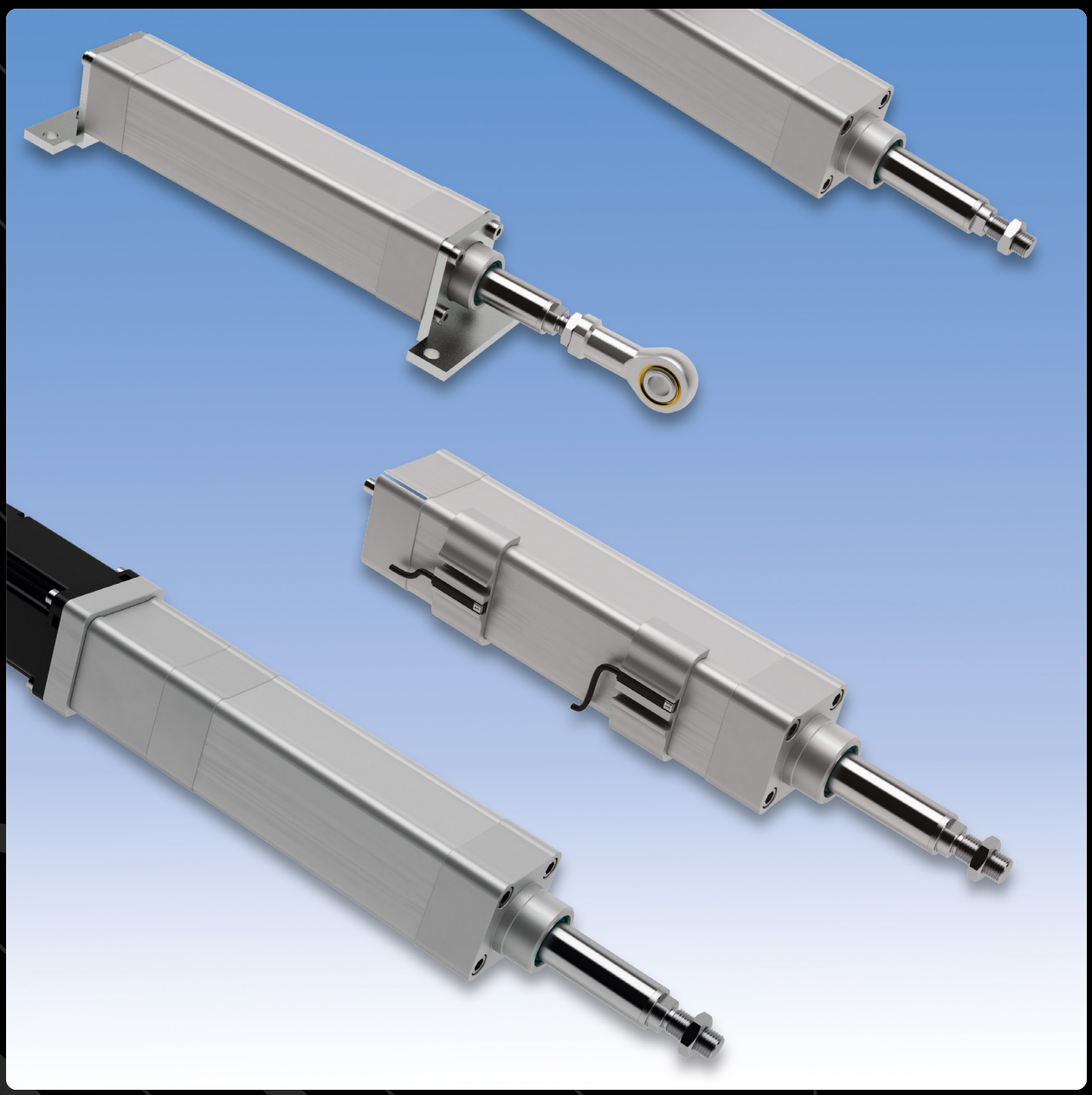
PNCE ELECTRIC CYLINDERS



ROLLCO

SPECIALIZED
ON LINEAR MOTION

Every care has been taken to ensure the accuracy of the information contained in this catalogue, but no liability can be accepted for any errors or omissions. We reserve the right to make changes without prior notice.

Any reproduction, even partial, is allowed only by written permission by Rollco.

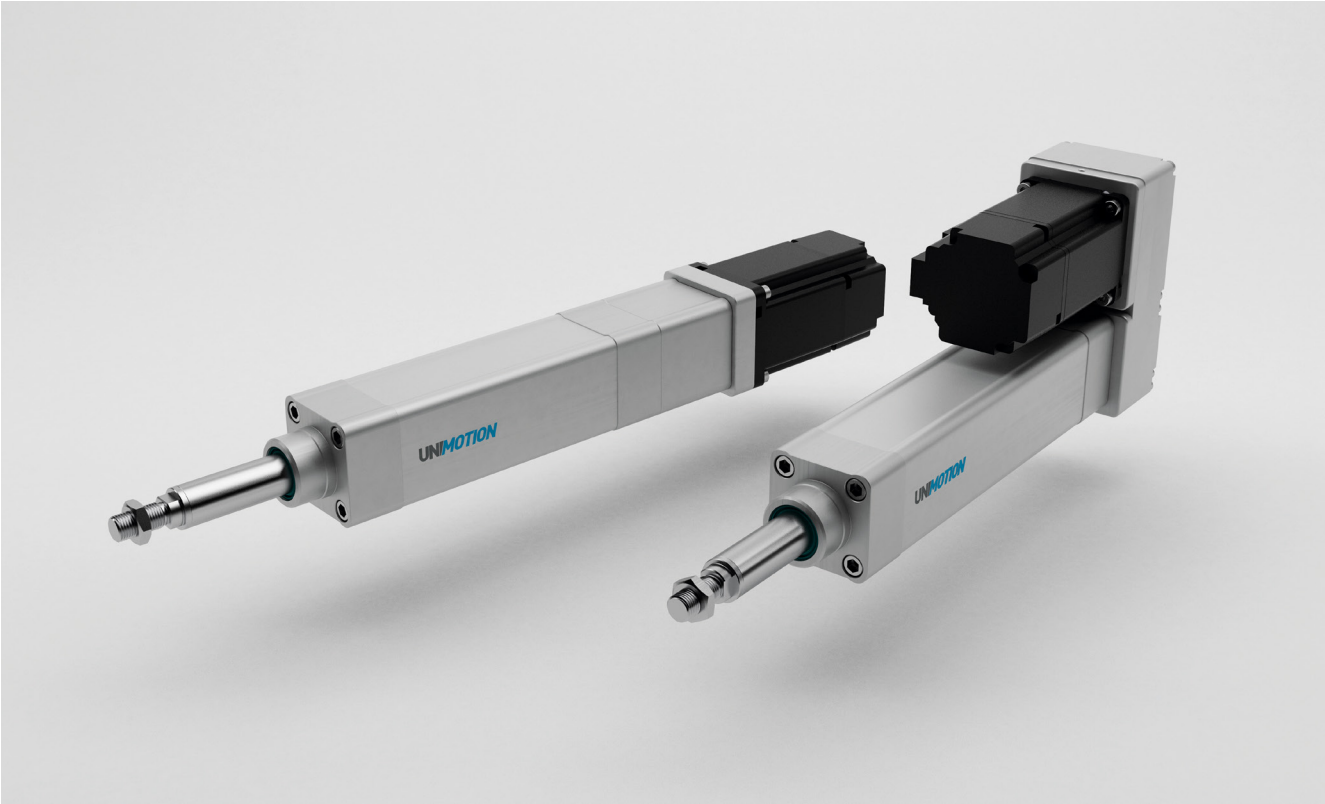
NORDIC ECOLABEL

CLIMATE COMPENSATED PAPER

Index

PRODUCT OVERVIEW **4**
Options for special applications 5
DIMENSIONS **6**
ATTACHMENT ACCESSORIES **7**
Attachment Accessory Overview 7
Piston Rod Accessories 8
Mounting Attachment Accessories 10
Blanking Screws* 16
DESIGN OPTIONS **17**
Guiding Unit GUH 17
Motor Adapter with Coupling 18
Motor Side Drive with a Timing Belt 19
Couplings 21
Magnetic Field Sensors 22
ORDER CODES **24**
PNCE 24
Guiding unit 24
Motor adapter with coupling 25
Motor side drive with a timing belt 25
Couplings 26
TECHNICAL INFORMATION **27**
Structural design 27
General technical data 27
Absolute stroke and length of the PNCE definition 28
Load torque calculation 28
Lubrication position 29

Product Overview



The PNCE are electric cylinders with a precision ball screw drive. The electric cylinder is based on the standard ISO 15552. Its outer design and dimensions are very similar to pneumatic cylinders.

The precision ball screw with reduced backlash of the ball nut and non-rotating piston rod offers high performance. Preload is available on request. For a long service life the re-lubrication can be done through a lubrication nipple.

The design with its smooth surfaces enables easy cleaning of the cylinder, which makes it suitable for food and beverage applications. It can be additionaly equipped with switches and ISO standard accessories. The excellent sealing of the components in the cylinder protects the interior of the cylinder from dust, water and other contaminants. For harsh environments there is a high corrosion resistance version.

Performance characteristics

- High speeds
- Good positioning accuracy
- High repeatability
- Long service life
- Protection classes up to IP65
- Corrosions resistant versions available
- Smooth surfaces and secure sealing

Sensor holder

ISO standard accessories

Pressure compensation (IP65)

Motor adapter with coupling

Motor side drive

Options for special applications

IP65 protection class (IP65)

The appropriate sealing of the external parts ensures the electric cylinder the IP65 protection class. The IP65 protection class of the electric cylinder fulfils the specifications to IEC 60 529. The connection for pressure compensation in the cylinder profile ensures the exchange of air between the interior of the cylinder and the environment. This prevents the occurence of excess pressure or negative pressure inside the electric cylinder. It also protects the interior of the cylinder from the external media like dust and water.

