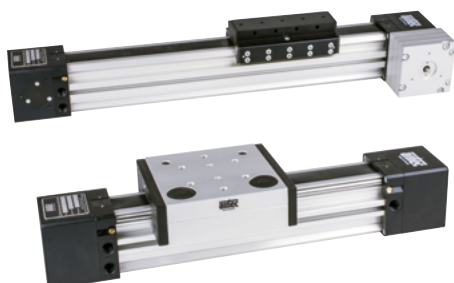


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Technical details

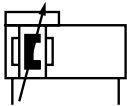
Operating pressure	1 ... 8 bar
Temperature range	-10°C ... +70°C
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature. 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 12)



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

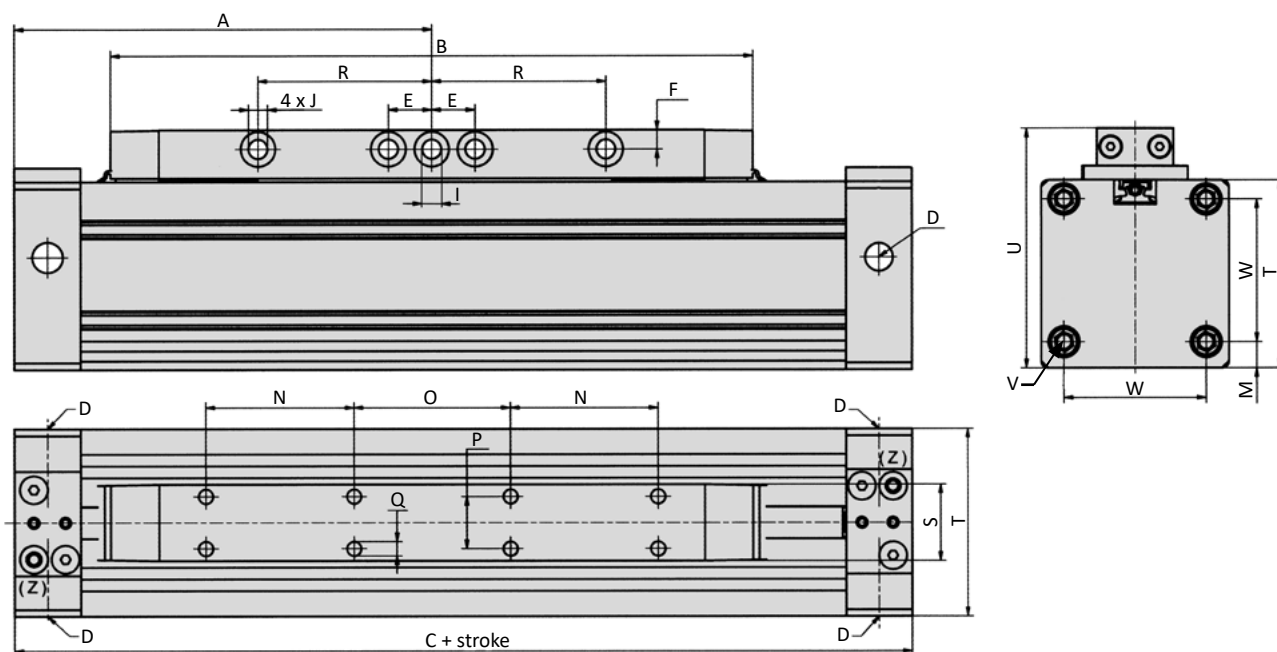
Order code

ZX-**-**-*****-**-**			
Series		Optionen	
Piston-Ø		EX	Version nach 2014/34/EU (ATEX)
25	25 mm	H1	Fett mit Lebensmittelzulassung gemäß NSF (Klasse H1)
32	32 mm	P	Kolbenträgerführungen aus Kunststoff
40	40 mm	Air connection options (details see page 9-09)	
50	50 mm	01	air connection on each end
63	63 mm	02	air connection on one end
Version		03	air connection on one end, guide on the ride side *
S	standard cylinder	04	air connection on both face ends
K	short cylinder	* only for versions KG, SG, KR, SR	
SG	cylinder with slide guide	Stroke (mm)	
KG	short cylinder with slide guide	XXXX	max. 5860 mm - 10500 mm
SR*	cylinder with roller guide	(details see data sheets)	
KR*	short cylinder with roller guide		
* only for Ø 25 up to 40 mm			

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)	6.000	10.500	10.500	5.910	5.860

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

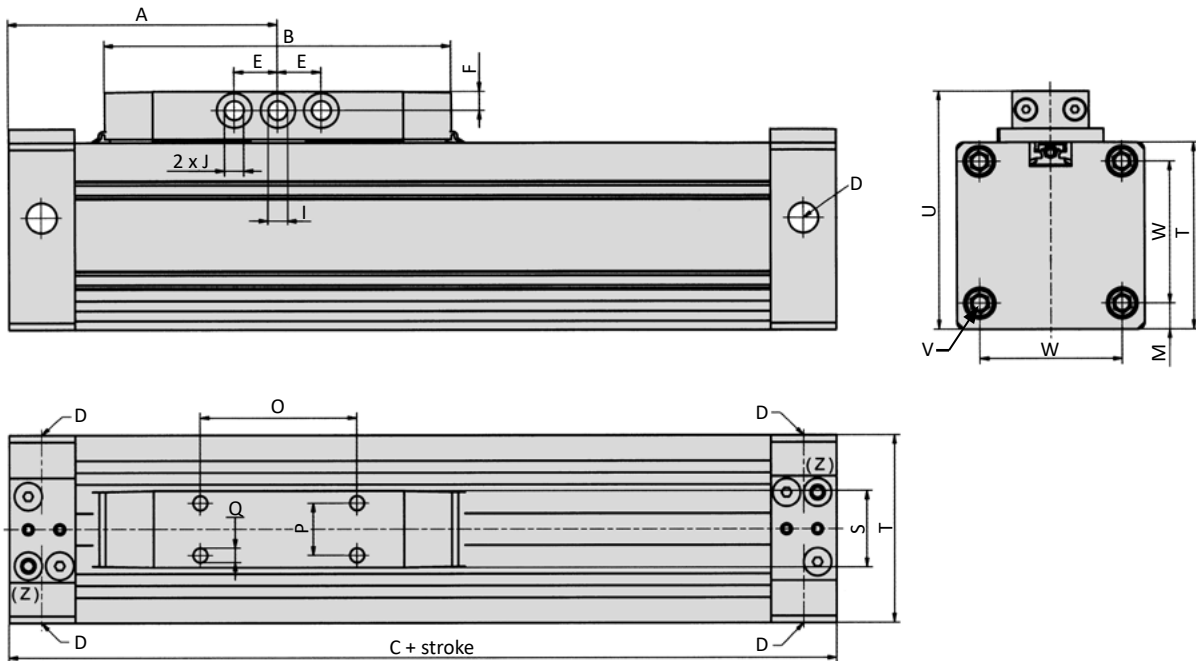
Series ZX-K



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 0 mm stroke	0.62	0.96	1.65	3.50	5.40
(kg) each 100 mm stroke	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6.000	10.500	10.500	6.000	6.000

Dimensions



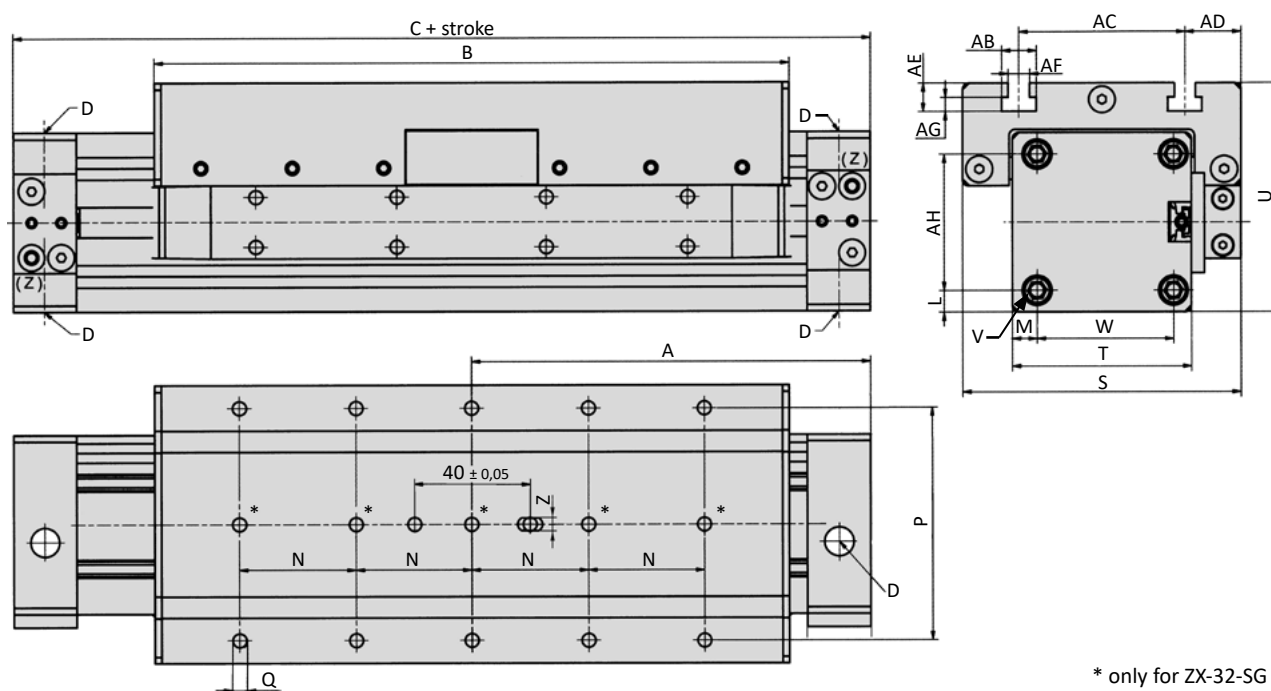
Piston Ø	A	B	C	D	E	F	I	J	M
25	67.5	84.6	135	G1/8	12.5	5	6	4.5	4.5
32	77.5	99.6	155	G1/8	12.5	5.5	6	5.5	7.5
40	95	112.6	190	G1/4	12.5	7	7	6.5	7.5
50	105	122	210	G3/8	17.5	9	10	8.5	12.5
63	125	150	250	G3/8	25	9.5	10	8.5	14

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

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)	6.000	10.500	10.500	5.910	5.860

