		500		333			3.1		2LC0171-1AF			103	

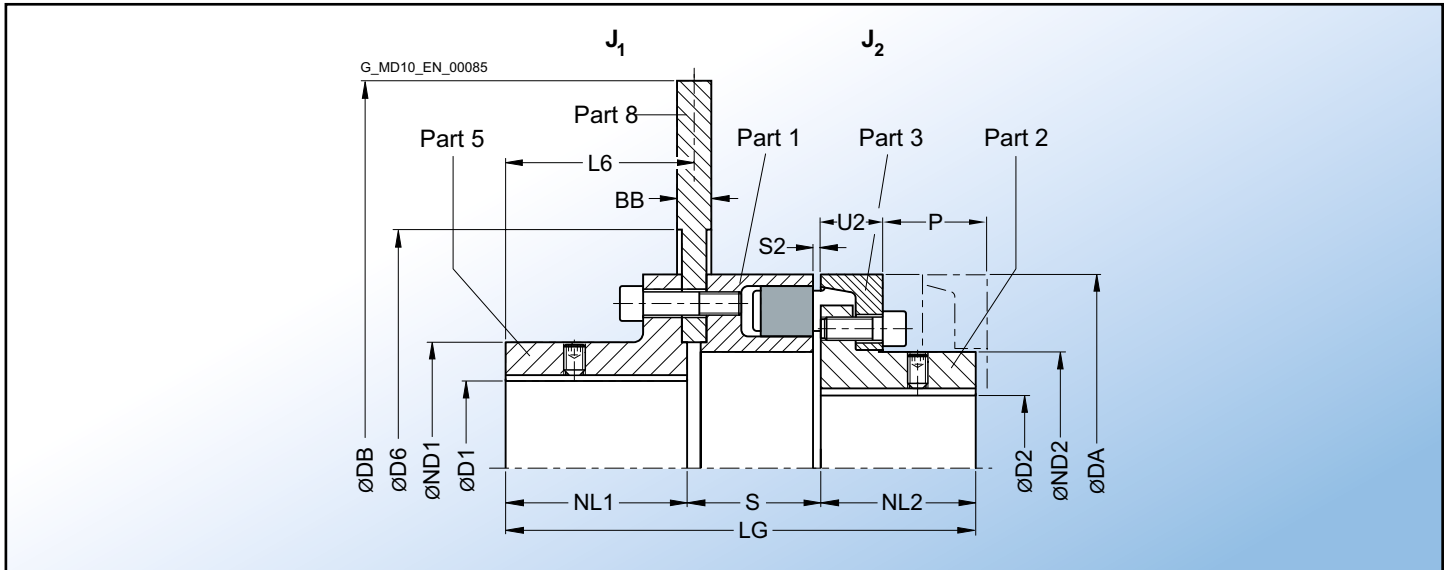




Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)														Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)	
			Bore, keyway to DIN 6885				DA	ND1	ND2	NL1/BB	NL2	S	$\Delta S$ +/-	S2	DB	U2	LG	$J_1$ (kgm <sup>2</sup> )			$J_2$ (kgm <sup>2</sup> )
			D1		D2																
min	max	min	max																		
125	345	4800	-	55	-	60	125	84	100	75	50	31	1.0	3	200	18	156	0.043	0.005	2LC0170-5AE	11
140	500	3800	-	60	-	65	140	128	100	95	55	34	1.0	3	250	20	184	0.13	0.007	2LC0170-6AE	22
160	840	3800	-	70	-	70	160	128	108	95	60	40	2.0	4	250	20	195	0.14	0.01	2LC0170-7AE	24
180	1250	3800	-	80	-	80	180	128	125	95	70	41	2.0	4	250	20	206	0.16	0.02	2LC0170-8AE	28
		3000	-	80	118	43				315		231			0.35		2LC0170-8AE			35	
200	1950	3000	-	80	-	85	200	128	140	118	80	48	2.0	4	315	24	246	0.37	0.04	2LC0171-0AE	40
		2400	-	90	150	48		400		278		1.10			2LC0171-0AE		60				
		1900	-	110	175	190		48		500		318			2.80		2LC0171-0AE			98	

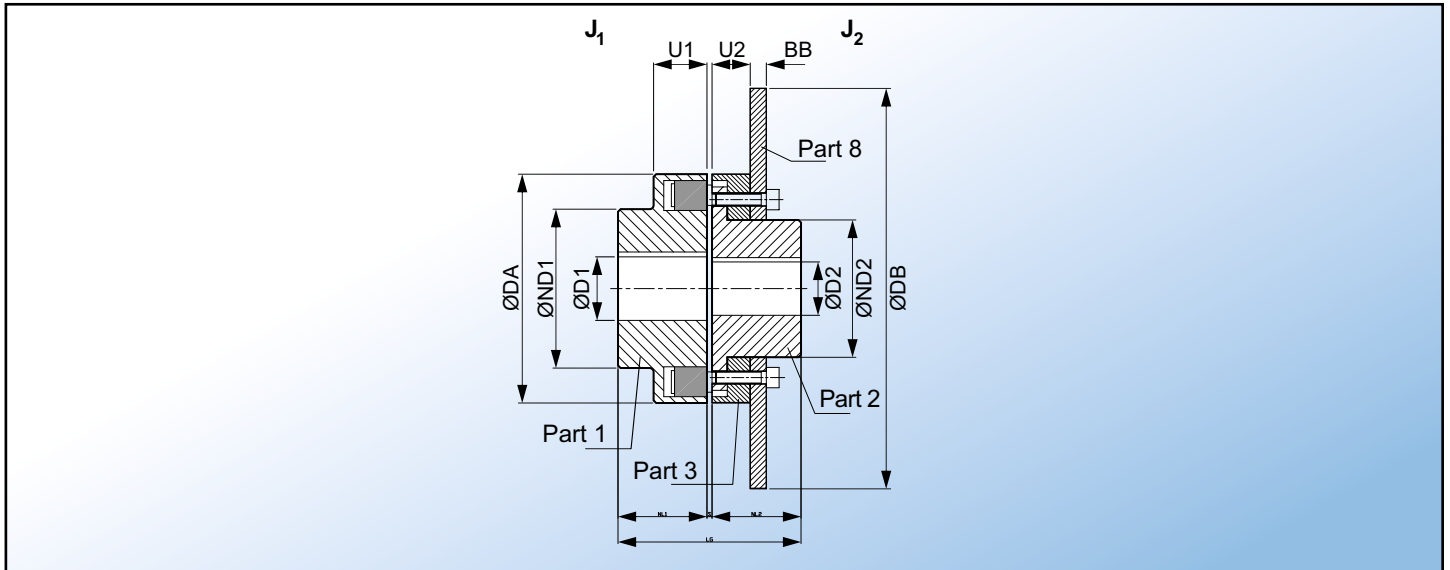






Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Dimensions (mm)														Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)		
		Bore, keyway to DIN 6885			DA	ND1	ND2	NL1	NL2	S <sup>2)</sup>	$\Delta S$ +/-	S2	DB <sup>2)</sup>	D6	BB <sup>2)</sup>	L6	LG			J <sub>1</sub> (kgm <sup>2</sup> )	J <sub>2</sub> (kgm <sup>2</sup> )
		D1 max	D2 min	D2 max																	
140	500	60	-	60	140	85	82	72	55	54.35	1.0	3	315	150	12.7	74	181.35	0.11	0.008	2LC0170-6AV	14.7
								72		57.5					15	76	184.5	0.13			16.2
								188		73					30	200	316	0.24			26.9
160	840	75	-	70	160	105	95	90	60	58.35	2.0	4	315	170	12.7	91	208.35	0.12	0.013	2LC0170-7AV	18.5
								90		62.5					15	94	212.5	0.14			20
								188		78					30	200	326	0.26			31
180	1250	90	-	80	180	125	108	90	70	60.35	2.0	4	315	190	12.7	91	220.35	0.35	0.024	2LC0170-8AV	25
								90		64.5					15	94	224.5	0.37			26
								188		80					30	200	338	0.57			42
200	1950	95	-	90	200	135	122	95	80	67.35	2.0	4	355	210	12.7	97	242.35	0.32	0.04	2LC0171-0AV	32
								95		70.5					15	99	245.5	0.36			35
								188		86					30	200	354	0.67			54





Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)															Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)	
			Bore, keyway to DIN 6885				DA	ND1 <sup>2)</sup>	ND2	NI1/NI2	S	$\Delta S$ +/-	U1	U2	P	DB <sup>3)</sup>	BB <sup>3)</sup>	LG	$J_1$ (kgm <sup>2</sup> )			$J_2$ (kgm <sup>2</sup> )
			D1		D2																	
			min	max	min	max																
140	500	5500	-	65	-	60	140	100	82	55	3	1.0	34	28	43	315	12.7	113	0.007	0.10	2LC0170-6BB	12.8
160	840	5100	-	70	-	70	160	108	95	60	4	2.0	39	28	47	315	12.7	124	0.013	0.11	2LC0170-7BB	14.8
180	1250	4500	-	80	-	80	180	125	108	70	4	2.0	42	30	50	355	12.7	144	0.023	0.18	2LC0170-8BB	20
200	1950	4000	-	85	-	90	200	140	122	80	4	2.0	47	32	53	400	12.7	164	0.04	0.29	2LC0171-0BB	27
225	2300	3600	-	90	-	100	225	150	138	90	4	2.0	52	38	61	450	30	184	0.07	1.0	2LC0171-1BB	57
250	3900	3300	46	100	-	115	250	165	155	100	5.5	2.5	60	42	69	500	30	205.5	0.13	1.6	2LC0171-2BB	73
280	5500	3000	49	110	54	125	280	180	172	110	5.5	2.5	65	42	73	560	30	225.5	0.20	2.5	2LC0171-3BB	94
315	7100	2600	49	120	45	145	315	200	200	125	5.5	2.5	70	47	78	630	30	255.5	0.37	4.0	2LC0171-4BB	126
350	10800	2400	61	140	60	165	350	230	230	140	5.5	2.5	74	51	83	710	30	285.5	0.64	6.5	2LC0171-5BB	167

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- » With finished bore.
- » With finished bore.

**Notes**

- » Weights and mass moments of inertia apply to maximum bore diameters.