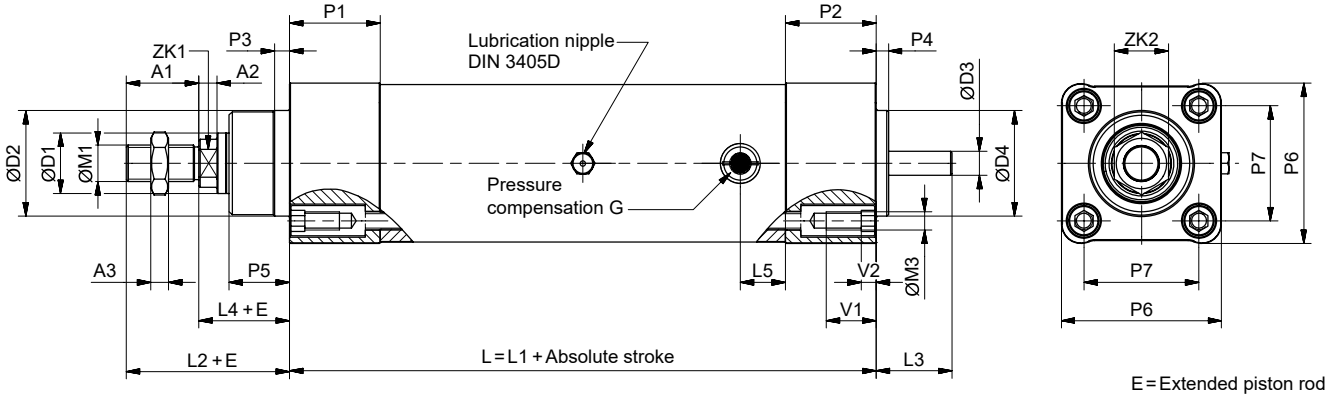
IP65 protection class with high corrosion resistance (IP65CR)

It offers high corrosion resistance in harsh environments.The version IP65CR includes all the features of the electric cylinder version IP65. In addition to ensuring high corrosion resistance all the external parts are corrosion resistant (e.g. the connection for pressure compensation, lubrication nipple, and the connection elements are made of stainless steel). More information about materials is available upon request in the extended material information list.

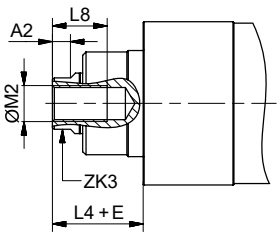
For applications in the food industry (FI)

The version FI includes all the features of the electric cylinder version IP65CR. It is upgraded by materials suitable for some applications in the food industry. The cylinder is greased with a lubricant class NSF H1. The design with the smooth surfaces of the aluminium profile enables its quick and effective cleaning. During the cleaning the sealing air can be applied to the connection for pressure compensation. The use for the food and beverage industry is limited by the materials of the electric cylinder. More information about materials is available upon request in the extended material information list.

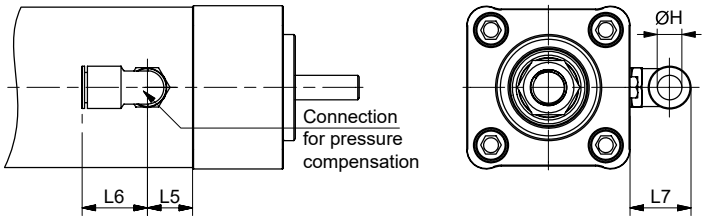
Dimensions



Female tread



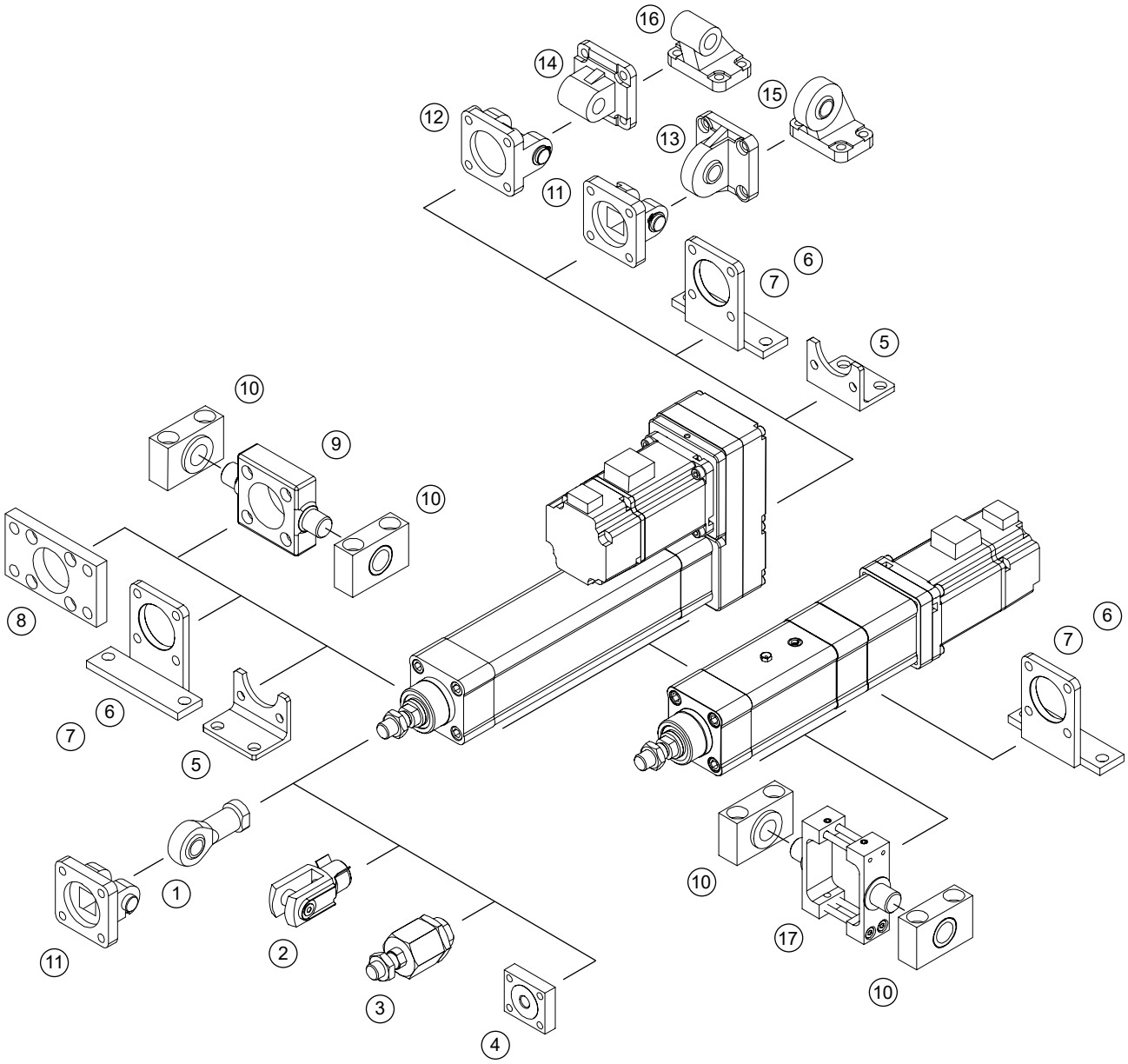
IP65, IP65CR, FI



PNCE size	L1 (+0,2/-1,4)	L2	L3	L4 (+1,9/-0,8)	L5	L6	L7	L8	P1	P2	P3	P4 (±0,1)	P5 (±0,1)	P6	P7	G
	[mm]															
32	136	48	21	26	15	22,5	20,0	15	30	30	5	4	18	47	32,5	G 1/8
40	144	54	25	30	15	22,5	20,0	18	30	30	5	4	20	54	38	G 1/8
50	180	69	32	37	15	22,5	20,0	25	36	37	5	4	25	65	46,5	G 1/8
63	171	69	38	37	15	22,5	20,0	25	38	38	5	4	25	75	56,5	G 1/8
80	204	86	40	46	15	22,5	20,0	30	40	40	18	14	31	93	72	G 1/8
100	224 (239)	91	50	51	25	28,5	28,0	30	42	42	20	18	34	110	89	G 3/8

PNCE size	ØD1 (f8)	ØD2 (d11)	ØD3 (h7)	ØD4 (g7)	ØM1	ØM2	ØM3	ØH	A1	A2	A3	ZK1	ZK2	ZK3	V1	V2
	[mm]															
32	18	30	6	30	M10×1,25		M6	8	22	5	5	10	17	16	16	4,5
40	20	35	8	35	M12×1,25		M6	8	24	6	6	13	19	17	16	4,5
50	25	40	11	40	M16×1,5		M8	8	32	8	8	17	24	22	18	4,5
63	30	45	15	45	M16×1,5		M8	8	32	8	8	17	24	27	18	4,5
80	40	60	18	60	M20×1,5	M12	M10	8	40	8	10	22	30	32	17	/
100	50	70	25	70	M20×1,5	M12	M10	12	40	6	10	22	30	40	17	/

Attachment Accessory Overview

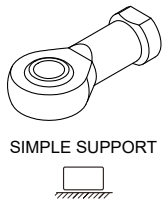


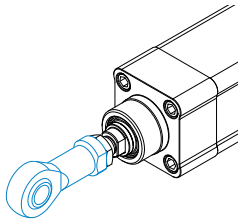
1. Piston rod accessory SGS
2. Piston rod accessory SG
3. Piston rod accessory FK
4. Piston rod accessory KSZ
5. Mounting attachment accessory HG
6. Mounting attachment accessory HGL
7. Mounting attachment accessory HGLL
8. Mounting attachment accessory FG
9. Mounting attachment accessory ZK
10. Mounting attachment accessory LZ
11. Mounting attachment accessory SGN
12. Mounting attachment accessory SBG
13. Mounting attachment accessory SSG
14. Mounting attachment accessory SGL
15. Mounting attachment accessory LSG
16. Mounting attachment accessory LG
17. Mounting attachment accessory ZKCE

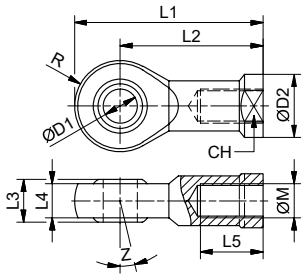
Piston Rod Accessories

SGS

Material: Galvanized steel. CR = stainless steel AISI 304.



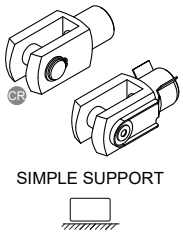


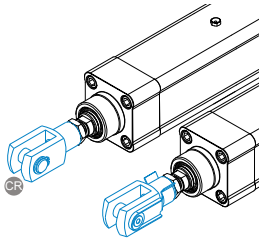


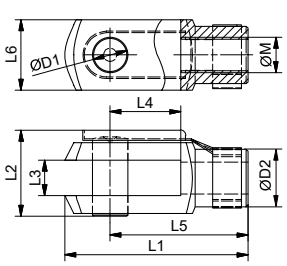
PNCE size	Code	Code CR	ØM	L1	L2	L3	L4	L5	ØD1 (H7)	ØD2	R	CH	Z	m	F_{max}
			[mm]										[°]	[kg]	[N]
32	9206	69550	M10×1,25	57	43	14	10,5	20	10	19	14	17	13	0,08	F_{PNCE}
40	9208	69551	M12×1,25	66	50	16	12	22	12	22	16	19	13	0,11	F_{PNCE}
50	9210	50691	M16×1,5	85	64	21	15	28	16	27	21	22	15	0,22	F_{PNCE}
63	9210	50691	M16×1,5	85	64	21	15	28	16	27	21	22	15	0,22	F_{PNCE}
80	9211	49572	M20x1,5	102	77	25	18	33	20	34	25	30	14	0,41	F_{PNCE}
100	9211	49572	M20x1,5	102	77	25	18	33	20	34	25	30	14	0,41	F_{PNCE}

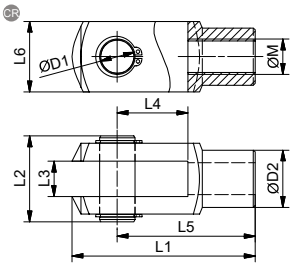
SG

Material: Galvanized steel. CR = stainless steel AISI 304.







