TORSIONALLY RIGID GEAR COUPLINGS ZAPEX ZN SERIES

5

ZAPEX ZN
FLENDER

GENERAL

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

CE II 2G Ex h IIC T6 ... T5 Gb X

II 2D Ex h IIIC T85 °C ... 100 °C Db X

I M2 Ex h Mb X

Materials

- Hubs and flanged sleeves: Steel
- O ring: Perbunan
- Lubricant: Grease filling

Benefits

ZAPEX gear couplings link machine shafts and compensate for shaft misalignment with weak restorative forces. High transmissible torque combined with compactness and light weight are characteristic of ZAPEX couplings. ZAPEX coupling types are constructed on a modular principle, so application-related solutions can be delivered quickly.

This coupling requires very little maintenance. Regular grease changes at the prescribed intervals prolong the service life of the coupling.

Application

ZAPEX couplings are especially suited for operation in harsh operating conditions, such as drives in the iron smelting or cement industry.

ZAPEX couplings are suitable for reverse operation and horizontal mounting positions and, in the case of type ZNNV, for vertical mounting positions.

GENERAL

Design and configurations

A ZAPEX coupling comprises two hub sections with external teeth which are mounted on the machine shafts. The external teeth engage with a flanged sleeve with corresponding internal teeth. The flanged sleeves are connected via two flanges with close-fitting bolts. The teeth are lubricated with grease. On the ZAPEX type ZN, O-rings are used to seal the tooth space. The O-rings prevent the lubricant from escaping and dirt from entering the tooth space. The parallel keyways must be sealed during assembly to prevent lubricant from escaping. Customized hub designs are described after the types.

Type	Description
ZNN	Standard type
ZNZS	with adapter
ZNW	with intermediate shaft
ZNBG	with straight brake disk
ZNNA	With axial backlash limiter
ZNZA	With adapter and axial backlash limiter
ZNNV	Vertical type
ZNN	For axial displacement

Further application-specific coupling types are available; dimension sheets for and information on these are available on request.

Function

The torque is transmitted through the coupling teeth. The teeth are crowned, so angular displacement per tooth plane is possible. Radial displacement can be compensated for via the space VA between the tooth planes. The internal teeth of the flanged sleeves are significantly wider than the external teeth of the hub parts, permitting a relatively high axial misalignment.

A small angular misalignment on the coupling teeth results in an advantageous distribution of the lubricant film in contact with the teeth and a very low wear rate. This favorable condition can be deliberately set by aligning the drive with the machine shafts with a slight radial misalignment.

Technical specifications

Power ratings

Size	Rated torque T_{KN} Nm	Maximum torque T_{Kmax} Nm	Overload torque T_{KOL} Nm	Fatigue torque T_{KW} Nm	Torsional stiffness ZN C_{Tdyn} kNm/rad	Permitted axial shaft misalignment ΔK_a mm
83	1020	2040	4080	408	500	1
107	2210	4420	8840	884	1400	1
130	4020	8040	16080	1600	2500	1
156	6600	13200	26400	2640	5800	1
181	11000	22000	44000	4400	9200	1
211	19200	38400	76800	7680	16600	1
250	30680	61360	122720	12270	27300	1
274	43550	87100	174200	17400	41500	1.5
307	61750	123500	247000	24700	61000	1.5
333	87100	174200	348400	34800	79000	1.5
364	117000	234000	468000	46800	99000	1.5
424	162500	325000	650000	64800	156000	1.5

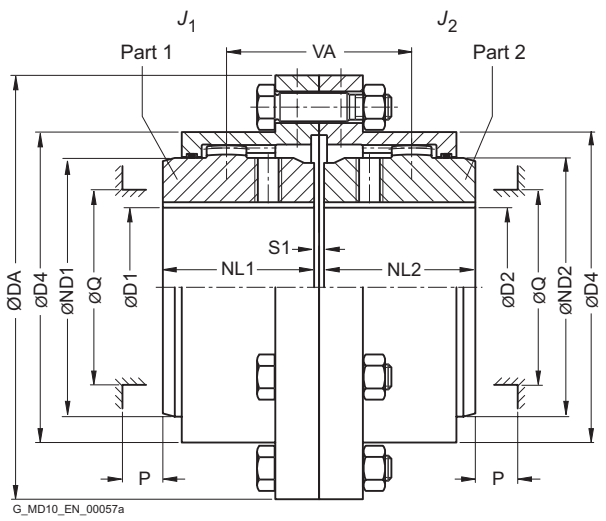
The specified torsional stiffness "ZN" applies to coupling types ZNN, ZNNA, ZNNV and ZNN for axial displacement. Torsional stiffness of types ZNZS, ZNW, ZNBG and ZNZA on request.

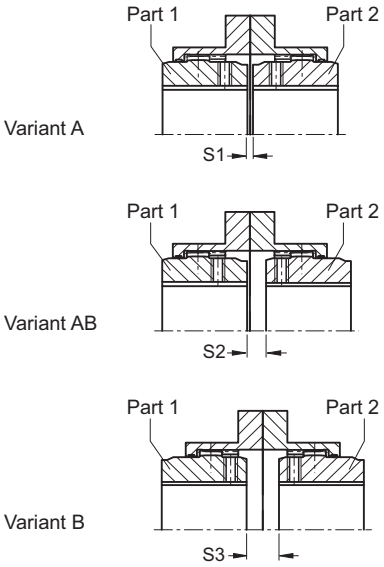
The axial misalignment ΔK_a must be understood as the maximum permitted enlargement of the hub distance S of the coupling.
The axial misalignment ΔK_a does not apply to the types ZNNA, ZNNV, ZNBG and ZNZA.