**Ordering example**

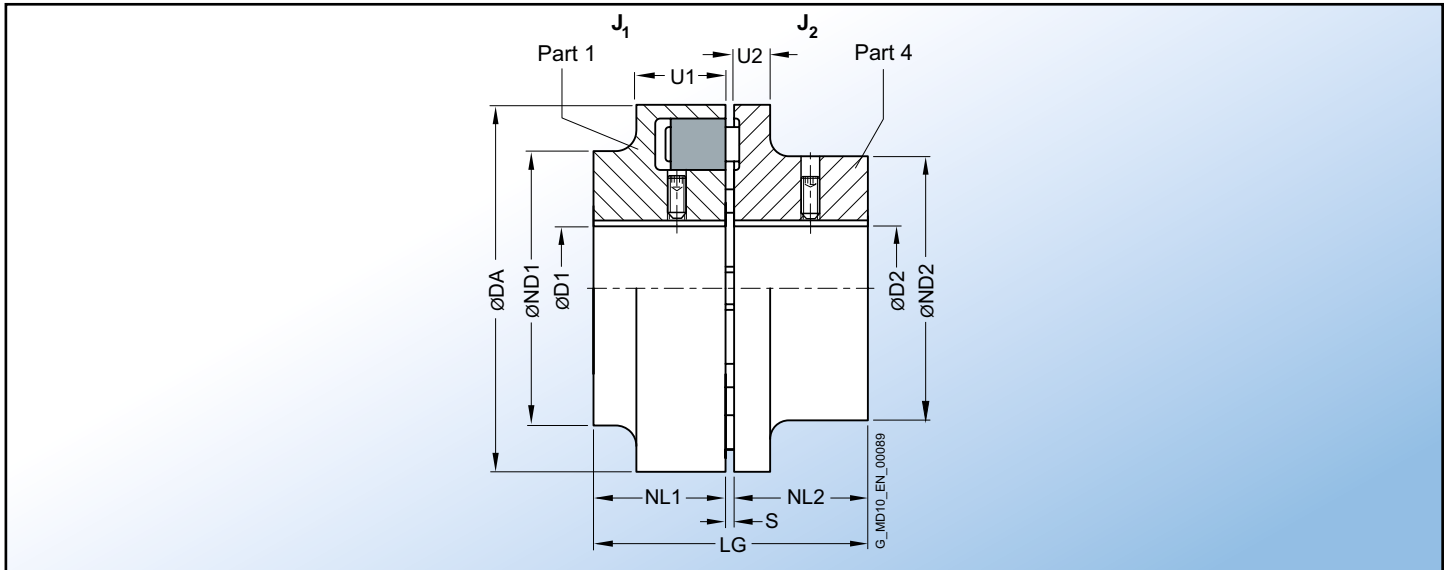
- » N-EUPEXADS coupling, size 200, brake disc 400 x 12.7 mm
- » Part 1: Bore D1 65H7 mm, keyway to DIN 6885-1 and set screw.
- » Part 2: Bore D2 50H7 mm, keyway to DIN 6885-1 P9 and set screw.

**Ordering code: 2LC0171-0BB99-2FA0-ZL1F+M1C+W02+Y95**

Plain text to Y95: G 6.3, n = 1500 rpm

<sup>1)</sup> To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk  
<sup>2)</sup> The hub diameter HD1 can be smaller for small bores.  
<sup>3)</sup> For the available DB-BB brake disk dimensions, please contact jbj Techniques Ltd. technical office, as above.





Size	Rated Torque Flexible Type 80 ShoreA T <sub>KN</sub> (Nm)	Speed n <sub>Kmax</sub> (rpm)	Dimensions (mm)											Mass Moment of Inertia J <sub>1</sub> /J <sub>2</sub> (kgm <sup>2</sup> )	Part Number <sup>1)</sup>	Weight m (kg)	
			Bore, keyway to DIN 6885				DA	ND1	ND2	NL1/ NL2	S	U1	U2				LG
			D1		D2												
min	max	min	max														
66	19	7500	-	19	-	24	66	66	40	20	3	20	8	43	0.0001	2LC0110-0AA	0.50
76	34	7000	-	24	-	28	76	76	50	20	3	20	8	43	0.0002	2LC0110-1AA	0.65
88	60	6000	-	30	-	38	88	88	68	30	3	30	10	63	0.0006	2LC0110-2AA	1.8
103	100	5500	-	42	-	42	103	76	76	35	3	30	12	73	0.0015	2LC0110-3AA	3
118	160	5300	-	48	-	48	118	86	86	40	3	34	14	83	0.003	2LC0110-4AA	3.7
135	240	5100	-	55	-	55	135	100	100	50	3	36	18	103	0.007	2LC0110-5AA	6.1
152	360	4900	-	60	-	60	152	108	100	55	3	36	20	113	0.011	2LC0110-6AA	7.0
172	560	4250	-	65	-	65	172	118	108	60	4	41	20	124	0.019	2LC0110-7AA	11
194	880	3800	-	75	-	75	194	135	125	70	4	44	20	144	0.035	2LC0110-8AA	17
218	1340	3400	-	85	-	85	218	150	140	80	4	47	24	164	0.06	2LC0111-0AA	23
245	2000	3000	-	90	-	90	245	150	150	90	4	52	18	184	0.085	2LC0111-1AA	27
272	2800	2750	46	100	46	100	272	165	165	100	5.5	60	18	205.5	0.15	2LC0111-2AA	36
305	3900	2450	49	110	54	110	305	180	180	110	5.5	65	20	225.5	0.25	2LC0111-3AA	47

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- » With finished bore.
- » With finished bore.

**Notes**

- » Weights and mass moments of inertia apply to maximum bore diameters.

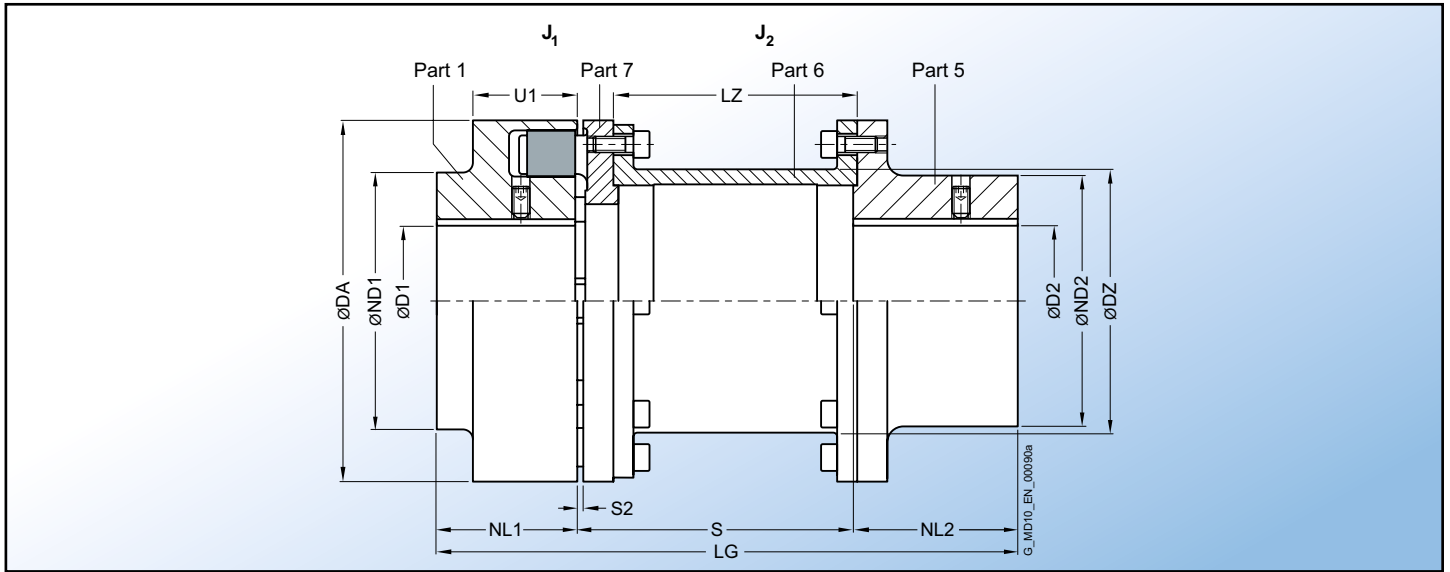
**Ordering example**

- » N-EUPEX BDS coupling, size 103
- » Part 1: Bore D1 42H7 mm, keyway to DIN 6885 and set screw.
- » Part 4: Bore D2 32H7 mm, keyway to DIN 6885 and set screw.

**Ordering code:** 2LC0110-3AA99-0AA0-Z L0X+M0T

<sup>1)</sup> To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk





Size	Rated Torque Flexible Type 80 ShoreA $T_{KN}$ (Nm)	Speed $n_{Kmax}$ (rpm)	Dimensions (mm)													Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight $m$ (kg)			
			Bore, keyway to DIN 6885						DA	ND1	ND2	NL1	NL2	S2	S	LZ	DZ			LG	$J_1$ (kgm <sup>2</sup> )	$J_2$ (kgm <sup>2</sup> )
			D1		D2																	
			min	max	min	max																
88	60	6000	-	30	-	32	88	88	55	30	45	5	100	87	51	175	0.0007	0.0014	2LC0110-2AC	2.8		
													140	127		215		0.0015		2.9		
103	100	5500	-	42	-	42	103	76	70	35	45	5	100	87	63	180	0.001	0.003	2LC0110-3AC	4.0		
													140	127		220		0.0033		4.3		
118	160	5300	-	48	-	48	118	86	80	40	50	5	100	85	73	190	0.003	0.006	2LC0110-4AC	5.3		
													140	125		230		0.0064		5.7		
													180	165		280		0.0068		6.1		
135	240	5100	-	55	-	55	135	100	90	50	50	5	100	85	85	200	0.006	0.01	2LC0110-5AC	7.6		
													140	125		240		0.01		8.1		
													180	165		290		0.012		8.6		
													200	185		320		0.012		8.9		
													250	235		380		0.013		9.4		
152	360	4900	-	60	-	60	152	108	100	55	65	5	100	82	91	220	0.011	0.02	2LC0110-6AC	11.2		
													140	122		260		0.02		11.7		
													180	162		300		0.022		12.2		
													200	182		320		0.023		12.5		
													250	232		385		0.024		13.1		
172	560	4250	-	65	-	65	172	118	108	60	70	6	100	81.5	111	230	0.019	0.03	2LC0110-7AC	14.3		
													140	121.5		270		0.034		15.0		
													180	161.5		310		0.036		15.9		
													200	181.5		330		0.037		16.2		
													250	231.5		390		0.039		17.2		

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Size	Rated Torque Flexible Type 80 ShoreA T <sub>KN</sub> (Nm)	Speed n <sub>Kmax</sub> (rpm)	Dimensions (mm)											Mass Moment of Inertia		Part Number <sup>1)</sup>	Weight m (kg)			
			Bore, keyway to DIN 6885				DA	ND1	ND2	NL1	NL2	S2	S	LZ	DZ			LG	J <sub>1</sub> (kgm <sup>2</sup> )	J <sub>2</sub> (kgm <sup>2</sup> )
			D1		D2															
			min	max	min	max														
194	880	3800	-	75	-	75	194	135	125	70	80	6	140	121.5	131	290	0.037	0.058	2LC0110-8AC	21
													180	161.5		330		0.062	2LC0110-8AC	22
													200	181.5		350		0.064	2LC0110-8AC	23
													250	231.5		400		0.069	2LC0110-8AC	24
218	1340	3400	-	85	-	85	218	150	140	80	90	6	140	118.5	144	310	0.062	0.10	2LC0111-0AC	30
													180	158.5		350		0.11	2LC0111-0AC	31
													200	178.5		370		0.11	2LC0111-0AC	32
													250	228.5		420		0.12	2LC0111-0AC	33
245	2000	3000	-	90	-	90	245	150	150	90	100	6	140	118.5	169	330	0.09	0.16	2LC0111-1AC	35
													180	158.5		370		0.17	2LC0111-1AC	36
													200	178.5		390		0.18	2LC0111-1AC	37
													250	228.5		430		0.19	2LC0111-1AC	39
272	2800	2750	46	100	46	100	272	165	165	100	110	8	180	152.5	185	390	0.16	0.3	2LC0111-2AC	51
													200	172.5		410		0.31	2LC0111-2AC	52
													250	222.5		460		0.33	2LC0111-2AC	55
305	3900	2450	49	110	51	110	305	180	180	110	120	8	250	222.5	215	480	0.28	0.52	2LC0111-3AC	74
340	5500	2150	49	120	51	120	340	200	200	125	140	8	250	222.5	250	515	0.50	0.87	2LC0111-4AC	105
380	7700	2000	61	140	51	140	380	230	230	140	150	8	250	220.5	272	540	0.80	1.4	2LC0111-5AC	130
430	10300	1700	66	150	51	150	430	250	250	160	180	8	250	185.5	310	590	1.4	2.5	2LC0111-6AC	205
472	13500	1550	80	160	51	160	472	265	265	180	180	10	250	182	354	610	2.1	4.1	2LC0111-7AC	235

**Configurable variants<sup>1)</sup>**

- » ØD1 Without finished bore.
- » ØD2 Without finished bore.
- » With finished bore.
- » With finished bore.