Dimensions



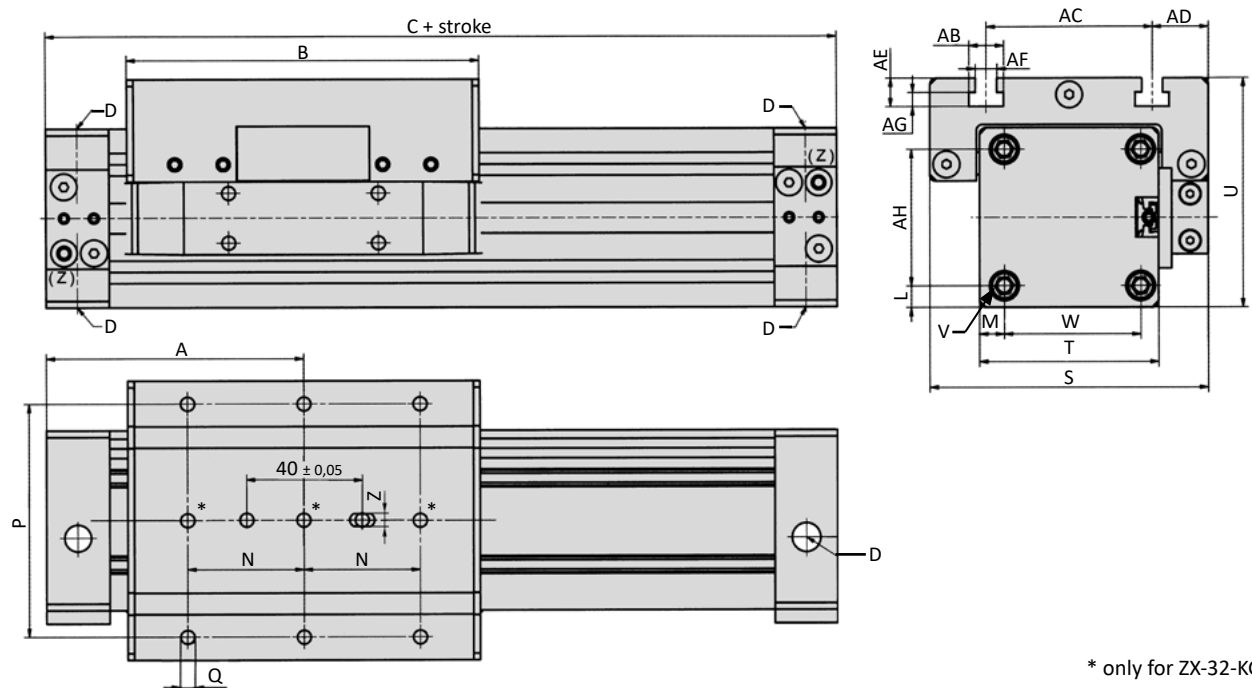
Piston Ø	A	B	C	D	L	M	N	P	Q	S	T
25	100	159	200	G1/8	4.5	4.5	30	30	M5 x 8	75	45
32	120	191	240	G1/8	6.5	7.5	35	70	M5 x 11	83.8	54
40	150	246	300	G1/4	7.5	7.5	55	55	M6 x 12	100	64
50	175	270	350	G3/8	12.5	12.5	50	42	M8 x 16	133	90
63	200	320	400	G3/8	14	14	60	60	M8 x 16	150	106

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	0.88	1.35	2.30	4.63	7.10
(kg) each 100 mm stroke	0.30	0.39	0.52	0.96	1.32
max. stroke (mm)	6.000	10.500	10.500	6.000	6.000

Dimensions



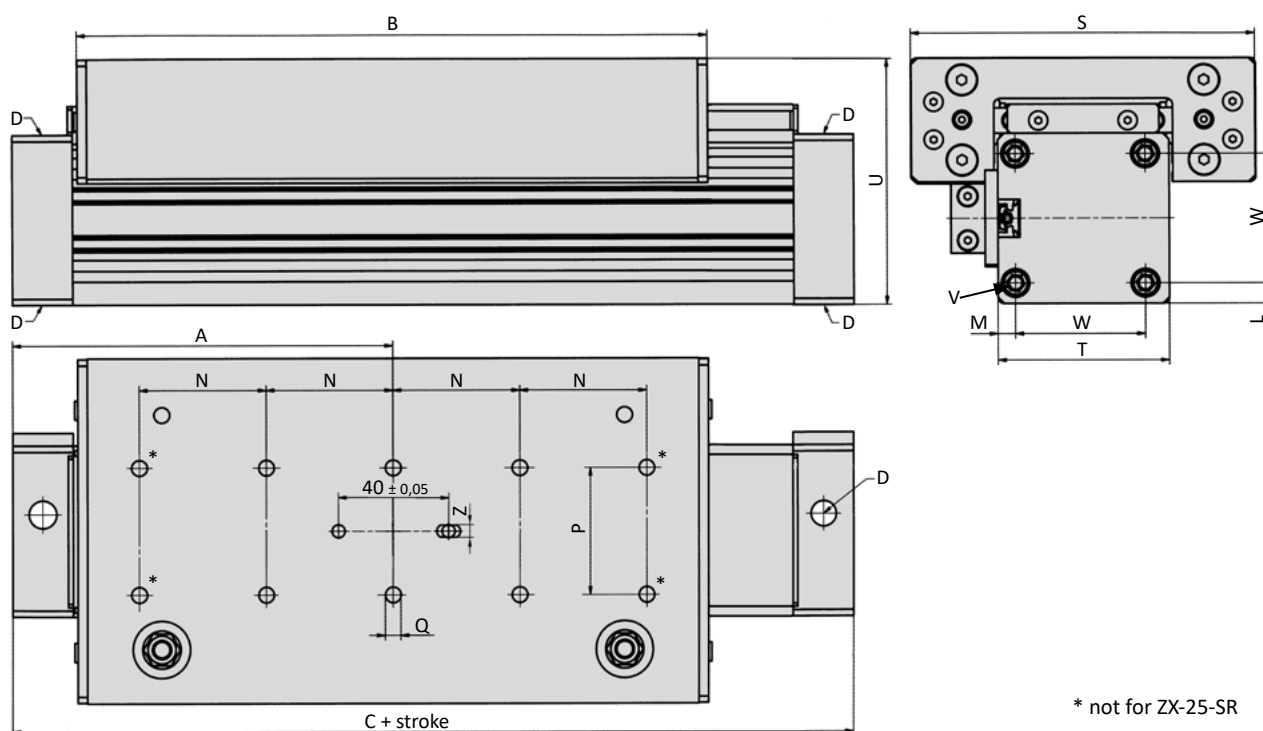
Piston Ø	A	B	C	D	L	M	N	P	Q	S	T
25	67.5	94	135	G1/8	4.5	4.5	30	30	M5 x 8	75	45
32	77.5	106	155	G1/8	6.5	7.5	35	70	M5 x 11	83.8	54
40	95	136	190	G1/4	7.5	7.5	55	55	M6 x 12	100	64
50	105	148	210	G3/8	12.5	12.5	50	42	M8 x 16	133	90
63	125	180	250	G3/8	14	14	60	60	M8 x 16	150	106

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							

Technical data

Model-no.:	ZX-25-SR-...	ZX-32-SR-...	ZX-40-SR-...
Piston Ø (mm)	25	32	40
Connection	G1/8	G1/8	G1/4
Cushioning length (mm)	24	28	36
Weight 0 mm stroke	1.97	2.96	5.89
(kg) each 100 mm stroke	0.42	0.48	0.74
max. stroke (mm)	6.000	6.000	5.950

