

**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm
Double acting with permanent magnet**

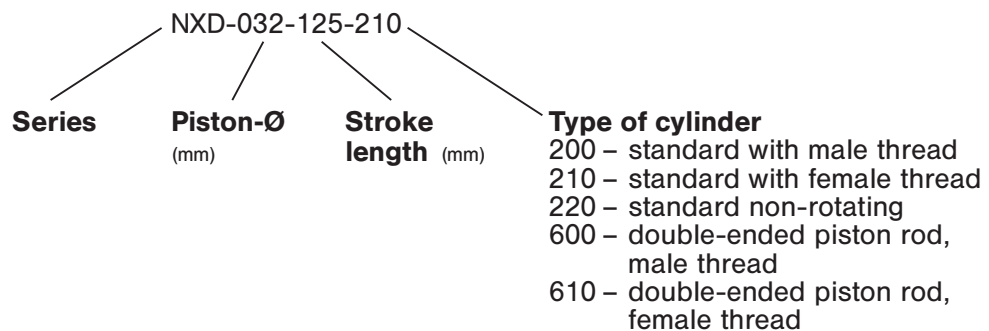


Technical data for series

NXD



Order code



Design and function

Double acting pneumatic cylinder with permanent magnet for proximity sensors and built-in cushioning rings. Cylinder end caps are connected with the Al-profile tube by mounting screws.

Order number Please complete according to order code.	NXD-012-...	NXD-016-...	NXD-020-...	NXD-025-...	NXD-032-...	NXD-040-...	NXD-050-...	NXD-063-...	NXD-080-...	NXD-100-...
Piston-Ø mm*	16	20	25	32	40	50	63	80	100	
Connection	M5 (10/32 UNF)				G 1/8	G 1/8	G 1/8	G 1/8	G 1/8	G 1/4
Inside thread	M3	M4	M5 (10/32 UNF)		M6	M6	M8	M8	M10	M12
Outer thread	M6	M8	M10x1.25	M10x1.25	M10x1.25	M10x1.25	M12x1.25	M12x1.25	M16x1.5	M20x1.5
Operating pressure	1.5 ... 10 bar (22 ... 145 psi)				1 ... 10 bar (14.5 ... 145 psi)					
Temperature range	– 30 °C ... + 80 °C (– 22 °F ... + 176 °F)									
Medium	filtered/lubricated or filtered/non-lubricated air									
Standard stroke lengths mm	5, 10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100, 125, 160, 200, 250 ø 12 – 16 : The maximum stroke length for types 200, 210, 600 and 610 is 200 mm. The maximum stroke length for type 220 is 160 mm.									
Materials	Cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: stainless steel Seals: PU									

* = The non rotating version is available from piston-Ø 16.

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Force table (6 bar)

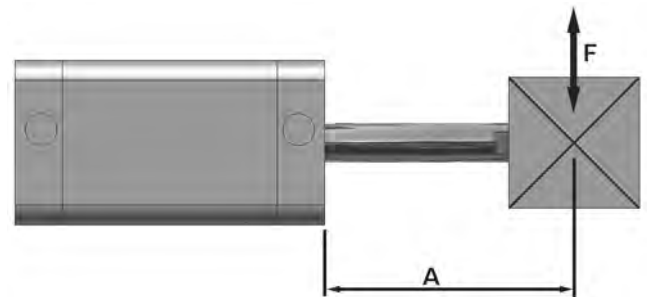
Retraction

Piston-Ø	F in N
12	81
16	81
20	127
25	223
32	373
40	617
50	952
63	1575
80	2545
100	3976

Extension

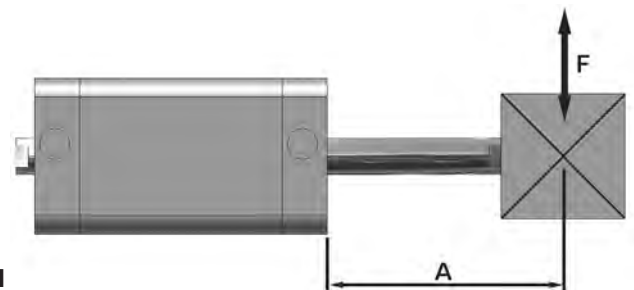
Piston-Ø	F in N
12	109
16	109
20	170
25	265
32	434
40	679
50	1060
63	1683
80	2714
100	4241

The internal friction is considered.



Permissible side load (N)

Piston-Ø	Distance A (mm)									
	≤ 25	30	40	50	60	70	80	90	100	125
12 + 16	8	7	6	6	5	5	4	3	2	–
20 + 25	12	11	9	7	6	5	4	3	3	–
32 + 40	23	20	16	12	10	8	7	7	6	4
50 + 63	38	34	28	22	18	15	13	12	11	3
80	49	43	35	28	24	20	18	17	16	12
100	93	82	67	55	46	40	37	34	31	23



Permissible side load (N) with double-ended piston rod

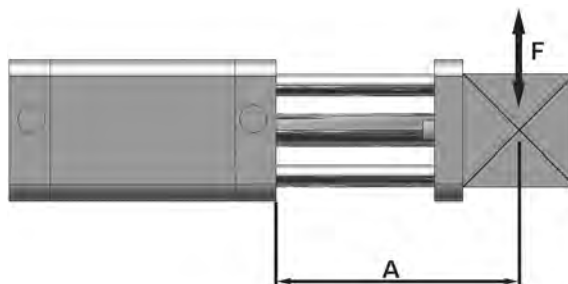
Piston-Ø	Distance (mm)									
	≤ 25	30	40	50	60	70	80	90	100	125
12 + 16	22	20	18	15	13	11	10	10	9	6
20 + 25	32	30	26	21	19	16	14	13	12	9
32 + 40	47	43	38	32	28	26	22	20	18	13
50 + 63	83	78	68	59	51	46	41	38	36	27
80	112	108	93	83	74	67	60	57	54	40
100	194	181	160	144	130	118	108	101	96	72

**Pneumatic compact cylinders,
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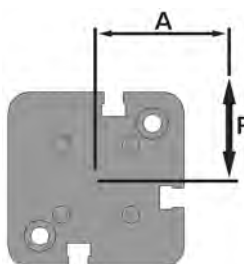
Technical data for series

NXD



Permissible side load (N) NXD-Ø-stroke-220

Piston-Ø	Distance A (mm)									
	≤ 25	30	40	50	60	70	80	90	100	125
16 + 20	38	33	27	23	20	18	16	14	12	9
25	59	53	43	37	31	27	24	23	22	15
32	76	68	58	49	43	38	35	34	32	24
40	112	101	84	72	62	56	50	47	46	34
50 + 63	145	130	108	92	83	74	66	61	56	42
80 + 100	200	180	155	135	120	110	100	90	80	60



Permissible torque (F x A in Nm) NXD-Ø-stroke-220 at different stroke length

Piston-Ø	Stroke length (mm)											
	≤ 10	15	20	25	30	40	50	60	70	80	90	100
16	0.75	0.7	0.6	0.5	0.45	0.4	0.35	0.3	0.25	0.2	0.15	0.1
20	1.0	0.85	0.8	0.7	0.6	0.4	0.35	0.35	0.3	0.25	0.2	0.2
25	2.0	1.75	1.6	1.3	1.2	0.9	0.75	0.6	0.5	0.45	0.45	0.4
32	2.7	2.5	2.2	2.0	1.8	1.6	1.3	1.1	1.0	0.9	0.9	0.8
40	5.0	4.0	3.5	3.3	3.0	2.5	2.2	2.0	1.8	1.5	1.4	1.3
50	8.8	7.6	6.7	6.0	5.4	4.6	4.0	3.5	3.0	2.8	2.6	2.4
63	10.7	9.4	8.3	7.4	6.7	5.5	4.8	4.2	3.8	3.5	3.2	2.9
80	17.5	15.3	13.7	12.4	11.3	9.6	8.5	7.6	7.0	6.3	5.8	5.3
100	20.0	19.0	17.0	15.5	14.0	12.0	10.5	9.5	8.5	7.7	7.0	6.5

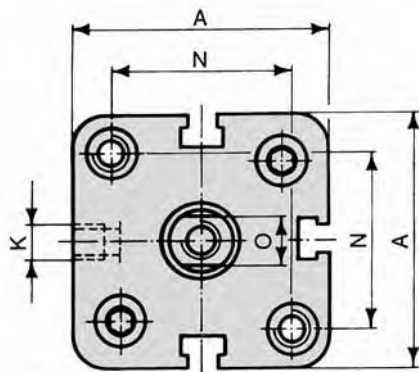
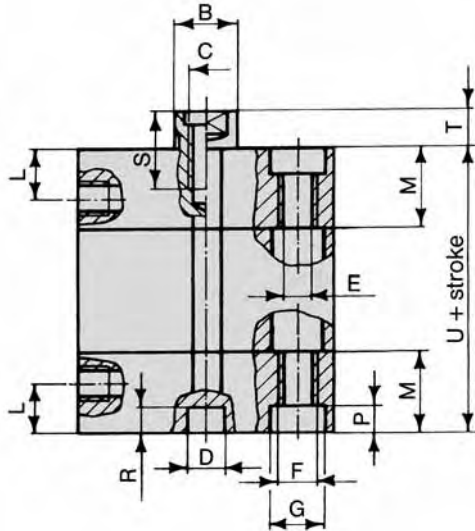
**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm
Double acting with permanent magnet, female thread**



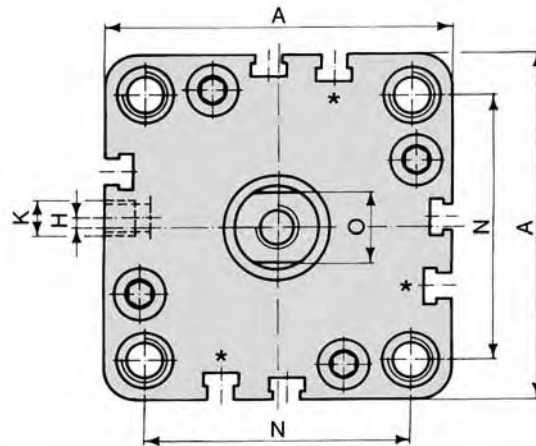
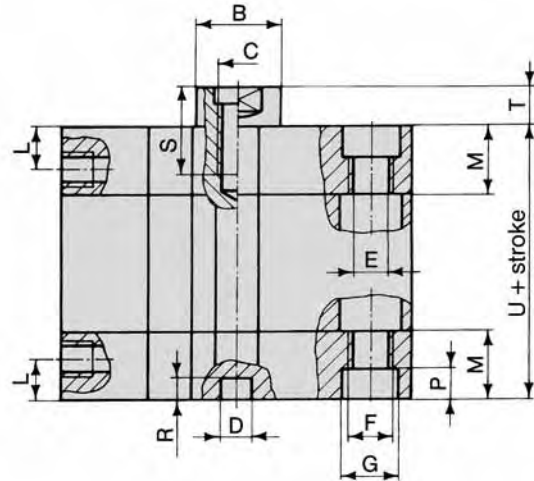
Dimensions for series

NXD (Type for order code: -210)

Ø 12 – 25



Ø 32 – 100



* The cylinders of Ø 32 mm and Ø 40 mm have three sensor grooves.