**Notes**

- » For dimension U1, see type A on page 10.
- » During assembly, the gap dimension S2 must not exceed the permissible tolerance of +1 mm.
- » For sizes 305 to 472 the outer diameter of part 5 and part 7 is smaller than ØDA.
- » Weights and mass moments of inertia apply to maximum bore diameters.

**Ordering example**

- » N-EUPEX HDS coupling, size 103, S3 = 100 mm
- » Part 1: Bore D1 42H7 mm, keyway to DIN 6885-1 and set screw.
- » Part 5: Bore D2 32H7 mm, keyway to DIN 6885-1 and set screw.
- » Coupling micro-balanced G6.3 at 1500 rpm in accordance with half parallel key standard.

**Ordering code: 2LC0110-3AC99-0AA0-ZL0X+M0T+W02**

<sup>1)</sup> To identify complete item numbers specifying the available finish boring options and further order options, please contact jbj Techniques Ltd. technical office, telephone: +44 (0)1737 767493 or email: info@jbj.co.uk



## Elastomer flexibles of the N-EUPEX series

NBR elastomer flexibles 80 ShoreA standard type			
Size	Product No. (flexible set for one coupling)	Number of flexibles per set	Weight per set (kg)
58	2LC0100-0WA00-0AA0	4	0.012
68	2LC0100-1WA00-0AA0	5	0.015
80	2LC0100-2WA00-0AA0	6	0.02
95	2LC0100-3WA00-0AA0	6	0.03
110	2LC0100-4WA00-0AA0	6	0.045
125	2LC0100-5WA00-0AA0	6	0.06
140	2LC0100-6WA00-0AA0	6	0.09
160	2LC0100-7WA00-0AA0	7	0.12
180	2LC0100-8WA00-0AA0	8	0.17
200	2LC0101-0WA00-0AA0	8	0.23
225	2LC0101-1WA00-0AA0	8	0.3
250	2LC0101-2WA00-0AA0	8	0.38
280	2LC0101-3WA00-0AA0	8	0.55
315	2LC0101-4WA00-0AA0	9	0.7
350	2LC0101-5WA00-0AA0	9	0.85
400	2LC0101-6WA00-0AA0	10	1.2
440	2LC0101-7WA00-0AA0	10	1.5
480	2LC0101-8WA00-0AA0	10	2.1
520	2LC0102-0WA00-0AA0	10	2.6
560	2LC0102-1WA00-0AA0	10	3.6
610	2LC0102-2WA00-0AA0	10	4.9
660	2LC0102-3WA00-0AA0	10	6.3
710	2LC0102-4WA00-0AA0	10	7.6

## Notes

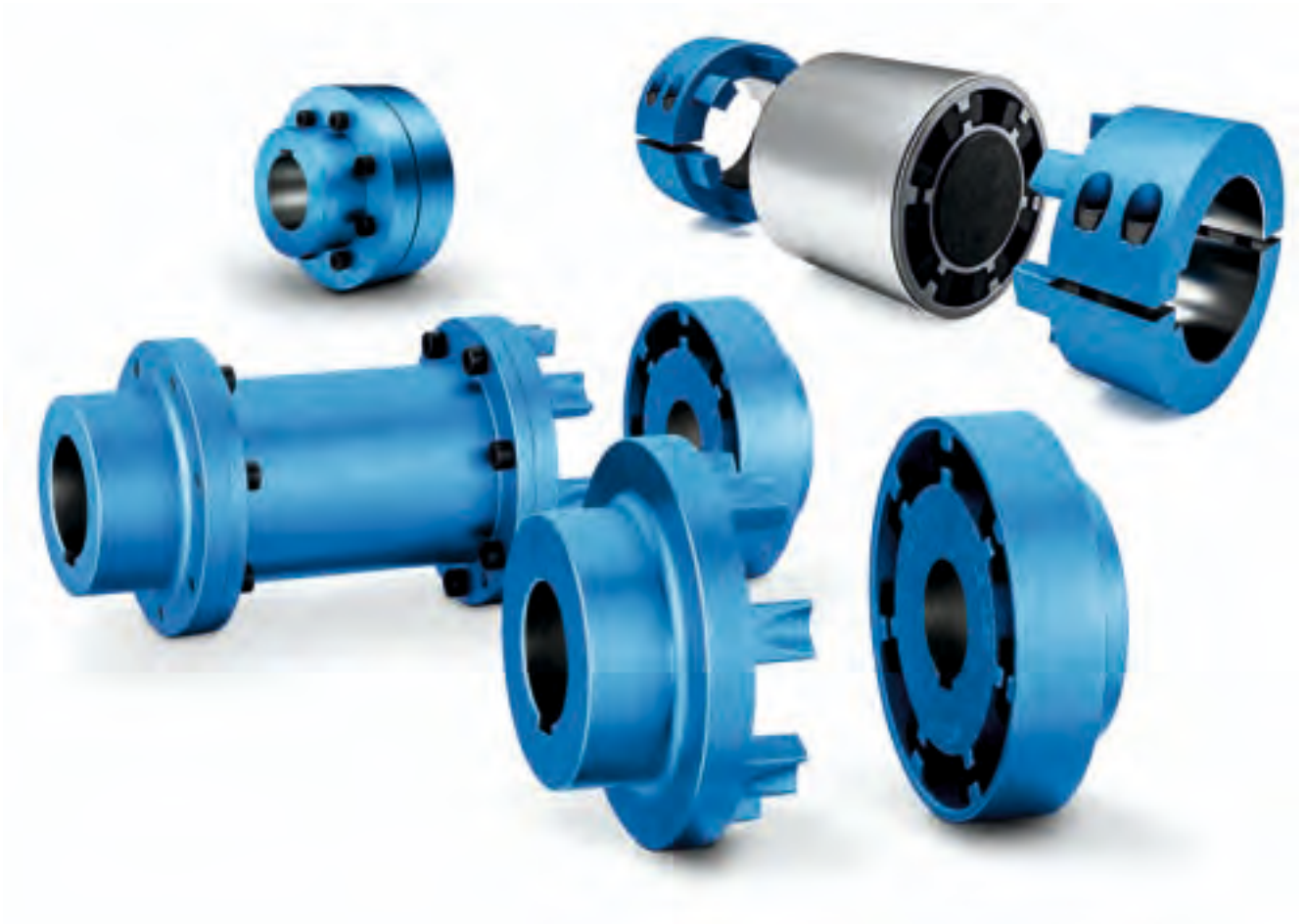
» The elastomer elements are wear parts. The service life depends on the operating conditions.

## Elastomer flexibles of the N-EUPEX DS series

NBR elastomer flexibles standard type			
Size	Product No. (flexible set for one coupling)	Number of flexibles per set	Weight per set (kg)
66	2LC0110-0WA00-0AA0	4	0.012
76	2LC0110-1WA00-0AA0	5	0.015
88	2LC0110-2WA00-0AA0	6	0.021
103	2LC0110-3WA00-0AA0	6	0.033
118	2LC0110-4WA00-0AA0	6	0.048
135	2LC0110-5WA00-0AA0	6	0.072
152	2LC0110-6WA00-0AA0	6	0.1
172	2LC0110-7WA00-0AA0	7	0.16
194	2LC0110-8WA00-0AA0	8	0.21
218	2LC0111-0WA00-0AA0	8	0.28
245	2LC0111-1WA00-0AA0	8	0.45
272	2LC0111-2WA00-0AA0	8	0.64
305	2LC0111-3WA00-0AA0	8	0.72
340	2LC0111-4WA00-0AA0	9	0.92
380	2LC0111-5WA00-0AA0	9	1.2
430	2LC0111-6WA00-0AA0	10	1.6
472	2LC0111-7WA00-0AA0	10	2.0
514	2LC0111-8WA00-0AA0	10	2.5
556	2LC0112-0WA00-0AA0	10	3.2

**Notes**

» The elastomer elements are wear parts. The service life depends on the operating conditions.



## **N-EUPEX SERIES: A PROVEN STANDARD AT A NEW LEVEL!**

A new type, **N-EUPEX DK**, added to the modular principle of N-EUPEX and the performance & bore capacity of all types increased.

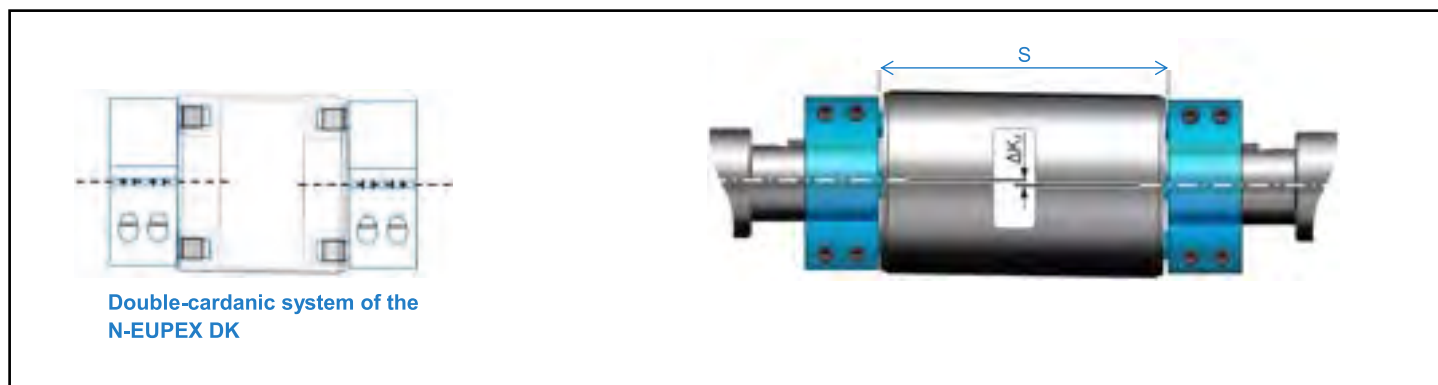
### **1. NEW TYPE: N-EUPEX DK**

#### **1.1 Double-cardanic system**

With the new double-cardanic design, the coupling compensates for not only a greater range of shaft angle offsets, but also a considerably greater radial offset so that shaft ends can be connected in a manner that offers the drive greater protection. With this two-joint version, compensation for radial offset that occurs between the shaft ends is enabled by a corresponding angle of inclination in the elastomer joints. This increases the range of possible radial offset by more than a multiple of four. Especially with pump solutions, shaft ends that are not 100% in alignment present a significant problem. In this case, the N-EUPEX DK provides a solution for many problems because, depending on the coupling length and size, it enables compensation for a radial offset of up to 3 mm.

Furthermore, in contrast to the previous N-EUPEX, the new coupling type "DK" makes use of not just one, but two series of elastomer elements, which

guarantees increased damping over the entire drive train. In addition, due to the double-cardanic design, significantly lower restoring forces are generated. The high ratio of shaft and joint clearance also decreases the restoring forces. Depending on size, offset and installation dimensions, the restoring forces decrease by more than half. The result is a lower load on the shafts along with a lower load on the bearings. This is advantageous especially with thinner shafts, which can be damaged due to the wrong coupling design or improper installation, even up to the breakage point. The spacer, made of aluminum with a joined pocket part made of gray cast iron, comes in standard increments for shaft spacing from 100 mm to 250 mm, so its length can be adapted to the customer's design.