Dimensions



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

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
							+0.2

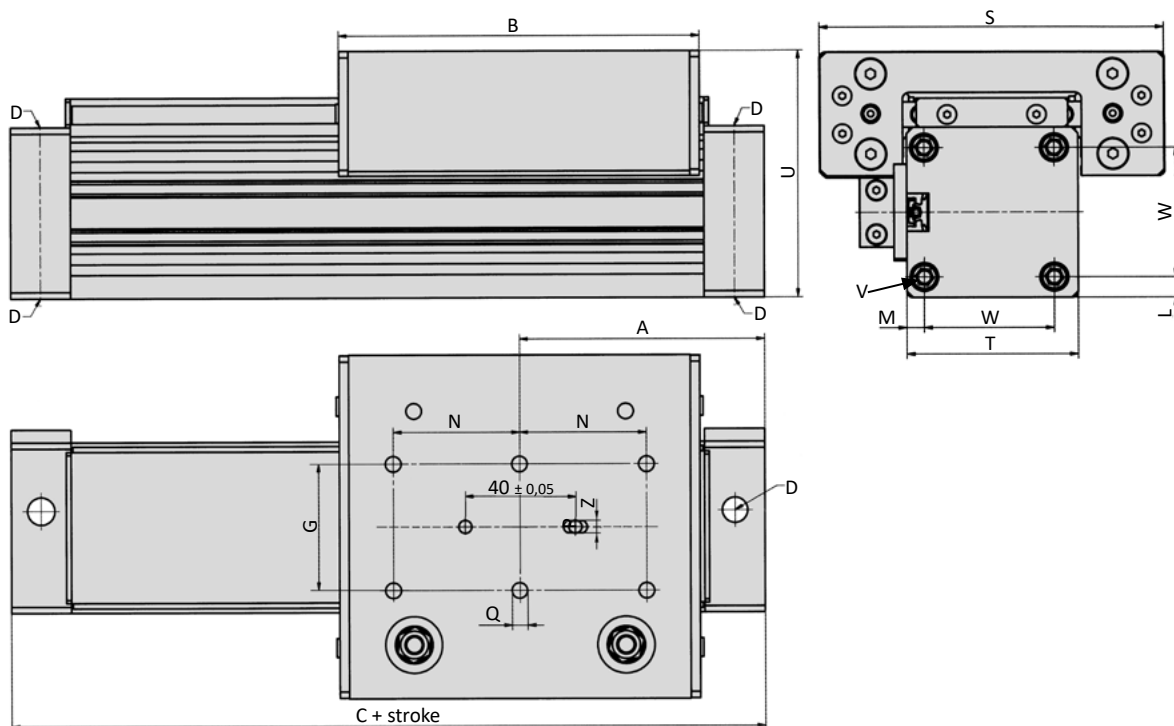
Series ZX-KR



Technical data

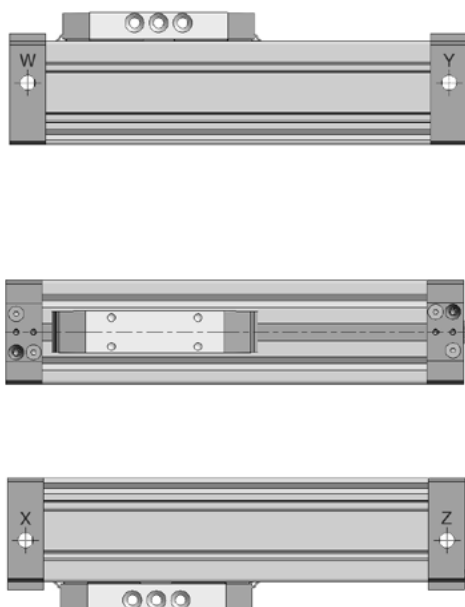
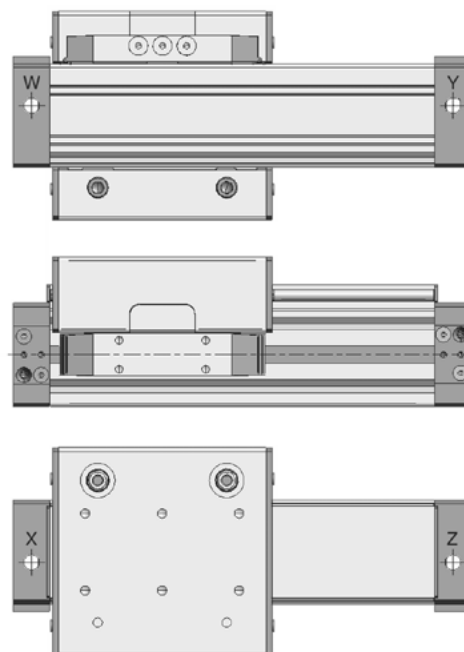
Model-no.:	ZX-25-KR-...	ZX-32-KR-...	ZX-40-KR-...
Piston Ø (mm)	25	32	40
Connection	G1/8	G1/8	G1/4
Cushioning length (mm)	24	28	36
Weight 0 mm stroke	1.33	1.91	3.84
(kg) each 100 mm stroke	0.42	0.48	0.74
max. stroke (mm)	6.000	6.000	6.000

Dimensions

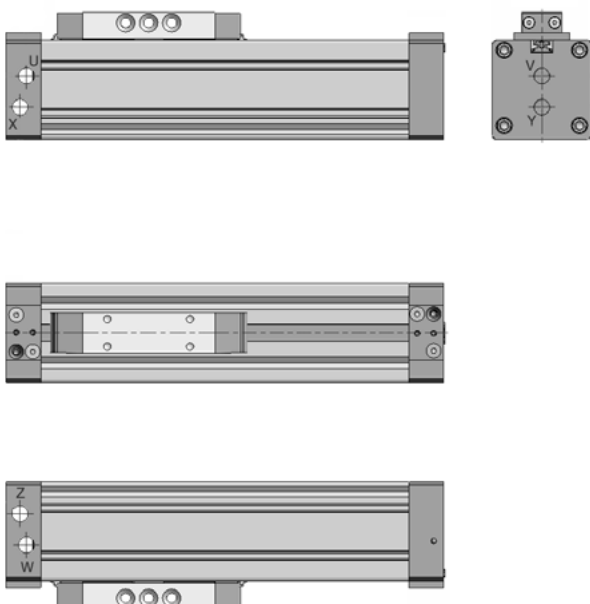
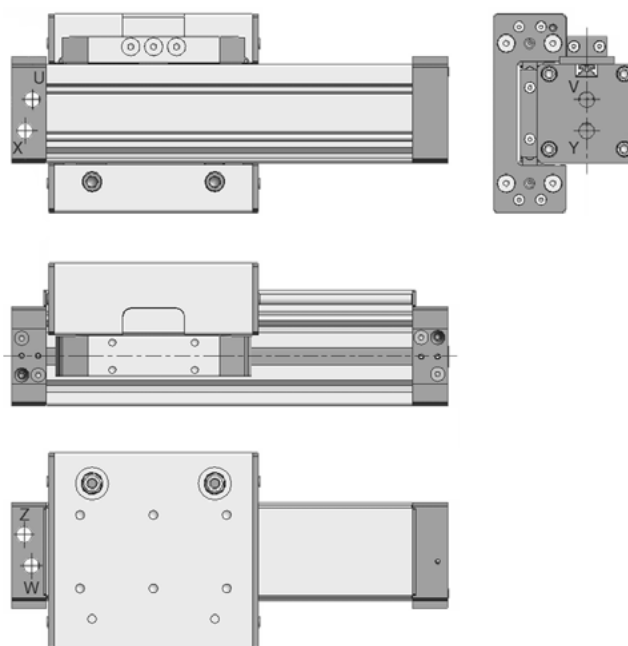


Piston Ø	A	B	C	D	L	M	N	P
25	67.5	95	135	G1/8	4.5	4.5	20	40
32	77.5	115	155	G1/8	6.5	5.5	40	40
40	95	143.5	190	G1/4	7.5	7.5	55	55

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
							+0.2

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).

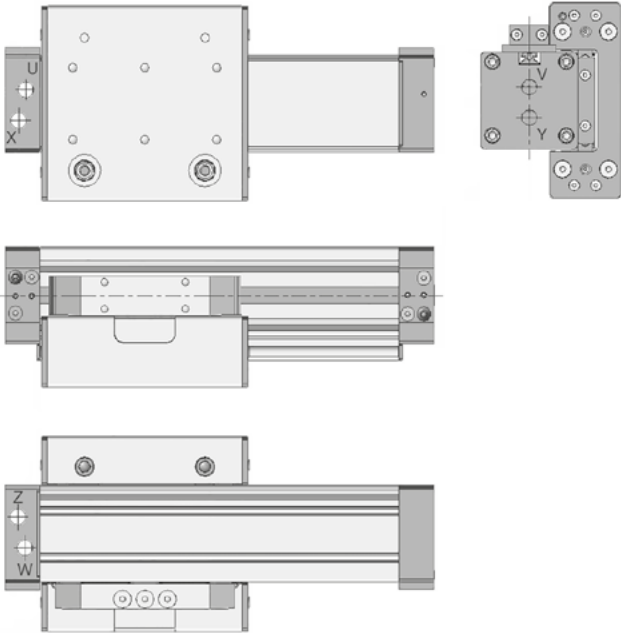
With this option the slide guide is mounted on the left side of the piston driver.

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

Series ZX

Option -03 Air connection on one end

with guide



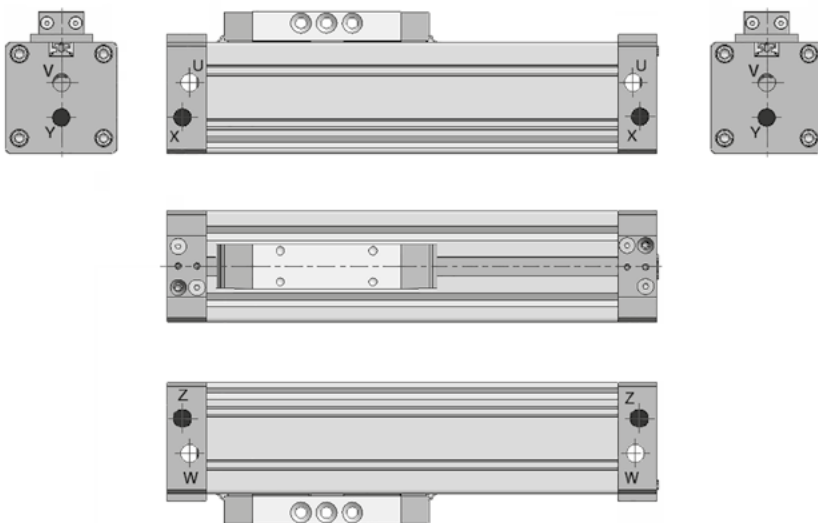
One cylinder head is supplied with 6 ports (3 for each direction, ports U-V-W air travels in one direction and ports X-Y-Z air travels in the opposite direction). User is required to select one of three pressure connections for each direction. The second and third ports will require the installation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

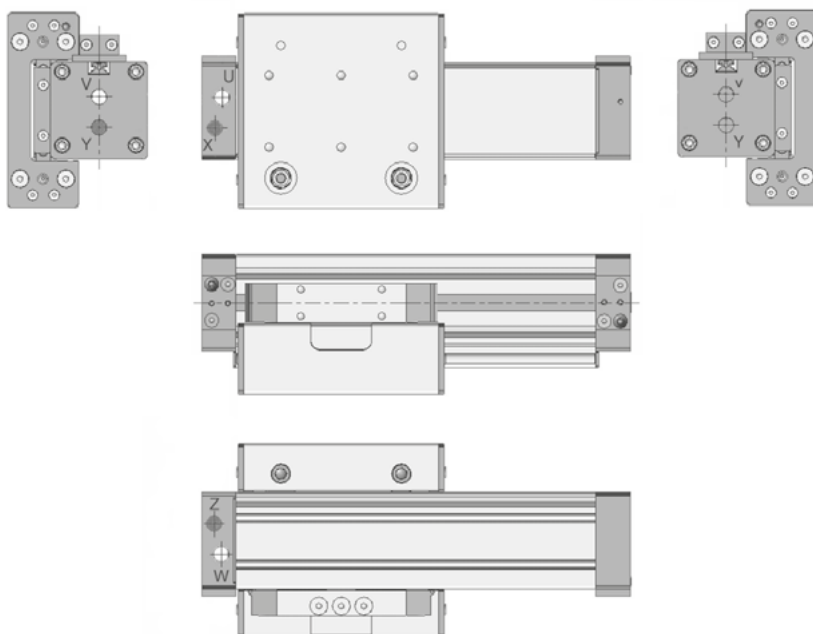
With this option the slide guide is mounted on the right side of the piston driver.

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

Option -04 Air connection on both face ends

without guide

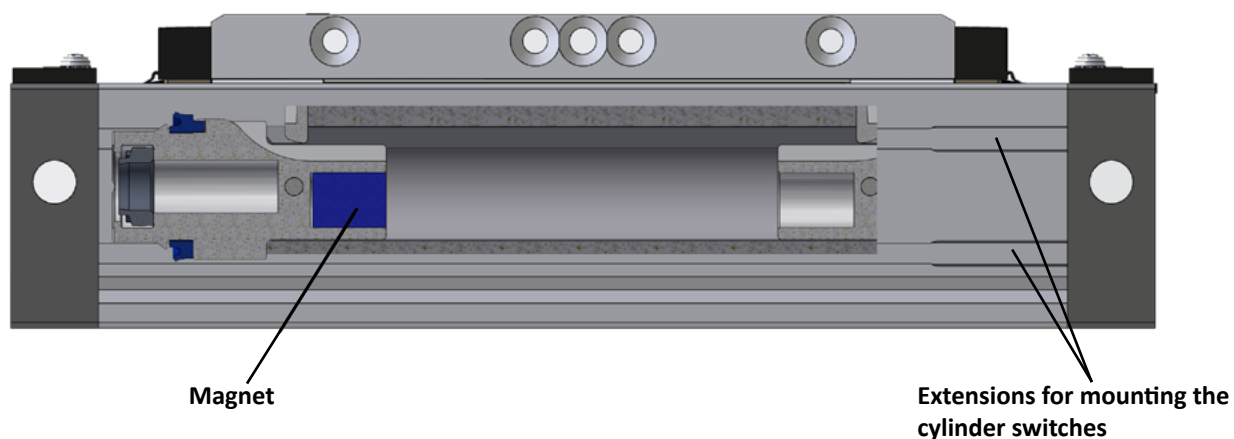


Option -04 Air connection on both face ends
with guide


Option -04 enables 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.

