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Series HM (Ø 32 - Ø 63)

www.airtec.de



Series CM (Ø 32 - Ø 63)

www.airtec.de



Series ND and NDM

www.airtec.de



Series HA and HB

www.airtec.de



Series XL, Version 070

www.airtec.de



Series SLX

ISO 15552, double acting

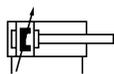
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (SLX, SLXD, SLXL) (SLXH: -10°C ... +150°C, SLXC/ SLXCD: -40°C ...+80°C)
Max. stroke	2.700 mm
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.
Materials	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. (chap. 12)

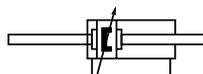


Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. Standard stroke lengths in table below, additional lengths on request.

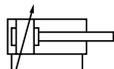
Versions



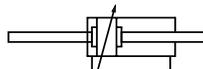
050, 054, 000, 004
double acting, adjustable cushioning, with magnetic piston



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

SLX-***-****-***-******

Series, Version

SLX	standard
SLXC	low temperature version
SLXCD	low temperature version, with metal scraper
SLXD	with metal scraper
SLXH	high temperature version
SLXL	low friction cylinder

Piston Ø

032	32 mm
040	40 mm
050	50 mm
063	63 mm
080	80 mm
100	100 mm
125	125 mm

Options

ATEX	cylinders in accordance with 2014/34/EU (ATEX)
E8	piston rod seal E8, two-part, with plastic scraper

Versions

050	standard version
450	standard version
000	piston rod stainless steel
400	piston rod stainless steel
054	piston rod seal FKM
454	piston rod seal FKM
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)

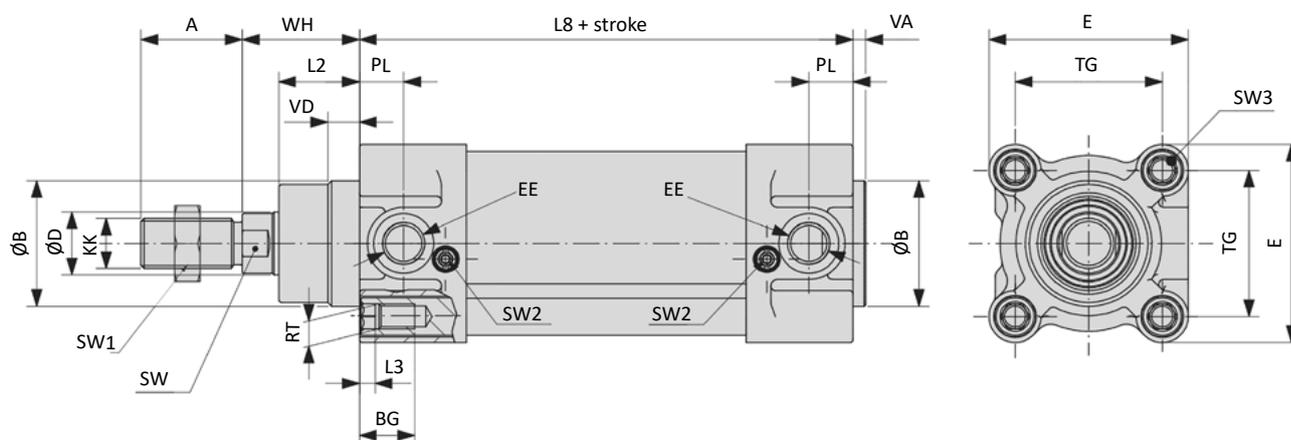
XXXX	max. 2.700 mm*
standard	25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 mm

Not all combinations are possible and available.

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

Technical data

Model-no.:	SLX-032-...	SLX-040-...	SLX-050-...	SLX-063-...	SLX-080-...	SLX-100-...	SLX-125-...
Piston \varnothing (mm)	32	40	50	63	80	100	125
Force at 6 bar (N)	Extension	434	678	1060	1682	2713	4239
	Retraction	373	570	890	1513	2448	3974
Connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread	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
Cushioning length (mm)	27	29	32	32	32	32	42

Dimensions series SLX


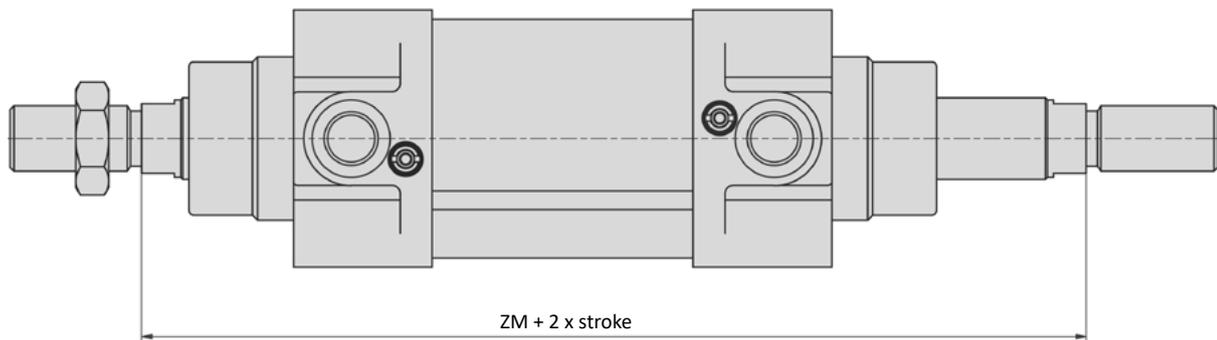
Piston \varnothing	A	$\varnothing B$	BG	$\varnothing D$	E	EE	KK	L2	L3	L8
32	22	30	16.5	12	47	G1/8	M10 x 1.25	18	5	94
40	24	35	16.5	16	54	G1/4	M12 x 1.25	22	5	105
50	32	40	17.5	20	63	G1/4	M16 x 1.5	25.5	5	106
63	32	45	17.5	20	74	G3/8	M16 x 1.5	25	5	121
80	40	45	17.5	25	93.5	G3/8	M20 x 1.5	35	-	128
100	40	55	17.5	25	110	G1/2	M20 x 1.5	38	-	138
125	54	60	20.5	32	137.5	G1/2	M27 x 2	46	-	160

Piston \varnothing	PL	RT	SW	SW1	SW2	SW3	TG	VA	VD	WH
32	12.5	M6	10	17	1.5	6	32.5	4	8	26
40	14	M6	13	19	1.5	6	38	4	10	30
50	14	M8	17	24	1.5	8	46.5	4	10	37
63	18.25	M8	17	24	1.5	8	56.5	4	10	37
80	18.5	M10	22	30	1.5	6	72	4	10	46
100	20	M10	22	30	1.5	6	89	4	12	51
125	29	M12	27	41	1.5	8	110	6	12	65

Series SLX

ISO 1552, double acting

Dimensions series SLX (addition at double end piston rod)



Piston \varnothing (mm)	32	40	50	63	80	100	125
ZM	146	165	180	195	220	240	290

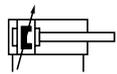
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (XL, XLL) (XLH: -10°C ... +150°C, XLC: -40°C ...+80°C)
Max. stroke	2.800 mm
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.
Materials	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. (chap. 12)

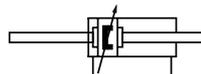


Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. Standard stroke lengths in table below, additional lengths on request.

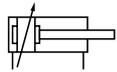
Versions



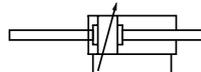
050, 054, 000, 004
double acting, adjustable cushioning, with magnetic piston



450, 454, 400, 404
double acting, double end piston rod, adjustable cushioning, with magnetic piston

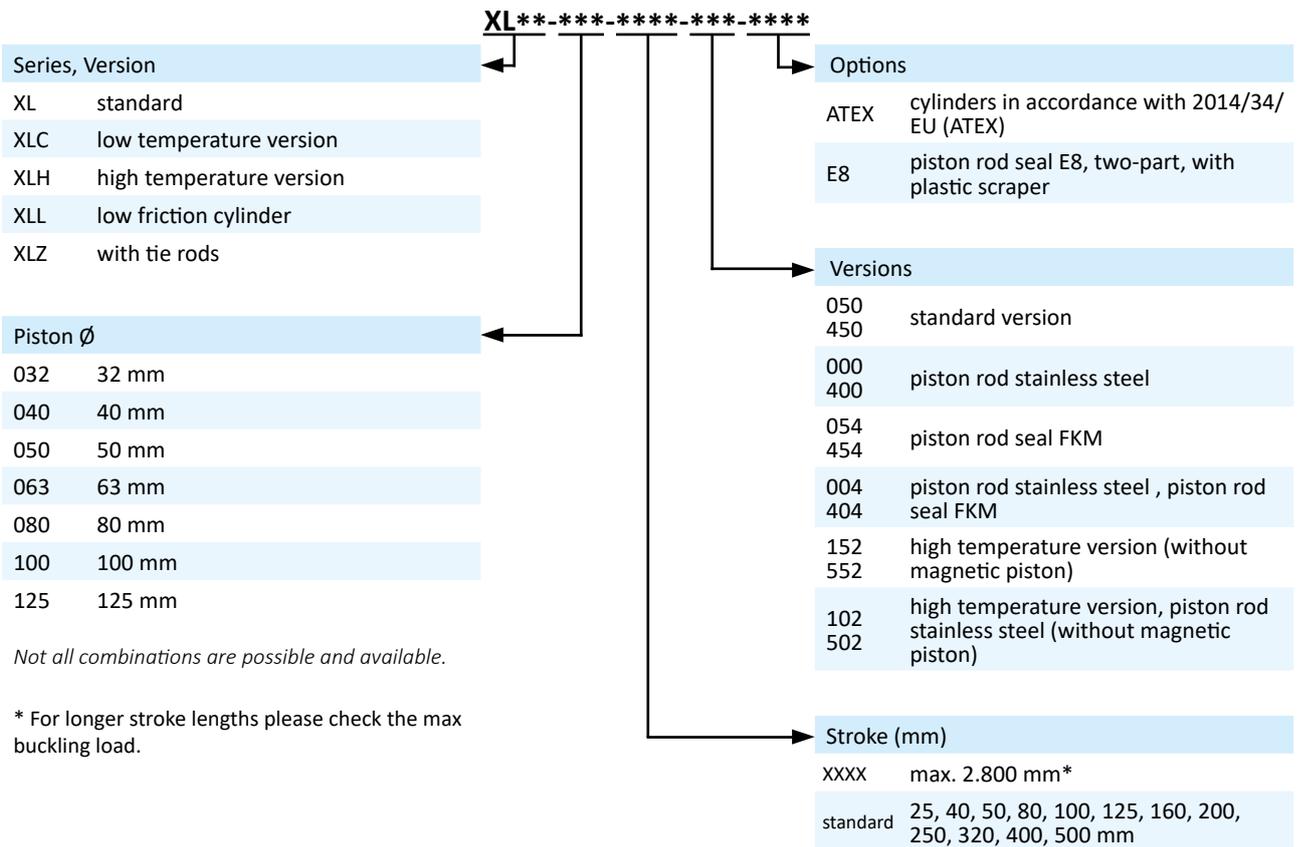


152, 102
double acting, adjustable cushioning



552, 502
double acting, double end piston rod, adjustable cushioning

Order code



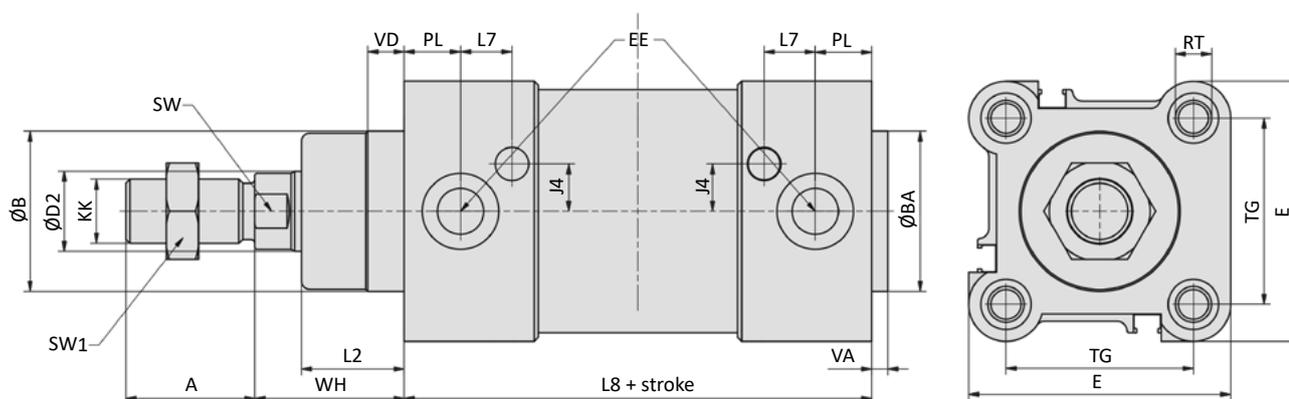
Series XL

ISO 15552, double acting

Technical data

Model-no.:	XL-032-...	XL-040-...	XL-050-...	XL-063-...	XL-080-...	XL-100-...	XL-125-...
Piston \varnothing (mm)	32	40	50	63	80	100	125
Force at 6 bar (N)	Extension	434	678	1060	1682	2713	6623
	Retraction	373	570	890	1513	2448	6189
Connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread	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
Cushioning length (mm)	27	29	32	32	32	32	42

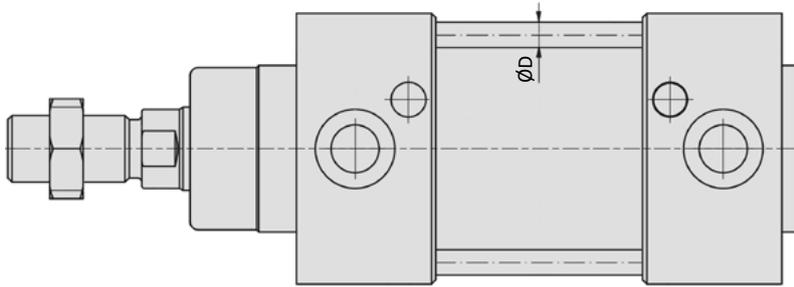
Dimensions series XL



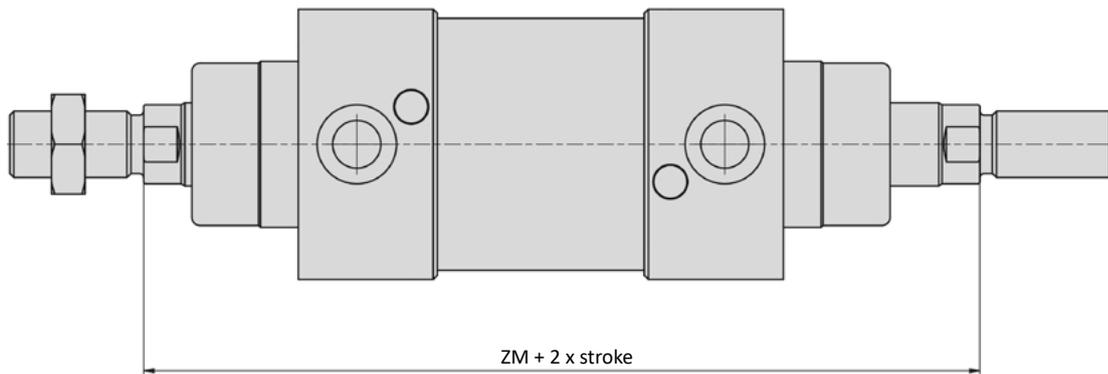
Piston \varnothing	A	$\varnothing B$	$\varnothing BA$	$\varnothing D2$	E	EE	J4	KK	L2
32	22	30	30	12	47	G1/8	6	M10 x 1.25	18
40	24	35	35	16	54	G1/4	9	M12 x 1.25	22
50	32	40	40	20	63	G1/4	8	M16 x 1.5	25.5
63	32	45	45	20	74	G3/8	9.5	M16 x 1.5	25
80	40	45	45	25	93.5	G3/8	14	M20 x 1.5	35
100	40	55	55	25	110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

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

Dimensions series XLZ (Ergänzungen bei Zugstangenausführung)


Piston \varnothing (mm)	32	40	50	63	80	100	125
$\varnothing D$	6	6	8	8	10	10	12

Dimensions series XL (addition at double end piston rod)


Piston \varnothing (mm)	32	40	50	63	80	100	125
ZM	146	165	180	195	220	240	290

Piston \varnothing (mm)	32	40	50	63	80	100	125	
Weight (kg)	0 mm stroke	0.702	1.065	1.713	2.208	3.780	5.057	9.387
	each 100 mm stroke	0.374	0.559	0.768	0.837	1.243	1.328	2.143

Series 88-XSI

ISO 15552, double acting

Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C
Max. stroke	2.800 mm
Working speed	50 ... 800 mm/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.
Materials	cylinder tube: Al (anodized) End caps: Al-Druckguß, (painted) Piston rod: steel hard chrome plated (optional 1.4301) Seals: PU, NBR
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)

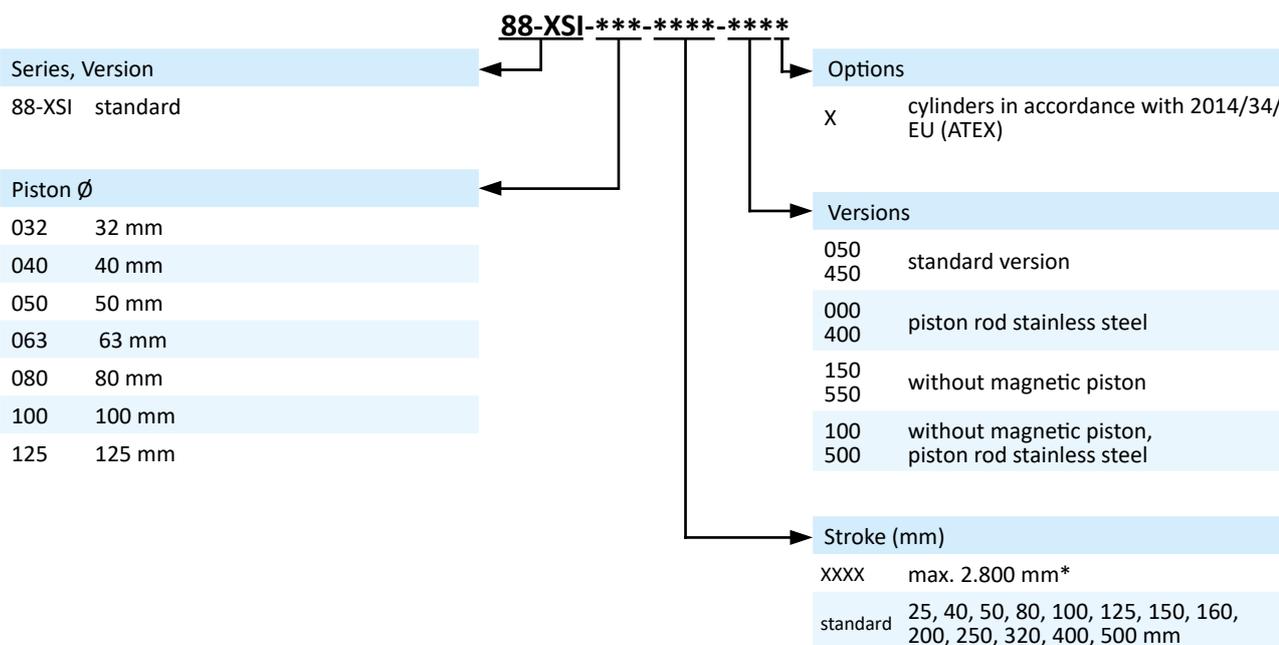


Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. Standard stroke lengths in table below, additional lengths on request.

Versions

	050, 000 double acting, adjustable cushioning, with magnetic piston		450, 400 double acting, double end piston rod, adjustable cushioning, with magnetic piston
	150, 100 double acting, adjustable cushioning		550, 500 double acting, double end piston rod, adjustable cushioning

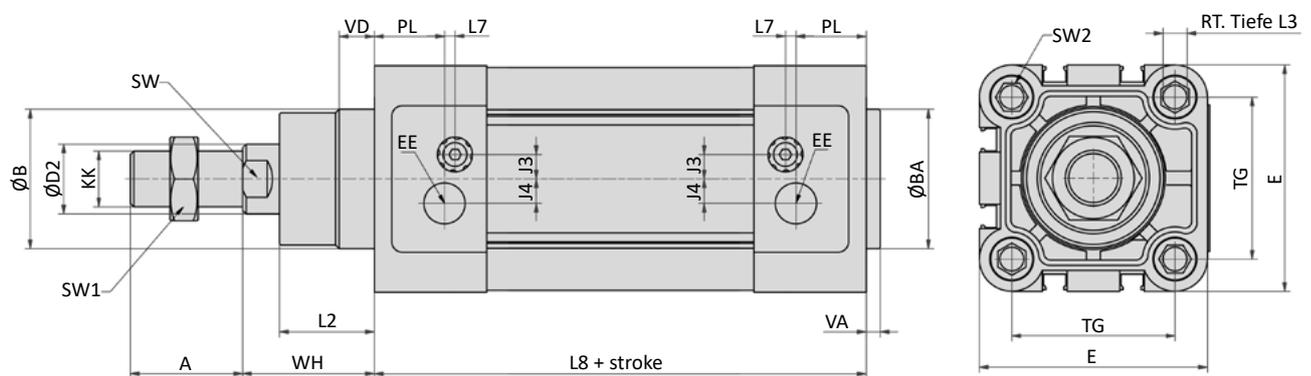
Order code



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

Technical data

Model-no.:	88-XSI-032-...	88-XSI-040-...	88-XSI-050-...	88-XSI-063-...	88-XSI-080-...	88-XSI-100-...	88-XSI-125-...
Piston \varnothing (mm)	32	40	50	63	80	100	125
Force at 6 bar (N)	Extension	434	678	1060	1682	2713	4239
	Retraction	373	570	890	1513	2448	3974
Connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread	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
Cushioning length (mm)	20	20	20	20	26	26	26

Dimensions series 88-XSI


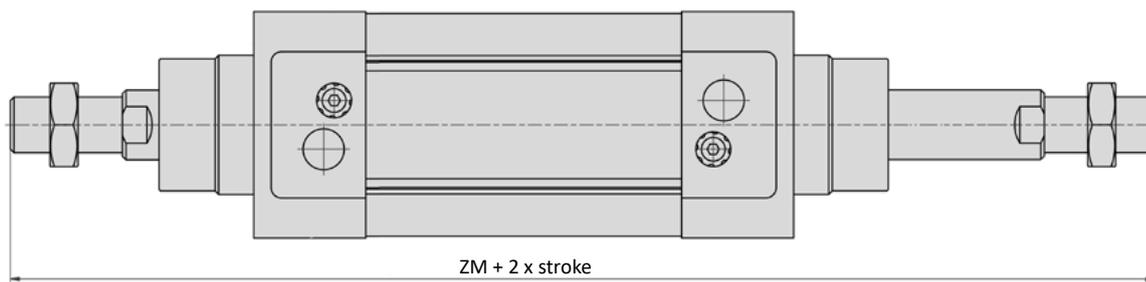
Piston \varnothing	A	$\varnothing B$	$\varnothing BA$	$\varnothing D2$	E	EE	J3	J4	KK	L2	L3
32	22	30	30	12	45	G1/8	6.5	5	M10 x 1.25	16	12
40	24	35	35	16	52	G1/4	7	7	M12 x 1.25	20	12
50	32	40	40	20	65	G1/4	9	7	M16 x 1.5	27	12
63	32	45	45	20	76	G3/8	9	8	M16 x 1.5	26	12
80	40	45	45	25	94	G3/8	12	10	M20 x 1.5	35	15
100	40	55	55	25	112	G1/2	14	10	M20 x 1.5	40	15
125	54	60	60	32	134	G1/2	14	10	M27 x 2	46	20

Piston \varnothing	L7	L8	PL	RT	SW	SW1	SW2	TG	VA	VD	WH
32	3	94	15	M6	10	17	6	32.5	4	10	27
40	3	105	17.5	M6	13	19	6	38	4	10	30
50	3	106	20	M8	17	24	8	46.5	4	10	37.5
63	5	121	22	M8	17	24	8	56.5	4	10	36
80	5	128	23	M10	22	30	10	72	5	10	48
100	5	138	26	M10	22	30	10	89	6	10	52
125	5	160	29	M12	27	41	12	110	7	10	63

Series 88-XSI

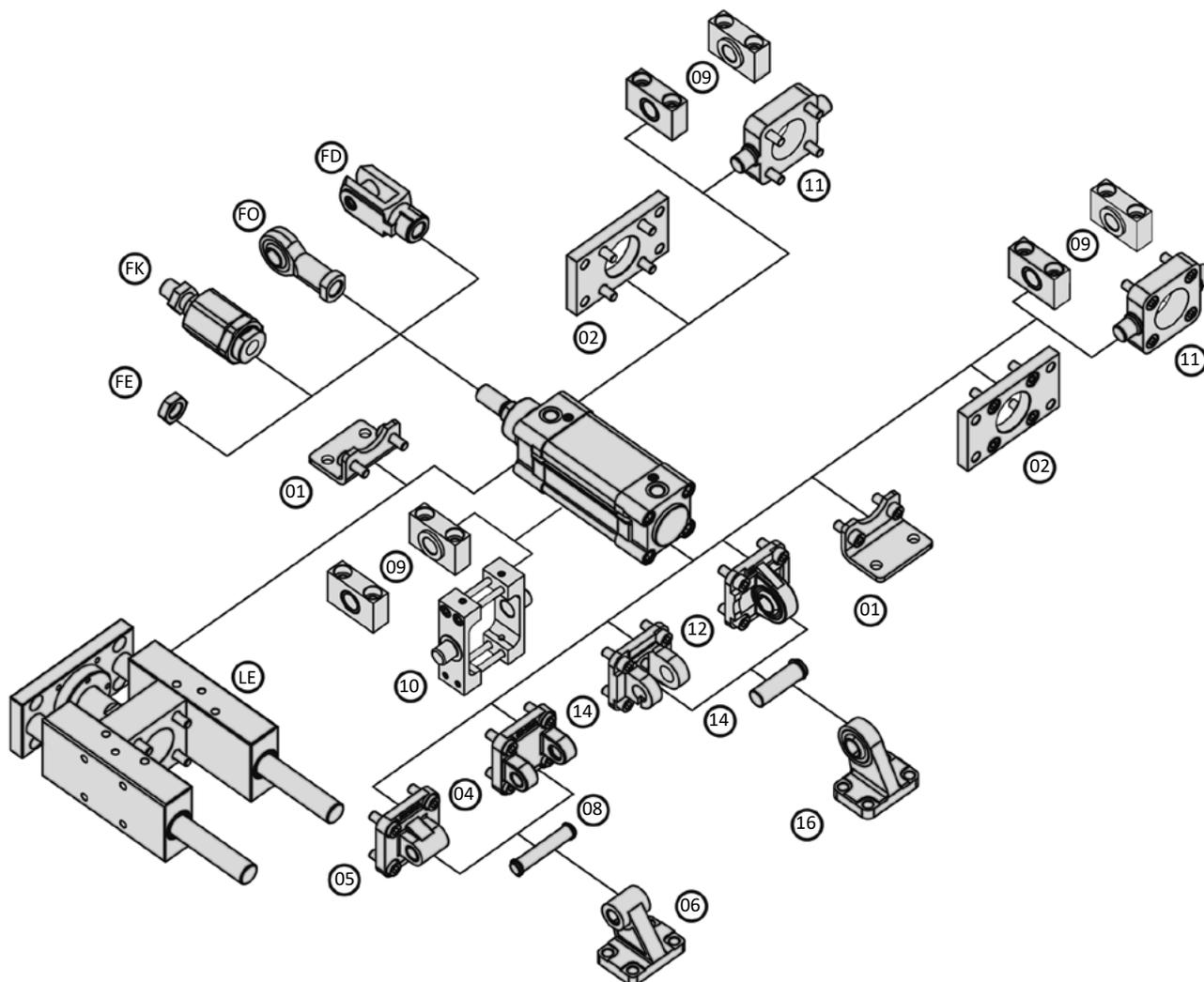
ISO 15552, double acting

Dimensions series 88-XSI (addition at double end piston rod)



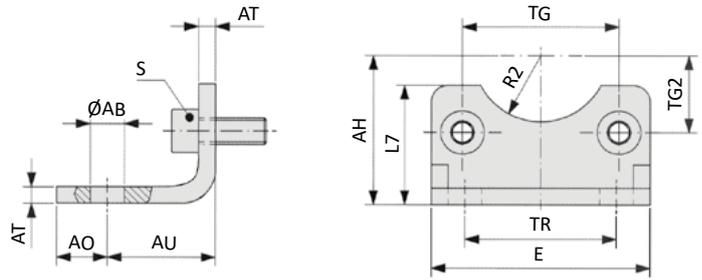
Piston Ø (mm)	32	40	50	63	80	100	125
ZM	146	165	180	195	220	240	290

Mounting the add-on parts XLB-xxx-yy



Series SLX, XL and 88-XSI Mounting accessories

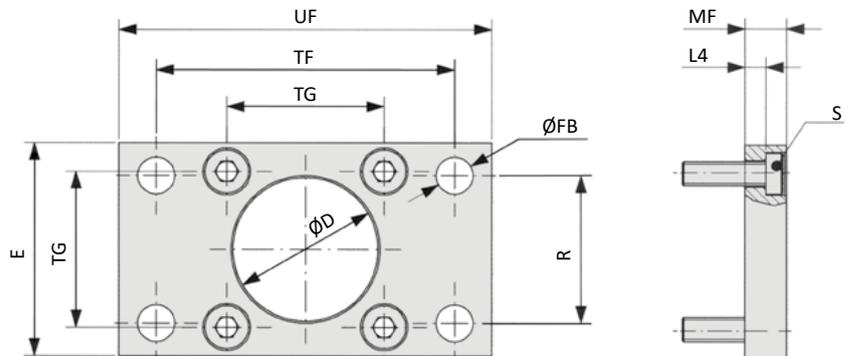
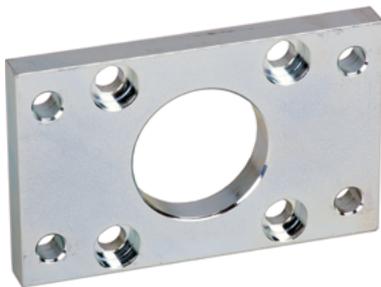
XLB-xxx-01 Foot mount



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

Materials: 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	

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

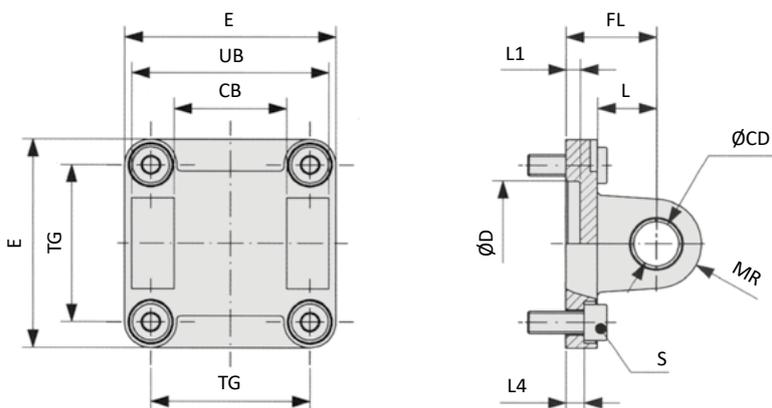
Series SLX, XL and 88-XSI

Mounting accessories

XLB-xxx-04 Clevis mount with bushing



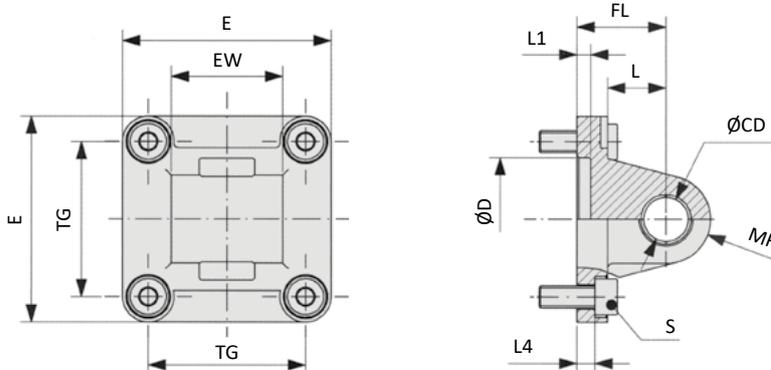
Inclusive clevis pin
order no.: XLB-xxx-48



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

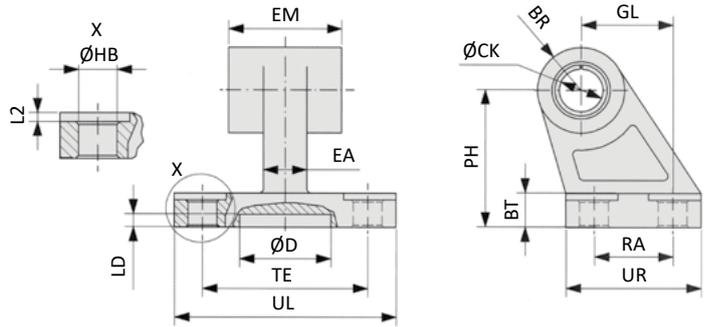


Model-no.:	Ø CD	Ø D	E	EW	FL	L	L1	L4	MR	S	TG
XLB-032-05	10	30	45	26	22	13	5	5.5	10	M6 x 20	32.5
XLB-040-05	12	35	52	28	25	16	5	5.5	12	M6 x 20	38
XLB-050-05	12	40	65	32	27	16	5	6.5	12	M8 x 20	46.5
XLB-063-05	16	45	75	40	32	21	5	6.5	16	M8 x 20	56.5
XLB-080-05	16	45	95	50	36	22	5	10	16	M10 x 25	72
XLB-100-05	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 SLX, XL and 88-XSI Mounting accessories

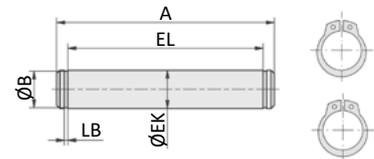
XLB-xxx-06 Swivel mount 90°



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

Materials: Al, bushing steel and PTFE

XLB-xxx-08 Clevis pin

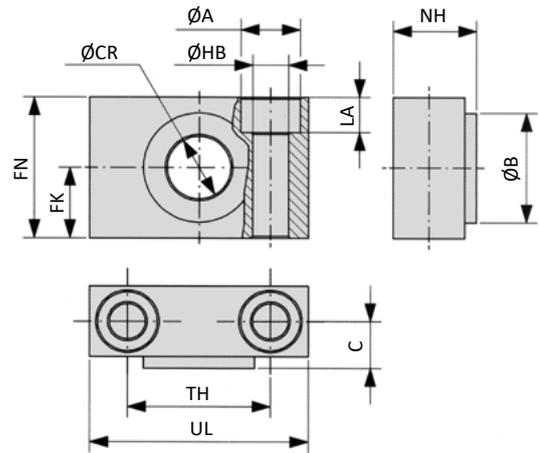
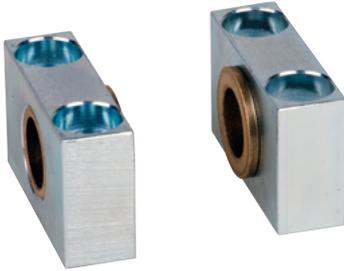


Model-no.:	A	Ø B	Ø EK	EL	LB
XLB-032-08	53	9.6	10	46	1.1
XLB-040-08	60	11.5	12	53	1.1
XLB-050-08	68	11.5	12	61	1.1
XLB-063-08	78	15.2	16	71	1.1
XLB-080-08	98	15.2	16	91	1.1
XLB-100-08	118	19	20	111	1.3
XLB-125-08	139	23.9	25	132*	1.3
<i>tolerances and adjustments</i>			e8	+ 2 *+ 3	

Materials: steel, zinc plated; 2 snap rings are included.

Series SLX, XL and 88-XSI Mounting accessories

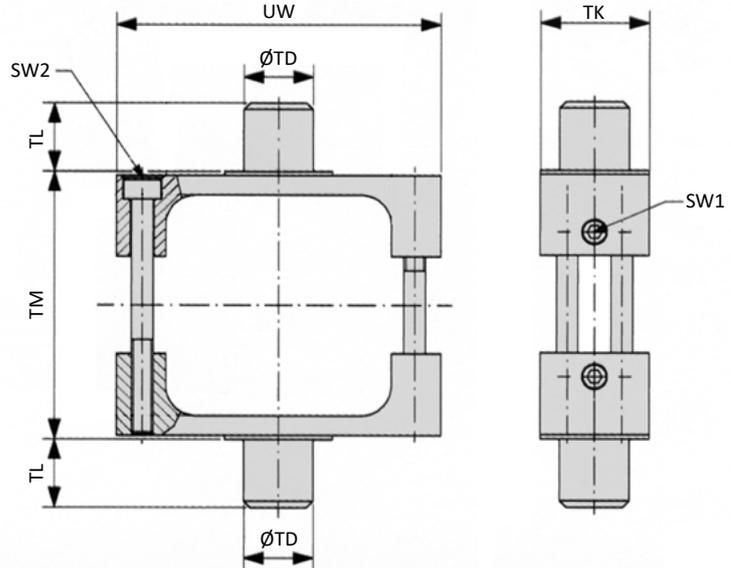
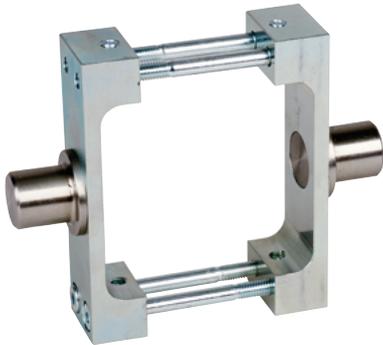
XLB-xxx-09 Bearing block



Model-no.:	for cylinder Ø	Ø A	Ø B	C	Ø CR	FK	FN	Ø HB	LA	NH	TH	UL
XLB-032-09	32	11	22	10.5	12	15	30	6.6	7	18	32	46
XLB-040-09	40, 50	15	28	12	16	18	36	9	9	21	36	55
XLB-063-09	63, 80	18	32	13	20	20	40	11	11	23	42	65
XLB-100-09	100, 125	20	39	16	25	25	50	14	13	28.5	50	75
<i>tolerances and adjustments</i>					H9	± 0.1		H13			± 0.2	

Materials: steel, zinc plated; bronze bushing

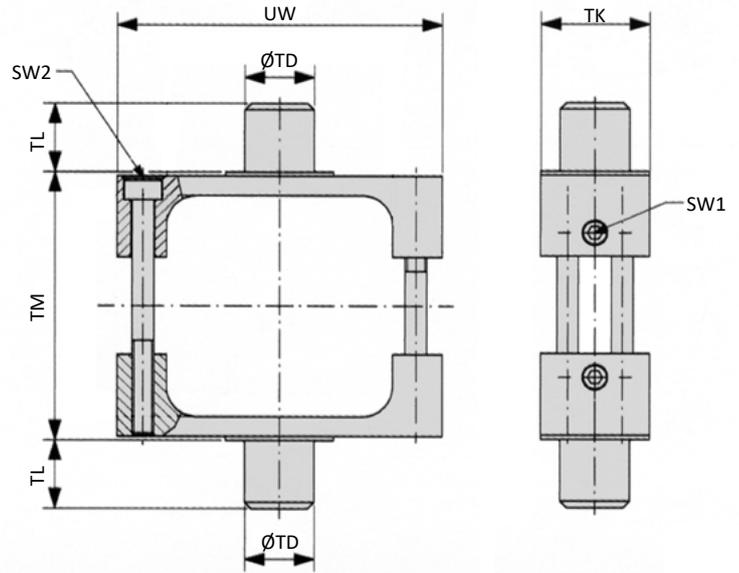
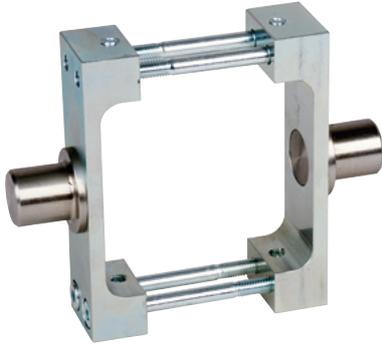
XLB-xxx-10 Trunnion mount (only for cylinder series XL)



Model-no.:	SW1	SW2	Ø TD	TK	TL	TM	UW
XLB-032-10	3	2.5	12	25	12	50	65
XLB-040-10	3	3	16	25	16	63	75
XLB-050-10	3	4	16	30	16	75	95
XLB-063-10	3	4	20	30	20	90	105
XLB-080-10	3	4	20	30	20	110	130
XLB-100-10	4	5	25	40	25	132	145
XLB-125-10	4	6	25	40	25	160	175
<i>tolerances and adjustments</i>			e9		h14		

Materials: steel, zinc plated

SLXB-xxx-10 Trunnion mount (only for cylinder series SLX)



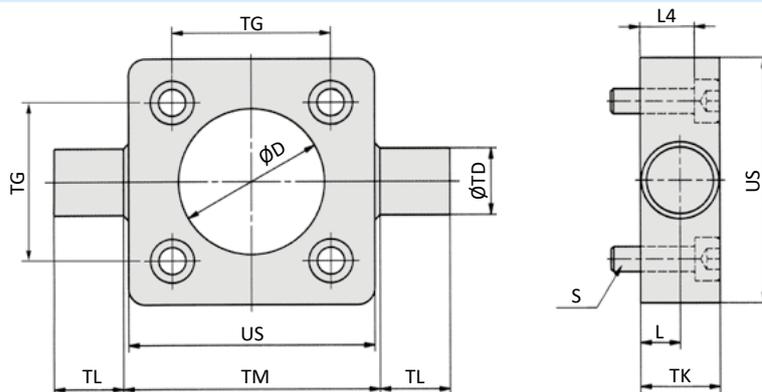
Model-no.:	SW1	SW2	Ø TD	TK	TL	TM	UW
SLXB-032-10	3	2.5	12	25	12	50	60
SLXB-040-10	3	3	16	28	16	63	70
SLXB-050-10	3	4	16	28	16	75	90
SLXB-063-10	3	5	20	32	20	90	100
SLXB-080-10	3	5	20	32	20	110	120
SLXB-100-10	3	6	25	40	25	132	140
SLXB-125-10	3	6	25	40	25	160	170
<i>tolerances and adjustments</i>			e9		h14		

Materials: Al, screws steel, zinc plated

Series SLX, XL and 88-XSI

Mounting accessories

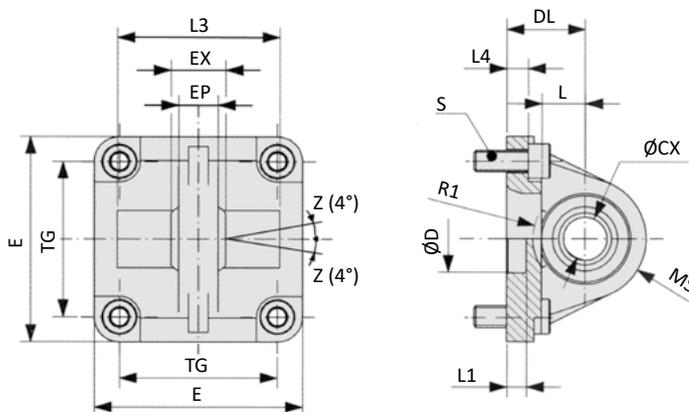
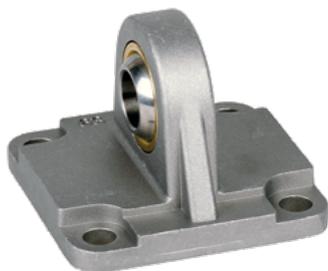
XLB-xxx-11 Trunnion mount



Model-no.:	Ø D	L	L4	S	Ø TD	TG	TK	TL	TM	US
XLB-032-11	30	6.5	8	M6 x 20	12	32.5	14	12	50	46
XLB-040-11	35	9	13	M6 x 25	16	38	19	16	63	59
XLB-050-11	40	9	11	M8 x 25	16	46.5	19	16	75	69
XLB-063-11	45	11.5	16	M8 x 30	20	56.5	24	20	90	84
XLB-080-11	45	11.5	14	M10 x 30	20	72	24	20	110	102
XLB-100-11	55	14	19	M10 x 35	25	89	29	25	132	125
XLB-125-11	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	

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

XLB-xxx-12 Swivel mount with spherical bearing

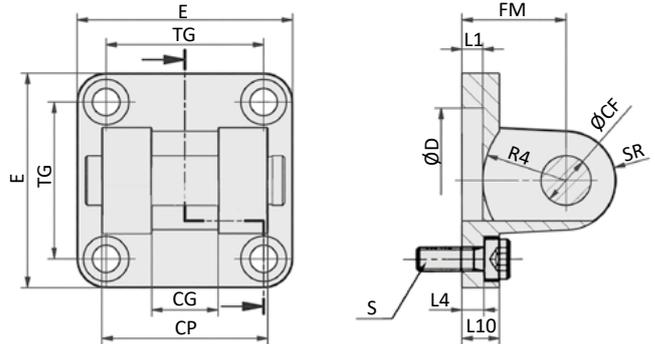


Model-no.:	Ø CX	Ø D	DL	E	EP	EX	L	L1	L3	L4	MS	R1	S	TG
XLB-032-12	10	30	22	45	10.5	14	12	7	-	5.5	16	-	M6 x 20	32.5
XLB-040-12	12	35	25	52	12	16	15	7	-	5.5	18	-	M6 x 20	38
XLB-050-12	16	40	27	65	15	21	15	7	51	6.5	21	19	M8 x 20	46.5
XLB-063-12	16	45	32	75	15	21	20	7	-	6.5	23	-	M8 x 20	56.5
XLB-080-12	20	45	36	95	18	25	20	9	74	10	28	24	M10 x 25	72
XLB-100-12	20	55	41	115	18	25	25	9	-	10	30	-	M10 x 25	89
XLB-125-12	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 SLX, XL and 88-XSI Mounting accessories

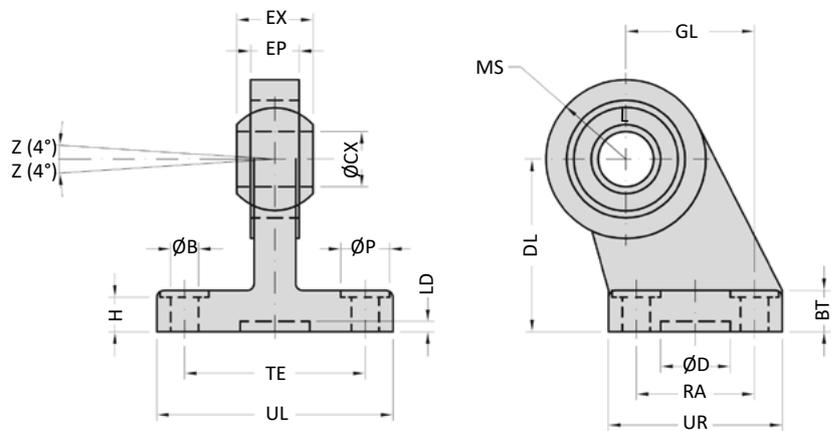
XLB-xxx-14 Clevis mount small with pin



Model-no.:	Ø CF	CG	CP	Ø D	E	FM	L1	L4	L10	R4	S	SR	TG
XLB-032-14	10	14	34	30	45	22	5	5.5	9	17	M6 x 20	10	32.5
XLB-040-14	12	16	40	35	52	25	5	5.5	9	20	M6 x 20	12	38
XLB-050-14	16	21	45	40	65	27	5	6.5	11	22	M8 x 20	14	46.5
XLB-063-14	16	21	51	45	75	32	5	6.5	11	25	M8 x 20	18	56.5
XLB-080-14	20	25	65	45	95	36	5	10	14	30	M10 x 25	20	72
XLB-100-14	20	25	75	55	115	41	5	10	14	32	M10 x 25	22	89
XLB-125-14	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, clevis pin steel, zinc plated; 4 screws in accordance with EN ISO 4762 are included.