Here a special design feature, unique on the market and immediately noticeable, is the complete encapsulation of the elastomer elements. This covering prevents the sleeve from flying off if components break due to improper overload. In contrast to other solutions on the market, the elastomer elements are not located within the shaft diameter, but instead, outside of it. A greater distance from the axis of rotation means a lower load on the outer wall and, as a result, less wear. Due to this clearance, together with the decreased tendency of the 90 Shore A elements to undergo working in case of shaft offset, the elements have a longer service life, which increases the availability of the coupling. The standard use of elastomer elements with a hardness of 90 Shore A achieves a good compromise between damping and rigidity. Two springs connected in a series significantly reduce torsion spring rigidity.

The N-EUPEX DK has a plastic cover on both sides of the spacer to prevent steel-to-steel contact in case of axial displacement. The cover also provides dust protection.

Type DK couplings in the size range from 68 to 225 are appropriate for long and trouble-free operation, particularly for pump applications, because they enable compensation for large shaft offsets as a consequence of thermal expansion, for example. Due to very low restoring forces, the coupling provides a smooth solution in difficult and demanding cases. Moreover, the ATEX coupling is certified, so it is suitable for use in potentially explosive areas.



**The N-EUPEX DK with plastic cover on the spacer.**

## 1.2 Split hub

With the split hub, assembly and disassembly are simple and inexpensive, requiring only that the two half shells be connected or separated. The coupled drive and work machines do not have to be moved. In comparison with the conventional hub design, this saves up to half of the time required. For example, to exchange a pump, only the locating screw of the respective half shells has to be loosened. Then the hub can be easily removed. After the new pump is mounted or attached, the two half shells of the split hub can be simply placed in position and screwed together. The same is true for exchanging the elastomer elements, which must be replaced at specified intervals depending on operating behaviour and wear condition.

A new feature is that the half shells in the parallel keyway are split. When the clamping screws are tightened, the half shells are centred above the parallel key, which guarantees that the halves are positioned properly with respect to each other. A positive side effect here is that the keyed joint is constructed so that there is no backlash.







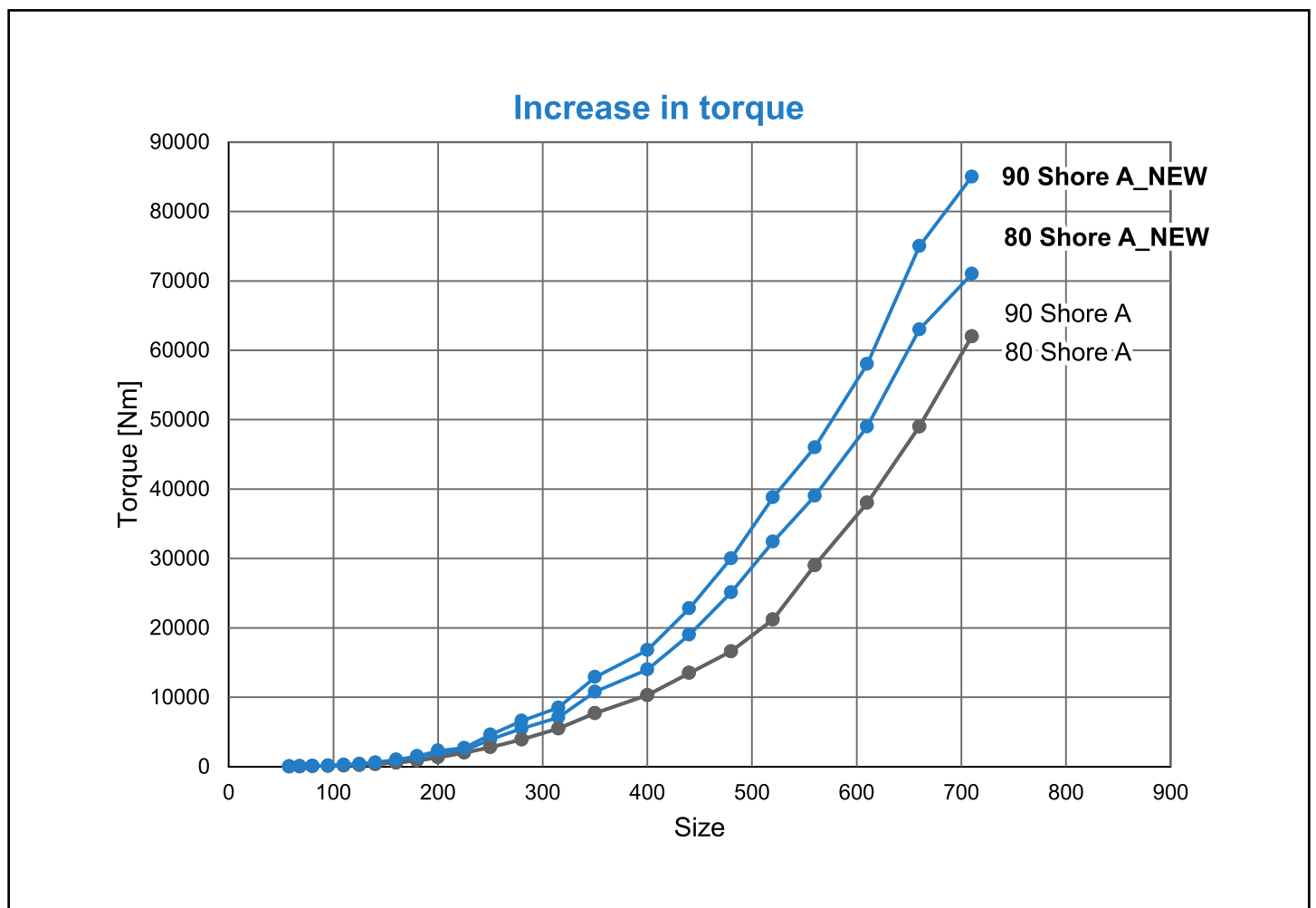
**Increased Performance and Higher Bore Capacity**

For all types in the N-EUPEX series, Flender is increasing both the performance and the bore capacity of the hubs. To do so, extensive testing was carried out and materials were optimized.

**2.1 Increased performance**

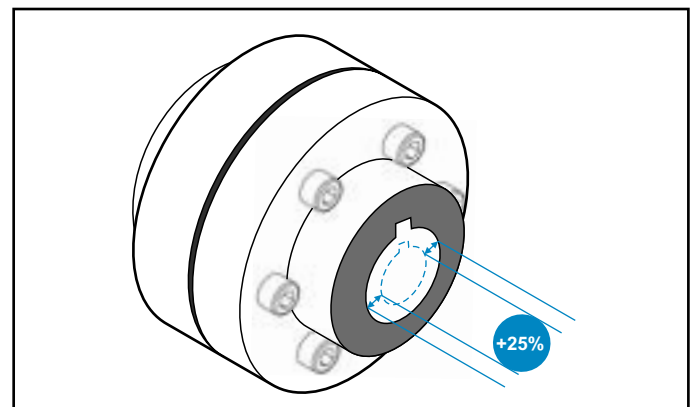
For all types in the N-EUPEX series, Flender increased performance by an average of 30 percent. This means that higher torque and higher rotation speed is guaranteed for all types.

The graphic shows a comparison between the previous and the new torque based on degrees of hardness of the elastomer elements of 90 and 80 Shore A. The progression of the blue curves compared with that of the gray curve shows the increase in torque. For example, for the degree of hardness of 90 Shore A for size 710, torque was increased by more than 20,000 newton meters (Nm).



**2.2 Higher bore capacity**

In addition to enhanced performance, the bore capacity of the hubs was also increased by up to 25 percent. Due to the higher bore capacity and increased performance, the same performance can now be achieved with a smaller coupling size. The change in size is reflected immediately in a reduction in purchasing costs as well as installation space.





3. N-EUPEX MODULAR PRINCIPLE

3.1 Introducing a steel jumbo hub.

The expansion of the N-EUPEX modular principle continues with the introduction of a new jumbo hub made of steel in one-piece and split versions.

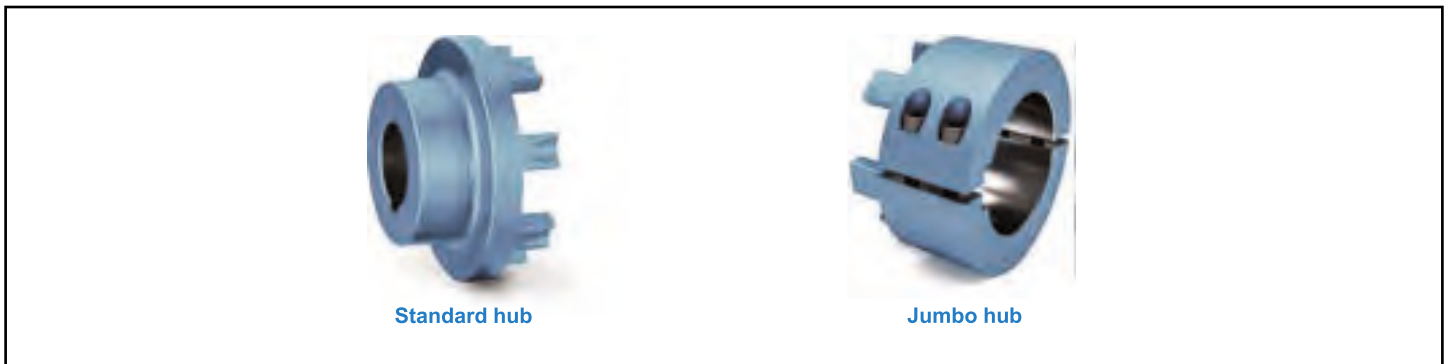
The jumbo hub advantage

In contrast to the existing hubs, the new hub does not have flattening, so the inner diameter and, hence, the bore capacity are greater.