Angular misalignment ΔK_w
Types ZNN, ZNZS, ZNW, ZNNV, ZNN for axial displacement: $\Delta K_w = 0.5°$
Types ZNBG, ZNNA, ZNZA: $\Delta K_w = 0.2°$

Radial misalignment ΔK_r
Types ZNN, ZNZS, ZNW, ZNNV, ZNN for axial displacement: $\Delta K_r \leqslant VA \cdot \tan 0.5°$
Types ZNBG, ZNNA, ZNZA: $\Delta K_r \leqslant VA \cdot \tan 0.2°$
For the tooth distance VA, see the relevant table for the subassembly.

TYPE ZNN





Size	Rated torque	Maximum speed	Dimensions in mm											Mass moment of inertia	↗ Article no. [1]			Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S1	S2	S3	VA	Q	P	J_1/J_2	Type			m
	Nm	rpm	min.	max.				min.	max.						kgm²	A	B	AB	kg
83	1020	8500	0	50	117	67	43	83	3	12	21	55	52	31	0.003	2LC0330-0AA	2LC0330-0AB	2LC0330-0AC	3.2
107	2210	7700	0	65	152	87	50	107	3	9	15	59	68	34	0.009	2LC0330-1AA	2LC0330-1AB	2LC0330-1AC	6.5
130	4020	6900	0	82	178	108	62	129.5	3	17	31	79	85	42	0.02	2LC0330-2AA	2LC0330-2AB	2LC0330-2AC	9.8
156	6600	6200	0	100	213	130	76	156	5	17	29	93	110	47	0.05	2LC0330-3AA	2LC0330-3AB	2LC0330-3AC	17.5
181	11000	5800	0	116	240	153	90	181	5	19	33	109	130	58	0.09	2LC0330-4AA	2LC0330-4AB	2LC0330-4AC	25.5
211	19200	5100	0	137	280	180	105	211	6	23	40	128	150	67	0.21	2LC0330-5AA	2LC0330-5AB	2LC0330-5AC	43
250	30680	4500	0	164	318	214	120	249.5	6	24	42	144	175	72	0.39	2LC0330-6AA	2LC0330-6AB	2LC0330-6AC	60
274	43550	4000	80	178	347	233	135	274	8	29	50	164	190	81	0.59	2LC0330-7AA	2LC0330-7AB	2LC0330-7AC	82
307	61750	3750	90	198	390	260	150	307	8	32	56	182	220	91	1.1	2LC0330-8AA	2LC0330-8AB	2LC0330-8AC	115
333	87100	3550	100	216	425.5	283	175	332.5	8	39	70	214	250	104	1.8	2LC0331-0AA	2LC0331-0AB	2LC0331-0AC	155
364	117000	3400	120	242	457	312	190	364	8	46	84	236	265	126	2.3	2LC0331-1AA	2LC0331-1AB	2LC0331-1AC	180
424	162500	3200	150	288	527	371	220	423.5	10	43	76	263	300	140	4.9	2LC0331-2AA	2LC0331-2AB	2LC0331-2AC	275

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- Mass moments of inertia apply to a coupling half with maximum bore diameter.
- Weights apply to the entire coupling with maximum bores.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

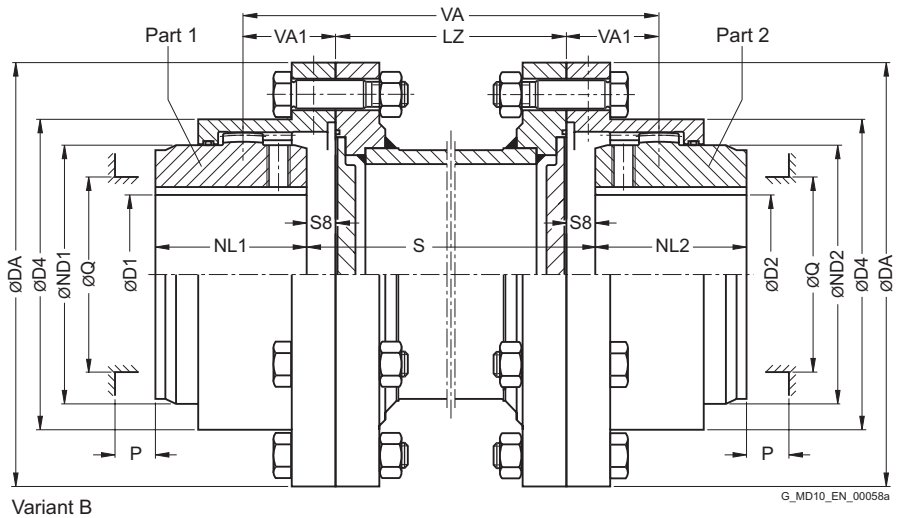
- ZAPEX ZNN coupling, size 107, variant A
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-1AA99-0AA0-Z L0W+M1A+M13

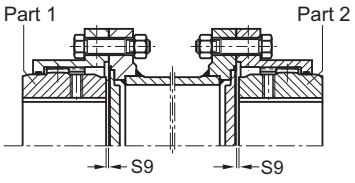
[1] To identify complete item numbers specifying the available finish boring options and – if necessary – further order options, please use our configurators on **flender.com**.