Piston-Ø	A	Ø B	C	Ø D	Ø E	F	Ø G	H	K	L	M	N	O	P	R	S	T	U
12	29	8	M3	6	3.3	M4	6	0	M5	8	12.25	18	5	3.5	4	6	4.5	38
16	29	8	M4	6	3.3	M4	6	0	M5	8	12.25	18	6	3.5	4	8	4.5	38
20	36	10	M5	6	4.2	M5	7.5	0	M5	8	12.25	22	8	4.5	4	10	4.5	38
25	40	10	M5	6	4.2	M5	7.5	0	M5	8	12.75	26	8	4.5	4	10	5.5	39.5
32	50	12	M6	6	5.2	M6	9	4	G 1/8	8	14.5	32	10	5.5	4	12	6	44.5
40	58	12	M6	6	5.2	M6	9	3	G 1/8	8	14.75	42	10	5.5	4	12	6.5	45.5
50	67	16	M8	6	6.7	M8	10.5	0	G 1/8	8	14.75	50	13	6.5	4	12	7.5	45.5
63	80	16	M8	8	8.5	M10	13.5	0	G 1/8	8	14.25	62	13	8.5	4	14	7.5	50
80	100	20	M10	8	8.5	M10	13.5	0	G 1/8	8.5	16	82	17	8.5	4	15	8	56
100	124	25	M12	8	8.5	M10	13.5	0	G 1/4	10.5	19.25	103	22	8.5	4	20	10	66.5

Piston-Ø	12	16	20	25	32	40	50	63	80	100
Mass at 0 mm stroke in kg	0.074	0.074	0.121	0.139	0.261	0.362	0.481	0.755	1.402	2.560
lbs.	(0.163)	(0.163)	(0.267)	(0.306)	(0.575)	(0.798)	(1.060)	(1.664)	(3.091)	(5.644)
add-on per 100 mm stroke	0.170	0.170	0.270	0.310	0.410	0.500	0.630	0.780	1.180	1.600
	(0.375)	(0.375)	(0.595)	(0.683)	(0.904)	(1.102)	(1.389)	(1.719)	(2.601)	(3.527)

**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm
Double acting with permanent magnet, male thread**

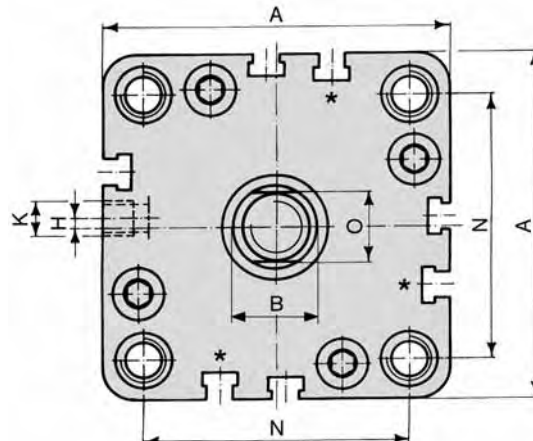
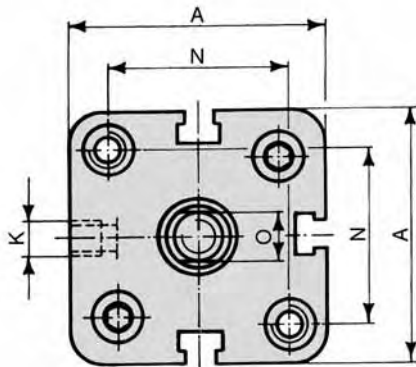
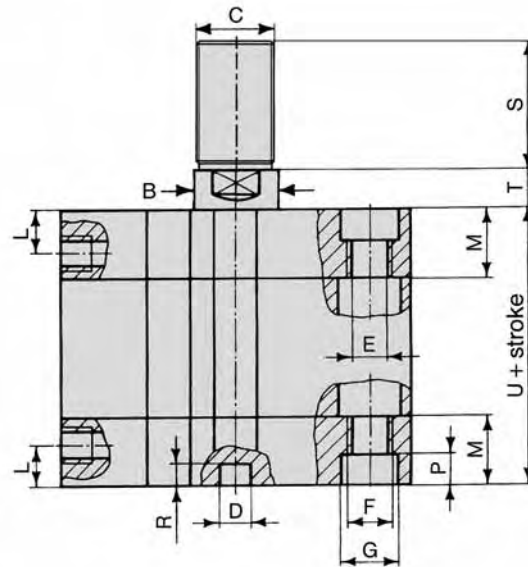
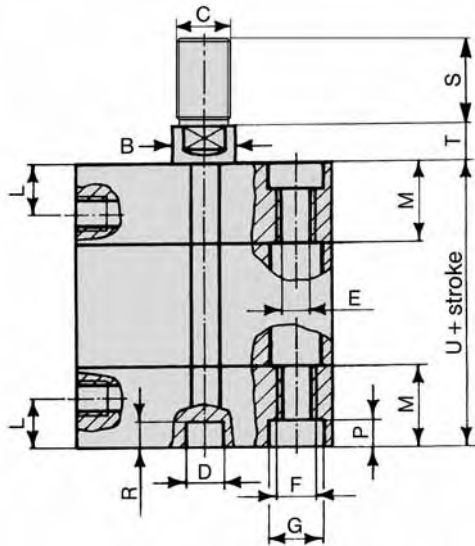


Dimensions for series

NXD (Type for order code: -200)

Ø 32 – 100

Ø 12 – 25



* The cylinders of Ø 32 mm and Ø 40 mm have three sensor grooves.

Piston-Ø	A	Ø B	C	Ø D	Ø E	F	Ø G	H	K	L	M	N	O	P	R	S	T	U
12	29	8	M6	6	3.3	M4	6	0	M5	8	12.25	18	5	3.5	4	16	4.5	38
16	29	8	M8	6	3.3	M4	6	0	M5	8	12.25	18	6	3.5	4	20	4.5	38
20	36	10	M10 x 1.25	6	4.2	M5	7.5	0	M5	8	12.25	22	8	4.5	4	22	4.5	38
25	40	10	M10 x 1.25	6	4.2	M5	7.5	0	M5	8	12.75	26	8	4.5	4	22	5.5	39.5
32	50	12	M10 x 1.25	6	5.2	M6	9	4	G 1/8	8	14.5	32	10	5.5	4	22	6	44.5
40	58	12	M10 x 1.25	6	5.2	M6	9	3	G 1/8	8	14.75	42	10	5.5	4	22	6.5	45.5
50	67	16	M12 x 1.25	6	6.7	M8	10.5	0	G 1/8	8	14.75	50	13	6.5	4	24	7.5	45.5
63	80	16	M12 x 1.25	8	8.5	M10	13.5	0	G 1/8	8	14.25	62	13	8.5	4	24	7.5	50
80	100	20	M16 x 1.5	8	8.5	M10	13.5	0	G 1/8	8.5	16	82	17	8.5	4	32	8	56
100	124	25	M20 x 1.5	8	8.5	M10	13.5	0	G 1/4	10.5	19.25	103	22	8.5	4	40	10	66.5

Piston-Ø	12	16	20	25	32	40	50	63	80	100
Mass at 0 mm stroke in kg	0.078	0.082	0.135	0.153	0.275	0.376	0.502	0.776	1.453	2.659
lbs.	(0.172)	(0.181)	(0.298)	(0.337)	(0.606)	(0.829)	(1.107)	(1.711)	(3.203)	(5.862)
add-on per 100 mm stroke	0.170	0.170	0.270	0.310	0.410	0.500	0.630	0.780	1.180	1.600
	(0.375)	(0.375)	(0.595)	(0.683)	(0.904)	(1.102)	(1.389)	(1.719)	(2.601)	(3.527)

**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm, Double acting with permanent
magnet and double-ended piston rod, female thread**

