

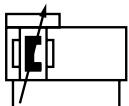
Technical details

Operating pressure	1 ... 8 bar
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature. If speeds exceed 1 m/s lubricated air is recommended.
Materials	Cylinder tube: Al (anodized) Outer parts: Al (anodized), Plastics Seals: NBR, PU
	Cylinders in accordance with 2014/34/EU (ATEX) available. (Chapter 13)



Double acting Al-profile rodless cylinder with integrated sensor grooves, adjustable cushions and permanent magnet for proximity sensors.

The sensors can be installed directly into the sensor grooves of the Al-profile.

Versions


ZX-***
double acting, adjustable cushioning,
with magnetic piston

Order code

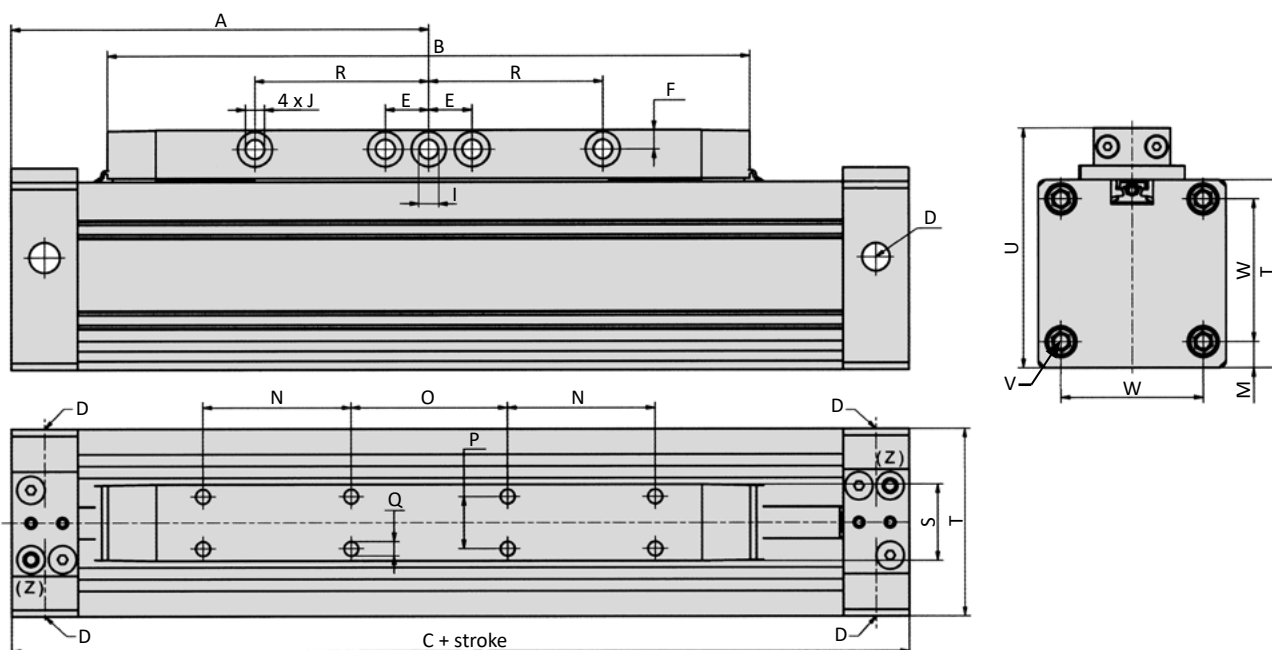
ZX-**-**-*****-**-**	
Series	Air connection options (details see page 08)
Piston Ø	01 air connection on each end
25 25 mm	02 air connection on one end
32 32 mm	03 air connection on one end, guide on the ride side *
40 40 mm	04 air connection on both face ends
50 50 mm	* only for versions KG, SG, KR, SR
63 63 mm	Stroke (mm)
Versions	XXXX max. 5860 mm - 10500 mm (details see data sheets)
S Standard cylinder	
K Short cylinder	
SG Cylinder with slide guide	
KG Short cylinder with slide guide	
SR Cylinder with roller guide	
KR Short cylinder with roller guide	

Series ZX-S

Technical data

Model-no.:	ZX-25-S-...	ZX-32-S-...	ZX-40-S-...	ZX-50-S-...	ZX-63-S-...
Piston Ø (mm)	25	32	40	50	63
Connection	G1/8	G1/8	G1/4	G3/8	G3/8
Cushioning length (mm)	24	28	36	45	59
Weight 0 mm stroke	0.88	1.40	2.41	5.30	8.10
(kg) each 100 mm stroke	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6000	10500	10500	5910	5860

Dimensions

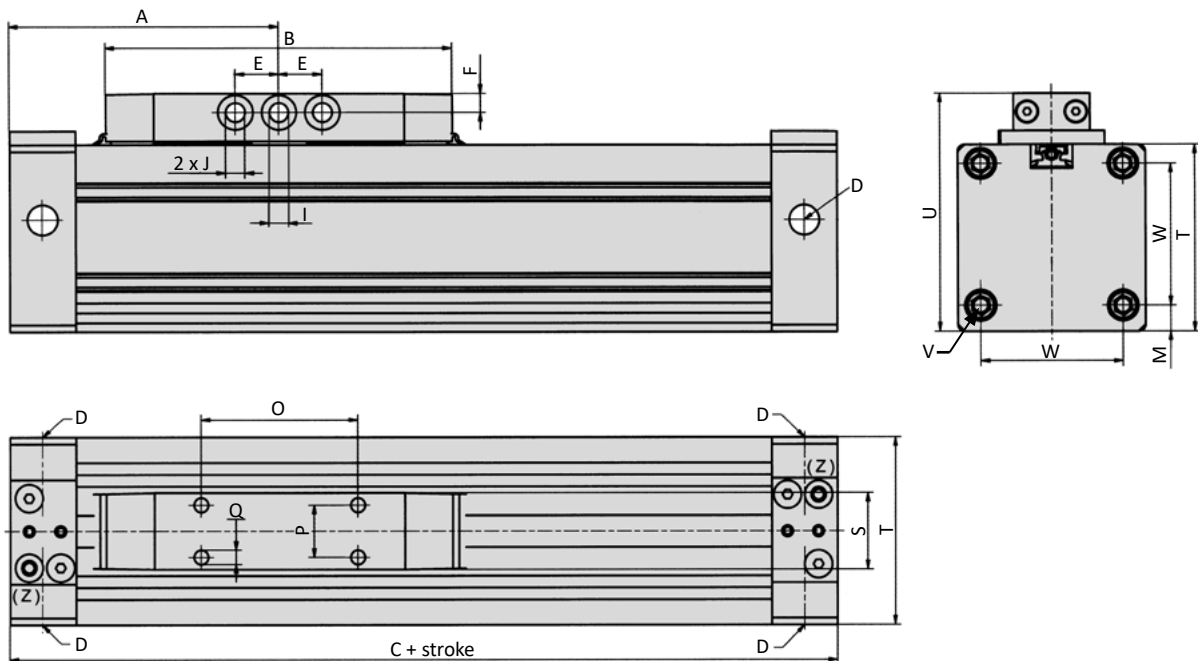


Piston Ø	A	B	C	D	E	F	I	J	M	N
25	100	149.6	200	G1/8	12.5	5	6	4.5	4.5	20
32	120	184.5	240	G1/8	12.5	5.5	6	5.5	7.5	42.5
40	150	222.6	300	G1/4	12.5	7	7	6.5	7.5	35
50	175	262	350	G3/8	17.5	9	10	8.5	12.5	45
63	200	300	400	G3/8	25	9.5	10	8.5	14	80

Piston Ø	O	P	Q	R	S	T	U	V	W
25	50	15	M5 x 7	35	22	45	60	M4 x 11	36
32	45	15	M5 x 7	50	22	54	69	M5 x 11	41
40	90	15	M5 x 9	65	22	64	82	M6 x 12	49
50	60	34	M8 x 16	90	46	90	115	M8 x 17	65
63	80	34	M8 x 16	90	46	106	131	M8 x 17	78

