HIGHLY FLEXIBLE COUPLINGS – ELPEX-S SERIES

General	**11/3**
Benefits	11/3
Application	11/3
Design and configurations	11/4
Function	11/6
Configuration	11/6
Technical specifications	11/8
Type ESN	**11/14**
Type ESNR	**11/16**
Type ESD	**11/18**
Type ESDR	**11/19**
Type ESNW	**11/20**
Type ESDW	**11/21**
Type EST	**11/22**
Spare and wear parts	**11/23**

11

ELPEX-S
FLENDER

GENERAL

Coupling suitable for use in potentially explosive atmospheres.
Complies with the current ATEX Directive for:

- II 2G Ex h IIC T4 ... T3 Gb X
- II 2D Ex h IIIC T120 °C ... 160 °C Db X
- I M2 Ex h Mb X

(Type EST is not available in Ex version.)
ELPEX-S couplings are highly torsionally flexible and because of their low torsional stiffness and damping capacity are especially suitable for coupling machines with a highly non uniform torque pattern.
Standard ELPEX-S coupling types are designed as flange-shaft-connections or shaft-shaft connections.
Application-related types can be implemented on request.

Benefits

The ELPEX-S coupling is suitable for horizontal and vertical mounting positions or mounting at any required angle. The coupling parts can be arranged as required on the shafts to be connected.

ELPEX-S couplings are especially suitable for reversing operation or operation with changing directions of load.

The rubber disk elements are fitted virtually without backlash and give the coupling linear torsional stiffness, i.e. the torsion stiffness remains constant even when the load on the coupling increases.

There are 4 different rubber element versions with different grades of torsional stiffness available for each size from stock.

On certain types the flexible rings can be changed without having to move the coupled machines.

If substantial overload occurs, the rubber disk element of the coupling is irreparably damaged, the coupling throws the load and thus limits the overload for particular operating conditions. The coupling can be inserted and fitted blind e.g. in a bell housing.

There are outer flanges with different connection dimensions available for each coupling size.

Application

The ELPEX-S coupling is available as a catalog standard in 12 sizes with rated torques of between 330 Nm and 63000 Nm.

The coupling is suitable for ambient temperatures of between -40 °C and +120 °C.

The ELPEX-S coupling is frequently used for diesel motor drives or reciprocating compressor drives.

Because the different rubber versions enable the torsional stiffness to be adjusted to meet requirements, the coupling is also suitable for drives which require a specific and preferably precalculated torsional vibration behavior setting.

GENERAL

Design and configurations

The rubber disk element is vulcanized onto a flange on the inside diameter. The flange can mount e.g. a Taper clamping bush or a hub. On its outer diameter the rubber disk element has driving teeth, which are inserted into the outer flange. The torque is transmitted positively between the rubber disk element and the outer flange.

In the type for shaft-shaft connection the outer flange is screwed to a flange hub mounted on a machine shaft.

Materials

	Type EST	Types ESN. and ESD.
Rubber disk element	EN-GJL-250 grey cast iron/ elastomer	EN-GJL-400 spheroidal graphite cast iron/elastomer
Hubs, part 1, part 2	Steel	Steel
Outer flange	Cast aluminum Zn10Si8Mg Sizes 680 and 770 of spheroidal graphite cast iron EN-GJS-500	Cast aluminum Zn10Si8Mg Sizes 680 and 770 of spheroidal graphite cast iron EN-GJS-500

Elastomer materials of the rubber disk element

Material/ description	Hardness ShoreA	Marking	Ambient temperature
Natural-synthetic rubber mixture	50 ° ... 55 °	WN	-40 °C ... +80 °C
	60 ° ... 65 °	NN	-40 °C ... +80 °C
	70 ° ... 75 °	SN	-40 °C ... +80 °C
Silicone rubber	55 ° ... 65 °	NX	-40 °C ... +120 °C

11

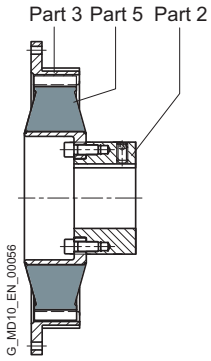
ELPEX-S coupling types

Type	Description
ESN	Coupling with hub, long or short version
ESD	Coupling with hub, with two rubber disk elements
ESNR	Coupling with hub, rubber disk element radially dismountable
ESDR	Coupling with hub with two rubber disk elements; rubber disk elements radially dismountable
ESNW	Coupling designed as a shaft-shaft connection with a rubber disk element; rubber disk element radially dismountable
ESDW	Coupling designed as a shaft-shaft connection with two rubber disk elements; rubber disk element radially dismountable
EST	Coupling suitable for mounting a Taper clamping bush

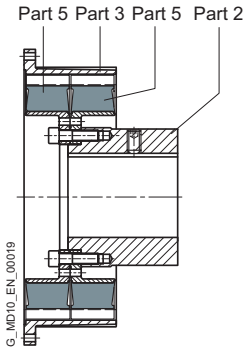
Further application-related coupling types are available. Dimension sheets for and information on these are available on request.

The following versions have already been implemented a number of times:

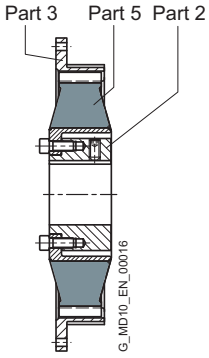
- ELPEX-S coupling with brake drum, brake disk or flywheel mass
- ELPEX-S coupling with axial backlash limiter
- ELPEX-S coupling with adapter
- ELPEX-S coupling with bearing for mounting a cardan shaft
- ELPEX-S coupling for engaging/disengaging during standstill
- ELPEX-S coupling as part of a coupling combination
- ELPEX-S coupling with fail-safe device