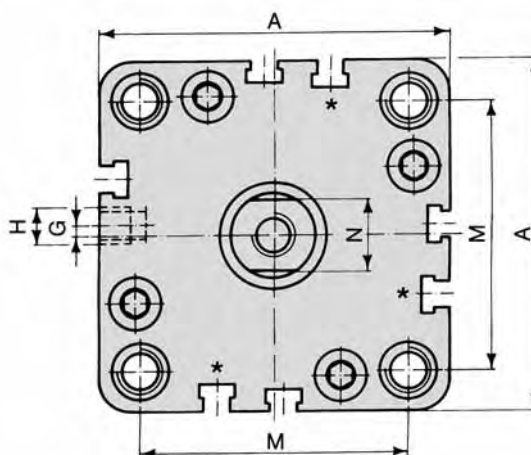
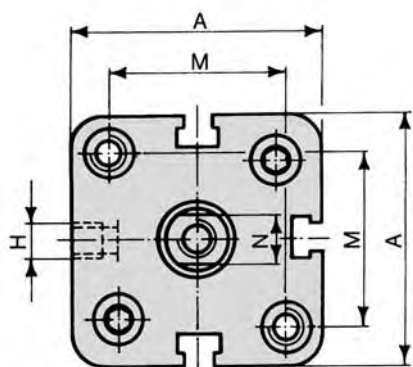
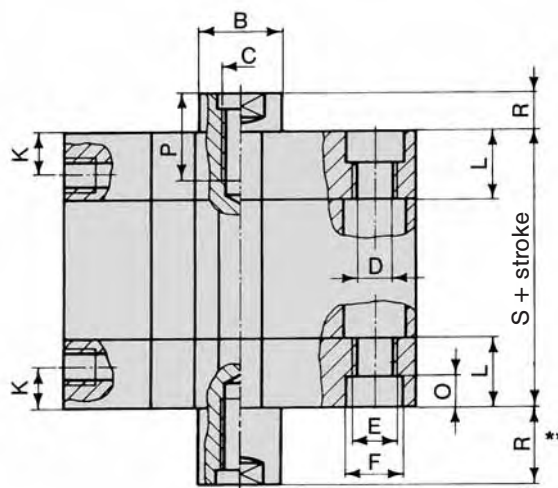
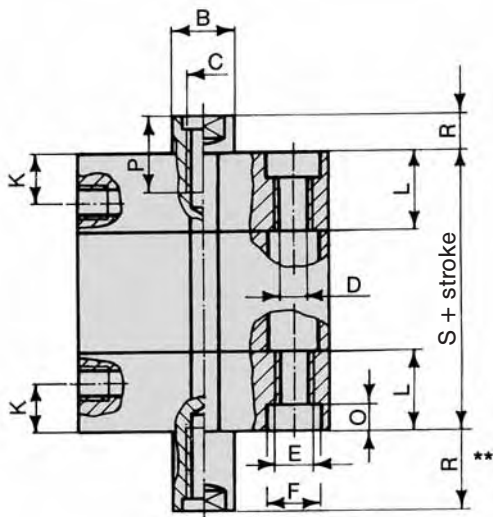


Dimensions for series

NXD (Type for order code: -610)

Ø 12 – 25

Ø 32 – 100



* The cylinders of Ø 32 mm and Ø 40 mm have three sensor grooves.

** Dimension R plus stroke length in extended position.

Piston-Ø	A	Ø B	C	Ø D	E	Ø F	G	H	K	L	M	N	O	P	R**	S
12	29	8	M3	3.3	M4	6	0	M5	8	12.25	18	5	3.5	6	4.5	38
16	29	8	M4	3.3	M4	6	0	M5	8	12.25	18	6	3.5	8	4.5	38
20	36	10	M5	4.2	M5	7.5	0	M5	8	12.25	22	8	4.5	10	4.5	38
25	40	10	M5	4.2	M5	7.5	0	M5	8	12.75	26	8	4.5	10	5.5	39.5
32	50	12	M6	5.2	M6	9	4	G 1/8	8	14.5	32	10	5.5	12	6	44.5
40	58	12	M6	5.2	M6	9	3	G 1/8	8	14.75	42	10	5.5	12	6.5	45.5
50	67	16	M8	6.7	M8	10.5	0	G 1/8	8	14.75	50	13	6.5	12	7.5	45.5
63	80	16	M8	8.5	M10	13.5	0	G 1/8	8	14.25	62	13	8.5	14	7.5	50
80	100	20	M10	8.5	M10	13.5	0	G 1/8	8.5	16	82	17	8.5	15	8	56
100	124	25	M12	8.5	M10	13.5	0	G 1/4	10.5	19.25	103	22	8.5	20	10	66.5

Piston-Ø	12	16	20	25	32	40	50	63	80	100
Mass at 0 mm stroke in kg	0.092	0.092	0.143	0.161	0.298	0.399	0.548	0.822	1.516	2.760
lbs.	(0.203)	(0.203)	(0.315)	(0.355)	(0.657)	(0.880)	(1.208)	(1.812)	(3.342)	(6.085)
add-on per 100 mm stroke	0.210	0.210	0.330	0.370	0.500	0.590	0.790	0.940	1.430	1.980
	(0.463)	(0.463)	(0.727)	(0.816)	(1.102)	(1.301)	(1.742)	(2.072)	(3.152)	(4.365)

**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm, Double acting with permanent
magnet and double-ended piston rod, male thread**

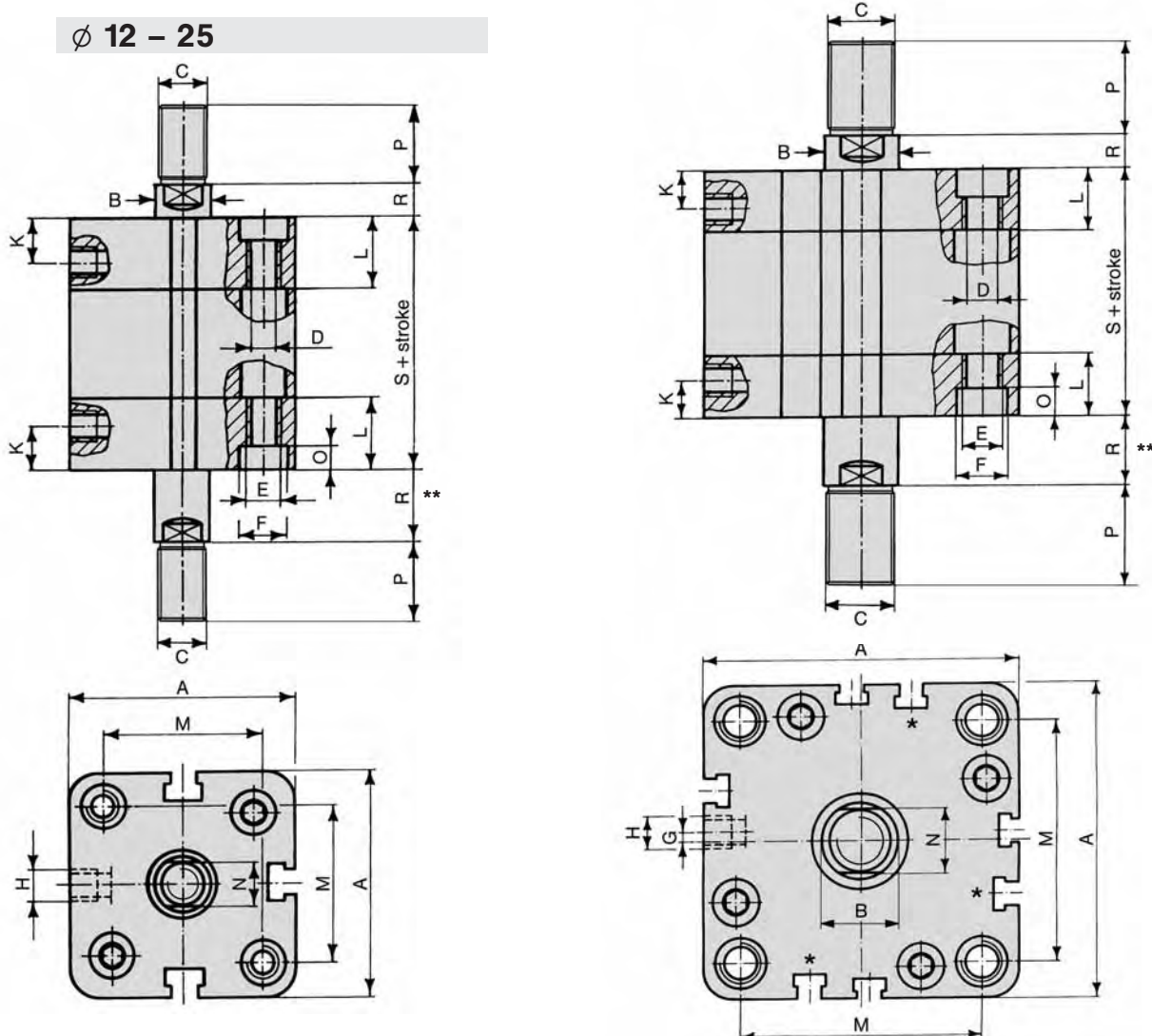


Dimensions for series

NXD (Type for order code: -600)

Ø 32 – 100

Ø 12 – 25



* The cylinders of Ø 32 mm and Ø 40 mm have three sensor grooves.

** Dimension R plus stroke length in extended position.

Piston-Ø	A	Ø B	C	Ø D	E	Ø F	G	H	K	L	M	N	O	P	R**	S
12	29	8	M6	3.3	M4	6	0	M5	8	12.25	18	5	3.5	16	4.5	38
16	29	8	M8	3.3	M4	6	0	M5	8	12.25	18	6	3.5	20	4.5	38
20	36	10	M 10 x 1.25	4.2	M5	7.5	0	M5	8	12.25	22	8	4.5	22	4.5	38
25	40	10	M 10 x 1.25	4.2	M5	7.5	0	M5	8	12.75	26	8	4.5	22	5.5	39.5
32	50	12	M 10 x 1.25	5.2	M6	9	4	G 1/8	8	14.5	32	10	5.5	22	6	44.5
40	58	12	M 10 x 1.25	5.2	M6	9	3	G 1/8	8	14.75	42	10	5.5	22	6.5	45.5
50	67	16	M 12 x 1.25	6.7	M8	10.5	0	G 1/8	8	14.75	50	13	6.5	24	7.5	45.5
63	80	16	M 12 x 1.25	8.5	M10	13.5	0	G 1/8	8	14.25	62	13	8.5	24	7.5	50
80	100	20	M 16 x 1.5	8.5	M10	13.5	0	G 1/8	8.5	16	82	17	8.5	32	8	56
100	124	25	M 20 x 1.5	8.5	M10	13.5	0	G 1/4	10.5	19.25	103	22	8.5	40	10	66.5

