

**Technical details**

<b>Series cylinder</b>	XL
<b>Series valve</b>	KM-09 (up to Ø 63 mm), KM-10 (up from Ø 80 mm)
<b>Operating pressure</b>	3 ... 10 bar
<b>Temperature range</b>	-10°C ... +70°C
<b>Max. stroke</b>	2800 mm
<b>Medium</b>	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.
<b>Protection</b>	IP 65 according to EN 60529



Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. The cylinder includes a 5/2- or 5/3-way valve with a high flow rate and compact dimensions. Standard stroke lengths in table below, additional lengths on request.

**Order code**

<b>Series</b>	XLVK-***-***-***-***			<b>Stroke (mm)</b>
				XXXX max. 2800 mm*
<b>Piston Ø</b>				<b>Electrical options</b>
032	32 mm			see table below
040	40 mm			
050	50 mm			
063	63 mm			
080	80 mm			
100	100 mm			
125	125 mm			<b>Type</b>
				see page 9-17

\* For longer stroke lengths please check the max buckling load.

**Electrical options**

Nominal voltage	Power consumption	Specifics	Plug connection <sup>*1</sup>	-XXX Manual override on same side of ports	
				2 and 4	1, 3 and 5
12 V DC	4.2 W		Form B industrial norm	-441	-411
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-461	-431
24 V DC	4.2 W		Form B industrial norm	-442	-412
24 V DC	4.8 W		M 12	-042	-012
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-462	-432
24 V DC	2.5 W	max. 8 bar	M 12	-062	-032
24 V AC	7/4 VA		Form B industrial norm	-452	-422
115 V AC	7/4 VA		Form B industrial norm	-456	-426
230 V AC	7/4 VA		Form B industrial norm	-457	-427

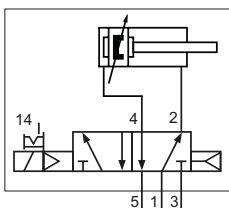
\*1 Plug socket not included, suitable plug sockets see page 17.

# Series XLVK

ISO 15552

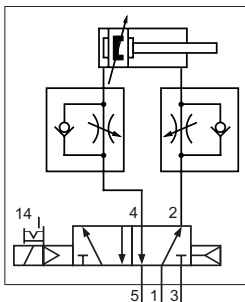
## Types

### single solenoid valve, normally retracted



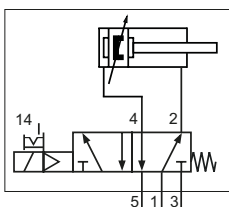
**01**  
valve with air spring return, cylinder piston rod steel hard chrome plated

**03**  
valve with air spring return, cylinder piston rod stainless steel



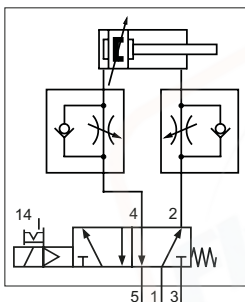
**05**  
valve with air spring return, cylinder piston rod steel hard chrome plated, with mounted flow controls

**07**  
valve with air spring return, cylinder piston rod stainless steel, with mounted flow controls



**02**  
valve with mechanical spring return, cylinder piston rod steel hard chrome plated

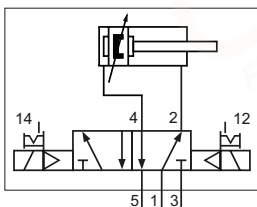
**04**  
valve with mechanical spring return, cylinder piston rod stainless steel



**06**  
valve with mechanical spring return, cylinder piston rod steel hard chrome plated, with mounted flow controls

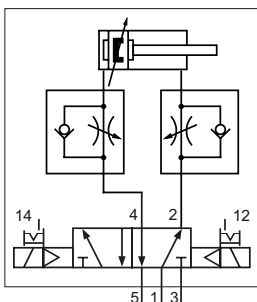
**08**  
valve with mechanical spring return, cylinder piston rod stainless steel, with mounted flow controls

### double solenoid valve



**20**  
cylinder piston rod steel hard chrome plated

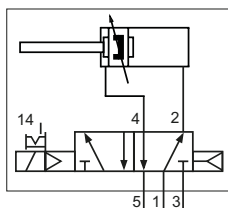
**21**  
cylinder piston rod stainless steel



**22**  
cylinder piston rod steel hard chrome plated, with mounted flow controls

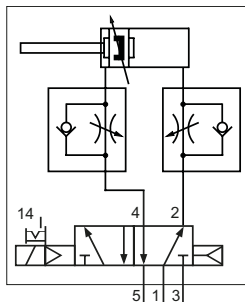
**23**  
cylinder piston rod stainless steel, with mounted flow controls

### single solenoid valve, normally extended



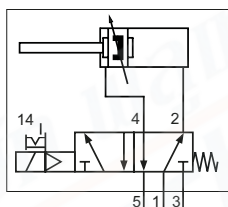
**10**  
valve with air spring return, cylinder piston rod steel hard chrome plated

**12**  
valve with air spring return, cylinder piston rod stainless steel



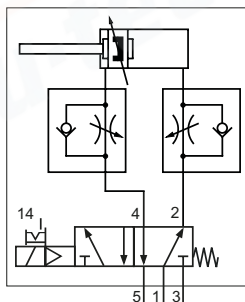
**15**  
valve with air spring return, cylinder piston rod steel hard chrome plated, with mounted flow controls

**17**  
valve with air spring return, cylinder piston rod stainless steel, with mounted flow controls



**11**  
valve with mechanical spring return, cylinder piston rod steel hard chrome plated

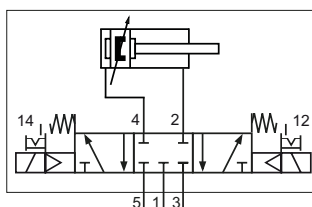
**13**  
valve with mechanical spring return, cylinder piston rod stainless steel



**16**  
valve with mechanical spring return, cylinder piston rod steel hard chrome plated, with mounted flow controls

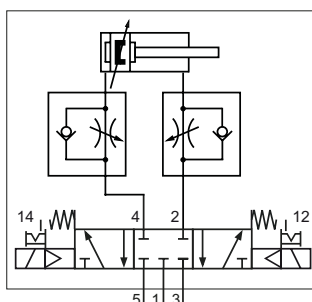
**18**  
valve with mechanical spring return, cylinder piston rod stainless steel, with mounted flow controls

### 5/3-way, center position closed



**25**  
cylinder piston rod steel hard chrome plated

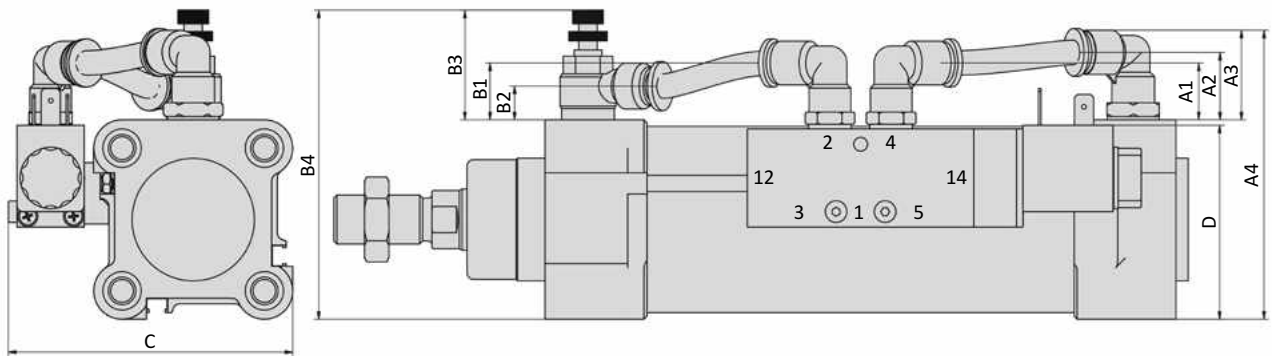
**26**  
cylinder piston rod stainless steel