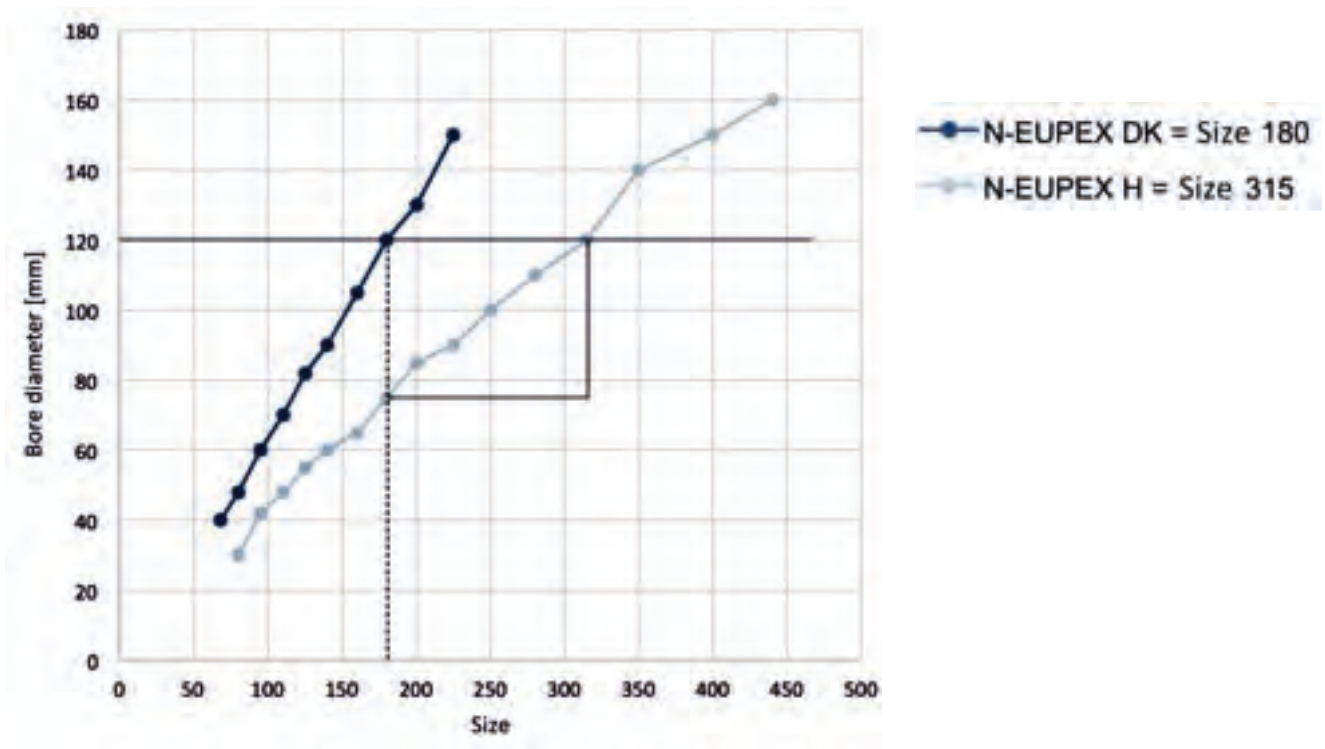
The steel hub advantage

In addition to the previous hub version, a typical cast iron machine element, Flender is now also offering another hub made of steel – initially in ten sizes. The addition of the steel hub to the modular principle makes customized shaft-hub connections possible as well as a higher bore capacity. This allows various clamping elements to be integrated more easily, for example.

The hub innovations increase bore capacity by an average of 40 percent. This allows users to select couplings in a smaller size. Purchasing costs are lower and less installation space is required.

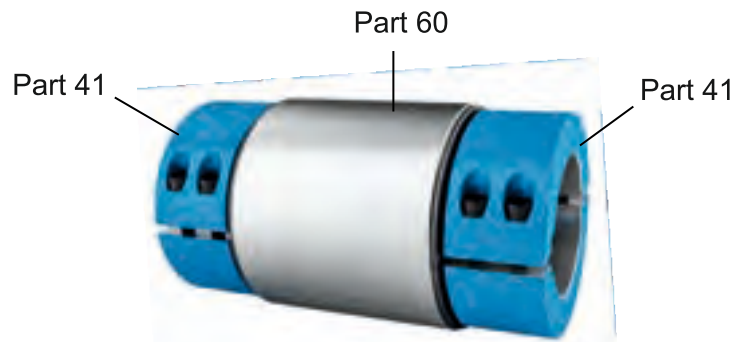
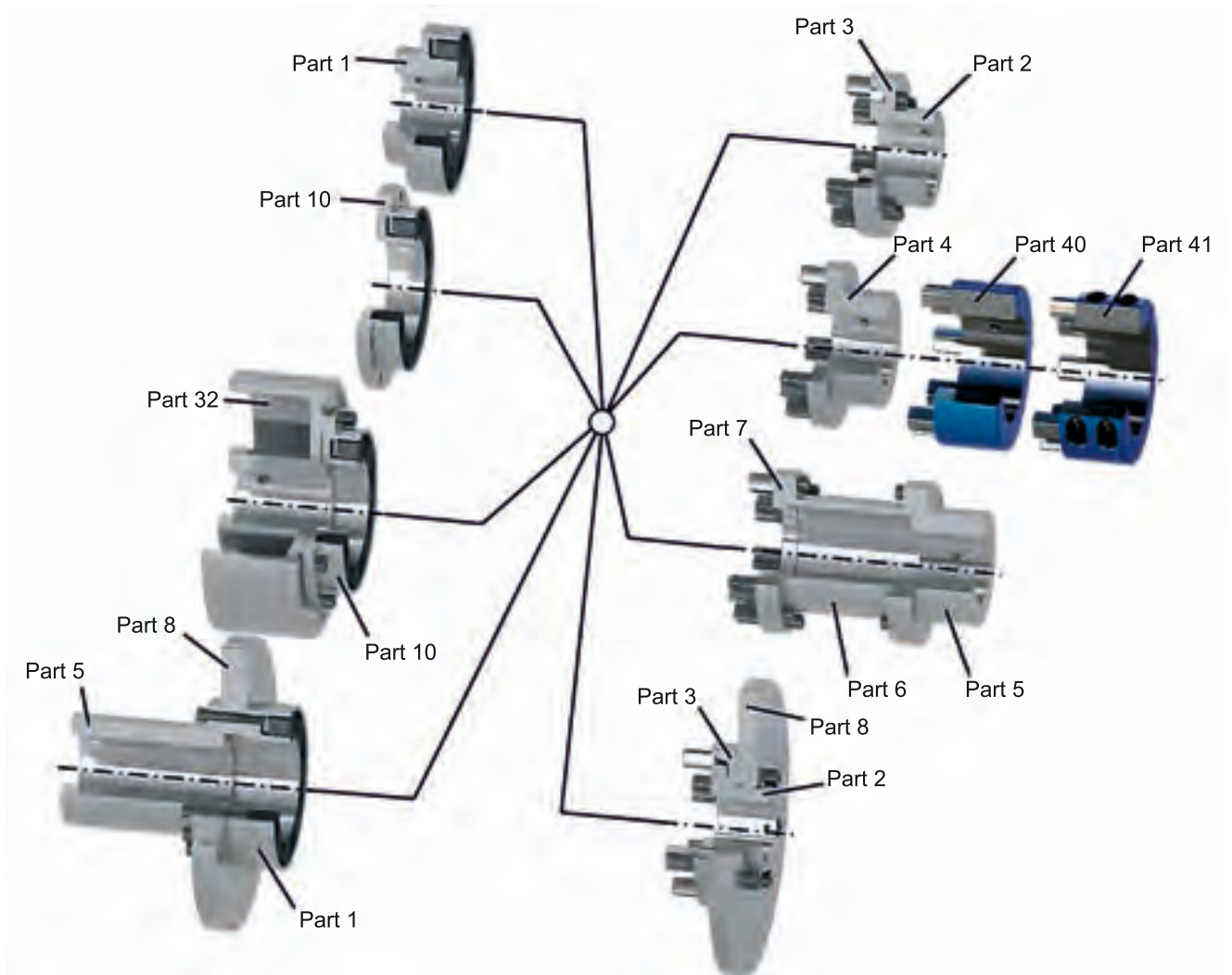


Example: shaft diameter of 120 mm





New structure of the modular principle



Part 40 (one-piece hub) and part 41 (split hub) are made of steel.  
Spacer – part 60 – can only be combined with part 40 and part 41.



### 3.3 High-quality elastomers – functionality

In the N-EUPEX, torque is transferred by highly advanced elastomer elements – flexible coupling assemblies made of synthetic rubber. The special design of the N-EUPEX allows the elastomer element to have just the right amount of space it needs to deflect under load with simultaneous offset.

The coupling reacts as follows in the event of radial shaft offset: While the pins and the assembly form an interlocking connection, the deformation of the rubber compensates for the corresponding offset. Each rotation works the elastomer element. No abrasive wear occurs within the permitted range of offset values. In case of angular offset between shafts, a horizontal compensation procedure is performed which also works the elastomer element without abrasive friction.

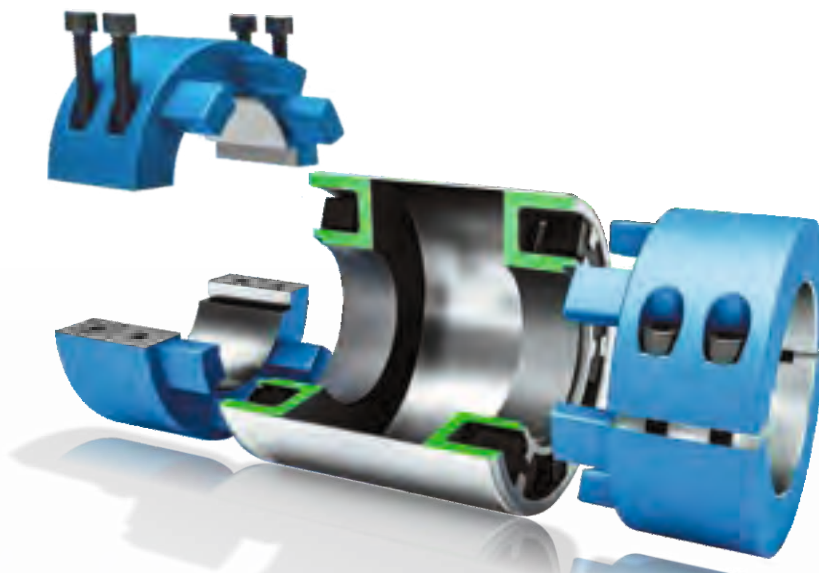
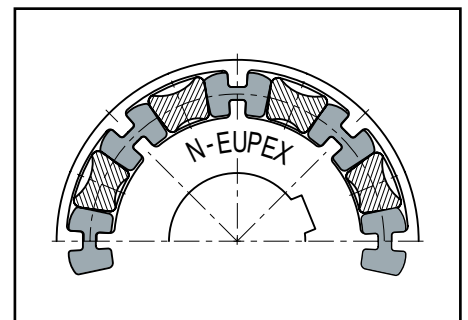
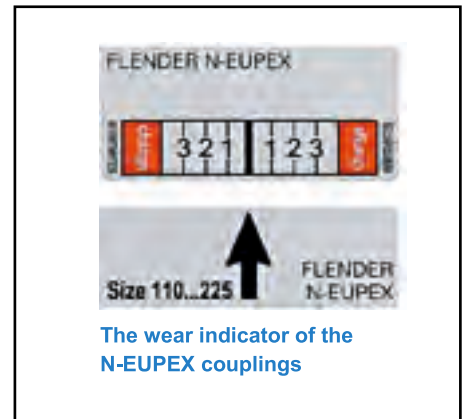
Thanks to the elastomer elements, the N-EUPEX has very good damping capacity. This significantly reduces the disruption of alternating torque during start-up situations with an asynchronous motor. In addition, selecting the right Shore hardness can create distance between the drive's natural frequency and that of the exciting frequency and thus prevent a critical resonance situation.

The wear is limited to the elastomer elements, which must be replaced at the end of their service life. Depending on the type, the elastomer elements can be exchanged without moving the coupled machines. The wear indicator for N-EUPEX couplings makes it quite easy to evaluate the condition of the flexible elements. The indicator is affixed to the outer diameter of the coupling after the coupling is mounted. A stroboscope can be used to determine wear condition even while the coupling is rotating. This means that the production process can continue uninterrupted.

### Conclusion

With the introduction of the N-EUPEX DK, Flender is expanding the modular principle of the N-EUPEX series. The double-cardanic version is being added to the existing short and long types. It is universally applicable, but it is particularly suitable for pump applications. With the introduction of the double-cardanic type, the selection of N-EUPEX couplings can be even more specific with regard to the respective application. At the same time, through extensive testing and material optimization, Flender has succeeded in increasing both the performance and the bore capacity of the entire N-EUPEX series by nearly one-third. As a result, users benefit from greater torque, higher rotation speeds and a change in size. The N-EUPEX series has proven itself for decades as a standard solution, and it has now been elevated to a new level of connector technology.