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

TYPE ZNZS



Variant B



Variant A

Size	Rated torque	Dimensions in mm											↗ Article no. [1]		Weight each 100 mm pipe	
	T_{KN}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S8	S9	VA1	Q	P	LZ	Type		*m*	*m*
	Nm	min.	max.										min.	A	B	kg	kg
83	**1020**	0	**50**	117	67	43	83	10.5	1.5	27.5	52	31	75	**2LC0330-0AD**	**2LC0330-0AE**	0.9	5.5
107	**2210**	0	**65**	152	87	50	107	7.5	1.5	29.5	68	34	85	**2LC0330-1AD**	**2LC0330-1AE**	0.8	12
130	**4020**	0	**82**	178	108	62	129.5	15.5	1.5	39.5	85	42	95	**2LC0330-2AD**	**2LC0330-2AE**	1.2	16
156	**6600**	0	**100**	213	130	76	156	14.5	2.5	46.5	110	47	110	**2LC0330-3AD**	**2LC0330-3AE**	2.3	28
181	**11000**	0	**116**	240	153	90	181	16.5	2.5	54.5	130	58	110	**2LC0330-4AD**	**2LC0330-4AE**	3.5	40
211	**19200**	0	**137**	280	180	105	211	20	3	64	150	67	125	**2LC0330-5AD**	**2LC0330-5AE**	4.5	64
250	**30680**	0	**164**	318	214	120	249.5	21	3	72	175	72	125	**2LC0330-6AD**	**2LC0330-6AE**	6.3	91
274	**43550**	80	**178**	347	233	135	274	25	4	82	190	81	125	**2LC0330-7AD**	**2LC0330-7AE**	7.2	115
307	**61750**	90	**198**	390	260	150	307	28	4	91	220	91	145	**2LC0330-8AD**	**2LC0330-8AE**	9.1	175
333	**87100**	100	**216**	425.5	283	175	332.5	35	4	107	250	104	145	**2LC0331-0AD**	**2LC0331-0AE**	12	220
364	**117000**	120	**242**	457	312	190	364	42	4	118	265	126	145	**2LC0331-1AD**	**2LC0331-1AE**	15	245
424	**162500**	150	**288**	527	371	220	423.5	38	5	131.5	300	140	145	**2LC0331-2AD**	**2LC0331-2AE**	16	360

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- VA = 2 · VA1 + LZ
- Mass moment of inertia on request.
- Weights apply to the entire coupling with maximum bores and an adapter length of LZ min.
- Maximum speed, limited by weight and critical adapter speed, on request.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

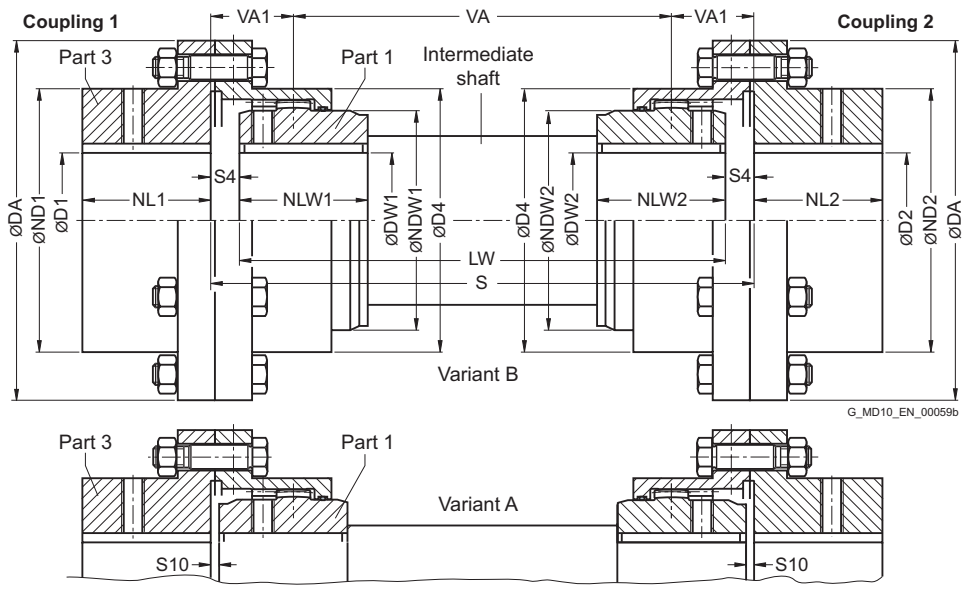
- ZAPEX ZNZS coupling, size 107, variant B, adapter for S = 250 mm
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-1AE99-0AZ0-Z L0W+M1A+Q0Y+M13
Plain text to Q0Y: 250 mm (dimension S)

[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 ZNW



Size	Rated torque	Dimensions in mm											↗ Article no. [1]		Weight
	T_{KN}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/NL2/ NLW1/LW2	DW1, DW2 Keyway DIN 6885-1		NDW1/ NDW2	D4	S4	S10	VA1	Type		*m*
	Nm	min.	max.				min.	max.						A	B	kg
83	**1020**	0	**61**	117	83	43	0	**50**	67	83	12	3	29	**2LC0330-0AV**	**2LC0330-0AW**	3.1
107	**2210**	0	**79**	152	107	50	0	**65**	87	107	9	3	31	**2LC0330-1AV**	**2LC0330-1AW**	6.2
130	**4020**	0	**96**	178	129.5	62	0	**82**	108	129.5	17	3	41	**2LC0330-2AV**	**2LC0330-2AW**	9.5
156	**6600**	0	**116**	213	156	76	0	**100**	130	156	17	5	49	**2LC0330-3AV**	**2LC0330-3AW**	17
181	**11000**	0	**134**	240	181	90	0	**116**	153	181	19	5	57	**2LC0330-4AV**	**2LC0330-4AW**	24.5
211	**19200**	0	**156**	280	211	105	0	**137**	180	211	23	6	67	**2LC0330-5AV**	**2LC0330-5AW**	41
250	**30680**	0	**184**	318	249.5	120	0	**164**	214	249.5	24	6	75	**2LC0330-6AV**	**2LC0330-6AW**	58
274	**43550**	80	**202**	347	274	135	80	**178**	233	274	29	8	86	**2LC0330-7AV**	**2LC0330-7AW**	76
307	**61750**	90	**228**	390	307	150	90	**198**	260	307	32	8	95	**2LC0330-8AV**	**2LC0330-8AW**	110
333	**87100**	100	**247**	425.5	332.5	175	100	**216**	283	332.5	39	8	111	**2LC0331-0AV**	**2LC0331-0AW**	150
364	**117000**	120	**270**	457	364	190	120	**242**	312	364	46	8	122	**2LC0331-1AV**	**2LC0331-1AW**	170
424	**162500**	150	**313**	527	423.5	220	150	**288**	371	423.5	43	10	136.5	**2LC0331-2AV**	**2LC0331-2AW**	270

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

[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.