XLB-xxx-16 Swivel mount with spherical bearing 90°



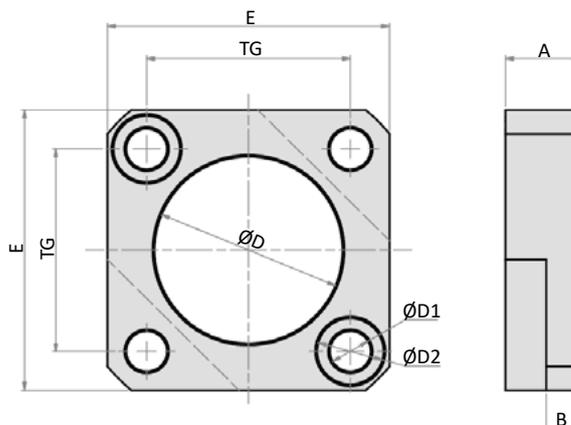
Model-no.:	Ø B	BT	ØCX	ØD	DL	EP	EX	GL	H	LD	MS	ØP	RA	TE	UL	UR
XLB-032-16	6.6	10	10	20	32	10.5	14	21	8.5	3	15	11	18	38	51	31
XLB-040-16	6.6	10	12	20	36	12	16	24	8.5	3	18	11	22	41	54	35
XLB-050-16	9	12	16	20	45	15	21	33	10.5	3	20	15	30	50	65	45
XLB-063-16	9	12	16	20	50	15	21	37	10.5	3	23	15	35	52	67	50
XLB-080-16	11	14	20	20	63	18	25	47	11.5	3	27	18	40	66	86	60
XLB-100-16	11	15	20	20	71	18	25	55	12.5	3	30	18	50	76	96	70
XLB-125-16	13.5	20	30	20	90	25	37	70	17	3	40	20	60	94	124	90
<i>tolerances and adjustments</i>	H13		H7	H13	JS15	max	0 -0.1	JS15	+0.5 0		max	H13	JS14	JS14	max	max

Materials: steel, bearing steel, bronze bushing

Series SLX, XL and 88-XSI

Mounting accessories

XLB-xxx-23 Multi positioning adapter



Model-no.:	A	B	Ø D	Ø D1	Ø D2	E	TG
XLB-032-23	12	5.5	30	6.5	10.6	45	32.5
XLB-040-23	12	5.5	35	6.5	10.6	50	38
XLB-050-23	16	7.5	40	8.5	13.5	65	46.5
XLB-063-23	16	7.5	45	8.5	13.5	75	56.5
XLB-080-23	20	9	45	10.5	16.5	90	72
XLB-100-23	20	10.5	55	10.5	16.5	105	89
XLB-125-23	30	15	68	12.5	18.5	130	110

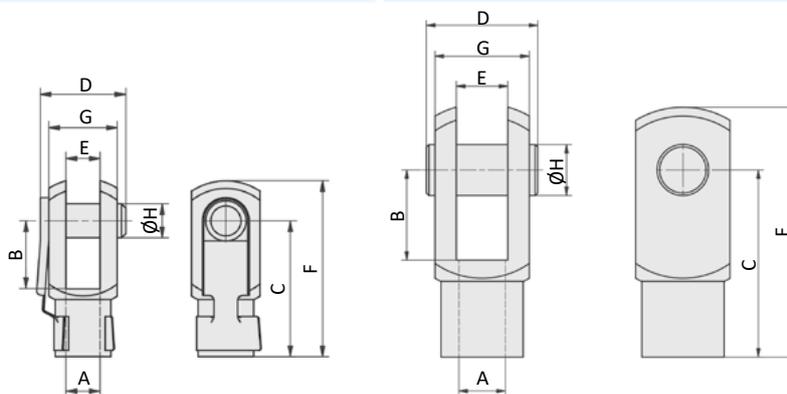
Materials: Al

Mounting material is part of the delivery.

RD-xx, FD-xxx Rod clevis

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

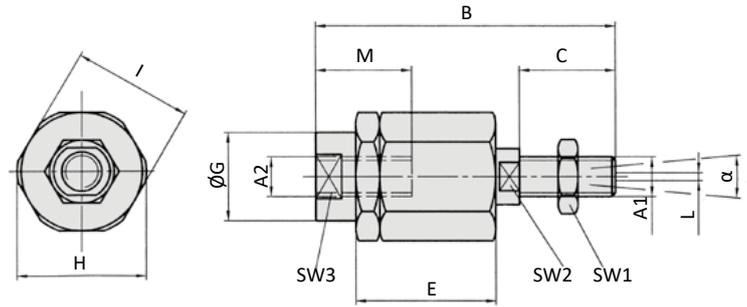
Clevis pin with snap rings (FD-125)



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

Materials: steel, zinc plated

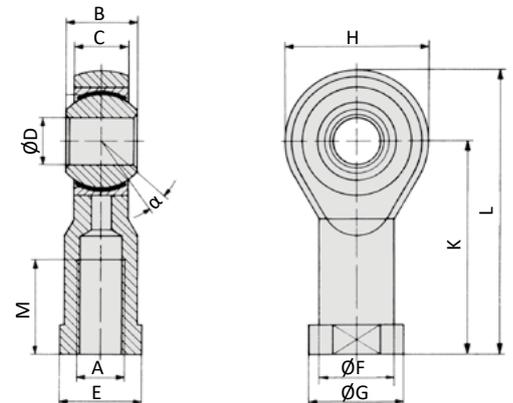
FK-xxx Flexible coupling



Model-no.:	for cylinder \varnothing	A1, A2	B	C	D	E	$\varnothing G$	H	I	L	M	SW1	SW2	SW3	α
FK-32	32	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°
FK-40	40	M12 x 1.25	75	24	7.5	35	22	32	30	2	22	19	12	19	8°
FK-63	50, 63	M16 x 1.5	104	32	10	53	32	45	41	2	30	24	20	27	6°
FK-80	80, 100	M20 x 1.5	119	40	10	53	32	45	41	2	37	30	20	30	6°
FK-125	125	M27 x 2	147	54	10	60	57	70	65	2	48	41	24	54	8°

Materials: steel, zinc plated

RO-xx, FO-xxx Rod eye



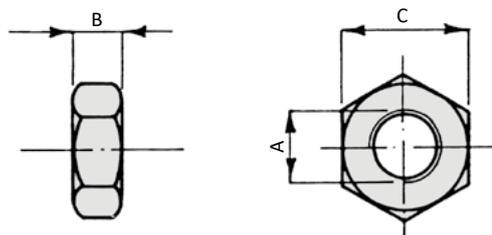
Model-no.:	for cylinder \varnothing	A	B	C	$\varnothing D$	E	$\varnothing F$	$\varnothing G$	H	K	L	M	α
RO-25	32	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
FO-40	40	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°
FO-63	50, 63	M16 x 1.5	21	15	16	22	22	27	42	64	85	28	15°
FO-80	80, 100	M20 x 1.5	25	18	20	30	27.5	34	50	77	102	33	14°
FO-125	125	M27 x 2	37	25	30	41	40	50	70	110	145	51	17°

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

Series SLX, XL and 88-XSI

Mounting accessories

RL-xx, FE-xxx Piston rod nut



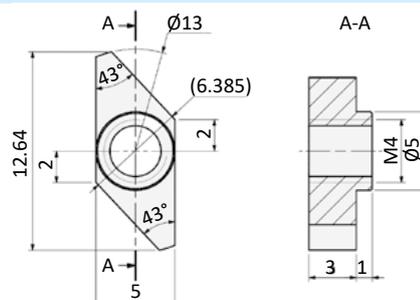
Model-no.:	for cylinder \varnothing	A	B	C
RL-25	32	M10 x 1.25	5	17
FE-40	40	M12 x 1.25	6	19
FE-63	50, 63	M16 x 1.5	8	24
FE-80	80, 100	M20 x 1.5	10	30
FE-125	125	M27 x 2	13.5	41

Materials: steel, zinc plated

NST-T-4-U Slot nut



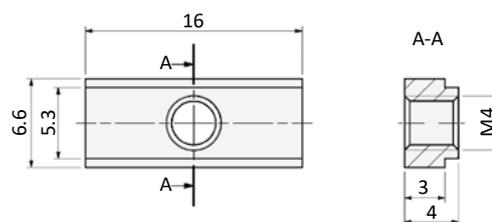
Materials: steel, zinc plated



NST-T-4-V Slot nut



Materials: steel, zinc plated



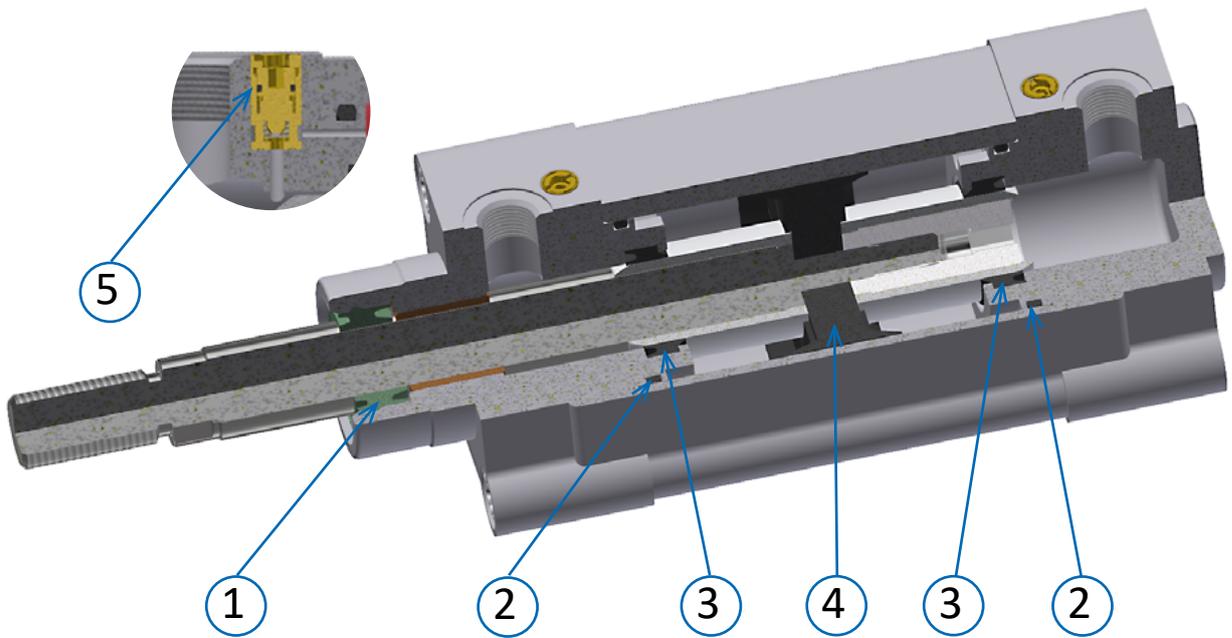
Proximity sensors



Order code

Series		Versions	
VS-XL	repair kit for series XL and SLX	01	standard version
Piston Ø		02	high temperature version
032	32 mm	03	double end piston rod
040	40 mm	04	double end piston rod, high temperature version
050	50 mm		
063	63 mm		
080	80 mm		
100	100 mm		
125	125 mm		

Content



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1*
2	O-ring, cylinder tube (NBR)	2
3	damping seal (PUR)	2
4	piston with magnet (NBR)	1
5	O-ring for adjustable screw (NBR)	2

*2 pieces for version 03

High temperature version

Position	Product description	Quantity
1	piston rod seal (FKM) + snap ring	1*
2	O ring (FKM)	2
3	damping seal (FKM)	2
4	piston (FKM)	1
5	O-ring for adjustable screw (FKM)	2

*2 pieces for version 04



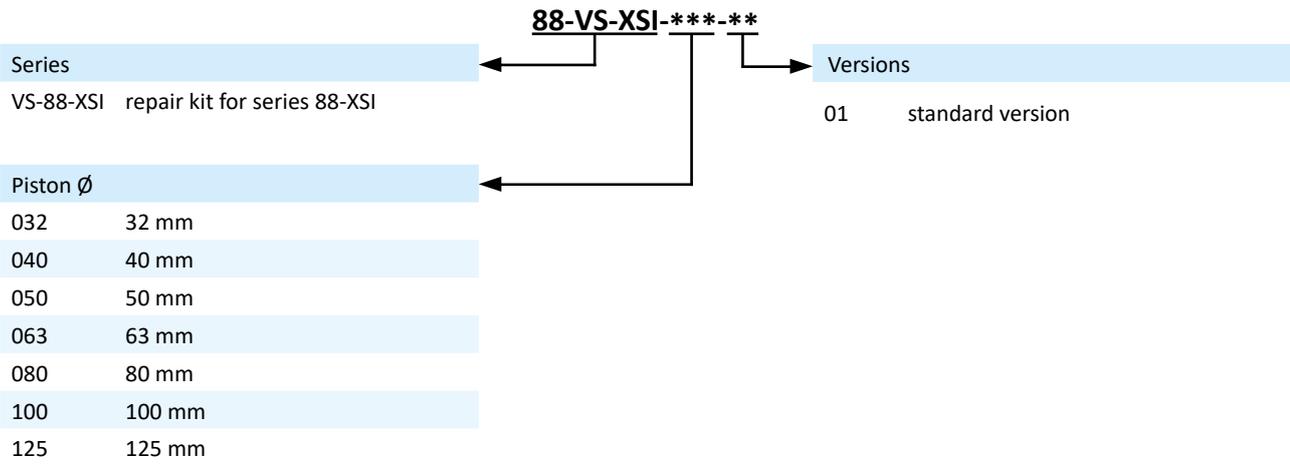
Please grease the running surfaces after fitting the seals. We recommend our assembly grease 21-MP-01-00030-50.



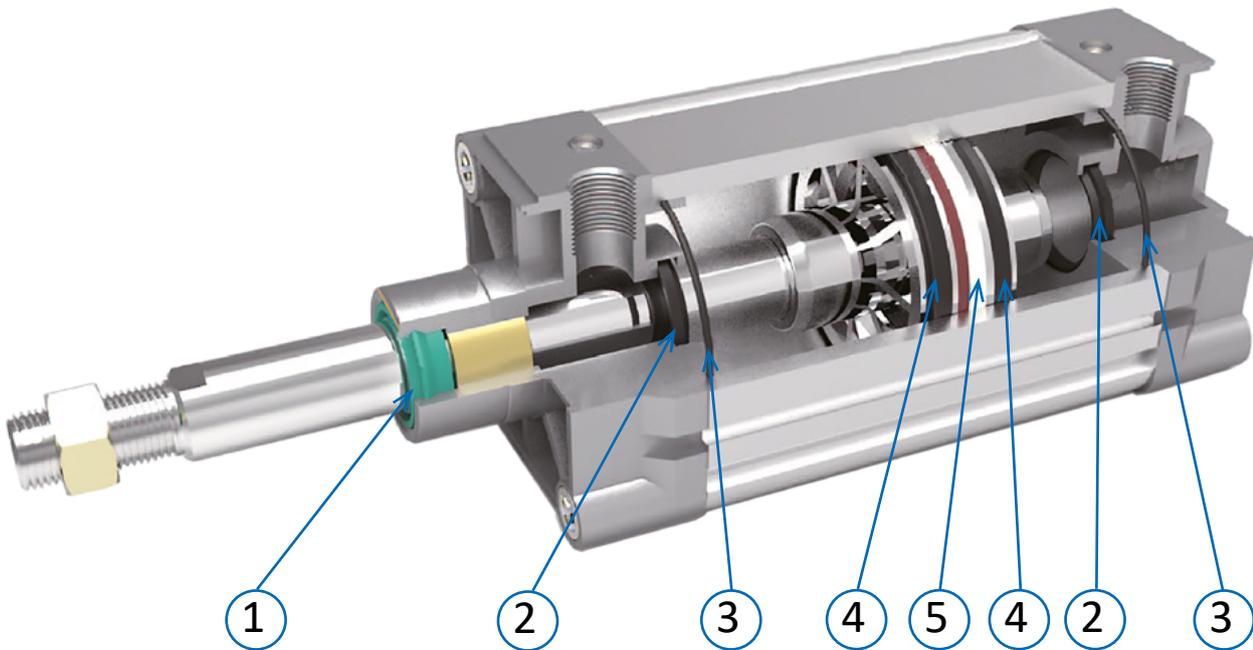
Series 88-XSI

Repair kits

Order code



Content



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1
2	damping seal (NBR)	2
3	O-ring, cylinder tube (NBR)	2
4	piston seal (NBR)	2
5	guide ring (PTFE)	1

Please grease the running surfaces after fitting the seals. We recommend our assembly grease 21-MP-01-00030-50.



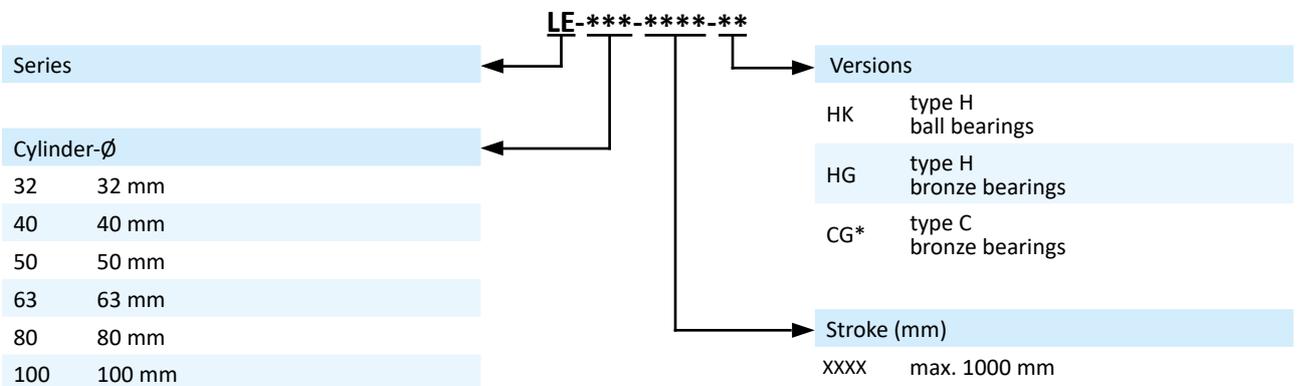
Technical details

Operating pressure	1 ... 10 bar	
Temperature range	-30°C ... +100°C	
Max. stroke	1000 mm	
Materials	Body:	Al (anodized)
	Guide rod:	steel hard chrome plated (bronze bearing) steel, getempert (ball bearings)
	Bearing:	sintered bronze (bronze bearing) steel (ball bearings)
	Seals:	NBR



Linear guide for piston rod cylinders in accordance with ISO 15552.

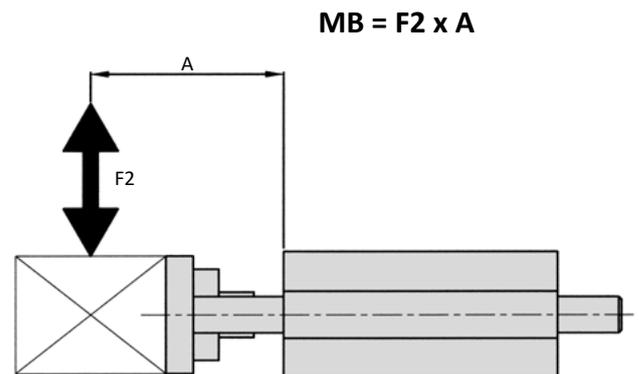
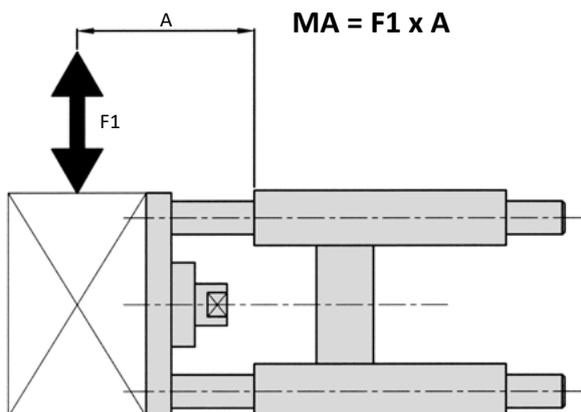
Order code



* only up to Ø 63 mm

Technical information

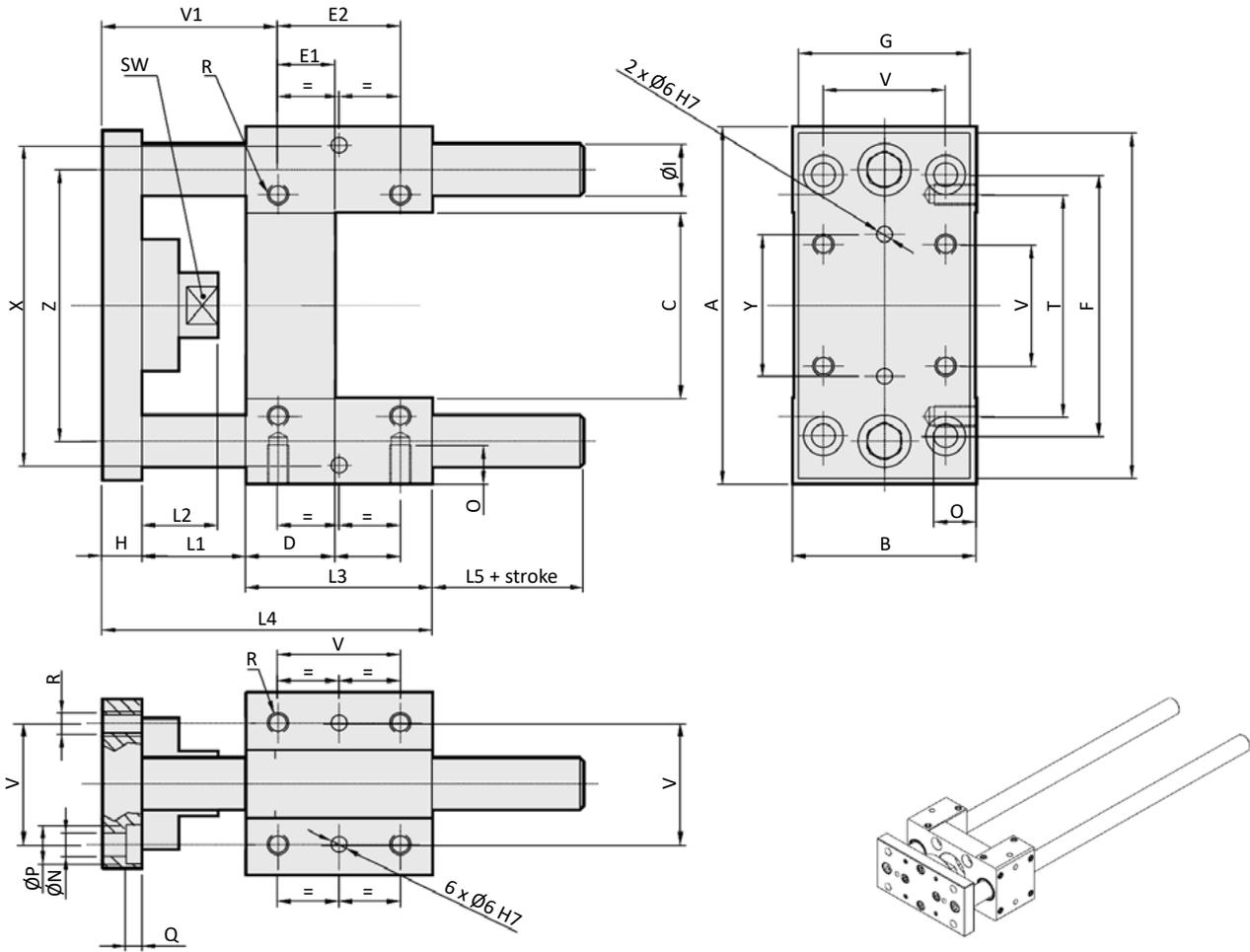
Version	Piston Ø (mm)	32	40	50	63	80	100
CG	max. load MA (Nm)	13	21	21	26	-	-
	max. load MB (Nm)	12	19	19	23	-	-
HG	max. load MA (Nm)	20	35	50	60	72	80
	max. load MB (Nm)	18	32	45	54	65	72
HK	max. load MA (Nm)	16	29	42	48	60	60
	max. load MB (Nm)	14	16	38	43	54	54



Series LE

Linear guides

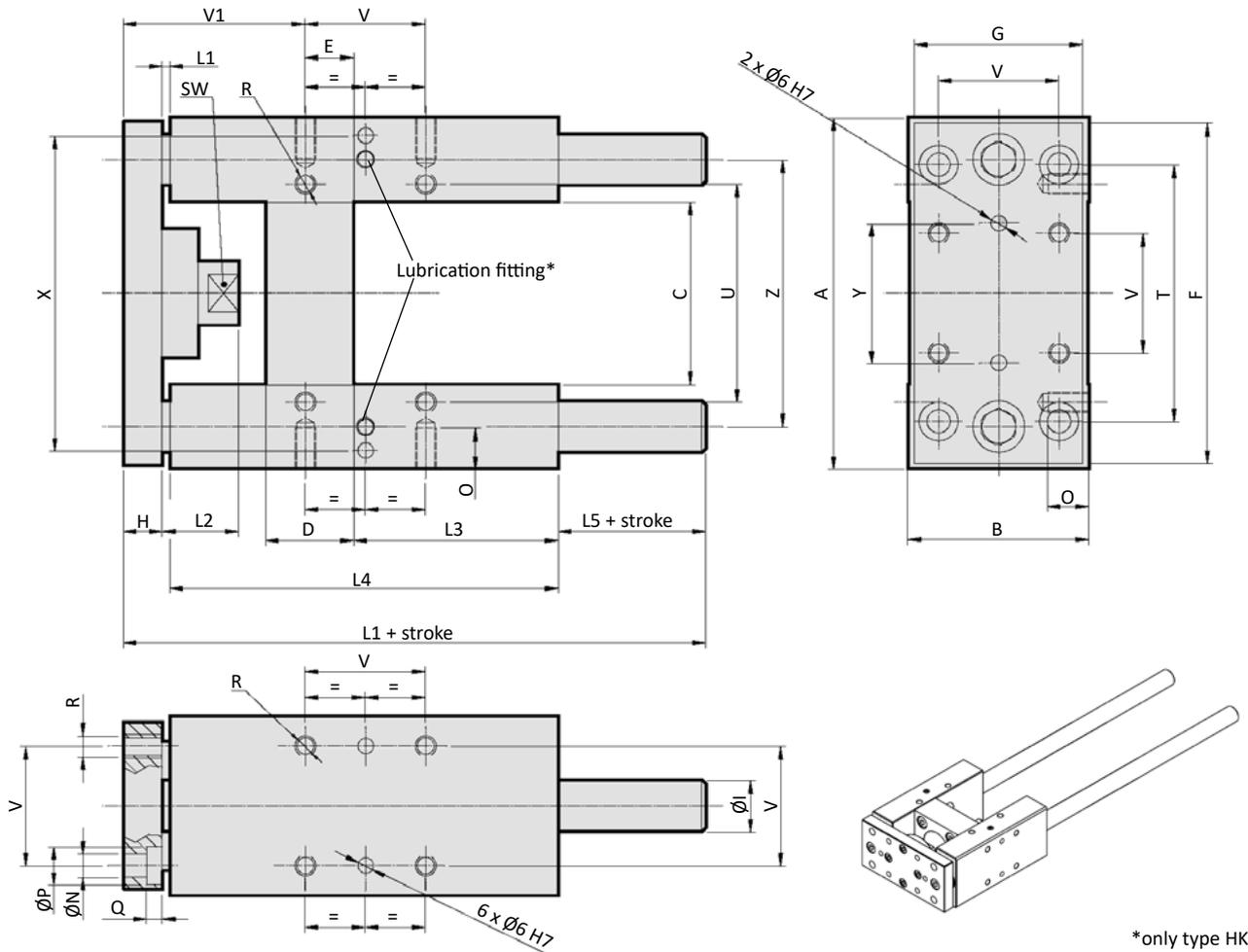
Dimensions type CG



Piston-Ø	A	B	C	D	E	E1	E2	F	G	H	Ø I	L1	L2	L3
32	97	49	51	17	9.25	9.25	32.5	93	45	12	12	42	25	48
40	115	58	58.2	21	11	11	38	112	55	12	16	43	25	58
50	137	70	70.2	25	18.8	18.8	46.5	134	65	15	20	49	29	59
63	152	85	85.2	25	15.3	15.3	56.5	147	80	15	20	49	29	76

Piston-Ø	L4	L5	Ø N	O	Ø P	Q	R	SW	T	U	V	X	Y	Z
32	102	18	6.6	12	11	6.5	M6	15	78	61	32.5	81	50	74
40	113	17	6.6	12	11	6.5	M6	15	84	69	38	99	54	87
50	123	20	9	16	15	8.5	M8	20	100	85	46.5	119	72	104
63	140	21	9	16	15	9	M8	20	105	100	56.5	132	82	119

Piston-Ø (mm)		32	40	50	63
Weight	0 mm stroke	0.80	1.30	2.30	3.00
HG (kg)	each 100 mm stroke	0.18	0.32	0.50	0.50

Dimensions type HG. HK


*only type HK

Piston-Ø	A	B	C	D	E	F	G	H	Ø I	L1	L2	L3	L4
32	97	49	51	24	4.3	93	45	12	12	187	19	75	125
40	115	58	58.2	28	11	112	55	12	16	207	24	80	140
50	137	70	70.2	34	18.8	134	65	15	20	223	27	78	148
63	152	85	85.2	34	15.3	147	80	15	20	243	27	106	178
80	189	105	105.5	50	25	180	100	20	25	267	27	111	195
100	213	130	130.5	55	30	206	120	20	25	290	27	128	218

Piston-Ø	L5	Ø N	O	Ø P	Q	R	SW	T	U	V	X	Y	Z
32	47	6.6	12	11	6.5	M6	15	78	61	32.5	81	50	74
40	52	6.6	12	11	6.5	M6	15	84	69	38	99	54	87
50	57	9	16	15	8.5	M8	20	100	85	46.5	119	72	104
63	47	9	16	15	9	M8	20	105	100	56.5	132	82	119
80	49	11	20	18	11	M10	26	130	130	72	166	106	148
100	49	11	20	18	11	M10	26	150	150	89	190	131	173

Piston-Ø (mm)		32	40	50	63	80	100
Weight	0 mm stroke	1.29	2.40	3.50	4.60	8.40	11.80
Weight	each 100 mm stroke	0.18	0.32	0.50	0.50	0.77	0.77
Weight	0 mm stroke	1.20	2.30	3.40	4.40	8.20	11.60
Weight	each 100 mm stroke	0.18	0.32	0.50	0.50	0.77	0.77

Series XLVK

ISO 15552

Technical details

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



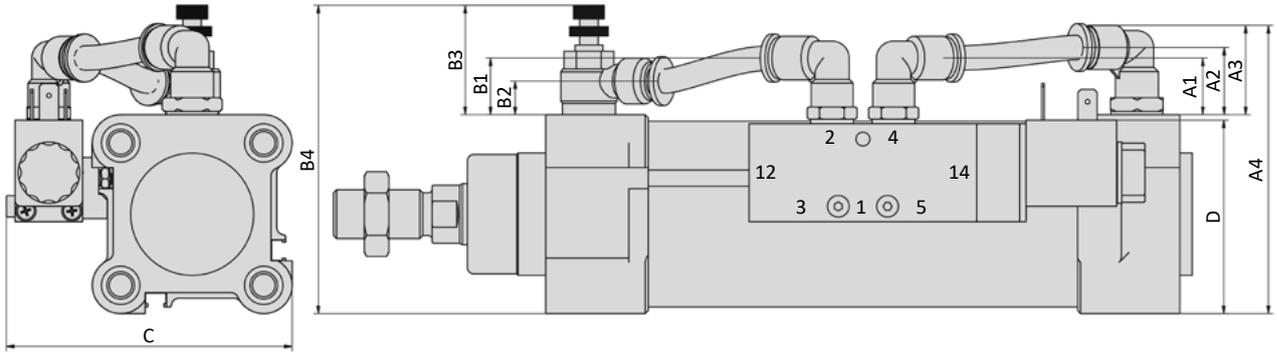
Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. The cylinder includes a 5/2- or 5/3-way valve with a high flow rate and compact dimensions.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

Order code

Series		Piston \varnothing		consecutive number see page 8-34	
032	32 mm	040	40 mm	XLVK-***-***** (Arrows point from the asterisks to the corresponding columns above)	
050	50 mm	063	63 mm		
080	80 mm	100	100 mm		
125	125 mm				

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

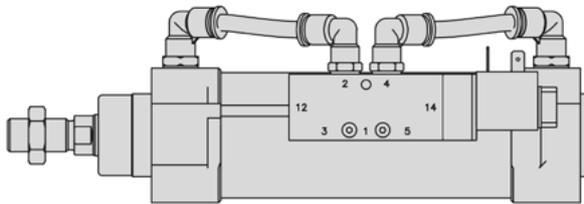
Dimensions



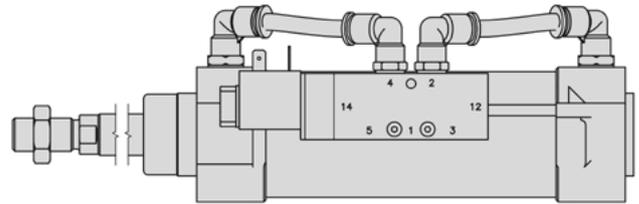
Piston Ø	A1	A2	A3	A4	B1	B2	B3 _{max}	B4 _{max}	C	D
32	20	21	28.5	76.5	20	9.5	34.5	81.5	76.5	47.7
40	18.8	22	29.5	83.5	18.8	11	39.5	93.5	83.3	52.5
50	18.6	22	29.5	94.5	18.6	11	39.5	102.5	92.9	63.3
63	24	18.9	31.5	106.5	24	11.4	44	118	106.5	78.9
80	22.8	18.9	30	124	26.4	13	44	137.5	132.9	86.5
100	35.4	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

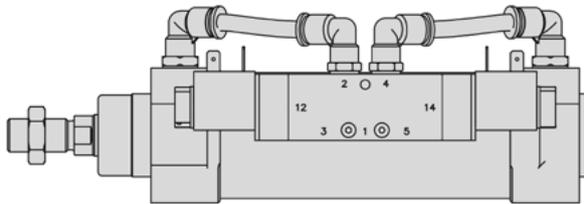
single solenoid valve, normally retracted



single solenoid valve, normally extended



double solenoid valve, 5/3-way valve



Series SLVK

ISO 15552

Technical details

Series cylinder	SLX
Series valve	KM-09 (up to \varnothing 63 mm), KM-10 (up from \varnothing 80 mm)
Operating pressure	3 ... 10 bar
Temperature range	-10°C ... +70°C
Max. stroke	2800 mm
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.
Protection	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.

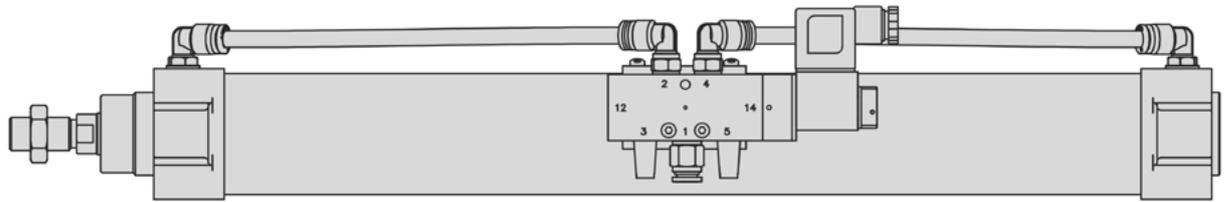
Standard stroke lengths in table below, additional lengths on request.

Order code

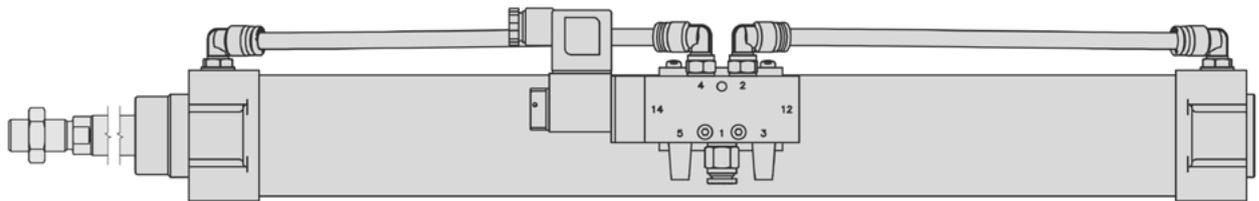
Series		Piston \varnothing		consecutive number see page 8-34	
032	32 mm	040	40 mm	SLVK-***-*****	
050	50 mm	063	63 mm		
080	80 mm	100	100 mm		
125	125 mm				

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

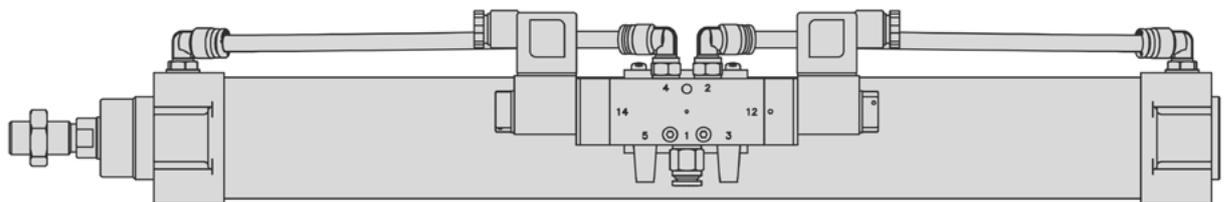
single solenoid valve, normally retracted



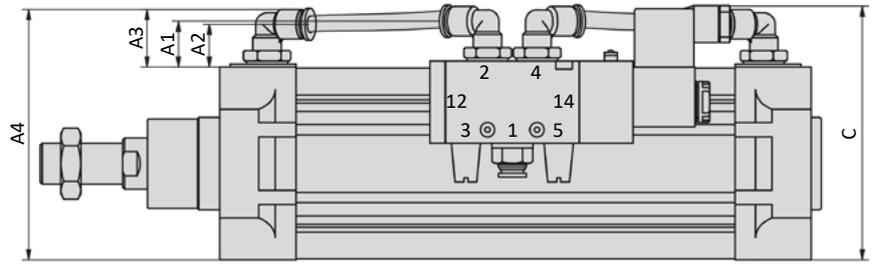
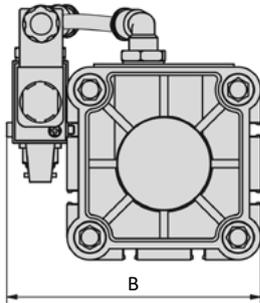
single solenoid valve, normally extended



double solenoid valve, 5/3-way valve

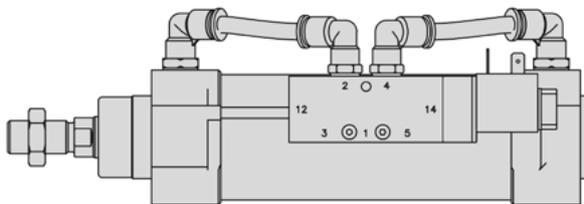


Dimensions

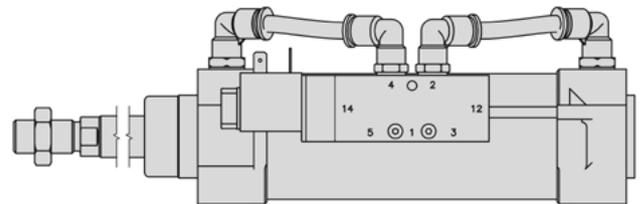


Piston Ø	A1	A2	A3	A4	B	C
32	20.3	22.5	29.7	75	70	74
40	15.5	23.5	30.7	83	76	73
50	20.4	23.1	30.3	95	89	80
63	10.4	20.2	27.4	103	100	81
80	22.4	20.9	28.1	122	123	125
100	24.2	27.3	36.6	149	141	137
125	20.7	26.8	36.1	170	164	156

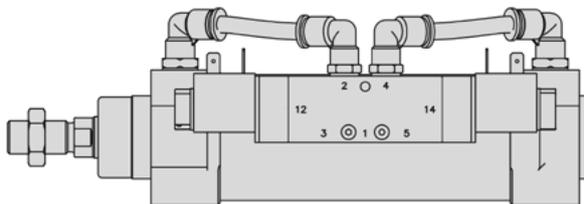
single solenoid valve, normally retracted



single solenoid valve, normally extended



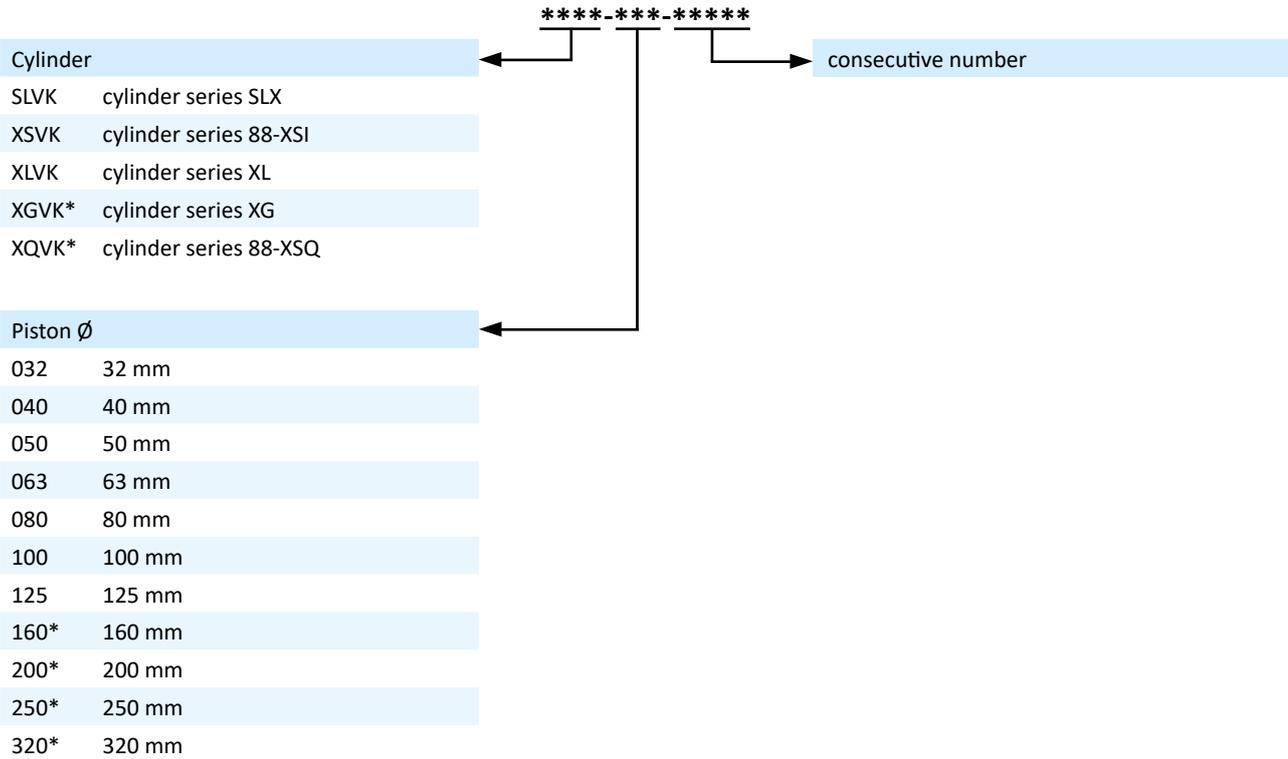
double solenoid valve, 5/3-way valve



Cylinder/ valve combinations

ISO 15552

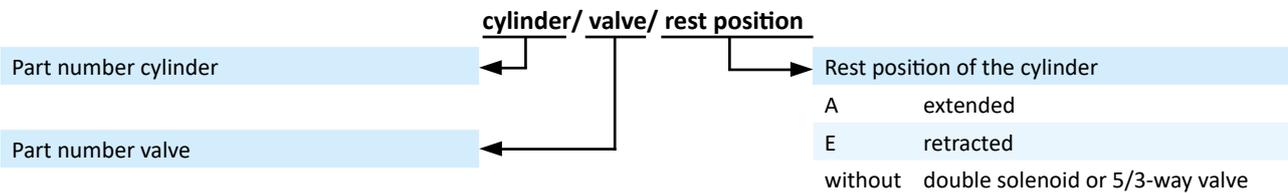
Part number



* Cylinder-valve combinations with large cylinders Ø 160 mm to 320 mm are possible (also with fixed pipework). For information on the possible versions, please contact us at info@airtec.de.