Piston-Ø	12	16	20	25	32	40	50	63	80	100
Mass at 0 mm stroke in kg	0.097	0.108	0.170	0.188	0.325	0.426	0.591	0.865	1.617	2.958
lbs.	(0.214)	(0.238)	(0.375)	(0.414)	(0.716)	(0.939)	(1.303)	(1.907)	(3.565)	(6.521)
add-on per 100 mm stroke	0.210	0.210	0.330	0.370	0.500	0.590	0.790	0.940	1.430	1.980
	(0.463)	(0.463)	(0.727)	(0.816)	(1.102)	(1.301)	(1.742)	(2.072)	(3.152)	(4.365)

**Pneumatic compact cylinders,
piston-Ø 12 – 100 mm
Double acting non-rotating**

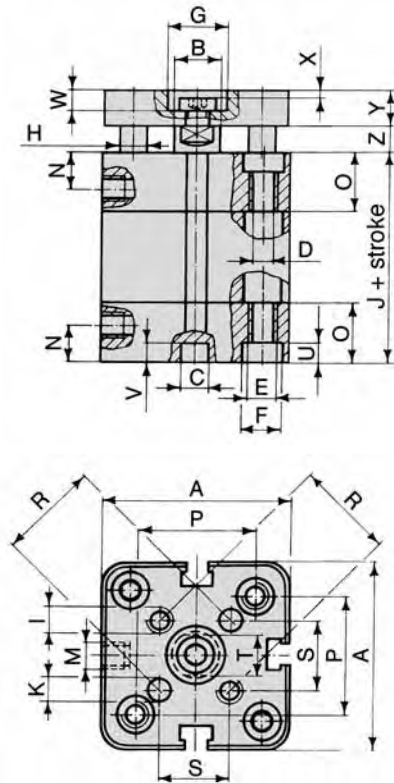


Dimensions for series

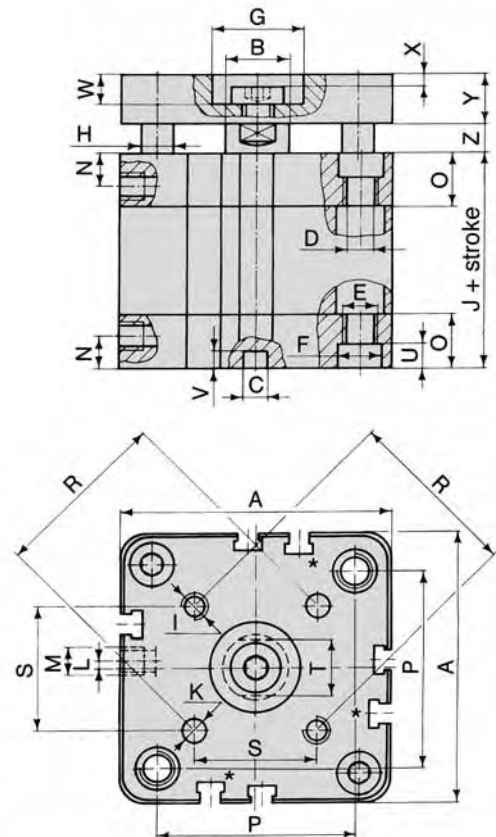
NXD

**(Type for
order code:
-220)**

Ø 16 – 25



Ø 32 – 100



* The cylinders of Ø 32 mm and Ø 40 mm have three sensor grooves.

Piston-Ø	A	Ø B	Ø C	Ø D	E	Ø F	Ø G	H	I	J	Ø K	L	M
16	29	8	6	3.3	M4	6	9	5	M3	38	3	0	M5
20	36	10	6	4.2	M5	7.5	11	5	M4	38	4	0	M5
25	40	10	6	4.2	M5	7.5	14	6	M5	39.5	5	0	M5
32	50	12	6	5.2	M6	9	17	8	M5	44.5	5	4	G 1/8
40	58	12	6	5.2	M6	9	17	10	M5	45.5	5	3	G 1/8
50	67	16	6	6.7	M8	10.5	22	10	M6	45.5	6	0	G 1/8
63	80	16	8	8.5	M10	13.5	22	10	M6	50	6	0	G 1/8
80	100	20	8	8.5	M10	13.5	28	14	M8	56	8	0	G 1/8
100	124	25	8	8.5	M10	13.5	30	14	M10	66.5	10	0	G 1/4

Piston-Ø	N	O	P	R	S	T	U	V	W	X	Y	Z
16	8	12.25	18	14	9.9	6	3.5	4	3.8	1	6	4.5
20	8	12.25	22	17	12.0	8	4.5	4	5	1.5	8	4.5
25	8	12.75	26	22	15.6	8	4.5	4	5	1.5	8	5.5
32	8	14.5	32	28	19.8	10	5.5	4	6.5	2.5	10	6
40	8	14.75	42	33	23.3	10	5.5	4	6.5	2.5	10	6.5
50	8	14.75	50	42	29.7	13	6.5	4	7.5	2.5	12	7.5
63	8	14.25	62	50	35.4	13	8.5	4	7.5	2.5	12	7.5
80	8.5	16	82	65	46.0	17	8.5	4	9	3	14	8
100	10.5	19.25	103	80	56.6	22	8.5	4	10	3	14	10

Piston-Ø	16	20	25	32	40	50	63	80	100
Mass at 0 mm stroke in kg	0.097	0.150	0.195	0.335	0.461	0.636	0.976	1.845	3.190
lbs.	(0.214)	(0.331)	(0.430)	(0.738)	(1.016)	(1.402)	(2.152)	(4.067)	(7.033)
add-on per 100 mm stroke	0.200	0.300	0.350	0.530	0.620	0.750	0.900	1.420	1.840
	(0.441)	(0.661)	(0.772)	(1.168)	(1.367)	(1.653)	(1.984)	(3.130)	(4.056)

Accessories for series

NXD

Remark:
Accessories for piston rod see page 8.212.

Mounting accessories



Foot mount
NXB-Ø-01
Page 8.129



Flange mount
NXB-Ø-02
Page 8.129



Swivel mount 90°
XLB-Ø-06
Page 8.018



Clevis pin
XLB-Ø-08
Page 8.019



Swivel mount
NXB-Ø-04
Page 8.130

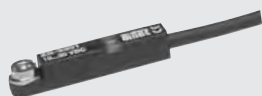


Clevis mount
NXB-Ø-03
Page 8.130



Clevis mount
RC-Ø
Page 8.087

Proximity sensors



Sensors
ZS-
Page 8.220



Connecting cable
KA-
Page 8.221

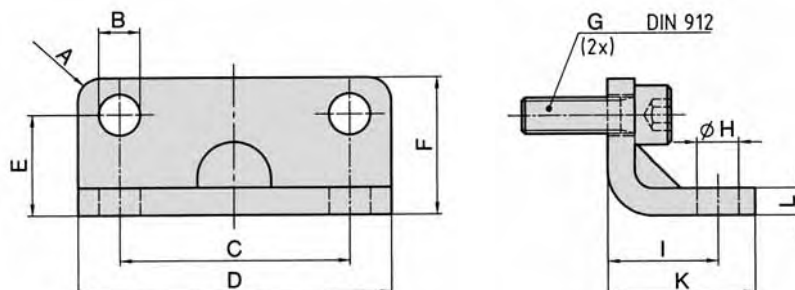
Seal kits see page 8.131.

Piston-Ø	Foot mount	Flange mount	Clevis mount	Swivel mount	Clevis mount	Swivel mount 90°	Clevis pin	Sensors	Cable
NX-12	–	NXB-16-02	–	NXB-16-04	RC-16	–	–	ZS-5200	KA-30 KA-50 KA-51 KA-100 KA-101
NX-16	–	NXB-16-02	–	NXB-16-04	RC-16	–	–	ZS-5201	
NX-20	–	NXB-20-02	–	NXB-20-04	RC-30	–	–	ZS-5300	
NX-25	–	NXB-25-02	–	NXB-25-04	RC-30	–	–	ZS-5300-05	
NX-32	NXB-32-01	NXB-32-02	NXB-32-03	–	–	XLB-32-06	XLB-32-08	ZS-5301	
NX-40	NXB-40-01	NXB-40-02	NXB-40-03	–	–	XLB-40-06	XLB-40-08	ZS-6300	
NX-50	NXB-50-01	NXB-50-02	NXB-50-03	–	–	XLB-50-06	XLB-50-08	ZS-6301	
NX-63	NXB-63-01	NXB-63-02	NXB-63-03	–	–	XLB-63-06	XLB-63-08	ZS-7300	
NX-80	NXB-80-01	NXB-80-02	NXB-80-03	–	–	XLB-80-06	XLB-80-08	ZS-7301	
NX-100	NXB-100-01	NXB-100-02	NXB-100-03	–	–	XLB-100-06	XLB-100-08		

Mounting accessories for series

NXD, NXE

Foot mount
1 pair



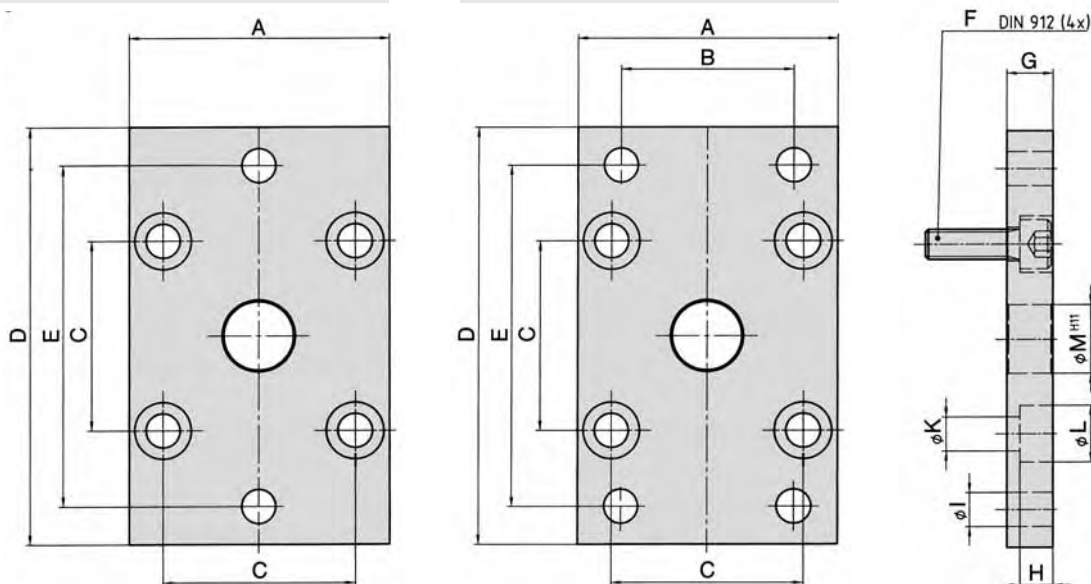
Material: steel (zinc-plated)