**27**  
cylinder piston rod steel hard chrome plated, with mounted flow controls

**28**  
cylinder piston rod stainless steel, with mounted flow controls

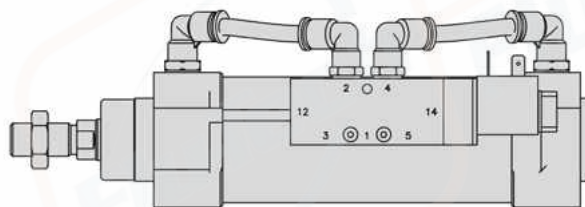
**Dimensions**



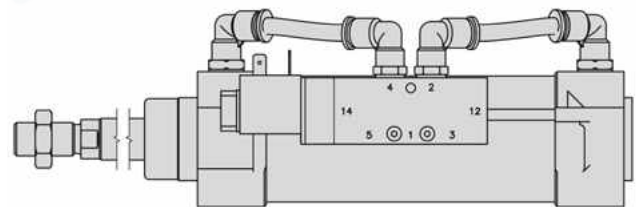
Piston Ø	A1	A2	A3	A4	B1	B2	B3 <sub>max</sub>	B4 <sub>max</sub>	C	D
32	20	21	28.5	76.5	20	9.5	34.5	81.5	76.5	47.7
40	18.8	22	29.5	83.5	18.8	11	39.5	93.5	83.3	52.5
50	18.6	22	29.5	94.5	18.6	11	39.5	102.5	92.9	63.3
63	24	18.9	31.5	106.5	24	11.4	44	118	106.5	78.9
80	22.8	18.9	30	124	26.4	13	44	137.5	132.9	86.5
100	35.4	25.8	45	156	35.4	14.5	49.5	159.5	151.8	112.5
125	26.3	25.3	36	175	16.3	14	49.5	187.5	178.4	131.4*

\*versions with flow controls D = 121.4

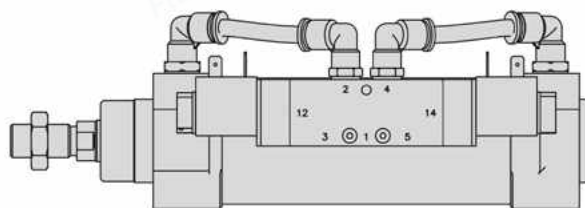
**single solenoid valve, normally retracted**



**single solenoid valve, normally extended**



**double solenoid valve, 5/3-way-valve**



# Series XL

## ISO 15552, double acting

### Technical details

<b>Operating pressure</b>	1 ... 10 bar
<b>Temperature range</b>	-20°C ... +80°C ( XL, XLD, XLL ) ( XLH: -10°C ... +150°C, XLC/ XLCD: -40°C ...+80°C )
<b>Max. stroke</b>	2800 mm
<b>Medium</b>	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.
<b>Materials</b>	Cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: steel hard chrome plated (optional 1.4301) Seals: PU, NBR (optional FKM)
	Cylinders in accordance with 2014/34/EU (ATEX) available. (Chapter 13)



Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. Standard stroke lengths in table below, additional lengths on request.

### Versions

	050, 054, 000, 004 double acting, adjustable cushioning, with magnetic piston		450, 454, 400, 404 double acting, double end piston rod, adjustable cushioning, with magnetic piston
	152, 102 double acting, adjustable cushioning		552, 502 double acting, double end piston rod, adjustable cushioning

### Order code

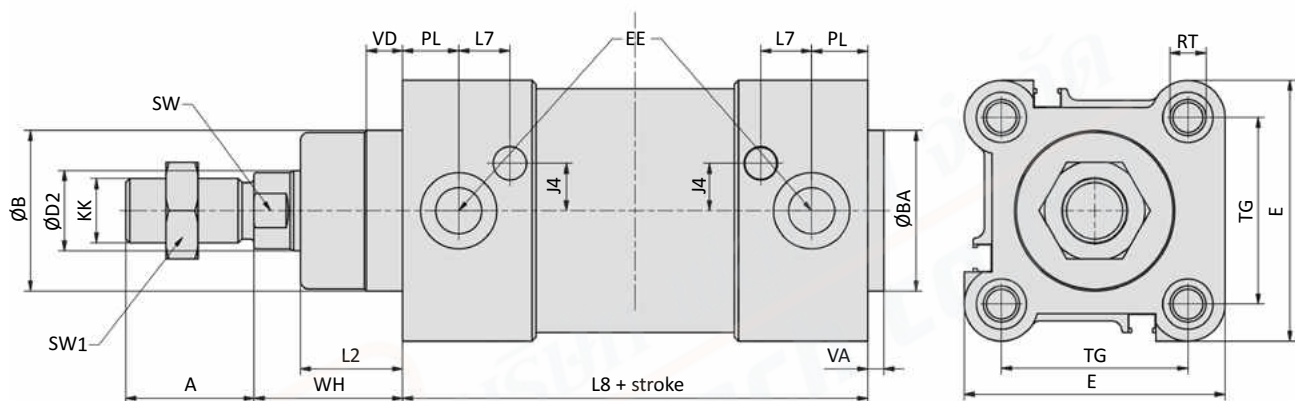
Series		Options	
XL	standard	ATEX	cylinders in accordance with 2014/34/EU (ATEX)
XLC	low temperature version	E8	piston rod seal E8, two-part, with plastic scraper
XLCD	low temperature version, with metal scraper		
XLD	with metal scraper		
XLH	high temperature version		
XLL	low friction version		
Piston Ø		Versions	
032	32 mm	050	standard version
040	40 mm	450	piston rod stainless steel
050	50 mm	000	piston rod stainless steel
063	63 mm	400	piston rod stainless steel
080	80 mm	054	piston rod seal FKM
100	100 mm	454	piston rod seal FKM
125	125 mm	004	piston rod stainless steel , piston rod seal FKM
		404	piston rod stainless steel , piston rod seal FKM
		152	high temperature version (without magnetic piston)
		552	high temperature version (without magnetic piston)
		102	high temperature version, piston rod stainless steel (without magnetic piston)
		502	high temperature version, piston rod stainless steel (without magnetic piston)
		Stroke (mm)	
		XXXX	max. 2800 mm*
		Standard	25, 40, 50, 80, 125, 160, 200, 250, 320, 400, 500 mm

Not all combinations are possible and available.

\* For longer stroke lengths please check the max buckling load.