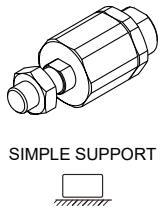


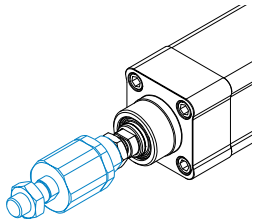
PNCE size	Code	Code CR	ØM	L1 (±0,5)	L2	L3 (B13)	L4 (±0,5)	L5	L6	ØD1 (h11)	ØD2	m	F_{max}
			[mm]									[kg]	[N]
32	9186	69547	M10×1,25	52	26 [25]	10	20	40	20	10	18	0,09	F_{PNCE}
40	9189	69548	M12×1,25	62	32 [30]	12	24	48	24	12	20	0,15	F_{PNCE}
50	9191	69549	M16×1,5	83	40 [39]	16	32	64	32	16	26	0,33	F_{PNCE}
63	9191	69549	M16×1,5	83	40 [39]	16	32	64	32	16	26	0,33	F_{PNCE}
80	9192	70248	M20x1,5	105	48	20	40	80	40	20	34	0,68	F_{PNCE}
100	9192	70248	M20x1,5	105	48	20	40	80	40	20	34	0,68	F_{PNCE}

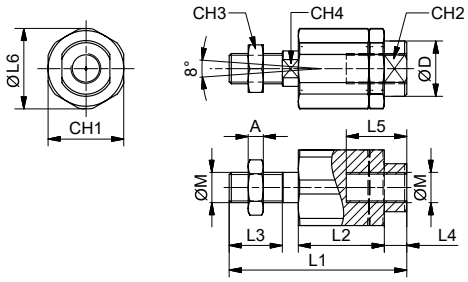
Bracketed values for type CR.

FK

Material: Galvanized steel.



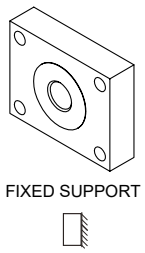


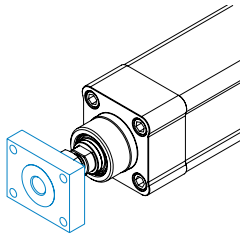


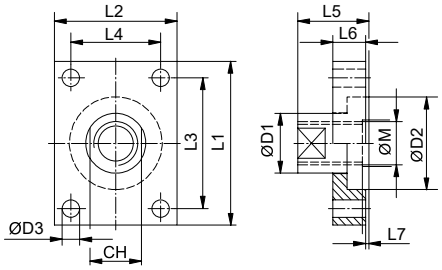
PNCE size	Code	ØM	L1	L2	L3	L4	L5	ØL6	A	ØD	CH1	CH2	CH3	CH4	m	F_{max}
		[mm]													[kg]	[N]
32	5466	M10×1,25	71	35	20	11	23	32	6	22	30	19	17	12	0,22	F_{PNCE}
40	5468	M12×1,25	75	35	24	11	23	32	7	22	30	19	19	12	0,23	5000
50	5470	M16×1,5	103	54	32	9	32	45	8	32	41	27	24	20	0,66	10000
63	5470	M16×1,5	103	54	32	9	32	45	8	32	41	27	24	20	0,66	10000
80	5471	M20x1,5	119	54	40	17	39	45	9	32	41	27	30	20	0,70	10000
100	5471	M20x1,5	119	54	40	17	39	45	9	32	41	27	30	20	0,70	10000

KSZ

Material: Galvanized steel.





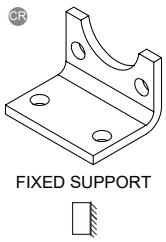


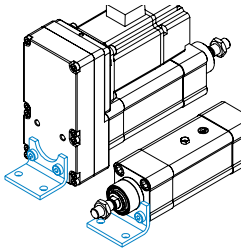
PNCE size	Code	ØM	L1	L2	L3	L4	L5	L6	L7	ØD1 (-0,2)	ØD2	ØD3 (H13)	CH	m	F_{max}
		[mm]												[kg]	[N]
32	5229	M10×1,25	40	35	30	25	20	10	0,1	17	26	5,5	15	0,11	F_{PNCE}
40	5230	M12×1,25	50	40	40	30	22	12	0,1	17	26	5,5	15	0,18	F_{PNCE}
50	5231	M16×1,5	60	45	48	33	25	12	0,1	22	34	6,6	19	0,25	F_{PNCE}
63	5231	M16×1,5	60	45	48	33	25	12	0,1	22	34	6,6	19	0,25	F_{PNCE}
80	5232	M20x1,5	72	50	57	35	32	15	0,1	30	44	9	27	0,42	24800
100	5232	M20x1,5	72	50	57	35	32	15	0,1	30	44	9	27	0,42	24800

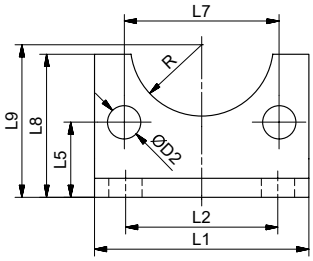
Mounting Attachment Accessories

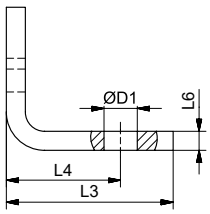
HG

Material: Galvanized steel. CR = stainless steel AISI 304.





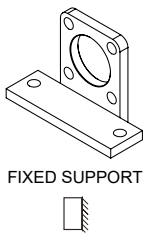


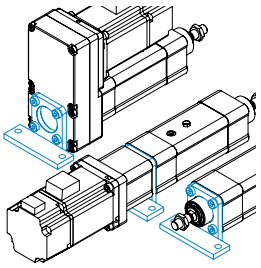


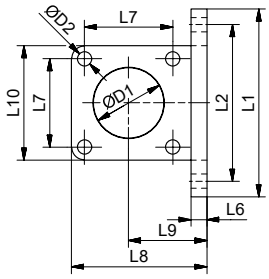
PNCE size	Code[1]	Code CR[1]	Code MSD type T1[2]	Code MSD CR type T1[2]	L1	L2	L3	L4	L5	L6	L7	L8	L9	ØD1	ØD2	R	m	F_{max}
					[mm]												[kg]	[N]
32	69601	69605	69597	69609	45	32	35	24	15,75	4	32,5	30	32	7	7	15	0,09	F_{PNCE}
40	69602	69606	69598	69610	52	36	36	28	17	4	38	30	36	10	7	17,5	0,10	3500
50	69603	69607	69599	69611	65	45	47	32	21,75	5	46,5	36	45	10	9	20	0,20	5400
63	69604	69608	69600	69612	75	50	45	32	21,75	5	56,5	35	50	10	9	22,5	0,22	6200

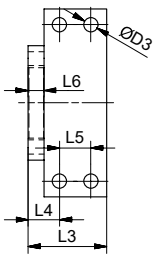
HGL

Material: Galvanized steel.







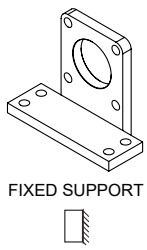


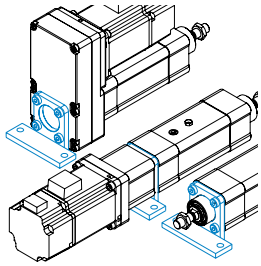
PNCE size	Code[1, 3]	Code MSD type T1[2]	L1	L2	L3	L4	L5	L6 (±0,5)	L7	L8	L9 (±0,1)	L10	L11 (±0,5)	ØD1 (H11)	ØD2 (H13)	ØD3 (H13)	m	F_{max}
			[mm]														[kg]	[N]
32	69162	69613	79	65	30	16	-	6	32,5	55,5	32	47	6	30	7	7	0,20	F_{PNCE}
40	69163	69614	90	75	30	16	-	6	38	63	36	54	6	35	7	9	0,24	5100
50	69164	69615	110	90	35	19	-	10	46,5	77,5	45	65	10	40	9	9	0,56	11100
63	69165	69616	120	100	50	20	20	10	56,5	87,5	50	75	10	45	9	9	0,81	11100

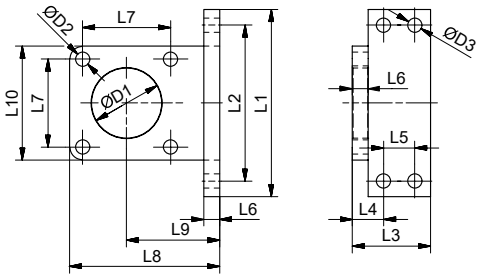
[1] Front cap mounting.
[2] Motor side drive type T1 mounting.
[3] Motor adapter mounting.

HGLL

Material: Galvanized steel.





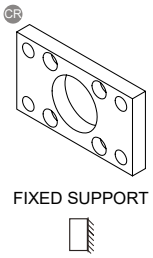


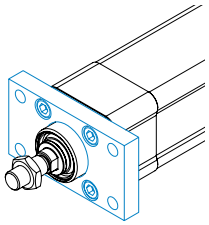
PNCE size	Code[1, 3]	Code MSD type T2[2]	L1	L2	L3	L4	L5	L6 (±0,5)	L7	L8	L9 (±0,1)	L10	L11 (±0,5)	ØD1 (H11)	ØD2 (H13)	ØD3 (H13)	m	F_{max}
			[mm]														[kg]	[N]
32	69429	69617	79	65	30	16	-	6	32,5	58,5	35	47	6	30	7	7	0,21	F_{PNCE}
40	69166	69618	90	75	30	16	-	6	38	72,0	45	54	6	35	7	9	0,26	2800
50	69167	69619	110	90	35	19	-	10	46,5	92,5	60	65	10	40	9	9	0,64	7100
63	69168	69620	120	100	50	20	20	10	56,5	97,5	60	75	10	45	9	9	0,87	10100
80	77284		153	128	62	27	25	12	72,0	128,5	82	93	13	60	11	11	1,71	13200
100	78955		178	148	72	27	30	15	89	137,0	82	110	15	70	11	11	2,57	F_{PNCE}

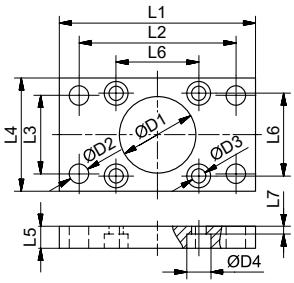
[1] Front cap mounting.
[2] Motor side drive type T2 mounting.
[3] Motor adapter mounting.