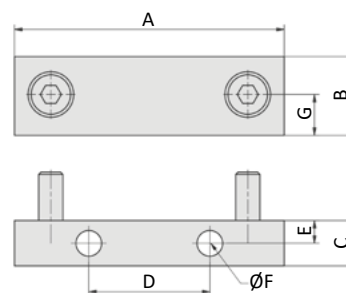
Position enquiry


The magnet for position sensing is not located in the centre of the piston on Series ZX cylinders. During installation, the piston is inserted into the cylinder barrel with the magnet at the front on the side of the extended T-slots, resulting in the position shown.

Series ZX

Mounting parts

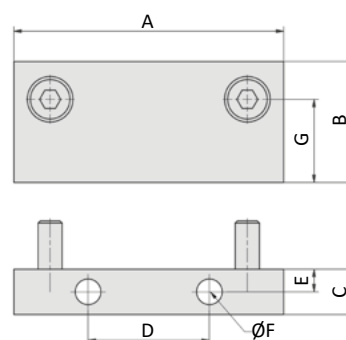
ZXB-xx-01 Head mount



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.

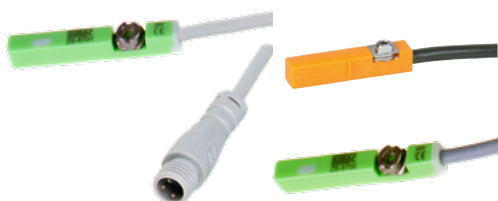
ZXB-xx-02 Head mount, tall



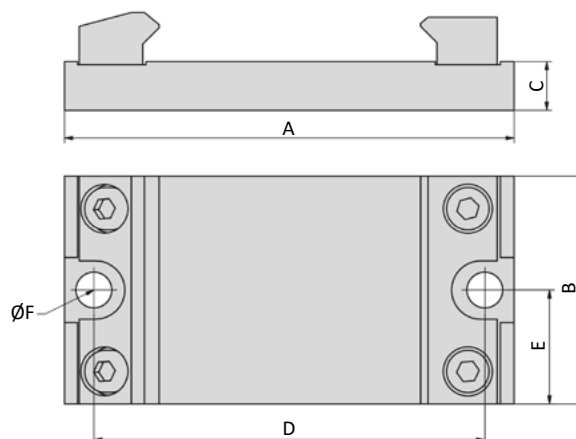
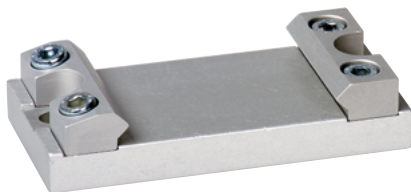
Model-no.:	A	B	C	D	E	Ø F	G
ZXB-25-02	45	18	15	22	5	5.5	12.5
ZXB-32-02	51	34	15	25	7.5	7	16.5
ZXB-40-02	64	26	15	25	7.5	9	17.5
ZXB-50-02	89	40	15	40	7.5	8.5	27.5
ZXB-63-02	105	40	15	50	7.5	8.5	29

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

Zylinderschalter



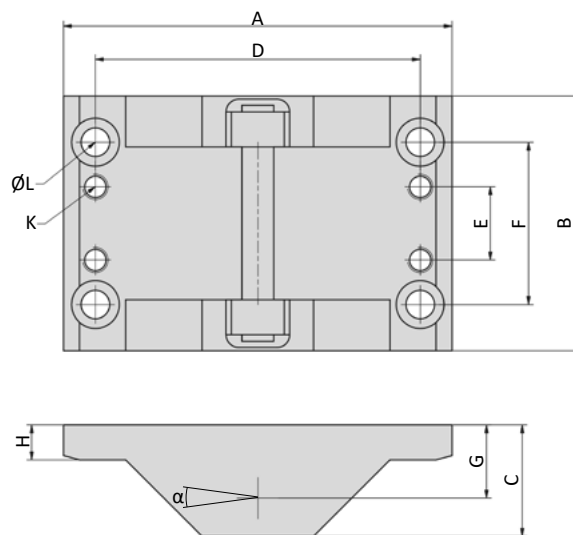
ZXB-xx-10 Center mount



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*	105	40	10	90.5	45.25	9
ZXB-40-10	138	70	15	120	60	11
ZXB-50-10	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



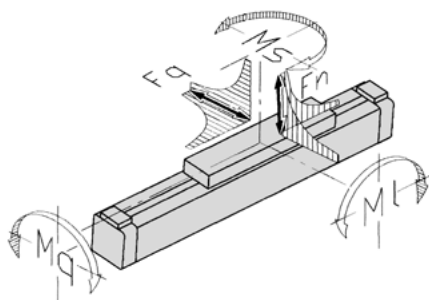
Model-no.:	Cylinder Ø	A	B	C	D	E	F	G	H	K	ØL	α
ZXB-25-20	25	80	54	24	66	20	40	18 ... 20	8	M6	6.5	16°
ZXB-25-20	32	80	54	24	66	20	40	17.9 ... 18.9	8	M6	6.5	12°
ZXB-40-20	40	80	54	24	66	20	40	18 ... 20	8	M6	6.5	9°-12°
ZXB-50-20	50	122	80	35	102	23	51	23 ... 25	11	M8	9	7°-10°
ZXB-50-20	63	122	80	35	102	23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

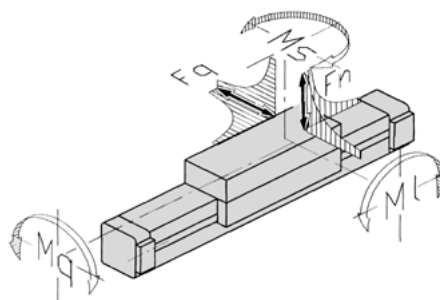
Series ZX

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-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

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).

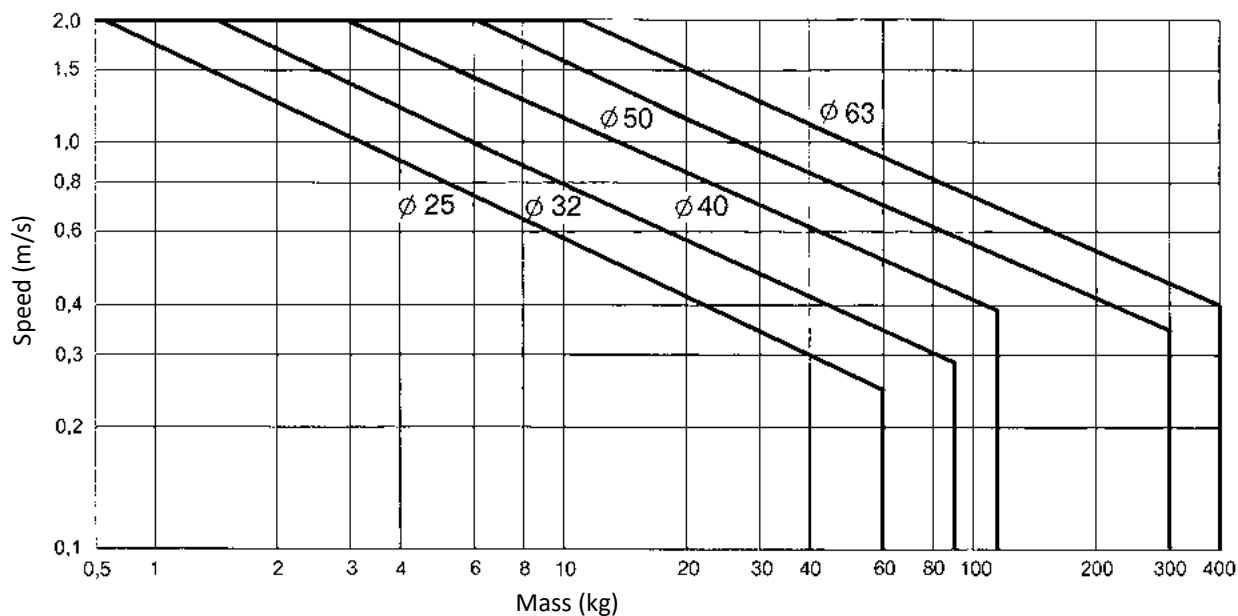
The information on torques refers to the center point of the slide which, in the case of the ZX-S and ZX-K cylinders, is the center of the tube. In versions with slide guides, the center point of the guide is in the slide.

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

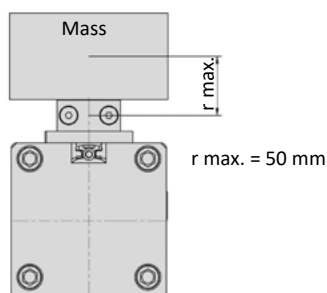
Cushioning diagram

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.

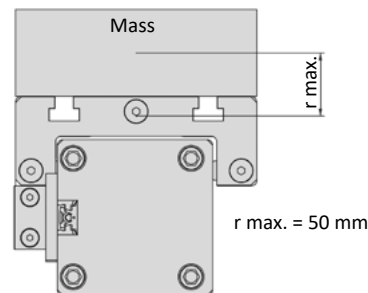
The data applies to a horizontal mounting position.