Order code

Code 1: Basic configuration



Order code

Code 2: Supplements

Fittings/Flow controls, Silencers/Add-on parts/Accessories

Description of the screw connection in port 1 of the valve

- Gxx straight fitting for tube Ø xx
- Wxx elbow fitting for tube Ø xx

Description of the assembly in ports 3 and 5 of the valve

- SDS sintered bronze silencer
- SDK plastic silencers
- DRS sintered bronze silencer with flow control
- DRK plastic silencers with flow control
- Gxx straight fitting for tube Ø xx
- Wxx elbow fitting for tube Ø xx

Description of the assembly in the cylinder connections

- without elbow fitting
- ARH flow-regulator, outlet with external adjusting screw
- ARS flow-regulator, outlet with internal adjusting screw

Description of the add-on parts

- B01 foot mount
- B02 flange mount
- B04 clevis mount
- B48 clevis mount with clevis pin
- B05 swivel mount
- B06 swivel mount 90°
- B09 bearing block (1pair)
- B10 trunnion mount
- B11 trunnion mount
- B12 swivel mount with spherical bearing
- B14 clevis mount small with pin
- B16 swivel mount with spherical bearing 90°
- FD rod clevis
- FK flexible coupling
- FO rod eye

Mounting the add-on parts

- V front
- H rear
- VH front and rear
- V90 front, 90° rotated
- H90 rear, 90° rotated
- VH90 front and rear, 90° rotated
- L attached

Description of the accessories

- STxx plug socket for valve, version xx
- VL fitting accessories, enclosed
- RxKy 2 proximity sensors, Reed sensor, x-pole, y-cable length (e.g.: ZS-5600, ZS-5700)
- SxKy 2 proximity sensors, inductive, x-pole, y-cable length (e.g.: ZS-6600, ZS-6700, ZS-MZT8-10, ZS-7300)
- SxS 2 proximity sensors, inductive, x-pole, 0,3 mcable with connection (e.g.: ZS-6601, ZS-6701, ZS-7302)
- KSM additional piston rod nut

Cylinder/ valve combinations

ISO 15552

Example 1

Part number: XSVK-063-00003

Code 1 (text line 1): 88-XSI-063-0500-050X/KM-09-510-HN-V12/A

cylinder	88-XSI-063-0500-050X
valve	KM-09-510-HN-V12
rest position	extended

Code 2 (text line 2): G08/DRS/S3K3/KSM

G08	straight fitting for Ø 8 mm tubing, mounted in connection 1 of the valve
DRS	sintered bronze silencer with flow control, mounted in connections 3 and 5 of the valve
S3K3	2 proximity sensors, inductive, 3-pole, 3 m-cable length (here due to ATEX: ZS-7300)
KSM	additional piston rod nut

Example 2

Part number: XLVK-063-00001

Code 1 (text line 1): XLD-063-0080-0A1254/ICK-09-511-HN-F42/A

cylinder	XLD-063-0080-0A1254
valve	ICK-09-511-HN-F42
rest position	extended

Code 2 (text line 2): G10/G10/ARS/B02V/ST06/VL/S3K10

G10	straight fitting for Ø 10 mm tubing, mounted in connection 1 of the valve
G10	straight fitting for Ø 10 mm tubing, mounted in connections 3 and 5 of the valve
ARS	flow-regulators, outlet with internal adjusting screw assembly in the cylinder connections
B02V	flange mount XLB-063-02, mounted in front
ST06	plug socket for valve, version 28-ST-06 (here due to the valve voltage: 28-ST-06-112), mounted on the coil
VL	fitting accessories, enclosed (here 2 x 44-XPUL-100, according to customer specification)
S3K10	2 proximity sensors, inductive, 3-pole, 10 m-cable length (here due to ATEX: ZS-MZT8-10), attached

Technical details

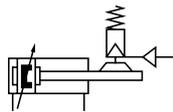
Operating pressure	Bremse: 3 ... 6 bar
Temperature range	-5°C ... +80°C
Max. stroke	2.800 mm
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: steel hard chrome plated Seals: PU, NBR Rod lock: Al (anodized), steel, steel, zinc plated, bronze, PU, NBR, Delrin



A BH rod lock with mechanical clamping is mounted on the front cylinder head. The rod lock is activated by spring force when at rest and is released by pressurisation.

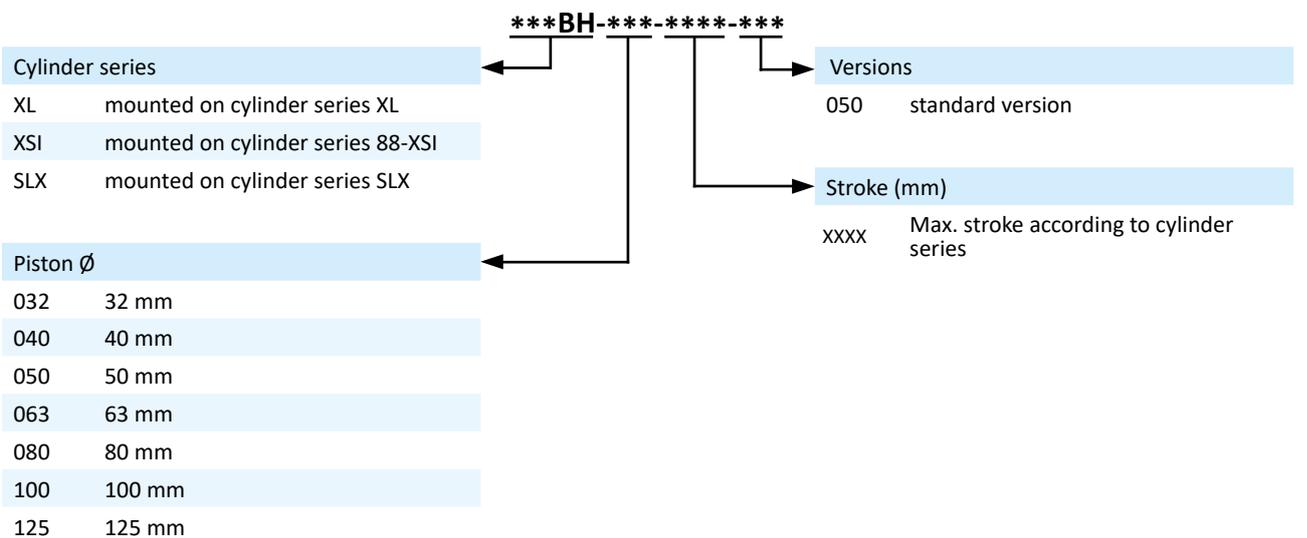
Rod lock's functioning is of static type (cylinder rod must be stopped). It is necessary to stop the cylinder rod before locking it.

Versions



XLBH, XSIBH, SLXBH
rod lock, cylinder double acting, adjustable cushioning, with magnetic piston

Order code



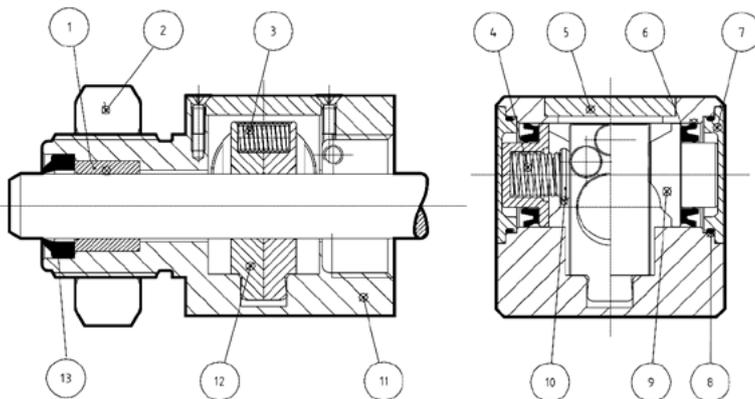
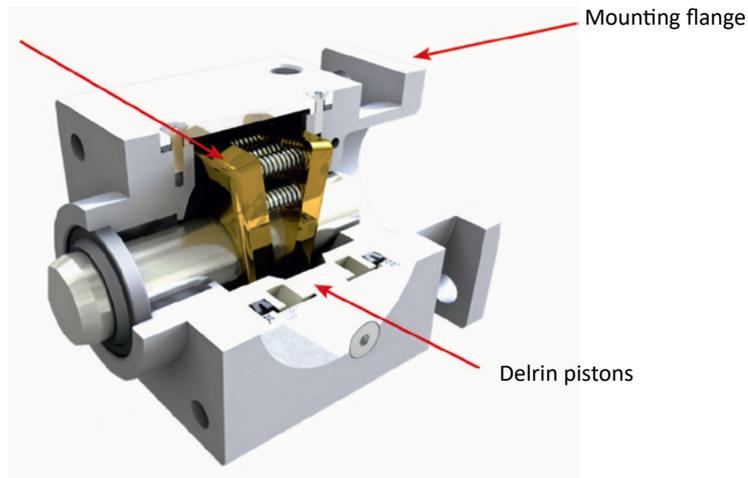
Series XLBH, XSIBH, SLXBH ISO 15552

Design and function

The BH series rod lock is a mechanical device that can be used for all ISO 15552 and ISO 6432 cylinders. It is used to lock the piston rod of the cylinder in any position.

This solution makes it possible to block the stroke of the cylinder each time an unexpected pressure drop occurs. The blocking force is always greater than that developed by the corresponding cylinder at 10 bar.

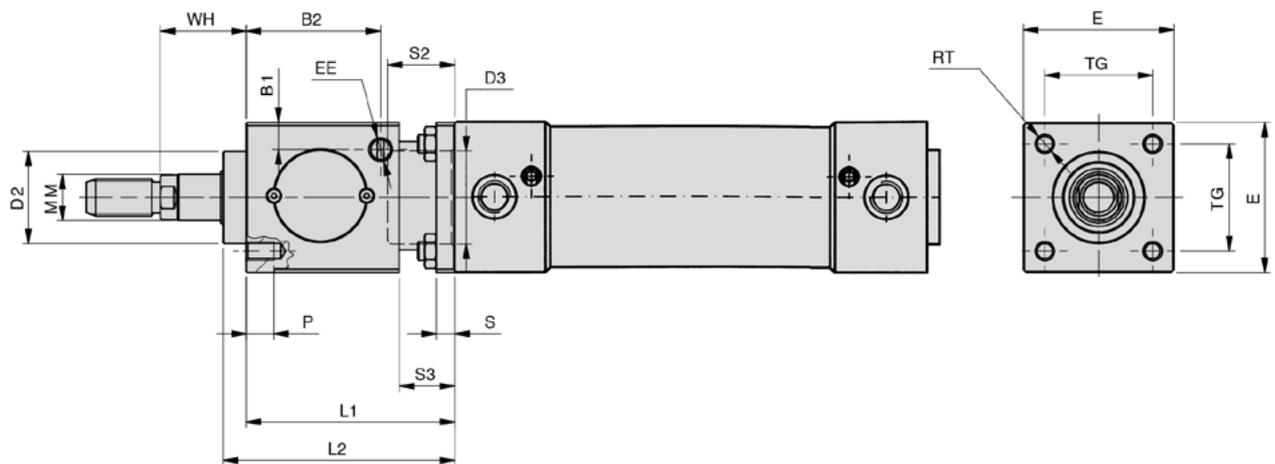
System with plate apart



Position	Description	Material
1	guide bush	Delrin
2	nut (only for BH-20 and BH-25)	steel
3	spring	steel
4	spring	steel
5	cover	aluminium
6	piston seal	PUR
7	cover	aluminium
8	O ring	NBR
9	piston	Delrin
10	spring cover	Delrin
11	body	aluminium
12	jaws	bronze
13	piston rod seal	NBR

Technical data

Model-no.:	***BH-032	***BH-040	***BH-050	***BH-063	***BH-080	***BH-100	***BH-125		
Piston Ø (mm)	32	40	50	63	80	100	125		
Force at 6 bar (N)	Extension		434	678	1060	1682	2713	4239	6623
	Retraction		373	570	890	1513	2448	3974	6189
Clamp force (N)	790	1240	1930	3060	5400	7700	12040		
Operating pressure cylinder (bar)	3 ... 6	3 ... 6	3 ... 6	3 ... 6	3 ... 6	3 ... 6	3 ... 6		
Release pressure (bar)	> 4.5	> 4.5	> 4.5	> 4.5	> 4.5	> 4.5	> 4.5		

Dimensions series XLBH, SLBH, XSIBH


EE = port to release the rod lock

Piston Ø	B1	B2	ØD2	D3	E	EE	L1	L2
32	9	33.25	30	30.5	47	G1/8	60	67.5
40	9	42.5	34.9	35.5	54	G1/8	70	80
50	12.5	58	40	40.5	65	G1/8	90	100
63	17.5	59	45	45.5	75	G1/8	90	100
80	17.5	69	45	45.5	95	G1/4	110	120
100	20	69	55	55.5	114	G1/4	110	120
125	19	84.5	60	60.5	138	G1/4	140	156

Piston Ø	ØMM	P	RT	S	S2	S3	TG	VL*	WH
32	12	8	M6	6	19.5	20	32.5	56	22
40	16	8	M6	6	22.5	20	38	70	30
50	20	12	M8	8	29	24	46.5	90	37
63	20	12	M8	8	29	24	56.5	90	37
80	25	16	M10	12	37	32	72	110	46
100	25	16	M10	12	39	32	89	110	51
125	32	20	M12	20	51.5	45	110	140	65

* The dimension VL is the required piston rod extension for the cylinder.

Series XLR1

ISO 15552

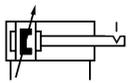
Technical details

Operating pressure	3 ... 10 bar
Temperature range	-20°C ... +80°C
Max. stroke	1.000 mm
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.
Materials	cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: Steel hardened, hard chrome plated Seals: PU, NBR

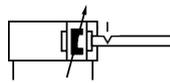


Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile. In the event of a pressure drop, the locked position is fixed by a positive connection.

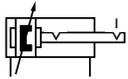
Versions



Version H
locking the retracted position, double acting, adjustable cushioning, with magnetic piston

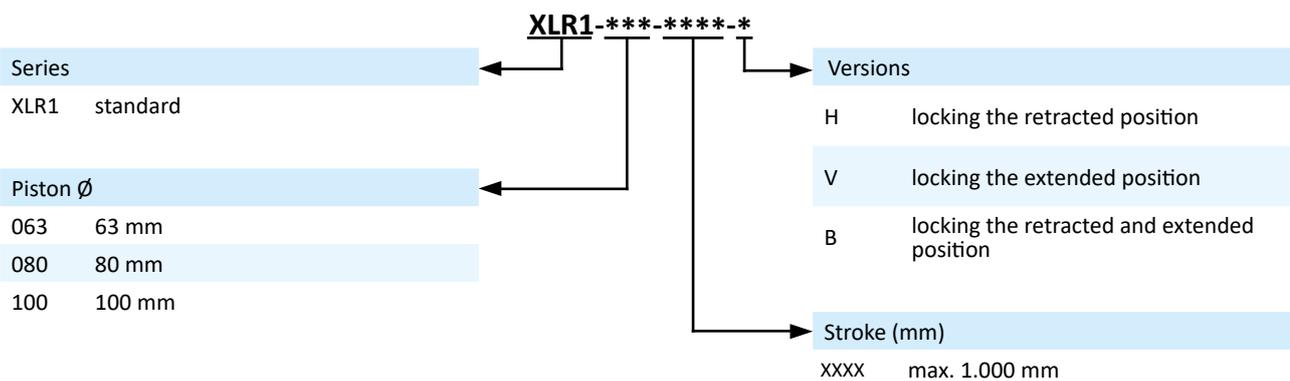


Version V
locking the extended position, double acting, adjustable cushioning, with magnetic piston



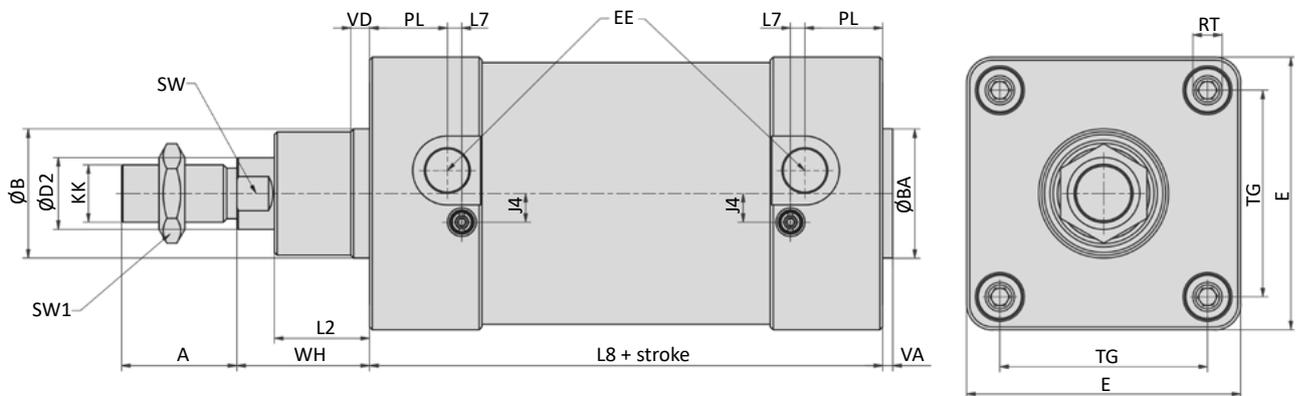
Version B
locking the retracted and extended position, double acting, adjustable cushioning, with magnetic piston

Order code



Technical data

Model-no.:	XLR1-063-...	XLR1-080-...	XLR1-100-...
Piston \varnothing (mm)	63	80	100
Force at 6 bar (N)	Extension	2713	4239
	Retraction	1513	3974
Locking force (N)	4000	6000	7500
Connection	G3/8	G3/8	G1/2
Piston rod thread	M16 x 1.5	M20 x 1.5	M20 x 1.5
Cushioning length (mm)	30	30	30

Dimensions series XLR1


Piston \varnothing	A	$\varnothing B$	$\varnothing BA$	$\varnothing D2$	E	EE	J4	KK	L2	L7
63	32	40	45	20	74	G3/8	9.5	M16 x 1.5	25	6.5
80	40	45	45	25	95	G3/8	10	M20 x 1.5	33	5
100	40	55	55	25	115	G1/2	17	M20 x 1.5	38	6

Piston \varnothing Version	L8			PL	RT	SW	SW1	TG	VA	VD	WH
	V	H	B								
63	161.8	161.8	178.5	22	M8	17	24	56.5	4	4	37.8
80	160	160	178	27	M10	22	30	72	3.5	6.5	46
100	160	160	178	25	M10	22	30	89	4	6.5	51

Series XM

ISO 15552, double acting



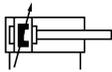
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (0 ... +150°C für high temperature version)
Max. stroke	1.000 mm
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.
Materials	cylinder tube: AISI 304 (1.4301) or AISI 316 (1.4401) End caps: AISI 304 (1.4301) or AISI 316 (1.4401) Piston rod: AISI 304 (1.4301) or AISI 316 (1.4401) Seals: PU, NBR, PBT, PTFE
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)

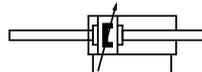


Double acting cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors.

Versions

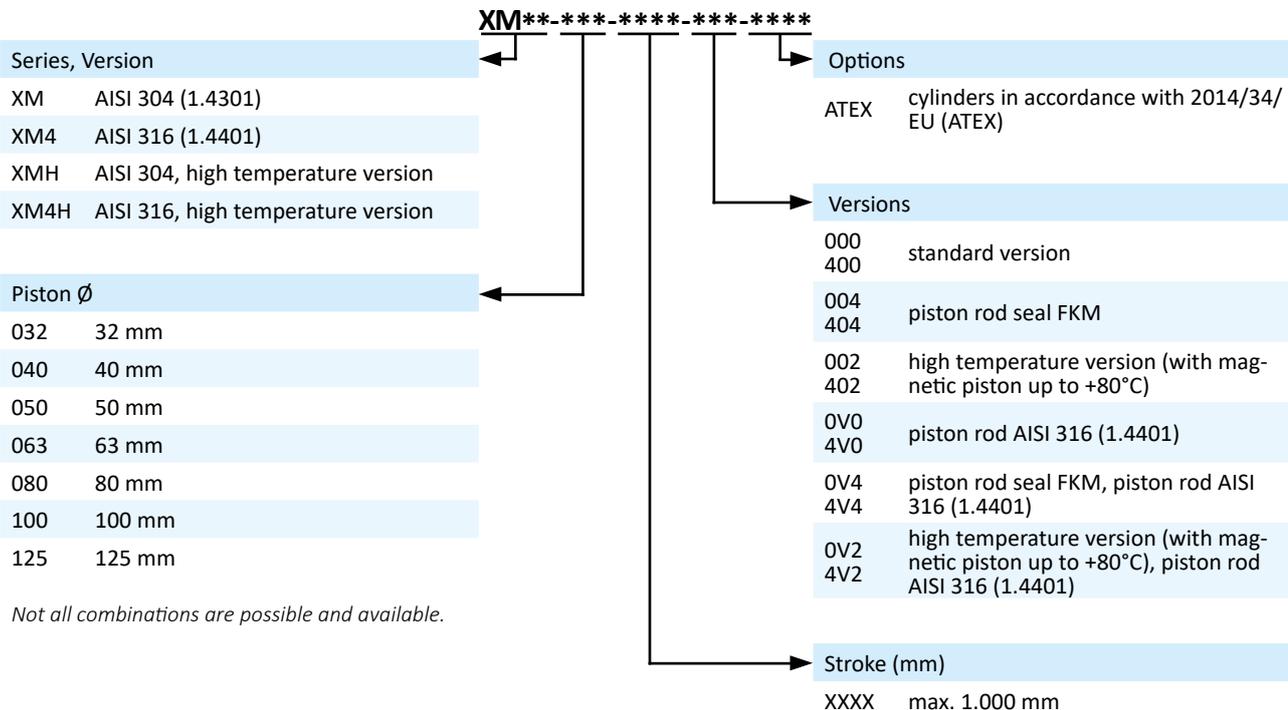


000, 002, 004, 0V0, 0V2, 0V4
double acting, adjustable cushioning,
with magnetic piston



400, 403, 404, 4V0, 4V2, 4V4
double acting, double end piston rod, adjust-
able cushioning, with magnetic piston

Order code

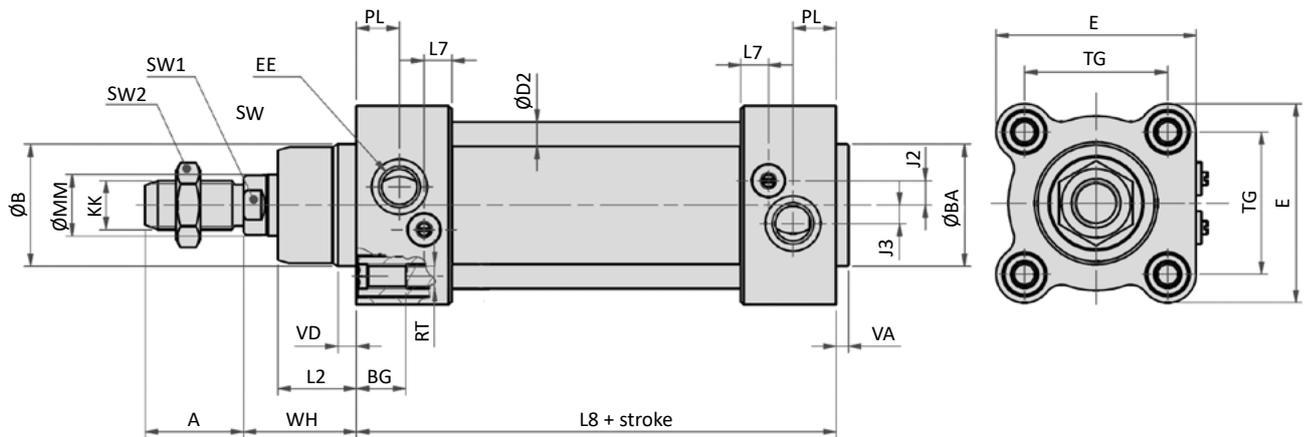


Not all combinations are possible and available.

Technical data

Model-no.:		XM-032-...	XM-040-...	XM-050-...	XM-063-...	XM-080-...	XM-100-...	XM-125-...
Piston Ø (mm)		32	40	50	63	80	100	125
Force at 6 bar (N)	Extension	434	678	1060	1682	2713	4239	6623
	Retraction	373	570	890	1513	2448	3974	6189
Connection		G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread		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
Cushioning length (mm)		20	22	25	25	35	35	35

Dimensions series XM



Piston Ø	A	Ø B	Ø BA	BG	Ø D2	E	EE	J2	J3	KK	L2
32	22	30	30	16	6	48	G1/8	6.6	5.3	M10 x 1.25	18
40	24	35	35	16	6	52	G1/4	8.5	5	M12 x 1.25	22
50	32	40	40	16	8	65	G1/4	8	6	M16 x 1.5	25.5
63	32	45	45	16	8	75	G3/8	10	6.5	M16 x 1.5	26
80	40	45	45	18	10	95	G3/8	8	8	M20 x 1.5	32
100	40	55	55	18	10	115	G1/2	15	7	M20 x 1.5	38
125	54	60	60	20	12	140	G1/2	13	7	M27 x 2	46

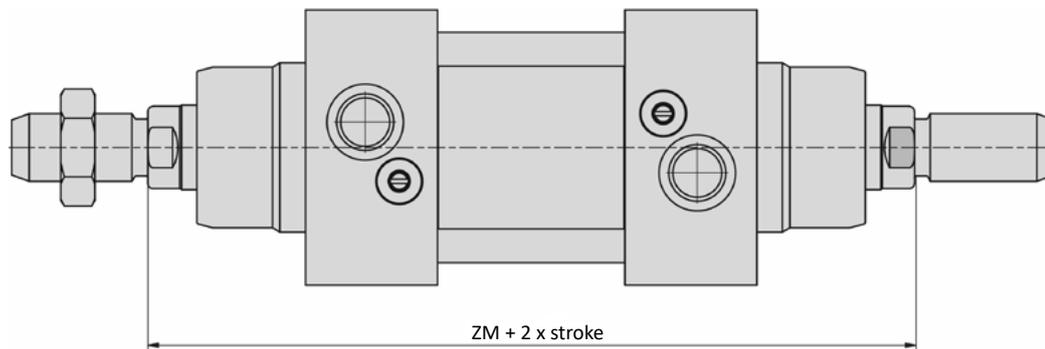
Piston Ø	L7	L8	Ø MM	PL	RT	SW1	SW2	TG	VA	VD	WH
32	7.2	94	12	13	M6	10	17	32.5	4	5	26
40	9.2	105	16	14	M6	13	19	38	4	5	30
50	9	106	20	14	M8	17	24	46.5	4	6	37
63	9.5	121	20	16	M8	17	24	56.5	4	6	37
80	11	128	25	16	M10	22	30	72	4	7	46
100	12	138	25	18	M10	22	30	89	4	7	51
125	12	160	32	18	M12	27	41	110	6	10	65

Piston Ø (mm)		32	40	50	63	80	100	125
Weight (kg)	0 mm stroke	0.960	1.455	2.370	2.550	6.030	9.420	14.550
	each 100 mm stroke	0.240	0.290	0.430	0.480	1.050	1.200	2.200

Series XM
ISO 15552, double acting



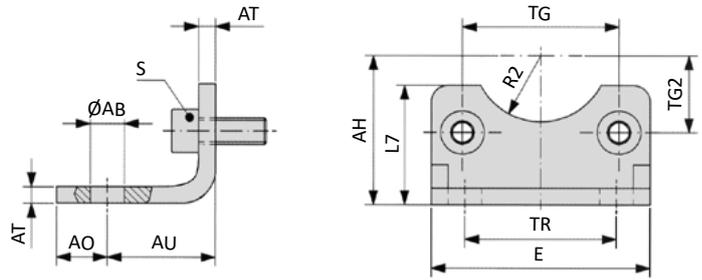
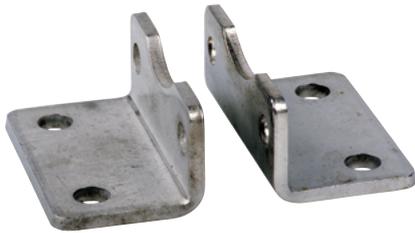
Dimensions series XM (addition at double end piston rod)



Piston Ø (mm)	32	40	50	63	80	100	125
ZM	146	165	180	195	220	240	290

Piston Ø (mm)	32	40	50	63	80	100	125
Weight (kg)							
0 mm stroke	1.086	1.615	2.677	3.930	6.561	10.180	15.868
each 100 mm stroke	0.330	0.480	0.810	0.850	1.440	1.930	2.920

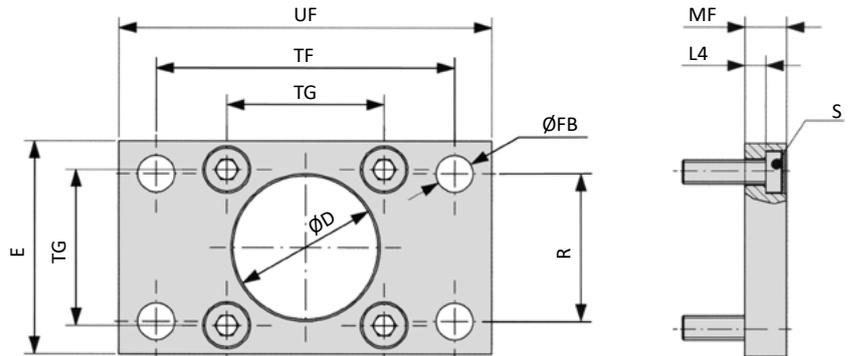
CXM-xxx-01 Foot mount



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

Material: stainless steel AISI 304 (1.4301); 2 x 2 screws in accordance with EN ISO 4762 are included.

CXM-xxx-02 Flange mount



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

Material: stainless steel AISI 304 (1.4301); 2 x 2 screws in accordance with DIN 7984 are included.

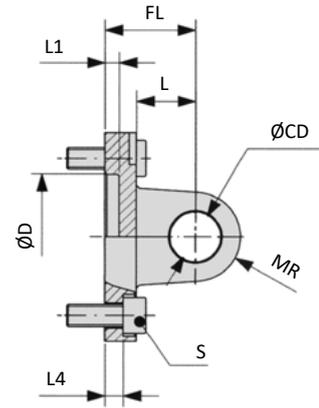
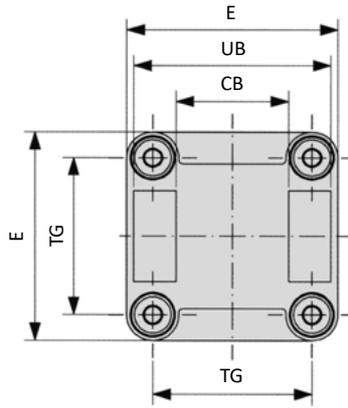
Series XM
Mounting accessories



CXM-xxx-03 Gabel



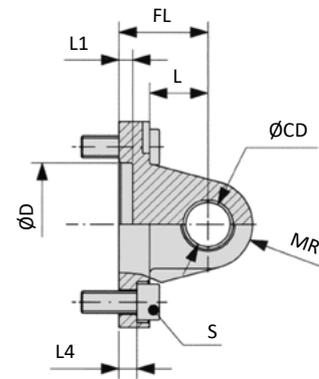
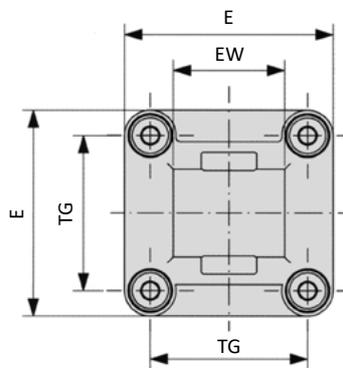
Inclusive clevis pin
order no.: CXM-xxx-38



Model-no.:	CB	Ø CD	Ø D	E	FL	L	L1	L4	MR	S	TG	UB
CXM-032-03	26	10	30	45	22	13	5	5.5	10	M6 x 20	32.5	45
CXM-040-03	28	12	35	52	25	16	5	5.5	12	M6 x 20	38	52
CXM-050-03	32	12	40	65	27	16	5	6.5	12	M8 x 20	46.5	60
CXM-063-03	40	16	45	75	32	21	5	6.5	16	M8 x 20	56.5	70
CXM-080-03	50	16	45	95	36	22	5	10	16	M10 x 25	72	90
CXM-100-03	60	20	55	115	41	27	5	10	20	M10 x 25	89	110
CXM-125-03	70	25	60	140	50	30	7	10	25	M12 x 25	110	130

Material: stainless steel AISI 304 (1.4301); 4 screws in accordance with EN ISO 4762 are included.

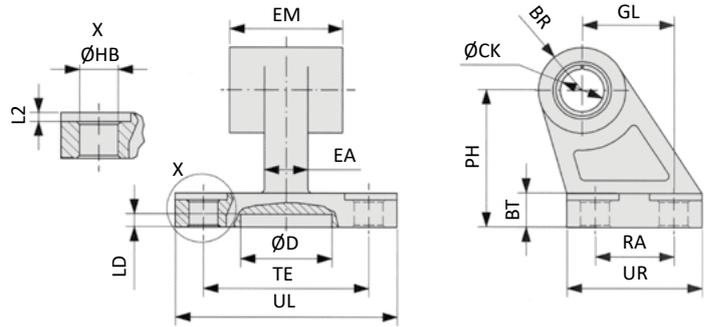
CXM-xxx-05 Swivel mount



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

Material: stainless steel AISI 304 (1.4301); 4 screws in accordance with EN ISO 4762 are included.

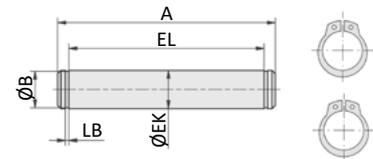
CXM-xxx-06 Swivel mount 90°



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

Material: stainless steel AISI 304 (1.4301)

CXM-xxx-08 Clevis pin



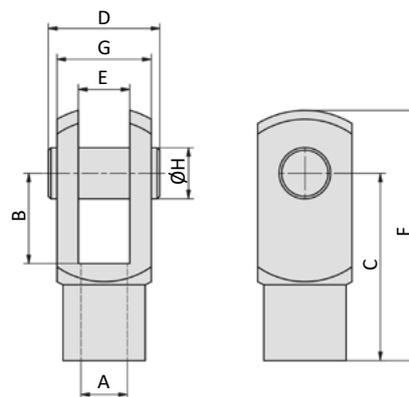
Model-no.:	A	Ø B	Ø EK	EL	LB
CXM-032-08	53	9.6	10	46	1.1
CXM-040-08	60	11.5	12	53	1.1
CXM-050-08	68	11.5	12	61	1.1
CXM-063-08	78	15.2	16	71	1.1
CXM-080-08	98	15.2	16	91	1.1
CXM-100-08	118	19	20	111	1.3
CXM-125-08	139	23.9	25	132*	1.3

Material: stainless steel AISI 304 (1.4301); 2 snap rings are included.

Series XM
Mounting accessories



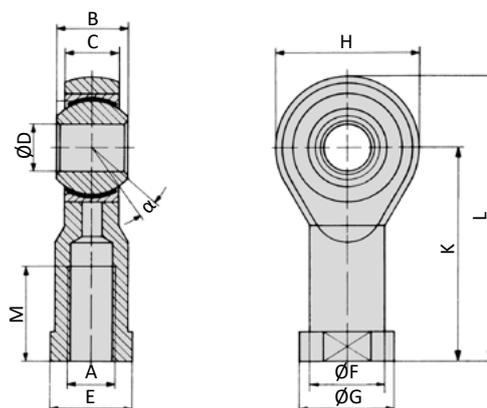
PD-xx Rod clevis



Model-no.:	for cylinder	A	B	C	D	E	F	G	Ø H
PD-25	XM-032	M10 x 1.25	20	40	26	10	52	20	10
PD-40	XM-040	M12 x 1.25	24	48	32	12	62	24	12
PD-63	XM-050, XM-063	M16 x 1.5	32	64	40	16	83	32	16
PD-80	XM-080, XM-100	M20 x 1.5	40	80	50	20	105	40	20

Material: stainless steel AISI 303 (1.4305)

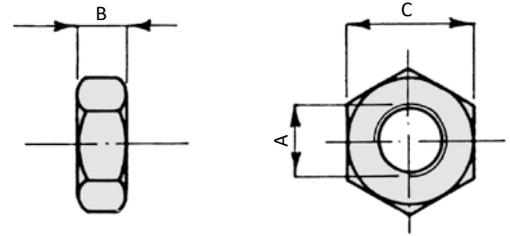
PO-xx Rod eye



Model-no.:	for cylinder	A	B	C	Ø D	E	Ø F	Ø G	H	K	L	M	α
PO-25	XM-032	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
PO-40	XM-040	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°
PO-63	XM-050, XM-063	M16 x 1.5	21	15	16	22	22	27	42	64	85	28	15°
PO-80	XM-080, XM-100	M20 x 1.5	25	18	20	30	27.5	34	50	77	102	33	14°

Materials: stainless steel AISI 331 (1.4057), bearing stainless steel AISI 316 Ti, PTFE coated, bushing stainless steel AISI 420 (1.4034)

PL-xxx Piston rod nut



Model-no.:	for cylinder	A	B	C
PL-25	XM-032	M10 x 1.25	5	17
PL-40	XM-040	M12 x 1.25	6	19
PL-63	XM-050, XM-063	M16 x 1.5	8	24
PL-80	XM-080, XM-100	M20 x 1.5	10	30
PL-125	XM-125	M27 x 2	13.5	41

Material: stainless steel AISI 304 (1.4301)

Proximity sensors



Series XG

ISO 15552, double acting

Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (XGH: -10°C...+150°C)
Max. stroke	2.700 mm
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.
Materials	cylinder tube: Aluminium, (painted) End caps: Al-die-cast (painted) Piston rod: steel hard chrome plated (optional 1.4301) Seals: PU, NBR (optional FKM)
	Cylinders in according with 2014/34/EU (ATEX) available. (chap. 12)

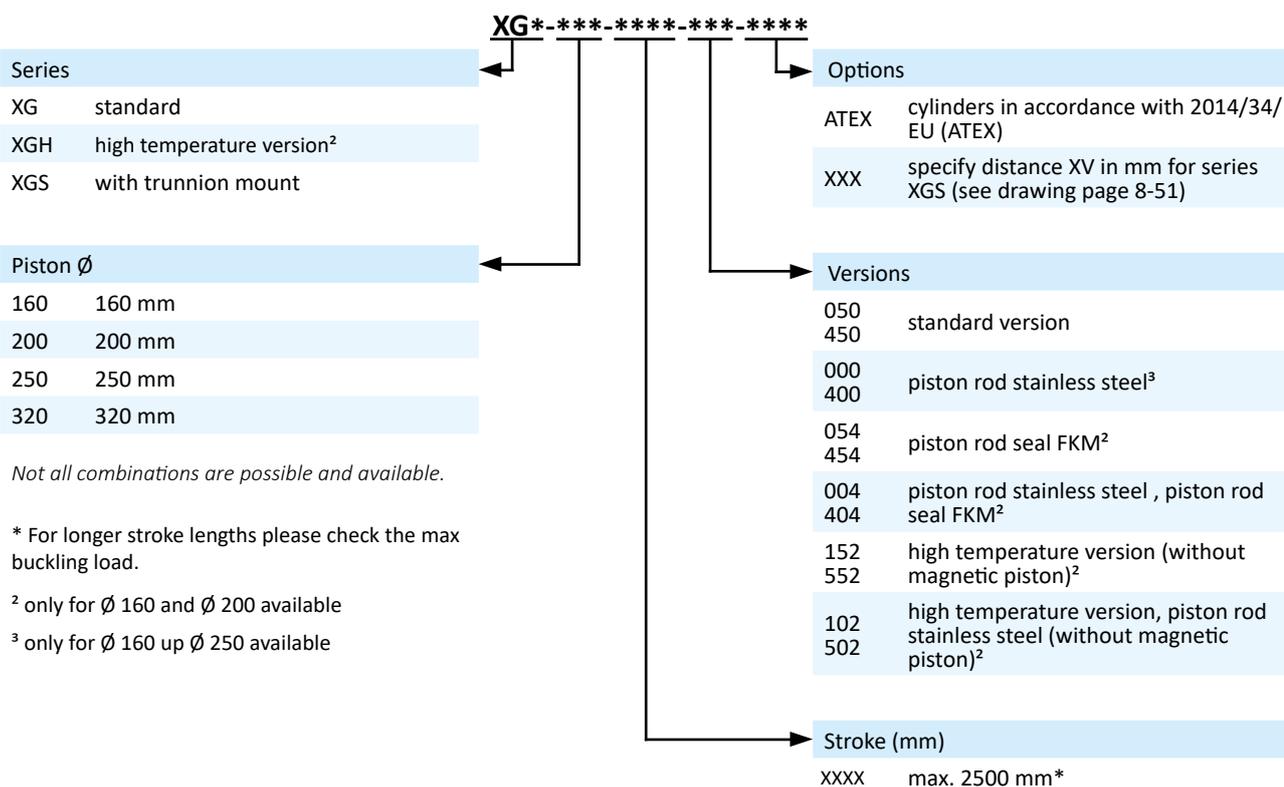


Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile.