Order number	A	B	C	D	E	F	G	H	I	K	L
NXB-032-01	R 2	6.6	32	50	16	24	M6 x 20	6.6	18	26	5
NXB-040-01	R 5	6.6	42	60	21.5	29.5	M6 x 20	9	20	28	5
NXB-050-01	R 5	9	50	68	22	30	M8 x 25	9	24	32	6
NXB-063-01	R 5	11	62	84	28.5	39	M10 x 25	11	27	39	6
NXB-080-01	R 5	11	82	102	24.5	36.5	M10 x 25	11	30	42	8
NXB-100-01	R 5	11	103	123	26.5	38.5	M10 x 30	13.5	33	45	8

Flange mount

for cyl.-Ø 12 – 25

for cyl.-Ø 32 – 100



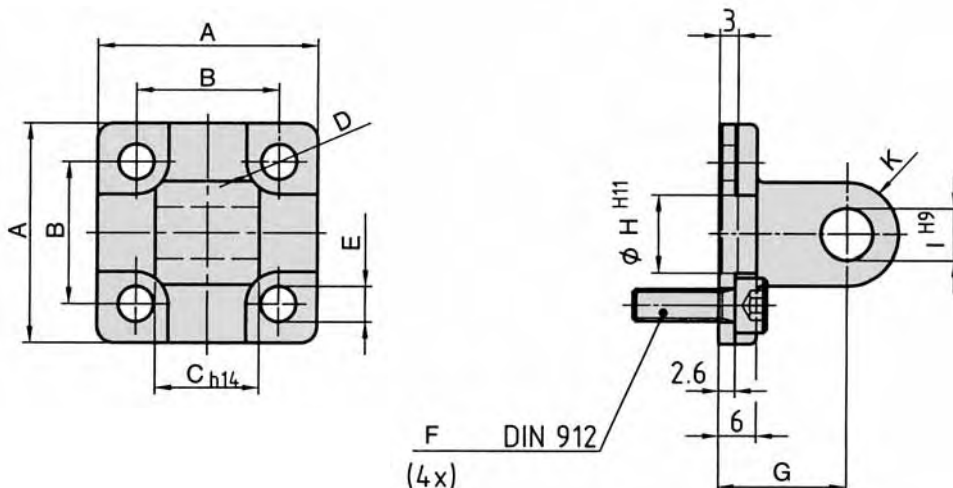
Material: steel (zinc-plated)

Order number	A	B	C	D	E	F	G	H	I	K	L	M
NXB-016-02	29	-	18	55	43	M4 x 16	10	5.4	5.5	4.5	9	10
NXB-020-02	36	-	22	70	55	M5 x 20	10	5.4	6.6	5.5	10	12
NXB-025-02	40	-	26	76	60	M5 x 20	10	5.4	6.6	5.5	10	12
NXB-032-02	50	32	32	80	65	M6 x 20	10	6.4	7	6.6	11	14
NXB-040-02	60	36	42	102	82	M6 x 20	10	6.4	9	6.6	11	14
NXB-050-02	68	45	50	110	90	M8 x 25	12	8.6	9	9	15	18
NXB-063-02	87	50	62	130	110	M10 x 25	15	10.6	9	11	18	18
NXB-080-02	107	63	82	160	135	M10 x 25	15	10.6	12	11	18	23
NXB-100-02	128	75	103	190	163	M10 x 30	15	10.6	14	11	18	28

Mounting accessories for series

NXD, NXE

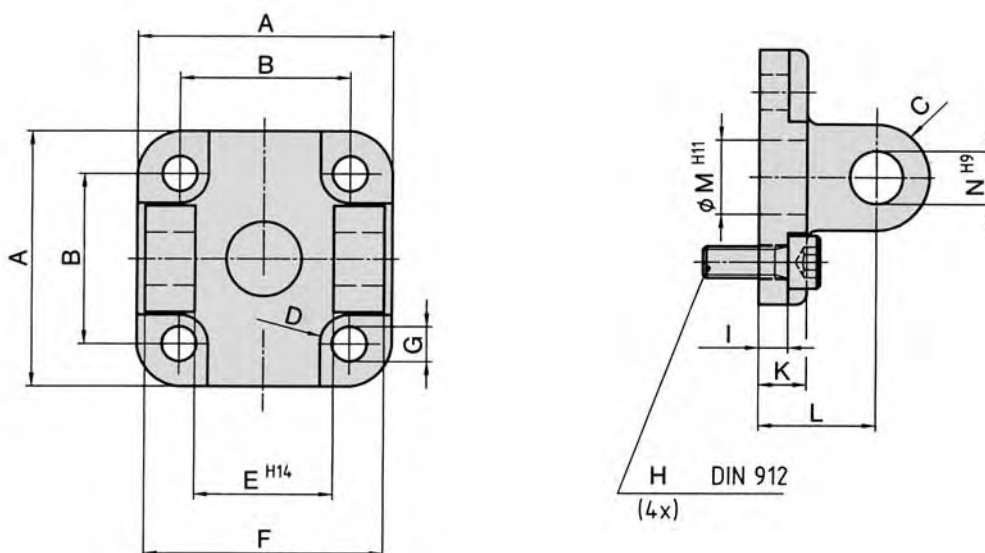
Swivel mount



Material: Al (anodized)

Order number	A	B	C	D	E	F	G	H	I	K
NXB-016-04	27	18	12	R 4.5	4.5	M4 x 12	16	10	6	6
NXB-020-04	34	22	16	R 5	5.5	M5 x 16	20	12	8	8
NXB-025-04	38	26	16	R 5	5.5	M5 x 16	20	12	8	8

Clevis mount



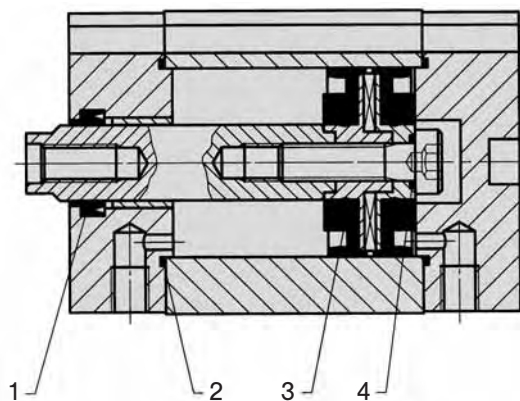
Material: Al (anodized)

Order number	A	B	C	D	E	F	G	H	I	K	L	M	N
NXB-032-03	48	32	10	R 5.5	26	45	6.6	M6 x 16	5.5	9	22	14	10
NXB-040-03	58	42	12.5	R 5.5	28	52	6.6	M6 x 16	5.5	9	25	14	12
NXB-050-03	66	50	12.5	R 7.5	32	60	9	M8 x 20	6.5	11	27	18	12
NXB-063-03	83	62	15	R 9	40	70	11	M10 x 25	6.5	11	32	18	16
NXB-080-03	102	82	15	R 9	50	90	11	M10 x 30	10	13	36	23	16
NXB-100-03	123	103	20	R 9	60	110	11	M10 x 30	10	15	41	28	20

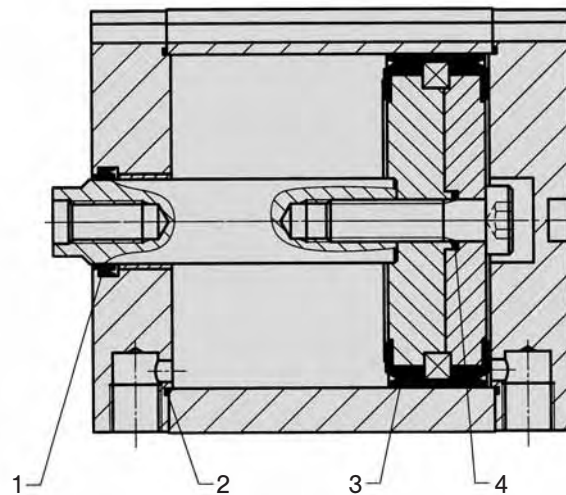
Seal kits for series NXD, NXE



For cylinders-Ø 12 – 25 mm



For cylinders-Ø 32 – 100 mm



For NXD cylinder types 200, 210 and 220 and all NXE types

Seal kit

Order number	Piston-Ø
VS-NXD-012-01	12 mm
VS-NXD-016-01	16 mm
VS-NXD-020-01	20 mm
VS-NXD-025-01	25 mm
VS-NXD-032-01	32 mm
VS-NXD-040-01	40 mm
VS-NXD-050-01	50 mm
VS-NXD-063-01	63 mm
VS-NXD-080-01	80 mm
VS-NXD-100-01	100 mm

Content

Pos.	Part	Quantity
1	Wiper and seal element	1
2	O-ring	2
3	Piston	2
4	O-ring	1
	Grease	1