**Technical data**

<b>Model-no.:</b>	XL-032-...	XL-040-...	XL-050-...	XL-063-...	XL-080-...	XL-100-...	XL-125-...
<b>Piston Ø (mm)</b>	32	40	50	63	80	100	125
<b>Force at 6 bar (N)</b>	<b>Extension</b>	434	678	1060	1682	2713	4239
	<b>Retraction</b>	373	570	890	1513	2448	3974
<b>Connection</b>	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
<b>Piston rod thread</b>	M10 x 1.25	M12 x 1.25	M16 x 1.5	M16 x 1.5	M20 x 1.5	M20 x 1.5	M27 x 2
<b>Cushioning length (mm)</b>	27	29	32	32	32	32	42

**Dimensions series XL**


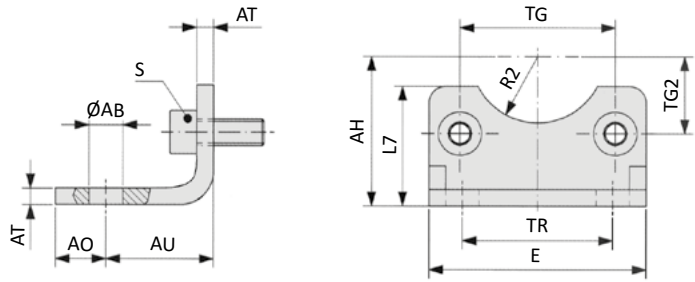
Piston Ø	A	Ø B	Ø BA	Ø D2	E	EE	J4	KK	L2
32	22	30	30	12	47	G1/8	6	M10 x 1.25	18
40	24	35	35	16	54	G1/4	9	M12 x 1.25	22
50	32	40	40	20	63	G1/4	8	M16 x 1.5	25.5
63	32	45	45	20	74	G3/8	9.5	M16 x 1.5	25
80	40	45	45	25	93.5	G3/8	14	M20 x 1.5	35
100	40	55	55	25	110	G1/2	15	M20 x 1.5	38
125	54	60	60	32	137.5	G1/2	15	M27 x 2	46

Piston Ø	L7	L8	PL	RT	SW	SW1	TG	VA	VD	WH
32	11.5	94	12.5	M6	10	17	32.5	4	9.5	26
40	13	105	14	M6	13	19	38	4	9.5	30
50	12.75	106	14	M8	17	24	46.5	4	9.5	37
63	14.5	121	16.5	M8	17	24	56.5	4	9.5	37
80	13.75	128	17	M10	22	30	72	4	10	46
100	15.5	138	18	M10	22	30	89	4	10	51
125	20	160	18	M12	27	41	110	6	11	65

Piston Ø (mm)	32	40	50	63	80	100	125
<b>Weight 0 mm stroke (kg)</b>	0.617	0.925	1.421	1.950	3.250	4.396	6.391
<b>Weight each 100 mm stroke (kg)</b>	0.286	0.403	0.528	0.597	0.861	0.946	1.517

## Series XL Mounting accessories

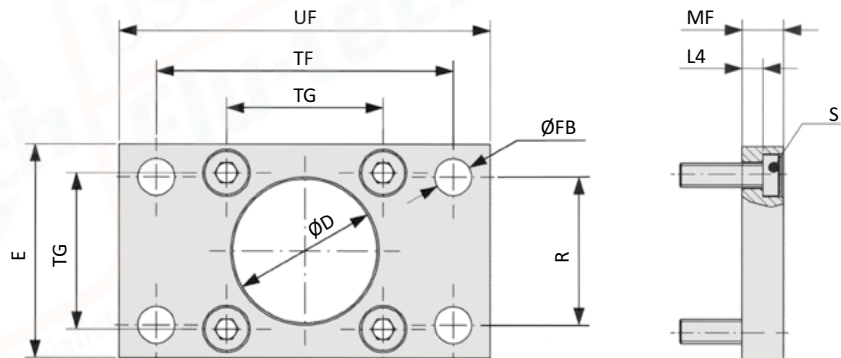
### XLB-xxx-01 Foot mount



Model-no.:	Ø AB	AH	AO	AU	AT	E	L7	R2	S	TG	TG2	TR
XLB-032-01	7	32	11	24	4	45	30	15	M6 x 16	32.5	16.25	32
XLB-040-01	10	36	8	28	4	52	30	17.5	M6 x 16	38	19	36
XLB-050-01	10	45	15	32	5	65	36	20	M8 x 20	46.5	23.25	45
XLB-063-01	10	50	13	32	5	75	35	22.5	M8 x 20	56.5	28.25	50
XLB-080-01	12	63	14	41	6	95	47	22.5	M10 x 20	72	36	63
XLB-100-01	14.5	71	16	41	6	115	53	27.5	M10 x 20	89	44.5	75
XLB-125-01	16.5	90	25	45	8	140	70	30	M12 x 25	110*	55	90
<i>tolerances and adjustments</i>	H14	JS16		± 0.2				H15		± 0.2 *± 0.3		JS14

material: steel, zinc plated; 2 x 2 screws in accordance with EN ISO 4762 are included

### XLB-xxx-02 Flange mount



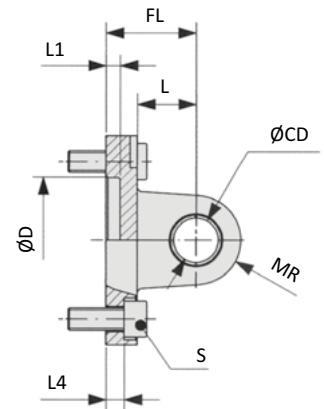
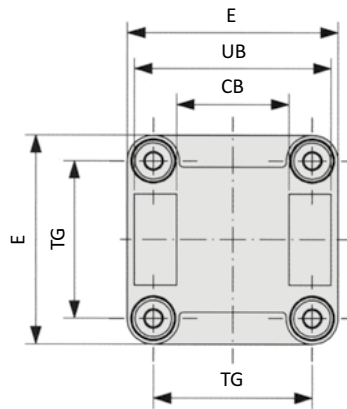
Model-no.:	Ø D	E	Ø FB	L4	MF	R	S	TF	TG	UF
XLB-032-02	30	45	7	5	10	32	M6 x 20	64	32.5	80
XLB-040-02	35	52	9	5	10	36	M6 x 20	72	38	90
XLB-050-02	40	65	9	6.5	12	45	M8 x 20	90	46.5	110
XLB-063-02	45	75	9	6.5	12	50	M8 x 20	100	56.5	120
XLB-080-02	45	95	12	9	16	63	M10 x 25	126	72	150
XLB-100-02	55	115	14	9	16	75	M10 x 25	150	89	170
XLB-125-02	60	140	16	10.5	20	90	M12 x 25	180	110*	205
<i>tolerances and adjustments</i>	H11		H13	- 0.5	JS14	JS14		JS14	± 0.2 *± 0.3	

material: steel, zinc plated; 4 screws in accordance with DIN 7984 are included

**XLB-xxx-04 Clevis mount with bushing**



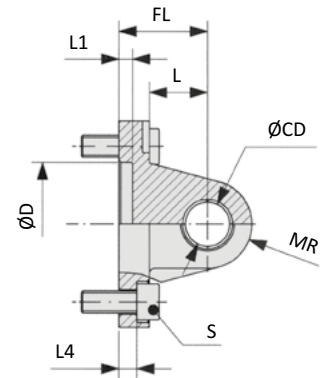
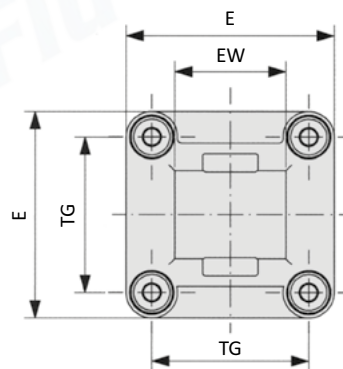
Inclusive clevis pin  
order no: XLB-xxx-48