Technical data

Model-no.:	ZX-25-K-...	ZX-32-K-...	ZX-40-K-...	ZX-50-K-...	ZX-63-K-...	
Piston Ø (mm)	25	32	40	50	63	
Connection	G1/8	G1/8	G1/4	G3/8	G3/8	
Cushioning length (mm)	24	28	36	45	59	
Weight (kg)	0 mm stroke	0.62	0.96	1.65	3.50	5.40
	each 100 mm stroke	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6000	10500	10500	6000	6000	

Dimensions


Piston Ø	A	B	C	D	E	F	I	J	M
25	67.5	84.6	135	G1/8	12.5	5	6	4.5	4.5
32	77.5	99.6	155	G1/8	12.5	5.5	6	5.5	7.5
40	95	112.6	190	G1/4	12.5	7	7	6.5	7.5
50	105	122	210	G3/8	17.5	9	10	8.5	12.5
63	125	150	250	G3/8	25	9.5	10	8.5	14

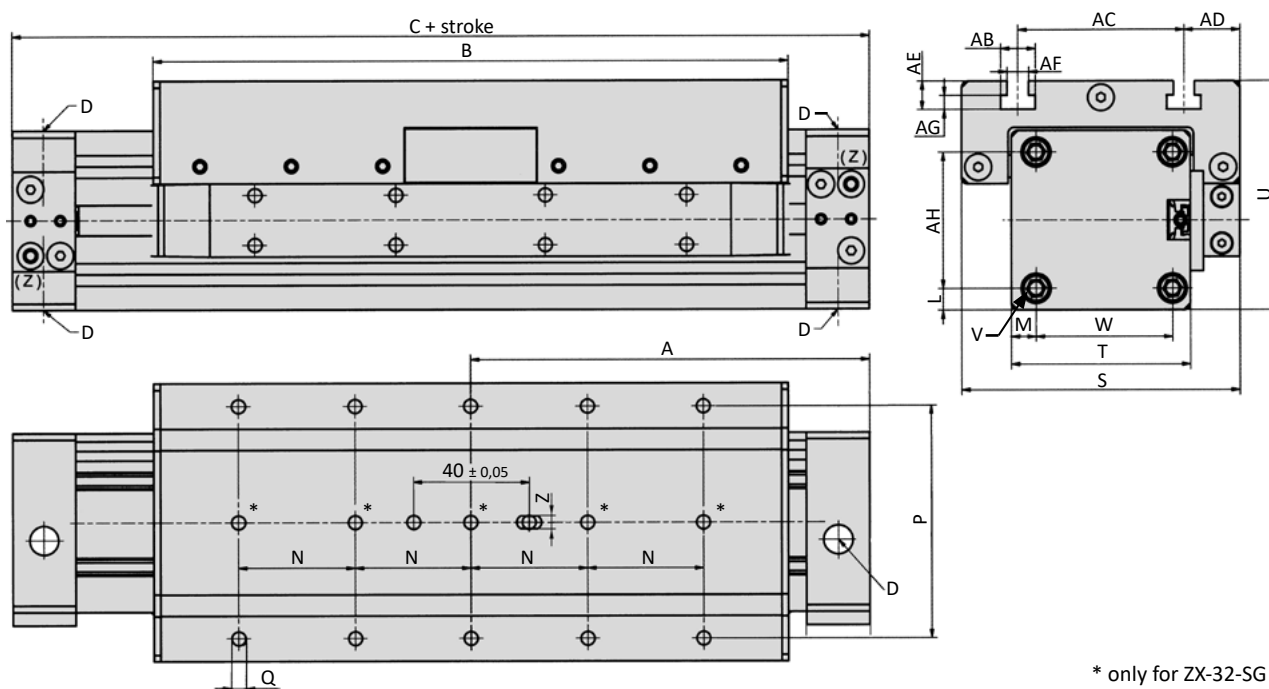
Piston Ø	O	P	Q	S	T	U	V	W
25	35	15	M5 x 7	22	45	60	M4 x 11	36
32	45	15	M5 x 7	22	54	69	M5 x 11	41
40	50	15	M5 x 9	22	64	82	M6 x 12	49
50	64	34	M8 x 16	46	90	115	M8 x 17	65
63	80	34	M8 x 16	46	106	131	M8 x 17	78

Series ZX-SG

Technical data

Model-no.:	ZX-25-SG-...	ZX-32-SG-...	ZX-40-SG-...	ZX-50-SG-...	ZX-63-SG-...
Piston Ø (mm)	25	32	40	50	63
Connection	G1/8	G1/8	G1/4	G3/8	G3/8
Cushioning length (mm)	24	28	36	45	59
Weight 0 mm stroke	1.31	2.09	3.58	7.28	11.02
(kg) each 100 mm stroke	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6000	10500	10500	5910	5860

Dimensions



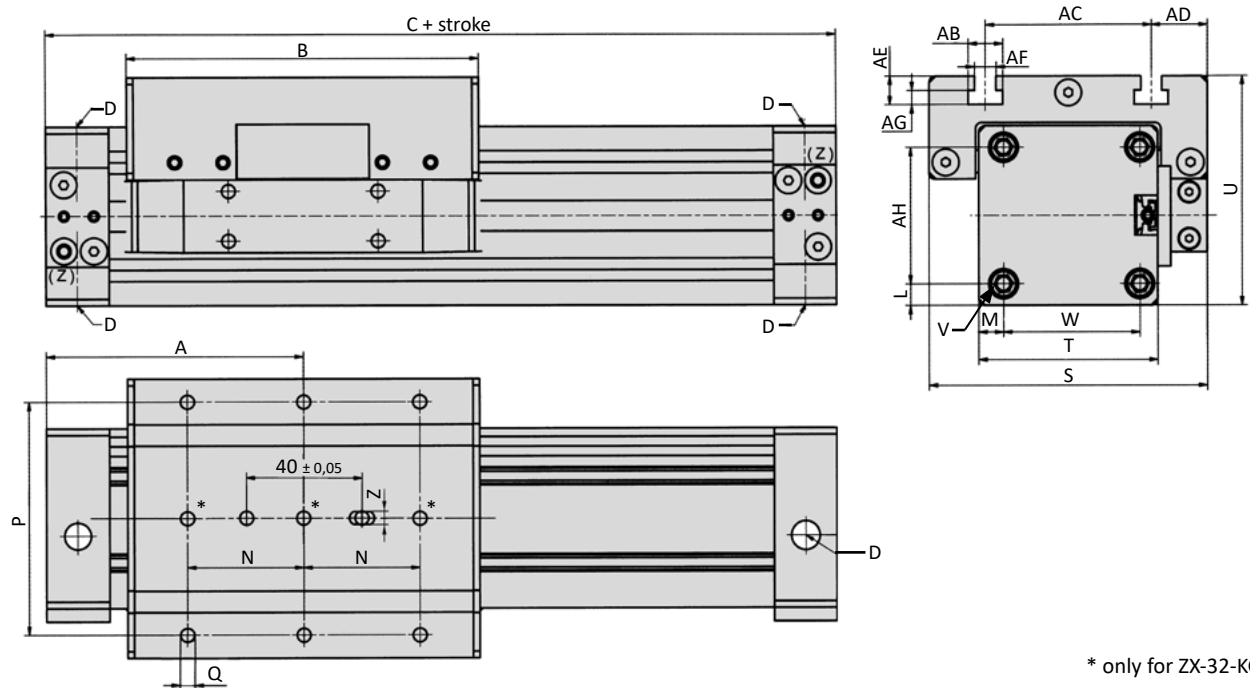
* only for ZX-32-SG

Piston Ø	A	B	C	D	L	M	N	P	Q	S	T
25	100	159	200	G1/8	4.5	4.5	30	30	M5 x 8	75	45
32	120	191	240	G1/8	6.5	7.5	35	70	M5 x 11	83.8	54
40	150	246	300	G1/4	7.5	7.5	55	55	M6 x 12	100	64
50	175	270	350	G3/8	12.5	12.5	50	42	M8 x 16	133	90
63	200	320	400	G3/8	14	14	60	60	M8 x 16	150	106