If you would like more information about the series, please contact the **jbj Techniques technical office**, telephone: **+44 (0)1737 767493** or email: **info@jbj.co.uk**



## Introduction

The name "EUPEX" comes from ancient Greek and means "well connected." These couplings by Flender GmbH are as durable as the ancient Greek name is old. The manufacturer of gear units, couplings, generators and complete drive systems has been producing the EUPEX coupling for about one hundred years, ever since the company's founder, Alfred Friedrich Flender, had this name entered as a trademark in the registry of the Patent Office of the German Reich on December 22, 1923. The successor to these couplings, N-EUPEX®, has been manufactured since 1967 and there are millions of them all over the world in every industrial sector.

To continue to meet the high expectations for the product in the coming decades as well, the development team has made some changes to the series. New types were added to the modular principle of N-EUPEX. Couplings with a torque limiter, with a clamping element as well as with a short double-cardanic design will now be added to the existing short and long types. In addition, elastomers made of TPU are offered. Moreover, both the performance and the bore capacity were increased for all types in the series in 2020. The following pages contain detailed information and the advantages regarding these changes.

## 1. Increased Combination Variety Due to Special Features

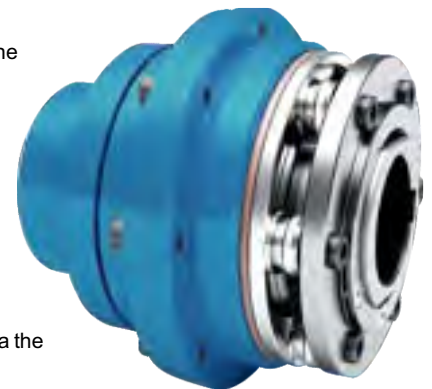
Flender expands the portfolio of the flexible N-EUPEX coupling series so that the variety of combinations has been increased. The new introductions allow users additional flexibility in their plants without losing the compact design and high load capacity of a pin coupling. The enhancements provide a wide range of sustainable options for further optimizing the machines and reducing maintenance.

### » 1.1 Torque limiter for more safety in the drivetrain

The new N-EUPEX ERN coupling is equipped with a torque limiter, which provides even more security in the drivetrain in many applications. Users can specify a maximum torque and thus protect machines and systems from overload. The coupling never transmits torques that are critical for the motor or output machine.

The coupling's slipping unit has friction linings which are preloaded by means of disk springs. If the static friction is exceeded in the event of an overload, the system slips and thus protects the system from overload damage. As soon as the slipping torque is undershot again and the overload is damped out of the system, the system engages and torque transmission continues. We are therefore talking about a load-holding system. The slipping torque can be regulated per coupling size within an adjustment range via the preload of the disk springs.

By using the safety element, the components of the drive and driven machine are protected from damage. This eliminates the need to replace potentially expensive spare parts and, often more importantly, long downtimes of the drivetrain. Costly repairs can be avoided. In short, plant availability is significantly increased with the new type ERN.



### » 1.2 Clamping elements as a practical shaft-hub connection

Another feature that is a useful addition to the modular system of pin couplings is the type with clamping elements. It is well known that there are a number of proven solutions for shaft-hub connections. In industry, the feather key connection is frequently encountered when releasable connections have to be made. In addition to this industry standard, frictionally engaged clamping connections using clamping elements are also widely used. In this case, the plain, cylindrical machine shaft end is connected to the coupling hub via a clamping connection without a feather key. Flender now include this solution in its portfolio in a standardized form in conjunction with type N-EUPEX B.

The main advantage of this shaft-hub connection becomes especially apparent in the course of service work, for example during assembly or when replacing worn elastomers, which can be carried out more easily. With this type of connection, in contrast to the feather key connection, the usual heating of the hub parts before tightening is not required. The hubs are also very easy to remove during disassembly after the clamping screws of the clamping elements have been loosened, thus restoring sufficient play in the connection between the shaft and coupling. No connecting machine components have to be moved, which reduces the time required and also the machine downtime. Additional tools such as mechanical three-arm pullers are not required.







## » 1.3 Double-cardanic coupling as “short version”

Following the launch of the N-EUPEX DK as a double-cardanic coupling type the year before last (see section 2), the DKS type has now been added to the modular system. While the DK type addresses the pump market with standard expansion pieces for normed shaft distances, the DKS type is the shortest possible double-cardanic solution on the market. It can therefore be used for small shaft distances. With the DKS, the claw parts form the intermediate piece and engage with the pocket parts on the shaft ends of the connected machines. The reverse principle of the DK types is therefore applied.

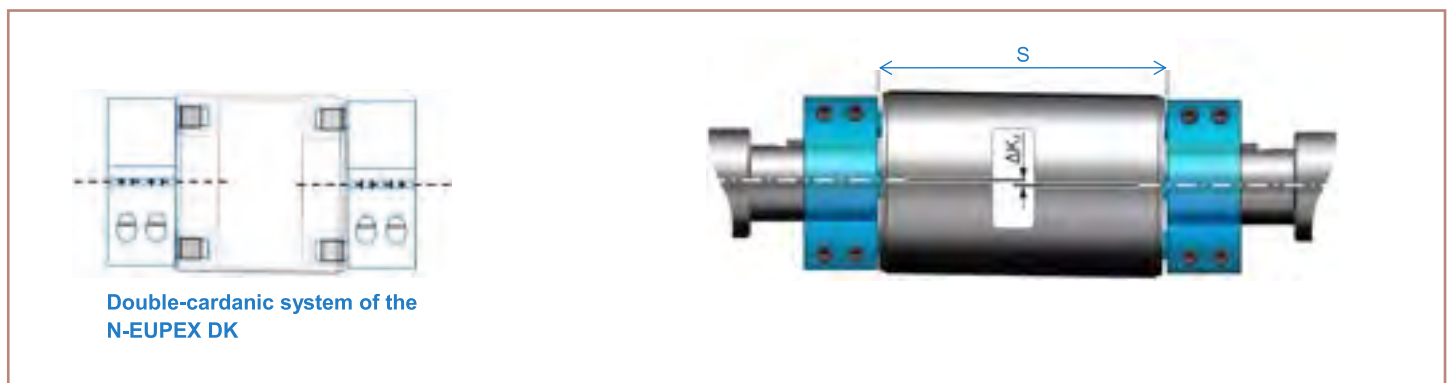


The benefit for users is mainly the shortened overall length of this type including reduced costs, while the advantages of a double-cardanic coupling connection can still be utilized. Thus, it is possible to replace single-joint couplings with the double-cardanic design in problematic drives. In short: the new and inexpensive N-EUPEX DKS can be used even more universally than its "big role model" N-EUPEX DK.

## 2. Double-cardanic Coupling N-EUPEX DK

### » 2.1 Functionality of the system

With the double-cardanic design, the coupling compensates for not only a greater range of shaft angle offsets, but also a considerably greater radial offset so that shaft ends can be connected in a manner that offers the drive greater protection. With this two-joint version, compensation for radial offset that occurs between the shaft ends is enabled by a corresponding angle of inclination in the elastomer joints. This increases the range of possible radial offset by more than a multiple of four. Especially with pump solutions, shaft ends that are not 100% in alignment present a significant problem. In this case, the N-EUPEX DK provides a solution for many problems because, depending on the coupling length and size, it enables compensation for a radial offset of up to 3 mm.



Double-cardanic system of the N-EUPEX DK

Furthermore, in contrast to the previous N-EUPEX, the coupling type "DK" makes use of not just one, but two series of elastomer elements, which guarantees increased damping over the entire drive train. In addition, due to the double-cardanic design, significantly lower restoring forces are generated. The high ratio of shaft and joint clearance also decreases the restoring forces. Depending on size, offset and installation dimensions, the restoring forces decrease by more than half. The result is a lower load on the shafts along with a lower load on the bearings. This is advantageous especially with thinner shafts, which can be damaged due to the wrong coupling design or improper installation – even up to the breakage point. The spacer, made of aluminum with a joined pocket part made of gray cast iron, comes in standard increments for shaft spacing from 100 mm to 250 mm, so its length can be adapted to the customer's design. Here a special design feature, unique on the market and immediately noticeable, is the complete encapsulation of the elastomer elements. This covering prevents the sleeve from flying off if components break due to improper overload.

In contrast to other solutions on the market, the elastomer elements are not located within the shaft diameter, but instead, outside of it. A greater distance from the axis of rotation means a lower load on the outer wall and, as a result, less wear. Due to this clearance, together with the decreased tendency of the 90 Shore A elements to undergo working in case of shaft offset, the elements have a longer service life, which increases the availability of the coupling.

The standard use of elastomer elements with a hardness of 90 Shore A achieves a good compromise between damping and rigidity. Two springs connected in a series significantly reduce torsion spring rigidity.

The N-EUPEX DK has a plastic cover on both sides of the spacer to prevent steel-to-steel contact in case of axial displacement. The cover also provides dust protection.



Type DK couplings in the size range from 68 to 225 are appropriate for long and trouble-free operation, particularly for pump applications, because they enable compensation for large shaft offsets as a consequence of thermal expansion, for example. Due to very low restoring forces, the coupling provides a smooth solution in difficult and demand-ing cases. Moreover, the ATEX coupling is certified, so it is suitable for use in potentially explosive areas.

## » 2.2 Split hub

With the split hub, assembly and disassembly are simple and inexpensive, requiring only that the two half shells be connected or separated. The coupled drive and work machines do not have to be moved. In comparison with the conventional hub design, this saves up to half of the time required. For example, to exchange a pump, only the locating screw of the respective half shells has to be loosened. Then the hub can be easily removed. After the new pump is mounted or attached, the two half shells of the split hub can be simply placed in position and screwed together. The same is true for exchanging the elastomer elements, which must be replaced at specified intervals depending on operating behavior and wear condition.

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the parallel key, which guarantees that the halves are positioned properly with respect to each other. A positive side effect here is that the keyed joint is constructed so that there is no backlash.