FG

Material: Galvanized steel. CR = stainless steel AISI 304.



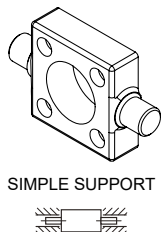


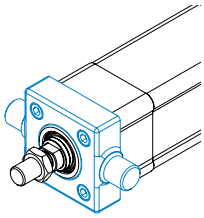


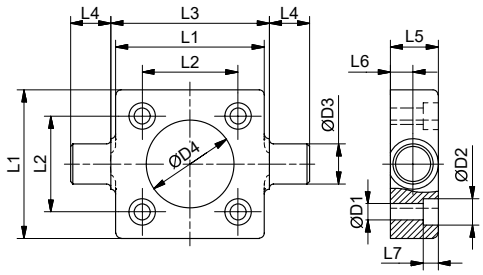
PNCE size	Code	Code CR	L1	L2	L3	L4	L5	L6	L7	ØD1 (H11)	ØD2 (H13)	ØD3	ØD4	m	F_{max}
			[mm]											[kg]	[N]
32	5485	69495	80	64	32	45	10	32,5	5	30	7	6,5	10,5	0,22	F_{PNCE}
40	5487	69497	90	72	36	52	10	38	5	35	9	6,5	10,5	0,28	F_{PNCE}
50	5489	69498	110	90	45	65	12	46,5	6,5	40	9	8,5	13,5	0,53	F_{PNCE}
63	5491	69499	120	100	50	75	12	56,5	6,5	45	9	8,5	13,5	0,68	F_{PNCE}
80	83009	83013	150	126	63	95	16	72	9	60	12	10,5	16,5	1,40	F_{PNCE}
100	83010	83014	170	150	75	115	16	89	9	70	14	10,5	16,5	1,92	F_{PNCE}

ZK

Material: Galvanized steel.



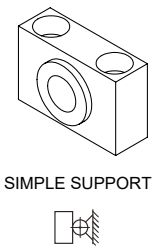


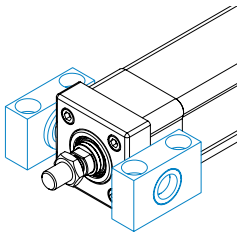


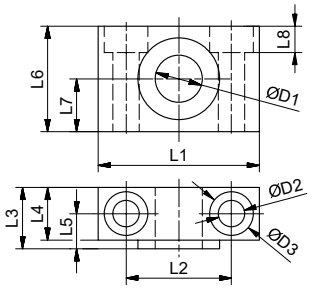
PNCE size	Code	L1	L2	L3 (h14)	L4 (h14)	L5	L6 (+0,2 / 0)	L7 (+0,5 / 0)	ØD1	ØD2	ØD3 (e9)	ØD4 (H11)	m	F_{max}
		[mm]											[kg]	[N]
32	69075	46	32.5	50	12	14	6,5	6	6,5	10,5	12	30	0,17	F_{PNCE}
40	69083	59	38	63	16	19	9	6	6,5	10,5	16	35	0,43	F_{PNCE}
50	69084	69	46.5	75	16	19	9	8	8,5	13,5	16	40	0,58	F_{PNCE}
63	69085	84	56.5	90	20	24	11,5	8	8,5	13,5	20	45	1,12	F_{PNCE}
80	83027	102	72	110	20	24	11,5	10	10,5	16,5	20	60	1,57	F_{PNCE}
100	83028	125	89	132	25	29	14	10	10,5	16,5	25	70	2,93	F_{PNCE}

LZ

Material: Galvanized steel. Set contains 2 pcs.



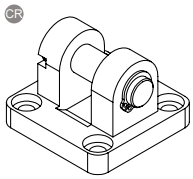




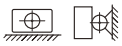
PNCE size	Code	L1	L2 (±0,2)	L3	L4	L5	L6	L7 (±0,1)	L8 (±0,5)	ØD1 (F7)	ØD2 (H13)	ØD3 (H13)	m	F_{max}
		[mm]											[kg]	[N]
32	8139	46	32	18	15	10,5	30	15	7	12	6,6	11	0,10	F_{PNCE}
40	8141	55	36	21	18	12	36	18	9	16	9	15	0,15	F_{PNCE}
50	8141	55	36	21	18	12	36	18	9	16	9	15	0,15	9200
63	8143	65	42	23	20	13	40	20	11	20	11	18	0,25	12800
80	8143	65	42	23	20	13	40	20	11	20	11	18	0,25	12800
100	8135	75	50	28,5	25	16	50	25	13	25	14	20	0,40	20000

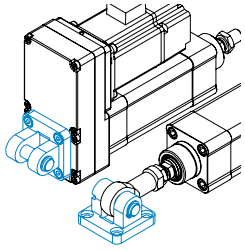
SGN

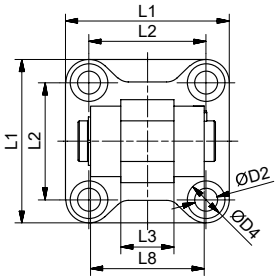
Material: Aluminium. CR = stainless steel AISI 316.

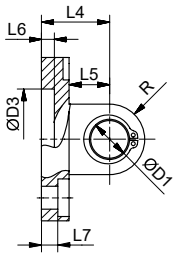


SIMPLE SUPPORT







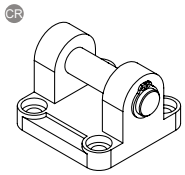


PNCE size	Code[1]	Code CR[1]	Code MSD[2]	Code MSD CR[2]	L1 (±0,5)	L2	L3	L4 (±0,2)	L5	L6	L7	L8	ØD1 (f7)	ØD2 (H13)	ØD3 (H11)	ØD4 (H13)	R	m	F_{max}
					[mm]													[kg]	[N]
32	9200	69538	69621	69625	45	32,5	14	22	13 [12]	5	5,5	34	10	6,6	30	11	10	0,10 [0,20]	F_{PNCE}
40	9201	69539	69622	69626	52 [55]	38	16	25	16 [15]	5	5,5	40	12	6,6	35	11	12	0,14 [0,30]	5700
50	9202	69540	69623	69627	65	46,5	21	27	16 [17]	5	6,5	45	16	9	40	15	12	0,26 [0,48]	7600
63	9203	69541	69624	69628	75	56,5	21	32	21 [20]	5	6,5	51	16	9	45	15	16	0,35 [0,70]	9600
80	9204	83257	9204	83257	95	72	25	36	22	5	10	65	20	11	45	18	20	0,68 [1,49]	16000
100	9198	83259	9198	83259	115	89	25	41	27 [25]	5	10	75	20	11	55	18	22	0,93 [2,16]	20000

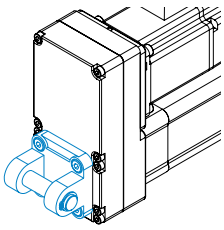
Bracketed values for type CR.

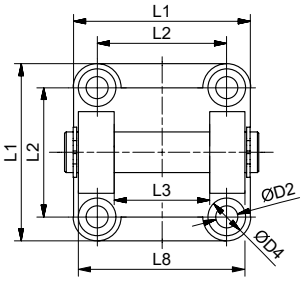
SBG

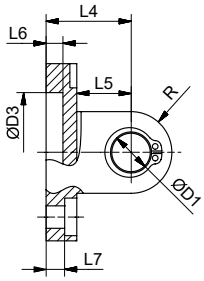
Material: Aluminium. CR = stainless steel AISI 304.



SIMPLE SUPPORT





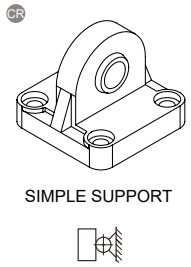


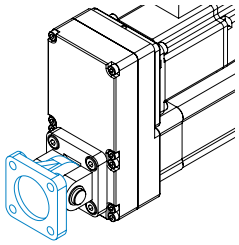
PNCE size	Code MSD[2]	Code MSD CR[2]	L1	L2	L3	L4 (±0,2)	L5	L6	L7	L8	ØD1 (e8)	ØD2 (H13)	ØD3 (H11)	ØD4 (H13)	R	m	F_{max}
			[mm]													[kg]	[N]
32	69629	69633	45	32,5	26	22	13	5	5,5	45	10	6,6	30	11	10	0,11[0,20]	F_{PNCE}
40	69630	69634	52	38	28	25	16	5	5,5	52	12	6,6	35	11	12	0,18 [0,31]	F_{PNCE}
50	69631	69635	65	46,5	32	27	16	5	6,5	60	12	9	40	15	12	0,23 [0,45]	8000
63	69632	69636	75	56,5	40	32	21	5	6,5	70	16	9	45	15	16	0,36 [0,70]	11000
80	9252	83251	93	72	50	36	22	5	10	90	16	11	45	18	16	0,61 [1,42]	15360
100	9244	83253	110	89	60	41	27	5	10	110	20	11	55	18	20	0,98 [2,50]	24000

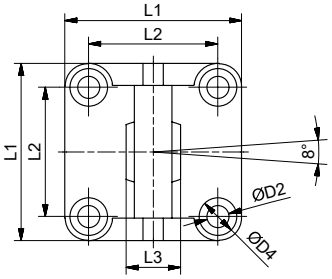
Bracketed values for type CR
[1] Front cap mounting
[2] Motor side drive mounting

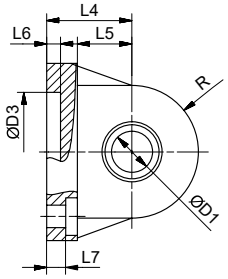
SSG

Material: Aluminium. CR = stainless steel AISI 316.