ZX-xx-K, ZX-xx-S

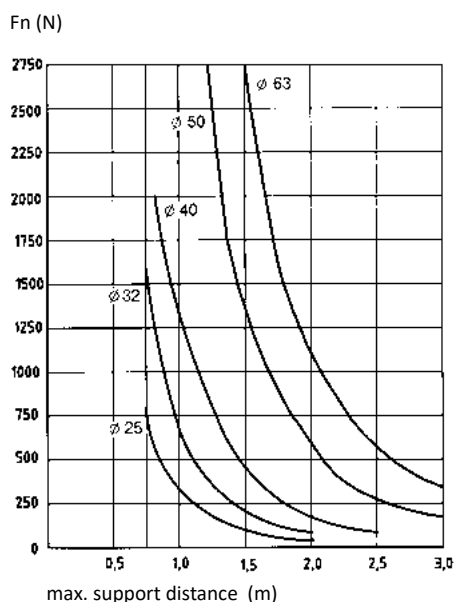


ZX-xx-KG, ZX-xx-SG, ZX-xx-KR, ZX-xx-SR

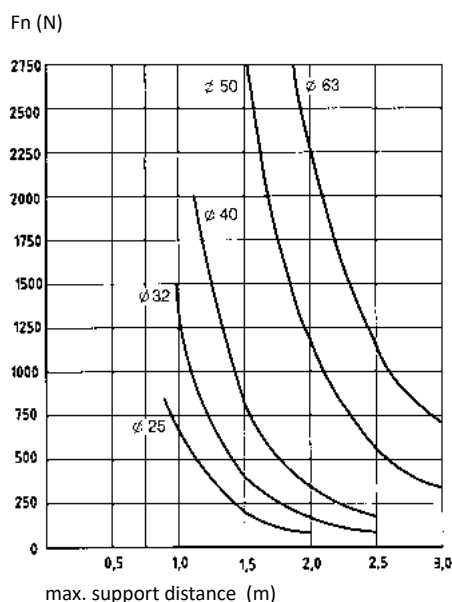


Deflection

Deflection 0,5 mm



Deflection 1 mm



Series ZX

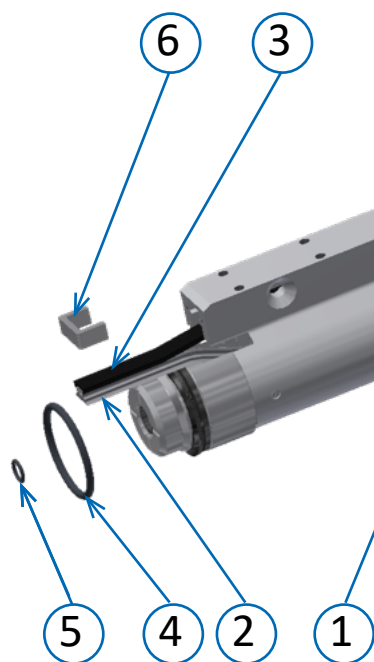
Repair kits

Order code

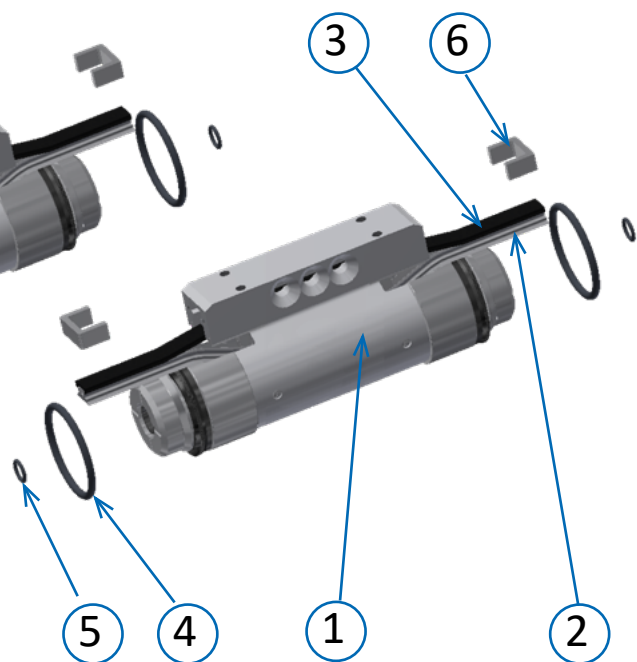
ZXV-**-***-**-**			
Series		Versions	
ZXV repair kit for series ZX		01	for standard version ZX-S, ZX-SG, ZX-SR
		02	for short version ZX-K, ZX-KG, ZX-KR
		03	for all cylinders manufactured from 2019 forward
Piston-Ø		Stroke lengths	
25	25 mm	0500	0 - 500 mm
32	32 mm	1000	501 - 1000 mm
40	40 mm	1500	1001 - 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

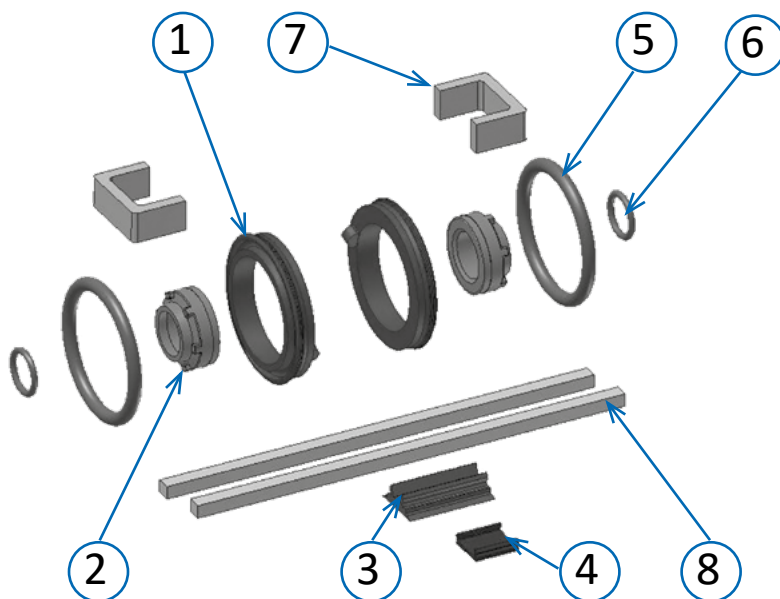
Position	Part	Quantity
1	piston carrier, long version with seals	1
2	sealing band	1
3	cover band	1
4	O-ring	2
5	O-ring	2
6	felt, U-shaped	2
7	grease	1

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

Content

Version 03



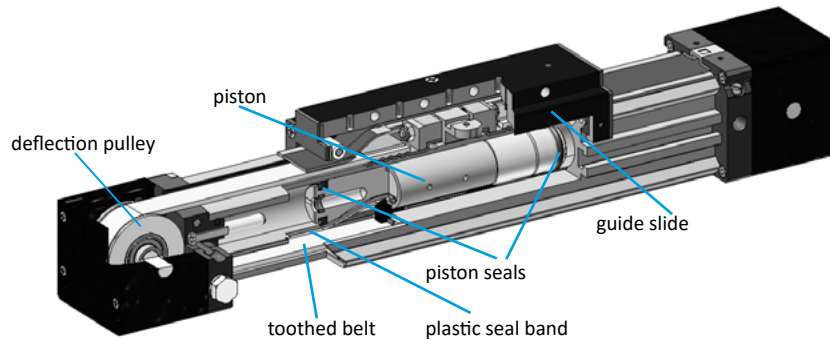
Version 03

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

Series ZR

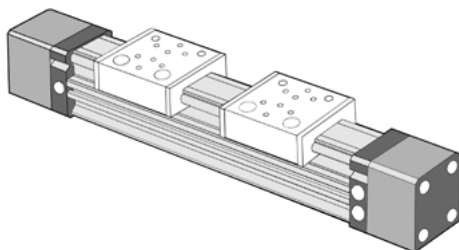
Design and function

The toothed belt cylinder consists of an extruded cylinder tube with two chambers. They are connected to each other over the entire length of the cylinder. The pressure chamber is sealed by a PU seal strip. Between the two piston seals a pressure-free space is created. In this space the seal band is lifted to the inside and is passed through the piston. Simultaneously, a driver (piston bracket) grasps through the slot into the outer chamber. Since the outer chamber encloses the longitudinal slot, it does not expand under pressure. This results in minimal leakage and better flexural and torsional stiffness.



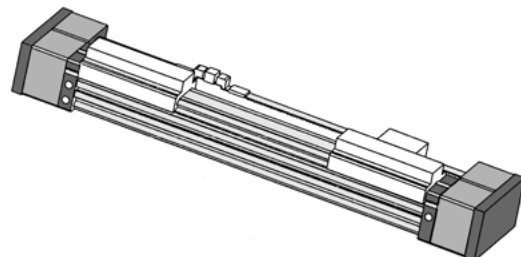
In the outer chamber, the piston bracket grips the toothed belt, which leads to a tension lock at the opposite side via the deflection pulley. Inside the slide, the cover belt is lifted from the slot, and the slide is connected to the tension lock. By this principle, dirt is kept away from the sealing strip enabling use under rough operating conditions. The force is transmitted, free of slip, to a shaft via the toothed belt pulley. As a result, several cylinders can be linked and operated synchronously, enabling torques from the off-center application forces. The cylinder can also be supplied with a brake mounted on the driven shaft without the use of an additional energy transmission chain. A cylinder supplied with a brake and encoder results in an inexpensive positioning system. Since the slide or roller guide is already integrated into the slide, a complete linear drive is available with this cylinder.

With 2 slides



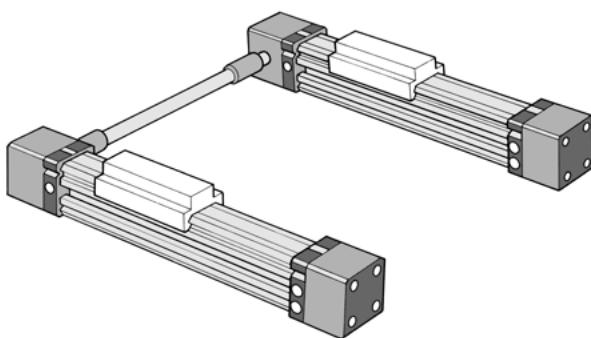
For higher loads.

As a gripping cylinder



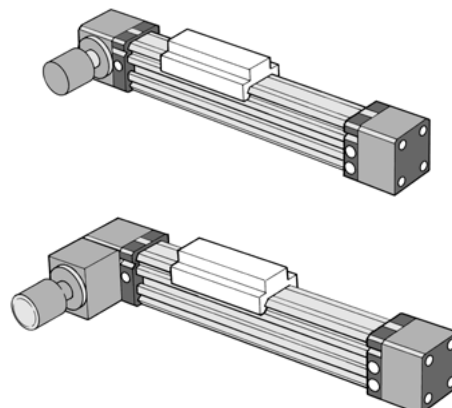
By mounting a second toothed belt and using a slide in tangential feed.

Synchronous running



The system is suitable for synchronisation of 2 or more cylinders. (see options)

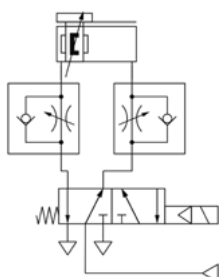
With brake / with encoder mount



Since the running performance is stick slip free, an encoder mount is possible. A holding brake keeps the position. (see options)

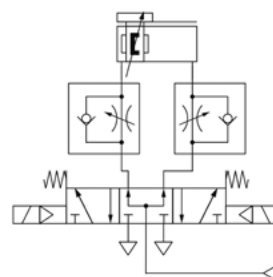
Circuit examples

Control 1



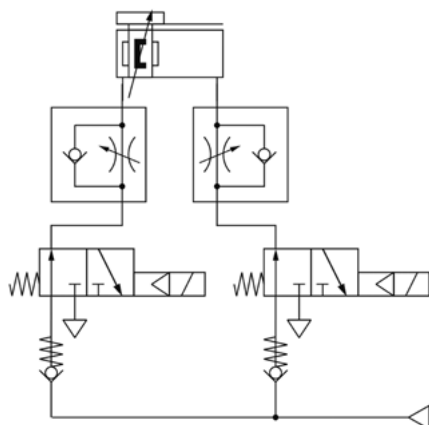
Simple system for controlling the slide from end to end. A flow control valve can be used to adjust the cylinder speed.