Versions

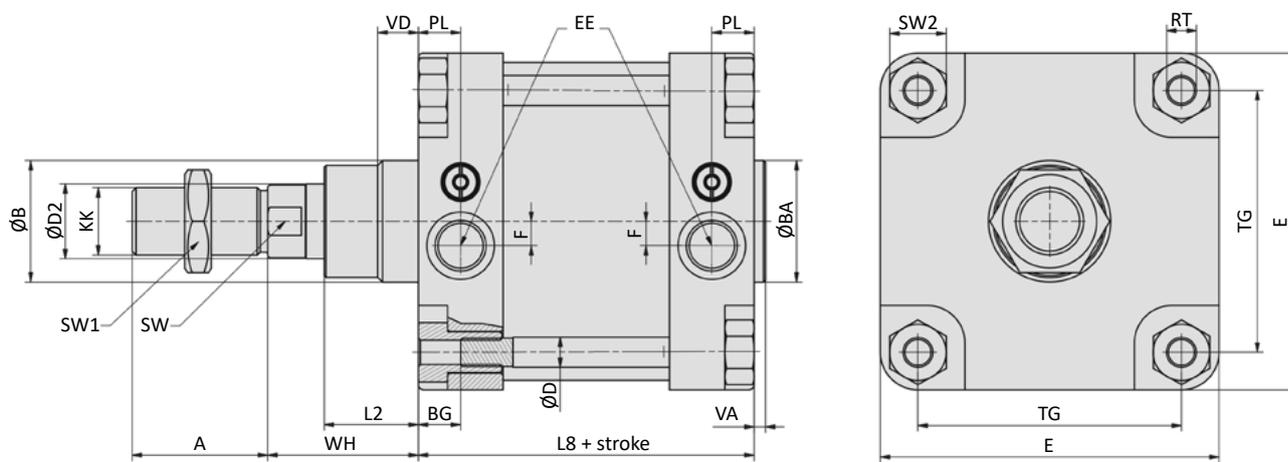
	050, 054, 000, 004 double acting, adjustable cushioning, with magnetic piston		450, 454, 400, 404 double acting, double end piston rod, adjustable cushioning, with magnetic piston
	152, 102 double acting, adjustable cushioning		552, 502 double acting, double end piston rod, adjustable cushioning

Order code



Technical data

Model-no.:	XG-160-...	XG-200-...	XG-250-...	XG-320-...
Piston \varnothing (mm)	160	200	250	320
Force at 6 bar (N)	Extension	10852	16956	26494
	Retraction	10174	16278	25434
Connection	G3/4	G3/4	G1	G1
Piston rod thread	M36 x 2	M36 x 2	M42 x 2	M48 x 2
Cushioning length (mm)	50	50	60	65

Dimensions series XG


Piston \varnothing	A	$\varnothing B$	$\varnothing BA$	BG	$\varnothing D$	$\varnothing D2$	E	EE	F	KK	L2
160	72	65	65	22.5	16	40	180	G3/4	13	M36 x 2	50
200	72	75	75	22.5	16	40	220	G3/4	13	M36 x 2	55
250	84	90	90	25	20	50	268	G1	15	M42 x 2	67
320	96	110	110	28	25	63	340	G1	0	M48 x 2	82

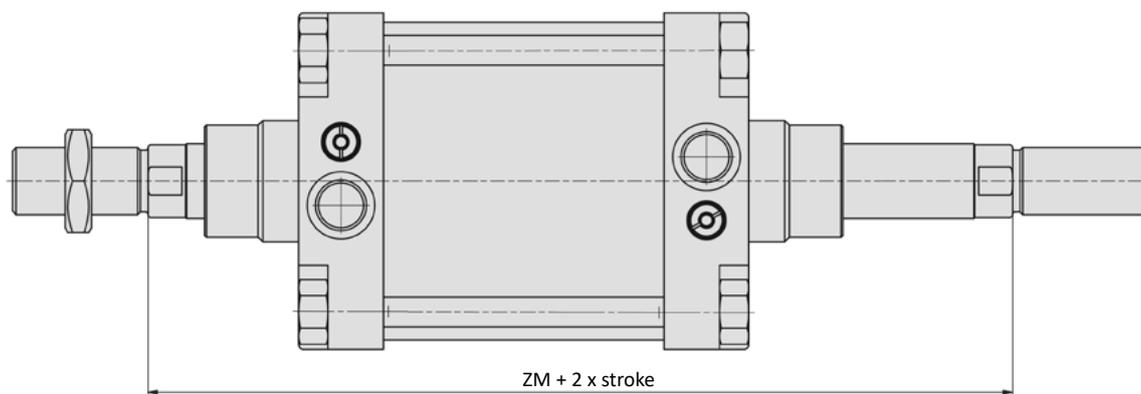
Piston \varnothing	L8	PL	RT	SW	SW1	SW2	TG	VA	VD	WH
160	179.5	22.5	M16	36	55	30	140	6	21.5	80
200	180	22.5	M16	36	55	30	175	6	26.5	95
250	200	31	M20	46	65	36	220	10	20	105
320	220	31	M24	55	75	46	270	10	20	120

Piston \varnothing (mm)		160	200	250	320
Weight (kg)	0 mm stroke	15.0	20.0	28.5	48.4
	each 100 mm stroke	2.0	2.5	3.8	6.2

Series XG

ISO 15552, double acting

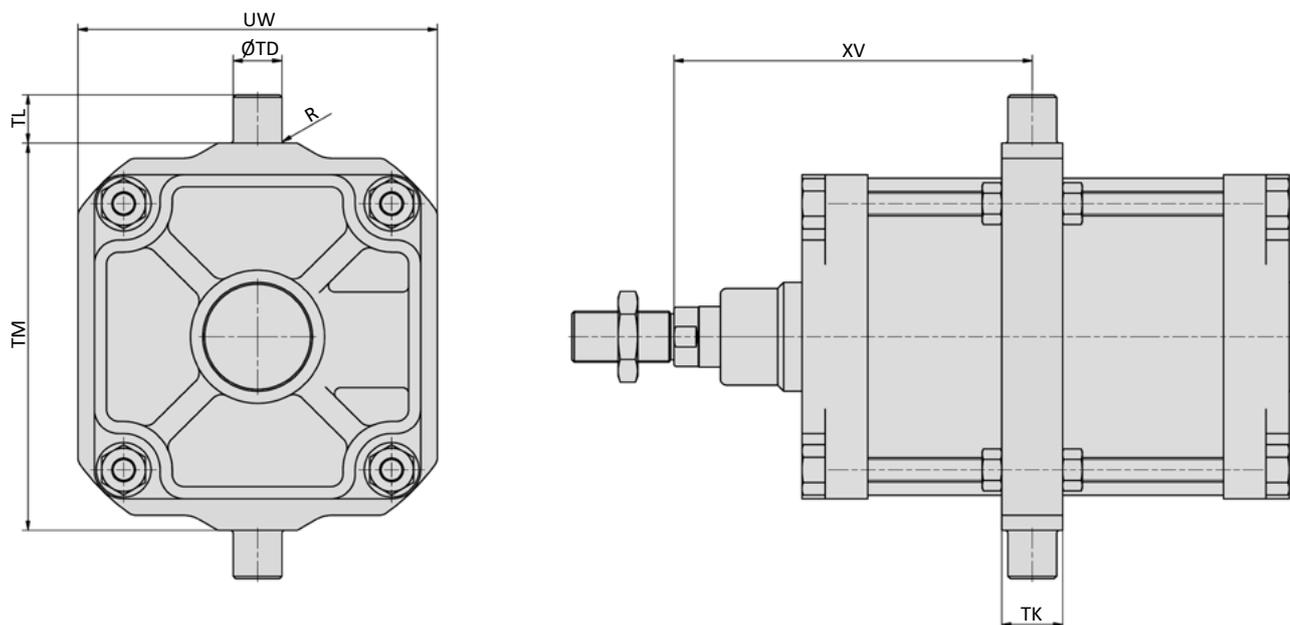
Dimensions series XG (addition at double end piston rod)



Piston Ø (mm)	160	200	250	320
ZM	340	370	410	460

Piston Ø (mm)	160	200	250	320
Weight (kg)	16.9	22.5	32.3	54.8
0 mm stroke				
each 100 mm stroke	3.3	3.5	4.0	6.4

Dimensions series XGS (addition at mounted trunnion mount)



Piston Ø	R	Ø TD	TK	TL	TM	UW	XV _{min}
160	2.5	32	40	32	200	190	153
200	2.5	32	40	32	250	240	168
250	2.5	40	50	40	320	295	200
320	2.5	50	70	50	400	370	231

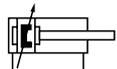
Piston Ø (mm)	160	200	250	320
Weight (kg)	19.2	27.3	41.0	72.6
0 mm stroke				
each 100 mm stroke	2.0	2.5	3.8	6.2

Technical details

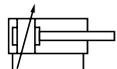
Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C
Max. stroke	1.500 mm
Working speed	30 ... 500 mm/s
Medium	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	cylinder tube: Al (anodized) End caps: Al-die-cast, (painted) Piston rod: steel hard chrome plated Seals: PU, NBR



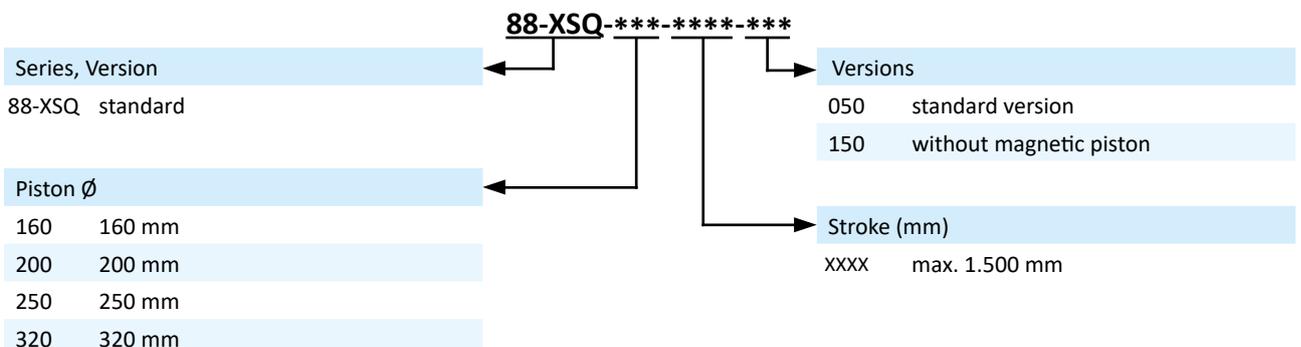
Double acting Al-profile cylinder with integrated sensor grooves, adjustable cushions and magnetic piston for proximity sensors. The sensors can be installed directly into the sensor grooves of the Al-profile.

Versions


050
 double acting, adjustable cushioning,
 with magnetic piston



150
 double acting, adjustable cushioning

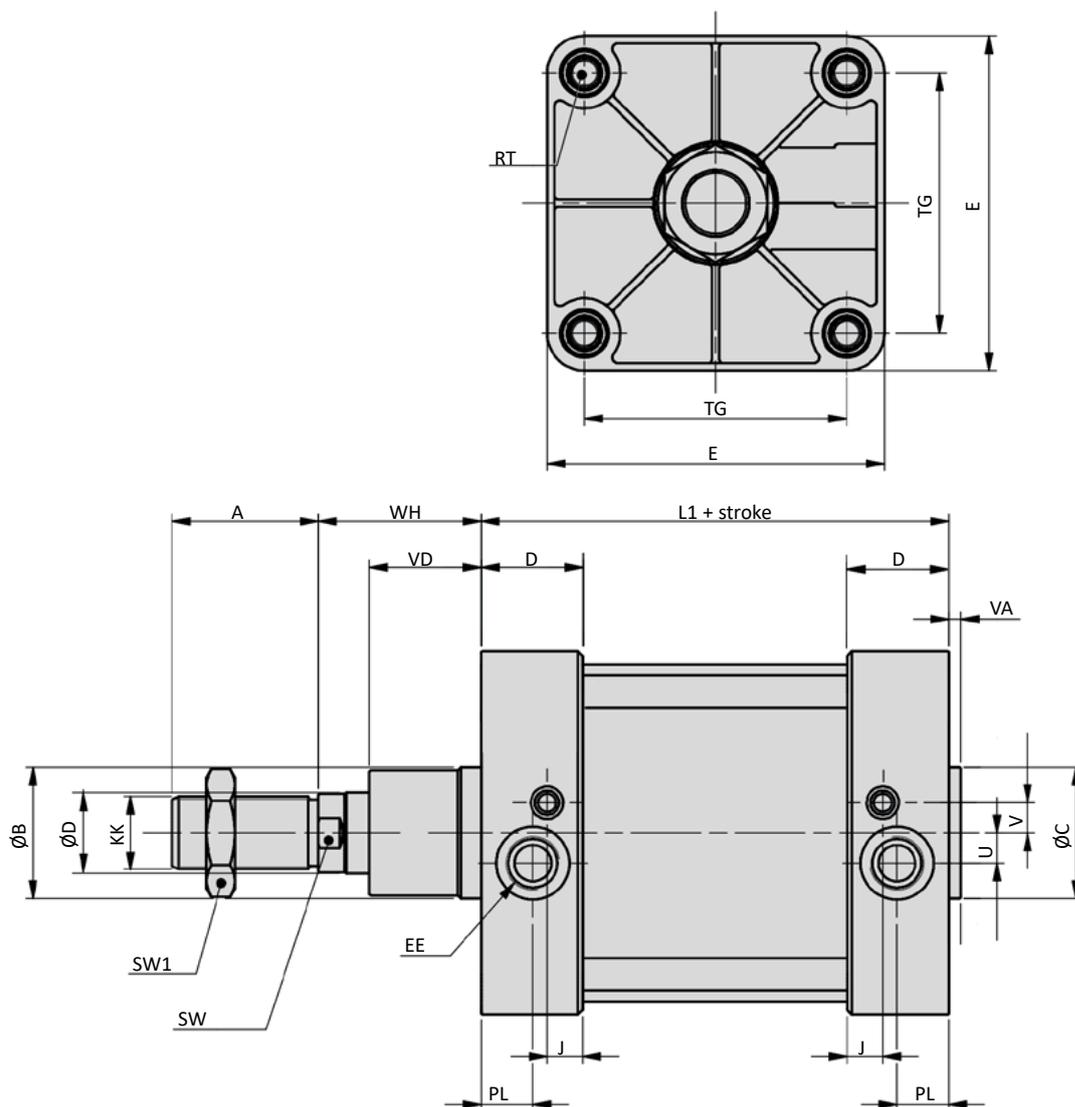
Order code

Technical data

Model-no.:	88-XSQ-160-...	88-XSQ-200-...	88-XSQ-250-...	88-XSQ-320-...
Piston Ø (mm)	160	200	250	320
Force at 6 bar (N)				
Extension	10852	16956	26494	43407
Retraction	10174	16278	25434	41725
Connection	G3/4	G3/4	G1	G1
Piston rod thread	M36 x 2	M36 x 2	M42 x 2	M48 x 2
Cushioning length (mm)	50	50	50	50

Series 88-XSQ
ISO 15552, double acting



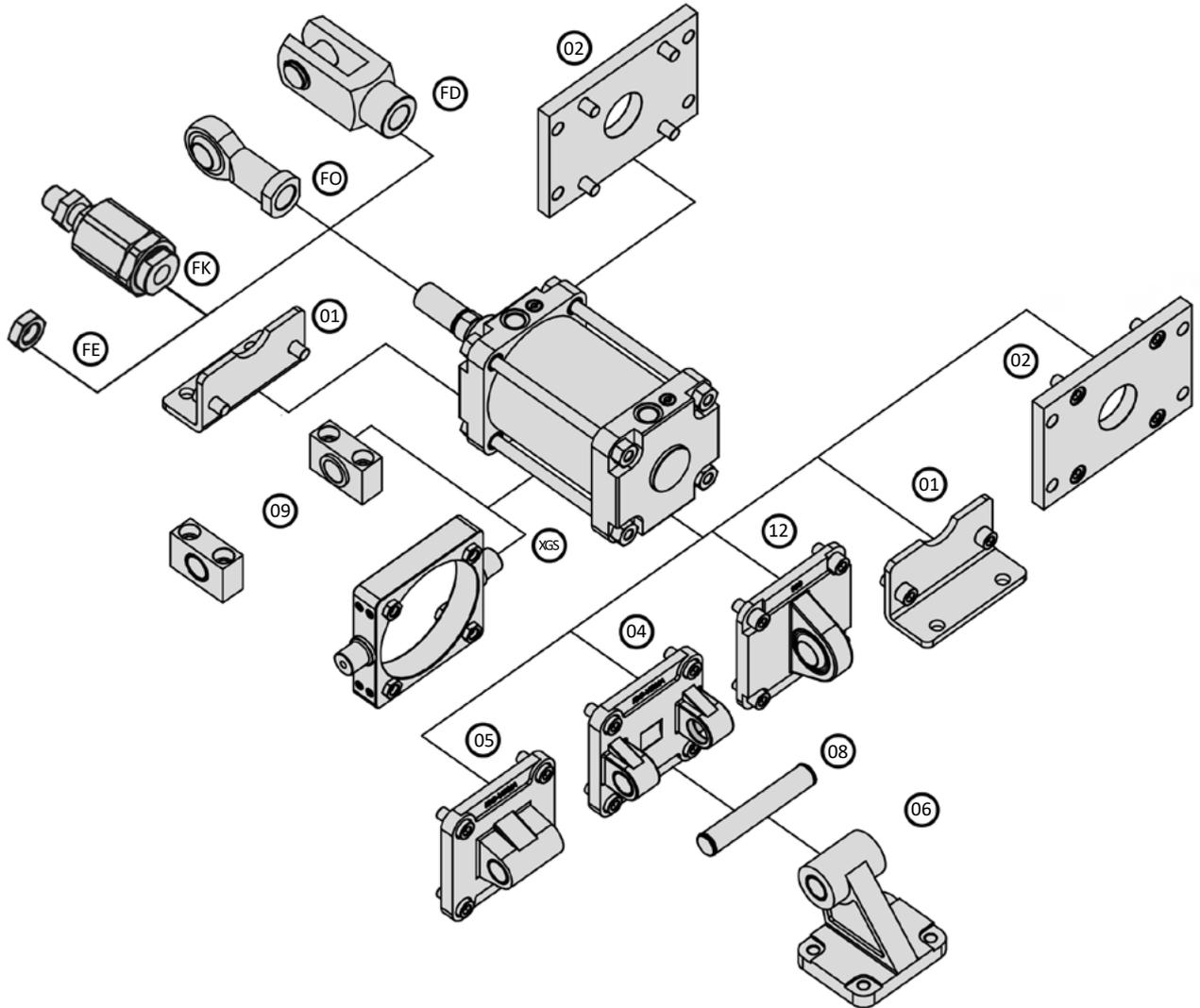
Dimensions series 88-XSQ



Piston Ø	A	Ø B	Ø C	Ø D	D	E	EE	J	KK	L1
160	72	65	65	40	50	178	G3/4	12	M36 x 2	180
200	72	75	75	40	50	220	G3/4	12	M36 x 2	180
250	84	90	90	50	60	270	G1	10	M42 x 2	200
320	96	110	110	63	65	350	G1	15	M48 x 2	220

Piston Ø	PL	RT	SW	SW1	TG	U	V	VA	VD	WH
160	25	M16	36	55	140	15	20	6	58	80
200	25	M16	36	55	175	15	20	5	67	95
250	30	M20	45	65	220	20	25	8	75	105
320	31	M24	55	75	270	35	35	10	90	120

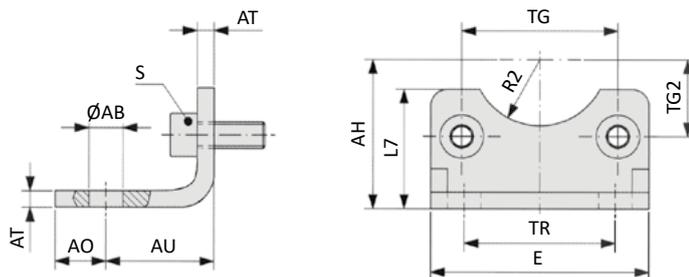
Mounting the add-on parts VLB-xxx-yy



Series XG and 88-XSQ

Mounting accessories

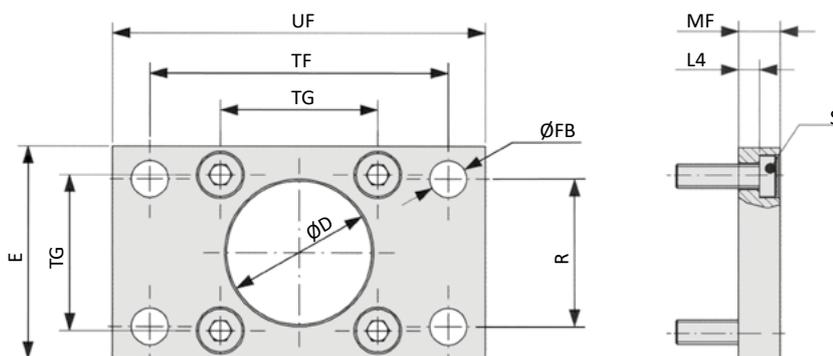
VLB-xxx-01 Foot mount



Model-no.:	Ø AB	AH	AO	AU	AT	E	L7	R2	S	TG	TG2	TR
VLB-160-01	18	115	15	60	9	180	100	32.5	M16 x 30	140	70	115
VLB-200-01	22	135	30	70	12	220	100	37.5	M16 x 30	175	87.7	135
VLB-250-01	26	165	25	75	14	270	150	45	M20 x 40	220	110	165
<i>tolerances and adjustments</i>	H14	JS16		± 0.2	± 1			H15		± 0.3		JS14

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

VLB-xxx-02 Flange mount



Model-no.:	Ø D	E	Ø FB	L4	MF	R	S	TF	TG	UF
VLB-160-02	65	180	18	9.5	20	115	M16 x 30	230	140	260
VLB-200-02	75	220	22	12.5	25	135	M16 x 30	270	175	300
VLB-250-02	90	285	26	10.5	25	165	M20 x 30	330	220	400
VLB-320-02	110	350	33	15	30	200	M24 x 40	400	270	470
<i>tolerances and adjustments</i>	H11		H13	0 - 0.5	JS14	JS14		JS14	± 0.3	

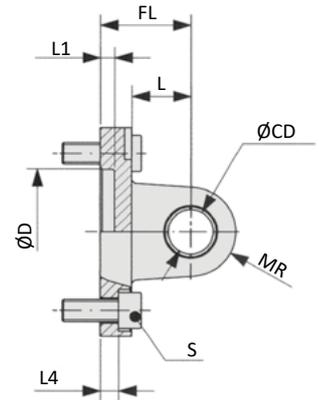
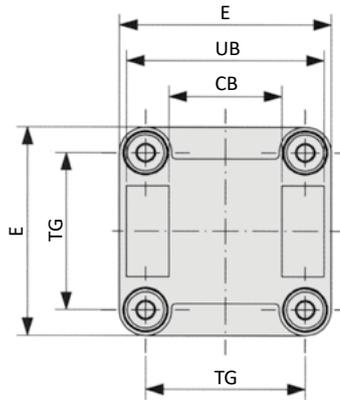
Materials: steel, zinc plated; 4 screws in accordance with DIN 7984 are included.

Series XG and 88-XSQ Mounting accessories

VLB-xxx-04 Clevis mount with bushing



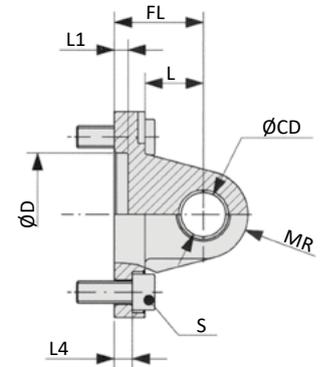
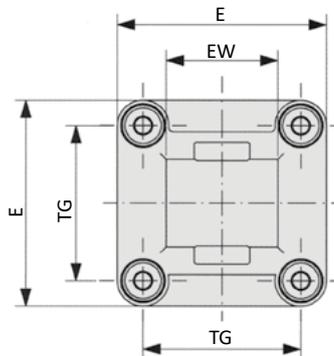
Inclusive clevis pin
order no.: **VLB-xxx-48**



Model-no.:	CB	Ø CD	Ø D	E	FL	L	L1	L4	MR	S	TG	UB
VLB-160-04	90	30	65	180	55	35	7	10	25	M16 x 30	140	170
VLB-200-04	90	30	75	220	60	35	7	11	25	M16 x 30	175	170
VLB-250-04	110	40	90	270	70	45	-*	11	40	M20 x 30	220	200
VLB-320-04	120	45	110	350	80	50	-*	15	45	M24 x 40	270	220
<i>tolerances and adjustments</i>	H14	H9	H11		± 0.2			± 0.5			± 0.3	h13

Materials: Al, bushing steel and PTFE (Ø 250 and 320 without Buchsen); 4 screws in accordance with EN ISO 4762 are included.
*through hole

VLB-xxx-05 Swivel mount



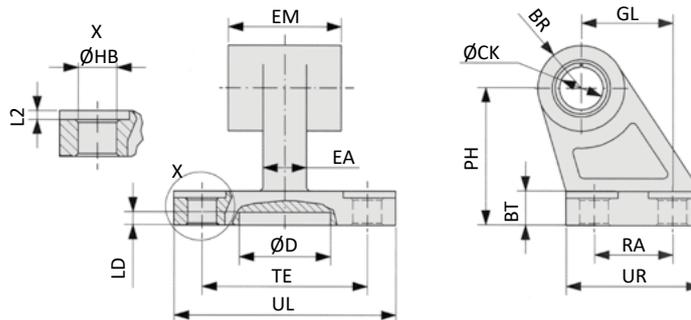
Model-no.:	Ø CD	Ø D	E	EW	FL	L	L1	L4	MR	S	TG
VLB-160-05	30	65	180	90	55	35	7	10	25	M16 x 30	140
VLB-200-05	30	75	220	90	60	35	7	11	25	M16 x 30	175
VLB-250-05	40	90	270	110	70	45	11	11	40	M20 x 30	220
VLB-320-05	45	110	350	120	80	50	15	15	45	M24 x 40	270
<i>tolerances and adjustments</i>	H9	H11		-0.5 -1.2	± 0.2			± 0.5			± 0.3

Materials: Al, bushing steel and PTFE (Ø 250 and 320 without Buchsen); 4 screws in accordance with EN ISO 4762 are included.

Series XG and 88-XSQ

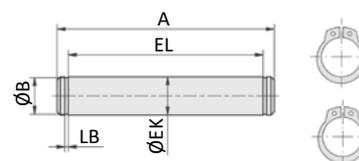
Mounting accessories

VLB-xxx-06 Swivel mount 90°



Model-no.:	BR	BT	Ø CK	Ø D	EA	EM	GL	Ø HB	L2	LD	PH	RA	TE	UL	UR
VLB-160-06	31.5	25	30	31	36	90	97	14	4	5	115	88	118	156	126
VLB-200-06	31.5	30	30	31	40	90	105	18	4	5	135	90	122	162	130
<i>tolerances and adjustments</i>			H9			-0.5 -1.5	JS14	H13			JS15	JS14	JS14		
Materials: Al															

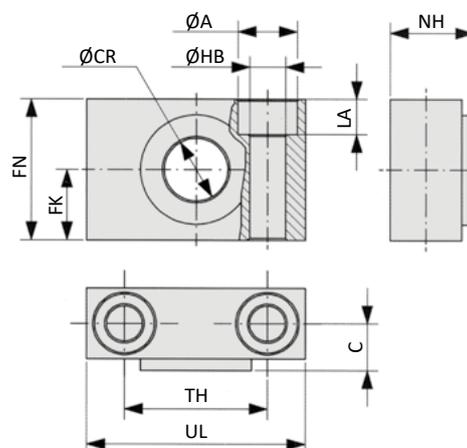
VLB-xxx-08 Clevis pin



Model-no.:	for cylinder Ø	A	Ø B	Ø EK	EL	LB
VLB-200-08	160. 200	178	28.6	30	171.5	1.60
VLB-250-08	250	211	37.5	40	202	1.85
VLB-320-08	320	234	42.5	45	222	1.85
<i>tolerances and adjustments</i>				e8	+ 3 0	

Materials: steel, zinc plated; 2 snap rings are included.

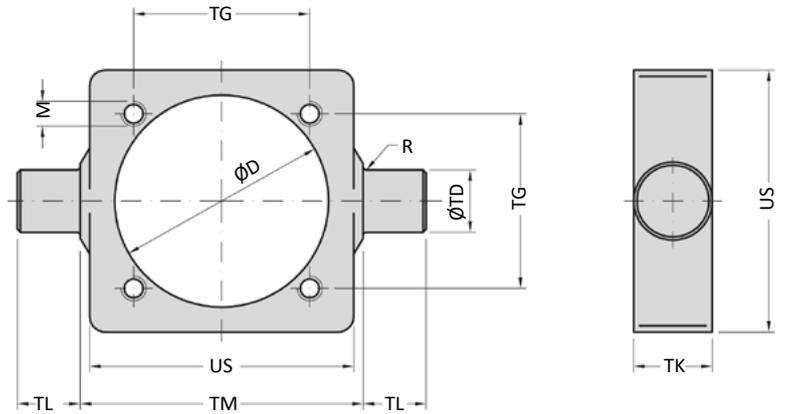
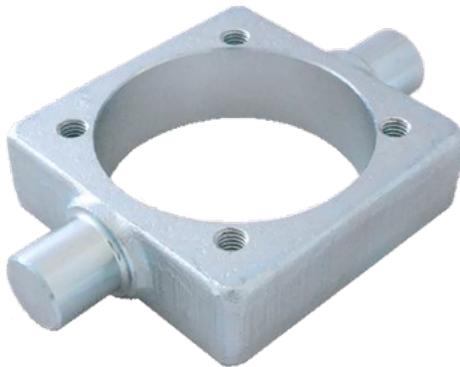
VLB-xxx-09 Bearing block



Model-no.:	Ø A	C	Ø CR	FK	FN	Ø HB	LA	NH	TH	UL
VLB-200-09	26	22.5	32	30	60	18	17	40	60	92
VLB-250-09	33	31	40	35	70	22	20	56	70	140
<i>tolerances and adjustments</i>			H9	± 0.2		H13			± 0.3	

Materials: steel, zinc plated; bronze bushing

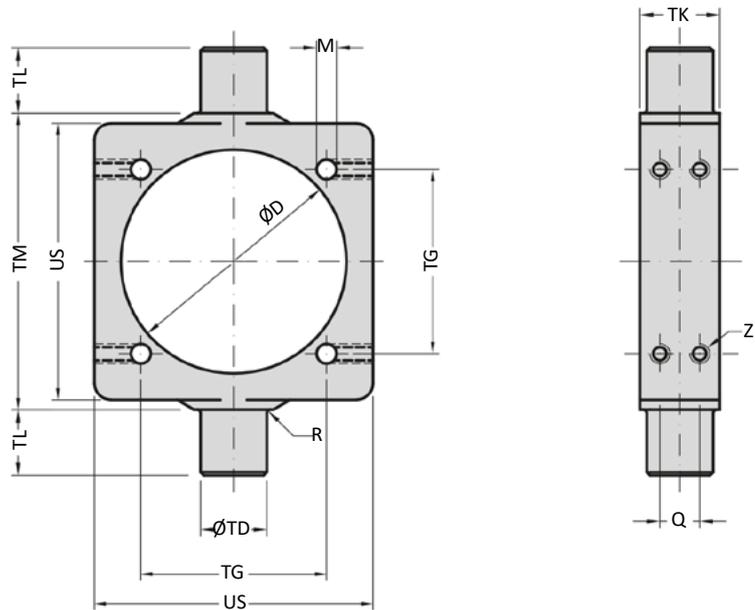
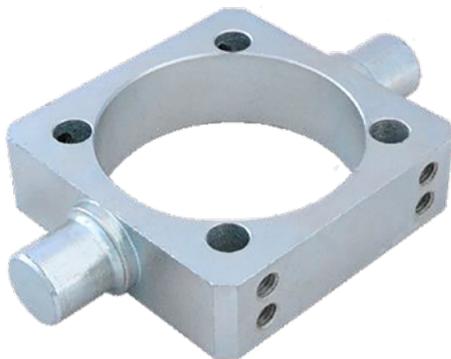
VLB-xxx-10 Trunnion mount, Montage auf Zugstangen mit Gewinde



Model-no.:	Ø D	M	R	Ø TD	TG	TK	TL	TM	US
VLB-160-10	171	M16	2.5	32	140	46	32	200	198
VLB-200-10	214	M16	2.5	32	175	46	32	250	245
VLB-250-10	268	M20	2.5	40	220	56	40	320	304
VLB-320-10*	343	M24	2.5	50	270	70	50	400	370
<i>tolerances and adjustments</i>	+ 0.2 0		max	e9	± 0.2	max	h14	h14	max

Material: steel, black plated; *delivery on request

VLB-xxx-10-A Trunnion mount, Montage mit Klemmung



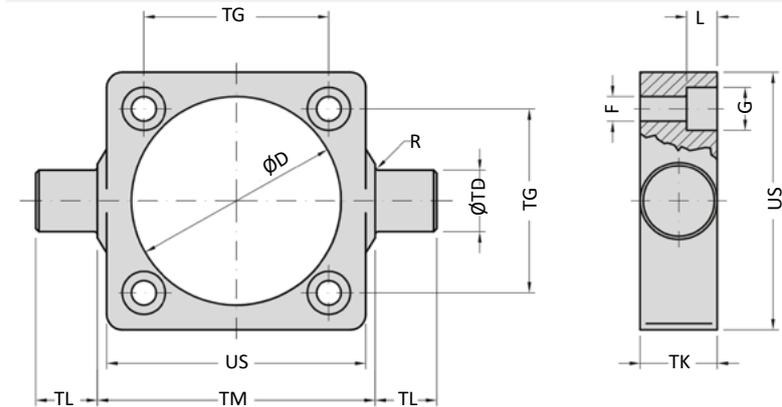
Model-no.:	Ø D	M	Q	R	Ø TD	TG	TK	TL	TM	US	Z
VLB-160-10-A	171.6	16.25	18	2.5	32	140	40	32	200	190	M12
VLB-200-10-A	214	16.25	18	2.5	32	175	40	32	250	240	M12
<i>tolerances and adjustments</i>	+ 0.2 0	+ 0.2 0	± 0.2	max	e9	± 0.2	max	h14	h14	max	

Materials: steel, zinc plated

Series XG and 88-XSQ

Mounting accessories

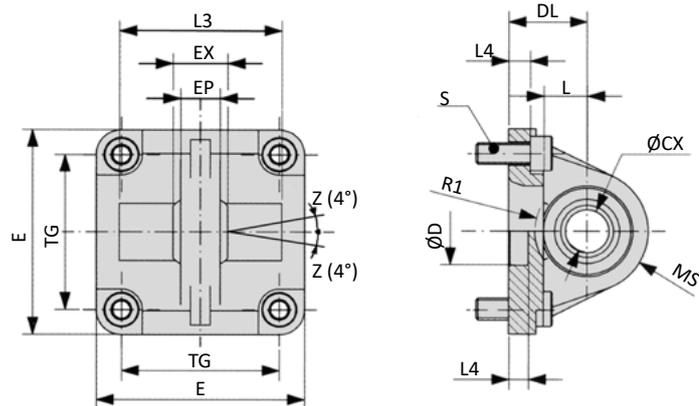
VLB-xxx-11 Trunnion mount



Model-no.:	Ø D	F	G	L	R	Ø TD	TG	TK	TL	TM	US
VLB-160-11	170	17	25	16	2.5	32	140	40	32	200	190
VLB-200-11	211	17	25	16	2.5	32	175	40	32	250	240
<i>tolerances and adjustments</i>	+0.2 0	H13	H13	+0.5 0	max	e9	± 0.2	max	h14	h14	max

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

VLB-xxx-12 Swivel mount with spherical bearing

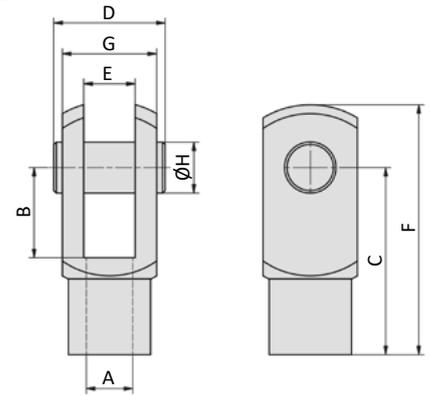


Model-no.:	Ø CX	Ø D	DL	E	EP	EX	L	L1	L3	L4	MS	R1	S	TG
VLB-160-12	35	65	55	180	28	43	35	7	-	10	45	-	M16 x 30	140
VLB-200-12	35	75	60	220	28	43	35	7	-	11	48	-	M16 x 30	175
<i>tolerances and adjustments</i>	H7	H11	± 0.2											± 0.3

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

Series XG and 88-XSQ Mounting accessories

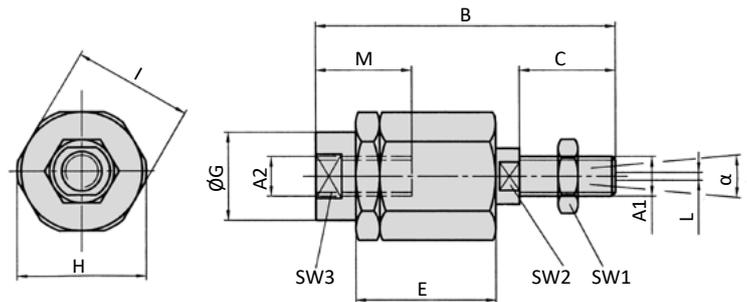
FD-xxx Rod clevis



Model-no.:	for cylinder \varnothing	A	B	C	D	E	F	G	H
FD-200	160. 200	M36 x 2	72	144	84	35	188	70	35
FD-250	250	M42 x 2	84	168	104.5	40	232	85	40
FD-320	320	M48 x 2	96	192	117.5	50	265	96	50

Materials: steel, zinc plated

FK-xxx Flexible coupling



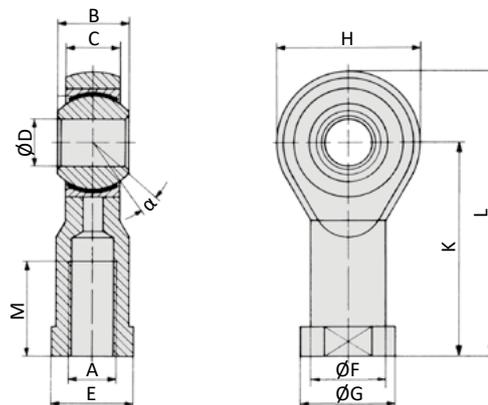
Model-no.:	for cylinder	A1, A2	B	C	D	E	$\varnothing G$	H	I	L	M	SW1	SW2	SW3	α
FK-200	160. 200	M36 x 2	190	72	15.5	77	57	75	70	2	68	32	54	55	8°

Materials: steel, zinc plated

Series XG and 88-XSQ

Mounting accessories

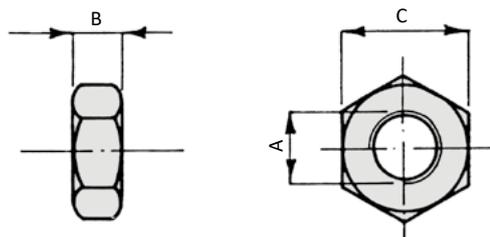
FO-xxx Rod eye



Model-no.:	for cylinder \varnothing	A	B	C	$\varnothing D$	E	$\varnothing F$	$\varnothing G$	H	K	L	M	α
FO-160/200	160. 200	M36 x 2	43	28	35	50	46	58	80	125	165	56	16°
FO-250	250	M42 x 2	49	33	40	55	53	65	91	142	187	60	16°
FO-320	320	M48 x 2	60	45	50	60	65	75	117	162	218	65	14°

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

FE-xx Piston rod nut



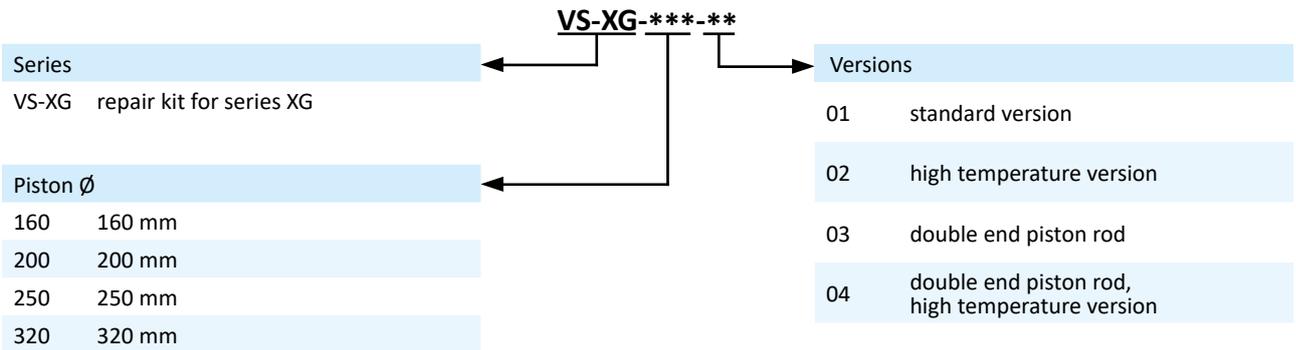
Model-no.:	for cylinder \varnothing	A	B	C
FE-200	160. 200	M36 x 2	18	55
FE-250	250	M42 x 2	21	65
FE-320	320	M48 x 2	24	75

Materials: steel, zinc plated

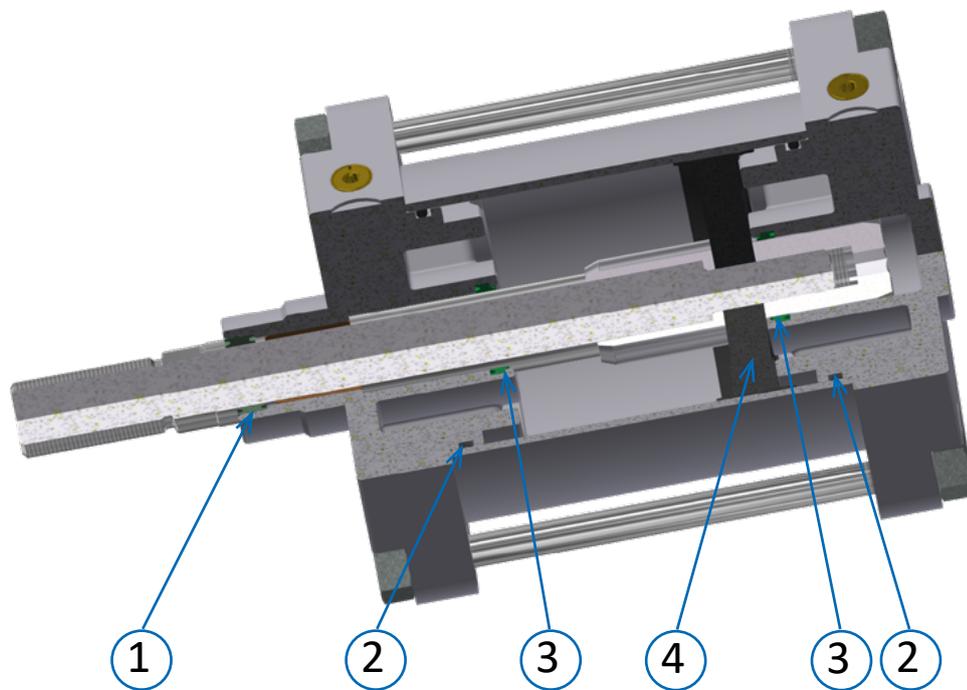
Proximity sensors



Order code



Content



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1*
2	O-ring, cylinder tube (NBR)	2
3	damping seal (PUR)	2
4	piston with magnet (NBR)	1

*2 pieces for version 03

High temperature version

Position	Product description	Quantity
1	piston rod seal (FKM) + snap ring	1*
2	O ring (FKM)	2
3	damping seal (FKM)	2
4	piston (FKM)	1

*2 pieces for version 04

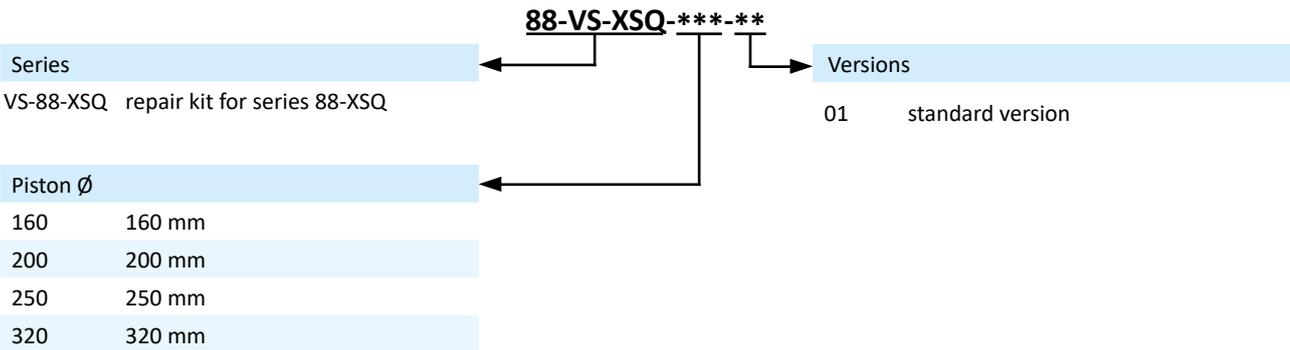
Please grease the running surfaces after fitting the seals. We recommend our assembly grease 21-MP-01-00030-50.



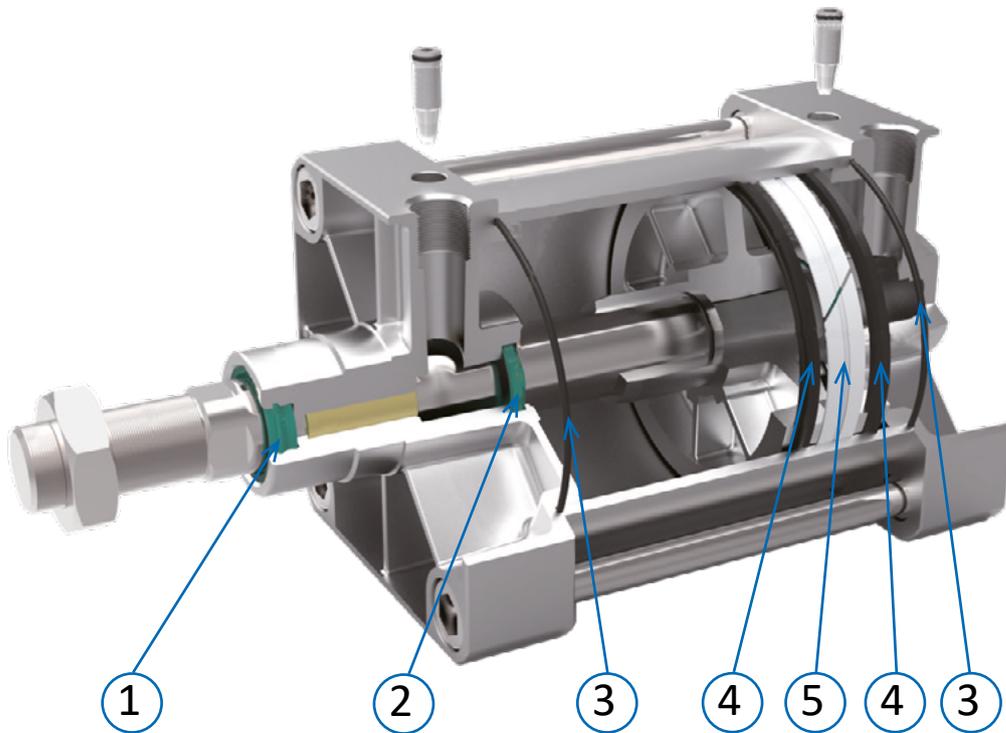
Series 88-XSQ

Repair kits

Order code



Content



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1
2	damping seal (NBR)	2
3	O-ring, cylinder tube (NBR)	2
4	piston seal (NBR)	2
5	guide ring (PTFE)	1



Please grease the running surfaces after fitting the seals.
We recommend our assembly grease 21-MP-01-00030-50.



Series HM Mini cylinders ISO 6432, double acting

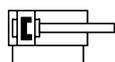
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C for Ø 8 - 12 mm -35°C ... +80°C for Ø 16 - 25 mm 0 ... +150°C for high temperature version
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.
Materials	Cylinder tube: stainless steel End caps: Al (anodized) Piston rod: stainless steel Seals: PU, NBR
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)

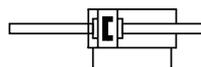


Double acting pneumatic cylinder with magnetic piston and built-in cushioning rings or adjustable cushions. Standard stroke lengths in table below, additional lengths on request.