Model-no.:	CB	Ø CD	Ø D	E	FL	L	L1	L4	MR	S	TG	UB
XLB-032-04	26	10	30	45	22	13	5	5.5	10	M6 x 20	32.5	45
XLB-040-04	28	12	35	52	25	16	5	5.5	12	M6 x 20	38	52
XLB-050-04	32	12	40	65	27	16	5	6.5	12	M8 x 20	46.5	60
XLB-063-04	40	16	45	75	32	21	5	6.5	16	M8 x 20	56.5	70
XLB-080-04	50	16	45	95	36	22	5	10	16	M10 x 25	72	90
XLB-100-04	60	20	55	115	41	27	5	10	20	M10 x 25	89	110
XLB-125-04	70	25	60	140	50	30	7	10	25	M12 x 25	110*	130
<i>tolerances and adjustments</i>	H14	H9	H11		± 0.2			± 0.5			± 0.2 *± 0.3	h13

materials: Al, bushing steel and PTFE; 4 screws in accordance with EN ISO 4762 are included

**XLB-xxx-05 Swivel mount**



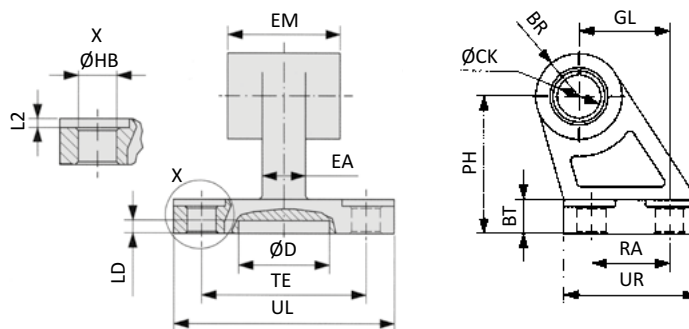
Model-no.:	Ø CD	Ø D	E	EW	FL	L	L1	L4	MR	S	TG
XLB-032-05	10	30	45	26	22	13	5	5.5	10	M6 x 20	32.5
XLB-040-05	12	35	52	28	25	16	5	5.5	12	M6 x 20	38
XLB-050-05	12	40	65	32	27	16	5	6.5	12	M8 x 20	46.5
XLB-063-05	16	45	75	40	32	21	5	6.5	16	M8 x 20	56.5
XLB-080-05	16	45	95	50	36	22	5	10	16	M10 x 25	72
XLB-100-05	20	55	115	60	41	27	5	10	20	M10 x 25	89
XLB-125-05	25	60	140	70	50	30	7	10	25	M12 x 25	110*
<i>tolerances and adjustments</i>	H9	H11			± 0.2			± 0.5			± 0.2 *± 0.3

materials: Al, bushing steel and PTFE; 4 screws in accordance with EN ISO 4762 are included

## Series XL

### Mounting accessories

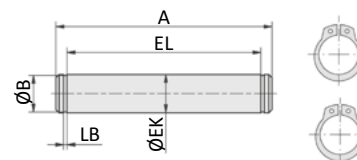
#### XLB-xxx-06 Swivel mount 90°



Model-no.:	BR	BT	ØCK	Ø D	EA	EM	GL	ØHB	L2	LD	PH	RA	TE	UL	UR
<b>XLB-032-06</b>	10	8	10	21	10	26	21	6.6	1.6	3	32	18	38	51	31
<b>XLB-040-06</b>	11	10	12	21	15	28	24	6.6	1.6	3	36	22	41	54	35
<b>XLB-050-06</b>	13	12	12	21	16	32	33	9	1.6	3	45	30	50	65	45
<b>XLB-063-06</b>	15	14	16	21	16	40	37	9	1.6	3	50	35	52	67	50
<b>XLB-080-06</b>	15	14	16	21	20	50	47	11	2.5	3	63	40	66	86	60
<b>XLB-100-06</b>	19	17	20	11	20	60	55	11	2.5	3	71	50	76	96	70
<b>XLB-125-06</b>	22.5	20	25	21	30	70	70	14	3.2	3	90	60	94	124	90
<i>tolerances and adjustments</i>			H9				JS14	H13			JS15	JS14	JS14		

materials: Al, bushing steel and PTFE

#### XLB-xxx-08 Clevis pin

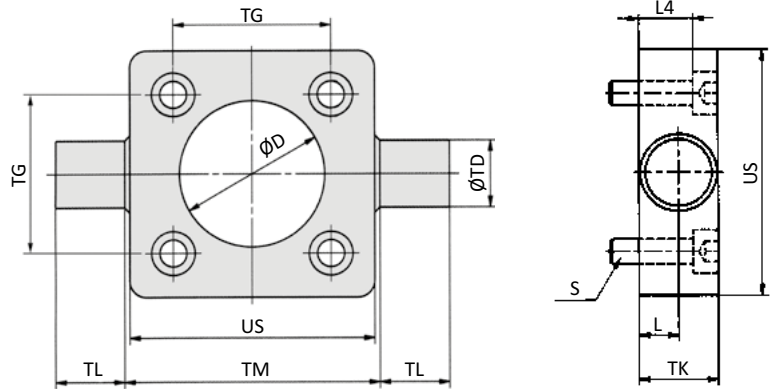


Model-no.:	A	Ø B	Ø EK	EL	LB
<b>XLB-032-08</b>	53	9.6	10	46	1.1
<b>XLB-040-08</b>	60	11.5	12	53	1.1
<b>XLB-050-08</b>	68	11.5	12	61	1.1
<b>XLB-063-08</b>	78	15.2	16	71	1.1
<b>XLB-080-08</b>	98	15.2	16	91	1.1
<b>XLB-100-08</b>	118	19	20	111	1.3
<b>XLB-125-08</b>	139	23.9	25	132*	1.3
<i>tolerances and adjustments</i>			e8	+2 *+3	

material: steel, zinc plated; 2 snap rings are included



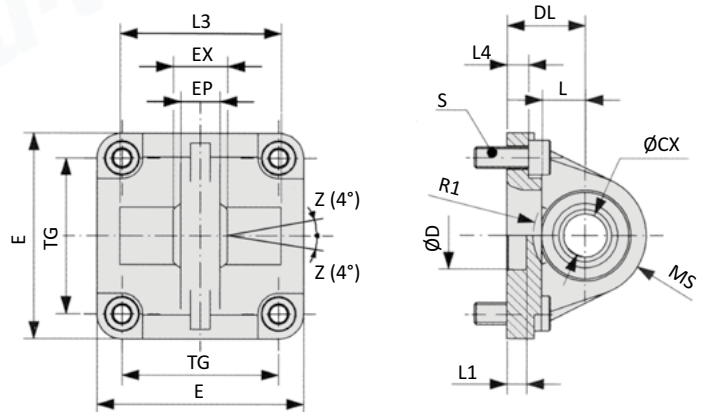
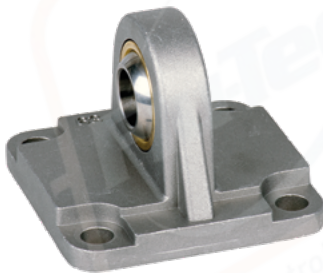
**XLB-xxx-11 Trunnion mount**