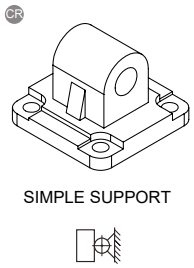


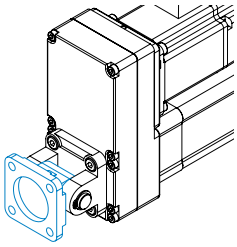
PNCE size	Code	Code CR	L1	L2	L3	L4 (JS 15)	L5	L6	L7 (±0,5)	ØD1 (H7)	ØD2 (H13)	ØD3 (H11)	ØD4 (H13)	R	m	F_{max}
			[mm]												[kg]	[N]
32	9292	69542	45	32,5	14	22	12	5	5,5	10	6,6	30	11	16 [15]	0,09 [0,18]	F_{PNCE}
40	9294	69544	52 [55]	38	16	25	15	5	5,5	12	6,6	35	11	18	0,13 [0,29]	F_{PNCE}
50	9296	50709	65	46,5	21	27	15 [17]	5	6,5	16	9	40	15	21	0,24 [0,42]	14400
63	9298	69546	75	56,5	21	32	20	5	6,5	16	9	45	15	23	0,30 [0,66]	14400
80	9300	83249	95	72	25	36	20 [22]	9 [5]	10	20	11	45	18	28 [27]	0,54 [1,24]	22500
100	19731	83250	115	89	25	41	25	9 [5]	10	20	11	55	18	30	0,68 [1,90]	22500

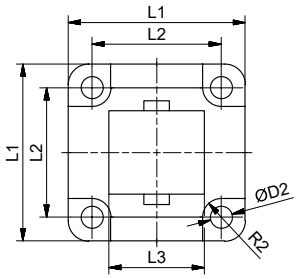
Bracketed values for type CR.

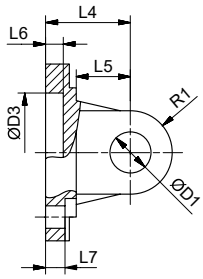
SGL

Material: Aluminium. CR = stainless steel AISI 304.







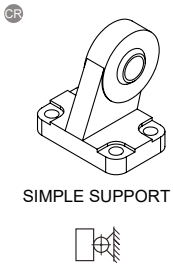


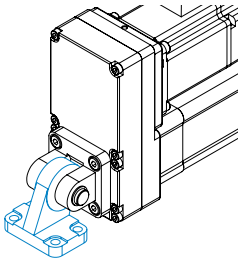
PNCE size	Code	Code CR	L1	L2	L3	L4 (±0,2)	L5	L6	L7	ØD1 (H9)	ØD2 (H13)	ØD3 (H11)	R1	R2	m	F_{max}
			[mm]												[kg]	[N]
32	9176	69500	45	32,5	26	22	13	5	5,5	10	6,6	30	10	5,5	0,08 [0,21]	F_{PNCE}
40	9178	69501	52	38	28	25	16	5	5,5	12	6,6	35	12	5,5	0,11 [0,30]	F_{PNCE}
50	9180	69502	65	46,5	32	27	16	5	6,5	12	9	40	12	7,5	0,18 [0,43]	9200
63	9182	69503	75	56,5	40	32	21	5	6,5	16	9	45	16	7,5	0,27 [0,74]	14300
80	9184	83091	93	72	50	36	22	5	10	16	11	45	16	9	0,47 [1,31]	19200
100	9168	83092	110	89	60	41	27	5	10	20	11	55	20	9	0,79 [2,21]	27100

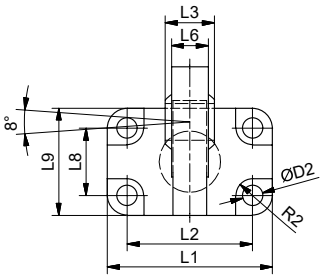
Bracketed values for type CR.

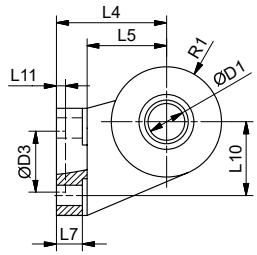
LSG

Material: Size 32-50, galvanized steel. Size 63, graphite cast iron. CR = stainless steel AISI 316.





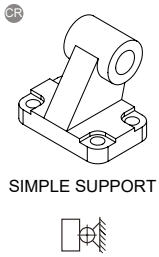


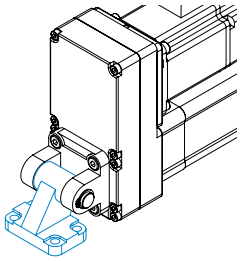


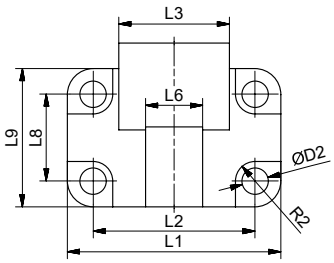
PNCE size	Code	Code CR	L1	L2	L3	L4 (JS 15)	L5	L6	L7	L8	L9	L10 (JS 15)	L11	ØD1 (H7)	ØD2 (H13)	ØD3 (H13)	R1	R2 (H13)	m	F_{max}
			[mm]																[kg]	[N]
32	8129	69071	51	38	14	32	22	10,5	8,5	18	31	21	3	10	6,6	20	15	5,5	0,18	F_{PNCE}
40	8130	69072	54	41	16	36	26	12	8,5	22	35	24	3	12	6,6	20	18	5,5	0,27	F_{PNCE}
50	8131	69073	65	50	21	45	33	15	10,5	30	45	33	3	16	9	20	20	7,5	0,46	F_{PNCE}
63	8132	69069	67	52	21	50	38	15	10,5	35	50	37	3	16	9	20	23	7,5	0,55	F_{PNCE}
80	8133	83089	86	66	25	63	49	18	11,5	40	60	47	3	20	11	20	27	9	0,97	F_{PNCE}
100	8127	83090	96	76	25	71	56	18	12,5	50	70	55	3	20	11	20	30	9	1,33	F_{PNCE}

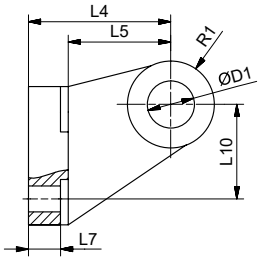
LG

Material: Aluminium. CR = stainless steel AISI 304.







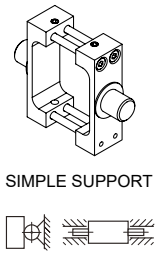


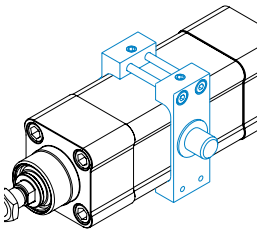
PNCE size	Code	Code CR	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	ØD1 (H9)	ØD2 (H13)	R1	R2	m	F_{max}
			[mm]														[kg]	[N]
32	8119	69505	51	38	26	32	24	10	6,4	18	31	21	10	6,6	10	5,5	0,06 [0,16]	F_{PNCE}
40	8120	69506	54	41	28	36	26	15	8,4	22	35	24	12	6,6	11	5,5	0,14 [0,24]	F_{PNCE}
50	8121	69507	65	50	32	45	33	16	10,4	30	45	33	12	9	13	7,5	0,14 [0,42]	9200
63	8122	69508	67	52	40	50	36	16	12,4	35	50	37	16	9	15	7,5	0,20 [0,53]	15300
80	8123	83087	86	66	50	63	49	20	11,5	40	60	47	16	11	15	9	0,39 [0,98]	19200
100	8117	83088	96	76	60	71	54	20	14,5	50	70	55	20	11	19	9	0,55 [1,48]	F_{PNCE}

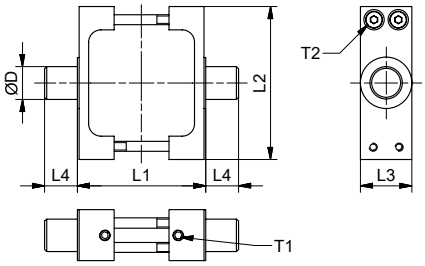
Bracketed values for type CR.

ZKCE

Material: Galvanized steel.



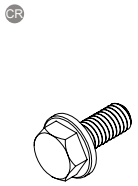


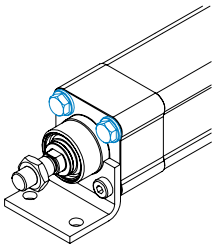


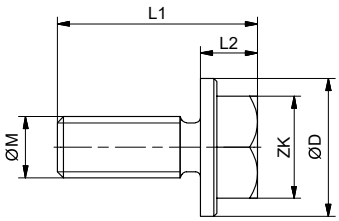
PNCE size	Code	L1	L2	L3	L4	ØD	T1	T2	m	F_{max}
		[mm]							[kg]	[N]
32	69148	50	65	25	12	12	5	3	0,15	F_{PNCE}
40	69149	63	75	25	16	16	7	5	0,30	F_{PNCE}
50	69150	75	95	30	16	16	7	5	0,52	8500
63	69151	90	105	30	20	20	7	5	0,64	8500
80	100349	110	130	30	20	20	11	9	0,89	10000
100	100350	132	145	40	24,5	25	25	19	1,52	16000

Blanking Screws*

Material: Stainless steel AISI 304.





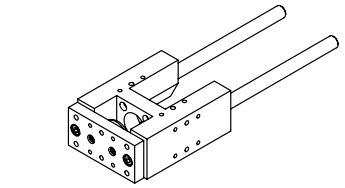


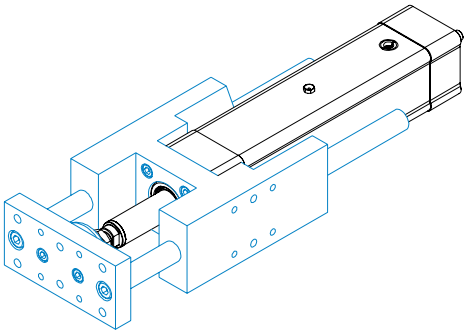
Type	Code	ØM	L1	L2	ØD	ZK
		[mm]				
M6	69156	M6	19,5	5,5	12,8	10
M8	69157	M8	24	8	17	13
M10	82901	M10	24,5	8,5	19,3	15

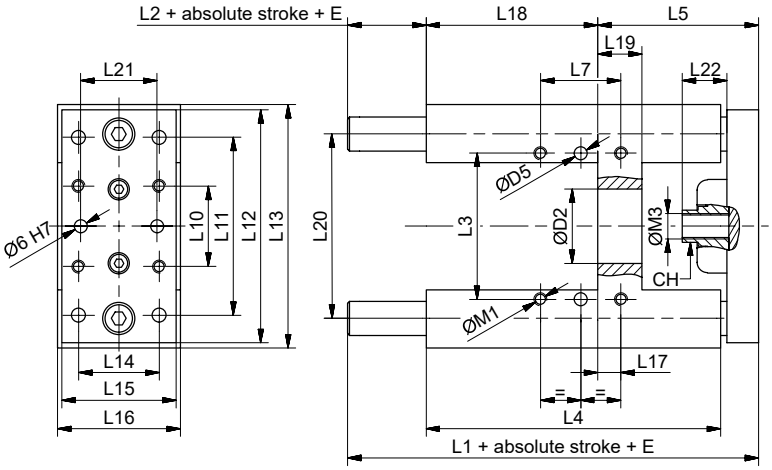
* Set contains 4 pcs.