For NXD cylinder types 600 and 610

Seal kit

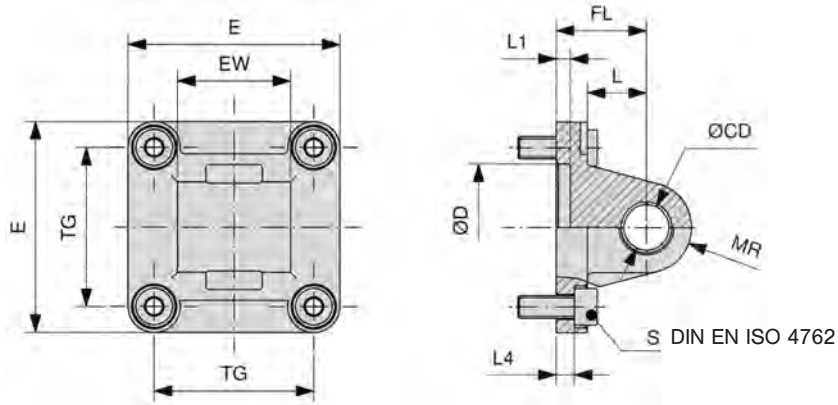
Order number	Piston-Ø
VS-NXD-012-02	12 mm
VS-NXD-016-02	16 mm
VS-NXD-020-02	20 mm
VS-NXD-025-02	25 mm
VS-NXD-032-02	32 mm
VS-NXD-040-02	40 mm
VS-NXD-050-02	50 mm
VS-NXD-063-02	63 mm
VS-NXD-080-02	80 mm
VS-NXD-100-02	100 mm

Content

Pos.	Part	Quantity
1	Wiper and seal element	2
2	O-ring	2
3	Piston	2
4	O-ring	1
	Grease	1

Mounting accessories for series
XL

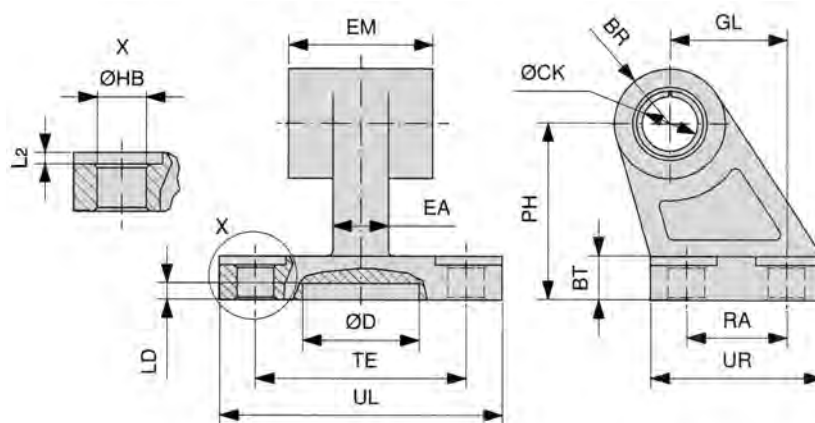
Swivel mount



Material: Al

Order number	Ø CD	Ø D	E	EW	FL	L	L1	L4	MR	S	TG
XLB-032-05	10	30	45	26	22	13	5	5.5	10	M 6 x 20	32.5
XLB-040-05	12	35	52	28	25	16	5	5.5	12	M 6 x 20	38
XLB-050-05	12	40	65	32	27	16	5	6.5	12	M 8 x 20	46.5
XLB-063-05	16	45	75	40	32	21	5	6.5	16	M 8 x 20	56.5
XLB-080-05	16	45	95	50	36	22	5	10	16	M 10 x 25	72
XLB-100-05	20	55	115	60	41	27	5	10	20	M 10 x 25	89
XLB-125-05	25	60	140	70	50	30	7	10	25	M 12 x 25	110*
	H9	H11			± 0.2			± 0.5			± 0.2 *± 0.3

Swivel mount 90°

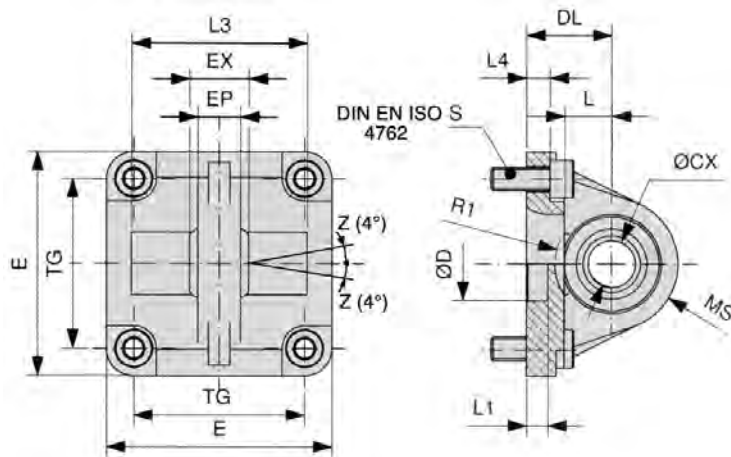


Material: Al

Order number	BR	BT	Ø CK	Ø D	EA	EM	GL	Ø HB	L2	LD	PH	RA	TE	UL	UR
XLB-032-06	10	8	10	21	10	26	21	6.6	1.6	3	32	18	38	51	31
XLB-040-06	11	10	12	21	15	28	24	6.6	1.6	3	36	22	41	54	35
XLB-050-06	13	12	12	21	16	32	33	9	1.6	3	45	30	50	65	45
XLB-063-06	15	14	16	21	16	40	37	9	1.6	3	50	35	52	67	50
XLB-080-06	15	14	16	21	20	50	47	11	2.5	3	63	40	66	86	60
XLB-100-06	19	17	20	21	20	60	55	11	2.5	3	71	50	76	96	70
XLB-125-06	22.5	20	25	21	30	70	70	14	3.2	3	90	60	94	124	90
	H9						JS14	H13			JS15	JS14	JS14		

Mounting accessories for series
XL

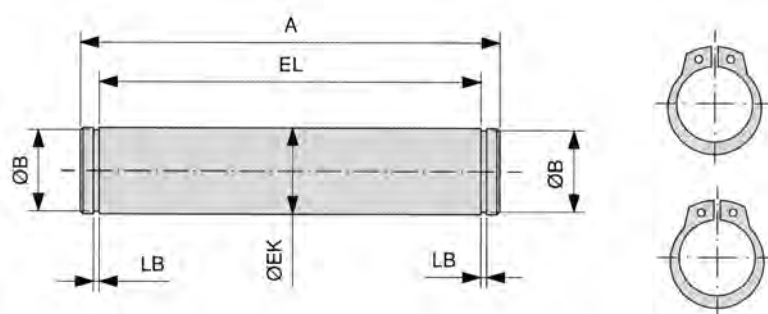
Swivel mount
with spherical
bearing



Material: Al

Order number	Ø CX	Ø D	DL	E	EP	EX	L	L1	L3	L4	MS	R1	S	TG
XLB-032-12	10	30	22	45	10.5	14	12	7	-	5.5	16	-	M 6 x 20	32.5
XLB-040-12	12	35	25	52	12	16	15	7	-	5.5	18	-	M 6 x 20	38
XLB-050-12	16	40	27	65	15	21	15	7	51	6.5	21	19	M 8 x 20	46.5
XLB-063-12	16	45	32	75	15	21	20	7	-	6.5	23	-	M 8 x 20	56.5
XLB-080-12	20	45	36	95	18	25	20	9	74	10	28	24	M 10 x 25	72
XLB-100-12	20	55	41	115	18	25	25	9	-	10	30	-	M 10 x 25	89
XLB-125-12	30	60	50	140	25	37	30	9	-	10	40	-	M 12 x 25	110*
	H7	H11	± 0.2			± 0.1				± 0.5				± 0.2 * ± 0.3

Clevis pin

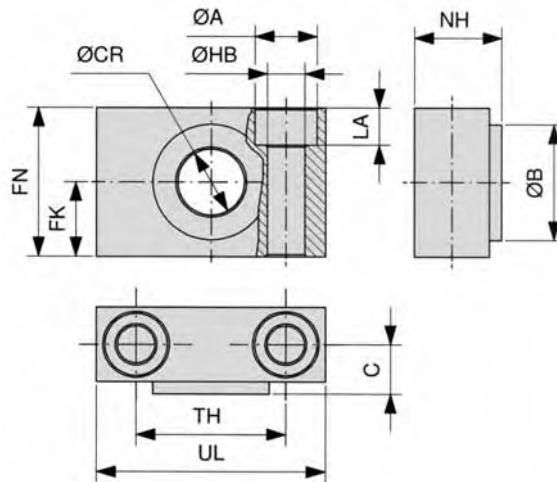


Material: steel (zinc-plated)
Snap rings are included.

Order number	A	Ø B	Ø EK	EL	LB
XLB-032-08	53	9.6	10	46	1.1
XLB-040-08	60	11.5	12	53	1.1
XLB-050-08	68	11.5	12	61	1.1
XLB-063-08	78	15.2	16	71	1.1
XLB-080-08	98	15.2	16	91	1.1
XLB-100-08	118	19	20	111	1.3
XLB-125-08	139	23.9	25	132*	1.3
			e8	+ 2 * + 3	

Mounting accessories for series
XL

Bearing block
(1 pair)



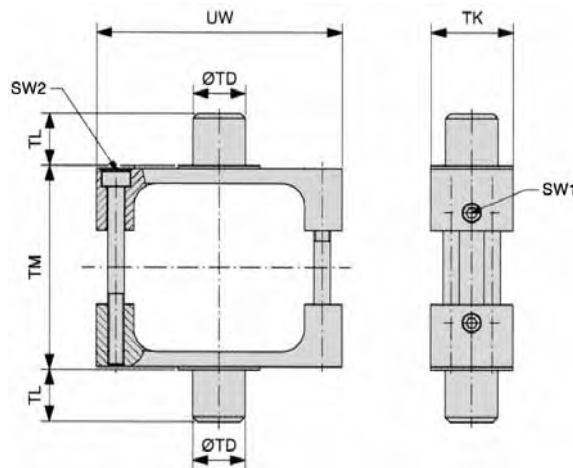
Order number = 1 pair
Material: steel (zinc-plated), bronze

Order number	Ø A	Ø B	C	Ø CR	FK	FN	Ø HB	LA	NH	TH	UL
XLB-032-09	11	22	10.5	12	15	30	6.6	7	18	32	46
XLB-040-09	15	28	12	16	18	36	9	9	21	36	55
XLB-063-09	18	32	13	20	20	40	11	11	23	42	65
XLB-100-09	20	39	16	25	25	50	14	13	28.5	50	75
				H9	± 0.1		H13				± 0.2

Trunnion mount



Mounting position
arbitrary.