Model-no.:	Ø D	L	L4	S	Ø TD	TG	TK	TL	TM	US
<b>XLB-032-11</b>	30	6.5	8	M6 x 20	12	32.5	14	12	50	46
<b>XLB-040-11</b>	35	9	13	M6 x 25	16	38	19	16	63	59
<b>XLB-050-11</b>	40	9	11	M8 x 25	16	46.5	19	16	75	69
<b>XLB-063-11</b>	45	11.5	16	M8 x 30	20	56.5	24	20	90	84
<b>XLB-080-11</b>	45	11.5	14	M10 x 30	20	72	24	20	110	102
<b>XLB-100-11</b>	55	14	19	M10 x 35	25	89	29	25	132	125
<b>XLB-125-11</b>	60	15	18	M12 x 35	25	110*	30	25	160	150
<i>tolerances and adjustments</i>	H 11	+ 0.2			e9	± 0,2 *± 0,3		h14	h14	

material: steel, zinc plated; 4 screws in accordance with EN ISO 4762 are included

**XLB-xxx-12 Swivel mount with spherical bearing**

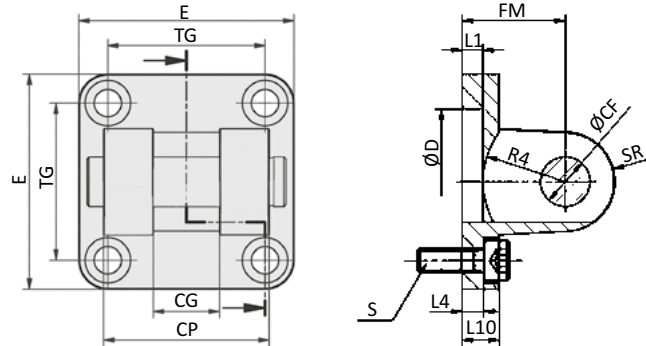
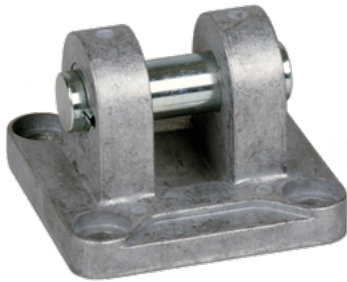


Model-no.:	Ø CX	Ø D	DL	E	EP	EX	L	L1	L3	L4	MS	R1	S	TG
<b>XLB-032-12</b>	10	30	22	45	10.5	14	12	7	-	5.5	16	-	M6 x 20	32.5
<b>XLB-040-12</b>	12	35	25	52	12	16	15	7	-	5.5	18	-	M6 x 20	38
<b>XLB-050-12</b>	16	40	27	65	15	21	15	7	51	6.5	21	19	M8 x 20	46.5
<b>XLB-063-12</b>	16	45	32	75	15	21	20	7	-	6.5	23	-	M8 x 20	56.5
<b>XLB-080-12</b>	20	45	36	95	18	25	20	9	74	10	28	24	M10 x 25	72
<b>XLB-100-12</b>	20	55	41	115	18	25	25	9	-	10	30	-	M10 x 25	89
<b>XLB-125-12</b>	30	60	50	140	25	37	30	9	-	10	40	-	M12 x 25	110*
<i>tolerances and adjustments</i>	H7	H11	± 0.2			± 0.1				± 0.5				± 0.2 *± 0.3

materials: Al, bearing steel, bronze bushing; 4 screws in accordance with EN ISO 4762 are included

## Series XL Mounting accessories

### XLB-xxx-14 Clevis mount small with pin



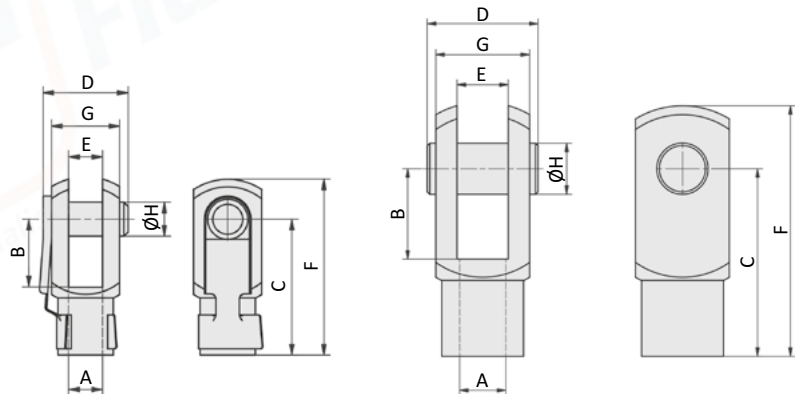
Model-no.:	Ø CF	CG	CP	Ø D	E	FM	L1	L4	L10	R4	S	SR	TG
<b>XLB-032-14</b>	10	14	34	30	45	22	5	5.5	9	17	M6 x 20	10	32.5
<b>XLB-040-14</b>	12	16	40	35	52	25	5	5.5	9	20	M6 x 20	12	38
<b>XLB-050-14</b>	16	21	45	40	65	27	5	6.5	11	22	M8 x 20	14	46.5
<b>XLB-063-14</b>	16	21	51	45	75	32	5	6.5	11	25	M8 x 20	18	56.5
<b>XLB-080-14</b>	20	25	65	45	95	36	5	10	14	30	M10 x 25	20	72
<b>XLB-100-14</b>	20	25	75	55	115	41	5	10	14	32	M10 x 25	22	89
<b>XLB-125-14</b>	30	37	97	60	140	50	7	10	20	42	M12 x 25	25	110*
<i>tolerances and adjustments</i>	F7	D10	d12	H11		± 0.2		± 0.5					± 0.2 *± 0.3

materials: Al, bushing steel and PTFE, clevis pin steel, zinc plated; 4 screws in accordance with EN ISO 4762 are included

### RD-xx, FD-xxx Rod clevis

Spring loaded pin (RD-25, FD-40...80)

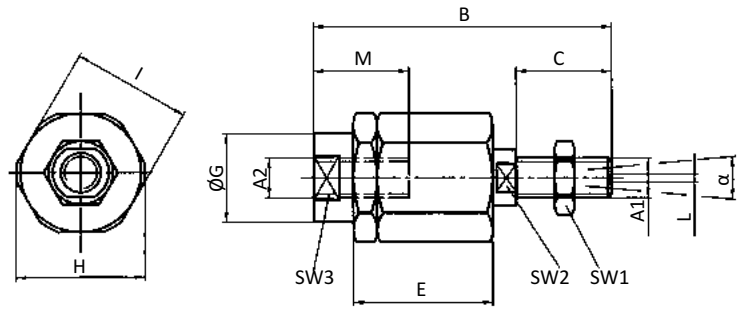
Clevis pin with snap rings (FD-125)