## » 2.3 Comparison of the N-EUPEX H and the N-EUPEX DK

	N-EUPEX H	N-EUPEX DK
<b>Character</b> 	 Standard solution	 Problem-solver
<b>Production costs</b> 	Coupling components made of gray cast iron → inexpensive installation	Coupling hub machined on all sides → more processing required = higher costs
<b>Application area</b> 	The top choice when a coupling with a flexible spacer is required	For applications in which it cannot be ensured that offsets will remain in the usual range



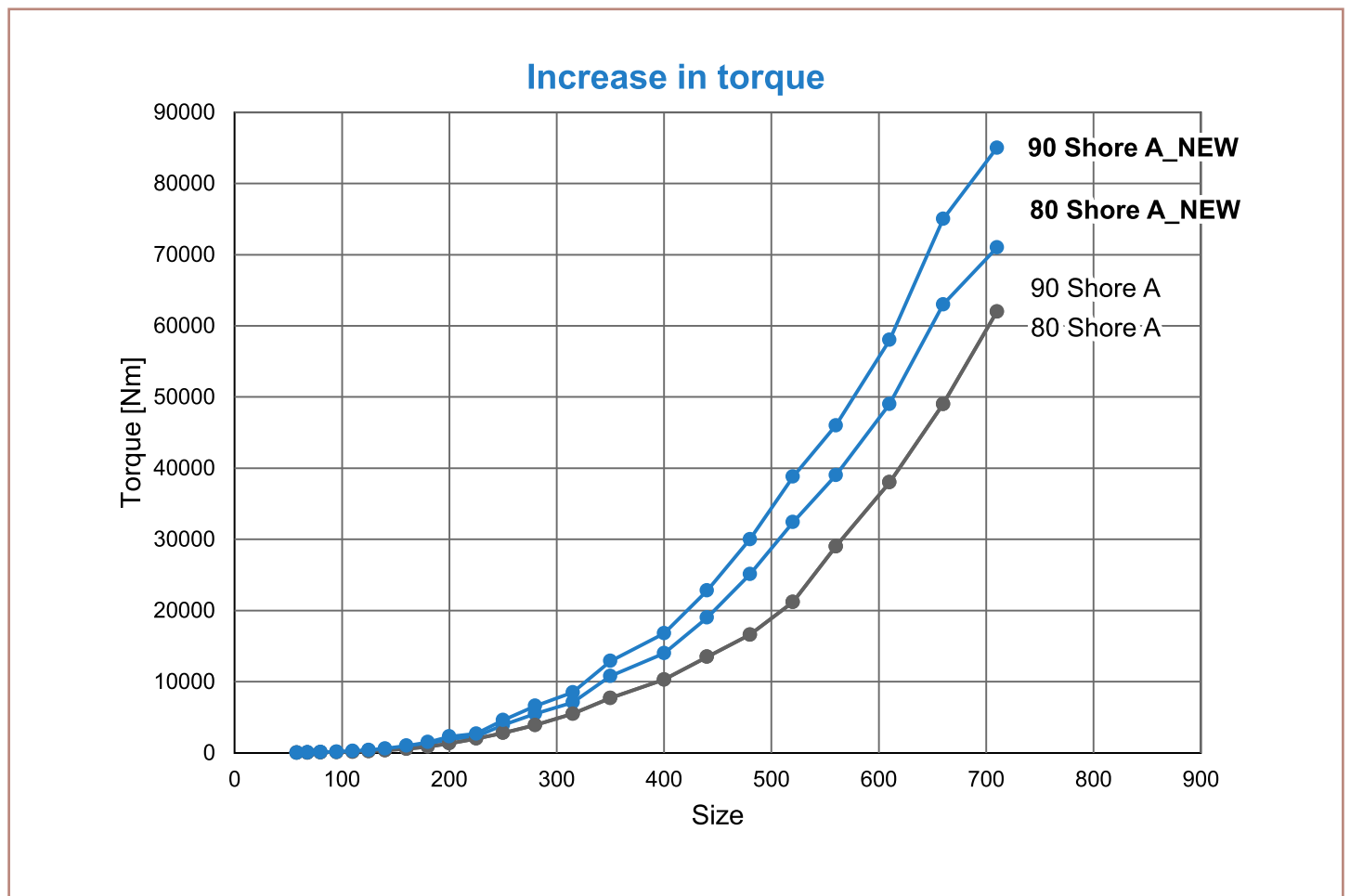
### 3. Increased Performance And Higher Bore Capacity

For all types in the N-EUPEX series, Flender was increasing both the performance and the bore capacity of the hubs. To do so, extensive testing was carried out and materials were optimized the year before last.

#### » 3.1 Increased performance

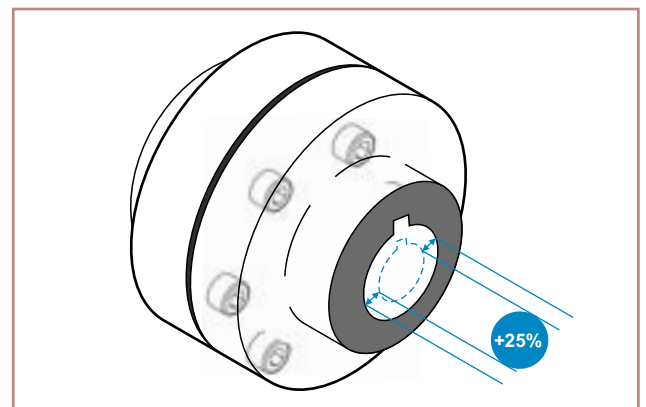
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The graphic shows a comparison between the previous and the new torque based on degrees of hardness of the elastomer elements of 90 and 80 Shore A. The progression of the blue curves compared with that of the gray curve shows the increase in torque. For example, for the degree of hardness of 90 Shore A for size 710, torque was increased by more than 20,000 newton meters (Nm).



#### » 3.2 Higher bore capacity

In addition to enhanced performance, the bore capacity of the hubs was also increased by up to 25 percent. Due to the higher bore capacity and increased performance, the same performance can now be achieved with a smaller coupling size. The change in size is reflected immediately in a reduction in purchasing costs as well as installation space.





## 4. Further Advantages of the N-Eupex Modular Principle

### » 4.1 Introducing a Steel Jumbo Hub

The N-EUPEX modular system has been further expanded the introduction of a new jumbo hub made of steel in one-piece and split versions.

#### The jumbo hub advantage

In contrast to the existing hubs, the new hub does not have flattening, so the inner diameter and, hence, the bore capacity are greater.

#### The steel hub advantage

In addition to the previous hub version, a typical cast iron machine element, Flender is now also offering another hub made of steel, initially in ten sizes.

The addition of the steel hub to the modular principle makes customized shaft-hub connections possible as well as a higher bore capacity. This allows various clamping elements to be integrated more easily, for example.

The hub innovations increase bore capacity by an average of 40 percent. This allows users to select couplings in a smaller size. Purchasing costs are lower and less installation space is required.

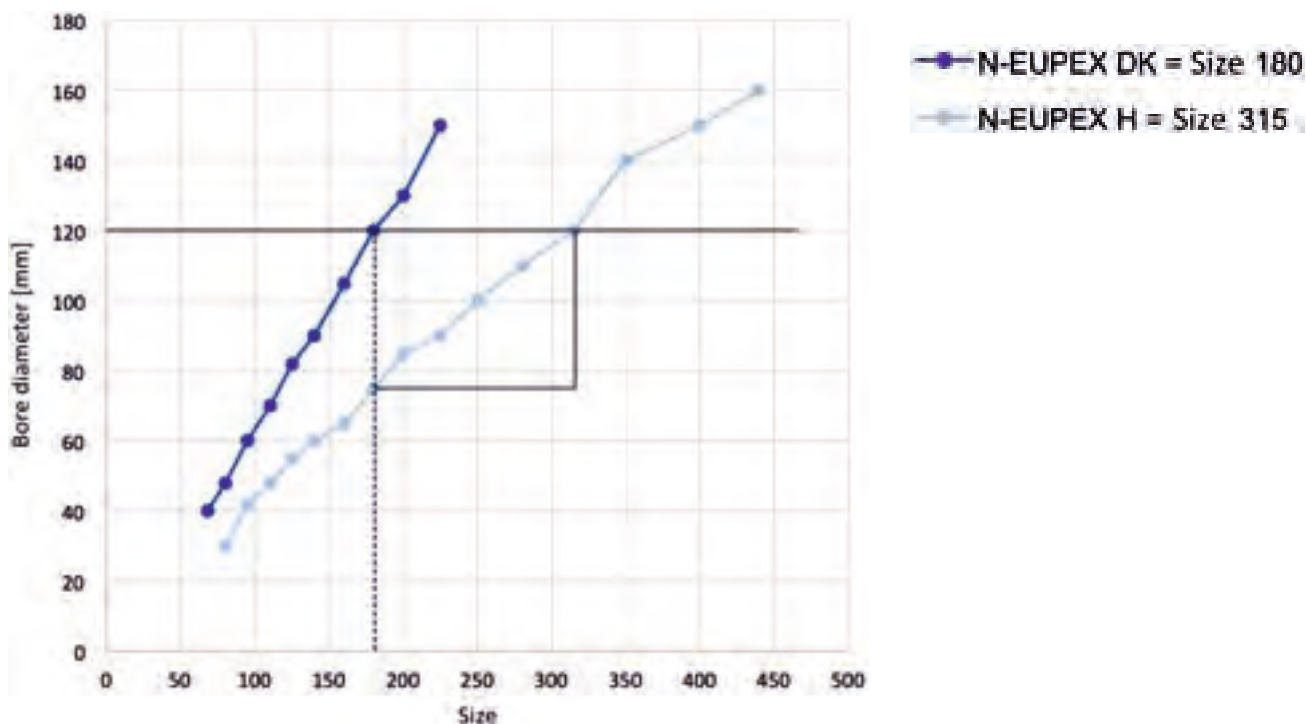


Standard hub



Jumbo hub

### Example: shaft diameter of 120 mm



## 4.2 High-quality elastomers made of NBR or TPU

In the N-EUPEX, torque is transferred by highly advanced elastomer elements – flexible coupling assemblies made of synthetic rubber. The special design of the N-EUPEX allows the elastomer element to have just the right amount of space it needs to deflect under load with simultaneous offset.

The coupling reacts as follows in the event of radial shaft offset: While the pins and the assembly form an interlocking connection, the deformation of the rubber compensates for the corresponding offset. Each rotation rolls the elastomer element. No abrasive wear occurs within the permitted range of offset values. In case of angular offset between shafts, a horizontal compensation procedure is performed which also rolls the elastomer element without abrasive friction.

Thanks to the elastomer elements, the N-EUPEX has very good damping capacity. This significantly reduces the disruption of alternating torque during start-up situations with an asynchronous motor. In addition, selecting the right Shore hardness can create distance between the drive's natural frequency and that of the exciting frequency and thus prevent a critical resonance situation.

The wear is limited to the elastomer elements, which must be replaced at the end of their service life. Depending on the type, the elastomer elements can be exchanged without moving the coupled machines.



Flexible elements made of synthetic rubber (NBR)

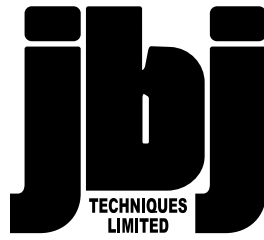


Fabric reinforced NBR package

As an addition to the previously used rubber elements made of NBR, users can now also benefit from the advantages of the new elastomers made of TPU. These thermoplastic polyurethane elastomers (TPU) are already used in the cam rings of another Flender coupling. With the use of TPU elastomers, power density can be increased. The TPU elements are available in sizes 80 to 280.

From size 315, the developers have come up with a special trick and combine the familiar NBR element with fabric inserts in order to be able to increase the torque capacity. Both variants, TPU or NBR elastomer with fabric inserts, are answers to the market demand for compact couplings.

**R & D engineers at Flender are systematically working to further increase the variety of combinations and the flexibility of this driveline technology. This includes the N-EUPEX® modular system which is continuously growing and, with its detailed solutions, provides users with a wide range of sustainable options for making their machines and systems even more reliable, robust and efficient.**



with a collective coupling knowledge and experience of +150 years  
&  
a machine shop coupling turning capacity of up to 1 metre diameter.

Please turn the page for a brief introduction into  
how jbj Techniques can help customers . . .

» **product specification**

team of design engineers to assist in design process,  
simple or complex, standard or bespoke.

» **prompt product supply**

large stocks for next day delivery on many items.

» **machine shop**

full machining services for bespoke designs.



## quality products for mechanical & fluid power

**G**etting the most out of your machinery often depends on close integration between all components. An organisation that manufactures and integrates all the diverse components of a drivetrain provides the experience to help you select the best component combination for your application. jbj Techniques' in-house design team and manufacturing facility provide tailored solutions for your applications at competitive prices with quick delivery.