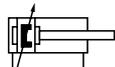
Versions



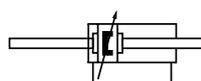
HM, HMS, HMZ
double acting, with magnetic piston



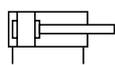
HMDE
double acting, double end piston rod, with magnetic piston



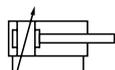
HMP
double acting, adjustable cushioning, with magnetic piston



HMPDE
double acting, double end piston rod, adjustable cushioning, with magnetic piston



HDH
double acting, high temperature version



HDPH
double acting, adjustable cushioning, high temperature version

Order code

Series		Options	
HM	standard	ATEX	cylinders in accordance with 2014/34/EU (ATEX)
HMP*		Stroke (mm)	xxx max. stroke see technical data
HMDE*		Standard#	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400 mm
HMPDE*		Piston Ø	08 8 mm 10 10 mm 12 12 mm 16 16 mm 20 20 mm 25 25 mm
HDH**	high temperature version		
HDPH*	high temperature version		
HMS*	lateral air connection, rear		
HMZ*	central air connection, rear		

H**-**-***-****-*******

* only for Ø 16, 20 and 25 mm
** not for Ø 8 mm
only for series HM and HMP in consideration of max. stroke

Series HM

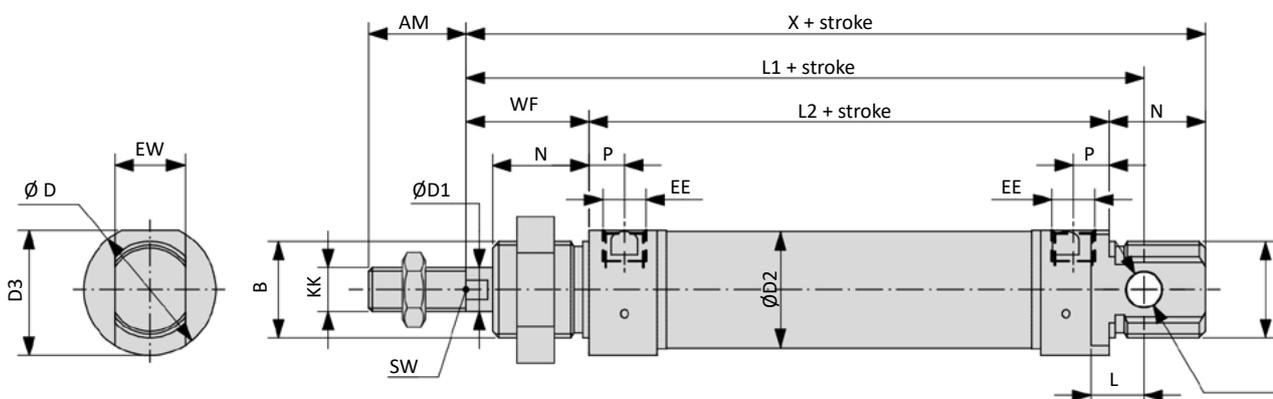
Mini cylinders ISO 6432, double acting

Technical data

Model-no.:	HM-08-...	HM-10-...	HM-12-...	Hxx-16-...	Hxx-20-...	Hxx-25-...
Piston \varnothing (mm)	8	10	12	16	20	25
Force at 6 bar (N)	Extension	27	42	61	109	265
	Retraction	20	36	46	93	223
Connection	M5	M5	M5	M5	G1/8	G1/8
Piston rod thread	M4	M4	M6	M6	M8	M10 x 1.25
Max. stroke (mm)	100	200	500	900	900	900
Cushioning length (mm)*	-	-	-	15.5	17	19.5

* only for series HMP, HMPDE, HDPH

Dimensions series HM, HMP, HDH, HDPH



Piston \varnothing	AM	B	\varnothing CD	\varnothing D	\varnothing D1	\varnothing D2	D3	EE
8	12	M12 x 1.25	4	16	4	9.27	15	M5
10	12	M12 x 1.25	4	16	4	11.27	15	M5
12	16	M16 x 1.5	6	19	6	13.27	18	M5
16	16	M16 x 1.5	6	19*	6	17.27	18	M5
20	20	M22 x 1.5	8	27	8	21.27	25.5	G1/8
25	22	M22 x 1.5	8	30	10	26.5	28.5	G1/8

* 21 mm for HMP, HMPDE, HDPH

Piston \varnothing	EW	KK	L	L1	L2	N	P	SW	WF	X
8	8	M4	6	64	46	12	5	-	16	74
10	8	M4	6	64	46	12	5	-	16	74
12	12	M6	9	75	48	18	5	5	22	88
16	12	M6	9	82	53	18*	4.5	5	22	93
20	16	M8	12	95	67	20	8	7	24	111
25	16	M10 x 1.25	12	104	68	22	8	9	28	118

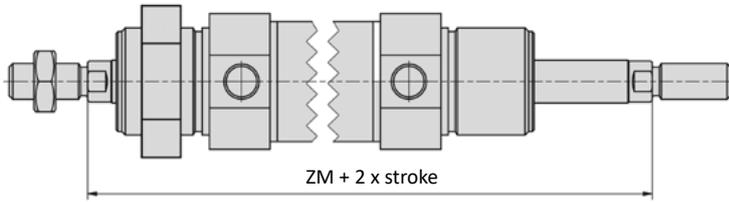
* 17 mm for HMP, HMPDE, HDPH

Series HM

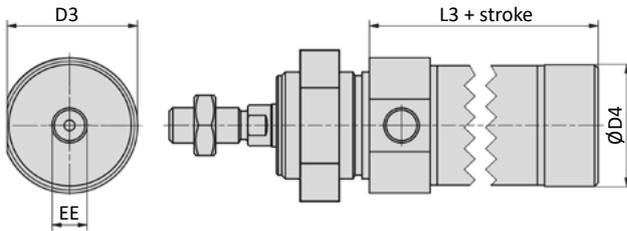
Mini cylinders ISO 6432, double acting

Additional dimensions Series HMDE, HMPDE, HMZ, HMS

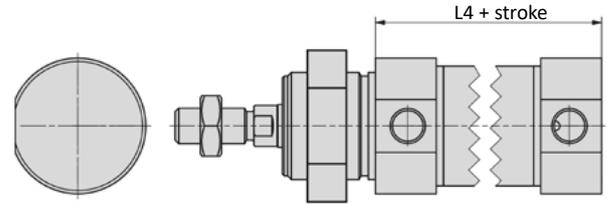
double end piston rod



Series HMZ



Series HMS



Piston \varnothing	ZM	EE	$\varnothing D$	$\varnothing D4$	L3	L4
16	97	M5	19	17.2	52	52.5
20	115	G1/8	27	22.2	65	67
25	124	G1/8	30	27	66	68

Series HE

Mini cylinders ISO 6432, single acting

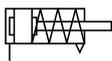
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C for Ø 8 - 12 mm -35°C ... +80°C for Ø 16 - 25 mm 0 ... +150°C for high temperature version
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.
Materials	Cylinder tube: stainless steel End caps: Al (anodized) Piston rod: stainless steel Seals: PU, NBR

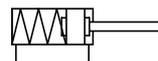


Single acting pneumatic cylinder with built-in cushioning rings.

Versions

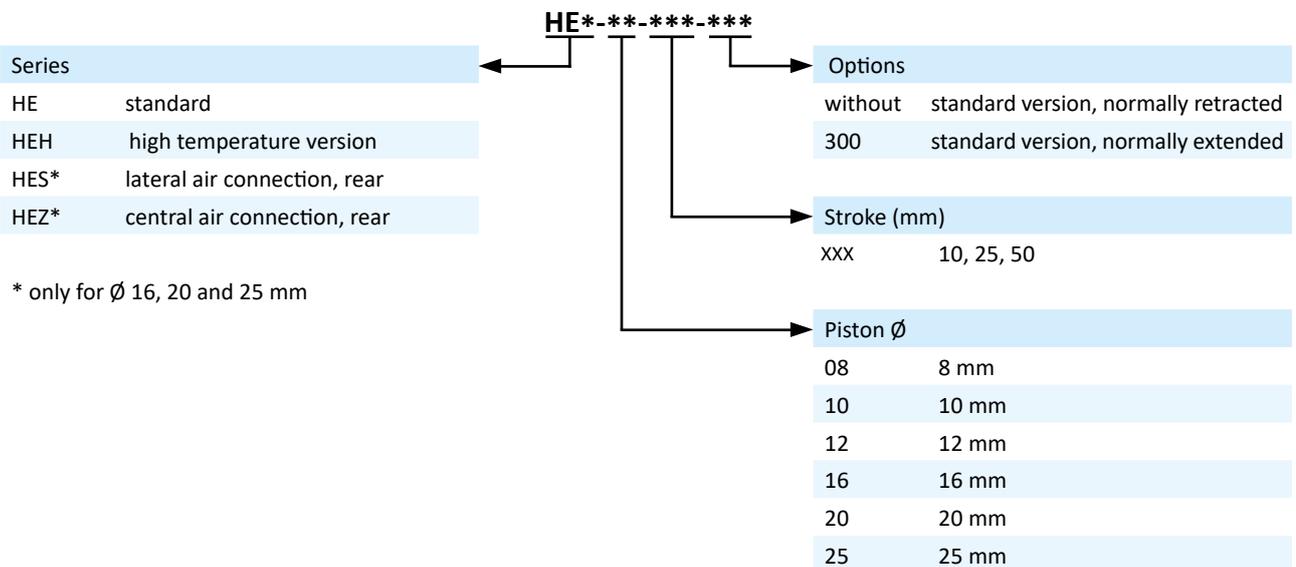


HE, HES, HEZ
single acting, normally retracted



HE, HEH, HES, HEZ ... -300
single acting, normally extended

Order code



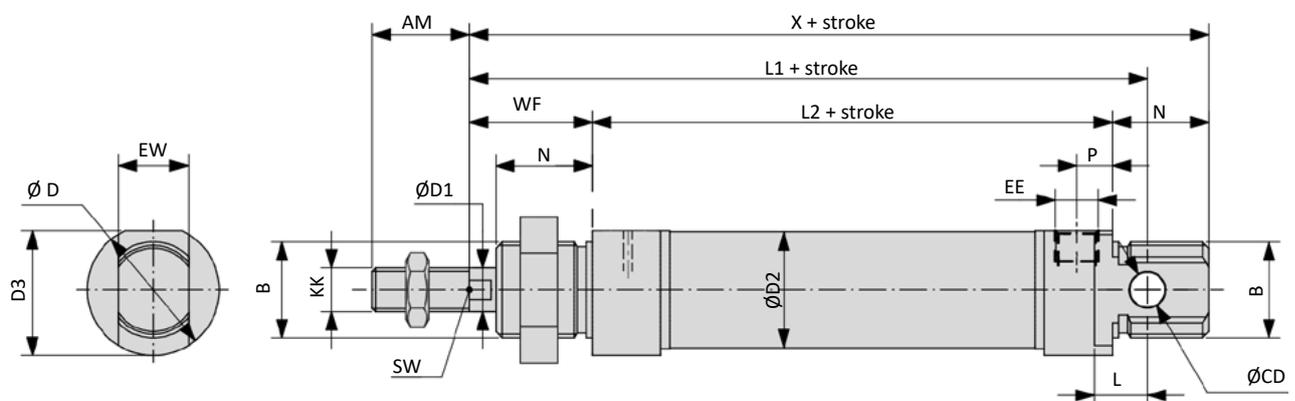
Series HE

Mini cylinders ISO 6432, single acting

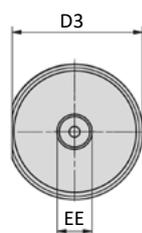
Technical data

Model-no.:		HE-08-...	HE-10-...	HE-12-...	HEx-16-...	HEx-20-...	HEx-25-...
Piston Ø (mm)		8	10	12	16	20	25
Force at 6 bar and 10 mm stroke (N)	Extension	19.0 ... 19.7	36.0 ... 36.7	51.7 ... 52.0	87.5 ... 90.0	142.8 ... 145.0	243.7 ... 245.0
	Retraction	4.5 ... 5.2	4.5 ... 5.2	5.7 ... 6.0	15.0 ... 17.5	21.3 ... 23.5	18.2 ... 19.5
Force at 6 bar and 25 mm stroke (N)	Extension	19.0 ... 20.3	36.0 ... 37.3	51.7 ... 52.6	87.5 ... 93.5	142.8 ... 148.3	243.7 ... 247.0
	Retraction	3.9 ... 5.2	3.9 ... 5.2	5.1 ... 6.0	11.5 ... 17.5	18.0 ... 23.5	16.2 ... 19.5
Force at 6 bar and 50 mm stroke (N)	Extension	19.0 ... 21.7	36.0 ... 38.7	51.7 ... 53.6	87.5 ... 99.7	142.8 ... 153.8	243.7 ... 250.3
	Retraction	2.5 ... 5.2	2.5 ... 5.2	4.1 ... 6.0	5.3 ... 17.5	12.5 ... 23.5	12.9 ... 19.5
Connection		M5	M5	M5	M5	G1/8	G1/8
Piston rod thread		M4	M4	M6	M6	M8	M10 x 1.25

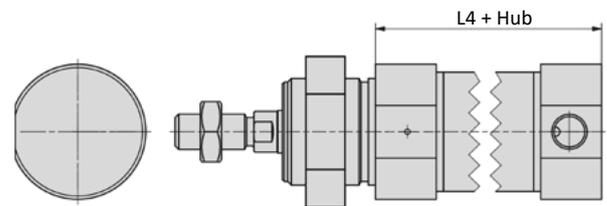
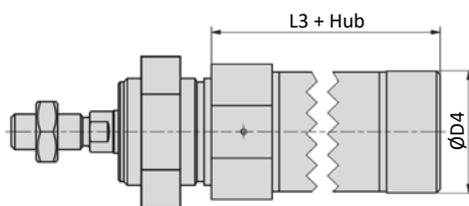
Dimensions series HE



Series HEZ



Series HES



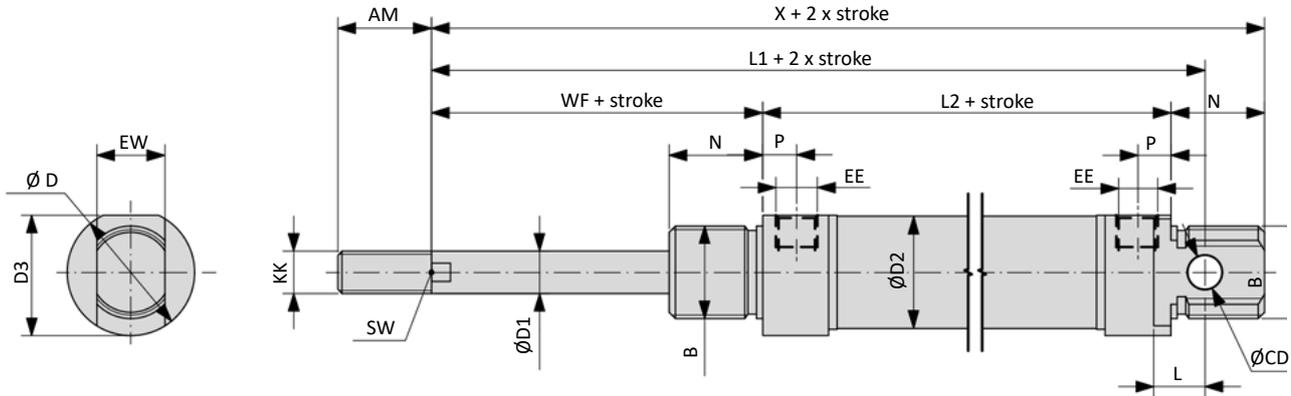
Piston Ø	AM	B	Ø CD	Ø D	Ø D1	Ø D2	D3	Ø D4	EE	EW	KK
8	12	M12 x 1.25	4	16	4	9.27	15	-	M5	8	M4
10	12	M12 x 1.25	4	16	4	11.27	15	-	M5	8	M4
12	16	M16 x 1.5	6	19	6	13.27	18	-	M5	12	M6
16	16	M16 x 1.5	6	19*	6	17.27	18	17.2	M5	12	M6
20	20	M22 x 1.5	8	27	8	21.27	25.5	22.2	G1/8	16	M8
25	22	M22 x 1.5	8	30	10	26.5	28.5	27	G1/8	16	M10 x 1.25

Piston Ø	L	L1	L2	L3	L4	N	P	SW	WF	X
8	6	64	46	-	-	12	5	-	16	74
10	6	64	46	-	-	12	5	-	16	74
12	9	75	48	-	-	18	5	5	22	88
16	9	82	53	52	52.5	18*	4.5	5	22	93
20	12	95	67	65	67	20	8	7	24	111
25	12	104	68	66	68	22	8	9	28	118

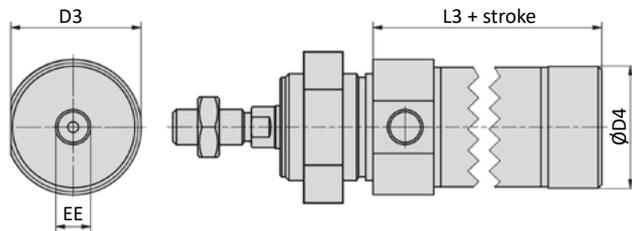
Series HE

Mini cylinders ISO 6432, single acting

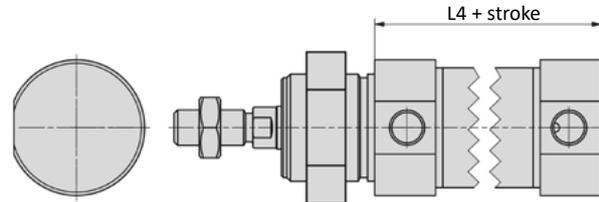
Dimensions series HE, option 300 (normally extended)



Series HEZ



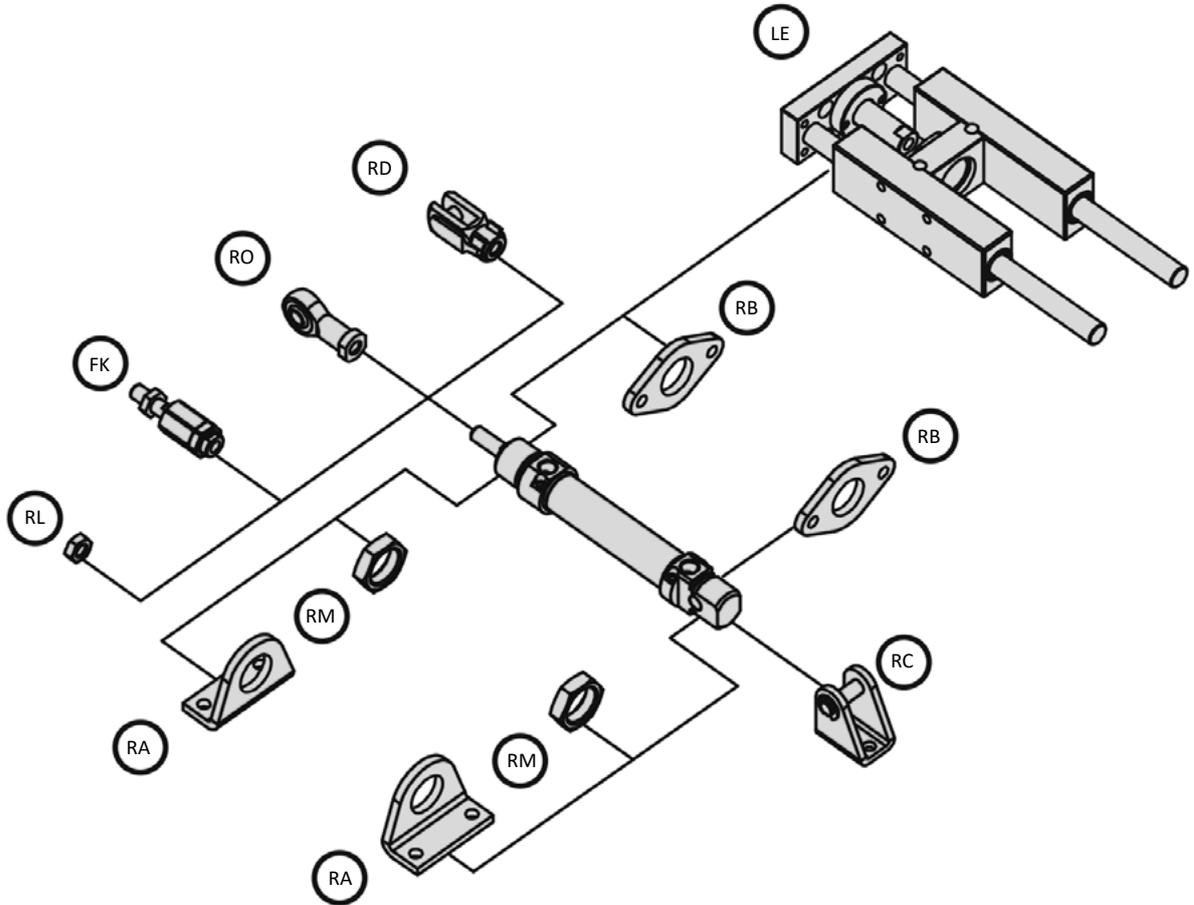
Series HES



Piston-Ø	AM	B	Ø CD	Ø D	Ø D1	Ø D2	D3	Ø D4	EE	EW	KK
8	12	M12 x 1.25	4	16	4	9.27	15	-	M5	8	M4
10	12	M12 x 1.25	4	16	4	11.27	15	-	M5	8	M4
12	16	M16 x 1.5	6	19	6	13.27	18	-	M5	12	M6
16	16	M16 x 1.5	6	19*	6	17.27	18	17.2	M5	12	M6
20	20	M22 x 1.5	8	27	8	21.27	25.5	22.2	G1/8	16	M8
25	22	M22 x 1.5	8	30	10	26.5	28.5	27	G1/8	16	M10 x 1.25

Piston-Ø	L	L1	L2	L3	L4	N	P	SW	WF	X
8	6	82	64	-	-	12	5	-	16	92
10	6	89.5	71.5	-	-	12	5	-	16	99.5
12	9	97.5	70.5	-	-	18	5	5	22	110.5
16	9	111	82	81	81.5	18*	4.5	5	22	122
20	12	126.5	98.5	96.5	98.5	20	8	7	24	142.5
25	12	135.5	99.5	97.5	99.5	22	8	9	28	149.5

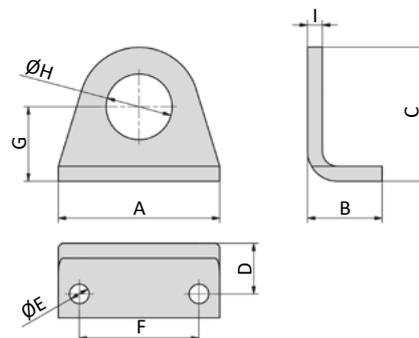
Mounting the add-on parts



Series HM

Mounting accessories

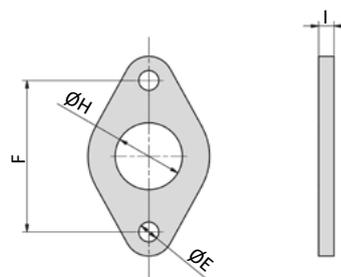
RA-xx Foot mount



Model-no.:	for cylinder \varnothing	A	B	C	D	$\varnothing E$	F	G	$\varnothing H$	I
RA-10	8, 10	35	16	26	11	4.5	25	16	12	3
RA-16	12, 16	42	20	32.5	14	5.5	32	20	16	4
RA-25	20, 25	54	25	45	17	6.6	40	25	22	5

Materials: steel, zinc plated

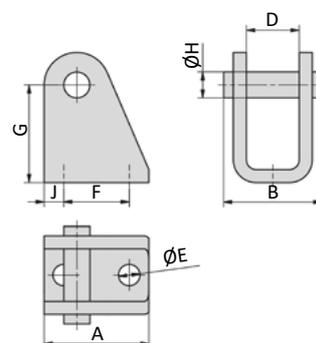
RB-xx Flange mount



Model-no.:	for cylinder \varnothing	$\varnothing E$	F	$\varnothing H$	I
RB-10	8, 10	4.5	30	12	3
RB-16	12, 16	5.5	40	16	4
RB-25	20, 25	6.6	50	22	5

Materials: steel, zinc plated

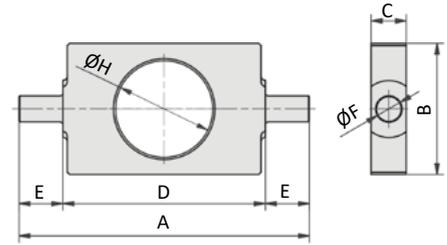
RC-xx Clevis mount



Model-no.:	for cylinder \varnothing	A	B	D	$\varnothing E$	F	G	$\varnothing H$	J
RC-10	8. 10	20	17	8.1	4.5	12.5	24	4	5
RC-16	12. 16	25	23	12.1	5.5	15	27	6	5
RC-30	20. 25	32	30	16.1	6.6	20	30	8	6

Materials: steel, zinc plated, 2 snap rings are included.

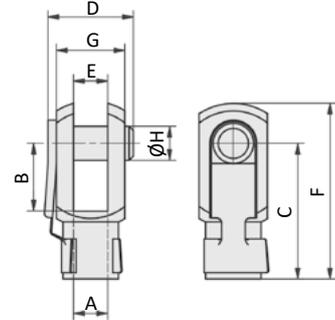
RH-xx Trunnion mount



Model-no.:	for cylinder Ø	A	B	C	D	E	Ø F	Ø H
RH-10	8, 10	38	20	6	26	6	4	12
RH-16	12, 16	58	25	8	38	10	6	16
RH-25	20, 25	66	30	8	46	10	6	22

Materials: steel, zinc plated

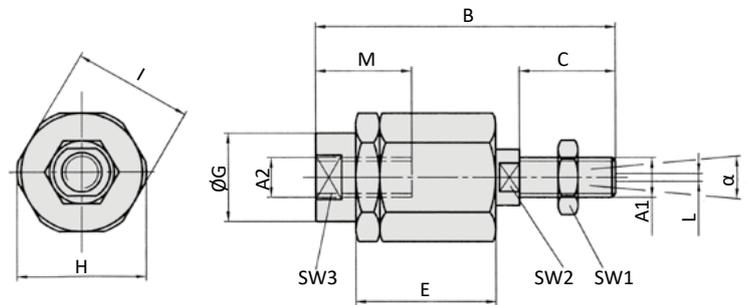
RD-xx Rod clevis



Model-no.:	for cylinder Ø	A	B	C	D	E	F	G	Ø H
RD-10	8, 10	M4	8	16	11.5	4	21	8	4
RD-16	12, 16	M6	12	24	16	6	31	12	6
RD-20	20	M8	16	32	22	8	42	16	8
RD-25	25	M10 x 1.25	20	40	26	10	52	20	10

Materials: steel, zinc plated

FK-xx Flexible coupling



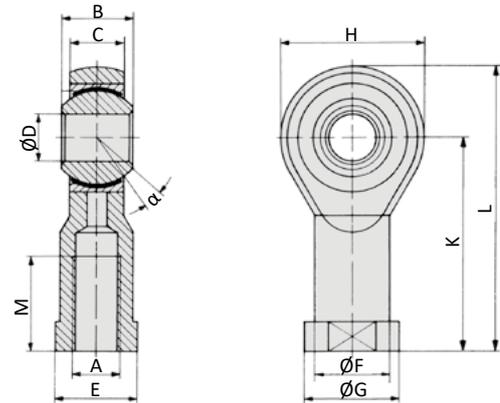
Model-no.:	for cylinder Ø	A1, A2	B	C	D	E	Ø G	H	I	L	M	SW1	SW2	SW3	α
FK-16	12, 16	M6	35	11	2.5	17.5	8.5	14.5	13	1	12.5	10	5	7	6°
FK-20	20	M8	57	21	5	26	12.5	19	17	2	16	13	7	11	8°
FK-32	25	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°

Materials: steel, zinc plated

Series HM

Mounting accessories

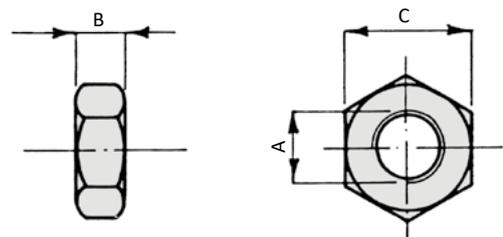
RO-xx Rod eye



Model-no.:	for cylinder Ø	A	B	C	Ø D	E	Ø F	Ø G	H	K	L	M	α
RO-16	12, 16	M6	9	6.75	6	11	10	13	20	30	40	12	13°
RO-20	20	M8	12	9	8	14	12.5	16	24	36	48	16	14°
RO-25	25	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°

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

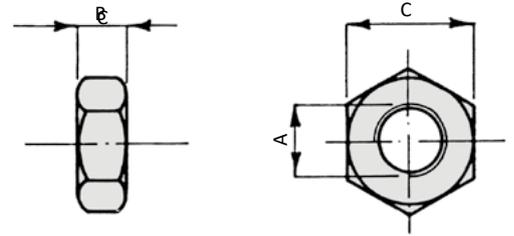
RM-xx Mounting nut



Model-no.:	for cylinder Ø	A	B	C
RM-10	8, 10	M12 x 1.25	7	19
RM-16	12, 16	M16 x 1.5	8	22
RM-25	20, 25	M22 x 1.5	8	27

Materials: steel, zinc plated

RL-xx Piston rod nut



Model-no.:	for cylinder Ø	A	B	C
RL-10	8, 10	M4	3.2	7
RL-16	12, 16	M6	4	10
RL-20	20	M8	5	13
RL-25	25	M10 x 1.25	5	17

Materials: steel, zinc plated

Proximity sensors



page 8-156



For piston Ø 8, 10 and 12 mm only electronic switches (ZS-6700, ZS-6701, ZS-7300 or ZS-7302) can be used.

Series LE

Linear guides

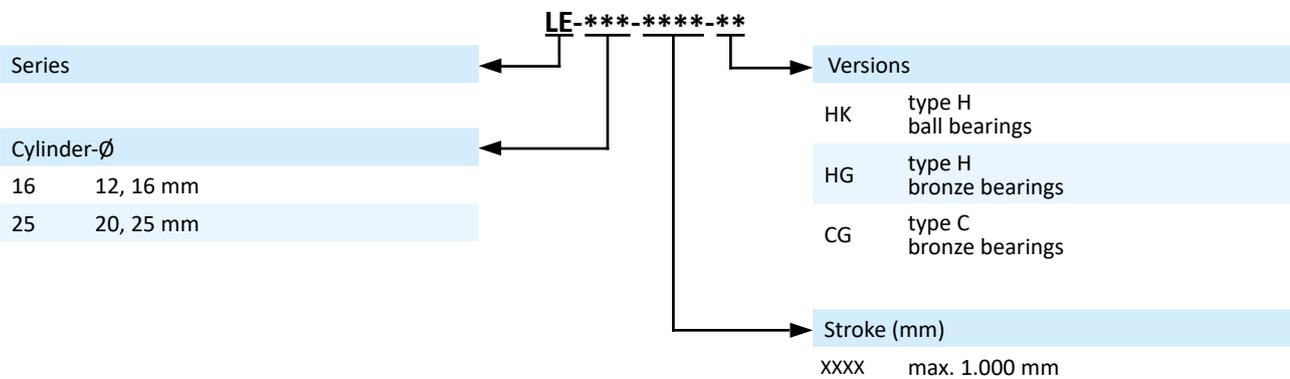
Technical details

Operating pressure	1 ... 10 bar	
Temperature range	-30°C ... +100°C	
Max. stroke	1000 mm	
Materials	Body:	Al (anodized)
	Guide rod:	steel hard chrome plated (bronze bearing) steel, tempered (ball bearings)
	Bearing:	sintered bronze (bronze bearing) steel (ball bearings)
	Seals:	NBR



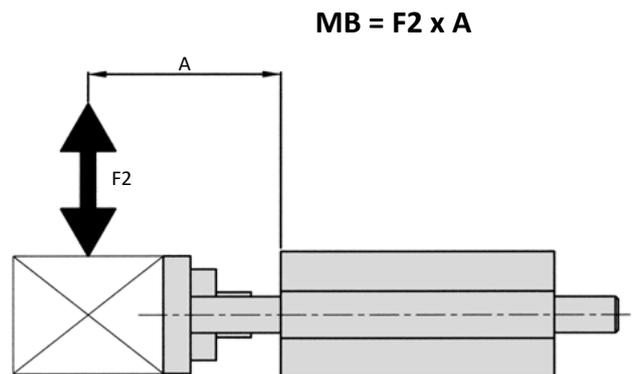
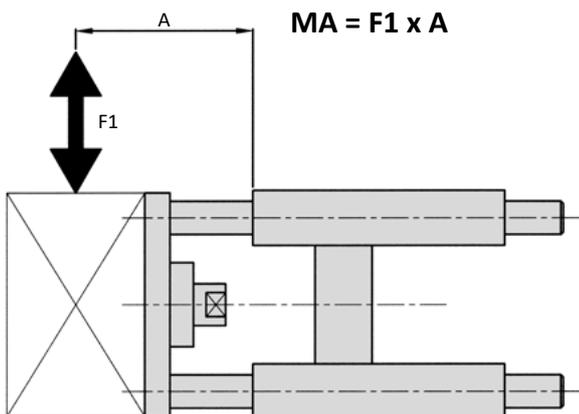
Linear guide for mini cylinder in accordance with ISO 6432.

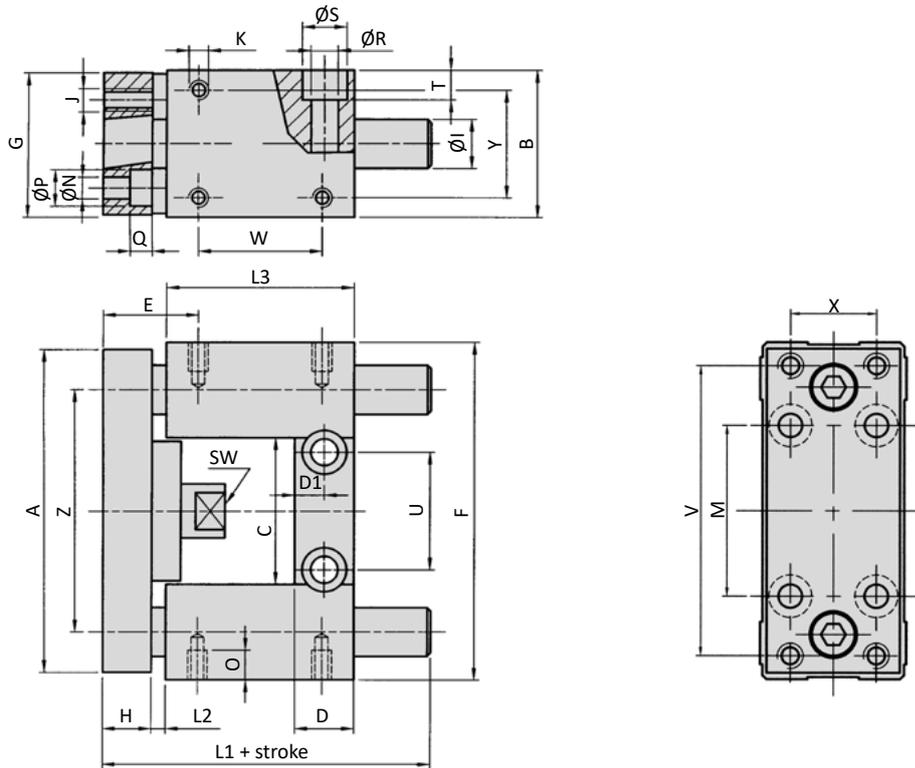
Order code



Technical information

Version	Ø (mm)	16	25
CG	max. load MA (Nm)	6	13
	max. load MB (Nm)	5	12
HG	max. load MA (Nm)	6.5	19
	max. load MB (Nm)	5.8	17
HK	max. load MA (Nm)	9	11
	max. load MB (Nm)	8	10



Dimensions types CG


Ø	A	B	C	D	D1	E	F	G	H	Ø I	J	K	L1	L2	L3
16	66	30	30	12	6	19.5	69	29	10	10	M4	M4	66.5	3	38
20	78	34	37	17	8.5	21.75	79	32	12	12	M5	M6	83	3	48
25	78	34	37	17	8.5	21.75	79	32	12	12	M5	M6	83	3	48

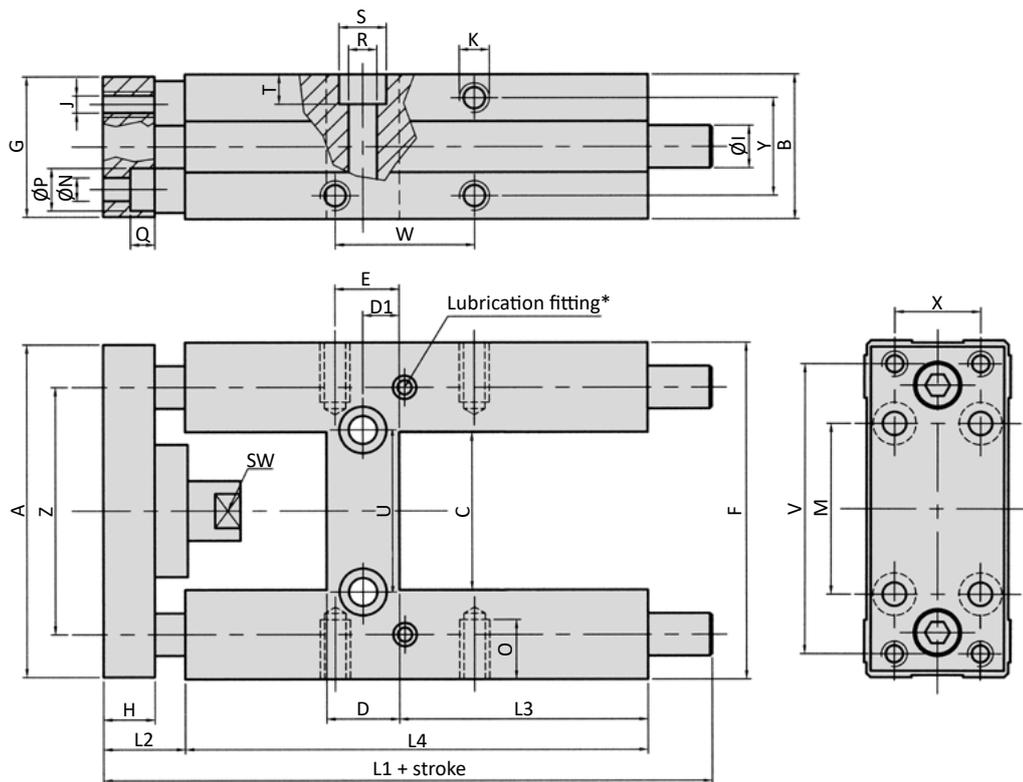
Ø	M	Ø N	O	Ø P	Q	Ø R	Ø S	SW	T	U	V	W	X	Y	Z
16	32	4.5	6	7.5	4.5	5.5	9	8	6	24	58	25	18	22	49.5
20	38	5.5	9	10	7.5	6.5	11	12	7	38	68	32.5	20	23	58
25	38	5.5	9	10	7.5	6.5	11	12	7	38	68	32.5	20	23	58

Piston Ø (mm)		16	20	25
Weight	0 mm stroke	0.30	0.50	0.50
CG (kg)	each 100 mm stroke	0.12	0.18	0.18

Series LE

Linear guides

Dimensions types HG. HK



*only type HK

Ø	A	B	C	D	D1	E	F	G	H	Ø I	Ø I*	J	K	L1	L2	L3
16	66	30	30	12	6	8	69	29	10	10	8	M4	M4	123.5	35	46
20	78	34	37	17	8.5	15	79	32	12	12	10	M5	M6	166	15	58
25	78	34	37	17	8.5	15	79	32	12	12	10	M5	M6	166	15	58

* type HK

Ø	L4	M	Ø N	O	Ø P	Q	Ø R	Ø S	SW	T	U	V	W	X	Y	Z
16	68	32	4.5	6	8	4.5	5.5	9	8	5.5	24	58	18	18	22	49.5
20	108	38	5.5	9	10	7.5	6.5	11	12	6.5	38	68	32.5	20	23	58
25	108	38	5.5	9	10	7.5	6.5	11	12	6.5	38	68	32.5	20	23	58

Piston Ø (mm)		16	20	25
Weight	0 mm stroke	0.40	0.90	0.90
HG (kg)	each 100 mm stroke	0.12	0.18	0.18
Weight	0 mm stroke	0.36	0.84	0.84
HK (kg)	each 100 mm stroke	0.08	0.12	0.12

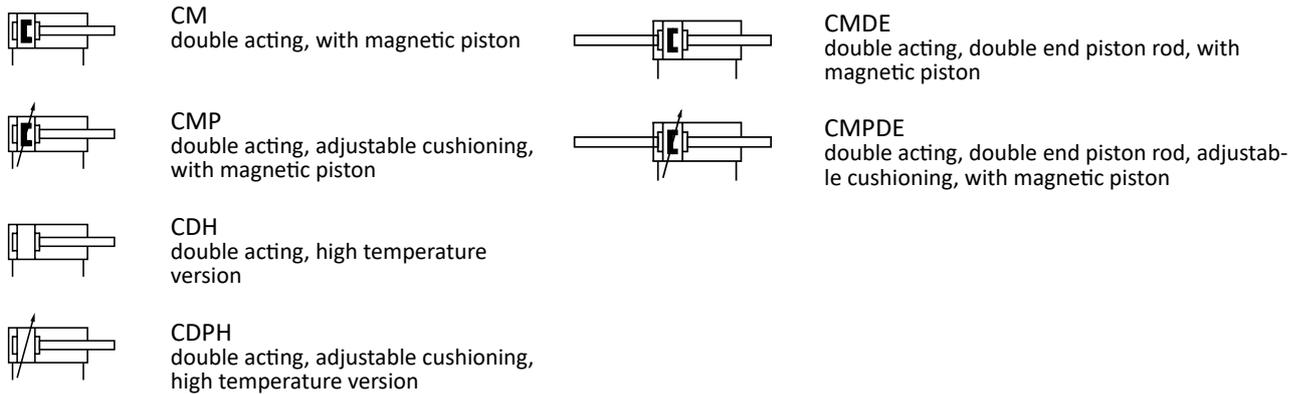
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-35°C ... +80°C (-10 ... +150°C für high temperature version)
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.
Materials	Cylinder tube: AISI 304 (1.4301) End caps: AISI 304 (1.4301) Piston rod: AISI 316 (1.4401) Seals: PU (optional FKM)
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)

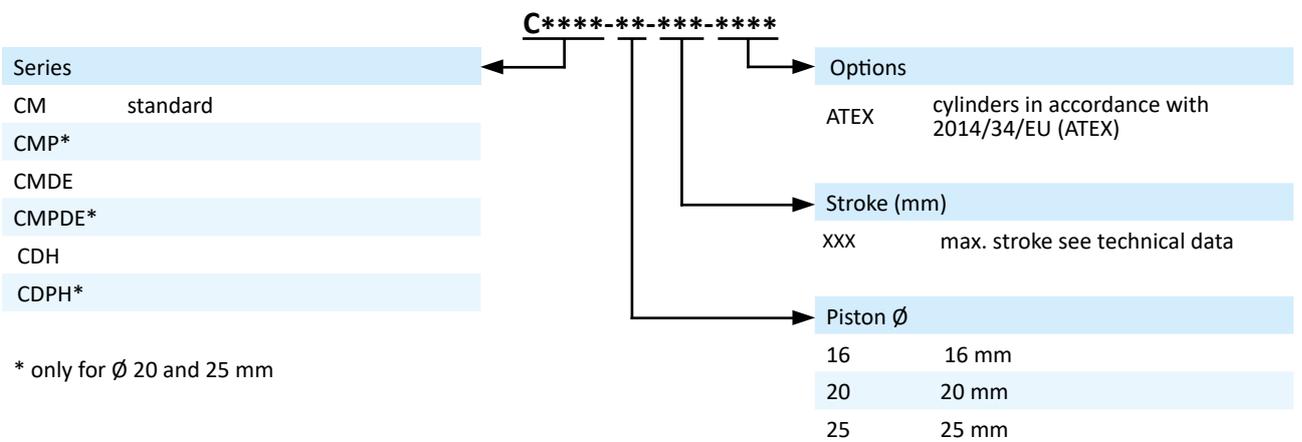


Double acting pneumatic cylinder with magnetic piston and built-in cushioning rings.

Versions



Order code



Series CM

Mini cylinders ISO 6432, double acting

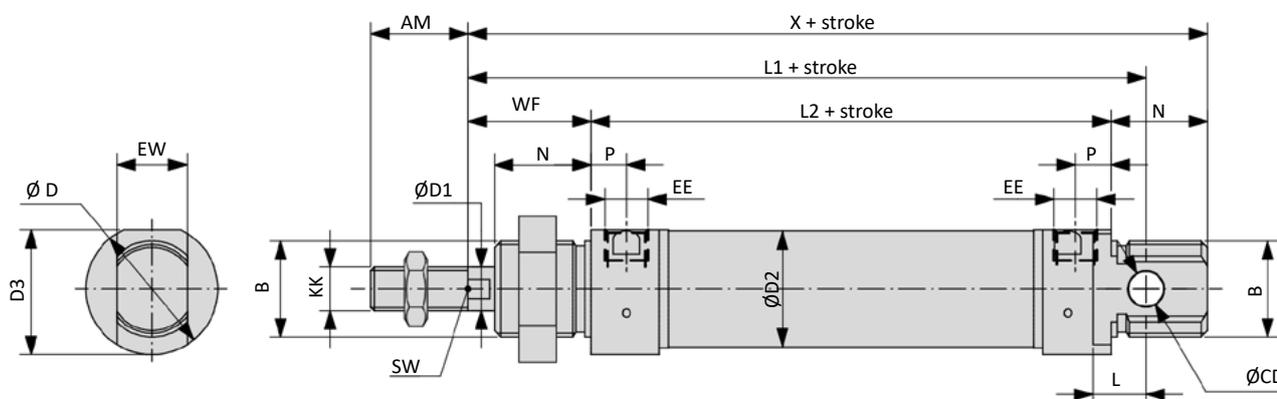


Technical data

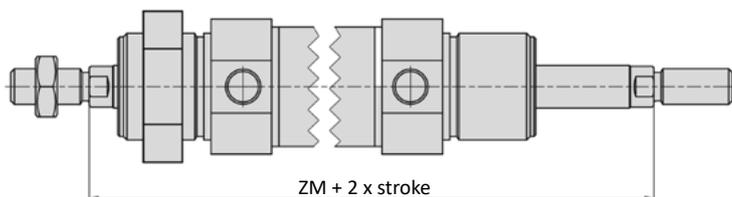
Model-no.:	Cxx-16-...	Cxx-20-...	Cxx-25-...
Piston Ø (mm)	16	20	25
Force at 6 bar (N)			
Extension	109	170	265
Retraction	93	142	223
Connection	M5	G1/8	G1/8
Piston rod thread	M6	M8	M10 x 1,25
Max. stroke (mm)	250	600	600
Cushioning length (mm)*	-	17	19,5

* only for series CMP, CMPDE, CDHP

Dimensions series CM, CMP, CDH, CDHP



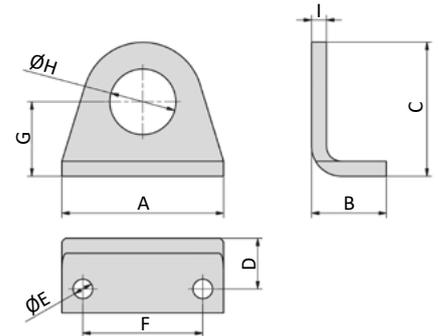
double end piston rod



Piston Ø	AM	B	Ø CD	Ø D	Ø D1	Ø D2	D3	EE	EW
16	16	M16 x 1.5	6	19*	6	17.27	18	M5	12
20	20	M22 x 1.5	8	27	8	21.27	25.5	G1/8	16
25	22	M22 x 1.5	8	30	10	26.5	28.5	G1/8	16

Piston Ø	KK	L	L1	L2	N	P	SW	WF	X	ZM
16	M6	9	82	53	18*	4.5	5	22	93	97
20	M8	12	95	67	20	8	7	24	111	115
25	M10 x 1.25	12	104	68	22	8	9	28	118	124

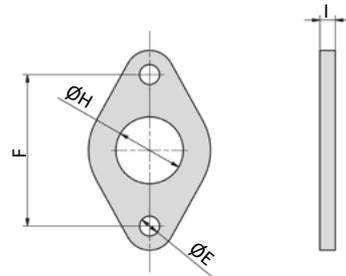
PA-xx Foot mount



Model-no.:	for cylinder \varnothing	A	B	C	D	$\varnothing E$	F	G	$\varnothing H$	I
PA-16	16	42	20	33	14	5.5	32	20	16.1	4
PA-25	20, 25	54	25	45	17	6.6	40	25	22.1	5

Material: stainless steel AISI 304 (1.4301)

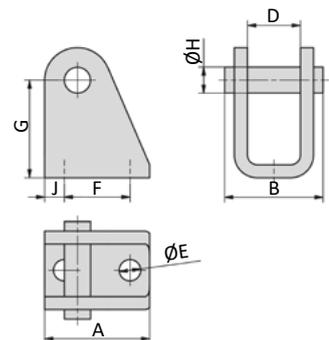
PB-xx Flange mount



Model-no.:	for cylinder \varnothing	$\varnothing E$	F	$\varnothing H$	I
PB-16	16	5.5	40	16.1	4
PB-25	20, 25	6.6	50	22.1	5

Material: stainless steel AISI 304 (1.4301)

PC-xx Clevis mount



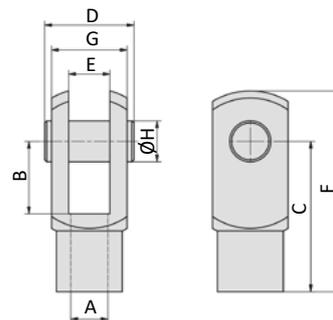
Model-no.:	for cylinder \varnothing	A	B	D	$\varnothing E$	F	G	$\varnothing H$	J
PC-16	16	25	24	12.1	5.5	15	27	6	5
PC-25	20, 25	32	30	16.1	6.6	20	30	8	6

Material: stainless steel AISI 304 (1.4301), 2 snap rings are included..