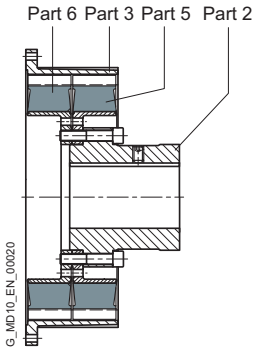
Type **ESN** – long version



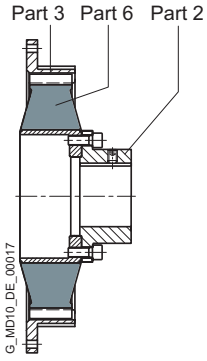
Type **ESD**



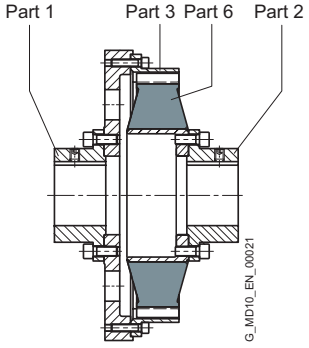
Type **ESN** – short version



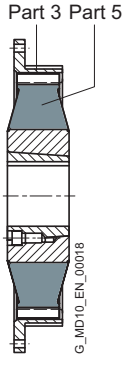
Type **ESDR**



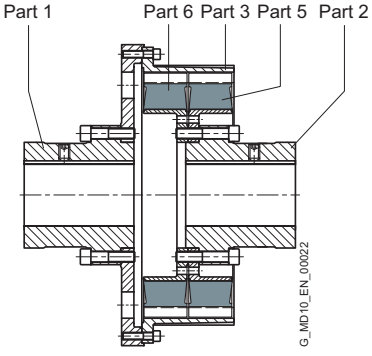
Type **ESNR**



Type **ESNW**



Type **EST**



Type **ESDW**

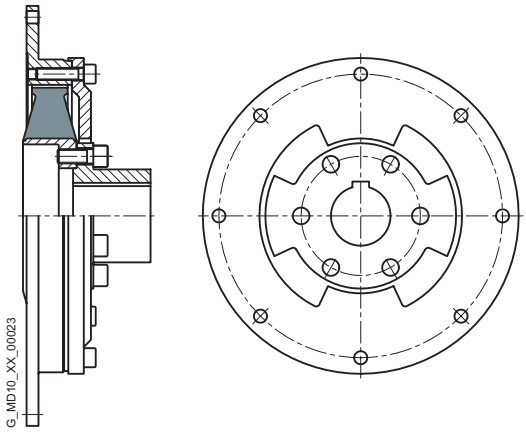
GENERAL

Fail-safe device of ELPEX-S coupling

The ELPEX-S coupling can also be designed with a fail-safe device. If the rubber disk element fails, the coupling can continue operating in emergency mode for a short time. This option is frequently required e.g. in the case of marine drives.

If the rubber disk element fails, cams transmit the torque from the inner and outer parts of the fail-safe device.

In normal operation the torsion angle of the rubber disk element is smaller than the gap between the cams, so there is no metal-metal contact.



Function

The ELPEX-S coupling's transmission characteristic is determined essentially by the rubber disk element. The torque is transmitted positively between the rubber disk element and the outer flange.

The outer flange can be bolted to e.g. a diesel motor or compressor flywheel.

Configuration

Coupling selection

The ELPEX-S coupling is especially suitable for rough operating environments. An application factor lower than that in **the chapter introduction** is therefore sufficient for all applications.

In the case of machines which excite torsional vibration, Flender urgently recommends carrying out a torsional vibration calculation or measuring the coupling load occurring in the drive.

Coupling load in continuous operation

Application factor FB

	Torque characteristic of the driven machine		
	uniform with moderate shock loads	non uniform	very rough
Electric motors, hydraulic motors, gas and water turbines	1.0	1.3	1.4
Internal-combustion engines	1.3	1.4	1.6

Examples of torque characteristic in driven machines:

- uniform with moderate shock loads: Generators, fans, blowers
- non uniform: Reciprocating compressors, mixers, conveyor systems
- very rough: crushers, excavators, presses, mills

Temperature factor FT

Coupling	Rubber version	Elastomer material	Temperature T_a on the coupling -40 up to -30 °C	-30 up to +50 °C	up to 60 °C	up to 70 °C	up to 80 °C	up to 90 °C	up to 100 °C	up to 110 °C	up to 120 °C
ELPEX-S	SN, NN, WN	NR	1.1	1.0	1.25	1.40	1.60	–	–	–	–
	NX	VMQ	1.1	1.0	1.0	1.0	1.0	1.1	1.25	1.4	1.6

NR = Natural-synthetic rubber mixture
VMQ = Silicone rubber

Coupling size $T_{KN} \geq T_N \cdot FB \cdot FT$

Coupling load under maximum and overload conditions

The maximum torque is the highest load acting on the coupling in normal operation.
Maximum torques at a frequency of up to 25 times an hour are permitted and must be lower than the maximum coupling torque. Examples of maximum torque conditions are: Starting operations, stopping operations or usual operating conditions with maximum load.

$T_{Kmax} \geq T_{Max} \cdot FT$

Overload torques are maximum loads which occur only in combination with special, infrequent operating conditions. Examples of overload torque conditions are: Motor short circuit, emergency stop or blocking because of component breakage. Overload torques at a frequency of once a month are permitted and must be lower than the maximum overload torque of the coupling. The overload condition may last only a short while, i.e. fractions of a second.

$T_{KOL} \geq T_{OL} \cdot FT$

Coupling load due to dynamic torque load

Applying the frequency factor FF, the dynamic torque load must be lower than the coupling fatigue torque.

Dynamic torque load

$T_{KW} \geq T_W \cdot FF \cdot FF$

Frequency of the dynamic torque load
$f_{err} \leq 10$ Hz frequency factor FF = 1.0

Frequency of the dynamic torque load
$f_{err} > 10$ Hz frequency factor FF = $\sqrt{(f_{err}/10\ Hz)}$

Operation in potentially explosive environments is subject to the following restriction:
Operation with low fatigue load
The fatigue torque TKW must be reduced by 70 %. In these particular operating conditions the coupling satisfies the requirements of temperature class T4 D120 °C.
Operation with medium fatigue load
The fatigue torque T_{KW} must be reduced by 50 %. In these particular operating conditions the coupling satisfies the requirements of temperature class T3 D160 °C.
Type EST is not permitted for application in potentially explosive environments.

Checking the maximum speed

The following must apply to all load situations: $n_{Kmax} \geq n_{max}$
The maximum speed of a size depends only on the size of the outer flange (part 3).

Checking permitted shaft misalignment and restorative forces

For all load situations, the actual shaft misalignment must be less than the permitted shaft misalignment.

Checking bore diameter, mounting geometry and coupling design

The check must be made on the basis of the dimension tables.
On request, couplings with adapted geometry can be provided.

Checking shaft-hub connection

For any information on this, please refer to **Page E/18**.

Checking temperature and chemically aggressive environment

The permitted coupling temperature is specified in the Temperature Factor FT table. In the case of chemically aggressive environments, please consult the manufacturer.

GENERAL

Technical specifications

Performance data for rubber disk elements made of a mix of natural and synthetic rubber