Notes

- VA = S – 2 · VA1
- Mass moment of inertia on request.
- Weights apply to either coupling 1 or 2 with maximum bores, without intermediate shaft.
- Maximum speed, limited by weight and critical speed of intermediate shaft, on request.

Ordering example

- Coupling 1:
  ZAPEX ZNW coupling, size 107, variant B,
  Part 3: Bore 45K7 mm, keyway to DIN 6885-1 P9
  and set screw, Part 1: Bore 45H7 mm,
  keyway to DIN 6885-1 P9 and set screw.

Article no.: 2LC0330-1AW99-0AA0-Z L1A+L13+M1A

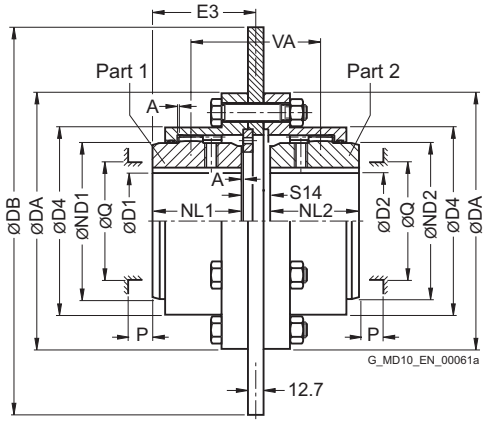
- Intermediate shaft:
  Intermediate shaft to ZAPEX ZNW coupling, size 107,
  length LW = 570 mm, shaft journal Ø45p6 x 50 long;
  keyway DIN 6885-1.

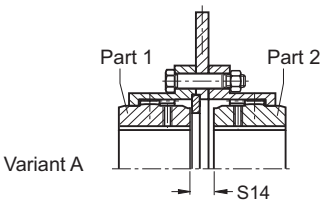
Article no.: 2LC9310-0XH00-0AA0-Z Y99
Plain text to Y99: DW1 = 45p6 mm, NLW1 = 50 mm,
DW2 = 45p6 mm, NLW2 = 50 mm, LW = 570 mm

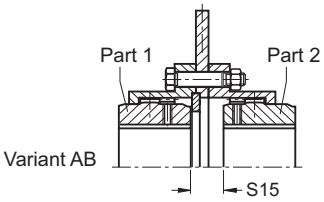
- Coupling 2:
  ZAPEX ZNW coupling, size 107, variant B,
  Part 1: Bore 45H7 mm, keyway to DIN 6885-1 P9
  and set screw, Part 3: Bore 45K7 mm,
  keyway to DIN 6885-1 P9 and set screw.

Article no.: 2LC0330-0AW99-0AA0-Z L1A+M1A+L13

TYPE ZNBG







Size	Rated torque	Maximum speed	Dimensions in mm												Brake disk		↗ Article no. [1]		Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S14	S15	A	VA	Q	P	DB	E3	Type		*m*
	Nm	rpm	min.	max.													A	AB	kg
83	**1020**	3800	0	**50**	117	67	43	83	17	26	0.5	69	52	31	300	52	**2LC0330-0AQ**	**2LC0330-0AR**	10
107	**2210**	3200	0	**65**	152	87	50	107	20.5	26.5	0.5	76.5	68	34	356	61	**2LC0330-1AQ**	**2LC0330-1AR**	16
130	**4020**	3200	0	**82**	178	108	62	129.5	20.5	34.5	0.5	96.5	85	42	356	73	**2LC0330-2AQ**	**2LC0330-2AR**	16.5
		2800							17.5	31.5		93.5			406	71.5	**2LC0330-2AQ**	**2LC0330-2AR**	19.5
156	**6600**	2800	0	**100**	213	130	76	156	20	32	0.5	108	110	47	406	87	**2LC0330-3AQ**	**2LC0330-3AR**	29
		2500							23	35		111			457	88.5	**2LC0330-3AQ**	**2LC0330-3AR**	33
181	**11000**	2800	0	**116**	240	153	90	181	20	34	0.5	124	130	58	406	101	**2LC0330-4AQ**	**2LC0330-4AR**	38
		2500							23	37		127			457	102.5	**2LC0330-4AQ**	**2LC0330-4AR**	42
		2200							23	37		127			514	102.5	**2LC0330-4AQ**	**2LC0330-4AR**	46
211	**19200**	2500	0	**137**	280	180	105	211	24.5	41.5	0.5	146.5	150	67	457	118.5	**2LC0330-5AQ**	**2LC0330-5AR**	58
		2200							24.5	41.5		146.5			514	118.5	**2LC0330-5AQ**	**2LC0330-5AR**	63
		1850							24.5	41.5		146.5			610	118.5	**2LC0330-5AQ**	**2LC0330-5AR**	71
250	**30680**	2200	0	**164**	318	214	120	249.5	24	42	1	162	175	72	514	133	**2LC0330-6AQ**	**2LC0330-6AR**	77
		1850							24	42		162			610	133	**2LC0330-6AQ**	**2LC0330-6AR**	87
		1600							27	45		165			711	134.5	**2LC0330-6AQ**	**2LC0330-6AR**	97