Attention!
Not available for SL type.

Material: steel (zinc-plated)

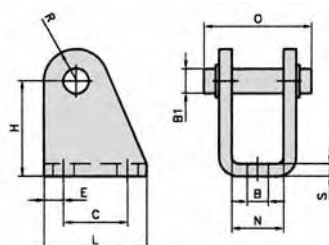
Order number	SW1 DIN 914	SW2 DIN 7984	Ø TD	TK	TL	TM	UW
XLB-032-10	3	2.5	12	25	12	50	65
XLB-040-10	3	3	16	25	16	63	75
XLB-050-10	3	4	16	30	16	75	95
XLB-063-10	3	4	20	30	20	90	105
XLB-080-10	3	4	20	30	20	110	130
XLB-100-10	4	5	25	40	25	132	145
XLB-125-10	4	6	25	40	25	160	175
		DIN EN ISO 4762	e 9		h14	h14	

Mounting accessories for series

HE, HM

Clevis mount

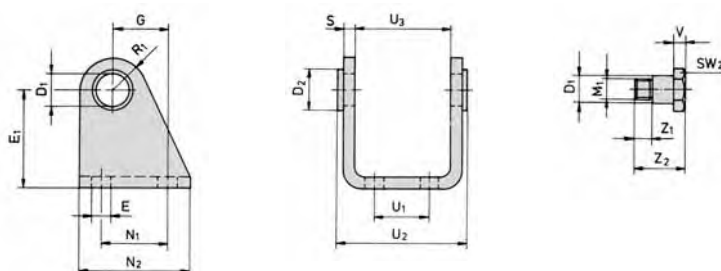
for Ø 8 – 25



Material: steel (zinc-plated)

Order number	for Cyl.-Ø	B	B ₁	C	H	L	N	O	R	S	E
RC-10	8 + 10	4.5	4	12.5	24	20	8.1	17	5	2.5	5
RC-16	12 + 16	5.5	6	15	27	25	12.1	23	7	3	5
RC-30	20 + 25	6.6	8	20	30	32	16.1	30	10	4	6

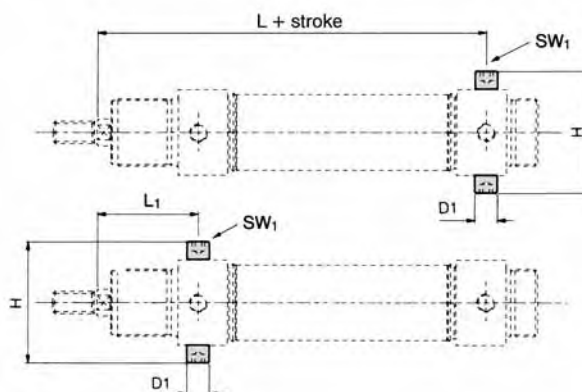
for Ø 32 – 63



Material: steel (zinc-plated)

Order number	D ₁	D ₂	E	E ₁	G	M ₁	N ₁	N ₂	R ₁	S	U ₁	U ₂	U ₃	V	Z ₁	Z ₂	SW ₂
RC-32	10	15	7	35	20	M8 x 1	24	40	12	4	20	50.1	38.1	4	6	18	13
RC-40	12	20	9	40	27	M10 x 1	30	50	13	5	28	60.1	46.1	5	7	21.6	17
RC-50	14	23	9	45	30	M12 x 1.5	34	54	14	6	36	74.1	57.1	6	9	26.4	19
RC-63	16	23	9	50	34	M14 x 1.5	35	65	16	6	42	88.1	70.1	6	16	35	19

Threaded bolts



Material: steel (zinc-plated)

Order number	D ₁	H	L	L ₁	SW ₁
RG-32	10	51	125	47	5
RG-40	12	61	146	57	6
RG-50	14	75	158	62	6
RG-63	16	90	162	64	8

Overview Piston rod accessories



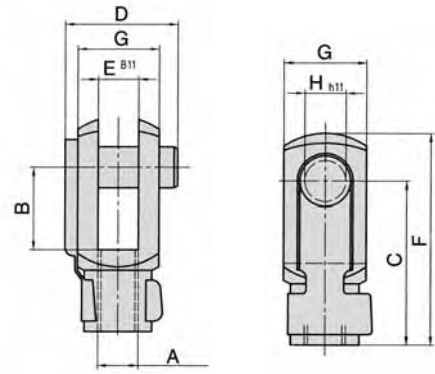
Assignment to series

Series	Cylinder Ø mm	Piston rod thread	Rod clevis	Piston rod nut	Flexible coupling	Rod eye
HM	Ø 8 and 10	M 4	RD-10	RL-10	-	-
NXD HM	Ø 12 Ø 12 and 16	M 6	RD-16	RL-16	FK-16	RO-16
NXD HM XV	Ø 16 Ø 20 Ø 20 and 25	M 8	RD-20	RL-20	FK-20	RO-20
NXD HM XL XV	Ø 20 to 40 Ø 25 Ø 32 Ø 32 and 40	M 10 x 1.25	RD-25	RL-25	FK-32	RO-25
HM	Ø 32	M 10	RD-32	RL-32	FK-33	RO-32
HM	Ø 40	M 12	RD-40	RL-40	FK-41	RO-40
HM	Ø 50 and 63	M 16	RD-63	RL-50/63	-	RO-50
NXD XL XV	Ø 50 and 63 Ø 40 Ø 50 and 63	M 12 x 1.25	FD-40	FE-40	FK-40	FO-40
NXD XL	Ø 80 Ø 50 and 63	M 16 x 1.5	FD-63	FE-63	FK-63	FO-63
NXD XL XV	Ø 100 Ø 80 and 100 Ø 80 and 100	M 20 x 1.5	FD-80	FE-80	FK-80	FO-80
XL	Ø 125	M 27 x 2	FD-125	FE-125	FK-125	FO-125
XG	Ø 160 and 200	M 36 x 2	FD-200	FE-200	FK-200	FO-160/200
XG	Ø 250	M 42 x 2	FD-250	FE-250	-	-
XG	Ø 320	M 48 x 2	FD-320	FE-320	-	-

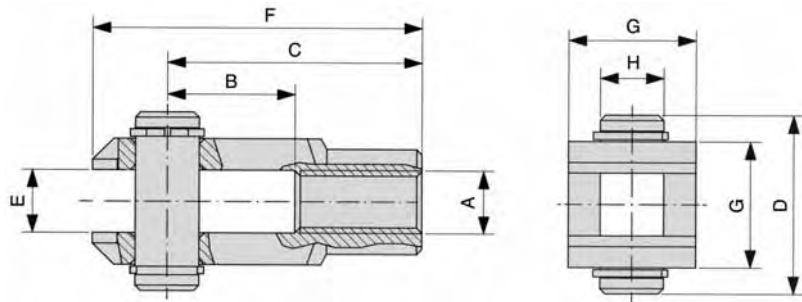
Piston rod accessories

Rod clevis with pin

Order number	A	B	C	D	E	F	G	H
RD-10	M4	8	16	11.5	4	21	8	4
RD-16	M6	12	24	16	6	31	12	6
RD-20	M8	16	32	22	8	42	16	8
RD-25	M 10 x 1.25	20	40	26	10	52	20	10
RD-32	M 10	20	40	26	10	52	20	10
RD-40	M 12	24	48	32	12	62	24	12
RD-63	M 16	32	64	36	16	83	32	16
FD-40	M 12 x 1.25	24	48	32	12	62	24	12
FD-63	M 16 x 1.5	32	64	40	16	83	32	16
FD-80	M 20 x 1.5	40	80	50	20	105	40	20
FD-125	M 27 x 2	54	110	65	30	148	55	30
FD-200	M 36 x 2	72	144	84	35	188	70	35
FD-250	M 42 x 2	84	168	104.5	40	232	85	40
FD-320	M 48 x 2	96	192	117.5	50	265	96	50



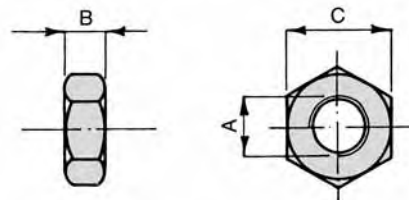
Material: steel (zinc-plated)
spring steel



Rod clevis FD-125 and FD-200, pin with snap rings.

Piston rod nut

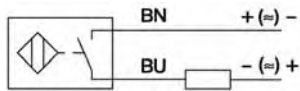
Order number	A	B	C
RL-10	M4	3.2	7
RL-16	M6	5	10
RL-20	M8	6.5	13
RL-25	M 10 x 1.25	6	17
RL-32	M 10	6	17
RL-40	M 12	7	19
RL-50/63	M 16	8	24
FE-40	M 12 x 1.25	7	19
FE-63	M 16 x 1.5	8	24
FE-80	M 20 x 1.5	9	30
FE-125	M 27 x 2	12	41
FE-200	M 36 x 2	14	55
FE-250	M 42 x 2	16	65
FE-320	M 48 x 2	18	75



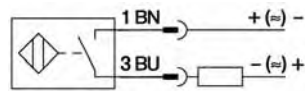
Material: steel (zinc-plated)

Proximity sensors

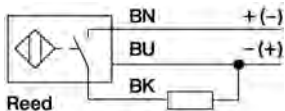
Wiring diagram



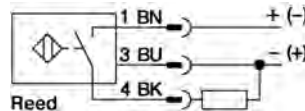
Reed
ZS-5600



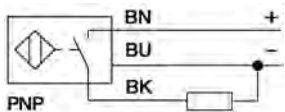
Reed
ZS-5601



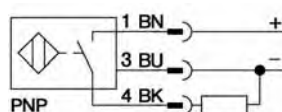
Reed
ZS-5700, ZS-5700-10



Reed
ZS-5701

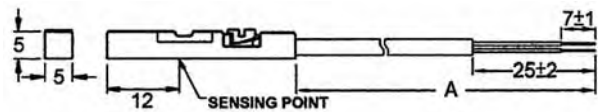


PNP
ZS-6700, ZS-7300



PNP
ZS-6701, ZS-7301

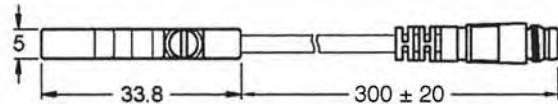
Dimensions



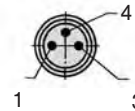
ZS-5600, ZS-6700, ZS-7300; A = 3.000 ± 20

ZS-5700-10; A = 10.000 ± 20

ZS-5700, ZS-7300; A = 5.000 ± 20



ZS-5601, ZS-5701, ZS-6701, ZS-7301



Function principles

Magnetic field sensors are actuated by magnetic fields and are especially suited for piston position detection in pneumatic cylinders. Based on the fact that magnetic fields can permeate non-magnetizable metals, it is possible to detect a permanent magnet attached to the piston through the aluminum wall of the cylinder.