Type	Size	Rubber version	Rated torque T_{KN} Nm	Maximum torque T_{Kmax} Nm	Overload torque T_{KOL} Nm	Fatigue torque T_{KW} Nm	dynamic torsional stiffness C_{Tdyn} Nm/rad	Motor flange SAE J620d Size	Maximum speed n_{max} rpm
ESN . EST	220	WN	330	660	750	165	1600	6.5	4200
		NN	360	720	900	180	2500	7.5	4200
		SN	400	800	1000	200	4200	8	4200
								10	3600
ESN . EST	265	WN	500	1000	1250	250	2400	8	4200
		NN	600	1200	1800	300	3600	10	3600
		SN	700	1400	2100	350	6100	11.5	3500
ESN . EST	290	WN	800	1600	2000	400	3600	10	3600
		NN	900	1800	2700	450	5000	11.5	3500
		SN	1000	2000	3000	500	7500		
ESN . EST	320	WN	1200	2400	3000	600	8000	11.5	3500
		NN	1350	2700	3600	650	10000	14	3000
		SN	1550	3100	4200	750	13500		
ESN . EST	360	WN	1800	3600	4500	900	8500	11.5	3200
		NN	2000	4000	5400	1000	13000	14	3000
		SN	2500	5000	7500	1250	22000		
ESN . EST	420	WN	3100	6200	7700	1500	16000	14	3000
		NN	3450	6900	10000	1700	30000	16	2600
		SN	4200	8400	12600	2100	45000	18	2300
ESN . EST	465	WN	4600	9200	10000	2300	35000	14	3000
		NN	5200	10400	15600	2600	56000	16	2600
		SN	6300	12600	18900	3100	100000	18	2300
ESN .	520	WN	6200	12400	14000	3100	38000	18	2300
		NN	7000	14000	21000	3500	75000	21	2000
		SN	7800	15600	23400	3900	110000		
ESD .	520	WN	12400	24800	28000	6200	76000	18	2300
		NN	14000	28000	42000	7000	150000	21	2000
		SN	15600	31200	46800	7800	220000		
ESN .	560	WN	8000	16000	18000	4200	55000	18	2300
		NN	9000	18000	27000	4800	100000	21	2000
		SN	10000	20000	30000	5500	190000		
ESD .	560	WN	16000	32000	36000	8400	110000	18	2300
		NN	18000	36000	54000	9600	200000	21	2000
		SN	20000	40000	60000	11000	380000		

Performance data for rubber disk elements made of a mix of natural and synthetic rubber									
Type	Size	Rubber version	Rated torque T_{KN} Nm	Maximum torque T_{Kmax} Nm	Overload torque T_{KOL} Nm	Fatigue torque T_{KW} Nm	dynamic torsional stiffness C_{Tdyn} Nm/rad	Motor flange SAE J620d Size	Maximum speed $_{max}$ rpm
ESN.	580	WN	11000	22000	28000	5500	75000	18	2300
		NN	12500	25000	37000	6250	120000	21	2000
		SN	14000	28000	42000	7000	210000		
ESD.	580	WN	22000	44000	56000	11000	150000	21	2000
		NN	25000	50000	74000	12500	240000	24	1800
		SN	28000	56000	84000	14000	420000		
ESN.	680	WN	16000	32000	40000	8000	150000	21	2000
		NN	18000	36000	54000	9000	250000	24	1800
		SN	20000	40000	60000	10000	450000		
ESD.	680	WN	32000	64000	80000	16000	300000	21	2000
		NN	36000	72000	108000	18000	500000	24	1800
		SN	40000	80000	120000	20000	900000		
ESN.	770	WN	25000	50000	75000	12500	250000	similar to DIN 6288	1500
		NN	28000	56000	84000	14000	400000		
		SN	31500	63000	94000	15000	700000		
ESD.	770	WN	50000	100000	150000	25000	500000	similar to DIN 6288	1300
		NN	56000	112000	168000	28000	800000		
		SN	63000	126000	189000	30000	1400000		

11

Torsional stiffness and damping

Torsional stiffness depends 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 C_{Tdyn}.

For this reason calculation must be made with a tolerance for the dynamic stiffness of ± 20 %. The specified damping coefficient Ψ is a minimum value with the result that the damping performance of the coupling corresponds at least to the specified value.

GENERAL

Technical specifications

Power ratings of the rubber disk elements made of silicone rubber							
Type	Size	Rubber version	Rated torque T_{KN} Nm	Maximum torque T_{Kmax} Nm	Overload torque T_{KOL} Nm	Fatigue torque T_{KW} (10 Hz) Nm	Dynamic torsional stiffness for 100 % load C_{Tdyn} Nm/rad
ESN.	**220**	NX	200	300	400	87	1.3
ESN.	**265**	NX	300	450	600	133	2.4
ESN.	**290**	NX	500	750	1000	213	4.2
ESN.	**320**	NX	770	1150	1530	320	9.2
ESN.	**360**	NX	1200	1800	2400	480	10
ESN.	**420**	NX	2000	3000	4000	800	23
ESN.	**465**	NX	3000	4500	6000	1200	60
ESN.	**520**	NX	4100	6100	8200	1600	65
ESD.	**520**	NX	8200	12300	16400	3200	130
ESN.	**560**	NX	5000	7500	10000	2200	100
ESD.	**560**	NX	10000	15000	20000	4400	200
ESN.	**580**	NX	6500	9750	13000	2667	160
ESD.	**580**	NX	13000	19500	26000	5867	310
ESN.	**680**	NX	10000	15000	20000	4000	280
ESD.	**680**	NX	20000	30000	40000	8000	550
ESN.	**770**	NX	15000	22500	30000	6000	620
ESD.	**770**	NX	30000	45000	60000	12000	1230

Torsional stiffness

The dynamic torsional stiffness of the silicone rubber elements is load-dependent and increases in proportion to the load. The values specified in the selection table represent 100 % loading. The following table shows the correction factors for different rated loads.

$C_{Tdyn} = C_{Tdyn}\,100\,\% \cdot FKC$

	Load T_N / T_{KN}						
	20%	50%	60%	70%	80%	100%	150%
Correction factor FKC	0.59	0.75	0.79	0.83	0.88	1	1.5

Torsional stiffness also depends on the ambient temperature and the frequency and amplitude of the torsional vibration excitation. More precise torsional stiffness and damping parameters on request.

Damping coefficient

Damping coefficient of the rubber versions		
Rubber version	Hardness ShoreA	Damping coefficient Ψ
WN	55 ° ± 5 °	0.80
NN	65 ° ± 5 °	1.15
SN	75 ° ± 5 °	1.25
NX	60 ° ± 5 °	1.15

With flexible couplings the manufacturing process of the rubber elements and their aging primarily influence the stiffness value C_{Tdyn}. For this reason calculation must be made with a tolerance for the dynamic stiffness of ± 20 %. The specified damping coefficient Ψ 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.

For fitting, the maximum gap dimension of S max. = S + ΔS and the minimum gap dimension of S min. = S – ΔS are permitted.

Size	Assembly	Permitted shaft misalignment at n = 1500 rpm		
	Shaft distance ΔS mm	Axial ΔK_a mm	Radial ΔK_r mm	Angle ΔK_w degree
220	1.3	0.2	1.2	0.5
265	1.3	0.2	1.2	0.5
290	1.5	0.2	1.2	0.5
320	1.5	0.2	1.2	0.5
360	1.5	0.2	1.2	0.5
420	1.5	0.3	1.3	0.4
465	1.7	0.3	1.3	0.4
520	1.7	0.3	1.4	0.4
560	1.7	0.3	1.4	0.4
580	1.8	0.4	1.5	0.3
680	1.8	0.4	1.5	0.3
770	2.0	0.5	1.5	0.3

The correction factors for different speeds are specified in the following table.

The maximum speed for the respective coupling size and type must be noted!