Model-no.:	for cylinder	A	B	C	D	E	F	G	Ø H
<b>RD-25</b>	XL-032	M10 x 1.25	20	40	26	10	52	20	10
<b>FD-40</b>	XL-040	M12 x 1.25	24	48	32	12	62	24	12
<b>FD-63</b>	XL-050, XL-063	M16 x 1.5	32	64	40	16	83	32	16
<b>FD-80</b>	XL-080, XL-100	M20 x 1.5	40	80	50	20	105	40	20
<b>FD-125</b>	XL-125	M27 x 2	54	110	65	30	148	55	30

material: steel, zinc plated

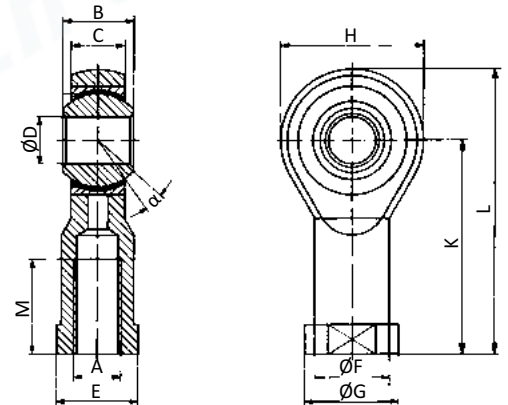
**FK-xxx Flexible coupling**



Model-no.:	for cylinder	A1, A2	B	C	D	E	ØG	H	I	L	M	SW1	SW2	SW3	α
<b>FK-32</b>	XL-032	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°
<b>FK-40</b>	XL-040	M12 x 1.25	75	24	7.5	35	22	32	30	2	22	19	12	19	8°
<b>FK-63</b>	XL-050, XL-063	M16 x 1.5	104	32	10	53	32	45	41	2	30	24	20	27	6°
<b>FK-80</b>	XL-080, XL-100	M20 x 1.5	119	40	10	53	32	45	41	2	37	30	20	30	6°
<b>FK-125</b>	XL-125	M27 x 2	147	54	10	60	57	70	65	2	48	41	24	54	8°

material: steel, zinc plated

**RO-xx, FO-xxx Rod eye**

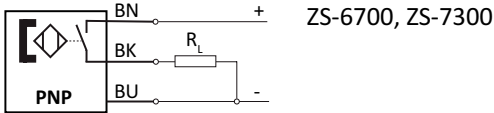
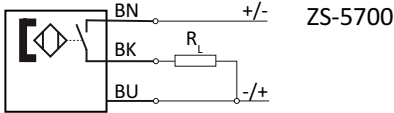
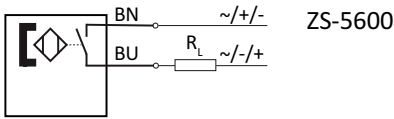


Model-no.:	for cylinder	A	B	C	ØD	E	ØF	ØG	H	K	L	M	α
<b>RO-25</b>	XL-032	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
<b>FO-40</b>	XL-040	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°
<b>FO-63</b>	XL-050, XL-063	M16 x 1.5	21	15	16	22	22	27	42	64	85	28	15°
<b>FO-80</b>	XL-080, XL-100	M20 x 1.5	25	18	20	30	27.5	34	50	77	102	33	14°
<b>FO-125</b>	XL-125	M27 x 2	37	25	30	41	40	50	70	110	145	51	17°

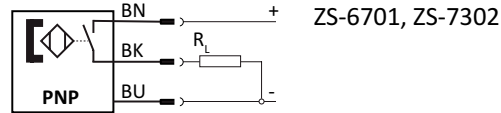
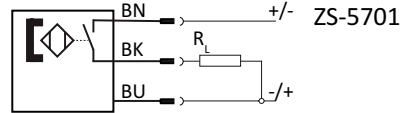
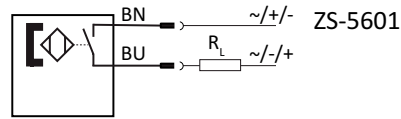
materials: steel, zinc plated, bearing steel, bronze bushing

## Series ZS Proximity sensors

### Proximity sensors with cable



### Proximity sensors with plug



### Technical data

Model-no.:	ZS-5600	ZS-5601	ZS-5700	ZS-5701
<b>Design</b>	2-pole Reed sensor	2-pole Reed sensor	3-pole Reed sensor	3-pole Reed sensor
<b>Contact function</b>	NO	NO	NO	NO
<b>Rated operational voltage</b>	5 ... 240 V AC / DC	5 ... 60 V AC / DC	5 ... 30 V DC	5 ... 30 V DC
<b>Rated operational current I<sub>e</sub></b>	3 ... 100 mA	3 ... 100 mA	≤ 500 mA	≤ 500 mA
<b>Max. voltage drop at I<sub>e</sub></b>	≤ 2.5	≤ 2.5	≤ 0.1	≤ 0.1
<b>Breaking capacity</b>	10 W	10 W	10 W	10 W
<b>Cable length</b>	3 m	0.3 m with M8 connection	5 m	0.3 m with M8 connection
<b>Temperature range</b>	-10 ... +70°C	-10 ... +70°C	-10 ... +70°C	-10 ... +70°C
<b>Protection</b>	IP 67	IP 67	IP 67	IP 67
<b>Switching status indication</b>	LED red	LED red	LED yellow	LED yellow
Model-no.:	ZS-6700	ZS-6701	ZS-7300	ZS-7302
<b>Design</b>	3-pole inductive	3-pole inductive	3-pole inductive	3-pole inductive
<b>Contact function</b>	NO	NO	NO	NO
<b>Output</b>	PNP	PNP	PNP	PNP
<b>Rated operational voltage</b>	5 ... 30 V DC	5 ... 30 V DC	10 ... 30 V DC	10 ... 30 V DC
<b>Rated operational current I<sub>e</sub></b>	≤ 200 mA	≤ 200 mA	≤ 100 mA	≤ 100 mA
<b>Max. voltage drop at I<sub>e</sub></b>	≤ 1.0	≤ 1.0	≤ 2.5	≤ 2.5
<b>Breaking capacity</b>	6 W	6 W	3 W	3 W
<b>Cable length</b>	3 m	0.3 m with M8 connection	6 m	0.3 m with M12 connection
<b>Temperature range</b>	-10 ... +70°C	-10 ... +70°C	-20 ... +60°C	-20 ... +60°C
<b>Protection</b>	IP 67	IP 67	IP 67	IP 67
<b>Switching status indication</b>	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

**Cable with bushing for proximity sensors**


<b>Model-no.:</b>	KA-30	KA-50	KA-51	KA-100	KA-101
<b>Connection</b>	M8, snap-in	M8, snap-in	M8, snap-in	M8, snap-in	M8, snap-in
<b>Version</b>	straight	straight	elbow 90°	straight	elbow 90°
<b>Cable length</b>	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**

<b>Model-no.:</b>	XLB-011
<b>Design</b>	plastic profile, 50 cm length, blue
<b>For series</b>	XL, NXD, NXE, NYD, NYE, NYSE, LX



# Series KM-09 and KM-10

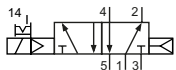
## Technical details

<b>Connection</b>	KM-09: G1/8 KM-10: G1/4
<b>Nominal size</b>	KM-09: 6 mm, KM-10: 9 mm
<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	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.
<b>Materials</b>	Body: Al (anodized), plastic, seals: NBR, inner parts: Al, stainless steel and brass
<b>Protection</b>	IP 65 according to EN 60529
	Valves in accordance with 2014/34/EU (ATEX) available. (Chapter 13)

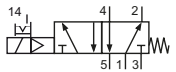


Electrically operated spool valve. The manual override is detent and is operated by screw driver.