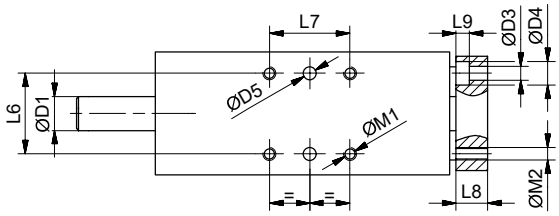
Guiding Unit GUH

Material: Body, aluminium. Guides, steel.







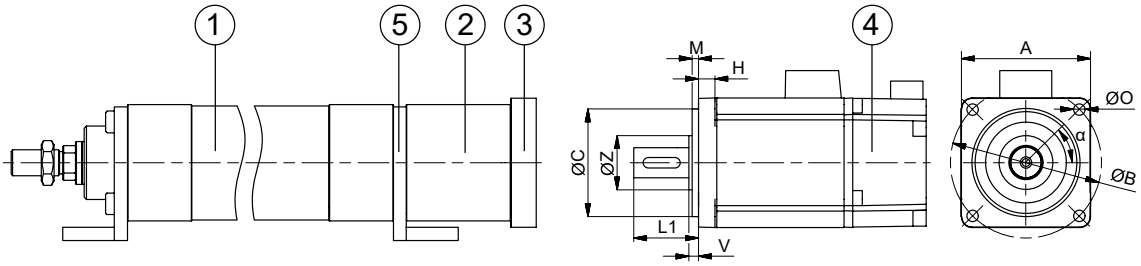


PNCE size	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16
	[mm]															
32	177	37	61	125	64	32,5	32,5	12	6,5	32,5	78	90	97	32,5	45	49
40	192	37	69	139	74	38	38	15	6,5	38	84	110	115	38	54	58
50	205	38	85	148	89	46,5	46,5	15	8,5	46,5	100	130	137	46,5	63	69
63	237	38	100	182	88	56,5	56,5	15	8,5	56,5	105	145	152	56,5	79	85
80	280	42	130	215	110	72	72	20	10,5	72	130	180	189	72	99	105
100	280	37	130	220	115	89	89	20	10,5	89	150	200	213	89	120	129

PNCE size	L17	L18	L19	L20	L21	L22	ØD1	ØD2	ØD3	ØD4	ØD5 x l (H7)	ØM1	ØM2	ØM3	CH
	[mm]														
32	4,3	76	17	74	31	18	12	30	6,5	10,5	6×6	M6×12	M6	M10×1,25	15
40	11	81	21	87	36	21	16	35	6,5	10,5	6×10	M6×12	M6	M12×1,25	15
50	18,5	78	26	104	45	24	20	40	8,5	13,5	6×10	M8×16	M8	M16×1,5	22
63	15,3	111	26	119	45	24	20	45	8,5	13,5	6×10	M8×16	M8	M16×1,5	22
80	21	128	34	148	56	31	25	60	11	17	6x10	M10x18	M10	M20x1,5	27
100	24,5	128	39	172	56	31	25	70	11	17	6x10	M10x18	M10	M20x1,5	27

For order information, see section Order Codes.

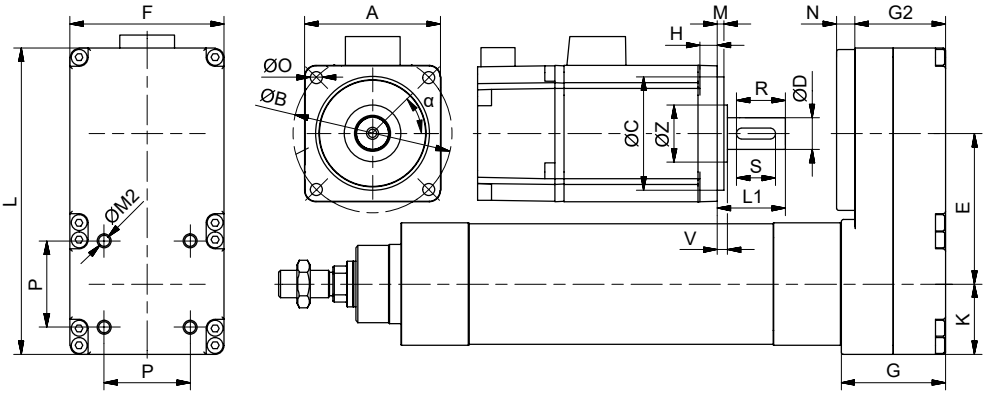
Motor Adapter with Coupling

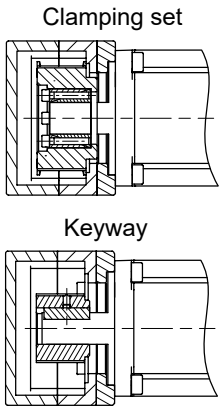


1. PNCE
2. Motor adapter housing
3. Motor flange
4. Motor
5. Mounting attachment HGL/HGLL

For order information, see section Order Codes.

Motor Side Drive with a Timing Belt





Technical data

PNCE size	Type	Gear ratio i	Max. drive torque $M_{p,MSD}$ [Nm]	Max. radial load on shaft* $F_{r,MSD}$ [N]	No load torque $M_{0,MSD}$ [Nm]	Mass moment of inertia J_{MSD} [10^{-6} kg m²]	Mass *** m_{MSD} [kg]	Motor size limits [mm] A max	ØB max	L1 min Clamping set	L1 min Keyway	L1 max	ØC max	ØD Clamping set max	ØD Keyway min	ØD Keyway max
32	T0	1	1	40	0,02	5,4	0,5	50	60	**	-	26	32	10	-	-
	T1	1	1,4	40	0,10	53	0,85	74	80		25	38	50	16	-	-
		1,5	0,9	40	0,07	31	0,72							10	>10	14
40	T1	1	3	80	0,10	62	0,92	74	80		25	42	50	16	-	-
		1,5	2	80	0,07	44	0,79							10	>10	14
	T2	1	4	80	0,27	288	1,66	95	110		30	52	75	28	-	-
		1,5	2,6	80	0,18	200	1,39							16	>16	24
50	T1	1	9	170	0,27	363	1,76	95	110		30	52	75	28	-	-
		1,5	6	170	0,18	245	1,48							16	>16	24
	T2	1	9	205	0,30	928	3,63	122	140		35	62	100	35	-	-
		2	4,5	205	0,15	559	3,06						95	15	>15	22
63	T1	1	21	500	0,34	1041	3,72	122	140		35	62	100	35	-	-
		2	8,9	400	0,17	616	3,10						95	15	>15	22
80	T1	1	24	500	0,34	1008	3,72	122	140		35	68	100	35	-	-
		2	10	400	0,17	575	3,30						95	15	>15	22
	T2	1	48	500	0,37	6000	9,30	160	195		45	99	145	40	-	-
		2	24	500	0,18	4145	8,60						130	28	>28	38
100	T1	1	110	1000	0,4	6181	9,40	160	195		45	99	145	40	-	-
		2	50	1000	0,2	4333	8,80						130	28	>28	38

* This is the load which is linearly dependent on the maximum drive torque $M_{p,MSD}$ and is generated by the correct pretension of the belt. This load needs to be reduced in accordance with the capabilities of the motor.
** Minimum dimension L1 depends on the size of particular clamping set. See following table.
*** This is an average value. It could differ depending to the motor dimensions.

Dimensions

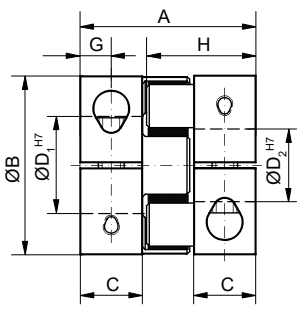
PNCE size	Type	Gear ratio i	E	F	G	G2	N *	K	L	P	ØM2
			[mm]								
32	T0	1	78	50	39	33	6	23,5	128	32,5	M6×8,5
	T1	1	65	68	42	36	8	31	135		M6×8,5
		1,5	64,5								
40	T1	1	65	68	46	40	8	31	135	38	M6×8,5
		1,5	64,5								
	T2	1	82,5	89	57	51	8	42	174	38	M6×8,5
		1,5	81,7								
50	T1	1	82,5	89	57	51	8	42	174	46,5	M8×9
		1,5	81,7								
	T2	1	120	116	66	60	10	49,5	239	46,5	M8×9
		2	125,8								
63	T1	1	120	116	66	60	10	49,5	239	56,5	M8×10
		2	125,8								
80	T1	1	120	116	77	67	10	49,5	239	72	M10×17
		2	125,8								
	T2	1	155	160	102	94	15	77	317	72	M10×17
		2	151,6								
100	T1	1	155	160	102	94	15	77	317	89	M10×17
		2	151,6								

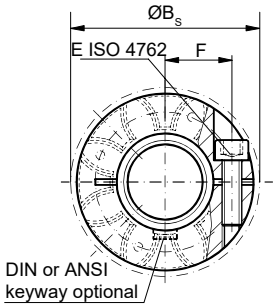
* This is a standard value. It could differ depending to the motor dimensions M and L1.

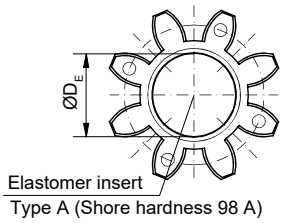
Min. dimension L1 depending on motor shaft diameter ØD

PNCE size	Type	Gear ratio	ØD [mm]																								
		i	6	6,35	7	8	9	9,53	10	11	12	14	15	16	17	18	19	20	22	24	25	25,4	28	30	32	35	38	40
32	T1	1	18	18	18	18	20	20	20	23	23	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-		
		1,5	18	18	18	18	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
40	T1	1	18	18	18	18	20	20	20	23	23	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-		
		1,5	18	18	18	18	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	T2	1	18	18	18	18	20	20	20	23	23	27	27	27	31	31	31	31	31	36	36	36	36	-	-	-		
		1,5	18	18	18	18	20	20	20	23	23	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-		
50	T1	1	-	-		18	20	20	20	23	23	27	27	27	31	31	31	31	31	36	36	36	36	-	-	-		
		1,5	-	18	18	18	20	20	20	23	23	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-		
	T2	1	-	-	-	23	25	25	25	25	25	29	29	29	33	33	33	33	33	38	38	38	38	38	38	41		
		2	23	23	23	-	25	25	25	25	25	29	29	-	-	-	-	-	-	-	-	-	-	-	-	-		
63	T1	1	-	-	-	23	-	-	-	-	-	29	29	29	33	33	33	33	33	38	38	38	38	38	38	41		
		2	-	-	-	23	25	25	25	25	25	29	29	-	-	-	-	-	-	-	-	-	-	-	-	-		
80	T1	1	-	-	-	-	-	-	-	-	-	29	29	29	33	33	33	33	33	38	38	38	38	38	38	41	-	-
		2	-	-	-	23	25	25	25	25	25	29	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	T2	1	-	-	-	-	-	-	-	-	-	-	-	34	38	38	38	38	38	43	43	43	43	43	43	46	46	46
		2	-	-	-	-	-	-	-	-	-	34	34	34	38	38	38	38	38	43	43	43	43	-	-	-	-	-
100	T1	1																38	38	43	43	43	43	43	43	46	46	46
		2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	38	43	43	43	43	-	-	-	-	-