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

	Speed in rpm			
	500	1000	1500	3000
Correction factor FKV	1.2	1.1	1.0	0.7

GENERAL

Variants of the outer flange

The outer flange of sizes 220 to 680 is designed to fit the connection dimensions of the SAE J620d standard. The centering depth on the connection flange of the machine should be between 4 mm and 6.4 mm maximum.

Type	Size	Flange connection size	Figure
ESN	220	6.5	1
ESN	220	7.5	2
ESN, ESNR	265	8	2
	360	11.5	2
	465	14	2
	580	18	2
	680	21	2
ESN	220	8, 10	3
ESN, ESNR	265	10, 11.5	3
	290	all	3
	320	all	3
	360	14	3
	420	all	3
	465	16, 18	3
	520	all	3
	560	all	3
	580	21	3
	680	24	3
ESNR	770	all	3
ESD, ESDR	520	all	4
	560	all	4
	580	all	4
ESD, ESDR	680	21	5
ESD, ESDR	680	24	6
ESDR	770	all	6

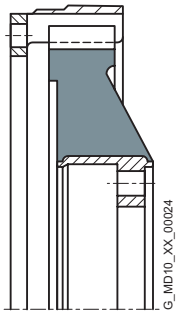


Figure 1

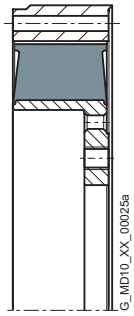


Figure 2

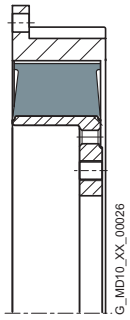


Figure 3

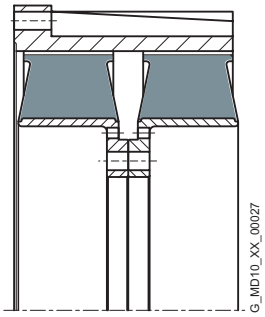


Figure 4

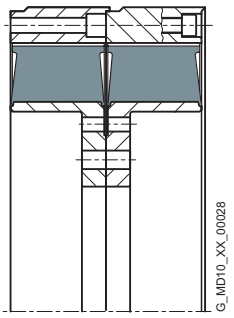


Figure 5

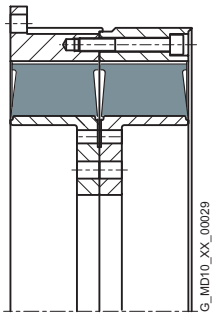
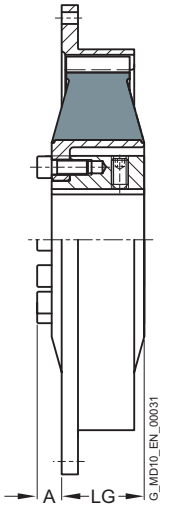
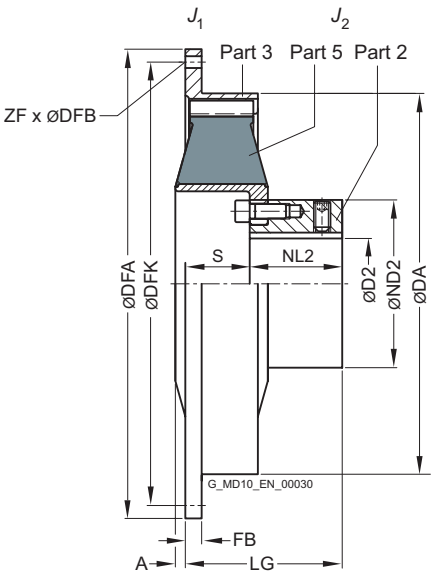


Figure 6

TYPE ESN



Short version



Long version

11

Size	Dimensions in mm									Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]		Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	short version A	short version LG	long version A	long version S	long version LG	SAE size	DFA g7	DFK	FB	ZF	DFB	J_1 kgm²	J_2 kgm²	Type short version	Type long version	m kg
220	60	222	98	54	-	-	0	49	103	6.5	215.9	200.0	6	6	8.5	0.008	0.01	–	2LC0220-0AB0	5.8
		237						40	94	7.5	241.3	222.3	33	8	8.5	0.011		–	2LC0220-0AB0	6.1
		222						40	94	8	263.5	244.5	8	6	10.5	0.011		–	2LC0220-0AB0	6.4
		222						40	94	10	314.3	295.3	8	8	10.5	0.017		–	2LC0220-0AB0	6.9
265	65	263	118	65	15	74	3	39	104	8	263.5	244.5	33	6	10.5	0.011	0.022	2LC0220-1AA0	2LC0220-1AB0	6.6
										10	314.3	295.3	10	8		0.017		2LC0220-1AA0	2LC0220-1AB0	6.9
										11.5	352.4	333.4	10	8		0.024		2LC0220-1AA0	2LC0220-1AB0	7.2
290	65	290	118	70	18	58	6	36	106	10	314.3	295.3	16	8	10.5	0.026	0.026	2LC0220-2AA0	2LC0220-2AB0	9.2
										11.5	352.4	333.4	16	8		0.036		2LC0220-2AA0	2LC0220-2AB0	10.5
320	80	318	140	87	15	96	2	70	157	11.5	352.4	333.4	16	8	10.5	0.062	0.061	2LC0220-3AA0	2LC0220-3AB0	19
										14	466.7	438.2	16	8	13	0.18		2LC0220-3AA0	2LC0220-3AB0	20.5
360	90	353.5	160	105	29	92	13	56	161	11.5	352.4	333.4	54	8	10.5	0.065	0.13	2LC0220-4AA0	2LC0220-4AB0	24.5
										14	466.7	438.2	15	8	13	0.18		2LC0220-4AA0	2LC0220-4AB0	27.5
420	100	420	185	102	26	92	10	72	174	14	466.7	438.2	18	8	13	0.22	0.32	2LC0220-5AA0	2LC0220-5AB0	36
										16	517.5	489.0	18	8	13	0.32		2LC0220-5AA0	2LC0220-5AB0	38
										18	571.5	542.9	18	6	17	0.47		2LC0220-5AA0	2LC0220-5AB0	40

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

Size	Dimensions in mm																Mass moment of inertia		↗ Article no. [1]		Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	short version		long version			Flange connection dimensions SAE size	DFA	DFK	FB	ZF	DFB	J_1	J_2	Type		*m*
					A	LG	A	S	LG		g7					kgm²	kgm²	short version	long version	kg
465	**120**	465	222	125	33	92	2	39	164	14	466.7	438.2	85	8	13	0.31		**2LC0220-6AA0**	**2LC0220-6AB0**	56
										16	517.5	489.0	27	8	13	0.41	0.58	**2LC0220-6AA0**	**2LC0220-6AB0**	57
										18	571.5	542.9	18	6	17	0.52		**2LC0220-6AA0**	**2LC0220-6AB0**	61
520	**165**	514	250	142	16	159	0	83	225	18	571.5	542.9	18	12	17	0.48	0.93	**2LC0220-7AA0**	**2LC0220-7AB0**	55
										21	673.1	641.4	18	12		0.95		**2LC0220-7AA0**	**2LC0220-7AB0**	60
560	**200**	560	320	140	30	130	2.5	83	223	18	571.5	542.9	35	12	17	0.85	1.2	**2LC0220-8AA0**	**2LC0220-8AB0**	69
										21	673.1	641.4	20	12		1.8		**2LC0220-8AA0**	**2LC0220-8AB0**	78
580	**200**	580	316	200	23	215	0	100	300	18	571.5	542.9	104	12	17	0.77	1.8	**2LC0221-0AA0**	**2LC0221-0AB0**	100
										21	673.1	641.4	26	12		1.2		**2LC0221-0AA0**	**2LC0221-0AB0**	105
680	**220**	682	380	210	24	232	0	102	312	21	673.1	641.4	85	12	17	4.1	5.3	**2LC0221-1AA0**	**2LC0221-1AB0**	205
										24	733.4	692.2	20	12	21	5.3		**2LC0221-1AA0**	**2LC0221-1AB0**	215