Mounting tip

The sensor is firmly fixed in the groove by clockwise rotation of the screw.

Proximity sensors Reed contact

Order number	ZS-5600	ZS-5601	ZS-5700	ZS-5700-10	ZS-5701
Design	2-pole Reed sensor (non-polarized) normally open		3-pole Reed sensor* normally open		
Cable	∅ 2.8, PUR				
Cable cross section	n/a				
Cable length	3 m	0,3 m	5 m	10 m	0,3 m
Cable plug	-	M8	-	-	M8
Overtravel speed	n/a				
Max. absolute hysteresis	n/a				
Temperature drift	n/a				
Min. absolute repeat accuracy	n/a				
Operating temperature	- 10 °C ... + 70 °C				
Degree of protection	IP 68				
Housing material	Plastic				
Switching status indication	LED red		LED yellow		
Rated operational voltage	5 ... 240 V AC/DC / 5 ... 60 V AC/DC		5 ... 30 V DC		
Rated operational current I_E	DC ≤ 100 mA AC ≤ 100 mA		≤ 500 mA ≤ 500 mA		
Breaking capacity	≤ 10 W				
No-load current	n/a		≤ 10 mA		
Max. OFF-state current	0 mA				
Max. switching frequency	≤ 0.2 kHz				
Rated insulation voltage	n/a				
Short-circuit protection	no				
Max. voltage drop at I_E	≤ 2.5 V		≤ 0.1 V		
Wire breakage	no				
Reverse polarity protection	yes				
Vibration resistance	9 g (1,5 mm, 10 – 55 Hz – 10 Hz)				
Shock resistance	30 g (11 ms)				
Explosion proof	-				

* Useable as 2-wire contact, voltage 0 ... 30 V AC / 0 ... 30 V DC, LED has no function.

Proximity sensors

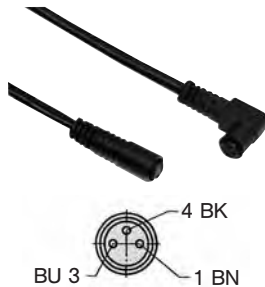
Mounting bracket for round cylinder Ø 8 – 63 mm



Order number	Piston-Ø
NT-250	8 – 25 mm
NT-500	32 – 63 mm

Material: metal,
plastic PA GI/6T

Connecting cable for ZS-5601, ZS-5701, ZS-6701 and ZS-7301



Cable: PUR, black, 3 x 0.25 mm², Ø 3.9, high flexible
Operating voltage 0 ... 48 V AC/DC

Order number	Length of cable	Connection
KA-30	3 m	8 mm sensor snap-in, straight
KA-50	5 m	8 mm sensor snap-in, straight
KA-51	5 m	8 mm sensor snap-in, 90°
KA-100	10 m	8 mm sensor snap-in, straight
KA-101	10 m	8 mm sensor snap-in, 90°

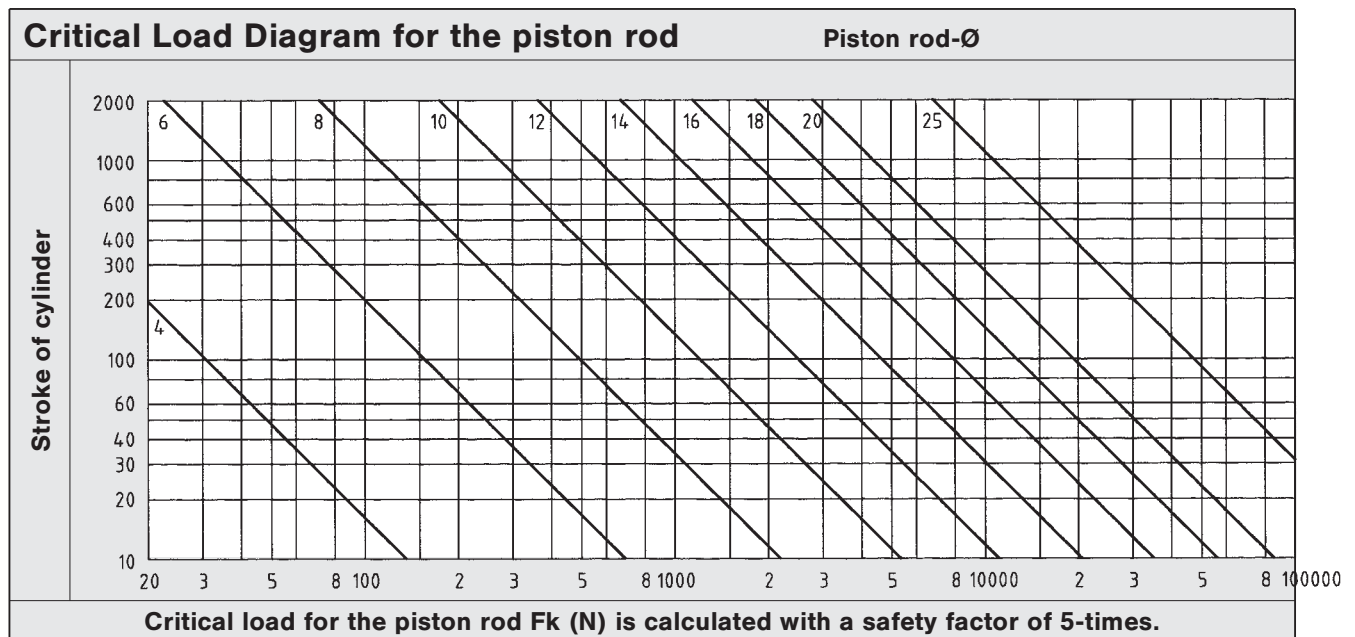
Proximity sensors electronic

Order number	ZS-6700	ZS-6701	ZS-7300	ZS-7301
Design	electronic, magnet-inductive sensor, normally open PNP output			
Cable	Ø 2.8, PUR		Ø 3, LifYY-11Y, PUR	
Cable cross section	n/a		3 x 0.14 mm ²	
Cable lengths	3 m	0.3 m	3 m	0.3 m
Cable plug	-	M8	-	M8
Overtravel speed	n/a		≤ 10 m/s	
Max. absolute hysteresis	n/a		≤ 1 mm	
Temperature drift	n/a		≤ 0.1 mm	
Min. absolute repeat accuracy	n/a		≤ ± 0.1 mm	
Operating temperature	- 10 °C ... + 70 °C		- 25 °C ... + 70 °C	
Degree of protection	IP 68		IP 67	
Housing material	Plastic		Plastic, PA 12	
Switching status indication	LED green		LED yellow	
Rated operational voltage	5 ... 30 V DC		10 ... 30 V DC, max. ripple ≤ 10 % U _{pp}	
Rated operational current I_E	≤ 200 mA		≤ 200 mA	
DC	-		-	
AC	-		-	
Breaking capacity	6 W		6 W	
No-load current	≤ 10 mA		≤ 15 mA	
Max. OFF-state current	n/a		≤ 0.1 mA	
Max. switching frequency	≤ 1 kHz		≤ 1 kHz	
Rated insulation voltage	n/a		≤ 0.5 kV	
Short-circuit protection	yes		yes, cyclic	
Max. voltage drop at I_E	≤ 1.0 V		≤ 1.8 V	
Wire breakage	yes		yes	
Reverse polarity protection	yes		yes / complete	
Vibration resistance	9 g (1.5 mm, 10 – 55 Hz – 10 Hz)		55 Hz (1 mm)	
Shock resistance	50 g (11 ms)		30 g (11 ms)	
Explosion proof	-		II 3 GD EEx nA II T4 X IP 67 T 110 °C	

Technical charts

This table shows the air consumption for a single stroke of 100 mm. These statements are based upon extension and are in NI.

Piston-Ø mm	Air pressure in bar/psi						
	2 (29 psi)	3 (43.4 psi)	4 (58 psi)	5 (72.5 psi)	6 (87 psi)	7 (101.5 psi)	8 (116 psi)
8	0.02	0.02	0.03	0.03	0.04	0.04	0.05
10	0.02	0.03	0.04	0.05	0.05	0.06	0.07
12	0.03	0.05	0.06	0.07	0.08	0.09	0.10
16	0.06	0.08	0.10	0.12	0.14	0.16	0.18
20	0.09	0.13	0.16	0.19	0.22	0.25	0.28
25	0.15	0.20	0.25	0.29	0.34	0.39	0.44
32	0.24	0.32	0.40	0.48	0.56	0.64	0.72
40	0.38	0.50	0.63	0.75	0.88	1.01	1.13
50	0.59	0.79	0.98	1.18	1.37	1.57	1.77
63	0.94	1.25	1.56	1.87	2.18	2.49	2.81
80	1.51	2.01	2.51	3.02	3.52	4.02	4.52
100	2.36	3.14	3.93	4.71	5.50	6.28	7.07



$$F_k = \frac{\pi^2 EI}{L_k^2 S}$$

F_k = permitted critical force (N)
 E = elasticity module (N/mm²)
 I = moment of inertia (mm⁴)
 L_k = effective length of critical load
 S = security

Elastic cases of buckling according to „Euler“