Piston Ø	U	V	W	Z	AB	AC	AD	AE	AF	AG	AH
25	59	M4 x 11	36	4 x 4,4	10.4	50	12.5	8.6	6.4	4.3	36
32	69	M5 x 11	41	4 x 4,4	10.4	50	16.9	8.6	6.4	4.3	41
40	79	M6 x 12	49	6 x 6,4	10.4	80	10	8.6	6.4	4.3	49
50	112.5	M8 x 17	65	6 x 6,4	10.4	94	23	8.6	6.4	4.3	65
63	134.5	M8 x 17	78	6 x 6,4	10.4	110	24	8.6	6.4	4.3	78
				+0,2							

Technical data

Model-no.:	ZX-25-KG-...	ZX-32-KG-...	ZX-40-KG-...	ZX-50-KG-...	ZX-63-KG-...
Piston Ø (mm)	25	32	40	50	63
Connection	G1/8	G1/8	G1/4	G3/8	G3/8
Cushioning length (mm)	24	28	36	45	59
Weight 0 mm stroke (kg)	0.88	1.35	2.30	4.63	7.10
Weight each 100 mm stroke (kg)	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6000	10500	10500	6000	6000

Dimensions


Piston Ø	A	B	C	D	L	M	N	P	Q	S	T
25	67.5	94	135	G1/8	4.5	4.5	30	30	M5 x 8	75	45
32	77.5	106	155	G1/8	6.5	7.5	35	70	M5 x 11	83.8	54
40	95	136	190	G1/4	7.5	7.5	55	55	M6 x 12	100	64
50	105	148	210	G3/8	12.5	12.5	50	42	M8 x 16	133	90
63	125	180	250	G3/8	14	14	60	60	M8 x 16	150	106

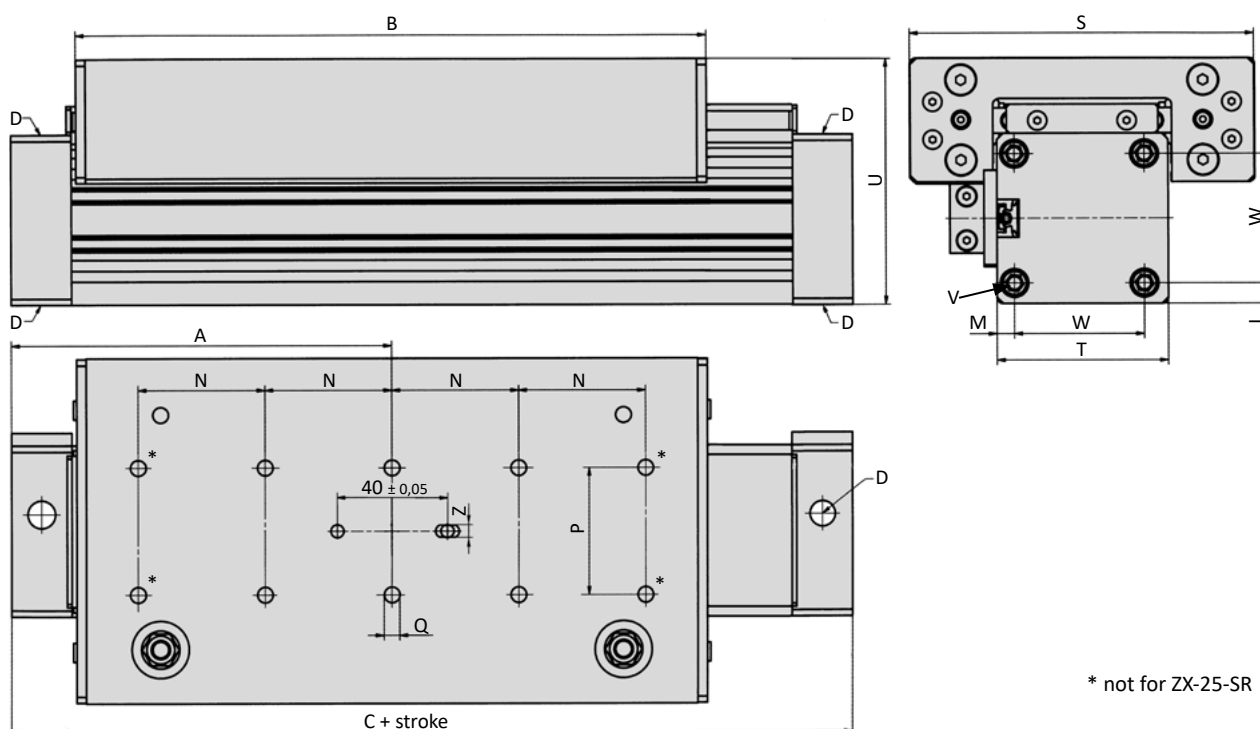
Piston Ø	U	V	W	Z	AB	AC	AD	AE	AF	AG	AH
25	59	M4 x 11	36	4 x 4,4	10.4	50	12.5	8.6	6.4	4.3	36
32	69	M5 x 11	41	4 x 4,4	10.4	50	16.9	8.6	6.4	4.3	41
40	79	M6 x 12	49	6 x 6,4	10.4	80	10	8.6	6.4	4.3	49
50	112.5	M8 x 17	65	6 x 6,4	10.4	94	23	8.6	6.4	4.3	65
63	134.5	M8 x 17	78	6 x 6,4	10.4	110	24	8.6	6.4	4.3	78
				+0,2							

Series ZX-SR

Technical data

Model-no.:	ZX-25-SR-...	ZX-32-SR-...	ZX-40-SR-...	ZX-63-SR-...
Piston Ø (mm)	25	32	40	63
Connection	G1/8	G1/8	G1/4	G3/8
Cushioning length (mm)	24	28	36	59
Weight 0 mm stroke	1.97	2.96	5.89	13.17
(kg) each 100 mm stroke	0.42	0.48	0.74	1.42
max. stroke (mm)	6000	6000	5950	5860