Control 2



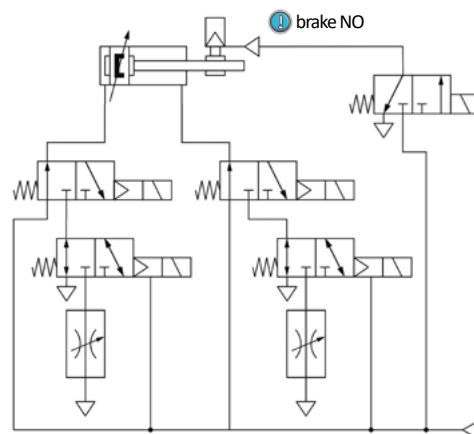
System to stop the cylinder on intermediate position with higher tolerances.

Control 3



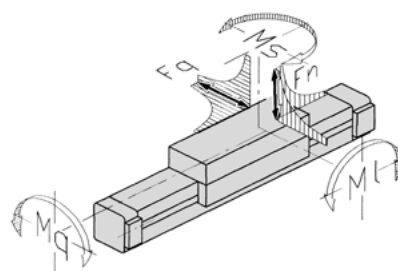
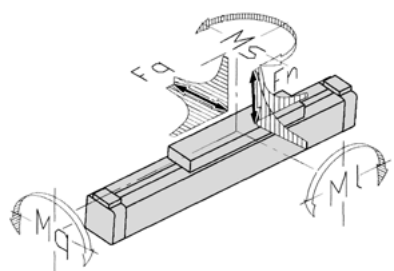
This control circuit improves the positioning accuracy. The use of check valves reduces the stopping distance and also increases the load stiffness.

Control 4



This circuit example permits the selection of different speeds (rapid or inching) for either forward or reverse motion. The brake is activated by a 3/2 solenoid valve.

Loads, forces and torques



Cylinder	Operating force *	Braking force**	F_n	F_q	M_l	M_q	M_s
ZR-25	250 N	380 N	400 N	400 N	40 Nm	20 Nm	30 Nm
ZR-25S	250 N	380 N	400 N	400 N	80 Nm	40 Nm	60 Nm
ZR-40	640 N	750 N	800 N	800 N	75 Nm	30 Nm	50 Nm
ZR-40S	640 N	750 N	800 N	800 N	150 Nm	60 Nm	100 Nm
ZR-40L	640 N	750 N	1200 N	1200 N	95 Nm	45 Nm	95 Nm

v in 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

* at 6 bar

** only at versions with brake, braking force at 6 bar, static

*** Force and torque data are based on the speed of the slide guideways of ≤ 0.2 m/s, in case of roller guides of ≤ 2 m/s.

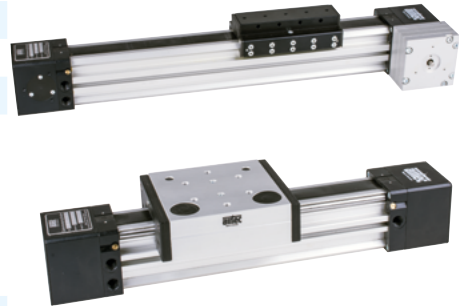
If speed exceeds 0.2 m/s, the permissible values of the slide guideways must be multiplied by the factors from the table. For roller or ball guide types is no factor required.

Series ZR



Technical details

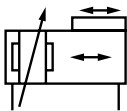
Operating pressure	1 ... 8 bar
Temperature range	-15°C ... +70°C
max. Stroke	4500 mm (4300 mm for ZR-**S)
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature. If speeds exceed 1 m/s lubricated air is recommended.
Materials	Cylinder tube: Al (anodized) End caps: Al (anodized) Seals: PA, NBR, PDF



Double acting rodless toothed belt cylinder with adjustable cushions. The toothed belt is driven by the piston in a closed profile tube. The piston actuates a slide with an adjustable slide guideway.

Note: Slide guide and piston are working in opposite direction.

Versions



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

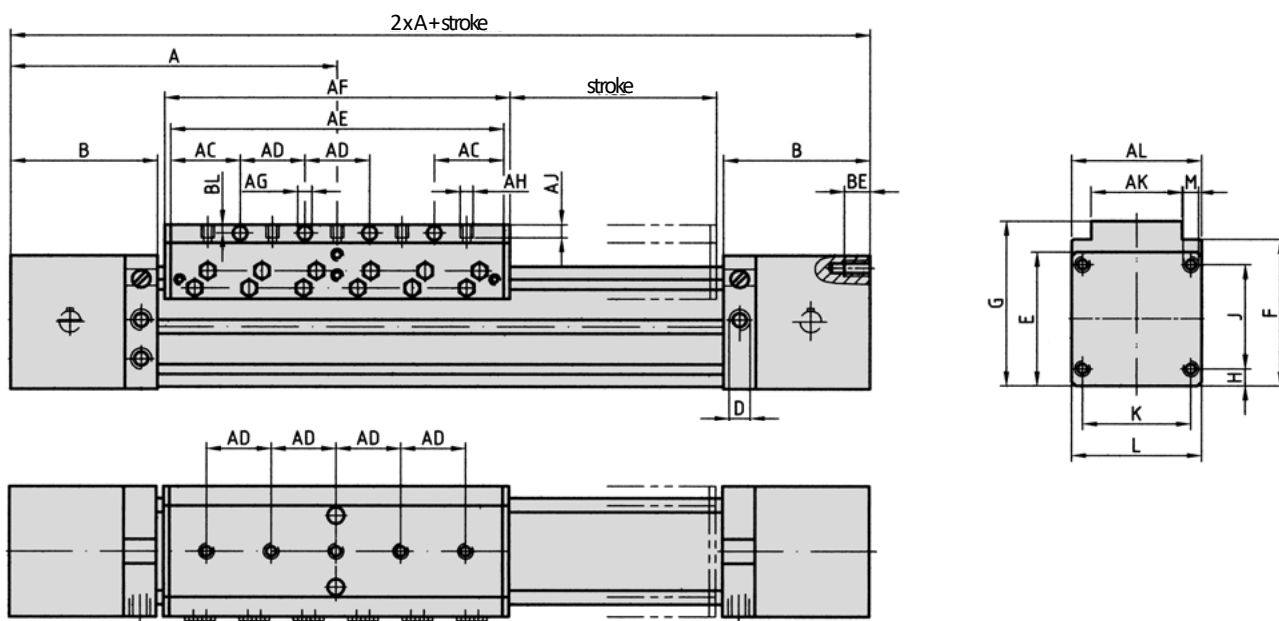
Order code

Series		ZR-**-*****-*****	Options (details see page 9-27)	
Piston Ø			A	brake
25	25 mm		B	brake with extended shaft at opposite side
40	40 mm		C	brake with extended shaft end-to-end (both sides)
Guide			D	brake with extended shaft (brake side)
blank	slide guide		F	extended shaft for synchronisation
S	heavy-duty slide guide		G	extended shaft for encoder mounting
L	roller bearing guide (only for Ø 40)		H	extended shaft for encoder mounting and synchronisation
Stroke (mm)			J	extended shaft end-to-end (both sides) for synchronisation
XXXX	max. 4500 mm		Air connection options (details see page 9-29)	
	(max. 4300 mm for ZR-**S)		1	double air connection at 1
			2	double air connection at 2
			3	double air connection at 3
			4	double air connection at 4

Technical data

Model-no.:	ZR-25	ZR-40	ZR-25S	ZR-40S	ZR-40L
Piston Ø (mm)	25	40	25	40	40
Connection	G1/8	G1/4	G1/8	G1/4	G1/4
Cushioning length (mm)	25	32	25	32	32
Weight 0 mm stroke	2.18	3.19	2.58	3.59	4.84
(kg) each 100 mm stroke	0.40	0.50	0.40	0.50	0.70

Dimensions series ZR

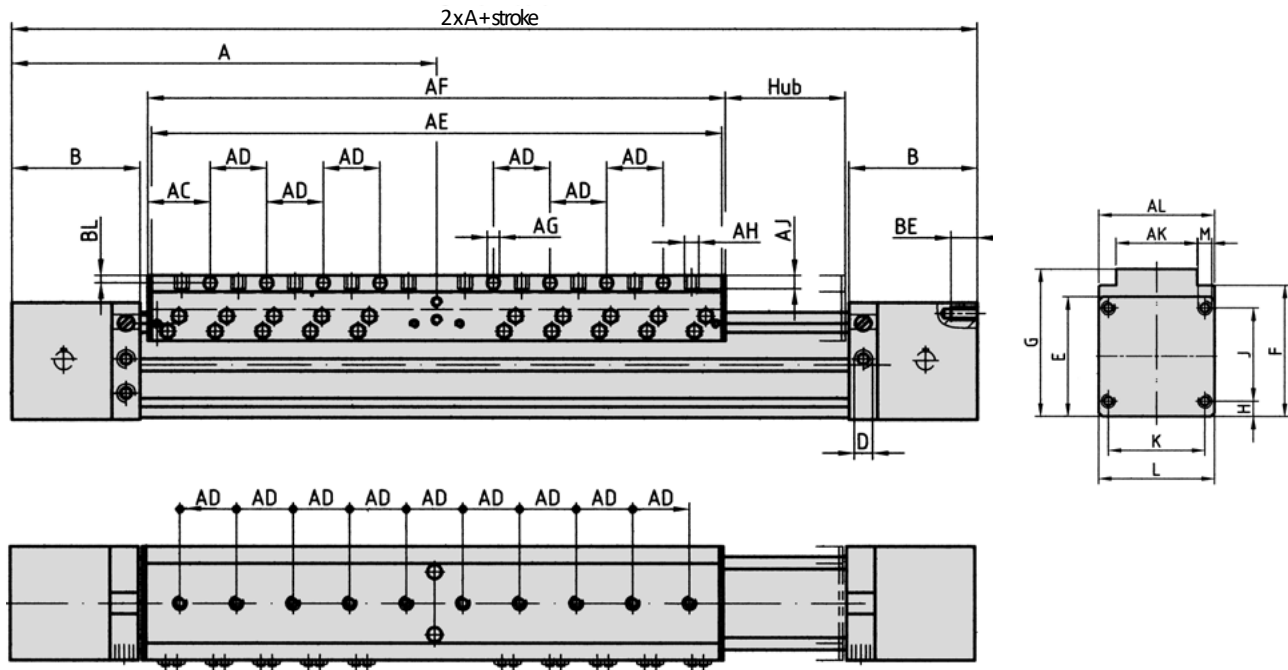


Cylinder	A	B	D	E	F	G	H	J	K	L	M
ZR-25	150	68	G1/8	62	67.5	76	8	48	50	60	M5
ZR-40	150	75	G1/4	76.8	80.5	97.5	9	54	54	72	M6