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

- The rubber disk element cannot be dismounted until the machines have been moved.
- Weight and mass moments of inertia apply to maximum bore diameters.

Ordering example

- ELPEX-S ESN coupling, size 520, WN rubber element version
- Bore ØD2 = 150H7 mm, with keyway to DIN 6885 and set screw, outer flange to SAE J620d size 21

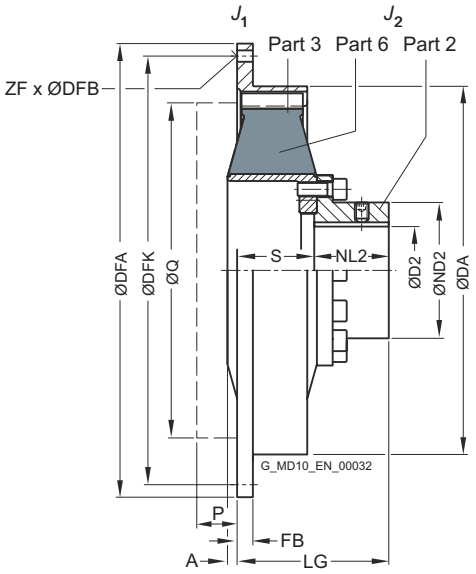
Short version article no.: **2LC0220-7AA09-1JA0-Z M1W**
Long version article no.: **2LC0220-7AB09-1JA0-Z M1W**

11

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE ESNR



Size	Dimensions in mm									Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]	Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	S	A	P	Q	LG	SAE size	DFA g7	DFK	FB	ZF	DFB	J_1 kgm²	J_2 kgm²		*m* kg
265	50	263	78	65	42	-	10	225	107	8	263.5	244.5	33	6	10.5	0.011	0.022	2LC0220-1AC0	5.0
										10	314.3	295.3	10	8		0.017		2LC0220-1AC0	5.3
										11.5	352.4	333.4	10	8		0.024		2LC0220-1AC0	5.6
290	50	290	78	65	59	2	15	276	124	10	314.3	295.3	16	8	10.5	0.026	0.026	2LC0220-2AC0	8.1
										11.5	352.4	333.4	16	8		0.036		2LC0220-2AC0	8.4
320	65	318	98	87	74	0	20	310	161	11.5	352.4	333.4	16	8	10.5	0.062	0.061	2LC0220-3AC0	13.5
										14	466.7	438.2	16	8	13	0.18		2LC0220-3AC0	16
360	85	353.5	123	88	77	9	28	314	165	11.5	352.4	333.4	54	8	10.5	0.065	0.13	2LC0220-4AC0	20
										14	466.7	438.2	15	8	13	0.18		2LC0220-4AC0	23
420	100	420	155	85	93	6	28	409	178	14	466.7	438.2	18	8	13	0.22	0.32	2LC0220-5AC0	31
										16	517.5	489.0	18	8	13	0.32		2LC0220-5AC0	32
										18	571.5	542.9	18	6	17	0.47		2LC0220-5AC0	35
465	130	465	190	119	88	-	15	409	207	14	466.7	438.2	85	8	13	0.31	0.58	2LC0220-6AC0	41
										16	517.5	489.0	27	8	13	0.41		2LC0220-6AC0	42
										18	571.5	542.9	18	6	17	0.52		2LC0220-6AC0	45

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

Size	Dimensions in mm									Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]	Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	S	A	P	Q	LG	SAE size	DFA g7	DFK	FB	ZF	DFB	J_1 kgm²	J_2 kgm²		m kg
520	**150**	514	227	162	85	-	10	498	247	18	571.5	542.9	18	12	17	0.48	0.93	**2LC0220-7AC0**	59
										21	673.1	641.4	18	12		0.95		**2LC0220-7AC0**	64
560	**150**	560	240	180	99	-	10	498	279	18	571.5	542.9	35	12	17	0.85	1.2	**2LC0220-8AC0**	75
										21	673.1	641.4	20	12		1.8		**2LC0220-8AC0**	85
580	**160**	580	240	200	102	-	10	498	302	18	571.5	542.9	104	12	17	0.77	1.8	**2LC0221-0AC0**	80
										21	673.1	641.4	26	12		1.2		**2LC0221-0AC0**	84
680	**200**	682	300	210	102	-	10	584	312	21	673.1	641.4	85	12	17	4.1	5.3	**2LC0221-1AC0**	155
										24	733.4	692.2	20	12	21	5.3		**2LC0221-1AC0**	165
770	**260**	780	390	255	134	-	10	750	389	-	860.0	820.0	26	32	21	10.7	12	**2LC0221-2AC0**	330
											920.0	880.0	27	32	21	15.4		**2LC0221-2AC0**	350
											995.0	950.0	27	32	21	20.5		**2LC0221-2AC0**	375

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

- Weight and mass moments of inertia apply to maximum bore diameters.
- P, Q = required space for radial dismounting of the rubber disk element.

Ordering example

- ELPEX-S ESNR coupling, size 320, WN rubber element version
- Bore ØD2 = 50H7 mm, with keyway to DIN 6885 and set screw, outer flange to SAE J620d size 14