Dimensions



* not for ZX-25-SR

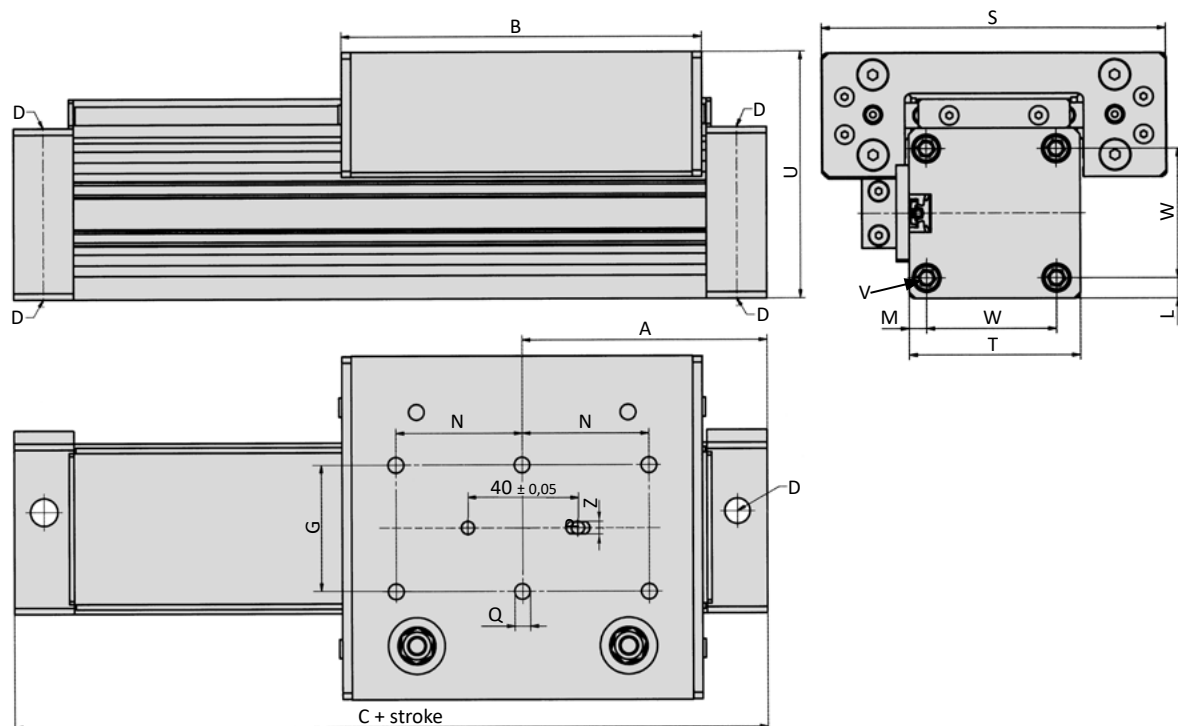
Piston Ø	A	B	C	D	L	M	N	P
25	100	160	200	G1/8	4.5	4.5	40	40
32	120	201	240	G1/8	6.5	5.5	40	40
40	150	252	300	G1/4	7.5	7.5	55	55
63	200	320	400	G3/8	14	14	70	70

Piston Ø	Q	S	T	U	V	W	Z
25	M5 x 7.5	97	45	68.2	M4 x 11	36	4 x 4,4
32	M6 x 9	108.8	54	78	M5 x 11	41	4 x 4,4
40	M6 x 12	145	64	90.5	M6 x 12	49	6 x 6,4
63	M8 x 17	180	106	137	M8 x 17	78	6 x 6,4

+0,2

Technical data

Model-no.:	ZX-25-KR-...	ZX-32-KR-...	ZX-40-KR-...	ZX-63-KR-...
Piston Ø (mm)	25	32	40	63
Connection	G1/8	G1/8	G1/4	G3/8
Cushioning length (mm)	24	28	36	59
Weight (kg)				
0 mm stroke	1.33	1.91	3.84	8.66
each 100 mm stroke	0.42	0.48	0.74	1.42
max. stroke (mm)	6000	6000	6000	6000

Dimensions


Piston Ø	A	B	C	D	L	M	N	P
25	67,5	95	135	G1/8	4.5	4.5	20	40
32	77,5	115	155	G1/8	6.5	5.5	40	40
40	95	143,5	190	G1/4	7.5	7.5	55	55
63	125	188	250	G3/8	14	14	70	70

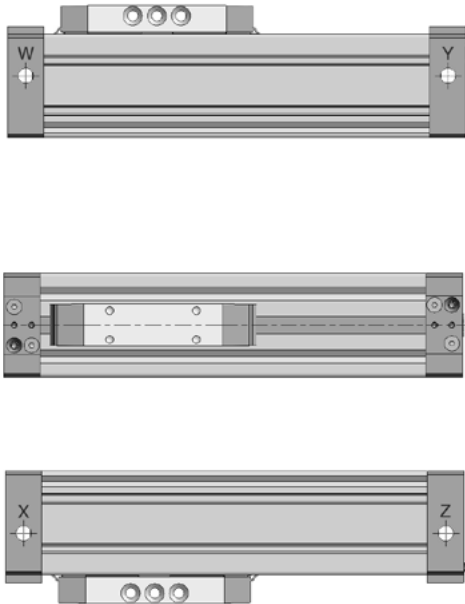
Piston Ø	Q	S	T	U	V	W	Z
25	M5 x 7.5	97	45	68.2	M4 x 11	36	4 x 4,4
32	M6 x 9	108.8	54	78	M5 x 11	41	4 x 4,4
40	M6 x 12	145	64	90.5	M6 x 12	49	6 x 6,4
63	M8 x 17	180	106	137	M8 x 17	78	6 x 6,4

+0,2

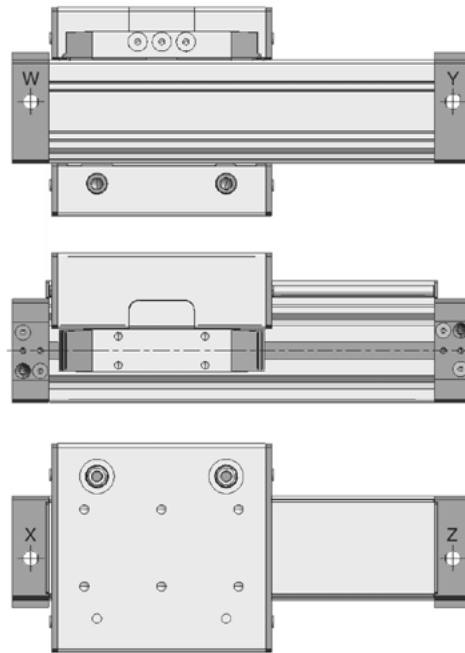
Series ZX

Option -01 Air connection on each end

without guide



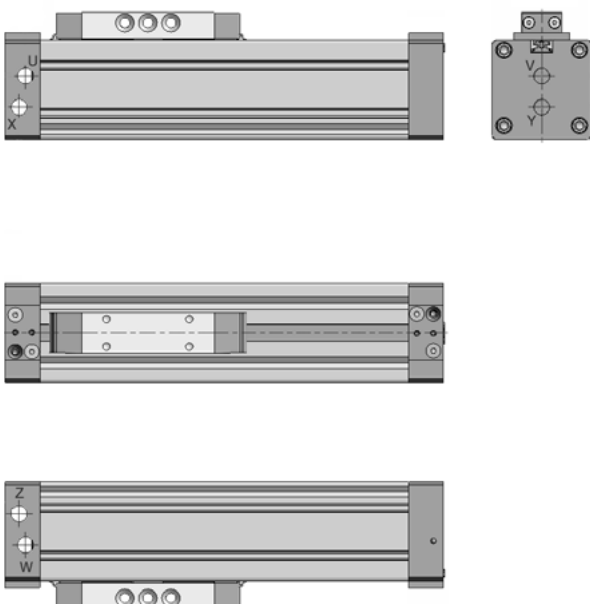
with guide



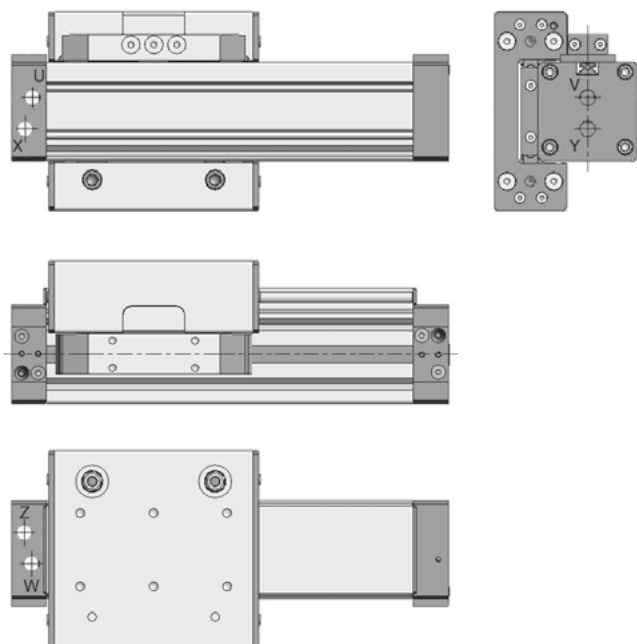
Option -01 cylinder comes with two pressure connections (ports W-X and ports Y-Z respectively) on each end. User is required to select one of two pressure connections on each end. Second port will require the installation of a sealing plug (2 plugs are supplied).