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

[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	Rated torque	Maximum speed	Dimensions in mm												Brake disk		↗ Article no. [1]		Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S14	S15	A	VA	Q	P	DB	E3	Type		m
	Nm	rpm	min.	max.													A	AB	kg
274	43550	2200	80	178	347	233	135	274	26.5	47.5	1	182.5	190	81	514	149.5	2LC0330-7AQ	2LC0330-7AR	97
		1850							26.5	47.5		182.5			610	149.5	2LC0330-7AQ	2LC0330-7AR	105
		1600							29.5	50.5		185.5			711	151	2LC0330-7AQ	2LC0330-7AR	115
		1400							35.5	56.5		191.5			812	154	2LC0330-7AQ	2LC0330-7AR	130
307	61750	1850	90	198	390	260	150	307	27	51	1	201	220	91	610	165	2LC0330-8AQ	2LC0330-8AR	140
		1600							30	54		204			711	166.5	2LC0330-8AQ	2LC0330-8AR	155
		1400							36	60		210			812	169.5	2LC0330-8AQ	2LC0330-8AR	170
333	87100	1600	100	216	425.5	283	175	332.5	30	61	1	236	250	104	711	191.5	2LC0331-0AQ	2LC0331-0AR	190
		1400							36	67		242			812	194.5	2LC0331-0AQ	2LC0331-0AR	205
364	117000	1400	120	242	457	312	190	364	36	74	1	264	265	126	812	209.5	2LC0331-1AQ	2LC0331-1AR	235

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- Mass moment of inertia on request.
- Weights apply to maximum bores.
- Variant limited in displacement and axial movement. Max. displacement 0.2°.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

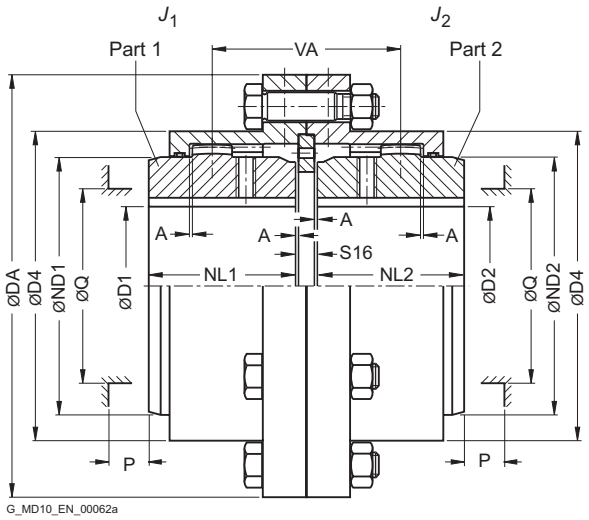
- ZAPEX ZNBG coupling, size 107, variant A, brake disk diameter DB = 356 mm
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-1AQ99-0AA0-Z L0W+M1A+M13

[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 ZNNA



Size	Rated torque	Maximum speed	Dimensions in mm										Mass moment of inertia	↗ Article no. [1]	Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S16	A	VA	Q	P	J_1/J_2		m
	Nm	rpm	min.	max.										kgm²		kg
83	**1020**	8500	0	**50**	117	67	43	83	5	0.5	57	52	31	0.003	**2LC0330-0AF**	3.3
107	**2210**	7700	0	**65**	152	87	50	107	6	0.5	62	68	34	0.01	**2LC0330-1AF**	6.7
130	**4020**	6900	0	**82**	178	108	62	129.5	6	0.5	82	85	42	0.021	**2LC0330-2AF**	10.5
156	**6600**	6200	0	**100**	213	130	76	156	9	0.5	97	110	47	0.05	**2LC0330-3AF**	18
181	**11000**	5800	0	**116**	240	153	90	181	9	0.5	113	130	58	0.095	**2LC0330-4AF**	26.5
211	**19200**	5100	0	**137**	280	180	105	211	11	0.5	133	150	67	0.22	**2LC0330-5AF**	44
250	**30680**	4500	0	**164**	318	214	120	249.5	10	1	148	175	72	0.4	**2LC0330-6AF**	62
274	**43550**	4000	80	**178**	347	233	135	274	13	1	169	190	81	0.64	**2LC0330-7AF**	82
307	**61750**	3750	90	**198**	390	260	150	307	14	1	188	220	91	1.1	**2LC0330-8AF**	115
333	**87100**	3550	100	**216**	425.5	283	175	332.5	14	1	220	250	104	1.8	**2LC0331-0AF**	155
364	**117000**	3400	120	**242**	457	312	190	364	14	1	242	265	126	2.4	**2LC0331-1AF**	185
424	**162500**	3200	150	**288**	527	371	220	423.5	18	1	271	300	140	4.9	**2LC0331-2AF**	285

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- Mass moments of inertia apply to a coupling half with maximum bore diameter.
- Weights apply to the entire coupling with maximum bores.
- Variant limited in displacement and axial movement. Max. displacement 0.2°.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

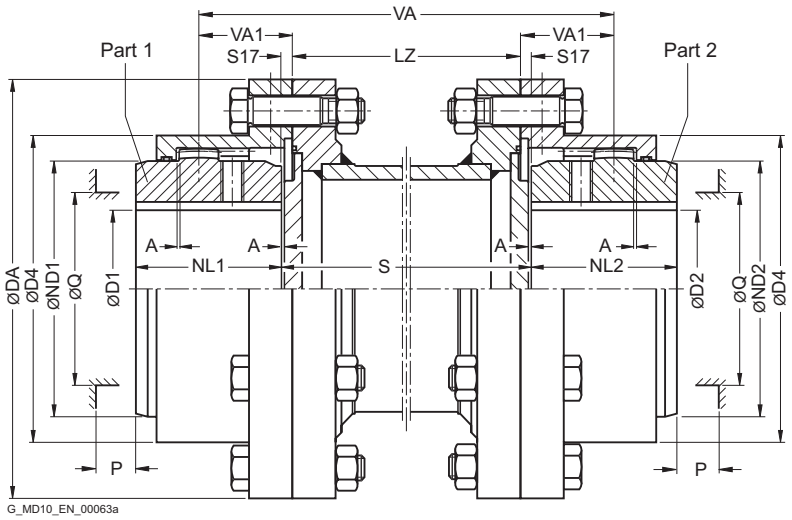
- ZAPEX ZNNA coupling, size 107
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-1AF99-0AA0-Z L0W+M1A+M13