Cylinder	AC	AD	AE	AF	AG	AH	AJ	AK	AL	BE	BL
ZR-25	33	30	156	160	5.5	M5	7	42	60	10	4
ZR-40	25	30	140	148	5.5	M5	8.5	40	72	12	6

Series ZR

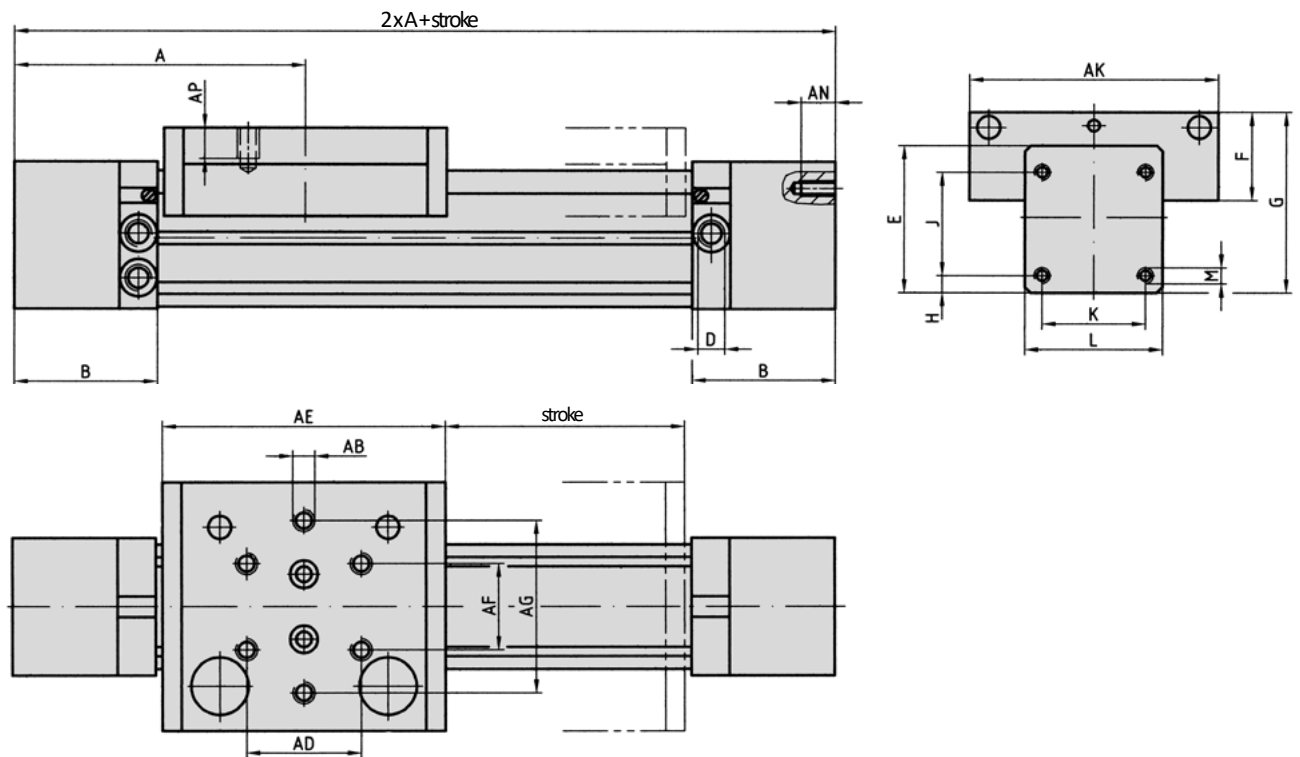
Dimensions series ZR-S



Cylinder	A	B	D	E	F	G	H	J	K	L	M
ZR-25S	225	68	G1/8	62	67.5	76	8	48	50	60	M5
ZR-40S	225	75	G1/4	76.8	80.5	97.5	9	54	54	72	M6

Cylinder	AC	AD	AE	AF	AG	AH	AJ	AK	AL	BE	BL
ZR-25S	35	30	306	310	5.5	M5	7	42	60	10	4
ZR-40S	29	30	290	298	5.5	M5	8.5	40	72	12	6

Dimensions series ZR-L



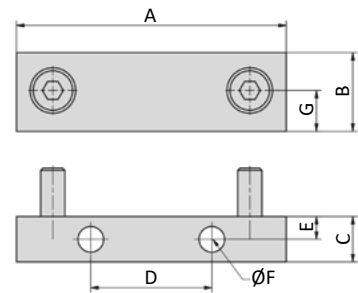
Cylinder	A	B	D	E	F	G	H	J	K	L
ZR-40L	150	75	G1/4	76.8	46.1	94.4	9	54	54	72

Cylinder	M	AB	AD	AE	AF	AG	AK	AN	AP
ZR-40L	M6	M8	60	148	45	90	130	12	15

Series ZR

Mounting parts

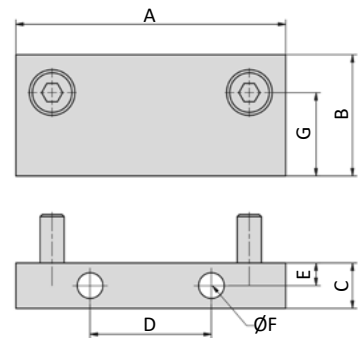
ZK-xx2 Head mount



Model-no.:	A	B	C	D	E	Ø F	G
ZK-252	60	20	20	30	10	9	11
ZK-402	71	20	20	30	10	9	11

Screws to mount the head mount to the cylinder are included.

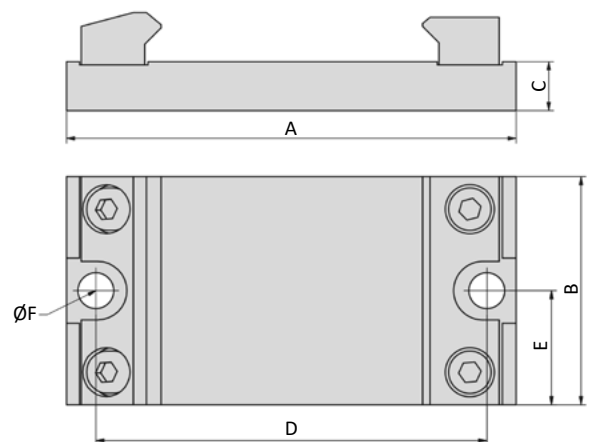
ZK-xx3 Head mount, tall (for use in combination with center mount)



Model-no.:	A	B	C	D	E	Ø F	G
ZK-253	60	30	20	30	10	9	17
ZK-403	71	30	20	30	10	9	18

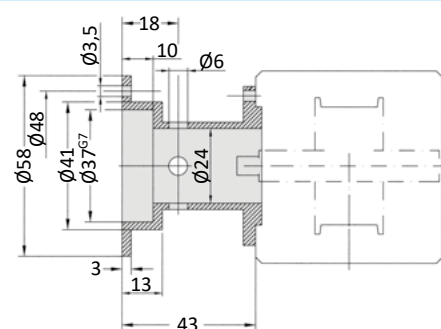
Screws to mount the head mount to the cylinder are included.

ZK-xx1 Center mount



Model-no.:	A	B	C	D	E	Ø F
ZK-251	90	60	10	75	37.5	9
ZK-401	100	60	10	84	42	9

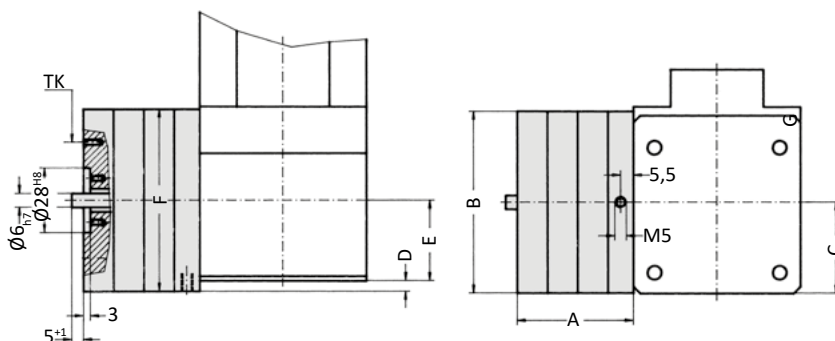
ZA-3x Adapter for encoder mounting



Model-no.:	Mounting
ZA-36	mounted on brake
ZA-37	mounted on head

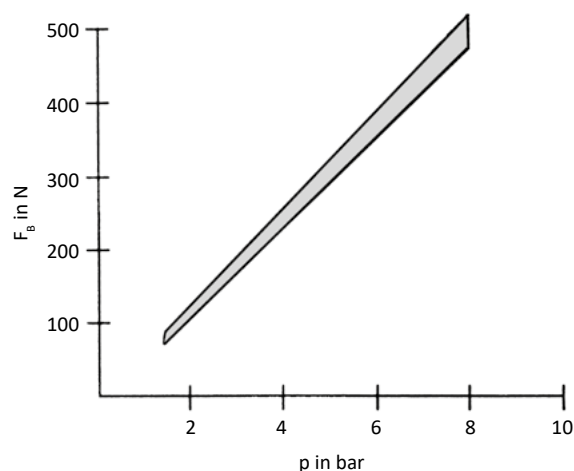
The adapters can be mounted on all cylinders of series ZR and will fit to all encoders with a 36 mm centering collar.