Series CM
Mounting accessories



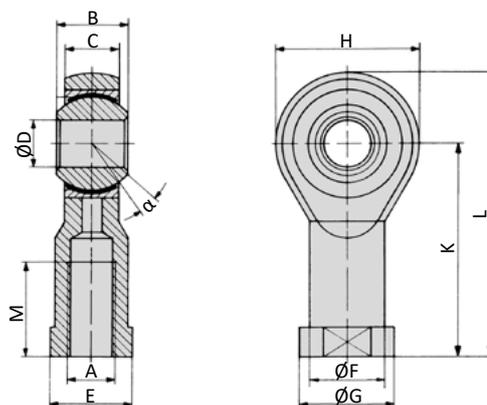
PD-xx Rod clevis



Model-no.:	for cylinder Ø	A	B	C	D	E	F	G	Ø H
PD-16	16	M6	12	24	16	6	31	12	6
PD-20	20	M8	16	32	22	8	42	16	8
PD-25	25	M10 x 1.25	20	40	26	10	52	20	10

Material: stainless steel AISI 303 (1.4305)

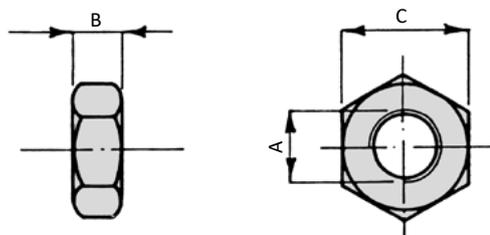
PO-xx Rod eye



Model-no.:	for cylinder Ø	A	B	C	Ø D	E	Ø F	Ø G	H	K	L	M	α
PO-16	16	M6	9	6.75	6	11	10	13	20	30	40	12	13°
PO-20	20	M8	12	9	8	14	12.5	16	24	36	48	16	14°
PO-25	25	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°

Materials: stainless steel AISI 331 (1.4057), bearing stainless steel AISI 316 Ti, PTFE coated, bushing stainless steel AISI 420 (1.4034)

PL-xx Piston rod nut



Model-no.:	for cylinder Ø	A	B	C
PL-16	16	M6	4	10
PL-20	20	M8	5	13
PL-25	25	M10 x 1.25	5	17

Material: stainless steel AISI 304 (1.4301)

Series HMU

Mini cylinders, double acting

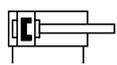
Technical details

Operating pressure	1 ... 10 bar								
Temperature range	-20°C ... +80°C								
Max. stroke	900 mm								
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.								
Materials	<table border="0"> <tr> <td>Cylinder tube:</td> <td>stainless steel</td> </tr> <tr> <td>End caps:</td> <td>Al (anodized)</td> </tr> <tr> <td>Piston rod:</td> <td>stainless steel</td> </tr> <tr> <td>Seals:</td> <td>PU, NBR</td> </tr> </table>	Cylinder tube:	stainless steel	End caps:	Al (anodized)	Piston rod:	stainless steel	Seals:	PU, NBR
Cylinder tube:	stainless steel								
End caps:	Al (anodized)								
Piston rod:	stainless steel								
Seals:	PU, NBR								

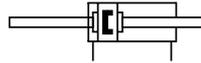


Double acting pneumatic cylinder with magnetic piston and built-in cushioning rings or adjustable cushions.

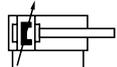
Versions



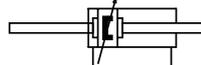
HMU
double acting, with magnetic piston



HMUDE
double acting, double end piston rod, with magnetic piston

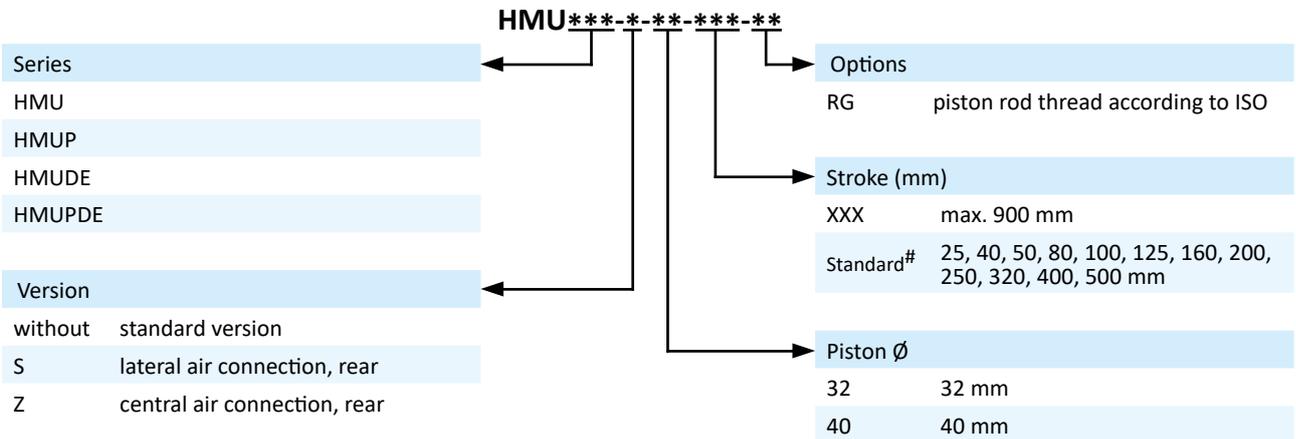


HMUP
double acting, adjustable cushioning, with magnetic piston



HMUPDE
double acting, double end piston rod, adjustable cushioning, with magnetic piston

Order code



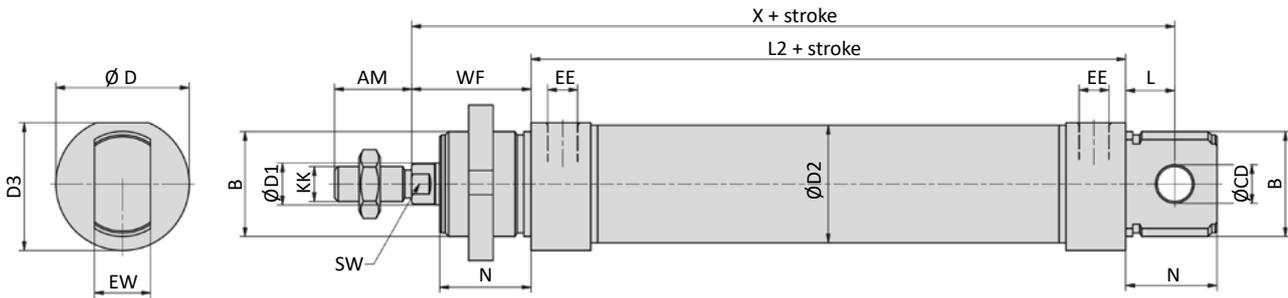
Series HMU

Mini cylinders, double acting

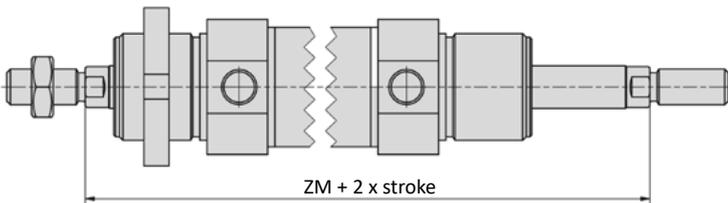
Technical data

Model-no.:	HMU-32-...	HMU-40-...	HMUP-32-...	HMUP-40-...
Piston \varnothing (mm)	32	40	32	40
Force at 6 bar (N)	Extension	434	678	434
	Retraction	373	570	373
Connection	G1/8	G1/4	G1/8	G1/4
Piston rod thread	M10 x 1.25	M12 x 1.25	M10 x 1.25	M12 x 1.25
Cushioning length (mm)	-	-	22.5	24.5

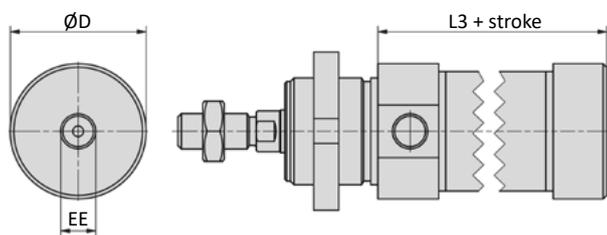
Dimensions series HMU, HMUP



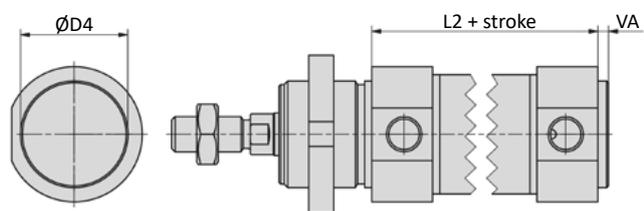
double end piston rod



Version -Z



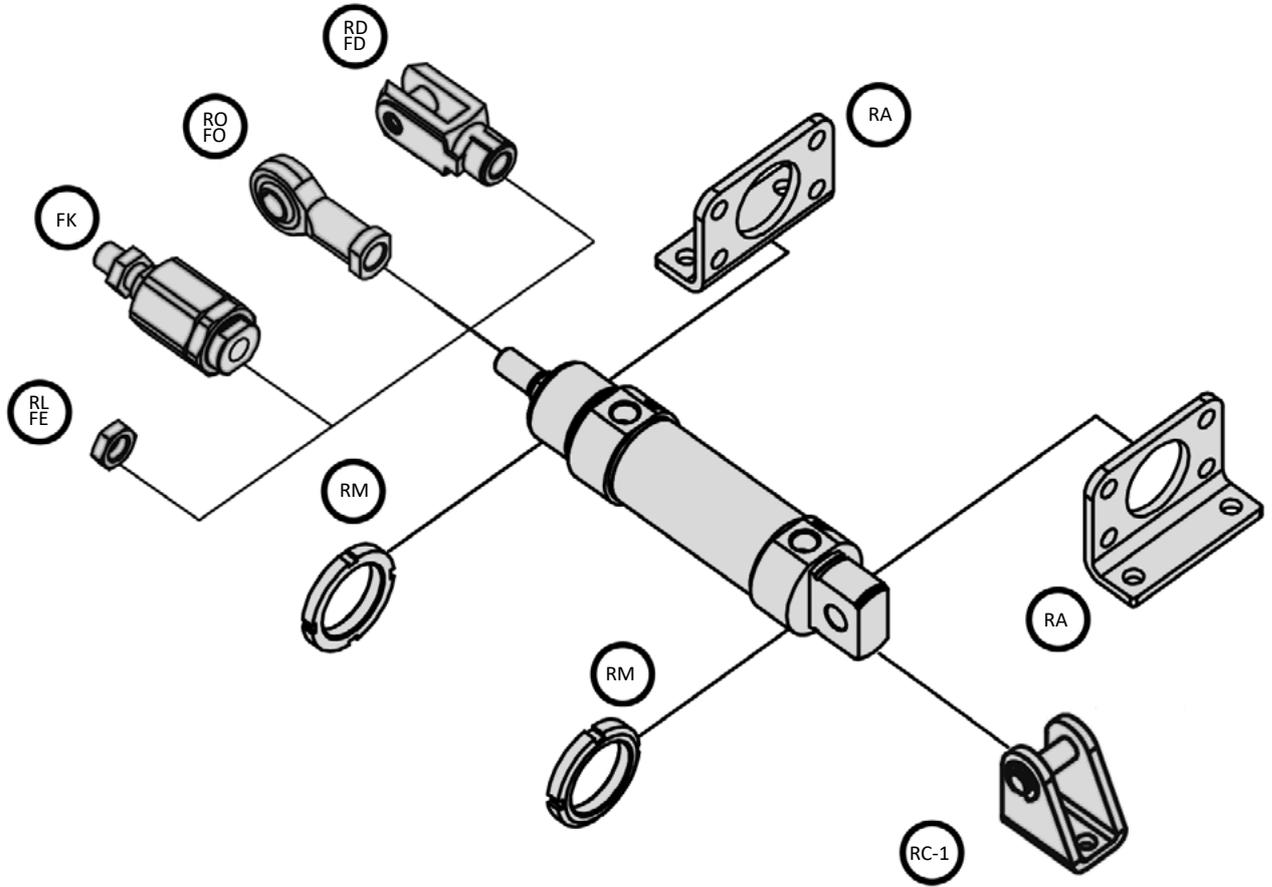
Version -S



Piston \varnothing	AM	B	\varnothing CD	\varnothing D	\varnothing D1	\varnothing D2	D3	\varnothing D4	EE	EW
32	22	M30 x 1.5	10	38	12	33.6	36.5	30	G1/8	16
40	24	M38 x 1.5	12	46	16	41.6	44	38	G1/4	18

Piston \varnothing	KK	L	L2	L3	N	SW	VA	WF	X	ZM
32	M10 x 1.25	14	69.5	65.5	26	10	3	34	117.5	137.5
40	M12 x 1.25	16	84.5	77.5	30	13	4	39	139.5	162.5

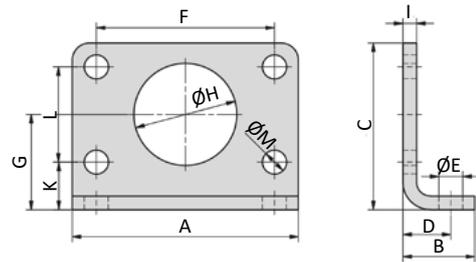
Mounting the add-on parts



Series HMU

Mounting accessories

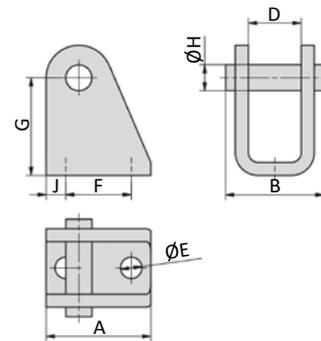
RA-xx Foot mount



Model-no.:	A	B	C	D	Ø E	F	G	Ø H	I	K	L	Ø M
RA-32	66	21	49	14	7	52	28	30	4	14	28	7
RA-40	80	30	58	20	9	60	33	38	5	18	30	9

Materials: steel, zinc plated

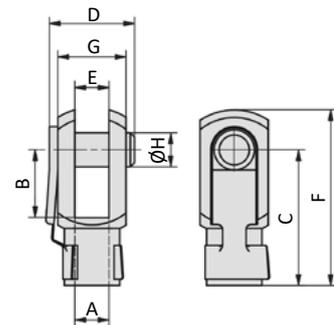
RC-xx-1 Clevis mount



Model-no.:	A	B	D	Ø E	F	G	Ø H	J
RC-32-1	35	31.3	16.1	6.6	24	35	10	5.5
RC-40-1	45	35.5	18.1	9	30	40	12	7.5

Materials: steel, zinc plated, 2 snap rings are included..

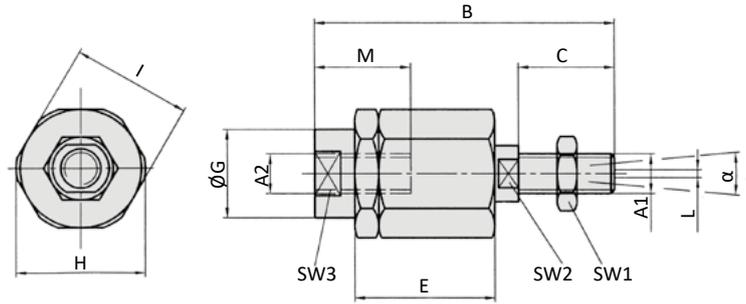
RD-xx, FD-xx Rod clevis



Model-no.:	A	B	C	D	E	F	G	Ø H
RD-25	M10 x 1.25	20	40	26	10	52	20	10
FD-40	M12 x 1.25	24	48	32	12	62	24	12

Materials: steel, zinc plated

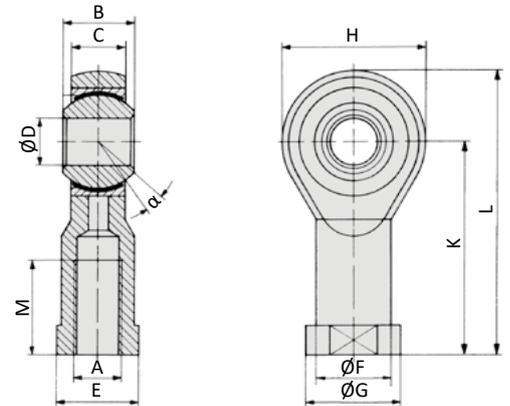
FK-xx Flexible coupling



Model-no.:	A1, A2	B	C	D	E	Ø G	H	I	L	M	SW1	SW2	SW3	α
FK-32	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°
FK-40	M12 x 1.25	75	24	7.5	35	22	32	30	2	22	19	12	19	8°

Materials: steel, zinc plated

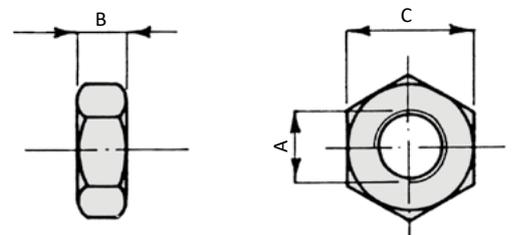
RO-xx, FO-xx Rod eye



Model-no.:	A	B	C	Ø D	E	Ø F	Ø G	H	K	L	M	α
RO-25	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
FO-40	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°

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

RL-xx, FE-xx Piston rod nut



Model-no.:	for cylinder Ø	A	B	C
RL-25	32	M10 x 1.25	5	17
FE-40	40	M12 x 1.25	6	19

Materials: steel, zinc plated

Series NYD

ISO 21287, double acting

Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (Ø 32 mm - Ø 125 mm: -30°C...+80°C) (NYDH: -10°C ... +150°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.
Materials	cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: stainless steel Seals: PU, NBR (optional FKM)
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)



Double acting pneumatic cylinder with magnetic piston for proximity sensors and built-in cushioning rings. Standard stroke lengths in table below, additional lengths on request.

Versions

	200, 202, 210, 212 double acting, built-in cushioning rings, with magnetic piston		600, 602, 610, 612, 800, 810 double acting, double end piston rod, built-in cushioning rings, with magnetic piston
	220, 222 double acting, non rotating, built-in cushioning rings, with magnetic piston		620, 622 double acting, non rotating, double end piston rod, built-in cushioning rings, with magnetic piston

Order code

Series, Version		Options	
NYD	standard	ATEX	cylinders in accordance with 2014/34/EU (ATEX)
NYDD	with metal scraper [#]	E8	piston rod seal E8, two-part, with plastic scraper
NYDH	high temperature version	Versions	
NYB	double end, through hollow telescopic piston rod (only Ø 32 mm)	200	standard version, male thread
Piston Ø		600	standard version, female thread
020	20 mm	210	standard version, female thread
025	25 mm	220	non rotating
032	32 mm	620	non rotating
040	40 mm	202	high temperature version (with magnetic piston up to 80°C effective), male thread
050	50 mm	602	high temperature version (with magnetic piston up to 80°C effective), female thread
063	63 mm	212	high temperature version (with magnetic piston up to 80°C effective), female thread
080	80 mm	612	high temperature version (with magnetic piston up to 80°C effective), female thread
100	100 mm	222	high temperature version (with magnetic piston up to 80°C effective), non rotating + female thread
125	125 mm	622	high temperature version (with magnetic piston up to 80°C effective), non rotating + female thread
Stroke (mm)		800	double end, through hollow piston rod, male thread
XXX	max. 250 mm (up from Ø 32 max. 400 mm)	810	double end, through hollow piston rod, female thread
standard	5, 10, 15, 20, 25, 30, 40, 50, 60*, 80*		

* up from Ø 32 mm

only Ø 32 - Ø 80 mm

Not all combinations are possible and available.

Technical data

Model-no.:	NYD-020-...	NYD-025-...	NYD-032-...	NYD-040-...	NYD-050-...	
Piston Ø (mm)	20	25	32	40	50	
Force at 6 bar (N)	Extension	170	265	434	678	1060
	Retraction	127	223	373	617	951
Connection	M5	M5	G1/8	G1/8	G1/8	
Piston rod thread	male	M8	M8	M10 x 1.25	M10 x 1.25	M12 x 1.25
	female	M6	M6	M8	M8	M10

Model-no.:	NYD-063-...	NYD-080-...	NYD-100-...	NYD-125-...	
Piston Ø (mm)	63	80	100	125	
Force at 6 bar (N)	Extension	1682	2713	4239	6623
	Retraction	1574	2543	3974	6345
Connection	G1/8	G1/8	G1/8	G1/4	
Piston rod thread	male	M12 x 1.25	M16 x 1.5	M16 x 1.5	M20 x 1.5
	female	M10	M12	M12	M16

Piston Ø (mm)	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-200)	0.143	0.178	0.240	0.301	0.471	0.661	1.066	1.793
	0 mm stroke (-210)	0.131	0.166	0.217	0.278	0.435	0.625	0.996	1.722
	each 10 mm stroke	0.024	0.028	0.029	0.030	0.048	0.057	0.088	0.115

Piston Ø (mm)	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-220)	0.163	0.204	0.287	0.373	0.590	0.833	1.398	2.261
	each 10 mm stroke	0.028	0.034	0.035	0.038	0.062	0.071	0.114	0.139

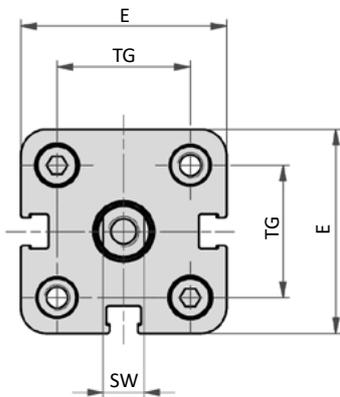
Piston Ø (mm)	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-600)	0.140	0.175	0.232	0.293	0.463	0.653	1.050	1.833
	0 mm stroke (-610)	0.164	0.199	0.278	0.339	0.535	0.725	1.190	1.975
	each 10 mm stroke	0.030	0.034	0.037	0.038	0.064	0.073	0.114	0.149

Piston Ø (mm)	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-620)	0.172	0.213	0.302	0.388	0.618	0.861	1.452	2.372
	each 10 mm stroke	0.034	0.040	0.043	0.046	0.078	0.087	0.140	0.173

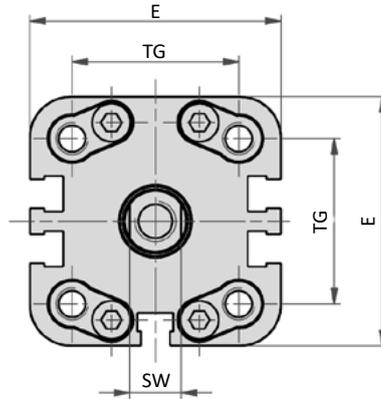
Series NYD
ISO 21287, double acting

Dimensions series NYD (Versions 200, 202, 210 and 212)

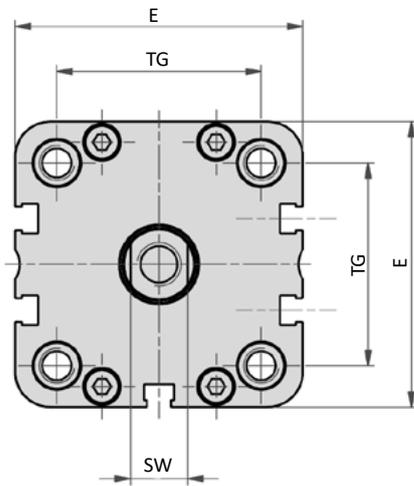
Ø 20 - 25



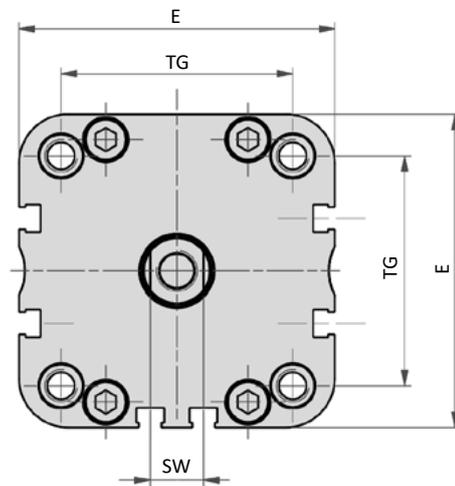
Ø 32



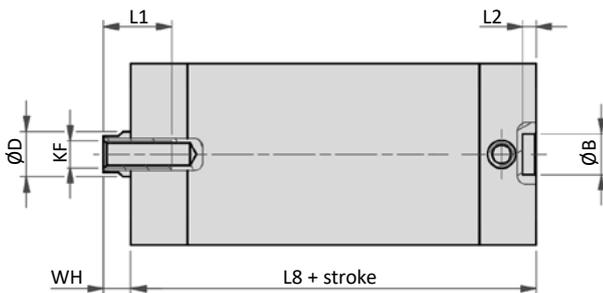
Ø 40 - 50



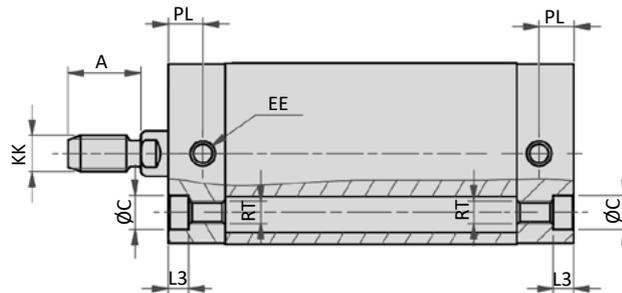
Ø 63 - 125



Versions 210, 212



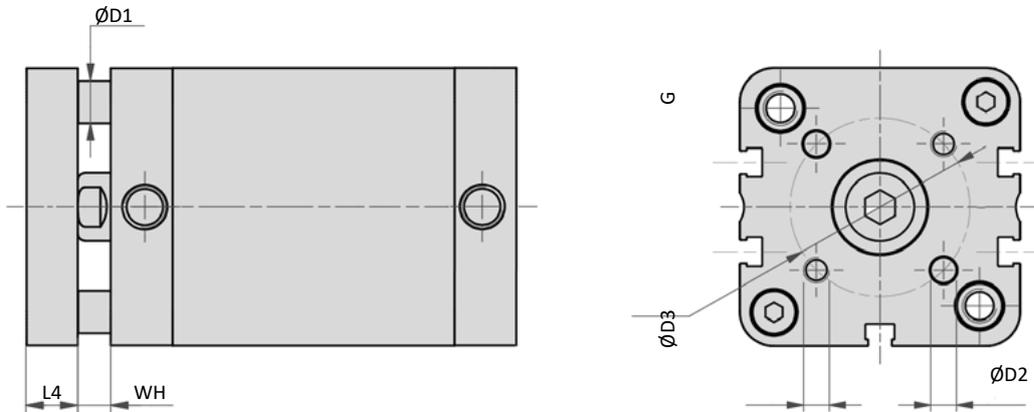
Versions 200, 202



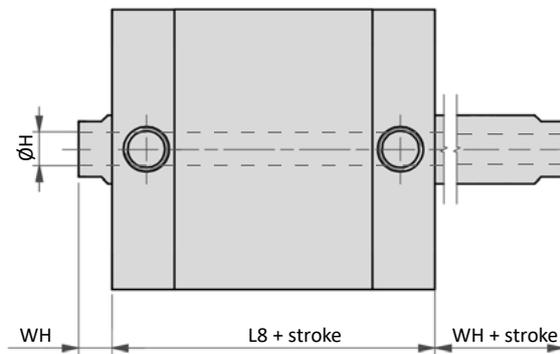
Piston Ø	A	Ø B	Ø C	Ø D	E	EE	KF	KK	L1	L2	L3	L8	PL	RT	SW	TG	WH
20	16	9	7.5	10	36	M5	M6	M8	15	3	4.5	37	7.5	M5	8	22	6.5
25	16	9	7.5	10	40	M5	M6	M8	15	3	4.5	39	7.5	M5	8	26	6
32	19	9	9	12	49	G1/8	M8	M10 x 1.25	16	3	5	44	7.5	M6	10	32.5	6.5
40	19	9	9	12	54.5	G1/8	M8	M10 x 1.25	16	3	5	45	8	M6	10	38	7
50	22	12	10.5	16	65.5	G1/8	M10	M12 x 1.25	17	4	5	45	8	M8	13	46.5	8
63	22	12	10.5	16	77	G1/8	M10	M12 x 1.25	17	4	5	49	7.5	M8	13	56.5	8
80	28	12	13.5	20	95.5	G1/8	M12	M16 x 1.5	20	4	3	54	8	M10	17	72	9
100	28	12	13.5	25	113.5	G1/8	M12	M16 x 1.5	20	4	3	67	10.5	M10	22	89	10
125	40	12	-	25	135	G1/4	M16	M20 x 1.5	25	4	-	81	10.5	M12	22	110	11

Dimensions series NYD (Versions 220, 600, 602, 610, 612, 620, 622, 800 and 810)

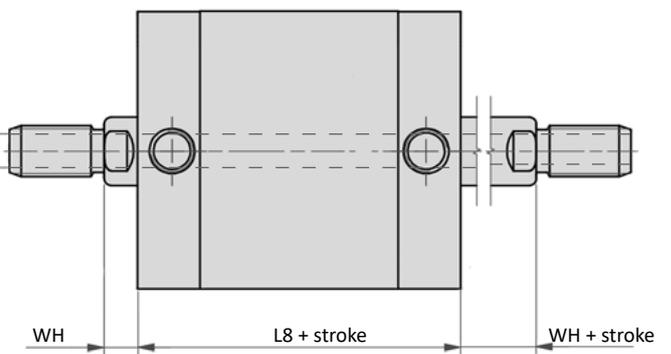
Version 220, 222



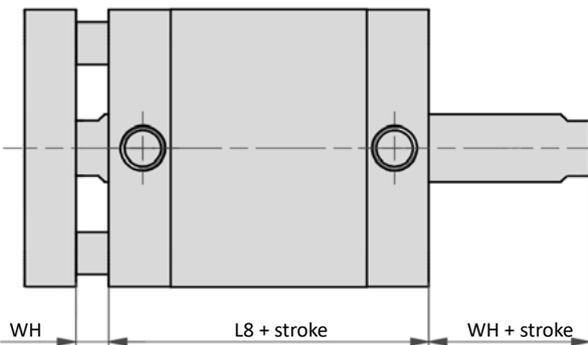
Versions 610, 612, 810



Versions 600, 602, 800



Version 620, 622

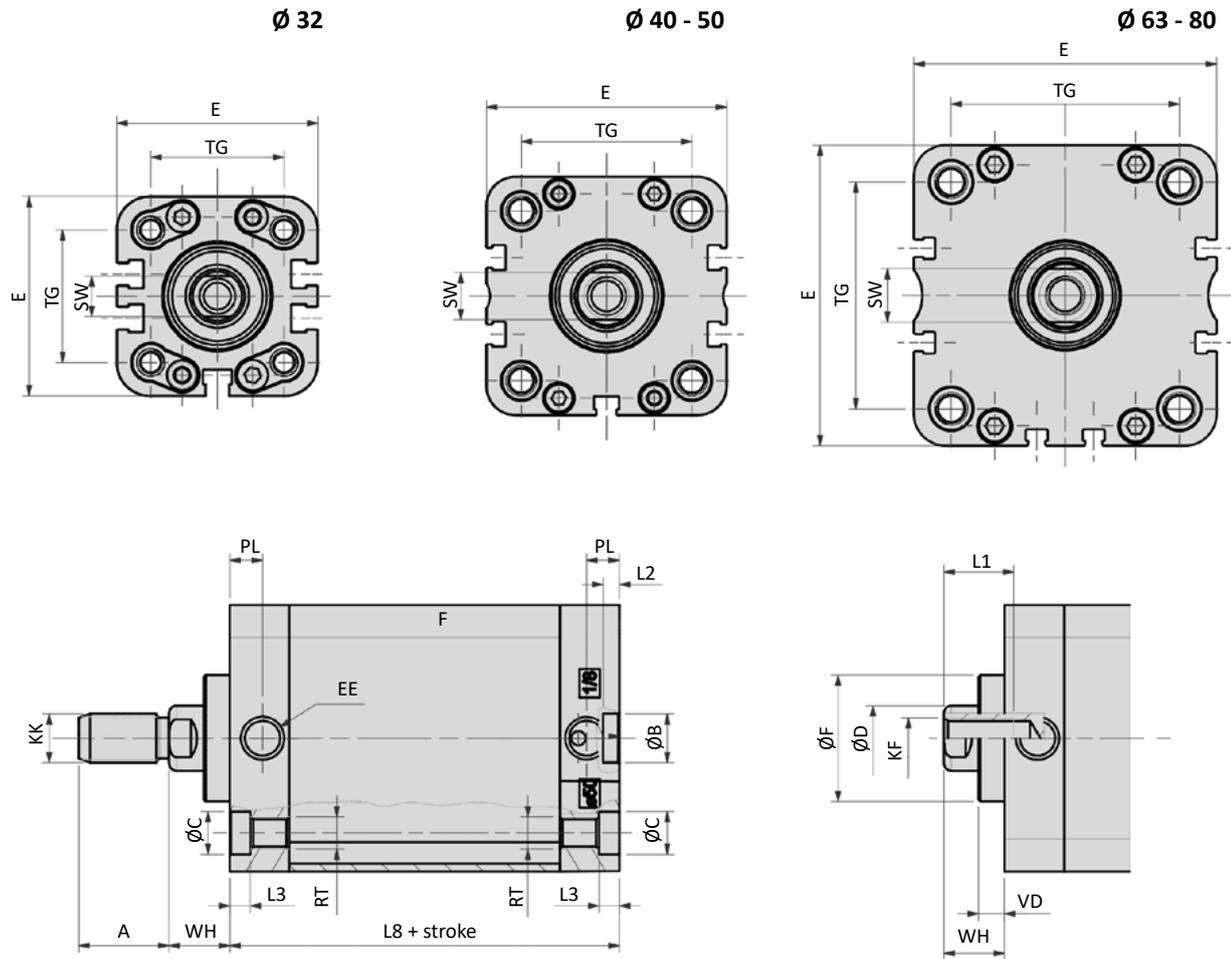


Piston Ø	Ø D1	Ø D2	Ø D3	G	Ø H*	L4	L8	WH
20	5	17	4	M4	4	8	37	6.5
25	6	22	5	M5	4	8	39	6
32	6	28	5	M5	5	10	44	6.5
40	8	33	5	M5	5	10	45	7
50	10	42	6	M6	6	12	45	8
63	10	50	6	M6	6	12	49	8
80	14	65	8	M8	8	14	54	9
100	14	80	10	M10	10	14	67	10

* only types 800 and 810

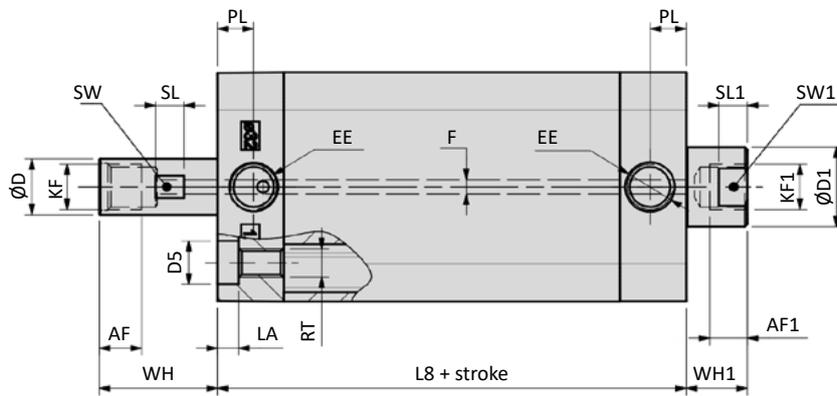
Series NYD
ISO 21287, double acting

Dimensions series NYD (Option E8) and Series NYDD



Piston Ø	A	Ø B	Ø C	Ø D	Ø F	E	EE	KF	KK	L1	L2	L3	L8	RT	SW	TG	VD	WH
32	19	9	9	12	27	49	G1/8	M8	M10 x 1.25	16	3	5	44	M6	10	32.5	6.4	12.5
40	19	9	9	12	27	54.5	G1/8	M8	M10 x 1.25	16	3	5	45	M6	10	38	6.4	12.5
50	22	12	10.5	16	31	65.5	G1/8	M10	M12 x 1.25	17	4	5	45	M8	13	46.5	6.4	14.8
63	22	12	10.5	16	31	77	G1/8	M10	M12 x 1.25	17	4	5	49	M8	13	56.5	6.4	14.6
80	28	12	13.5	20	35	95.5	G1/8	M12	M16 x 1.5	20	4	3	54	M10	17	72	6.4	15.4

Dimensions series NYB



Piston \varnothing	AF	AF1	$\varnothing D$	$\varnothing D1$	$\varnothing D5$	E	EE	$\varnothing F$	KF	KF1	
32	9	7.5	12	17	9	49	G1/8	3	G1/8	G1/8	
Piston \varnothing	L8	LA	PL	RT	SL	SL1	SW	SW1	TG	WH	WH1
32	50	5	7.5	M6	6	6	11	15	32.5	25	13

Series NYD

High force and multiple positioning cylinders, double acting

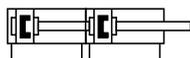
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (Ø 32 mm - Ø 125 mm: -30°C...+80°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.
Materials	cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: stainless steel Seals: PU, NBR
	Cylinders in according with 2014/34/EU (ATEX) available. (chap. 12)

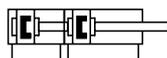


A back to back mounting of cylinders with same piston diameter is available up to 4 positions.
Combining 2 to 3 cylinders with same piston diameter but different stroke lengths provides a max. of 4* positions.
Multiplying the force will be achieved by adding several cylinders with same diameter and same stroke length.

Versions



NYDKx
high force cylinder, double acting,
built-in cushioning rings,
with magnetic piston, x-times force



NYMy
multiple positioning cylinder, double acting,
built-in cushioning rings,
with magnetic piston, y+1 positions



NYR2
multiple positioning cylinder, double acting,
built-in cushioning rings, with magnetic piston

Order code

NY####-*-*****-*****

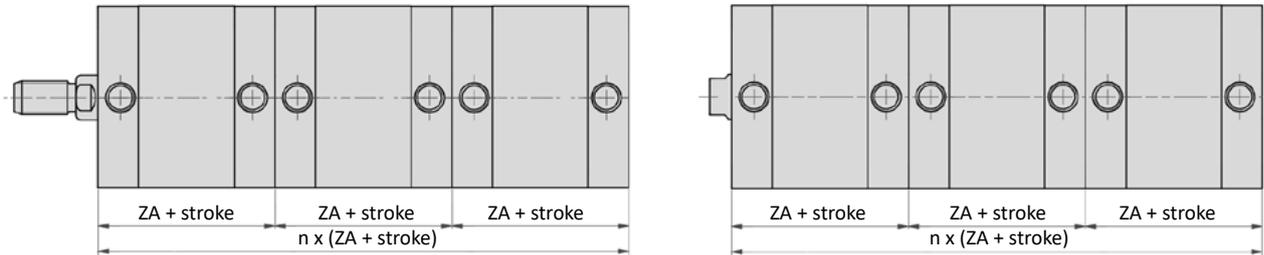
Series	
NYDK2	high force cylinder, 2 x force
NYDK3	high force cylinder, 3 x force
NYDK4	high force cylinder, 4 x force
NYM2	multiple positioning cylinder, 2 strokes, 3 positions
NYM3	multiple positioning cylinder, 3 strokes, 4 positions
NYR2	multiple positioning cylinder, 2 strokes, 3 positions
AG*	piston rod male thread
IG*	piston rod female thread
Piston Ø	
020	20 mm
025	25 mm
032	32 mm
040	40 mm
050	50 mm
063	63 mm
080	80 mm
100	100 mm
125	125 mm

Versions	
without	only NYM2 and NYM3
200	standard version, male thread
210	standard version, female thread
Stroke (mm)	
XXX XXX XXX	stroke 1, stroke 2, stroke 3**
**stroke 2 and stroke 3 only for multiple positioning cylinder	

* only for NYM2 and NYM3

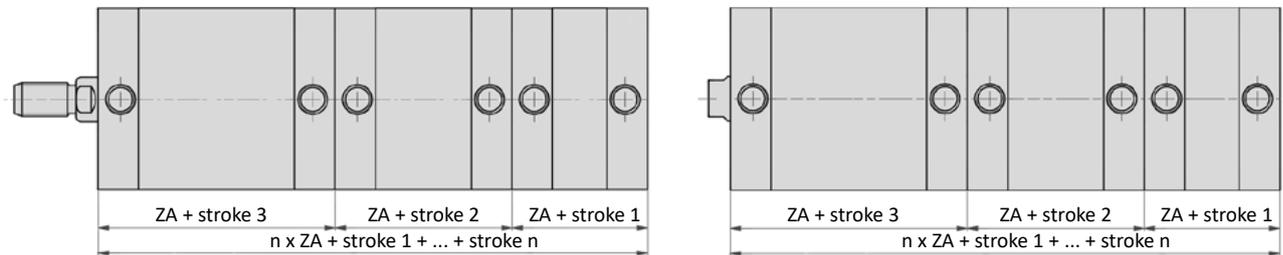
Dimensions series NYD (versions NYDK, NYM, NYR)

Version NYDK



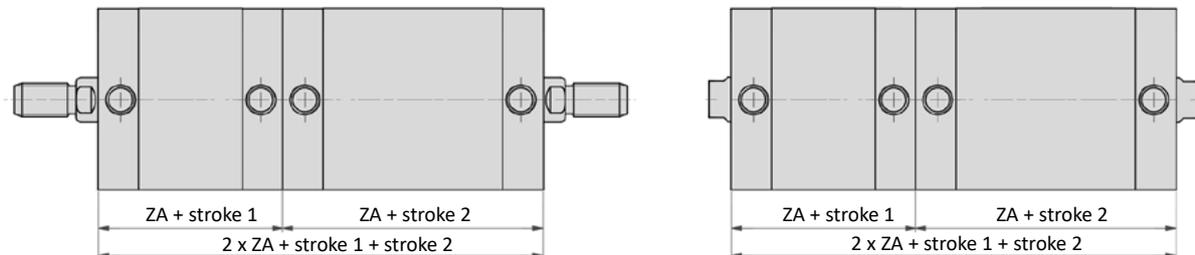
! For cylinder applications for NYDK3 and NYDK4 check mounting advices with our technical department.

Version NYM



! stroke 3 (max. total stroke) > stroke 2 > stroke 1

Version NYR



Piston Ø (mm)	20	25	32	40	50	63	80	100	125
ZA	37	39	44	45	45	49	54	67	81

Piston Ø (mm)	20	25	32	40	50	63	80	100
Weight (kg)								
0 mm stroke (-200/-AG)	0.286	0.351	0.480	0.597	0.888	1.278	2.136	3.605
0 mm stroke (-210/-IG)	0.274	0.339	0.457	0.574	0.852	1.242	2.066	3.534
surcharge for 3rd and more cylinders	0.143	0.173	0.240	0.296	0.417	0.617	1.070	1.812
each 10 mm stroke*	0.024	0.028	0.029	0.030	0.048	0.057	0.088	0.115

* total of all strokes

Series NYE

ISO 21287, single acting

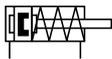
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (Ø 32 mm - Ø 125 mm: -30°C...+80°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.
Materials	cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: stainless steel Seals: PU, NBR
	Cylinders in accordance with 2014/34/EU (ATEX) available. (chap. 12)

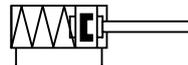


Single acting cylinder with magnetic piston for proximity sensors and built-in cushioning rings. Standard stroke lengths in table below, additional lengths on request.