[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 ZNZA



Size	Rated torque	Dimensions in mm												Article no. [1]	Weight each 100 mm pipe	
	T_{KN}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S17	A	VA1	Q	P	LZ		*m*	*m*
	Nm	min.	max.										min.		kg	kg
83	**1020**	0	**50**	117	67	43	83	2.5	0.5	28.5	52	31	75	**2LC0330-0AG**	0.9	5.5
107	**2210**	0	**65**	152	87	50	107	3	0.5	31	68	34	85	**2LC0330-1AG**	0.8	12
130	**4020**	0	**82**	178	108	62	129.5	3	0.5	41	85	42	95	**2LC0330-2AG**	1.2	16
156	**6600**	0	**100**	213	130	76	156	4.5	0.5	48.5	110	47	110	**2LC0330-3AG**	2.3	28
181	**11000**	0	**116**	240	153	90	181	4.5	0.5	56.5	130	58	110	**2LC0330-4AG**	3.5	40
211	**19200**	0	**137**	280	180	105	211	5.5	0.5	66.5	150	67	125	**2LC0330-5AG**	4.5	64
250	**30680**	0	**164**	318	214	120	249.5	5	1	74	175	72	125	**2LC0330-6AG**	6.3	91
274	**43550**	80	**178**	347	233	135	274	6.5	1	84.5	190	81	125	**2LC0330-7AG**	7.2	115
307	**61750**	90	**198**	390	260	150	307	7	1	94	220	91	145	**2LC0330-8AG**	9.1	175
333	**87100**	100	**216**	425.5	283	175	332.5	7	1	110	250	104	145	**2LC0331-0AG**	12	220
364	**117000**	120	**242**	457	312	190	364	7	1	121	265	126	145	**2LC0331-1AG**	15	245
424	**162500**	150	**288**	527	371	220	423.5	9	1	135.5	300	140	145	**2LC0331-2AG**	16	360

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- VA = 2 · VA1 + LZ
- Mass moment of inertia on request.
- Weights apply to the entire coupling with maximum bores and an adapter length of LZ min.
- Maximum speed, limited by weight and critical adapter speed, on request.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

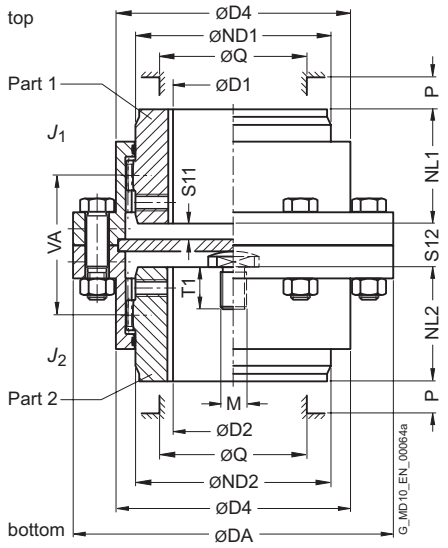
- ZAPEX ZNZA coupling, size 107, adapter for S = 250 mm
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-1AG99-0AZ0-Z L0W+M1A+Q0Y+M13
Plain text to Q0Y: 250 mm (dimension S)

[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 ZNNV



Size	Rated torque	Maximum speed	Dimensions in mm										Mass moment of inertia	↗ Article no. [1]	Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S11	S12	VA1	Q	P	J_1/J_2		m
	Nm	rpm	min.	max.										kgm²		kg
83	**1020**	8500	0	**50**	117	67	43	83	8	21	55	52	31	0.003	**2LC0330-0AH**	3.5
107	**2210**	7700	0	**65**	152	87	50	107	4.5	15	59	68	34	0.009	**2LC0330-1AH**	6.6
130	**4020**	6900	0	**82**	178	108	62	129.5	12.5	31	79	85	42	0.023	**2LC0330-2AH**	10.5
156	**6600**	6200	0	**100**	213	130	76	156	10.5	29	93	110	47	0.055	**2LC0330-3AH**	17
181	**11000**	5800	0	**116**	240	153	90	181	12.5	33	109	130	58	0.1	**2LC0330-4AH**	25.5
211	**19200**	5100	0	**137**	280	180	105	211	15	40	128	150	67	0.22	**2LC0330-5AH**	40
250	**30680**	4500	0	**164**	318	214	120	249.5	17	42	144	175	72	0.37	**2LC0330-6AH**	54
274	**43550**	4000	80	**178**	347	233	135	274	19.5	50	164	190	81	0.64	**2LC0330-7AH**	87
307	**61750**	3750	90	**198**	390	260	150	307	22	56	182	220	91	1.2	**2LC0330-8AH**	130
333	**87100**	3550	100	**216**	425.5	283	175	332.5	29	70	214	250	104	1.8	**2LC0331-0AH**	160
364	**117000**	3400	120	**242**	457	312	190	364	36	84	236	265	126	2.6	**2LC0331-1AH**	190
424	**162500**	3200	150	**288**	527	371	220	423.5	30	76	263	300	140	5.4	**2LC0331-2AH**	270