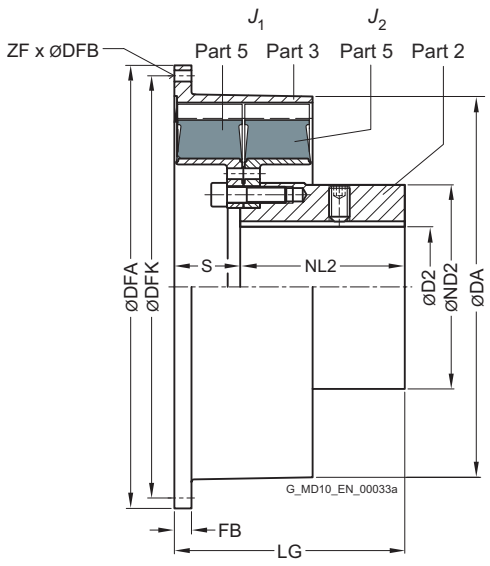
Article no.: 2LC0220-3AC09-1FA0-Z M1C

11

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE ESD



Size	Dimensions in mm						Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]	Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	S	LG	SAE size	DFA g7	DFK	FB	ZF	DFB	J_1 kgm²	J_2 kgm²		*m* kg
520	**165**	525	250	174	81	255	18	571.5	542.9	25	12	17	1	1.6	**2LC0220-7AD0**	85
							21	673.1	641.4	18	12	17	1.5		**2LC0220-7AD0**	90
560	**170**	560	316	210	60	270	18	571.5	542.9	35	12	17	1.7	2.8	**2LC0220-8AD0**	140
							21	673.1	641.4	25	12	17	2.6		**2LC0220-8AD0**	150
580	**200**	585	310	250	100	350	21	673.1	641.4	26	12	17	2	3.8	**2LC0221-0AD0**	170
							24	733.4	692.2	26	12	21	2.6		**2LC0221-0AD0**	175
680	**220**	682	380	250	17	267	21	673.1	641.4	85	12	17	8.2	7	**2LC0221-1AD0**	265
							24	733.4	692.2	20	12	21	9.4		**2LC0221-1AD0**	275

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

- The rubber disk element cannot be dismounted until the machines have been moved.
- Weight and mass moments of inertia apply to maximum bore diameters.

Ordering example

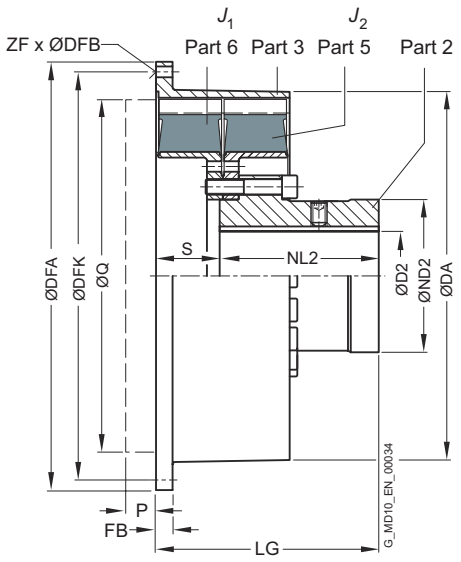
- ELPEX-S ESD coupling, size 680, WN rubber element version
- Bore ØD2 = 180H7 mm, with keyway to DIN 6885 and set screw, outer flange to SAE J620d size 24

Article no.: 2LC0221-1AD09-1KA0-Z M2B

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE ESDR



Size	Dimensions in mm								Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]	Weight
	D2 Keyway DIN 6885 max.	DA	ND2	NL2	S	P	Q	LG	SAE size	DFA g7	DFK	FB	ZF	DFB	J_1 kgm²	J_2 kgm²		m kg
520	**150**	525	227	226	83	10	498	309	18	571.5	542.9	25	12	17	1	1.8	**2LC0220-7AE0**	105
									21	673.1	641.4	18	12	17	1.5		**2LC0220-7AE0**	110
560	**160**	560	240	240	100	10	498	340	18	571.5	542.9	35	12	17	1.7	2.5	**2LC0220-8AE0**	135
									21	673.1	641.4	25	12	17	2.6		**2LC0220-8AE0**	140
580	**160**	585	240	250	100	10	560	350	21	673.1	641.4	26	12	17	2	3.2	**2LC0221-0AE0**	145
									24	733.4	692.2	26	12	21	2.6		**2LC0221-0AE0**	150
680	**200**	682	300	250	102	10	584	352	21	673.1	641.4	85	12	17	8.2	6.5	**2LC0221-1AE0**	260
									24	733.4	692.2	20	12	21	9.4		**2LC0221-1AE0**	270
770	**260**	780	390	300	200	10	750	500	-	860.0	820.0	19	32	21	22.3	20	**2LC0221-2AE0**	540
										920.0	880.0	27	32		26		**2LC0221-2AE0**	555
										995.0	950.0	27	32		31		**2LC0221-2AE0**	600

Configurable variants [1]

• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

- Weight and mass moments of inertia apply to maximum bore diameters.
- P, Q = required space for radial dismounting of the rubber disk element.

Ordering example

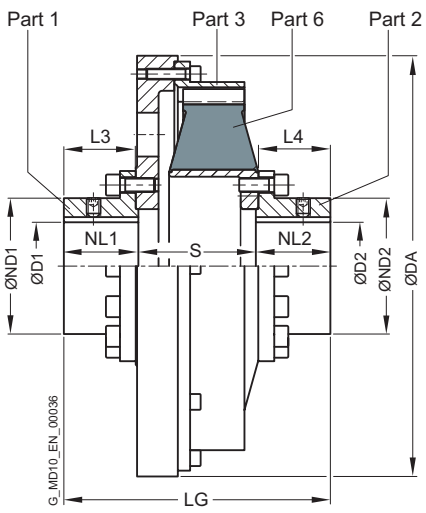
- ELPEX-S ESDR coupling, size 560, WN rubber element version
- Bore ØD2 = 120H7 mm, with keyway to DIN 6885 and set screw, outer flange to SAE J620d size 21

Article no.: 2LC0220-8AE09-1JA0-Z M1S

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE ESNW



Size	Dimensions in mm								Mass moment of inertia		↗ Article no. [1]	Weight
	D1/D2 Keyway DIN 6885 max.	DA	ND1/ND2	NL1/NL2	L3	L4	S	LG	J_1 kgm²	J_2 kgm²		m kg
265	**50**	275	78	65	62	66	68	198	0.11	0.017	**2LC0220-1AG**	15
290	**50**	325	78	65	62	68	89	219	0.21	0.028	**2LC0220-2AG**	22
320	**65**	365	98	87	84	92	105	279	0.37	0.042	**2LC0220-3AG**	32
360	**85**	365	123	88	85	96	123	299	0.45	0.11	**2LC0220-4AG**	43
420	**100**	480	155	85	82	94	134	304	1.5	0.3	**2LC0220-5AG**	75
465	**130**	480	190	119	116	119	125	363	1.6	0.54	**2LC0220-6AG**	89
520	**150**	585	227	162	159	161	123	447	4	0.94	**2LC0220-7AG**	155
560	**150**	585	240	180	174	174	132	492	4.1	1.2	**2LC0220-8AG**	160
580	**160**	685	240	200	195	198	145	545	5.5	1.6	**2LC0221-0AG**	185
680	**200**	685	300	210	205	201	150	570	12	3.6	**2LC0221-1AG**	315
770	**260**	870	390	255	250	253	180	690	27.2	12	**2LC0221-2AG**	500

Configurable variants [1]

• ØD1	Without finished bore With finished bore
• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