Versions

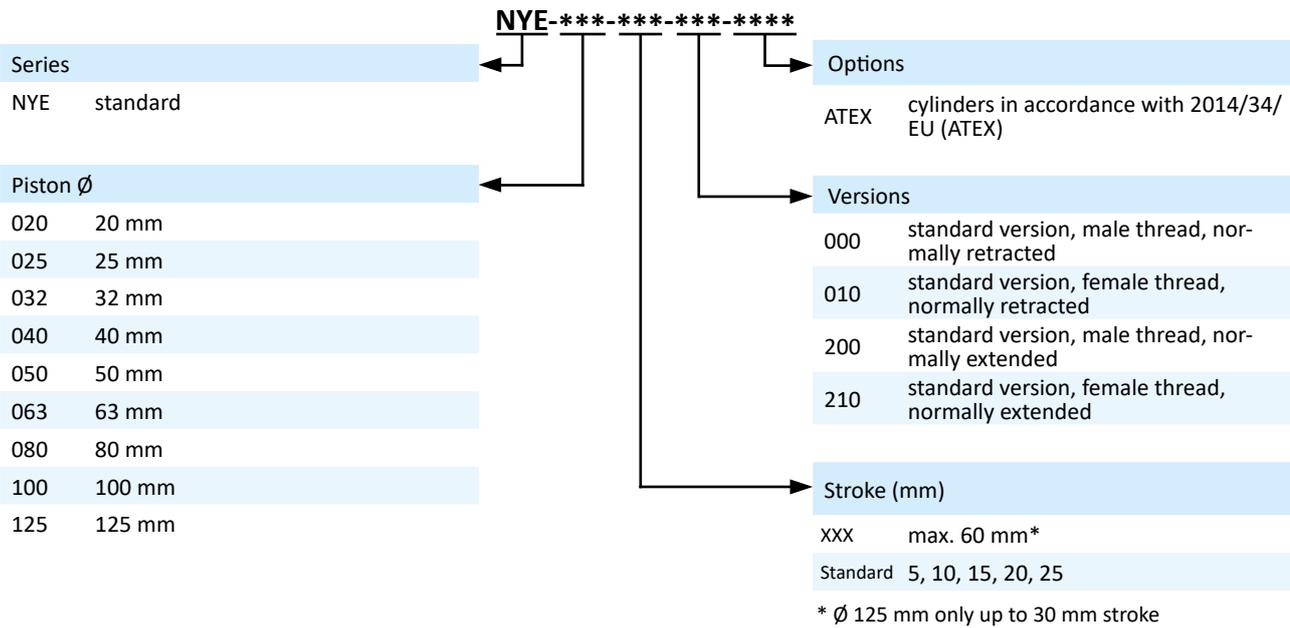


000, 010
single acting, built-in cushioning rings, with magnetic piston, normally retracted



200, 210
single acting, built-in cushioning rings, with magnetic piston, normally extended

Order code



Technical data

Model-no.:	NYE-020-...	NYE-025-...	NYE-032-...	NYE-040-...	NYE-050-...
Piston Ø (mm)	20	25	32	40	50
Connection	M5	M5	G1/8	G1/8	G1/8
Piston rod thread	M8	M8	M10 x 1.25	M10 x 1.25	M12 x 1.25
male					
female	M6	M6	M8	M8	M10

Model-no.:	NYE-063-...	NYE-080-...	NYE-100-...	NYE-125-...
Piston Ø (mm)	63	80	100	125
Connection	G1/8	G1/8	G1/8	G1/4
Piston rod thread	M12 x 1.25	M16 x 1.5	M16 x 1.5	M20 x 1.5
male				
female	M10	M12	M12	M16

Piston Ø (mm)	20	25	32	40	50	63	80	100
0 mm stroke (-x00)*	0.143	0.178	0.240	0.301	0.471	0.661	1.066	1.793
0 mm stroke (-x10)*	0.131	0.166	0.217	0.278	0.435	0.625	0.996	1.722
0 mm stroke (-x00)**	0.167	0.202	0.264	0.325	0.495	0.685	1.114	1.841
0 mm stroke (-x10)**	0.155	0.190	0.241	0.302	0.459	0.649	1.044	1.770
each 10 mm stroke	0.024	0.028	0.029	0.030	0.048	0.057	0.088	0.115

* up to 30 mm stroke, ** up from 35 mm stroke

Series NYE

ISO 21287, single acting

Technical data

Model-no.:		NYE-020-xxx-0x0	NYE-025-xxx-0x0	NYE-032-xxx-0x0	NYE-040-xxx-0x0
Force at 6 bar and 5 mm stroke (N)	Extension	132 ... 137	223 ... 227	381 ... 386	609 ... 616
	Retraction	33 ... 38	38 ... 42	48 ... 53	63 ... 70
Force at 6 bar and 10 mm stroke (N)	Extension	132 ... 141	223 ... 232	381 ... 392	609 ... 623
	Retraction	29 ... 38	33 ... 42	42 ... 53	56 ... 70
Force at 6 bar and 15 mm stroke (N)	Extension	132 ... 146	223 ... 236	381 ... 397	609 ... 630
	Retraction	24 ... 38	29 ... 42	37 ... 53	49 ... 70
Force at 6 bar and 20 mm stroke (N)	Extension	132 ... 151	223 ... 241	381 ... 403	609 ... 637
	Retraction	19 ... 38	24 ... 42	31 ... 53	42 ... 70
Force at 6 bar and 25 mm stroke (N)	Extension	132 ... 155	223 ... 245	381 ... 408	609 ... 644
	Retraction	15 ... 38	20 ... 42	26 ... 53	35 ... 70
Force at 6 bar and 30 mm stroke (N)	Extension	132 ... 160	223 ... 250	381 ... 414	609 ... 651
	Retraction	10 ... 38	15 ... 42	20 ... 53	28 ... 70
Force at 6 bar and 35 mm stroke (N)	Extension	93 ... 132	185 ... 223	326 ... 381	550 ... 609
	Retraction	38 ... 77	42 ... 80	53 ... 108	70 ... 129
Force at 6 bar and 40 mm stroke (N)	Extension	93 ... 138	185 ... 228	326 ... 389	550 ... 617
	Retraction	32 ... 77	37 ... 80	45 ... 108	62 ... 129
Force at 6 bar and 50 mm stroke (N)	Extension	93 ... 149	185 ... 239	326 ... 404	550 ... 634
	Retraction	21 ... 77	26 ... 80	30 ... 108	45 ... 129
Force at 6 bar and 60 mm stroke (N)	Extension	93 ... 160	185 ... 250	326 ... 420	550 ... 651
	Retraction	10 ... 77	15 ... 80	14 ... 108	28 ... 129

Model-no.:		NYE-050-xxx-0x0	NYE-063-xxx-0x0	NYE-080-xxx-0x0	NYE-100-xxx-0x0
Force at 6 bar and 5 mm stroke (N)	Extension	985 ... 993	1586 ... 1594	2564 ... 2573	4027 ... 4039
	Retraction	67 ... 75	89 ... 97	141 ... 150	202 ... 214
Force at 6 bar and 10 mm stroke (N)	Extension	985 ... 1001	1586 ... 1602	2564 ... 2581	4027 ... 4052
	Retraction	59 ... 75	81 ... 97	133 ... 150	189 ... 214
Force at 6 bar and 15 mm stroke (N)	Extension	985 ... 1008	1586 ... 1610	2564 ... 2590	4027 ... 4064
	Retraction	52 ... 75	73 ... 97	124 ... 150	177 ... 214
Force at 6 bar and 20 mm stroke (N)	Extension	985 ... 1016	1586 ... 1619	2564 ... 2599	4027 ... 4076
	Retraction	44 ... 75	64 ... 97	115 ... 150	165 ... 214
Force at 6 bar and 25 mm stroke (N)	Extension	985 ... 1024	1586 ... 1627	2564 ... 2607	4027 ... 4089
	Retraction	36 ... 75	56 ... 97	107 ... 150	152 ... 214
Force at 6 bar and 30 mm stroke (N)	Extension	985 ... 1032	1586 ... 1635	2564 ... 2616	4027 ... 4101
	Retraction	28 ... 75	48 ... 97	98 ... 150	140 ... 214
Force at 6 bar and 35 mm stroke (N)	Extension	914 ... 985	1502 ... 1586	2491 ... 2564	3923 ... 4027
	Retraction	75 ... 146	97 ... 181	150 ... 223	214 ... 318
Force at 6 bar and 40 mm stroke (N)	Extension	914 ... 995	1502 ... 1598	2491 ... 2574	3923 ... 4042
	Retraction	65 ... 146	85 ... 181	140 ... 223	199 ... 318
Force at 6 bar and 50 mm stroke (N)	Extension	914 ... 1016	1502 ... 1622	2491 ... 2595	3923 ... 4071
	Retraction	44 ... 146	61 ... 181	119 ... 223	170 ... 318
Force at 6 bar and 60 mm stroke (N)	Extension	914 ... 1036	1502 ... 1646	2491 ... 2616	3023 ... 4101
	Retraction	24 ... 146	37 ... 181	98 ... 223	140 ... 318

Technical data

Model-no.:		NYE-020-xxx-2x0	NYE-025-xxx-2x0	NYE-032-xxx-2x0	NYE-040-xxx-2x0
Force at 6 bar and 5 mm stroke (N)	Extension	33 ... 38	38 ... 42	48 ... 53	63 ... 70
	Retraction	89 ... 94	181 ... 185	320 ... 325	548 ... 555
Force at 6 bar and 10 mm stroke (N)	Extension	29 ... 38	33 ... 42	42 ... 53	56 ... 70
	Retraction	89 ... 98	181 ... 190	320 ... 331	548 ... 562
Force at 6 bar and 15 mm stroke (N)	Extension	24 ... 38	29 ... 42	37 ... 53	49 ... 70
	Retraction	89 ... 103	181 ... 194	320 ... 336	548 ... 569
Force at 6 bar and 20 mm stroke (N)	Extension	19 ... 38	24 ... 42	31 ... 53	42 ... 70
	Retraction	89 ... 108	181 ... 199	320 ... 342	548 ... 576
Force at 6 bar and 25 mm stroke (N)	Extension	15 ... 38	29 ... 42	26 ... 53	35 ... 70
	Retraction	89 ... 112	181 ... 203	320 ... 347	548 ... 583
Force at 6 bar and 30 mm stroke (N)	Extension	10 ... 38	15 ... 42	20 ... 53	28 ... 70
	Retraction	89 ... 117	181 ... 208	320 ... 352	548 ... 590
Force at 6 bar and 35 mm stroke (N)	Extension	56 ... 120	47 ... 93	105 ... 202	105 ... 202
	Retraction	7 ... 71	130 ... 176	171 ... 268	416 ... 513
Force at 6 bar and 40 mm stroke (N)	Extension	40 ... 120	47 ... 93	91 ... 202	91 ... 202
	Retraction	7 ... 87	130 ... 176	171 ... 282	416 ... 527
Force at 6 bar and 50 mm stroke (N)	Extension	27 ... 120	28 ... 93	64 ... 202	64 ... 202
	Retraction	7 ... 100	130 ... 195	171 ... 309	416 ... 554
Force at 6 bar and 60 mm stroke (N)	Extension	10 ... 120	14 ... 93	36 ... 202	36 ... 202
	Retraction	7 ... 117	130 ... 209	171 ... 337	416 ... 582

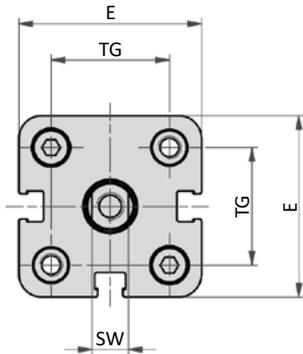
Model-no.:		NYE-050-xxx-2x0	NYE-063-xxx-2x0	NYE-080-xxx-2x0	NYE-100-xxx-2x0
Force at 6 bar and 5 mm stroke (N)	Extension	67 ... 75	89 ... 97	141 ... 150	202 ... 214
	Retraction	877 ... 885	1478 ... 1486	2395 ... 2404	3762 ... 3774
Force at 6 bar and 10 mm stroke (N)	Extension	59 ... 75	81 ... 97	133 ... 150	189 ... 214
	Retraction	877 ... 893	1478 ... 1494	2395 ... 2412	3762 ... 3787
Force at 6 bar and 15 mm stroke (N)	Extension	52 ... 75	73 ... 97	124 ... 150	177 ... 214
	Retraction	877 ... 900	1478 ... 1502	2395 ... 2421	3762 ... 3799
Force at 6 bar and 20 mm stroke (N)	Extension	44 ... 75	64 ... 97	115 ... 150	165 ... 214
	Retraction	877 ... 908	1478 ... 1511	2395 ... 2430	3762 ... 3811
Force at 6 bar and 25 mm stroke (N)	Extension	36 ... 75	56 ... 97	107 ... 150	152 ... 214
	Retraction	877 ... 916	1478 ... 1519	2395 ... 2438	3762 ... 3824
Force at 6 bar and 30 mm stroke (N)	Extension	28 ... 75	48 ... 97	98 ... 150	140 ... 214
	Retraction	877 ... 924	1478 ... 1527	2395 ... 2447	3762 ... 3836
Force at 6 bar and 35 mm stroke (N)	Extension	150 ... 276	150 ... 276	214 ... 402	380 ... 660
	Retraction	676 ... 802	1299 ... 1425	2143 ... 2331	3316 ... 3596
Force at 6 bar and 40 mm stroke (N)	Extension	132 ... 276	132 ... 276	187 ... 402	340 ... 660
	Retraction	676 ... 820	1299 ... 1443	2143 ... 2358	3316 ... 3636
Force at 6 bar and 50 mm stroke (N)	Extension	96 ... 276	96 ... 276	134 ... 402	260 ... 660
	Retraction	676 ... 856	1299 ... 1479	2143 ... 2411	3316 ... 3716
Force at 6 bar and 60 mm stroke (N)	Extension	60 ... 276	60 ... 276	80 ... 402	180 ... 660
	Retraction	676 ... 892	1299 ... 1515	2143 ... 2465	3316 ... 3796

Series NYE

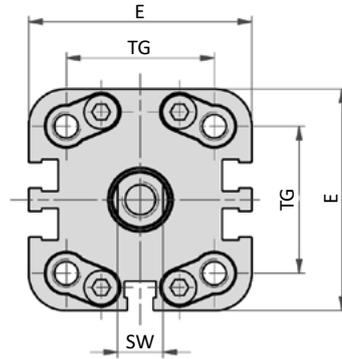
ISO 21287, single acting

Dimensions series NYE

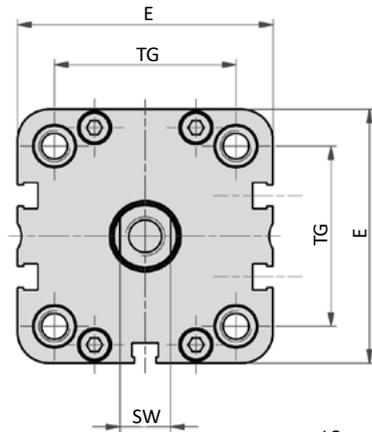
Ø 20 - 25



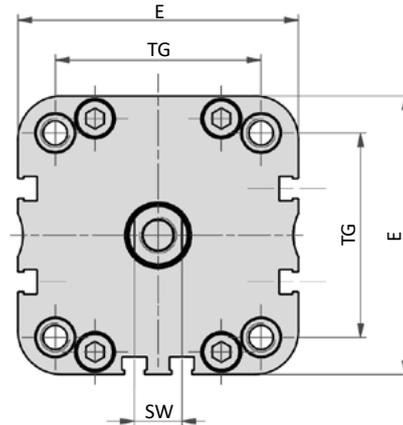
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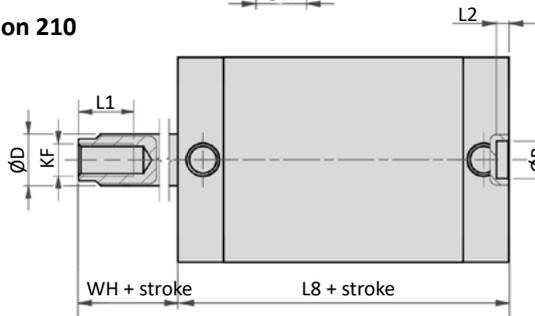
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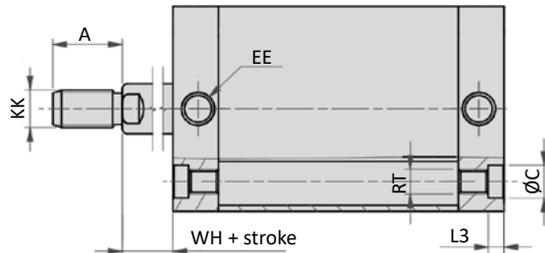
Ø 63 - 125



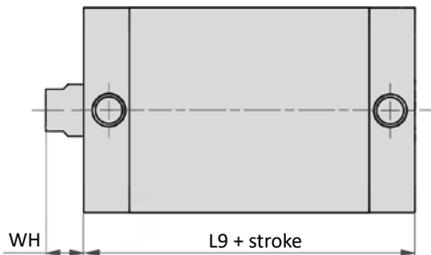
Version 210



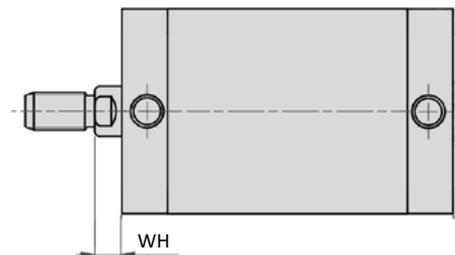
Version 200



Version 010



Version 000



Piston Ø	A	Ø B	Ø C	Ø D	E	EE	KF	KK	L1	L2	L3	L8*	L8**	L9*	L9**	RT	SW	TG	WH
20	16	9	7.5	10	36	M5	M6	M8	15	3	4.5	37	47	37	47	M5	8	22	6.5
25	16	9	7.5	10	40	M5	M6	M8	15	3	4.5	39	49	39	59	M5	8	26	6
32	19	9	9	12	49	G1/8	M8	M10 x 1.25	16	3	5	44	54	44	64	M6	10	32.5	6.5
40	19	9	9	12	54.5	G1/8	M8	M10 x 1.25	16	3	5	45	55	45	65	M6	10	38	7
50	22	12	10.5	16	65.5	G1/8	M10	M12 x 1.25	17	4	5	45	55	45	65	M8	13	46.5	8
63	22	12	10.5	16	77	G1/8	M10	M12 x 1.25	17	4	5	49	59	49	69	M8	13	56.5	8
80	28	12	13.5	20	95.5	G1/8	M12	M16 x 1.5	20	4	3	54	74	54	84	M10	17	72	9
100	28	12	13.5	25	113.5	G1/8	M12	M16 x 1.5	20	4	3	67	87	67	97	M10	22	89	10
125	40	12	13.5	25	135	G1/4	M16	M20 x 1.5	25	4	-	81	-	81	-	M12	22	110	11

* up to 30 mm stroke, ** up from 35 mm stroke

Series NYSE Stopper cylinders, single acting

Technical details

Operating pressure	2 ... 10 bar
Temperature range	-20°C ... +80°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.
Materials	cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: stainless steel Seals: PU, NBR



Single acting compact cylinders with magnetic piston, built-in cushioning rings and return spring.

Versions



280
single acting, built-in cushioning rings,
with magnetic piston,
normally extended

- The cylinders are suitable as double acting as well.
- The cylinders NYSER are non rotating.

Order code

Series		Versions	
NYSE	standard	280	standard version, without thread, normally extended
NYSER	with roller, non rotating		
Piston Ø		Stroke (mm)	
020	20 mm	XXX	standard stroke length
032	32 mm	015	15 mm, for Ø 20 mm
050	50 mm	020	20 mm, for Ø 32 mm
080	80 mm	030	30 mm, for Ø 50 and 80 mm

NYSE*-*-***-*****

Technical data

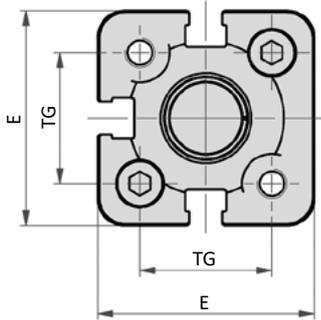
Model-no.:	NYSE*-020-...	NYSE*-032-...	NYSE*-050-...	NYSE*-080-...
Piston Ø (mm)	20	32	50	80
Stroke (mm)	15	20	30	30
Connection	M5	G1/8	G1/8	G1/8
Spring force (N)	min.	28	36	49
	max	36	51	78
Weight (kg)	NYSE	0.20	0.40	1.04
	NYSER	0.24	0.46	1.30

Series NYSE

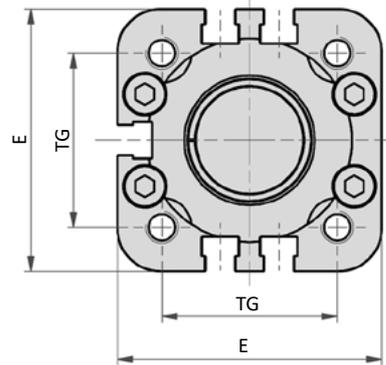
Stopper cylinders, single acting

Dimensions seriesn NYSE and NYSER

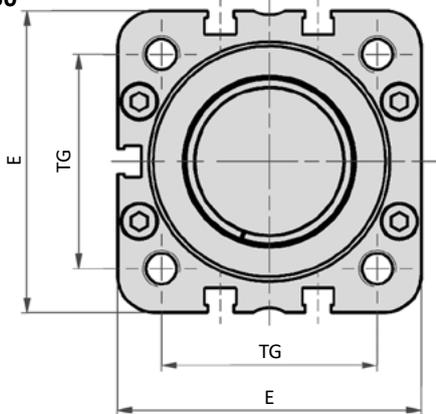
Ø 20



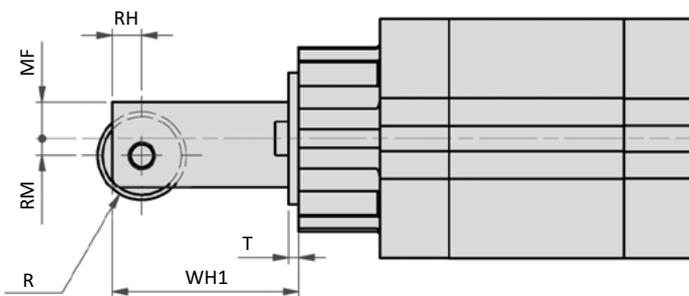
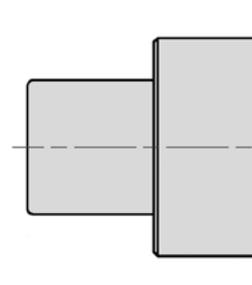
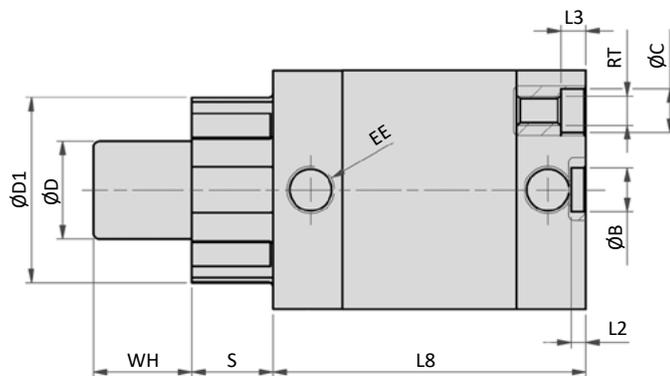
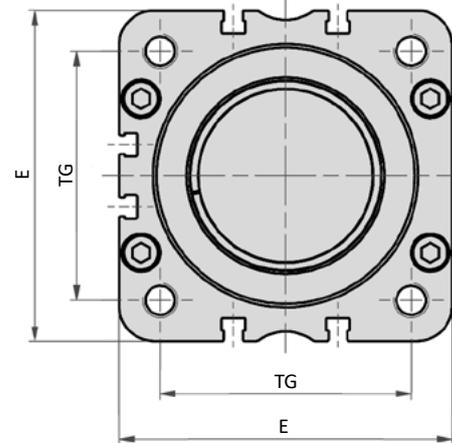
Ø 32



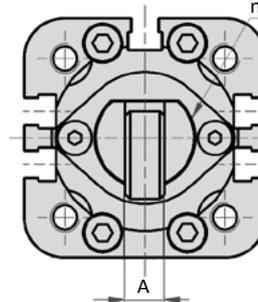
Ø 50



Ø 80

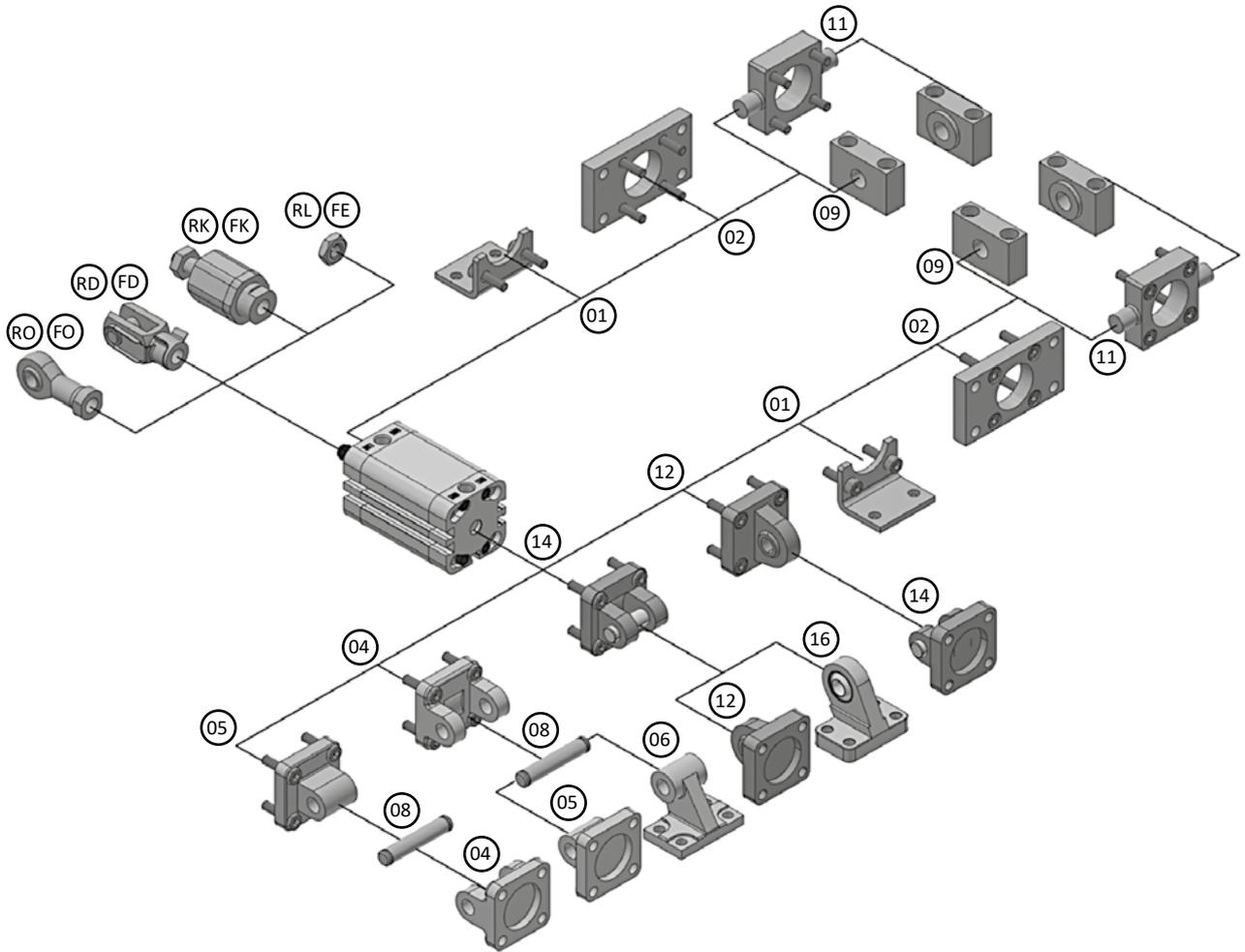


Piston rod non rotating



Piston Ø	A	Ø B	Ø C	Ø D	Ø D1	E	EE	L2	L3	L8	MF	R	RH	RM	RT	S	T	TG	WH	WH1
20	4	9	7.5	12	26	36	M5	3	4.5	53	4.5	5	3	2	M5	11.5	2	22	15	24
32	8	9	9	20	38	49	G1/8	3	5	64	7.5	9	6	3.5	M6	16.5	2	32.5	20	38
50	10	12	10.5	32	52	65.5	G1/8	4	5	75	12	12.5	6	7	M8	24.5	2	46.5	30	50.5
80	18	12	13.5	50	76	95.5	G1/8	4	4	126	18	18	10	11	M10	15	3	72	30	63

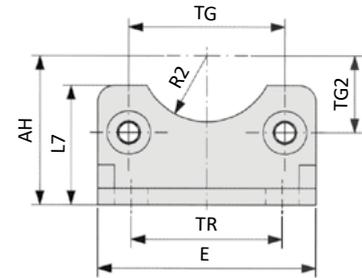
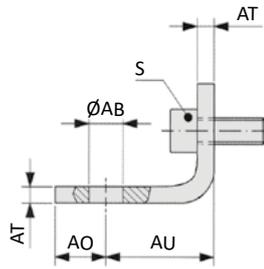
Mounting the add-on parts XLB-xxx-yy



Series NYD

Mounting accessories

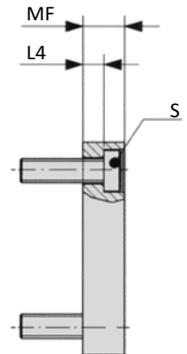
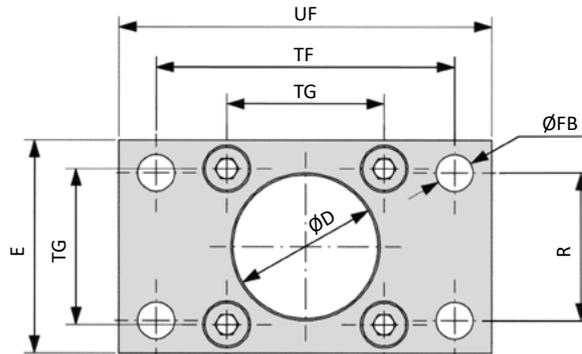
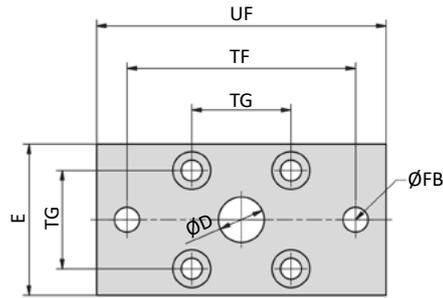
XLB-xxx-01 Foot mount



Model-no.:	Ø AB	AH	AO	AU	AT	E	L7	R2	S	TG	TG2	TR
NXB-020-01	6.5	27	6	16	4	36	11	10	M5 x 14	22	11	22
NXB-025-01	6.5	30	6	16	4	40	23	11	M5 x 14	26	13	26
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

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

NXB-xxx-02, XLB-xxx-02 Flange mount

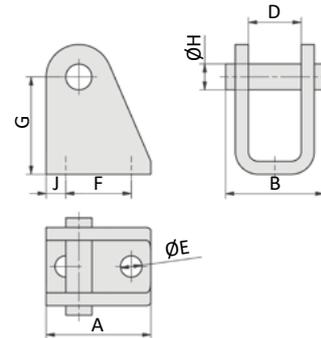


Model-no.:	Ø D	E	Ø FB	L4	MF	R	S	TF	TG	UF
NXB-020-02	12	36	6.6	4.6	10	-	M5 x 20	55*	22	70
NXB-025-02	12	40	6.6	4.6	10	-	M5 x 20	60*	26	76
XLB-032-02	30	45	7	5	10	32	M6 x 20	64	32.5	80
XLB-040-02	35	52	9	5	10	36	M6 x 20	72	38	90
XLB-050-02	40	65	9	6.5	12	45	M8 x 20	90	46.5	110
XLB-063-02	45	75	9	6.5	12	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		*JS13 JS14	± 0.2 *± 0.3	

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

Series NYD Mounting accessories

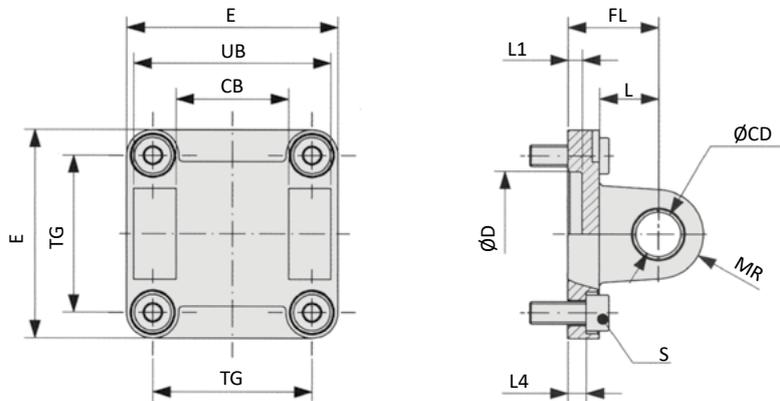
RC-xx Clevis mount



Model-no.:	A	B	D	Ø E	F	G	Ø H	J
RC-30	32	30	16.1	6.6	20	30	8	6

Materials: steel, zinc plated, 2 snap rings are included..

XLB-xxx-04 Clevis mount with bushing



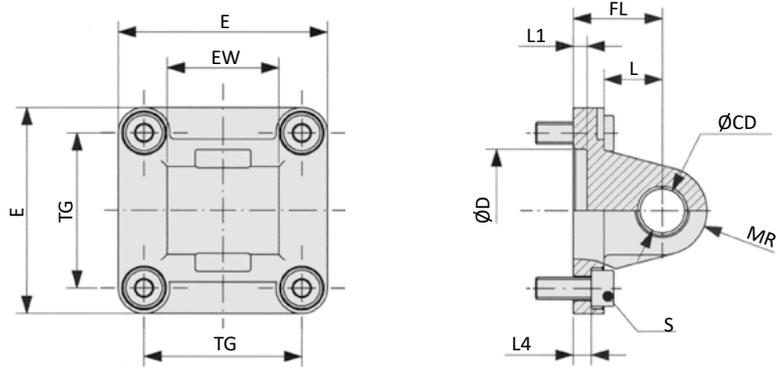
Inclusive clevis pin
order no.: XLB-xxx-48

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
tolerances and adjustments	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..

Series NYD Mounting accessories

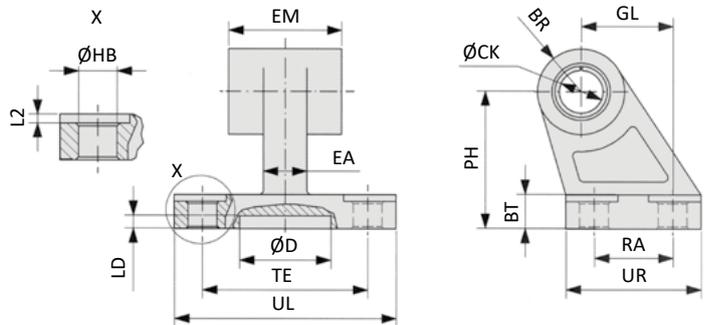
NXB-xxx-04, XLB-xxx-05 Swivel mount



Model-no.:	Ø CD	Ø D	E	EW	FL	L	L1	L4	MR	S	TG
NXB-020-04	8	12	34	16	20	14	3	2.6	8	M5 x 16	22
NXB-025-04	8	12	38	16	20	14	3	2.6	8	M5 x 16	26
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 (only XLB); 4 screws in accordance with EN ISO 4762 are included..

XLB-xxx-06 Swivel mount 90°

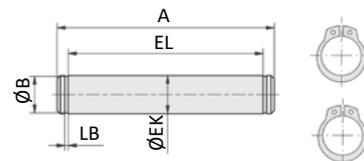


Model-no.:	BR	BT	ØCK	Ø D	EA	EM	GL	ØHB	L2	LD	PH	RA	TE	UL	UR
XLB-032-06	10	8	10	21	10	26	21	6.6	1.6	3	32	18	38	51	31
XLB-040-06	11	10	12	21	15	28	24	6.6	1.6	3	36	22	41	54	35
XLB-050-06	13	12	12	21	16	32	33	9	1.6	3	45	30	50	65	45
XLB-063-06	15	14	16	21	16	40	37	9	1.6	3	50	35	52	67	50
XLB-080-06	15	14	16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

Materials: Al, bushing steel and PTFE

Series NYD Mounting accessories

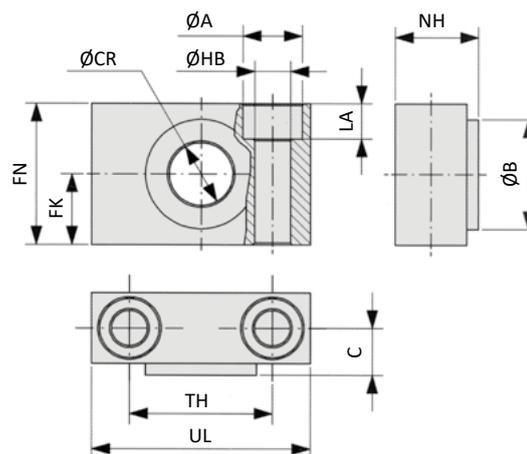
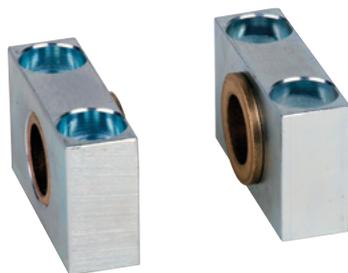
XLB-xxx-08 Clevis pin



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

Materials: steel, zinc plated; 2 snap rings are included..

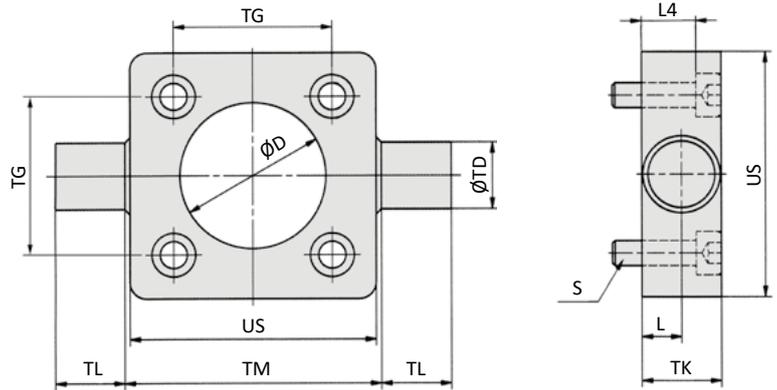
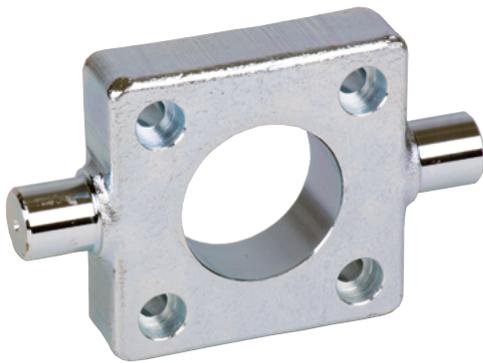
XLB-xxx-09 Bearing block



Model-no.:	for cylinder Ø	Ø A	Ø B	C	Ø CR	FK	FN	Ø HB	LA	NH	TH	UL
XLB-032-09	32	11	22	10.5	12	15	30	6.6	7	18	32	46
XLB-040-09	40.50	15	28	12	16	18	36	9	9	21	36	55
XLB-063-09	63.80	18	32	13	20	20	40	11	11	23	42	65
XLB-100-09	100.125	20	39	16	25	25	50	14	13	28.5	50	75
<i>tolerances and adjustments</i>					H9	±0.1		H13			±0.2	

Materials: Al, bronze bushing

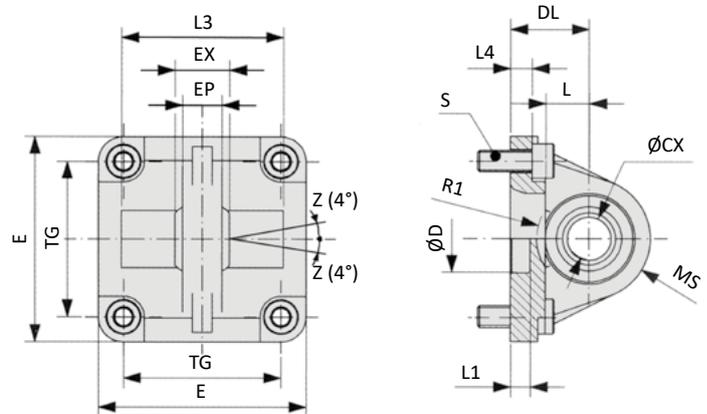
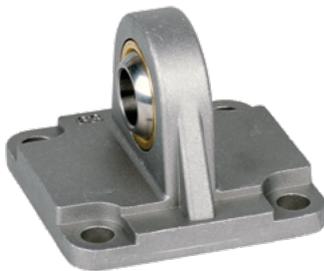
XLB-xxx-11 Trunnion mount



Model-no.:	Ø D	L	L4	S	Ø TD	TG	TK	TL	Ø TM	US
XLB-032-11	30	6.5	8	M6 x 20	12	32.5	14	12	50	46
XLB-040-11	35	9	13	M6 x 25	16	38	19	16	63	59
XLB-050-11	40	9	11	M8 x 25	16	46.5	19	16	75	69
XLB-063-11	45	11.5	16	M8 x 30	20	56.5	24	20	90	84
XLB-080-11	45	11.5	14	M10 x 30	20	72	24	20	110	102
XLB-100-11	55	14	19	M10 x 35	25	89	29	25	132	125
XLB-125-11	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	

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

XLB-xxx-12 Swivel mount with spherical bearing

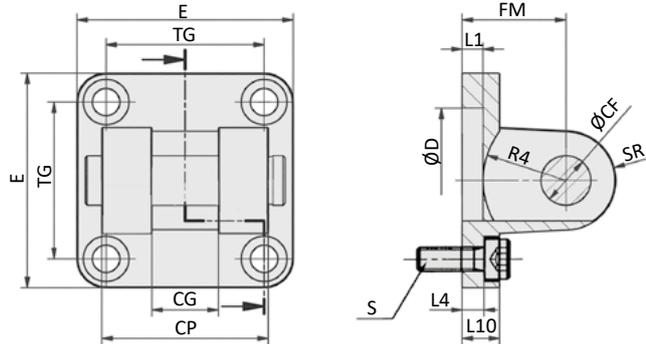


Model-no.:	Ø CX	Ø D	DL	E	EP	EX	L	L1	L3	L4	MS	R1	S	TG
XLB-032-12	10	30	22	45	10.5	14	12	7	-	5.5	16	-	M6 x 20	32.5
XLB-040-12	12	35	25	52	12	16	15	7	-	5.5	18	-	M6 x 20	38
XLB-050-12	16	40	27	65	15	21	15	7	51	6.5	21	19	M8 x 20	46.5
XLB-063-12	16	45	32	75	15	21	20	7	-	6.5	23	-	M8 x 20	56.5
XLB-080-12	20	45	36	95	18	25	20	9	74	10	28	24	M10 x 25	72
XLB-100-12	20	55	41	115	18	25	25	9	-	10	30	-	M10 x 25	89
XLB-125-12	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 NYD Mounting accessories

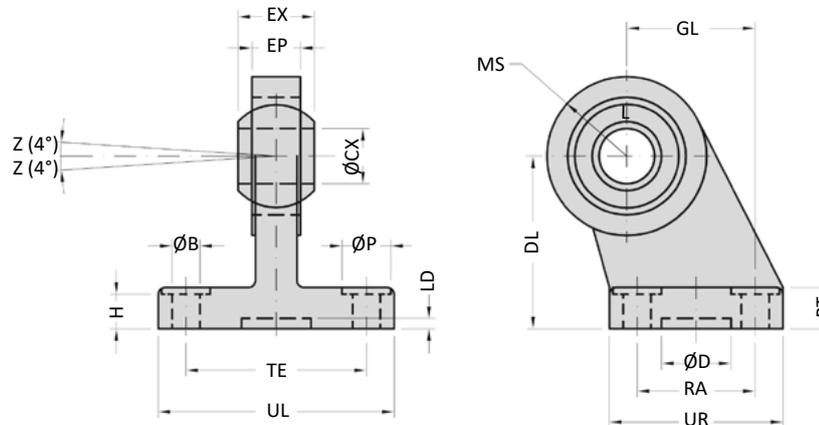
XLB-xxx-14 Clevis mount small with pin



Model-no.:	Ø CF	CG	CP	Ø D	E	FM	L1	L4	L10	R4	S	SR	TG
XLB-032-14	10	14	34	30	45	22	5	5.5	9	17	M6 x 20	10	32.5
XLB-040-14	12	16	40	35	52	25	5	5.5	9	20	M6 x 20	12	38
XLB-050-14	16	21	45	40	65	27	5	6.5	11	22	M8 x 20	14	46.5
XLB-063-14	16	21	51	45	75	32	5	6.5	11	25	M8 x 20	18	56.5
XLB-080-14	20	25	65	45	95	36	5	10	14	30	M10 x 25	20	72
XLB-100-14	20	25	75	55	115	41	5	10	14	32	M10 x 25	22	89
XLB-125-14	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, clevis pin steel, zinc plated; 4 screws in accordance with EN ISO 4762 are included..