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- Mass moments of inertia apply to a coupling half with maximum bore diameter.
- Weights apply to the entire coupling with maximum bores.
- When ordering, state thread size M and thread length T1 of the thrust piece.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

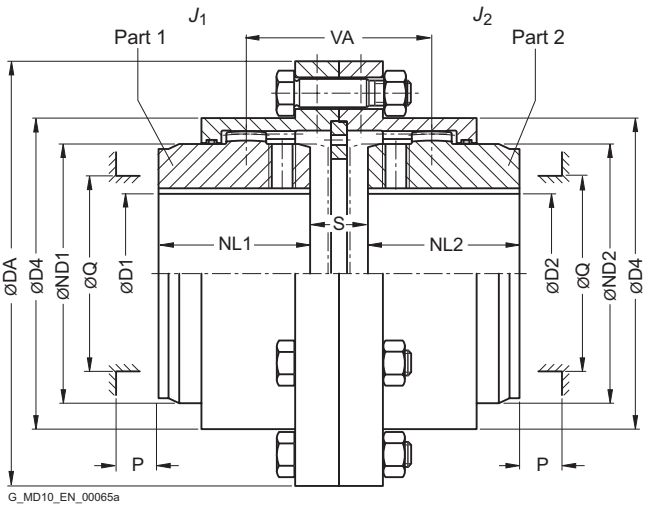
- ZAPEX ZNNV coupling, size 107
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw, thread M10 x 20 deep.

Article no.: 2LC0330-1AH99-0AA0-Z L0W+M1A+M13+Y99
Plain text to Y99: Thread M10 x 20

[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 ZNN FOR AXIAL DISPLACEMENT



Size	Rated torque	Maximum speed	Dimensions in mm											Mass moment of inertia	↗ Article no. [1]	Weight
	T_{KN}	n_{Kmax}	D1, D2 Keyway DIN 6885-1		DA	ND1/ ND2	NL1/ NL2	D4	S		VA	Q	P	J_1/J_2		m
	Nm	rpm	min.	max.					min.	max.				kgm²		kg
83	**1020**	8500	0	**50**	117	67	43	83	6	21	55	52	31	0.003	**2LC0330-0AY**	3.3
107	**2210**	7700	0	**65**	152	87	50	107	7	15	59	68	34	0.01	**2LC0330-1AY**	6.7
130	**4020**	6900	0	**82**	178	108	62	129.5	16	31	79	85	42	0.021	**2LC0330-2AY**	10.5
156	**6600**	6200	0	**100**	213	130	76	156	11	29	93	110	47	0.05	**2LC0330-3AY**	18
181	**11000**	5800	0	**116**	240	153	90	181	11	33	109	130	58	0.095	**2LC0330-4AY**	26.5
211	**19200**	5100	0	**137**	280	180	105	211	14	40	128	150	67	0.22	**2LC0330-5AY**	44
250	**30680**	4500	0	**164**	318	214	120	249.5	12	42	144	175	72	0.4	**2LC0330-6AY**	62
274	**43550**	4000	80	**178**	347	233	135	274	16	50	164	190	81	0.64	**2LC0330-7AY**	82
307	**61750**	3750	90	**198**	390	260	150	307	17	56	182	220	91	1.1	**2LC0330-8AY**	115
333	**87100**	3550	100	**216**	425.5	283	175	332.5	17	70	214	250	104	1.8	**2LC0331-0AY**	155
364	**117000**	3400	120	**242**	457	312	190	364	17	84	236	265	126	2.4	**2LC0331-1AY**	185
424	**162500**	3200	150	**288**	527	371	220	423.5	23	76	263	300	140	4.9	**2LC0331-2AY**	285

Configurable variants [1]

- ØD1 Without finished bore
  With finished bore
- ØD2 Without finished bore
  With finished bore

Notes

- VA Valid at S max.
- Mass moments of inertia apply to a coupling half with maximum bore diameter.
- Weights apply to the entire coupling with maximum bores.
- Q Diameter required for renewing the sealing rings.
  P Length required for renewing the sealing rings, aligning the coupling parts and tightening the set screw.

Ordering example

- ZAPEX ZNN coupling for axial displacement, size 107, S min. = 7 mm, S max. = 15 mm
- Part 1: Bore 40H7mm, keyway to DIN 6885-1 P9 and set screw
- Part 2: Bore 45K7 mm, keyway to DIN 6885-1 P9 and set screw

Article no.: 2LC0330-0AY99-0AA0-Z L0W+M1A+M13

[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.

CUSTOMIZED HUB DESIGN

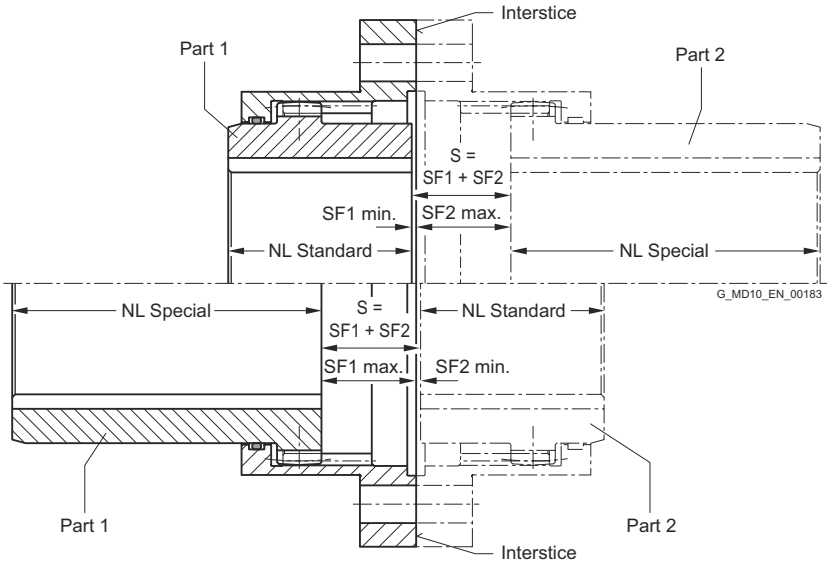
ZAPEX couplings can be provided with customized S-dimensions and hub lengths.