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

Ordering example

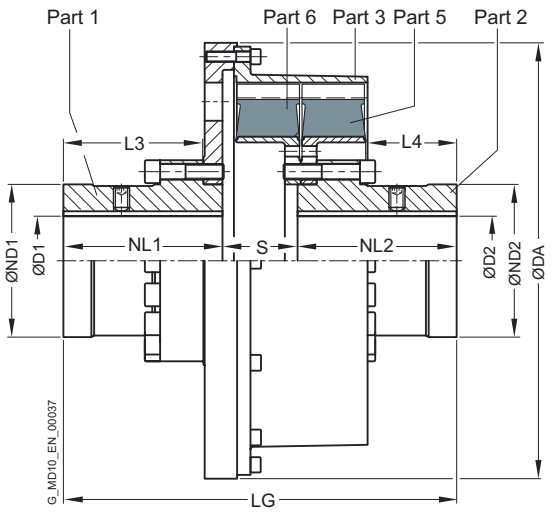
- ELPEX-S ESNW coupling, size 520, WN rubber element version
- Bore ØD1 140H7 mm, keyway to DIN 6885 and set screw
- Bore ØD2 120H7 mm, keyway to DIN 6885 and set screw

Article no.: 2LC0220-7AG99-1AA0-Z L1V+M1S

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE ESDW



Size	Dimensions in mm								Mass moment of inertia		↗ Article no. [1]	Weight
	D1/D2 Keyway DIN 6885 max.	DA	ND1/ND2	NL1/NL2	L3	L4	S	LG	J_1 kgm²	J_2 kgm²		*m* kg
520	**150**	585	227	226	201	135	100	552	4.7	1.8	**2LC0220-7AH**	215
560	**160**	585	240	240	215	133	114	594	5.4	2.5	**2LC0220-8AH**	250
580	**160**	685	240	250	220	140	120	620	10.1	3.2	**2LC0221-0AH**	300
680	**200**	685	300	250	218	134	125	625	14.5	6.5	**2LC0221-1AH**	440
770	**260**	870	390	300	265	238	220	820	40	20	**2LC0221-2AH**	720

Configurable variants [1]

• ØD1	Without finished bore With finished bore
• ØD2	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Notes

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

Ordering example

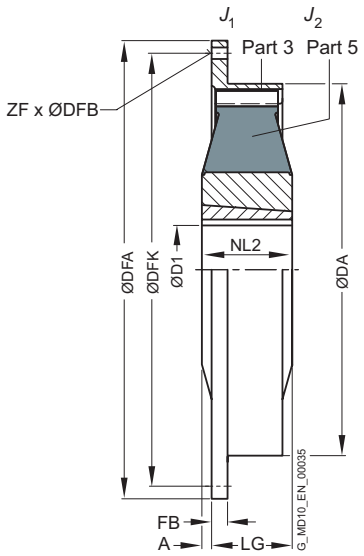
- ELPEX-S ESDW coupling, size 520, WN rubber element version
- Bore ØD1 140H7 mm, keyway to DIN 6885 and set screw
- Bore ØD2 120H7 mm, keyway to DIN 6885 and set screw

Article no.: 2LC0220-7AH99-1AA0-Z L1V+M1S

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

TYPE EST



Size	Taper Clamping Bush Size	Dimensions in mm					Flange connection dimensions						Mass moment of inertia		↗ Article no. [1]	Weight
		D1 Keyway DIN 6885		DA	NL2	A	LG	SAE size	DFA	DFK	FB	ZF	DFB	J_1	J_2		m
		min.	max.											kgm²	kgm²		kg
220	2012	14	**50**	222	32	0	52	6.5	215.9	200.0	6	6	8.5	0.008	0.008	**2LC0220-0AF0**	3.6
							43	7.5	241.3	222.3	33	8	8.5	0.008		**2LC0220-0AF0**	3.5
								8	263.5	244.5	8	6	10.5	0.011		**2LC0220-0AF0**	3.7
								10	314.3	295.3	8	8	10.5	0.020		**2LC0220-0AF0**	4.2
265	2517	16	**60**	263	45	3	42	8	263.5	244.5	33	6	10.5	0.011	0.019	**2LC0220-1AF0**	5.9
								10	314.3	295.3	10	8		0.017		**2LC0220-1AF0**	6.2
								11.5	352.4	333.4	10	8		0.024		**2LC0220-1AF0**	6.5
290	2517	16	**60**	290	64	6	58	10	314.3	295.3	16	8	10.5	0.026	0.026	**2LC0220-2AF0**	8.5
								11.5	352.4	333.4	16	8		0.036		**2LC0220-2AF0**	8.8
320	3030	35	**75**	318	76	2	73	11.5	352.4	333.4	16	8	10.5	0.062	0.06	**2LC0220-3AF0**	14
								14	466.7	438.2	16	8	13	0.18		**2LC0220-3AF0**	17
360	3535	35	**90**	353.5	89	13	76	11.5	352.4	333.4	54	8	10.5	0.065	0.13	**2LC0220-4AF0**	21
								14	466.7	438.2	15	8	13	0.18		**2LC0220-4AF0**	24
420	4040	40	**100**	420	102	10	92	14	466.7	438.2	18	8	13	0.22	0.33	**2LC0220-5AF0**	37
								16	517.5	489.0	18	8	13	0.32		**2LC0220-5AF0**	38
								18	571.5	542.9	18	6	17	0.47		**2LC0220-5AF0**	41
465	4545	55	**110**	465	115	28	87	14	466.7	438.2	85	8	13	0.31	0.76	**2LC0220-6AF0**	63
								16	517.5	489.0	27	8	13	0.41		**2LC0220-6AF0**	64
								18	571.5	542.9	18	6	17	0.52		**2LC0220-6AF0**	68

Configurable variants [1]

• ØD1	Without finished bore With finished bore
• Rubber version	WN NN SN NX

Ordering example

- ELPEX-S EST coupling, size 265,
  WN rubber element version,
  with Taper clamping bush size 2517
- Bore ØD2 = 30 mm, outer flange to SAE J620d size 10

Article no.: 2LC0220-1AF99-1DA0-Z M0S

Notes

- The rubber disk element cannot be dismounted until the machines have been moved.
- Weight and mass moments of inertia apply to maximum bore diameters.

[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

↗ For online configuration on **flender.com**, click on the item no.