Option -02 Air connection on one end

without guide



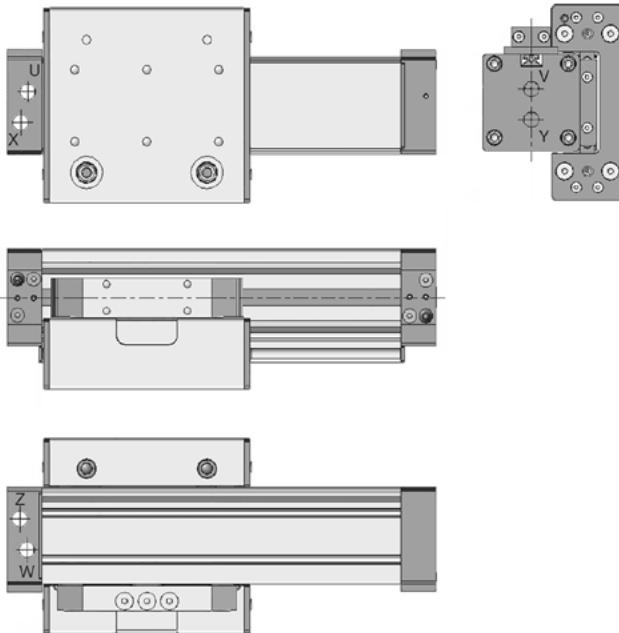
with guide



One cylinder head is supplied with 6 ports (3 for each direction, ports U-V-W air travels in one direction and ports X-Y-Z air travels in the opposite direction). User is required to select one of three pressure connections for each direction. The second and third ports will require the installation of a sealing plug (4 plugs are supplied).

With this option the slide guide is mounted on the left side of the piston driver.

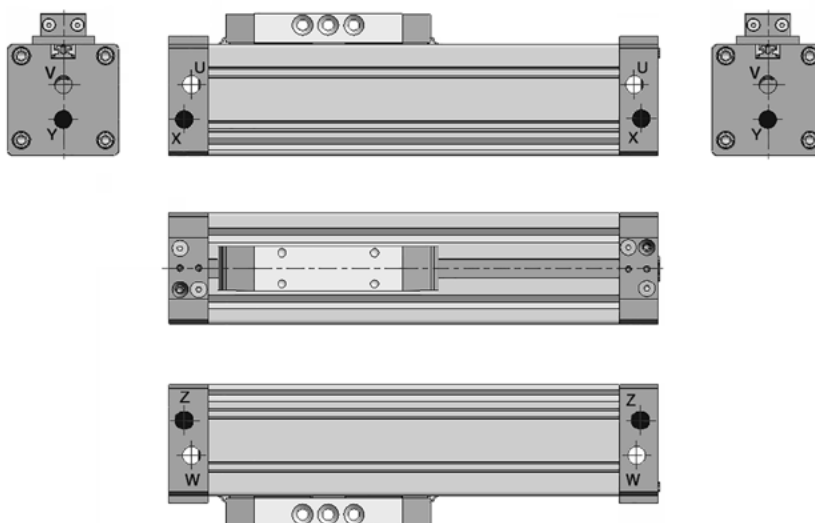
Ports V and Y must be plugged when using a head mount.

Option -03 Air connection on one end
with guide


One cylinder head is supplied with 6 ports (3 for each direction, ports U-V-W air travels in one direction and ports X-Y-Z air travels in the opposite direction). User is required to select one of three pressure connections for each direction. The second and third ports will require the installation of a sealing plug (4 plugs are supplied).

With this option the slide guide is mounted on the right side of the piston driver.

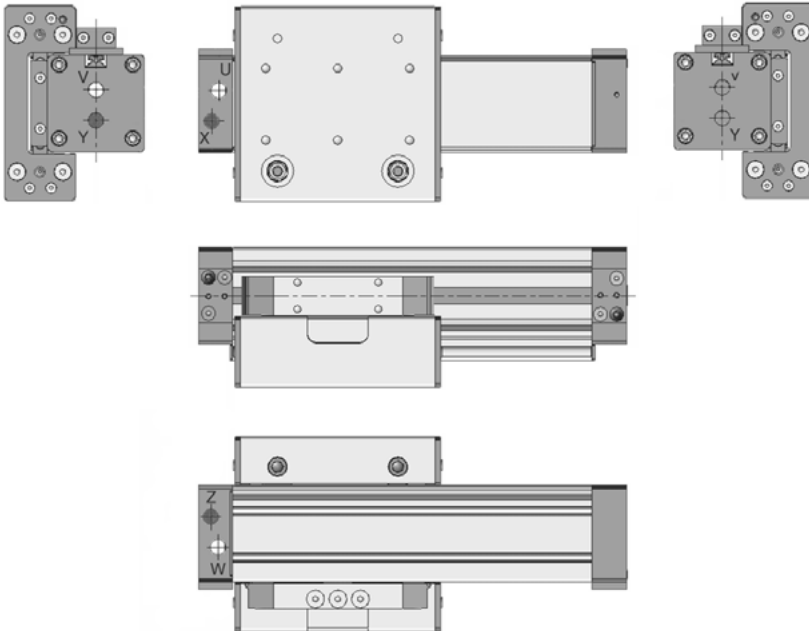
Ports V and Y must be plugged when using a head mount.

Option -04 Air connection on both face ends
without guide


Series ZX

Option -04 Air connection on both face ends

with guide

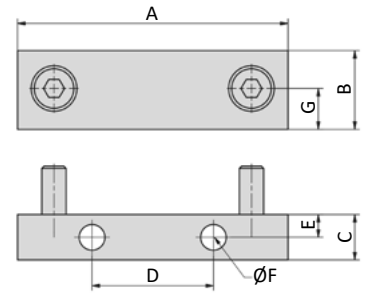


Option -04 enable to connect pressure at both face ends or one face and one side port.

Therefore the head with 6 ports from option -02 is used at both ends. Now it is possible to use the upper ports (U-V-W). The lower ports (X-Y-Z) are plugged.

This option is for using ports at both cylinder heads only.

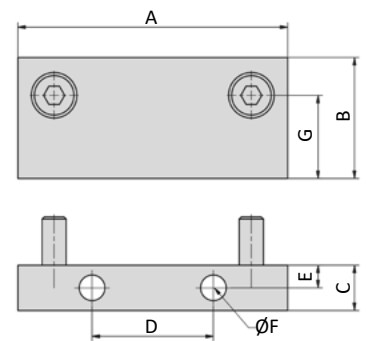
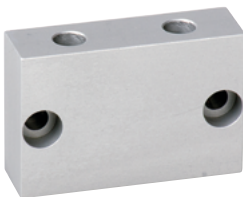
ZXB-xx-01 Head mount



Model-no.:	A	B	C	D	E	Ø F	G
ZXB-25-01	45	10	10	22	5	5.5	4.5
ZXB-32-01	51	16	15	25	7.5	7	7.5
ZXB-40-01	64	16	15	25	7.5	9	7.5
ZXB-50-01	89	26	15	40	7.5	8.5	12.5
ZXB-63-01	105	29	15	50	7.5	8.5	14

Screws to mount the head mount to the cylinder are included.
The face ports must be plugged when using a head mount.