BR-xx Brake

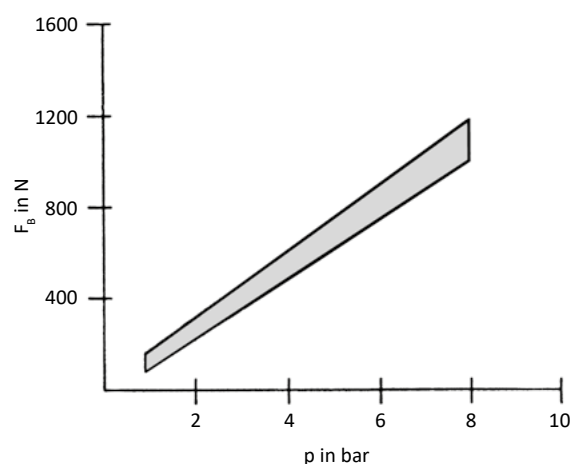


Model-no.:	A	B	C	D	E	F	TK
BR-25	43	61	31.2	2	27.5	51	45 (3 x M3 x 6 deep drawn offset)
BR-40	50	78.5	39.4	4.5	34.7	78.5	50 (3 x M3 x 7 deep drawn offset)

BR-25 Braking force static



BR-40 Braking force static

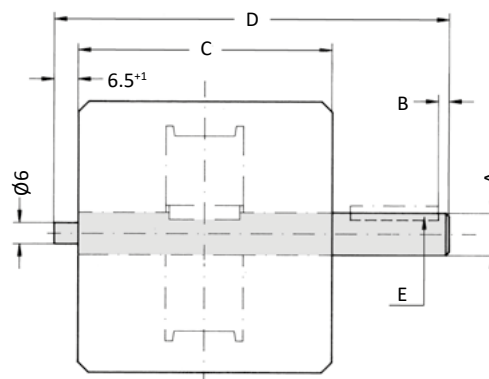


The brake is designed to hold the position. Do not use to stop the cylinder.

Series ZR

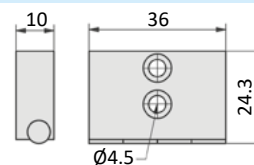
Accessories

Extended shaft



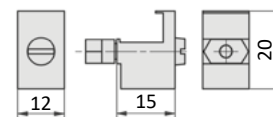
Piston Ø	A	B	C	D	E (key)	slide travel (mm) per one rotation
25	10 _{h7}	2	60	93	3 x 3 x 20 DIN 6885	135
40	12 _{h7}	3	72	112	4 x 4 x 25 DIN 6885	185

ZR-4006 Magnet



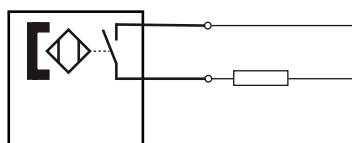
For use with our proximity sensor ZS-100.1. The magnet is mounted at the slide. Mounting screws are included. The model ZE-40L has the magnet already included.

ZR-4007 Mounting bracket for proximity sensors

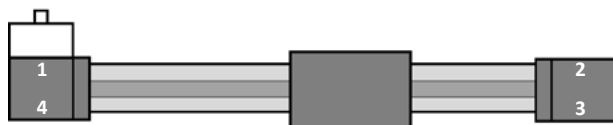


For direct mounting at the cylinder groove.

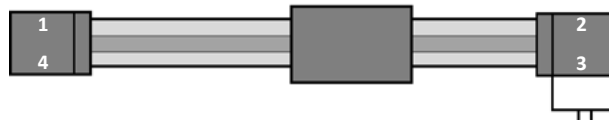
ZS-100.1 Proximity sensor



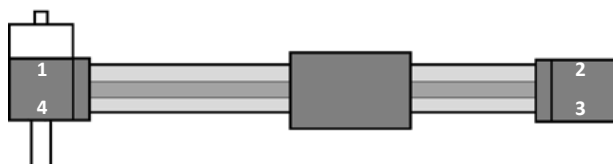
Model-no.:	ZS-100.1
Design	2-pole Reed sensor
Contact function	NO
Rated operational voltage	3 ... 250 V AC / DC
Rated operational current I _e	0,5 A
Breaking capacity	50 W bzw. 50 VA
Cable	2 x 0.25 mm ² , 3 m length
Temperature range	-30 ... +80°C
Protection	IP 67
Switching status indication	LED red
Switching time	< 2 ms
Response time	< 0.1 ms

Option A1


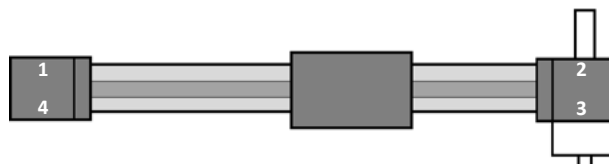
Brake with encoder connection mounted at 1

Option A3


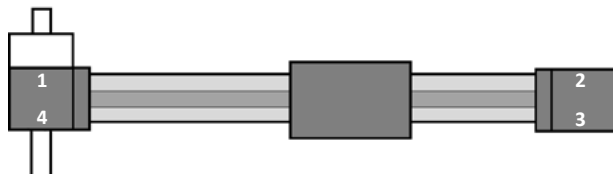
Brake with encoder connection mounted at 3

Option B1


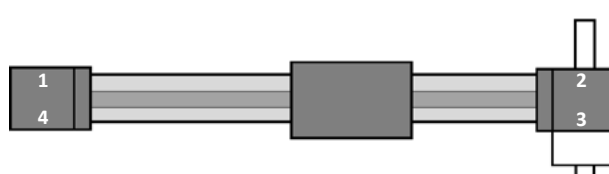
Brake at 1 with extended shaft for synchronisation at 4

Option B3


Brake at 3 with extended shaft for synchronisation at 2

Option C1


Brake at 1 with shaft for synchronisation at 1 and 4

Option C3


Brake at 3 with shaft for synchronisation at 2 and 3

Option D1


Brake at 1 with extended shaft for synchronisation at 1

Option D3

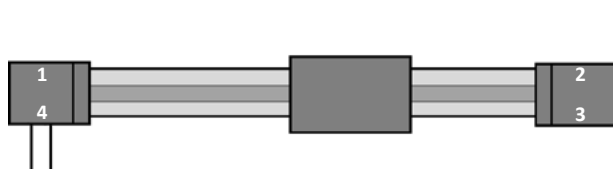

Brake at 3 with extended shaft for synchronisation at 3

Option F1

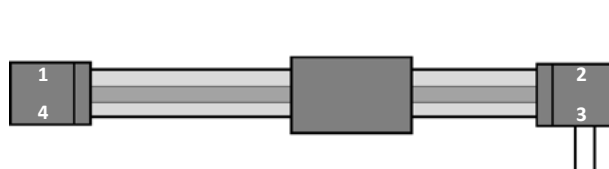

Shaft for synchronisation at 1

Option F2


Shaft for synchronisation at 2

Option F4


Shaft for synchronisation at 4

Option F3


Shaft for synchronisation at 3

Option G1


Shaft for encoder connection at 1

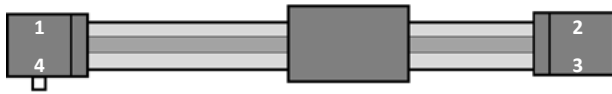
Option G2


Shaft for encoder connection at 2

Series ZR

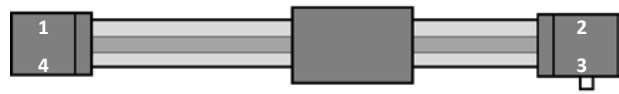
Accessories

Option G4



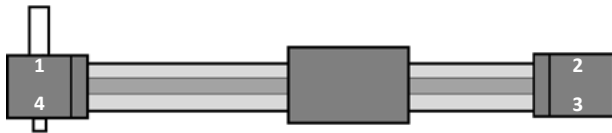
Shaft for encoder connection at 4

Option G3



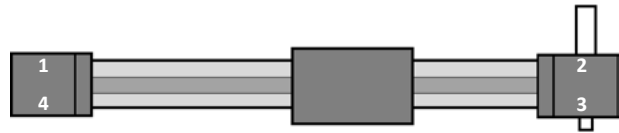
Shaft for encoder connection at 3

Option H1



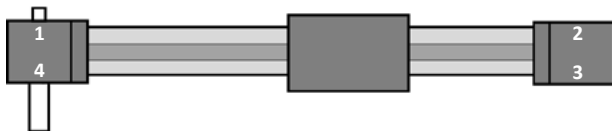
Shaft for encoder connection at 4 and synchronisation at 1

Option H2



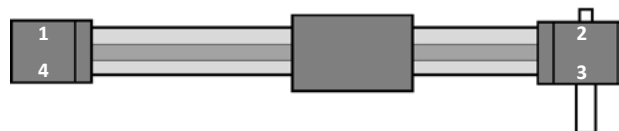
Shaft for encoder connection at 3 and synchronisation at 2

Option H4



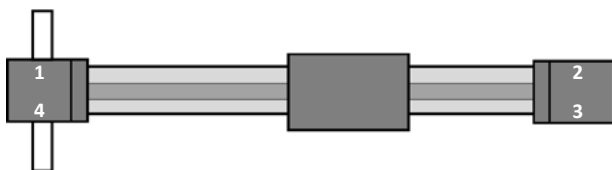
Shaft for encoder connection at 1 and synchronisation at 4

Option H3



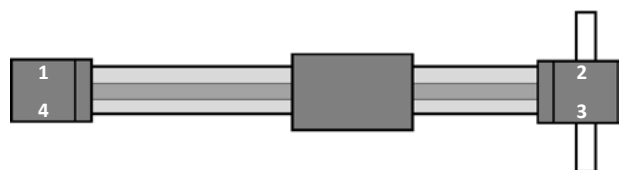
Shaft for encoder connection at 2 and synchronisation at 3

Option J1

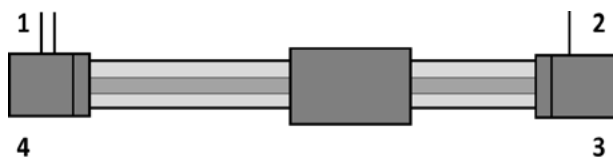
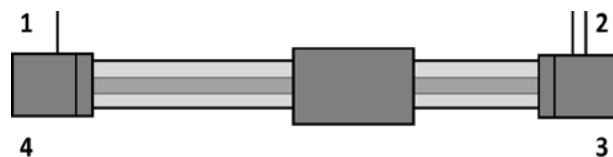
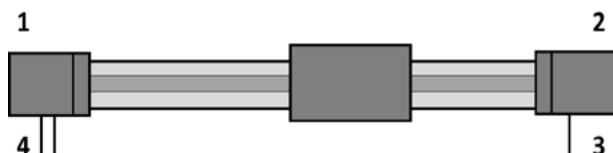
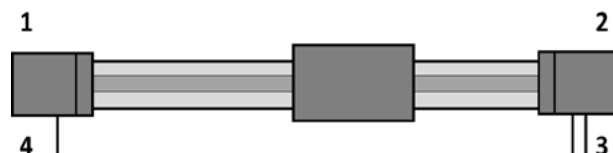


Shaft for synchronisation at 1 and 4

Option J2



Shaft for synchronisation at 2 and 3

Option 1

Option 2

Option 4

Option 3


The cylinder is supplied with three air connections. Two connections are necessary for operation, while the third is closed by a plug (included in the scope of delivery). The desired position of the double connection has to be specified in the order code after the stroke length by choosing the adequate number.