Couplings







EKL		5	10	20	60	150
Rated torque	T_{KN} [Nm]	9	12.5	17	60	160
Max. torque*	T_{MAX} [Nm]	18	25	34	120	320
Overall length	A [mm]	26	32	50	58	62
Outside diameter	B [mm]	25	32	42	56	66,5
Outside diameter with screw head	B_S [mm]	25	32	44,5	57	68
Mounting length	C [mm]	8	10,3	17	20	21
Inside diameter range H7	$D_{1/2}$ [mm]	4-12,7	4-16	8-25	12-32	19-36
Inside diameter of the elastomer	D_E [mm]	10,2	14,2	19,2	26,2	29,2
Clamping screw (ISO 4752)	E	M3	M4	M5	M6	M8
Tightening torque of the clamping screw	E [Nm]	2	4	8	15	35
Distance between the centres	F [mm]	8	10,5	15,5	21	24
Distance	G [mm]	4	5	8,5	10	11
Hub length	H [mm]	16,7	20,7	31	36	39
Moment of inertia per hub	$J_{1/2}$ [10^{-3}kgm^2]	0,002	0,003	0,01	0,04	0,08
Approximate weight	[kg]	0,02	0,05	0,12	0,3	0,5
Speed standard	[min^{-1}]	15000	13000	12500	11000	10000

* The maximum transmittable torque of the clamping hub depends on the bore diameter and is limited to the size of the PNCE.

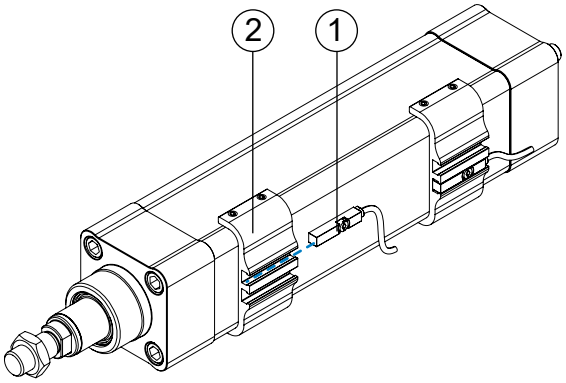
Max. transmittable and drive torque $M_{p,c}$ [Nm] depending on bore diameter

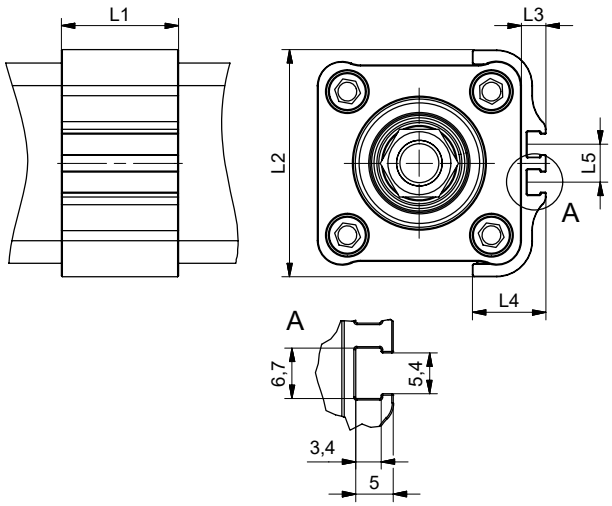
EKL size	Ø4	Ø5	Ø8	Ø16	Ø19	Ø25	Ø30	Ø32	Ø35
5	1,5	2	8	-	-	-	-	-	-
10	-	4	12	32	-	-	-	-	-
20	-	-	20	35	45	60	-	-	-
60	-	-	-	50	80	100	110	120	-
150	-	-	-	-	120	160	180	200	220

Max. transmittable and drive torque $M_{p,c}$ [Nm] limited to PNCE size

EKL size	PNCE 32	PNCE 40	PNCE 50	PNCE 63	PNCE 80	PNCE 100
5	2,2	-	-	-	-	-
10	2,2	5,3	13,9	-	-	-
20	-	-	13,9	33,1	-	-
60	-	-	-	35,1	60,7	-
150	-	-	-	-	-	160

Magnetic Field Sensors

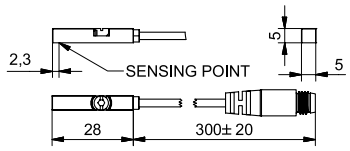
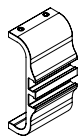
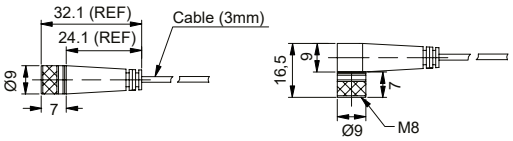




1. Magnetic field sensor
2. Sensor holder

Note! Mounting of the Magnetic field sensor on PNCE requires a HPNCE sensor holder.

PNCE size	L1	L2	L3	L4	L5
	[mm]				
32	30	53	6,5	19,5	10
40	30	60	6,5	19,5	10
50	30	71	6,5	22,5	10
63	30	81	6,5	22,5	10
80	30	98,3	6,0	25,0	10
100	30	115,4	6,0	25,0	10

SMT-65TP-K NO / NC	Code	Type	Compatibility	
	68997	HPNCE sensor holder	PNCE 32	
	68998		PNCE 40	
	68999		PNCE 50	
	69000		PNCE 63	
	79053		PNCE 80	
	79054		PNCE 100	
	74073	SMT-65TP-K NC	PNCE series	
	74074	SMT-65TP-K NO	PNCE series	
	8146	Extension cable length 2m - Straight connector		
	8147	Extension cable length 5m - Straight connector		
	9017	Extension cable length 2m - Angled connector		
	9019	Extension cable length 5m - Angled connector		

Technical data

	SMT-65TP-K NC	SMT-65TP-K NO
Sensor type	GMR sensor	
Switching function	NC	NO
Output	PNP	
Operating voltage	10 ~ 28 V DC	
Switching current	200 mA max.	
Power rating	5,5 W max.	
Voltage drop	1,5 V / 200mA max.	
Current consumption	10mA / 24 V max.	
Switching frequency	1000 Hz	
Ambient temperature	-10 ~ +70°C	
Shock/vibration	50 G / 9 G	
Protection class	IP67	
LED indicator	Yellow	
Electrical connection	M8, 3-pin	
Cable material length	PU - 0,3m	
Extension cable	Energy chain compliant	

PNCE

PNCE - 40 - BS - 1610 - 200 - S - F - E20

PNCE size
32, 40, 50, 63, 80 or 100

Screw type
BS: ball screw

Ball screw
PNCE 32: Ø12x5, Ø12x10
PNCE 40: Ø16x5, Ø16x10, Ø16x16
PNCE 50: Ø20x5, Ø20x10, Ø20x20, Ø20x50
PNCE 63: Ø25x5, Ø25x10, Ø25x25
PNCE 80: Ø32x5, Ø32x10, Ø32x20, Ø32x32
PNCE 100: Ø40x5, Ø40x10, Ø40x20, Ø40x40

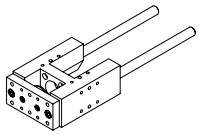
Absolute stroke [mm]
Absolute stroke = Effective stroke + 2 × Safety stroke

Versions
S: Standard version
IP65: IP65 protection class
IP65CR: IP65 protection class with high corrosion resistance
FI: For applications in the food industry (check the material information)

Option 1
Leave blank: standard
F: female thread on the piston rod

Option 2:
Extended piston rod E [mm]

Guiding unit



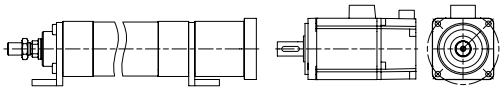
GUH - 40 - 200 - BB

PNCE size
32, 40, 50, 63, 80 or 100

Absolute stroke + Extended piston rod E [mm]
Max. 500 mm

Option
BA: with slide bushes
BB: with ball bushes

Motor adapter with coupling



VK - PNCE40 - EKL10 - 1 - S - 60 - 70 - 50 - 3 - 30 - 7,5 - 5,5 - 4,6 - 29 - 45
(A) (ØB) (ØC) (M) (L1) (H) (ØO) (V) (ØZ) (α)

Motor adapter

PNCE series

Coupling type

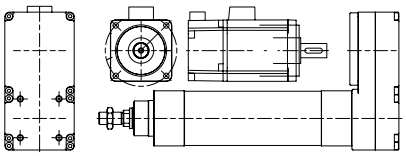
Mounting attachment HGL/HGLL:
0: without
1: with

Versions:
S: Standard
IP65CR: IP65CR protection (Also suitable for some applications in the food industry.)

Motor dimensions [mm]

(°)

Motor side drive with a timing belt



MSD - PNCE40 - T1 - 1 - S - 60 - 70 - 50 - 3 - 30 - 14 - 7,5 - 5,5 - 20 - 20 - 4,6 - 29 - 45
(A) (ØB) (ØC) (M) (L1) (ØD) (H) (ØO) (R) (S) (V) (ØZ) (α)

Motor side drive

PNCE series

Type

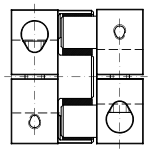
Gear ratio

Versions
S: Standard
IP65CR: IP65CR protection

Motor dimensions [mm]

(°)

Couplings



COUPLING - EKL10 - A - F8 - F14PFN

Coupling type/size
5, 10, 20, 60 or 150

Elastomer insert type
A

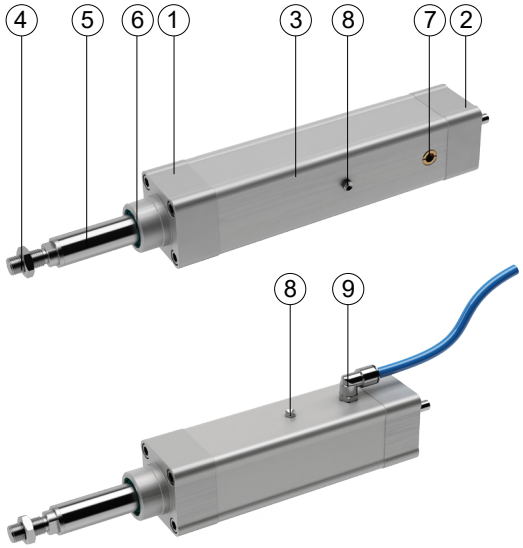
Hole diameter

Option
PFN: with keyway
Leave blank: without keyway

Technical Information

Structural design

1. Front cap
2. Drive cap
3. Smooth cylinder profile
4. Hex nut
5. Piston rod (stainless steel) with an anti-rotation device
6. Piston rod seal
7. Pressure compensation
8. Lubrication nipple
9. Connection for pressure compensation