ZXB-xx-02 Head mount, tall



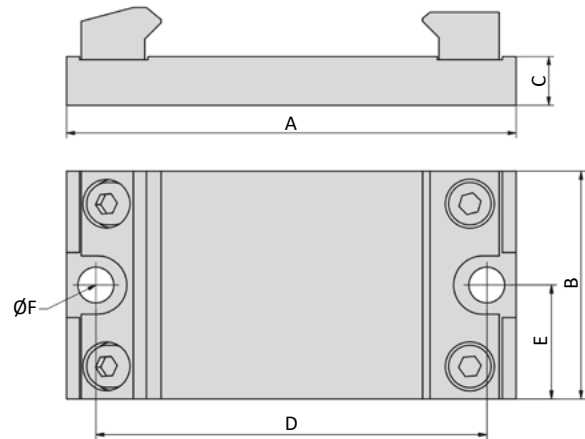
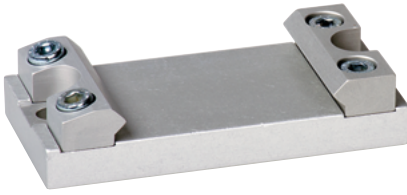
Model-no.:	A	B	C	D	E	Ø F	G
ZXB-25-02	45	18	10	22	5	5.5	12.5
ZXB-32-02	51	34	15	25	7.5	7	16.5
ZXB-40-02	64	26	15	25	7.5	9	17.5
ZXB-50-02	89	40	15	40	7.5	8.5	27.5
ZXB-63-02	105	40	15	50	7.5	8.5	29

Screws to mount the head mount to the cylinder are included.
The face ports must be plugged when using a head mount.

Series ZX

Mounting parts

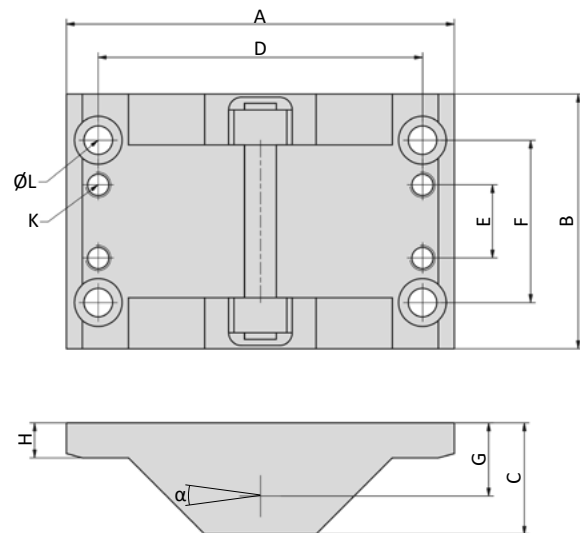
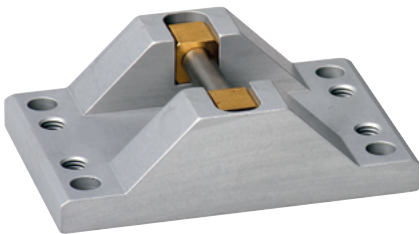
ZXB-xx-10 Center mount



Model-no.:	A	B	C	D	E	ØF
ZXB-25-10	70	35	8	60	30	5.5
ZXB-32-10*	85	40	10	73	36.5	6.6
ZXB-32-11*						
ZXB-40-10	105	40	10	90.5	45.25	9
ZXB-50-10	138	70	15	120	60	11
ZXB-63-10	154	70	15	136	68	11

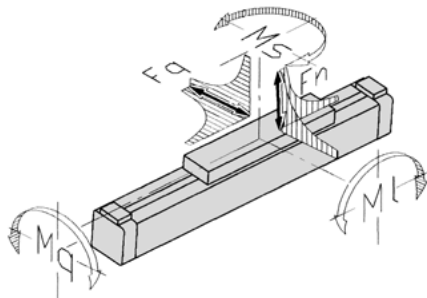
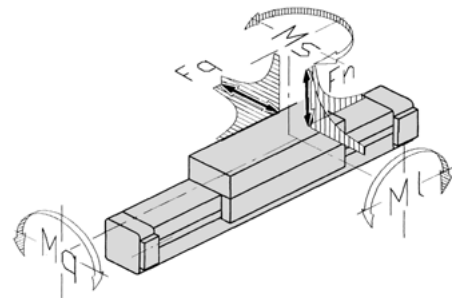
*The model ZXB-32-10 is only suitable for bottom mount. For side mounting and versions SG, KG, SR and KR please use center mount ZXB-32-11.

ZXB-xx-20 Alignment coupler



Model-no.:	Cylinder Ø	A	B	C	D	E	F	G	H	K	ØL	α
ZXB-25-20	25	80	54	24	66	20	40	18 ... 20	8	M6	6.5	16°
ZXB-25-20	32	80	54	24	66	20	40	17.9 ... 18.9	8	M6	6.5	12°
ZXB-40-20	40	80	54	24	66	20	40	18 ... 20	8	M6	6.5	9°-12°
ZXB-50-20	50	122	80	35	102	23	51	23 ... 25	11	M8	9	7°-10°
ZXB-50-20	63	122	80	35	102	23	51	23 ... 25	11	M8	9	5°-9°

The alignment coupler is designed to be used with external guide systems. This coupler compensates for the mis-alignment between the rodless cylinder and the external guide system (supplied by customer). For use with cylinder series ZX-K and ZX-S.

Forces and torques
ZX-xx-K, ZX-xx-S

ZX-xx-KG, ZX-xx-SG, ZX-xx-KR, ZX-xx-SR


Model-no.:	Force (N) at 6 bar	$F_{n_{max}}$ (N)	$F_{q_{max}}$ (N)	Ml_{max} (Nm)	Mq_{max} (Nm)	Ms_{max} (Nm)
ZX-25-S	255	270	-	13	2.5	11
ZX-25-K	255	270	-	8	2.0	7
ZX-25-SG	250	580	580	23	10.0	23
ZX-25-KG	250	340	340	9	5.0	9
ZX-25-SR	250	850	1300	65	35.0	105
ZX-25-KR	250	850	1300	29	35.0	64
ZX-32-S	420	300	-	30	3.0	24
ZX-32-K	420	300	-	15	3.0	12
ZX-32-SG	410	850	850	33	15.0	33
ZX-32-KG	410	460	460	14	6.5	14
ZX-32-SR	410	900	1500	79	40.0	125
ZX-32-KR	410	900	1500	36	40.0	76
ZX-40-S	655	650	-	60	4.0	54
ZX-40-K	655	650	-	30	4.0	27
ZX-40-SG	640	1120	1120	60	25.0	60
ZX-40-KG	640	600	600	25	11.0	25
ZX-40-SR	640	1200	2000	190	45.0	118
ZX-40-KR	640	1200	2000	85	45.0	72
ZX-50-S	1000	800	-	80	17.0	74
ZX-50-K	1000	800	-	38	17.0	32
ZX-50-SG	1000	1550	1500	200	70.0	200
ZX-50-KG	1000	820	800	60	40.0	60
ZX-50-SR	1000	4100	2000	157	50.0	170
ZX-50-KR	1000	1800	2000	67	50.0	106
ZX-63-S	1600	1400	-	110	17.0	100
ZX-63-K	1600	1400	-	50	17.0	48
ZX-63-SG	1600	2000	2000	300	102.0	300
ZX-63-KG	1600	1100	1100	105	56.0	105
ZX-63-SR	1600	5000	2000	196	55.0	208
ZX-63-KR	1600	2500	2000	99	55.0	134

The mounting surface of the assembled mass should not exceed a straightness tolerance of 0.1 mm to avoid additional tension or clearance in the guiding system.

Complex loads

If more than one force and torque appear simultaneously, they have to be calculated by the formula:

$$\frac{F_n}{F_{n_{max}}} + \frac{F_q}{F_{q_{max}}} + \frac{Ml}{Ml_{max}} + \frac{Mq}{Mq_{max}} + \frac{Ms}{Ms_{max}} \leq 1$$

Information on forces and torques refers to speeds for slide guides (series S, K, SG and KG) of ≤ 0.2 m/s and speeds for roller guides (series SR and KR) of ≤ 2 m/s. Where speeds exceed 0.2 m/s the permissible values of the slide guides are to be multiplied by the loading coefficient (see table below).

The information on torques refers to the center point of the slide which, in the case of the ZX-S and ZX-K cylinders, is the center of the tube. In versions with slide guides, the center point of the guide is in the slide.