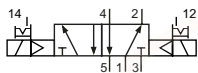
### 5/2-way-valves



KM-09-510-HN-xxx  
KM-10-510-HN-xxx  
5/2-way, single solenoid, air spring return

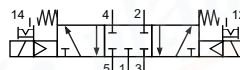


KM-09-511-HN-xxx  
KM-10-511-HN-xxx  
5/2-way, single solenoid, mechanical spring return

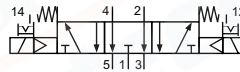


KM-09-520-HN-xxx  
KM-10-520-HN-xxx  
5/2-way, double solenoid

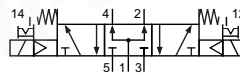
### 5/3-way-valves



KM-09-530-HN-xxx  
KM-10-530-HN-xxx  
5/3-way, center position closed



KM-09-533-HN-xxx  
KM-10-533-HN-xxx  
5/3-way, center position exhausted



KM-09-534-HN-xxx  
KM-10-534-HN-xxx  
5/3-way, center position pressurized

Please complete: xxx = electrical option

## Electrical options

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx Manual override on same side of ports	
				2 and 4	1, 3 and 5
12 V DC	4.2 W		Form B industrial norm	-441	-411
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-461	-431
24 V DC	4.2 W		Form B industrial norm	-442	-412
24 V DC	4.8 W		M 12	-042	-012
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-462	-432
24 V DC	2.5 W	max. 8 bar	M 12	-062	-032
24 V AC	7/4 VA		Form B industrial norm	-452	-422
115 V AC	7/4 VA		Form B industrial norm	-456	-426
230 V AC	7/4 VA		Form B industrial norm	-457	-427

\*1 Plug socket not included, suitable plug sockets see page 17.

**Technical data**

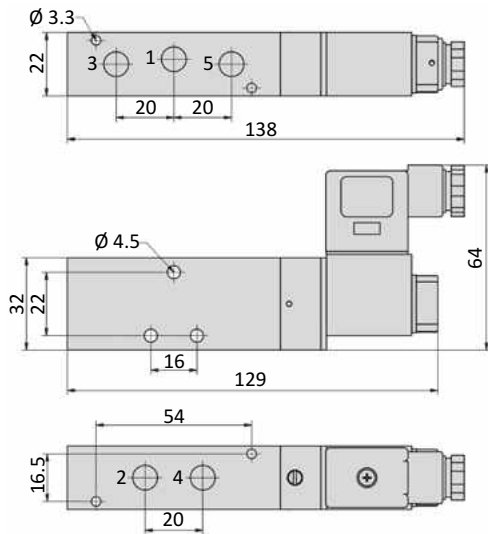
<b>Model-no.:</b>	KM-09-510	KM-09-511	KM-09-520	KM-09-530	KM-09-533	KM-09-534
<b>Operating pressure* (bar)</b>	3 ... 10	3 ... 10	3 ... 10	3 ... 10	3 ... 10	3 ... 10
<b>Pilot pressure* (bar)</b>	3 ... 10	3 ... 10	3 ... 10	3 ... 10	3 ... 10	3 ... 10
<b>Flow rate (NI/min)</b>	950	810	950	680	680	680
<b>Response time (ms) at 6 bar</b>	on: 15 off: 16	on: 13 off: 28	on: 15 off: 15	on: 14 off: 16	on: 14 off: 16	on: 14 off: 16
<b>Weight (kg)</b>	0.230	0.231	0.330	0.330	0.330	0.330
<b>Model-no.:</b>	KM-10-510	KM-10-511	KM-10-520	KM-10-530	KM-10-533	KM-10-534
<b>Operating pressure* (bar)</b>	2.5 ... 10	2.5 ... 10	2.5 ... 10	3 ... 10	3 ... 10	3 ... 10
<b>Pilot pressure* (bar)</b>	2.5 ... 10	2.5 ... 10	2.5 ... 10	3 ... 10	3 ... 10	3 ... 10
<b>Flow rate (NI/min)</b>	2100	1800	2100	1500	1500	1500
<b>Response time (ms) at 6 bar</b>	on: 18 off: 19	on: 16 off: 27	on: 18 off: 18	on: 16 off: 22	on: 16 off: 22	on: 16 off: 22
<b>Weight (kg)</b>	0.470	0.470	0.630	0.630	0.630	0.630

\* max. 8 bar at 2.2 W and 2.5 W

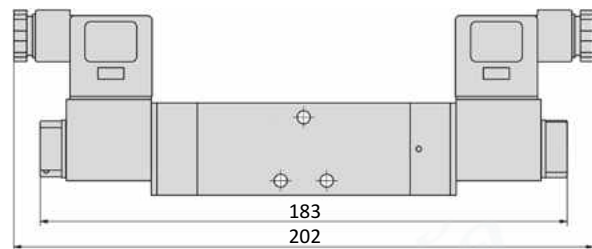
## Series KM-09 and KM-10

### Dimensions

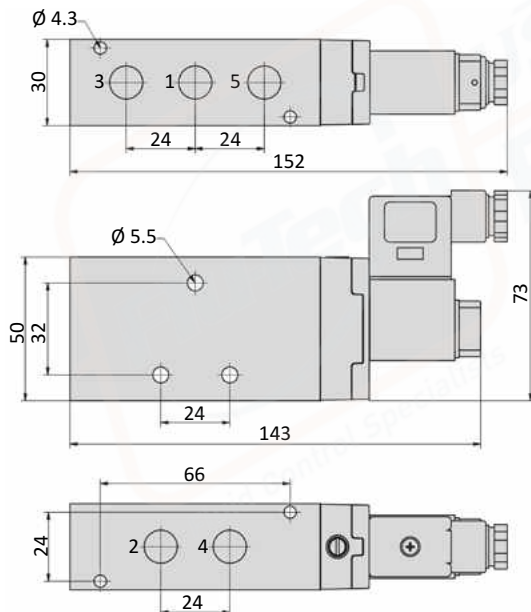
#### KM-09-51x-HN



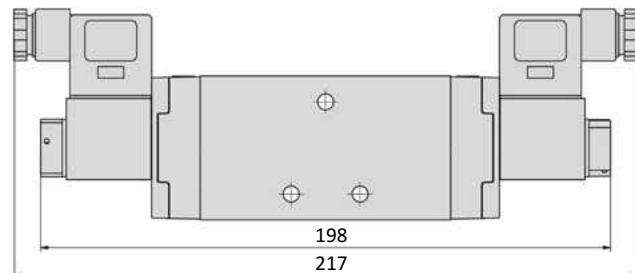
#### KM-09-520-HN, KM-09-53x-HN



#### KM-10-51x-HN



#### KM-10-520-HN, KM-10-53x-HN



- 1 = pressure inlet
- 2,4 = outlets
- 3,5 = exhausts

Plug socket (not included in scope of delivery) can be repositioned by 180°.  
Solenoid coil can be repositioned by 4 x 90°.