The following examples are a simplistic view of how jbj Techniques assists customers.

### Hydraulic Adaptors

Designed primarily to allow the close coupling of hydraulic pumps to a variety of prime movers, such as diesel / petrol engines, electric, air or hydraulic motors, they can also be used in the connection from prime mover to alternative driven parts i.e. gear boxes, generators, water or vacuum pumps etc. An additional range of engine front PTO adaptors, which provide additional connection between the engine pulley and the driven part are also available.

The kit comprises of a [bellhousing](#) and flexible drive [coupling](#) that are fully machined to suit the driving and driven components. These can be to suit either shaft to shaft, flange (flywheel) to shaft or even flange to flange connections.

Getting the most out of your equipment will demand close integration between all components. In specifying jbj Techniques as your preferred supplier, you will have selected a company with the experience to specify, manufacture and integrate all of the [diverse components](#) that will ensure the best component combination for your application.

jbj's in house design team and manufacturing facility provide tailored solutions for your applications at competitive pricing and on-time deliveries.

Pump shaft alignment is key to preventing unnecessary wear and [damage to the pump shaft seal](#) and bearing. Improper alignment may lead to premature pump failure.

Also to be considered are [unwanted torsional resonant frequencies](#) in the system which can quickly cause damage to components in the drivetrain and reduce system life and performance. Improper pump installation can lead to premature failure, increased maintenance costs and reduced production levels of final product.

jbj Techniques can advise on the correct installation of [hydraulic pumps](#) into Industrial / mobile / marine / machine tool / agricultural / offshore industries and can specify complete driveline systems from their [extensive range of components](#) which are available from stock or manufactured to order, albeit simple or complex, standard or bespoke.

### Electric motor – Hydraulic pump adaptors (safe area)

jbj Techniques Limited offer the most comprehensive range of [bellhousings](#) in Europe. Designed to connect electric motors with frame size IEC D56 - D400 (0.06kW – 750kW) and can be compatible with electric motor 'B5' or 'B14' flange configurations. Accompanying the metric frame units above is a complete range of mountings to suit Nema and imperial frame motors with 'C' face or 'D' flange fitments.

With fully machined [torsionally flexible couplings](#), or [torsionally rigid couplings](#) available, jbj ensure the most suitable combination is selected for the application in hand. As an example spider couplings are available in various materials including aluminium, grey cast iron, nodular iron, steel and stainless steels and can be finish machined with parallel, taper or splined bores to DIN, SAE, ANSI or ISO standards.

Bellhousings can be manufactured in aluminium or cast iron material as standard, however, units can be produced in a variety of exotic materials on request.

The aluminium product range is produced in either monoblock or composite formats giving great flexibility in design and allows for early delivery time, often with same or next day delivery possibilities.

For applications where low noise levels are a



requirement then a complete range of [anti-vibration and noise reduction components](#) add to the range.

### **Electric motor – Hydraulic pump adaptors (Hazardous Area)**

Designed to meet the exacting safety standards of the offshore and chemical process industries, jbj Techniques produce [adaptor kits](#) certificated to Directive 2014/34/EU I12GD-IM2-TX -50 C < Service Temp < +105 C. Harmonised standards BS EN 1127:1, BS EN 13463:1, BS EN13463:5, BS EN 50303, BS EN 1834-1, BS EN 1834-3.

Generally manufactured in Cast or Nodular iron, bellhousings can be produced in steel, stainless steel or alternative exotic materials on customer request.

Couplings supplied for these applications are the jbj Techniques 'JXL' pin and bush range which provide an anti-static and flameproof drive which meet zone 1 area requirements, conforming to all of the above standards.

Also available are spider and gear couplings which are certified to zone 2 standards. ([Contact jbj Techniques](#) for details).

An important development of equipment for use within hazardous areas is the wet mount series of bellhousings. Commissioned to research and develop a product that would control the high temperature generated by a piston pump shaft seal when working within cycling applications. A little considered issue is the frictional heat generated at the shaft seal when the application requires the pump to cycle between different pressures causing the seal temperature to increase. This process will often take the seal temperature out and above the levels required by the relevant ATEX standards requirement. This specially designed assembly allows a pumped cooling flow to be passed over the seal face and through an auxiliary cooler, this in turn reduces the seal face temperature which can be maintained at an acceptable level. With a vast array of components to select from, jbj are well

placed to provide all required components to support the required cooling system.

### **Diesel Engine – Hydraulic pump adaptors**

A complete range of bellhousing and couplings exist for the connection of a diesel engine flywheel to a specified driven component, be it an oil hydraulic pump, water pump, generator or similar device. With the bellhousing available in various materials to suit all application areas. With a standard range to connect Diesel engines with SAE dimensions from SAE '6' to SAE '0' jbj are well placed to satisfy the majority of customer requirements. Couplings to complete the assembly are available in either torsionally flexible or torsionally rigid design and can be supplied to suit SAE flywheel dimensions from SAE 6.5" to SAE 18".

For hydraulic pumps to be mounted to engines that do not conform to SAE dimensions, we offer a full range of assembly parts, some of which (but not all) are shown here » [for diesel engines](#)

All bellhousings within this range can be finished machined to accept any, piston, vane or gear pump interfaces requested by customer.

As with the electric motor range of product jbj offer complete solutions for ATEX environments, using our well proven 'JXL' coupling range which has standard design to connect to the engine flywheel.

Directive 2014/34/EU I12GD-IM2-TX -50°C ≤ Service Temp ≤ +105°C.

Harmonised Standards: BS EN 1127:1 BS EN 13463:1 BS EN 13463:5 BS EN 50303.

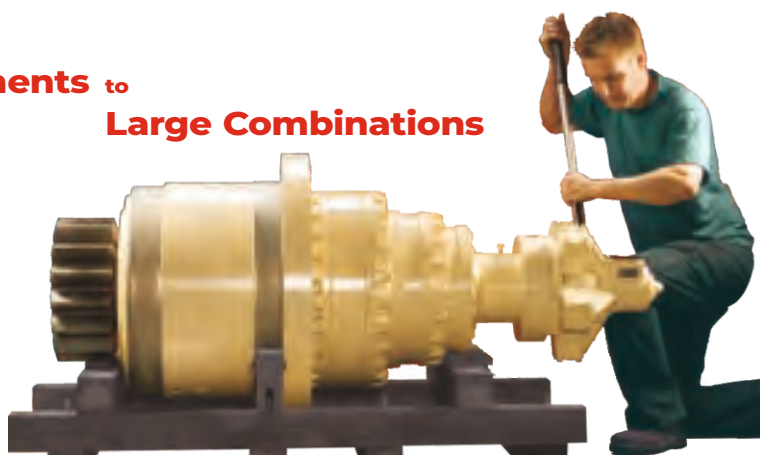
### **Petrol engine – Hydraulic pump adaptors**

Petrol engine adaptors have been developed for use with industrial petrol engines. Design exists to suit Honda, Briggs and Stratton, Kawasaki, Kubota, Hatz, Mag, Robin, Suzuki, Winsconsin, to name but a few, all adaptors can be finished to accept most hydraulic pumps. Adaptors to suit engine crankshaft drives and for vertical mounting are available on request.



## **Small Individual Components to Large Combinations**

“ensuring a continuing high quality service in which customers can have complete confidence.”



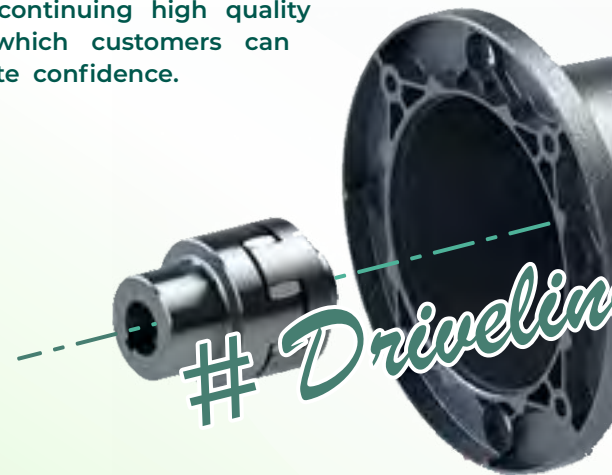
**jbj Techniques is a specialist supplier of high-quality products for the mechanical power transmission and fluid power sectors.** The company offers a high level of in-house expertise plus a huge selection of products to meet a very broad range of customer applications. From specification, through technical advice and manufacture to after-sales support, jbj Techniques provides a comprehensive and valued service to the power transmission and hydraulics industries. The company fields a UK-wide team of technical sales engineers to ensure that the business is close to its customers, and it enjoys excellent associations with European manufacturers, acting as sole UK distributor in many cases.

jbj's team is recognised for its expertise in the selection and configuration of hydraulic and mechanical transmission systems. Able to draw on an **extensive product range** that provides the building blocks for **bespoke systems both large and small**, the in-house design team offers a complete service, ranging from an assessment of customer requirements to full technical backup, including product specification, CAD based system design, system build and certification. Moreover customers can take advantage of **jbj's own machine-shop facilities and skilled engineers to guarantee quality and control costs.**

**jbj Techniques provides** one of the widest ranges of couplings available within the UK; mechanical

power transmission couplings for a vast range of applications. Ranging from miniature couplings, all steel gear couplings, flexible spider couplings, shaft couplings, torque limiting couplings, disc and grid type couplings, ATEX compliant and shaft locking devices. Magnetic couplings for power transmission between hermetically sealed areas. However as extensive as the selection is, couplings make up a fraction of jbj's portfolio. As power transmission specialists the company stock and provide gearboxes, clutches, pumps, hydraulic motors, flow meters, fluid power accessories including: cooling & heat exchange products, reservoirs, pipe flanges, seals and level indicators, as well as a variety of bell housings and engine adaptors, to name just a few of the product categories.

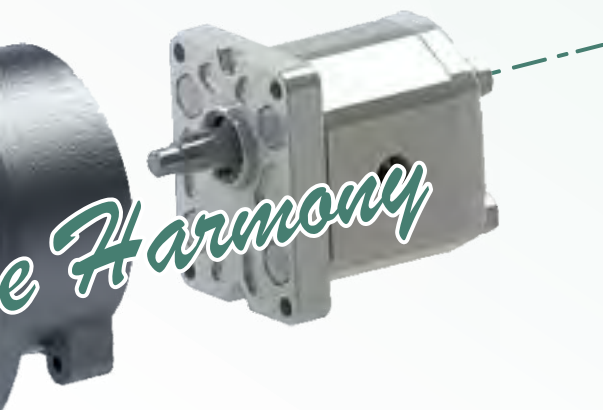
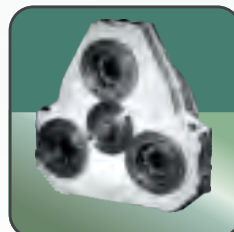
**jbj Techniques Limited is proud of its relationship and reputation with customers and suppliers.** The core client base is stable and loyal, which is testament to the quality of service provided by the company. A similar relationship exists with suppliers, ensuring a continuing high quality service in which customers can have complete confidence.





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quality products for mechanical & fluid power

01737 767493

info@jbj.co.uk

www.jbj.co.uk



**jbj Techniques Limited**  
28 Trowers Way Holmethorpe Industrial Estate  
Redhill Surrey RH1 2LW. UNITED KINGDOM

**quality products for mechanical & fluid power**

 **01737 767493**     **info@jbj.co.uk**     **www.jbj.co.uk**



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