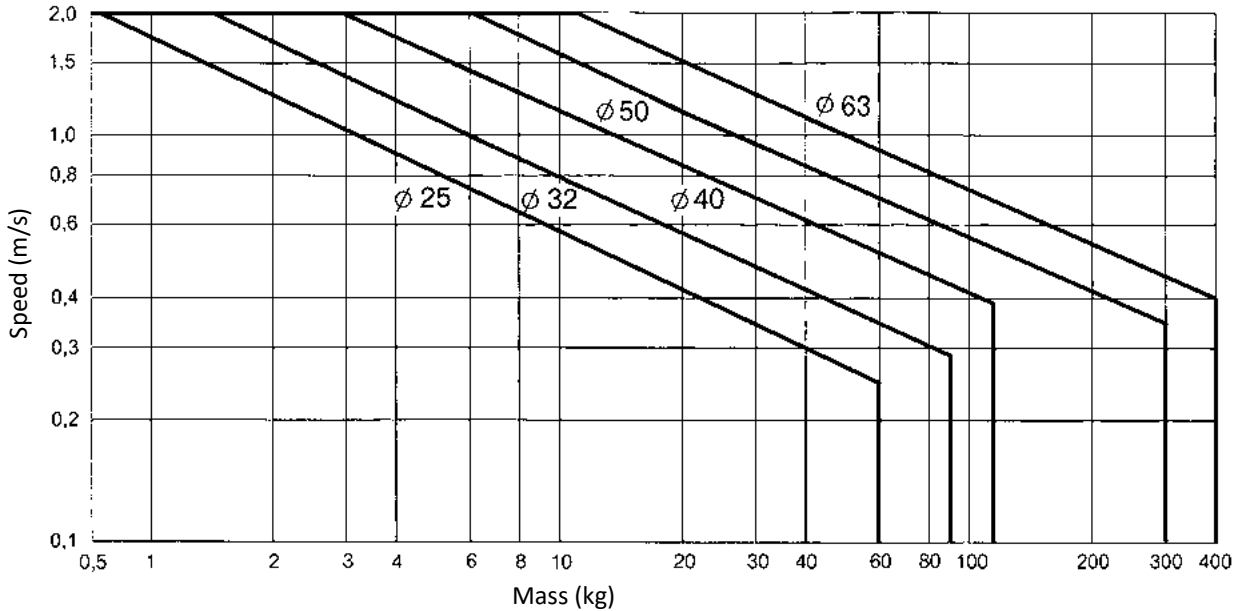
v (m/s)	0.2	0.3	0.4	0.5	0.75	1
Factor	1	0.75	0.5	0.4	0.27	0.2

Series ZX

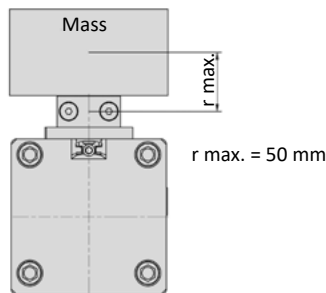
Cushioning diagram

If the application is out of the diagram range, an external shock absorber is required. The mounting position of shock absorbers must be close to the center of the mass.

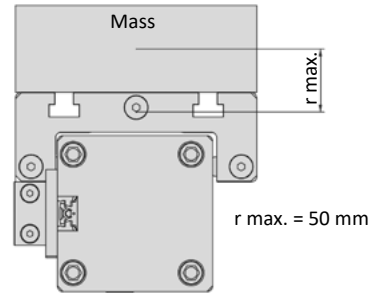
The data applies to a horizontal mounting position.



ZX-xx-K, ZX-xx-S

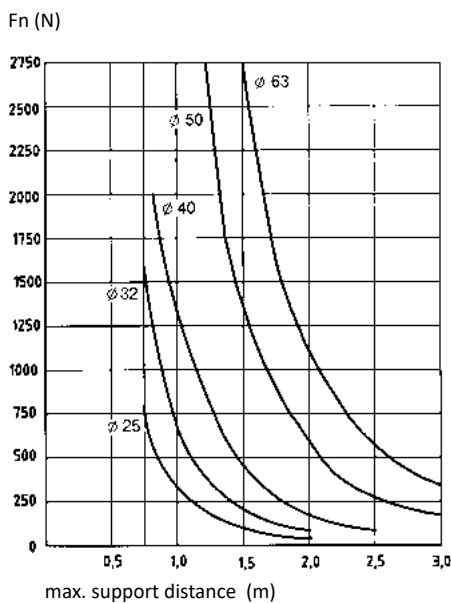


ZX-xx-KG, ZX-xx-SG, ZX-xx-KR, ZX-xx-SR

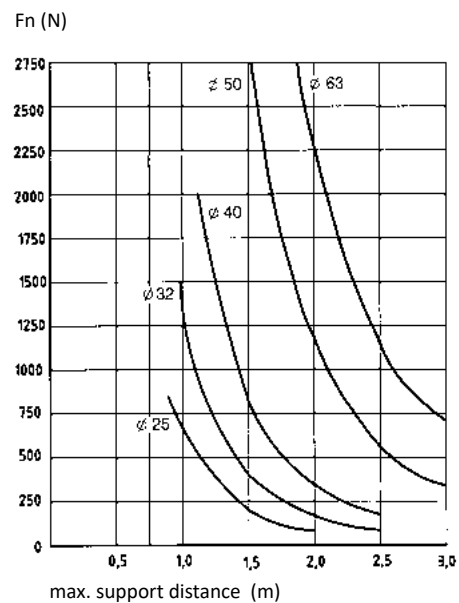


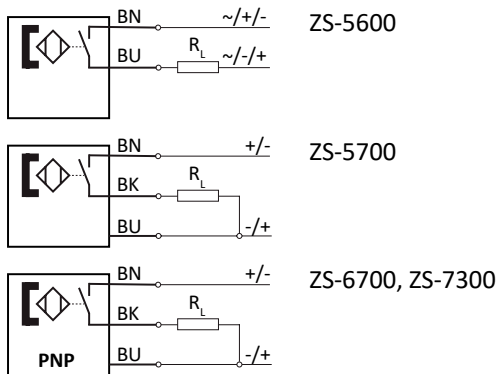
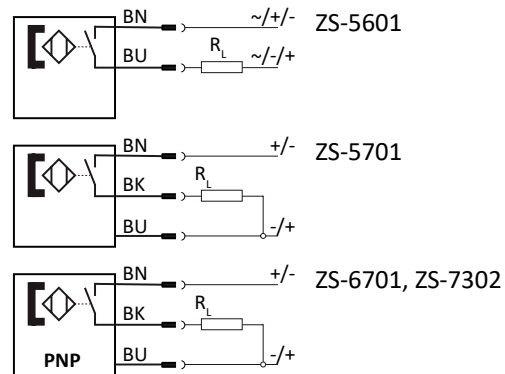
Deflection

Deflection 0,5 mm



Deflection 1 mm



Proximity sensors with cable

Proximity sensors with plug

Technical data

Model-no.:	ZS-5600	ZS-5601	ZS-5700	ZS-5701
Design	2-pole Reed sensor	2-pole Reed sensor	3-pole Reed sensor	3-pole Reed sensor
Contact function	NO	NO	NO	NO
Rated operational voltage	5 ... 240 V AC / DC	5 ... 60 V AC / DC	5 ... 30 V DC	5 ... 30 V DC
Rated operational current I_E	3 ... 100 mA	3 ... 100 mA	≤ 500 mA	≤ 500 mA
Max. voltage drop at I_E	≤ 2.5	≤ 2.5	≤ 0.1	≤ 0.1
Breaking capacity	10 W	10 W	10 W	10 W
Cable length	3 m	0.3 m with M8 connection	5 m	0.3 m with M8 connection
Temperature range	-10 ... +70°C	-10 ... +70°C	-10 ... +70°C	-10 ... +70°C
Protection	IP 67	IP 67	IP 67	IP 67
Switching status indication	LED red	LED red	LED yellow	LED yellow
	-	-	II 3G Ex nA T4 II 3D Ex tD A22 IP67 T 125°C	II 3D Ex tc IIIC T125°C Dc X