General technical data

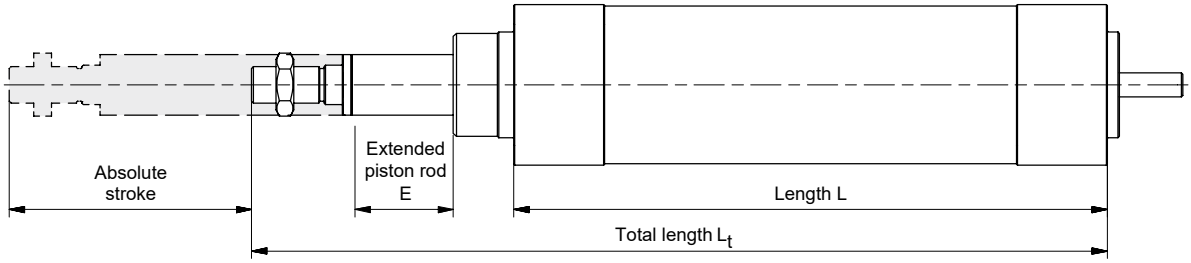
PNCE size	Ball screw d×l [mm]	Dynamic load capacity* C [N]	Max. axial load** F_{max} [N]	Max. drive torque M_p [Nm]	Max. travel speed*** v_{max} [m/s]	Max. rotational speed n_{max} [min^{-1}]	No load torque M_0 [Nm]	Min. stroke s_{min} [mm]	Max. stroke s_{max} [mm]	Axial backlash (BS) [mm]	Max. acceleration [m/s^2]
32	12×5	5000	2540	2,2	0,48	5800	0,10	30	800	< ±0,02	20
	12×10	3800	1270		0,97		0,15	30			
40	16×5	13150	6020	5,3	0,35	4200	0,15	40	900	< ±0,02	20
	16×10	11550	3010		0,70		0,20	35			
	16×16	8170	1880		1,12		0,25	35			
50	20×5	14800	14600	12,9	0,28	3300	0,30	50	1000	< ±0,02	20
	20×10	15900	7830	13,9	0,55		0,35	55			
	20×20	16250	3900		1,10		0,40	50			
	20×50	13000	1560		2,5	3000	0,50	30			
63	25×5	16700	16500	14,6	0,23	2700	0,50	40	1200	< ±0,02	20
	25×10	15800	15800	28,0	0,45		0,55	40			
	25×25	16700	7940	35,1	1,13		0,65	30			
80	32x5	18850	18850	16,7	0,18	2150	0,65	60	1500	< ±0,02	20
	32x10	37000	25000	44,2	0,50	3000	0,70	60			
	32x20	22950	17160	60,7	1,00		0,75	70			
	32x32	15500	10725	60,7	1,60		0,90	70			
100	40x5	23800	23800	21,0	0,18	2200	1,00	45	1500	< ±0,02	20
	40x10	38000	29000	51,3	0,37		1,10	55			
	40x20	33300	29000	102,6	0,73		1,20	65			
	40x40	35000	22980	162,6	1,47		1,40	80			

* Dynamic load capacity of ball screw drive. This value is the basis for calculating the service life.
** This value needs to be considered when using the piston rod or mounting attachments' accessories.
*** Maximum travel speed depends of the absolute stroke of the PNCE.

Contact Rollco technical department for further information.

All the data of the dynamic load capacities (ball screw drive) stated in the table above are theoretical without considering any safety factor. The safety factor depends on the application and its requested safety and service life. We recommend a minimum safety factor $f_s = 5{,}0$, where f_s is defined as $f_s = C / F_m$.

Absolute stroke and length of the PNCE definition



Absolute stroke = Effective stroke + 2 × Safety stroke
L = L1 + Absolute stroke
L_t = L + L2 + E **E_{max} = 200 mm**

Female thread:
L_t = L + L4 + E **E_{max} = 200 mm**

E = Extended piston rod (mm)

Note! The electric cylinder doesn't include any safety stroke.

Load torque calculation

Load torque can be approximated as follows. For further information, contact Rollco technical department.

The load torque is a function of an applied axial load on the PNCE and can be calculated as follows:

$$M_{load} = \frac{F_{axial} \times l}{2000 \times \pi \times \eta}$$

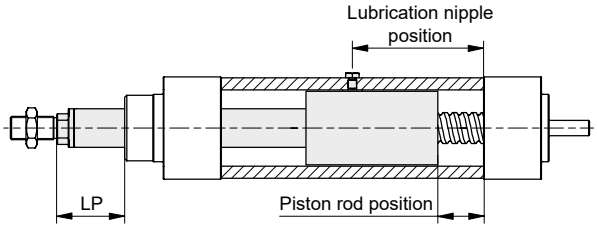
When the motor side drive (MSD) is taken into consideration:

$$M_{load} = \frac{F_{axial} \times l}{2000 \times \pi \times \eta \times i}$$

M_{load}	Load torque	[Nm]
F_{axial}	Applied axial load on the PNCE	[N]
l	Ball screw lead	[mm]
η	Mechanical efficiency ≈ 0,9	[-]
i	Gear ratio	[-]

Please note that the load torque M_{load} must never exceed the maximum drive torque M_p.

Lubrication position



PNCE size	Ball screw d×l [mm]	Lubrication nipple position [mm]	Piston rod position [mm]	LP [mm]
32	12×5, 12×0	Abs. stroke / 2 + 38,0	Abs. stroke / 2 - 9,0	Abs. stroke / 2 + E - 1,0
40	16×5, 16×10, 16×16	Abs. stroke / 2 + 42,0	Abs. stroke / 2 - 10,5	Abs. stroke / 2 + E - 0,5
50	20×5, 20×10, 20×20	Abs. stroke / 2 + 53,5	Abs. stroke / 2 - 22,0	Abs. stroke / 2 + E - 10,0
	20×50		Abs. stroke / 2 - 5,0	Abs. stroke / 2 + E + 7,0
63	25×5, 25×10	Abs. stroke / 2 + 47,5	Abs. stroke / 2 - 13,5	Abs. stroke / 2 + E - 1,5
	25×25		Abs. stroke / 2 - 4,0	Abs. stroke / 2 + E + 8,0
80	32x5, 32x10, 32x20, 32x32	Abs. stroke / 2 + 62,0	Abs. stroke / 2 - 27,0	Abs. stroke / 2 + E - 12,0
100	40x5, 40x10, 40x20	Abs. stroke / 2 + 70,0	Abs. stroke / 2 - 20,0	Abs. stroke / 2 + E - 3,0
	40x40	Abs. stroke / 2 + 77,5	Abs. stroke / 2 - 27,5	Abs. stroke / 2 + E - 10,5

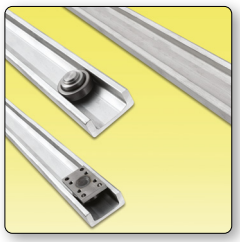
The lubrication nipple on the aluminum profile of the electric cylinder allows easy re-lubrication of the ball screw. To achieve the lubricationing position the piston rod must be moved from the end position into position (piston rod position) shown in the table above. The same position is achieved when the distance LP is obtained.

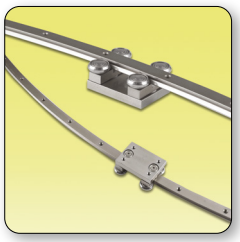
Notes

Rollco Products

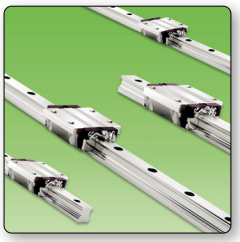
COMPACT RAIL

C-RAIL


U-RAIL

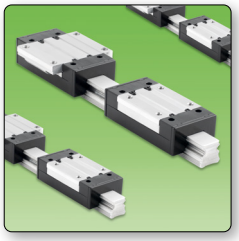

CURVI LINE

LINEAR RAIL SBI


LINEAR RAIL
BALL CHAIN

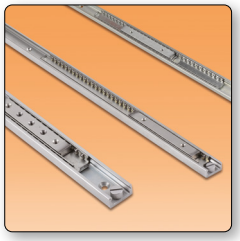
LINEAR MINIATURE
GUIDE

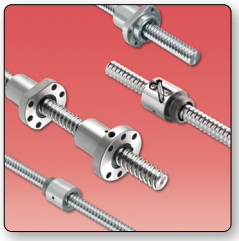
LINEAR ROLLER
GUIDE

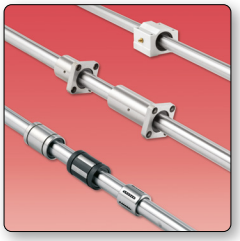

LINEAR RAIL
ALUMINIUM

TELESCOPIC RAIL
HEAVY

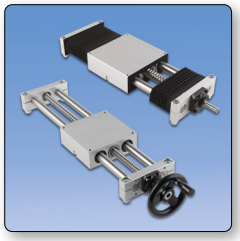
TELESCOPIC RAIL
LIGHT

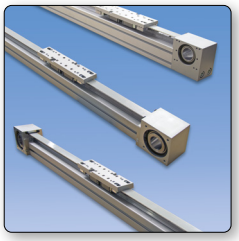

EASYSLIDE


BALL SCREWS


BALL BEARINGS
& STEEL SHAFTS

LINEAR UNIT RHL


LINEAR UNIT QME


LINEAR UNIT E-SMART

LINEAR UNITS CT & MT

ALUMINIUM PROFILES

BELT CONVEYORS

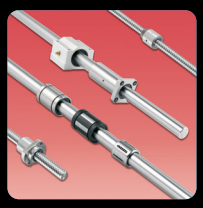
Rollco AB
Box 22234
Ekvändan 3
250 24 Helsingborg
Sweden
Tel. +46 42 150040
www.rollco.se

Rollco A/S
Skomagervej 13 E
7100 Vejle
Denmark
Tel. +45 7552 2666
www.rollco.dk

Rollco Oy
Sarankulmankatu 12
33900 Tampere
Finland
Tel. +358 207 57 97 90
www.rollco.fi

Rollco Norge AS
Industrigata 6
3414 Lierstrada
Norway
Tel. +47 32 84 00 34
www.rollco.no

Rollco Taiwan
No. 28, Lane 125, Da-an Road
Shulin District 238
New Taipei City, Taiwan
Tel. +886-2-8687-2726
Fax +886-2-8687-2720
www.rollco-tw.com



ROLLCO

SPECIALIZED
ON LINEAR MOTION

PNCE Electric Cylinders_201901 Art.no. P3021ENC