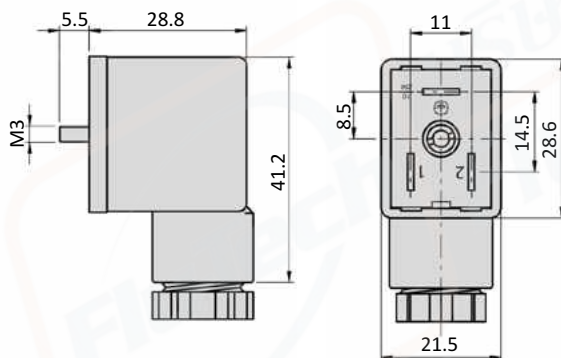
**Form B industrial norm**

<b>Overall width</b>	22 mm
<b>Contact distance</b>	11 mm
<b>Contacts</b>	2P + E
<b>Protection</b>	IP 65 according to EN 60529 requires a flat gasket
<b>For use with series</b>	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03



<b>Model-no.:</b>	28-ST-01	28-ST-04-112	28-ST-04-127	28-ST-06-112	28-ST-06-127	28-ST-06-K3-112*	28-ST-06-K3-127*
<b>Voltage (AC/DC)</b>	0 - 250 V	10 - 50 V	70 - 250 V	24 V	230 V	24 V	230 V
<b>Status indicator</b>	no	yes	yes	yes	yes	yes	yes
<b>Protective circuit</b>	no	no	no	yes (varistor)	yes (varistor)	yes (varistor)	yes (varistor)
<b>Connecting cable</b>	without	without	without	without	without	3 m	3 m
<b>Wire cross section</b>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>
<b>Ø Connecting cable</b>	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm		

\* These plug sockets are fitted with integrated flat gaskets.

**Dimensions**
**Form B industrial norm**


## Solenoid coils

### Form B industrial norm

Overall width	22 mm
Contact distance	11 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03



\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-411	23-SP-011-412	23-SP-011-422	23-SP-011-426	23-SP-011-427	23-SP-012-431	23-SP-012-432
Voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC	12 V DC	24 V DC
Power consumption DC	4.2 W	4.2 W	-	-	-	2.2 W	2.2 W
Power consumption AC	-	-	4 VA	4 VA	4 VA	-	-

Model-no.:	23-SP-011-1-711	23-SP-011-1-712	23-SP-011-1-725	23-SP-011-1-727	23-SP-012-1-732
Voltage	12 V DC/ 24V AC	24 V DC/ 48 V AC	110/115 V AC	230 V AC	24 V DC
Power consumption DC	4.6 W	4.8 W	-	-	2.5 W
Power consumption AC	7.1 VA	7.7 VA	6.0 VA/ 7.6 VA	7.9 VA	-
Specifics	Enhanced humidity resistance.				

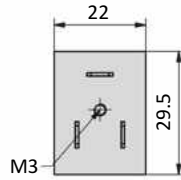
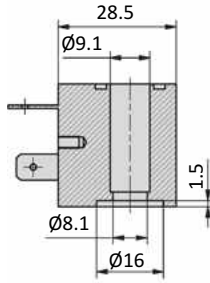
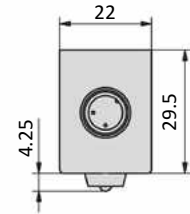
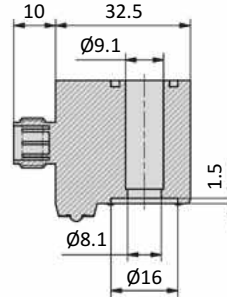
### M12 connection

Overall width	22 mm
Contact distance	-
Contacts	2P
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	



\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-5-012	23-SP-012-5-032
Voltage	24 V DC	24 V DC
Power consumption DC	4.8 W	2.5 W
Power consumption AC	-	-
Specifics	Mounting on manifold not allowed. With integrated LED and protective circuit.	Min. mounting distance for manifold mounting is 20 mm. With integrated LED and protective circuit.

**Dimensions****Form B industrial norm****M12 connection**

# Valves KM-09 and KM-10

- HN * - * * *				
Manual override	Coil and plug options	Coil type	Manual override position on side of	Voltage
HN detent	0 ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0 without indication ports 1/3/(5)	0 without indication
HNR detent	1 with coil and plug	according to valve	1 DC ports 1/3/(5)	1 12 V
HNT non-detent	2		2 AC ports 1/3/(5)	2 24 V
	3		3 AC ports 1/3/(5)	3 42 V
	4 with coil, without plug	according to valve	4 DC, low power consumption ports 1/3/(5)	4 48 V
	5 without coil	no	5 DC ports 2/(4)	5 110 V
	6 without pilot valve	no	6 AC ports 2/(4)	6 115 V
	7 with coil, with enhanced humidity resistance, without plug	according to valve	7 DC, low power consumption ports 2/(4)	7 230 V
	8 with coil, with enhanced humidity resistance, with plug	according to valve	8 without indication ports 2/(4)	8 240 V
	9 ATEX 2GD, intrinsically safe, with plug width 30 mm	23-SP-038		9
	A ATEX 3GD, without plug, width 30 mm	23-SP-040		A 4 V
	B ATEX 3GD, with plug, width 30 mm	23-SP-040		B 6 V
	C ATEX 3GD, without plug, width 22 mm	23-SP-041		C 8 V
	D			D 61 V
	E ATEX 2GD, encapsulated with casting compound width 22 mm	23-SP-036		E 36 V
	F with coil, with enhanced humidity resistance, without plug, low temperature version	23-SP-060-1		F 9 V
	G			
	H with coil shape B according to DIN EN 175301-803, with plug	23-SP-011-G		
	I with coil shape B according to DIN EN 175301-803, without plug	23-SP-011-G		
	J with coil shape A according to DIN EN 175301-803, without plug (if not standard)	23-SP-016		
	K with coil shape A according to DIN EN 175301-803, with plug (if not standard)	23-SP-016		
	L with coil, with plug with LED and protective circuit	according to valve		
	M with coil, with plug with LED, without protective circuit	according to valve		
	N with coil with M12 connection	according to valve		
	O with coil with M12 connection with LED and protective circuit	according to valve		
	P without connector bridge, without plug			
	Q with coil with with cable	according to valve		
	R with cable up to 1 m length	according to valve		
	S with connector bridge, without plug			
	T			
	U ATEX 2GD, without coil (for coil 23-SP-036)	no		
	V ATEX 2GD, Flame proof enclosures and encapsulated with casting compound	23-SP-045		
	W ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no		
	X ATEX 3GD, without coil (for coil 23-SP-040 in 230V AC and 115V AC)	no		
	Y ATEX 2GD, without coil (for coil 23-SP-038)	no		
	Z ATEX 2GD / 3GD, without coil (for coil 23-SP-040 in 24V DC and 23-SP-037)	no		

Not all options are suitable for all valve series