Model-no.:	ZS-6700	ZS-6701	ZS-7300	ZS-7302
Design	3-pole inductive	3-pole inductive	3-pole inductive	3-pole inductive
Contact function	NO	NO	NO	NO
Output	PNP	PNP	PNP	PNP
Rated operational voltage	5 ... 30 V DC	5 ... 30 V DC	10 ... 30 V DC	10 ... 30 V DC
Rated operational current I_E	≤ 200 mA	≤ 200 mA	≤ 100 mA	≤ 100 mA
Max. voltage drop at I_E	≤ 1.0	≤ 1.0	≤ 2.5	≤ 2.5
Breaking capacity	6 W	6 W	3 W	3 W
Cable length	3 m	0.3 m with M8 connection	6 m	0.3 m with M12 connection
Temperature range	-10 ... +70°C	-10 ... +70°C	-20 ... +60°C	-20 ... +60°C
Protection	IP 67	IP 67	IP 67	IP 67
Switching status indication	LED green	LED green	LED yellow	LED yellow
	-	-	II 3G Ex nA T4 II 3D Ex tD A22 IP67 T 125°C	II 3D Ex tc IIIC T125°C Dc X

Series ZS

Proximity sensors

Cable with bushing for proximity sensors

Model-no.:	KA-30	KA-50	KA-51	KA-100	KA-101
Connection	M8, snap-in	M8, snap-in	M8, snap-in	M8, snap-in	M8, snap-in
Version	straight	straight	elbow 90°	straight	elbow 90°
Cable length	3 m	5 m	5 m	10 m	10 m

Mounting

The sensors are mounted at the groove of the cylinder profile. It is fixed by turning the fixing screw at the sensor clockwise. The cover stripe XLB-011 (see below) can be used for protecting the sensor cable.

Cover for sensor groove

Model-no.:	XLB-011
	

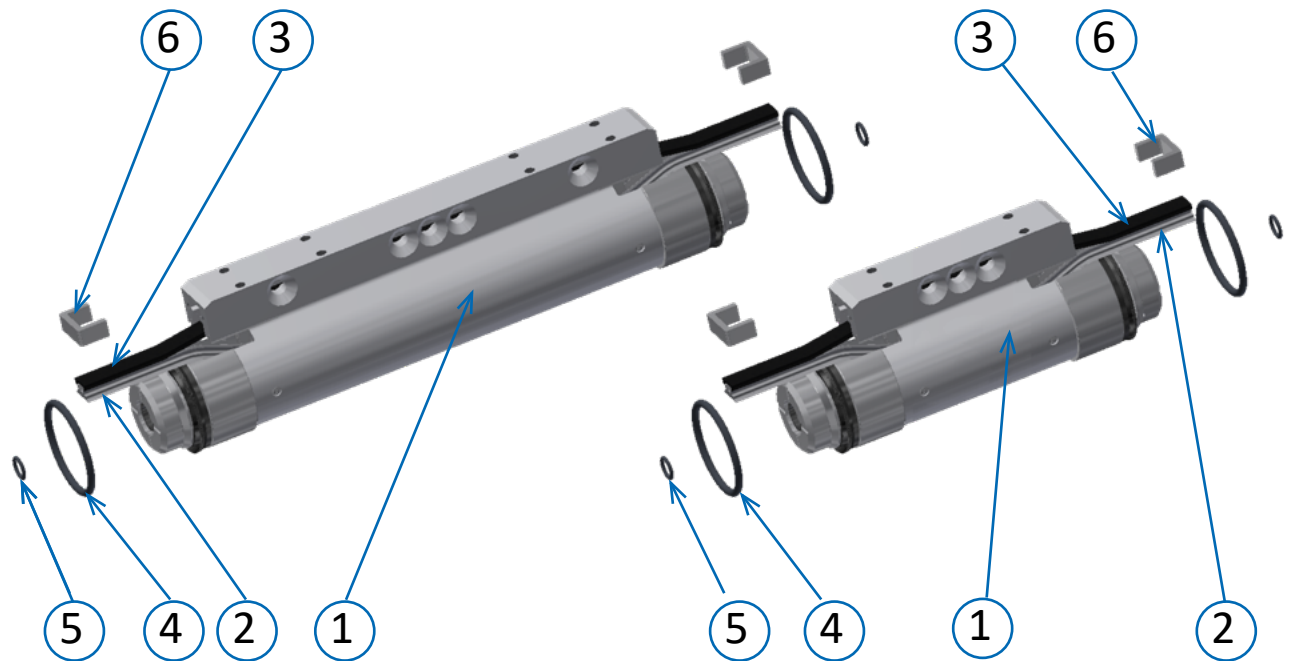
Order code

Series		Versions	
ZXV	repair kit for series ZX	01	for standard version ZX-S, ZX-SG, ZX-SR
		02	for short version ZX-K, ZX-KG, ZX-KR
		03	for all cylinders manufactured from 2019 forward
Piston-Ø		Stroke lengths	
25	25 mm	0500	0 - 500 mm
32	32 mm	1000	501 - 1000 mm
40	40 mm	1500	1001 - 1500 mm
50	50 mm	2000	1501 - 2000 mm
63	63 mm	3000	2001 - 3000 mm
		4000	3001 - 4000 mm
		5000	4001 - 5000 mm
		6000	5001 - 6000 mm

Content

Version 01

Version 02



Version 01

Position	Part	Quantity
1	piston carrier, long version with seals	1
2	sealing band	1
3	cover band	1
4	O-ring	2
5	O-ring	2
6	felt, U-shaped	2
7	grease	1

Version 02

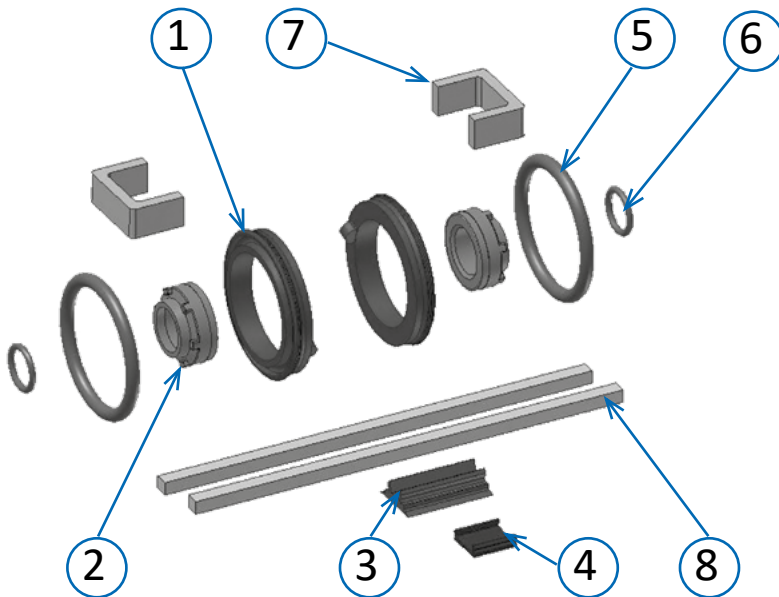
Position	Part	Quantity
1	piston carrier, short version with seals	1
2	sealing band	1
3	cover band	1
4	O-ring	2
5	O-ring	2
6	felt, U-shaped	2
7	grease	1

Series ZS

Seal kits

Content

Version 03



Version 03

Position	Part	Quantity
1	piston seal	2
2	cushion seal	2
3	sealing band	1
4	cover band	1
5	O-ring	2
6	O-ring	2
7	felt, U-shaped	2
8	felt, piston carrier	2
9	grease	1