SPARE AND WEAR PARTS

Rubber disk elements

Size	↗ Article No. set of rubber disk elements for a coupling Coupling type EST without Taper clamping bush	with Taper clamping bush	ESN	ESNR, ESNW	ESD	ESDR, ESDW
WN rubber version						
220	2LC0220-0XL10-1AA0	2LC0220-0XL90-1AA0	2LC0220-0XJ00-1AA0			
265	2LC0220-1XL10-1AA0	2LC0220-1XL90-1AA0	2LC0220-1XJ00-1AA0	2LC0220-1XM00-1AA0		
290	2LC0220-2XL10-1AA0	2LC0220-2XL90-1AA0	2LC0220-2XJ00-1AA0	2LC0220-2XM00-1AA0		
320	2LC0220-3XL10-1AA0	2LC0220-3XL90-1AA0	2LC0220-3XJ00-1AA0	2LC0220-3XM00-1AA0		
360	2LC0220-4XL10-1AA0	2LC0220-4XL90-1AA0	2LC0220-4XJ00-1AA0	2LC0220-4XM00-1AA0		
420	2LC0220-5XL10-1AA0	2LC0220-5XL90-1AA0	2LC0220-5XJ00-1AA0	2LC0220-5XM00-1AA0		
465	2LC0220-6XL10-1AA0	2LC0220-6XL90-1AA0	2LC0220-6XJ00-1AA0	2LC0220-6XM00-1AA0		
520			2LC0220-7XJ00-1AA0	2LC0220-7XM00-1AA0	2LC0220-7XK00-1AA0	2LC0220-7XN00-1AA0
560			2LC0220-8XJ00-1AA0	2LC0220-8XM00-1AA0	2LC0220-8XK00-1AA0	2LC0220-8XN00-1AA0
580			2LC0221-0XJ00-1AA0	2LC0221-0XM00-1AA0	2LC0221-0XK00-1AA0	2LC0221-0XN00-1AA0
680			2LC0221-1XJ00-1AA0	2LC0221-1XM00-1AA0	2LC0221-1XK00-1AA0	2LC0221-1XN00-1AA0
770				2LC0221-2XM00-1AA0		2LC0221-2XN00-1AA0
NN rubber version						
220	2LC0220-0XL10-2AA0	2LC0220-0XL90-2AA0	2LC0220-0XJ00-2AA0			
265	2LC0220-1XL10-2AA0	2LC0220-1XL90-2AA0	2LC0220-1XJ00-2AA0	2LC0220-1XM00-2AA0		
290	2LC0220-2XL10-2AA0	2LC0220-2XL90-2AA0	2LC0220-2XJ00-2AA0	2LC0220-2XM00-2AA0		
320	2LC0220-3XL10-2AA0	2LC0220-3XL90-2AA0	2LC0220-3XJ00-2AA0	2LC0220-3XM00-2AA0		
360	2LC0220-4XL10-2AA0	2LC0220-4XL90-2AA0	2LC0220-4XJ00-2AA0	2LC0220-4XM00-2AA0		
420	2LC0220-5XL10-2AA0	2LC0220-5XL90-2AA0	2LC0220-5XJ00-2AA0	2LC0220-5XM00-2AA0		
465	2LC0220-6XL10-2AA0	2LC0220-6XL90-2AA0	2LC0220-6XJ00-2AA0	2LC0220-6XM00-2AA0		
520			2LC0220-7XJ00-2AA0	2LC0220-7XM00-2AA0	2LC0220-7XK00-2AA0	2LC0220-7XN00-2AA0
560			2LC0220-8XJ00-2AA0	2LC0220-8XM00-2AA0	2LC0220-8XK00-2AA0	2LC0220-8XN00-2AA0
580			2LC0221-0XJ00-2AA0	2LC0221-0XM00-2AA0	2LC0221-0XK00-2AA0	2LC0221-0XN00-2AA0
680			2LC0221-1XJ00-2AA0	2LC0221-1XM00-2AA0	2LC0221-1XK00-2AA0	2LC0221-1XN00-2AA0
770				2LC0221-2XM00-2AA0		2LC0221-2XN00-2AA0
SN rubber version						
220	2LC0220-0XL10-3AA0	2LC0220-0XL90-3AA0	2LC0220-0XJ00-3AA0			
265	2LC0220-1XL10-3AA0	2LC0220-1XL90-3AA0	2LC0220-1XJ00-3AA0	2LC0220-1XM00-3AA0		
290	2LC0220-2XL10-3AA0	2LC0220-2XL90-3AA0	2LC0220-2XJ00-3AA0	2LC0220-2XM00-3AA0		
320	2LC0220-3XL10-3AA0	2LC0220-3XL90-3AA0	2LC0220-3XJ00-3AA0	2LC0220-3XM00-3AA0		
360	2LC0220-4XL10-3AA0	2LC0220-4XL90-3AA0	2LC0220-4XJ00-3AA0	2LC0220-4XM00-3AA0		
420	2LC0220-5XL10-3AA0	2LC0220-5XL90-3AA0	2LC0220-5XJ00-3AA0	2LC0220-5XM00-3AA0		
465	2LC0220-6XL10-3AA0	2LC0220-6XL90-3AA0	2LC0220-6XJ00-3AA0	2LC0220-6XM00-3AA0		
520			2LC0220-7XJ00-3AA0	2LC0220-7XM00-3AA0	2LC0220-7XK00-3AA0	2LC0220-7XN00-3AA0
560			2LC0220-8XJ00-3AA0	2LC0220-8XM00-3AA0	2LC0220-8XK00-3AA0	2LC0220-8XN00-3AA0
580			2LC0221-0XJ00-3AA0	2LC0221-0XM00-3AA0	2LC0221-0XK00-3AA0	2LC0221-0XN00-3AA0
680			2LC0221-1XJ00-3AA0	2LC0221-1XM00-3AA0	2LC0221-1XK00-3AA0	2LC0221-1XN00-3AA0
770				2LC0221-2XM00-3AA0		2LC0221-2XN00-3AA0
NX rubber version						
220	2LC0220-0XL10-4AA0	2LC0220-0XL90-4AA0	2LC0220-0XJ00-4AA0			
265	2LC0220-1XL10-4AA0	2LC0220-1XL90-4AA0	2LC0220-1XJ00-4AA0	2LC0220-1XM00-4AA0		
290	2LC0220-2XL10-4AA0	2LC0220-2XL90-4AA0	2LC0220-2XJ00-4AA0	2LC0220-2XM00-4AA0		
320	2LC0220-3XL10-4AA0	2LC0220-3XL90-4AA0	2LC0220-3XJ00-4AA0	2LC0220-3XM00-4AA0		
360	2LC0220-4XL10-4AA0	2LC0220-4XL90-4AA0	2LC0220-4XJ00-4AA0	2LC0220-4XM00-4AA0		
420	2LC0220-5XL10-4AA0	2LC0220-5XL90-4AA0	2LC0220-5XJ00-4AA0	2LC0220-5XM00-4AA0		
465	2LC0220-6XL10-4AA0	2LC0220-6XL90-4AA0	2LC0220-6XJ00-4AA0	2LC0220-6XM00-4AA0		
520			2LC0220-7XJ00-4AA0	2LC0220-7XM00-4AA0	2LC0220-7XK00-4AA0	2LC0220-7XN00-4AA0
560			2LC0220-8XJ00-4AA0	2LC0220-8XM00-4AA0	2LC0220-8XK00-4AA0	2LC0220-8XN00-4AA0
580			2LC0221-0XJ00-4AA0	2LC0221-0XM00-4AA0	2LC0221-0XK00-4AA0	2LC0221-0XN00-4AA0
680			2LC0221-1XJ00-4AA0	2LC0221-1XM00-4AA0	2LC0221-1XK00-4AA0	2LC0221-1XN00-4AA0
770				2LC0221-2XM00-4AA0		2LC0221-2XN00-4AA0

Notes

- The ELPEX-S coupling rubber disk elements are wear parts. The service life depends on the operating conditions.