The entire dimension S results from the sum of the individual measurements SF1 and SF2. SF1 and SF2 are the measurements from the interstice of the coupling ring flange up to the beginning of the respective hub. As standard SF1 and SF2 are identical to each other and the entire S-dimension arises in accordance with them.

SF1 and SF2 can be chosen different on customer request, however the minimal and maximum values of the following table have to be observed. Within these limits the measurements SF1 and SF2 may be chosen freely.

The distance VA of the coupling teeth, the permitted bore diameter and the hub diameter remain unchanged.

By stating the hub S-dimension and both hub lengths the coupling is completely described.



Geometric data

Size	Standard hub length NL mm	Minimal dimension SF1 or SF2 mm	Maximum dimension SF1 or SF2 mm
83	43	1.5	22
107	50	1.5	23.5
130	62	1.5	32
156	76	2.5	36.5
181	90	2.5	43.5
211	105	3	51
250	120	3	59
274	135	4	64.5
307	150	4	72
333	175	4	85
364	190	4	92
424	220	5	100

The minimal hub lengths are not to fall below the standard hub lengths. If there's no other possibility, for hub lengths smaller than standard hub lengths the order codes **"Y50"** for part 1 and **"Y51"** for part 2 must be stated in plain text.

Article number

The Article number of the respective ZAPEX coupling type must be supplemented with **"-Z"** and order codes for non standard SF-dimensions (order code **"Y38"** for part 1 and **"Y39"** for part 2). For no standard hub lengths the order codes **"Y40"** to **"Y49"** must be specified (see **Page 5/17**).

Ordering example

- ZAPEX coupling ZNN 130, variant A
- Hub left: Bore D1 = 70H7 mm, keyway to DIN 6885-1 P9 and set screw; NL1 = 110 mm; SF1 = 10 mm
- Hub right: Bore D2 = 75H7 mm, keyway to DIN 6885-1 P9and set screw; NL2 = 75 mm; SF2 = 25 mm

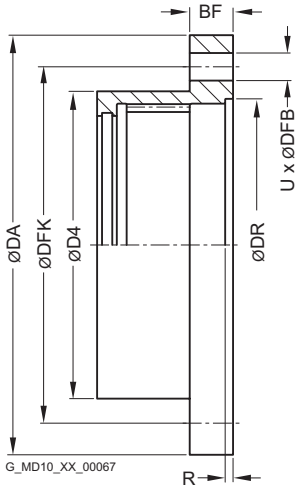
Article no.: 2LC0330-2AA99-0AA0-Z L1G M1H Y38 Y39 Y41 Y46
Plain text to Y38: SF1 = 10 mm
Plain text to Y39: SF2 = 25 mm
Plain text to Y46: NL1 = 110 mm
Plain text to Y41: NL2 = 75 mm

Order code for hub prolongations Y4. (Std-NL = Standard hub length)

Part 1 Selected (special) hub length min.	max.	Order code (specification of hub length in plain text)
>Std-NL	≤1.25 · Std-NL	**Y40**
>1.25 · Std-NL	≤1.5 · Std-NL	**Y42**
>1.5 · Std-NL	≤1.75 · Std-NL	**Y44**
>1.75 · Std-NL	≤2 · Std-NL	**Y46**
>2 · Std-NL		**Y48**

Part 2 Selected (special) hub length min.	max.	Order code (specification of hub length in plain text)
>Std-NL	≤1.25 · Std-NL	**Y41**
>1.25 · Std-NL	≤1.5 · Std-NL	**Y43**
>1.5 · Std-NL	≤1.75 · Std-NL	**Y45**
>1.75 · Std-NL	≤2 · Std-NL	**Y47**
>2 · Std-NL		**Y49**

TYPE ZN – FLANGE CONNECTION DIMENSIONS



Size	Dimensions in mm							
	DA	BF	D4	DFK	DFB	U Number	DR	R
83	117	14	83	100	9	6	82	2.5
107	152	19	107	131	11	6	105	3
130	178	19	129.5	157	11	8	130	3
156	213	22	156	188	13	6	153	4
181	240	22	181	213	13	10	178	4
211	280	28.5	211	249	17	8	205	5
250	318	28.5	249.5	287	17	10	243	4
274	347	28.5	274	315	17	12	265	5.5
307	390	38	307	352	21	12	302	6
333	425.5	38	332.5	385	21	14	320	6
364	457	26	364	416	21	16	353	6
424	527	28.5	423.5	482	25	16	412	8

SPARE AND WEAR PARTS

Sealing rings

The sealing rings are wear parts and must be replaced in accordance with the operating instructions.

Size	Hub diameter ND1/ND2 mm	Article No.
83	67	2LC0330-0XE00-0AA0
107	87	2LC0330-1XE00-0AA0
130	108	2LC0330-2XE00-0AA0
156	130	2LC0330-3XE00-0AA0
181	153	2LC0330-4XE00-0AA0
211	180	2LC0330-5XE00-0AA0
250	214	2LC0330-6XE00-0AA0
274	233	2LC0330-7XE00-0AA0
307	260	2LC0330-8XE00-0AA0
333	283	2LC0331-0XE00-0AA0
364	312	2LC0331-1XE00-0AA0
424	371	2LC0331-2XE00-0AA0

High-performance grease

Container	Content g	Article No.
Cartridge	300	FFA:000000501027

Sealing compound

Container	Content ml	Article No.
Tube	60	FFA:000001443780