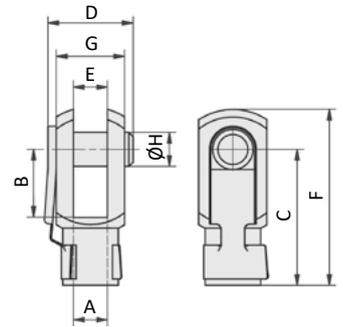
XLB-xxx-16 Swivel mount with spherical bearing 90°



Model-no.:	Ø B	BT	ØCX	ØD	DL	EP	EX	GL	H	LD	MS	ØP	RA	TE	UL	UR
XLB-032-16	6.6	10	10	20	32	10.5	14	21	8.5	3	15	11	18	38	51	31
XLB-040-16	6.6	10	12	20	36	12	16	24	8.5	3	18	11	22	41	54	35
XLB-050-16	9	12	16	20	45	15	21	33	10.5	3	20	15	30	50	65	45
XLB-063-16	9	12	16	20	50	15	21	37	10.5	3	23	15	35	52	67	50
XLB-080-16	11	14	20	20	60	18	25	47	11.5	3	27	18	40	66	86	60
XLB-100-16	11	15	20	20	70	18	25	55	12.5	3	30	18	50	76	96	70
XLB-125-16	13.5	20	30	20	90	25	37	70	17	3	40	20	60	94	124	90
<i>tolerances and adjustments</i>	H13		H7	H13	JS15	max	0 -0.1	JS15	+0.5 0		max	H13	JS14	JS14	max	max

Materials: steel, bearing steel, bronze bushing

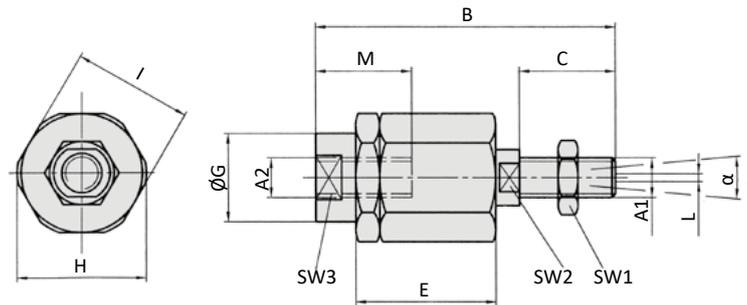
RD-xx, FD-xx Rod clevis



Model-no.:	for cylinder Ø	A	B	C	D	E	F	G	Ø H
RD-20	20, 25	M8	16	32	22	8	42	16	8
RD-25	32, 40	M10 x 1.25	20	40	26	10	52	20	10
FD-40	50, 63	M12 x 1.25	24	48	32	12	62	24	12
FD-63	80, 100	M16 x 1.5	32	64	40	16	83	32	16
FD-80	125	M20 x 1.5	40	80	50	20	105	40	20

Materials: steel, zinc plated

FK-xx Flexible coupling



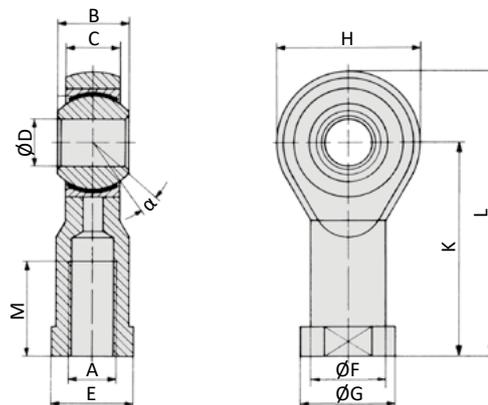
Model-no.:	for cylinder	A1, A2	B	C	D	E	Ø G	H	I	L	M	SW1	SW2	SW3	α
FK-20	20, 25	M8	57	21	5	26	12.5	19	17	2	16	13	7	11	8°
FK-32	32, 40	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°
FK-40	50, 63	M12 x 1.25	75	24	7.5	35	22	32	30	2	22	19	12	19	8°
FK-63	80, 100	M16 x 1.5	104	32	10	53	32	45	41	2	30	24	20	27	6°
FK-80	125	M20 x 1.5	119	40	10	53	32	45	41	2	37	30	20	30	6°

Materials: steel, zinc plated

Series NYD

Mounting accessories

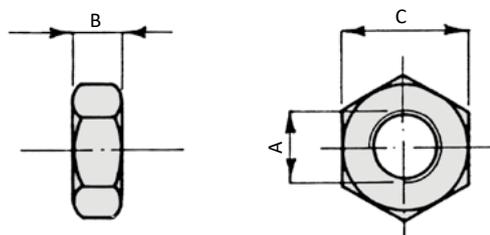
RO-xx, FO-xx Rod eye



Model-no.:	for cylinder	A	B	C	Ø D	E	Ø F	Ø G	H	K	L	M	α
RO-20	20, 25	M8	12	9	8	14	12.5	16	24	36	48	16	14°
RO-25	32, 40	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
FO-40	50, 63	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°
FO-63	80, 100	M16 x 1.5	21	15	16	22	22	27	42	64	85	28	15°
FO-80	125	M20 x 1.5	25	18	20	30	27.5	34	50	77	102	33	14°

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

RL-xx, FE-xx Piston rod nut



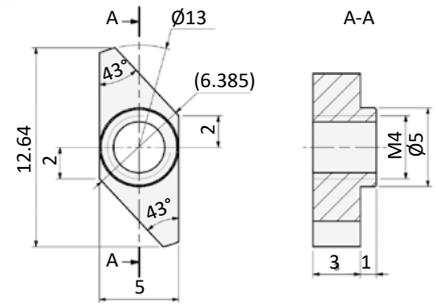
Model-no.:	for cylinder	A	B	C
RL-20	20, 25	M8	5	13
RL-25	32, 40	M10 x 1.25	5	17
FE-40	50, 63	M12 x 1.25	8	19
FE-63	80, 100	M16 x 1.5	8	24
FE-80	125	M20 x 1.5	10	30

Material: steel, zinc plated

NST-T-4-U Slot nut



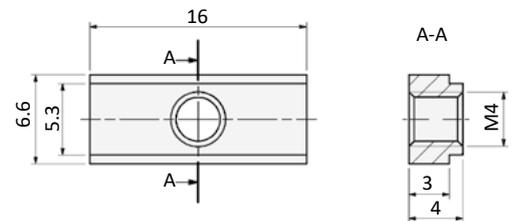
Materials: steel, zinc plated



NST-T-4-V Slot nut



Materials: steel, zinc plated



Proximity sensors

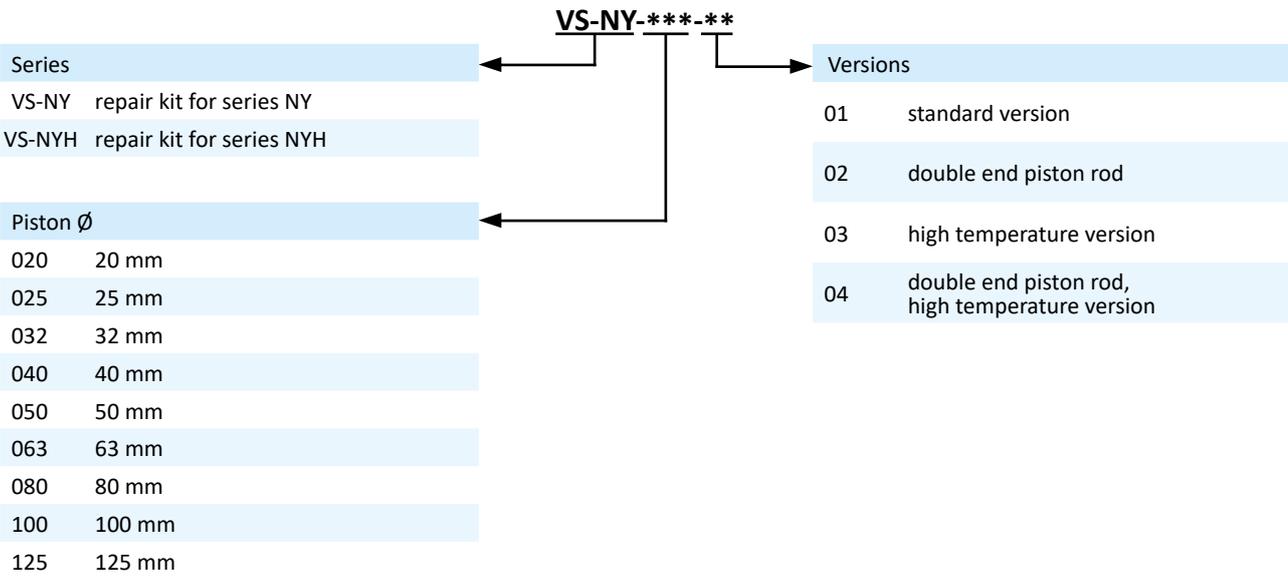


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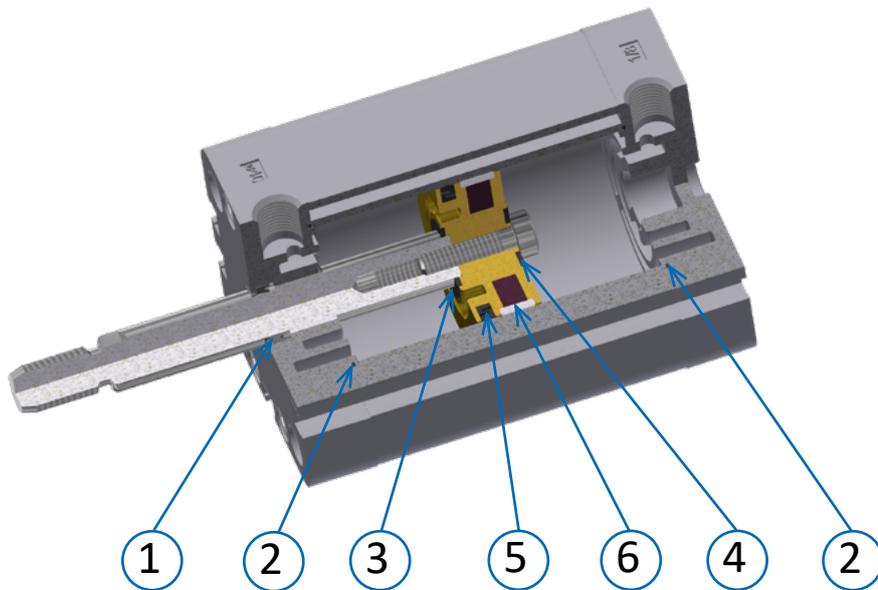
Series NY

Repair kits

Order code



Content Ø 20 - 25 mm



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1*
2	O-ring, cylinder tube (NBR)	2
3	damping seal (Neopren)	1
4	damping seal (Neopren)	1
5	piston seal (NBR)	2
6	guide band (PBT+PTFE)	1

*2 pieces for version 02

High temperature version

Position	Product description	Quantity
1	piston rod seal (FKM)	1*
2	O-ring, cylinder tube (FKM)	2
3	damping seal (FKM)	1
4	damping seal (FKM)	1
5	piston seal (FKM)	2
6	guide band (PBT+PTFE)	1

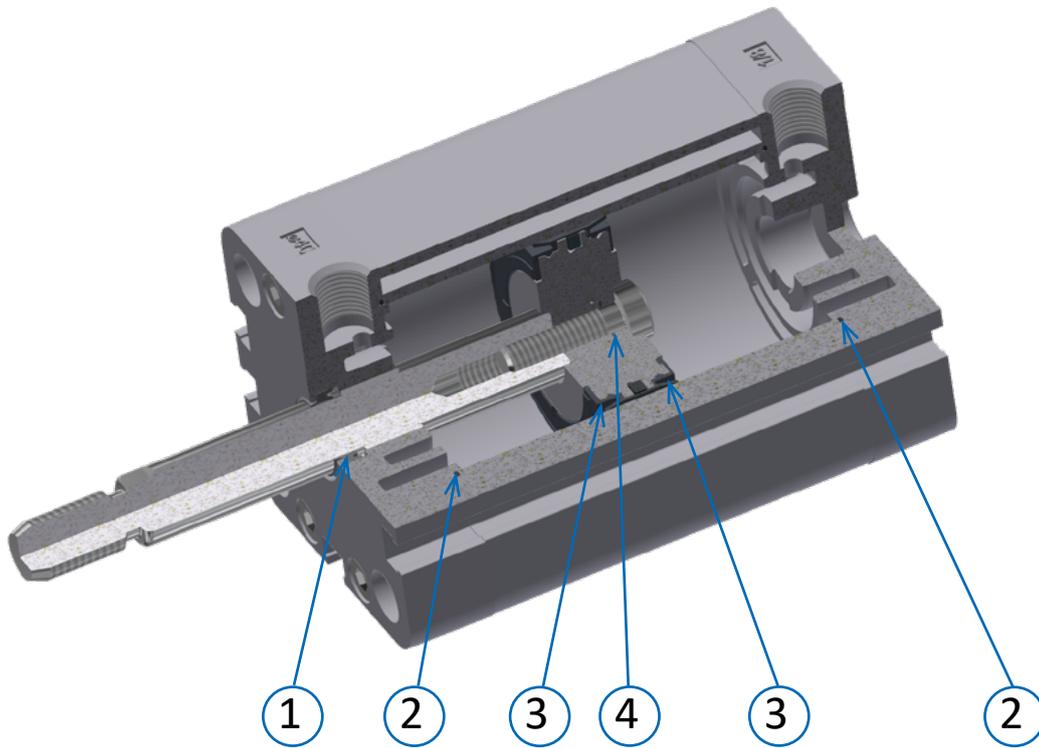
*2 pieces for version 04



Please grease the running surfaces after fitting the seals. We recommend our assembly grease 21-MP-01-00030-50.



Content Ø 32 - 125 mm



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1*
2	O-ring, cylinder tube (NBR)	2
3	piston seal (PUR)	2
4	O ring (NBR)	1

*2 pieces for version 02

High temperature version

Position	Product description	Quantity
1	piston rod seal (FKM)	1*
2	O-ring, cylinder tube (FKM)	2
3	piston seal (FKM)	2
4	O ring (FKM)	1

*2 pieces for version 04



Please grease the running surfaces after fitting the seals.
We recommend our assembly grease 21-MP-01-00030-50.



Series DZY

Linear-swivel clamps

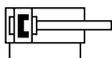
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-10°C ... +80°C
Verfahrgeschwindigkeit	max. 160 mm/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.
Materials	Cylinder tube: Al (anodized) End caps: Al-die-cast (painted) Piston rod: steel, hard chrome plated Gate: steel 1.7131, plasma-nitrided Seals: PU, NBR
	Cylinders in accordance with 2014/34/EU (ATEX) available.



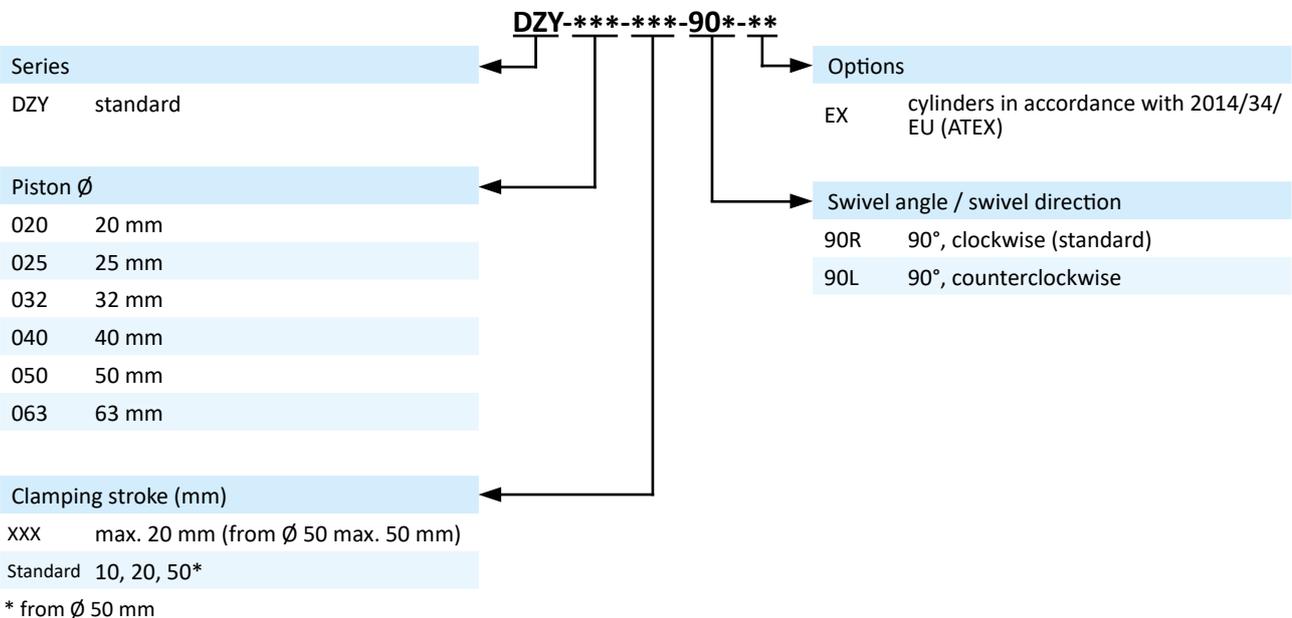
Double acting pneumatic cylinder with magnetic piston for proximity sensors and built-in cushioning rings. Due to the combination of linear and swivel movement of the piston rod, combined insertion and clamping operations can be realised. Special angles and special stroke lengths are available on request.

Versions



double acting, built-in cushioning rings, with magnetic piston

Order code



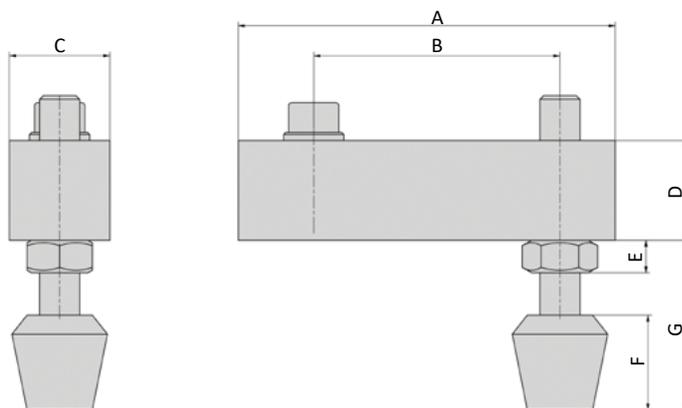
Technical data

Model-no.:	DZY-020-...	DZY-025-...	DZY-032-...	DZY-040-...	DZY-050-...	DZY-063-...
Piston Ø (mm)	20	25	32	40	50	63
Force at 6 bar (N)						
Extension	170	265	434	678	1060	1682
Retraction	127	223	373	617	951	1574
Connection	M5	M5	G1/8	G1/8	G1/8	G1/8

Series DZY

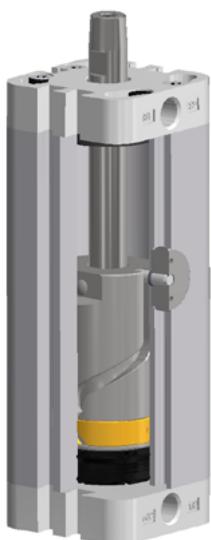
Linear-swivel clamps

Dimensions clamping finger



Model-no.:	A	B	C	D	E	F	G
DZY-20/25-SF	55	35.5	16	16	5	14	14 - 25
DZY-32/40-SF	75	49	20	20	6.5	19	19 - 45
DZY-50/63-SF	90	65	25	20	8	25	25 - 70

Function



Swivel direction

Indication of the swivel direction always when retracting the piston rod.



Swivelling to the right

View from above of the piston rod side with the piston rod retracted.
Clockwise swivel direction.



Swivelling to the left

View from above of the piston rod side with the piston rod retracted.
Counterclockwise swivel direction.

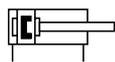
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-10°C ... +80°C (NXDH: 0°C ... +150°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.
Materials	cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: stainless steel Seals: PU, NBR (optional FKM)

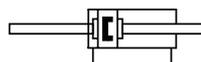


Double acting pneumatic cylinder with magnetic piston for proximity sensors and built-in cushioning rings. Standard stroke lengths in table below, additional lengths on request.

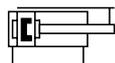
Versions



200, 202, 210, 212
double acting, built-in cushioning rings,
with magnetic piston

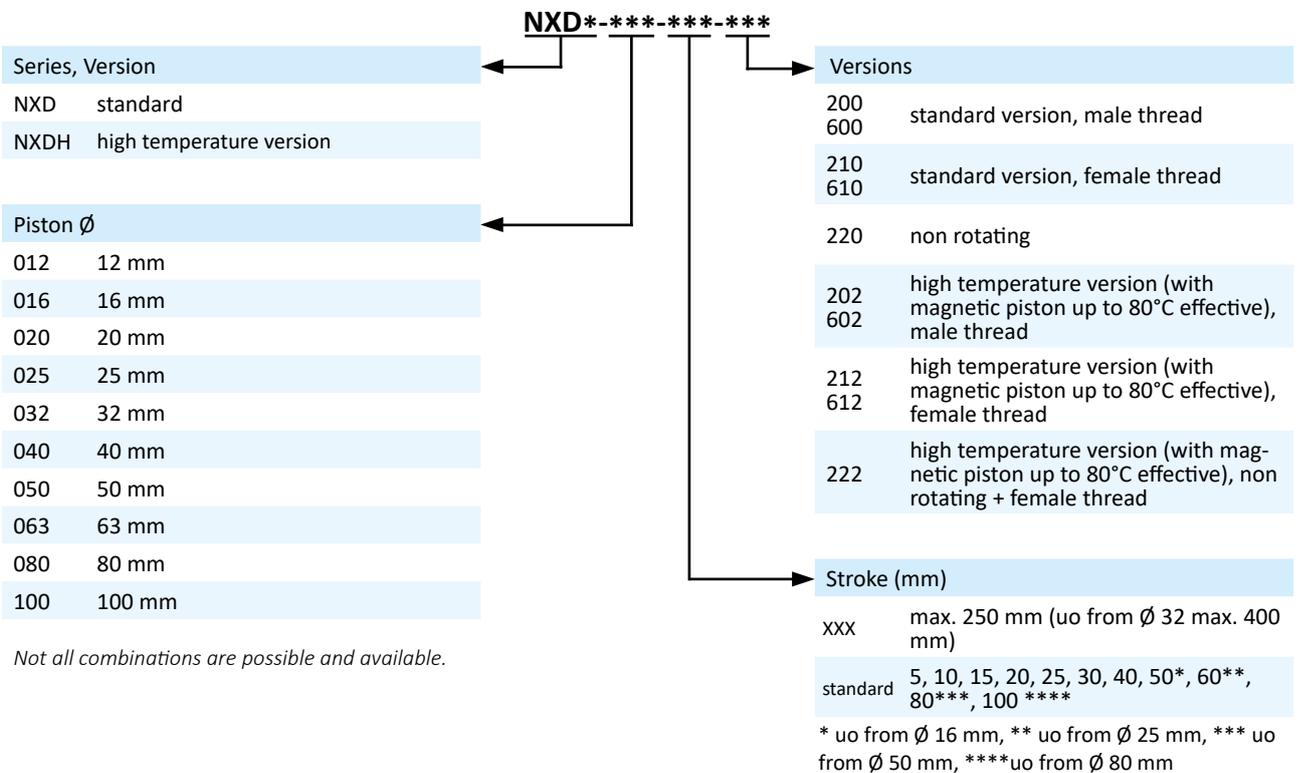


600, 602, 610, 612
double acting, double end piston rod, built-in
cushioning rings, with magnetic piston



220, 222
double acting, non rotating, built-in
cushioning rings, with magnetic piston

Order code



Not all combinations are possible and available.

Series NXD

double acting

Technical data

Model-no.:	NXD-012-...	NXD-016-...	NXD-020-...	NXD-025-...	NXD-032-...	
Piston Ø (mm)	12	16	20	25	32	
Force at 6 bar (N)	Extension	109	109	170	265	434
	Retraction	81	81	127	223	373
Connection	M5	M5	M5	M5	G1/8	
Piston rod thread	male	M6	M8	M10 x 1.25	M10 x 1.25	M10 x 1.25
	female	M3	M4	M5	M5	M6

Model-no.:	NXD-040-...	NXD-050-...	NXD-063-...	NXD-080-...	NXD-100-...	
Piston Ø (mm)	40	50	63	80	100	
Force at 6 bar (N)	Extension	678	1060	1682	2713	4239
	Retraction	617	951	1574	2543	3974
Connection	G1/8	G1/8	G1/8	G1/8	G1/4	
Piston rod thread	male	M10 x 1.25	M12 x 1.25	M12 x 1.25	M16 x 1.5	M20 x 1.5
	female	M6	M8	M8	M10	M12

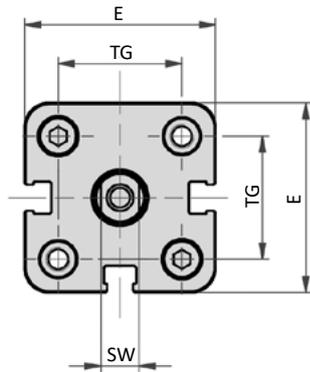
Piston Ø (mm)	12	16	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-200)	0.078	0.082	0.135	0.153	0.275	0.376	0.502	0.776	1.453	2.659
	0 mm stroke (-210)	0.074	0.074	0.121	0.139	0.261	0.362	0.481	0.755	1.402	2.560
	each 100 mm stroke	0.170	0.170	0.270	0.310	0.410	0.500	0.630	0.780	1.180	1.600

Piston Ø (mm)	16	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-220)	0.097	0.150	0.195	0.335	0.461	0.636	0.976	1.845	3.190
	each 100 mm stroke	0.200	0.300	0.350	0.530	0.620	0.750	0.900	1.420	1.840

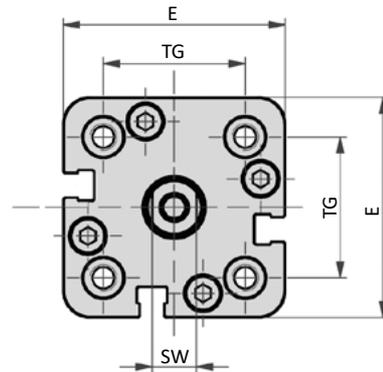
Piston Ø (mm)	12	16	20	25	32	40	50	63	80	100	
Weight (kg)	0 mm stroke (-600)	0.097	0.108	0.170	0.188	0.325	0.426	0.591	0.865	1.617	2.958
	0 mm stroke (-610)	0.092	0.092	0.143	0.161	0.298	0.399	0.548	0.822	1.516	2.760
	each 100 mm stroke	0.210	0.210	0.330	0.370	0.500	0.590	0.790	0.940	1.430	1.980

Dimensions series NXD (Versions 200, 202, 210 and 212)

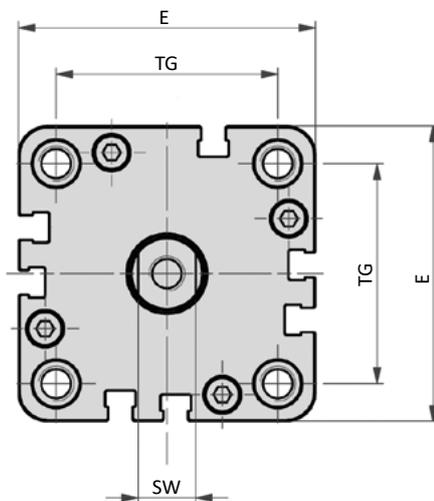
Ø 12 - 25



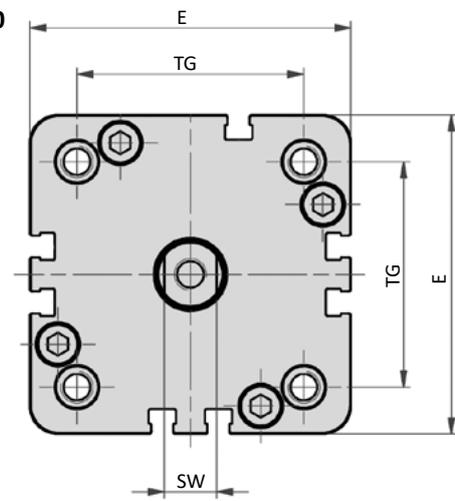
Ø 32 - 40



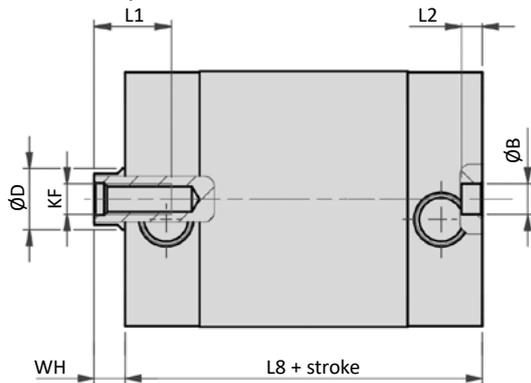
Ø 50



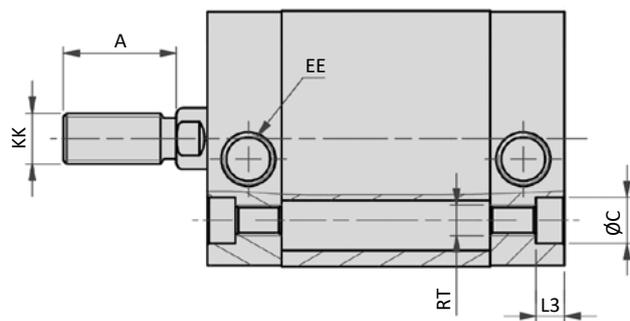
Ø 63 - 100



Versions 210, 212



Versions 200, 202



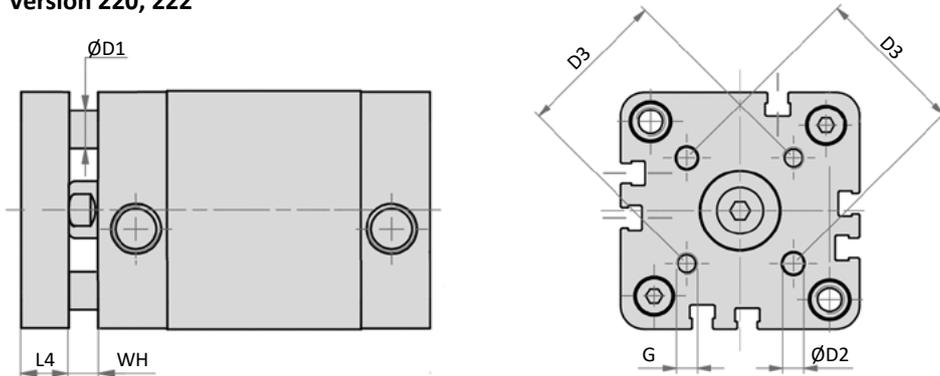
Piston Ø	A	Ø B	Ø C	Ø D	E	EE	KF	KK	L1	L2	L3	L8	RT	SW	TG	WH
12	16	6	6	8	29	M5	M3	M6	6	4	3.5	38	M4	5	18	4.5
16	20	6	6	8	29	M5	M4	M8	8	4	3.5	38	M4	6	18	4.5
20	22	6	7.5	10	36	M5	M5	M10 x 1.25	10	4	4.5	38	M5	8	22	4.5
25	22	6	7.5	10	40	M5	M5	M10 x 1.25	10	4	4.5	39.5	M5	8	26	5.5
32	22	6	9	12	50	G1/8	M6	M10 x 1.25	12	4	5.5	44.5	M6	10	32	6
40	22	6	9	12	58	G1/8	M6	M10 x 1.25	12	4	5.5	45.5	M6	10	42	6.5
50	24	6	10.5	16	67	G1/8	M8	M12 x 1.25	12	4	6.5	45.5	M8	13	50	7.5
63	24	8	13.5	16	80	G1/8	M8	M12 x 1.25	14	4	8.5	50	M10	13	62	7.5
80	32	8	13.5	20	100	G1/8	M10	M16 x 1.5	15	4	8.5	56	M10	17	82	8
100	40	8	13.5	25	124	G1/4	M12	M20 x 1.5	20	4	8.5	66.5	M10	22	103	10

Series NXD

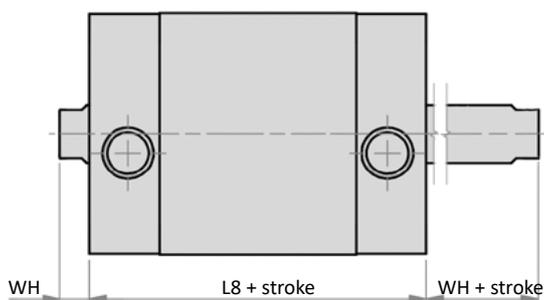
double acting

Dimensions series NXD (Versions 220, 222, 600, 602, 610 and 612)

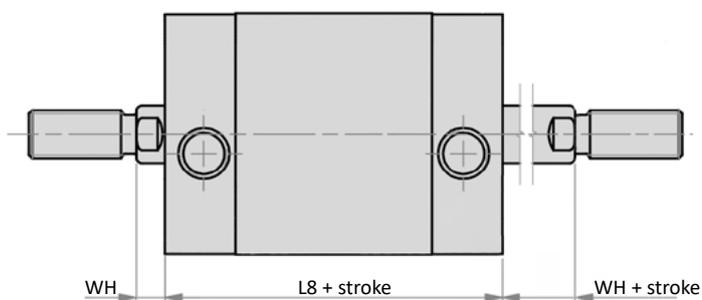
Version 220, 222



Version 610, 612



Version 600, 602



Piston Ø	Ø D1	Ø D2	D3	G	L4	L8	WH
12	-	-	-	-	-	38	4.5
16	5	3	14	M3	6	38	4.5
20	5	4	17	M4	8	38	4.5
25	6	5	22	M5	8	39.5	5.5
32	8	5	28	M5	10	44.5	6
40	10	5	33	M5	10	45.5	6.5
50	10	6	42	M6	12	45.5	7.5
63	10	6	50	M6	12	50	7.5
80	14	8	65	M8	14	56	8
100	14	10	80	M10	14	66.5	10

Technical details

Operating pressure	1 ... 10 bar
Temperature range	-10°C ... +80°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.
Materials	Cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: stainless steel Seals: PU, NBR (optional FKM)

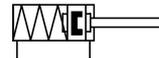


Single acting pneumatic cylinder with magnetic piston for proximity sensors and built-in cushioning rings. Standard stroke lengths in table below, additional lengths on request.

Versions

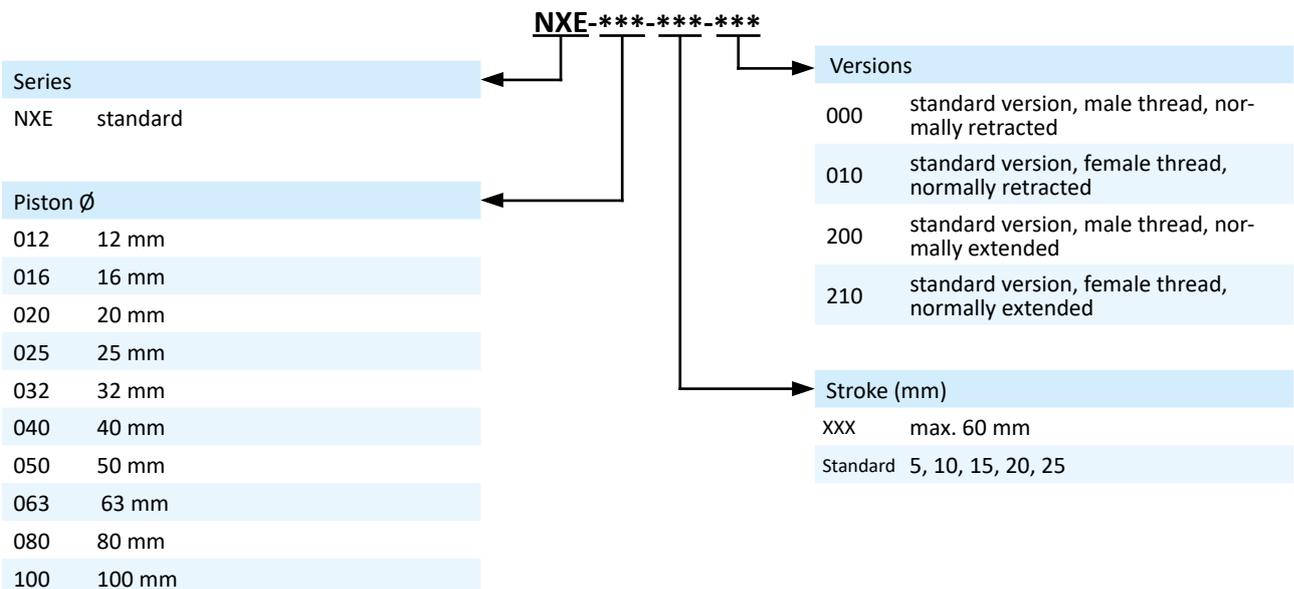


000, 010
single acting, built-in cushioning rings, with magnetic piston, normally retracted



200, 210
single acting, built-in cushioning rings, with magnetic piston, normally extended

Order code



Model-no.:	NXE-012-...	NXE-016-...	NXE-020-...	NXE-025-...	NXE-032-...
Piston Ø (mm)	12	16	20	25	32
Connection	M5	M5	M5	M5	G1/8
Piston rod thread	male M6 female M3	M8 M4	M10 x 1.25 M5	M10 x 1.25 M5	M10 x 1.25 M6

Model-no.:	NXE-040-...	NXE-050-...	NXE-063-...	NXE-080-...	NXE-100-...
Piston Ø (mm)	40	50	63	80	100
Connection	G1/8	G1/8	G1/8	G1/8	G1/4
Piston rod thread	male M10 x 1.25 female M6	M12 x 1.25 M8	M12 x 1.25 M8	M16 x 1.5 M10	M20 x 1.5 M12

Series NXE

single acting

Technical data

Model-no.:	NXE-	012-...	016-...	020-...	025-...	032-...	040-...	050-...	063-...	080-...	100-...
Weight (kg)	0 mm stroke (-x00)*	0.078	0.082	0.135	0.153	0.275	0.376	0.502	0.776	1.453	2.659
	0 mm stroke (-x10)*	0.074	0.074	0.121	0.139	0.261	0.362	0.481	0.755	1.402	2.560
	0 mm stroke (-x00)**	0.095	0.099	0.162	0.215	0.357	0.476	0.628	0.932	1.807	3.139
	0 mm stroke (-x10)**	0.091	0.091	0.148	0.201	0.343	0.462	0.607	0.911	1.756	3.040
	each 100 mm stroke	0.170	0.170	0.270	0.310	0.410	0.500	0.630	0.780	1.180	1.600

* up to 30 mm stroke, ** from 35 mm stroke

Model-no.:		NXE-012-xxx-0x0	NXE-016-xxx-0x0	NXE-020-xxx-0x0	NXE-025-xxx-0x0	NXE-032-xxx-0x0
Force at 6 bar and 5 mm stroke (N)	Extension	81 ... 83	81 ... 83	133 ... 136	224 ... 227	382 ... 386
	Retraction	26 ... 28	26 ... 28	34 ... 37	38 ... 41	48 ... 52
Force at 6 bar and 10 mm stroke (N)	Extension	81 ... 86	81 ... 86	133 ... 139	224 ... 230	382 ... 389
	Retraction	23 ... 28	23 ... 28	31 ... 37	35 ... 41	45 ... 52
Force at 6 bar and 15 mm stroke (N)	Extension	81 ... 88	81 ... 88	133 ... 142	224 ... 233	382 ... 393
	Retraction	21 ... 28	21 ... 28	28 ... 37	32 ... 41	41 ... 52
Force at 6 bar and 20 mm stroke (N)	Extension	81 ... 90	81 ... 90	133 ... 145	224 ... 236	382 ... 397
	Retraction	19 ... 28	19 ... 28	25 ... 37	29 ... 41	38 ... 52
Force at 6 bar and 25 mm stroke (N)	Extension	81 ... 92	81 ... 92	133 ... 148	224 ... 239	382 ... 400
	Retraction	17 ... 28	17 ... 28	22 ... 37	26 ... 41	34 ... 52

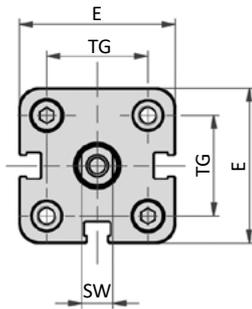
Model-no.:		NXE-040-xxx-0x0	NXE-050-xxx-0x0	NXE-063-xxx-0x0	NXE-080-xxx-0x0	NXE-100-xxx-0x0
Force at 6 bar and 5 mm stroke (N)	Extension	611 ... 616	992 ... 997	1588 ... 1594	2568 ... 2574	4031 ... 4041
	Retraction	63 ... 68	67 ... 75	89 ... 95	140 ... 147	200 ... 210
Force at 6 bar and 10 mm stroke (N)	Extension	611 ... 621	992 ... 1003	1588 ... 1600	2568 ... 2580	4031 ... 4051
	Retraction	58 ... 68	61 ... 75	83 ... 95	134 ... 147	190 ... 210
Force at 6 bar and 15 mm stroke (N)	Extension	611 ... 626	992 ... 1008	1588 ... 1606	2568 ... 2586	4031 ... 4061
	Retraction	53 ... 68	56 ... 75	77 ... 95	128 ... 147	180 ... 210
Force at 6 bar and 20 mm stroke (N)	Extension	611 ... 631	992 ... 1013	1588 ... 1612	2568 ... 2593	4031 ... 4071
	Retraction	48 ... 68	51 ... 75	71 ... 95	121 ... 147	170 ... 210
Force at 6 bar and 25 mm stroke (N)	Extension	611 ... 636	992 ... 1018	1588 ... 1618	2568 ... 2599	4031 ... 4081
	Retraction	43 ... 68	45 ... 75	65 ... 95	115 ... 147	160 ... 210

Model-no.:		NXE-012-xxx-2x0	NXE-016-xxx-2x0	NXE-020-xxx-2x0	NXE-025-xxx-2x0	NXE-032-xxx-2x0
Force at 6 bar and 5 mm stroke (N)	Extension	26 ... 28	26 ... 28	34 ... 37	38 ... 41	48 ... 52
	Retraction	53 ... 55	53 ... 55	133 ... 136	224 ... 227	382 ... 386
Force at 6 bar and 10 mm stroke (N)	Extension	23 ... 28	23 ... 28	31 ... 37	35 ... 41	45 ... 52
	Retraction	53 ... 58	53 ... 58	133 ... 139	224 ... 230	382 ... 389
Force at 6 bar and 15 mm stroke (N)	Extension	21 ... 28	21 ... 28	28 ... 37	32 ... 41	41 ... 52
	Retraction	53 ... 60	53 ... 60	133 ... 142	224 ... 233	382 ... 393
Force at 6 bar and 20 mm stroke (N)	Extension	19 ... 28	19 ... 28	25 ... 37	29 ... 41	38 ... 52
	Retraction	53 ... 62	53 ... 62	133 ... 145	224 ... 236	382 ... 397
Force at 6 bar and 25 mm stroke (N)	Extension	17 ... 28	17 ... 28	22 ... 37	26 ... 41	34 ... 52
	Retraction	53 ... 64	53 ... 64	133 ... 148	224 ... 239	382 ... 400

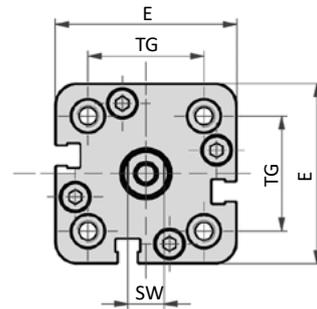
Model-no.:		NXE-040-xxx-2x0	NXE-050-xxx-2x0	NXE-063-xxx-2x0	NXE-080-xxx-2x0	NXE-100-xxx-2x0
Force at 6 bar and 5 mm stroke (N)	Extension	63 ... 68	67 ... 75	89 ... 95	140 ... 147	200 ... 210
	Retraction	611 ... 616	992 ... 997	1588 ... 1594	2568 ... 2574	4031 ... 4041
Force at 6 bar and 10 mm stroke (N)	Extension	58 ... 68	61 ... 75	83 ... 95	134 ... 147	190 ... 210
	Retraction	611 ... 621	992 ... 1003	1588 ... 1600	2568 ... 2580	4031 ... 4051
Force at 6 bar and 15 mm stroke (N)	Extension	53 ... 68	56 ... 75	77 ... 95	128 ... 147	180 ... 210
	Retraction	611 ... 626	992 ... 1008	1588 ... 1606	2568 ... 2586	4031 ... 4061
Force at 6 bar and 20 mm stroke (N)	Extension	48 ... 68	51 ... 75	71 ... 95	121 ... 147	170 ... 210
	Retraction	611 ... 631	992 ... 1013	1588 ... 1612	2568 ... 2593	4031 ... 4071
Force at 6 bar and 25 mm stroke (N)	Extension	43 ... 68	45 ... 75	65 ... 95	115 ... 147	160 ... 210
	Retraction	611 ... 636	992 ... 1018	1588 ... 1618	2568 ... 2599	4031 ... 4081

Dimensions series NXE

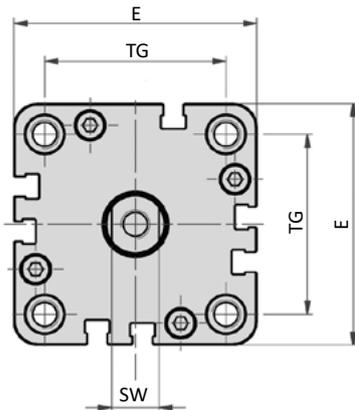
Ø 12 - 25



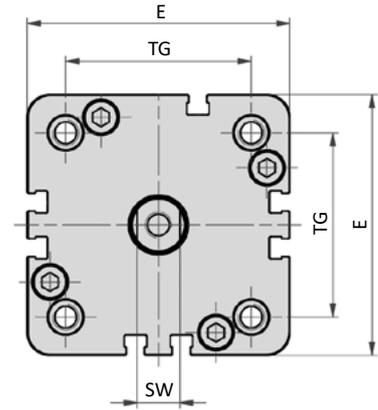
Ø 32-40



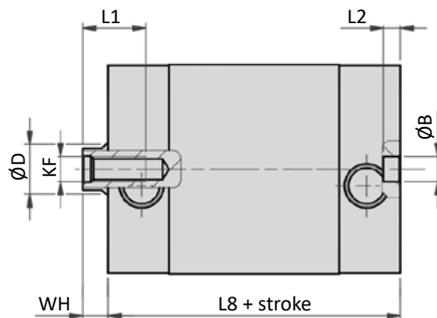
Ø 50



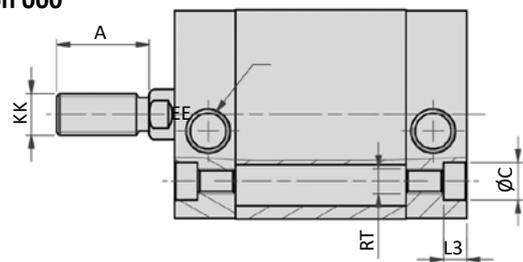
Ø 63 - 100



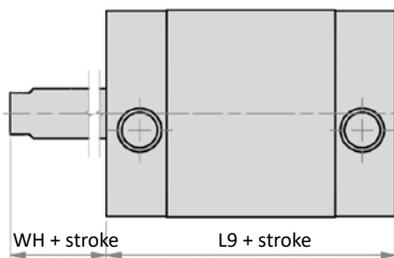
Version 010



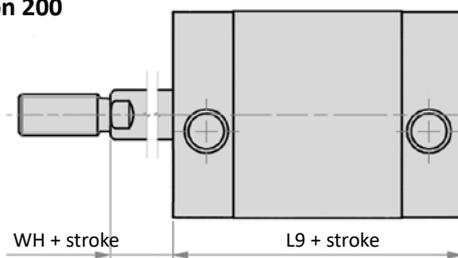
Version 000



Version 210



Version 200



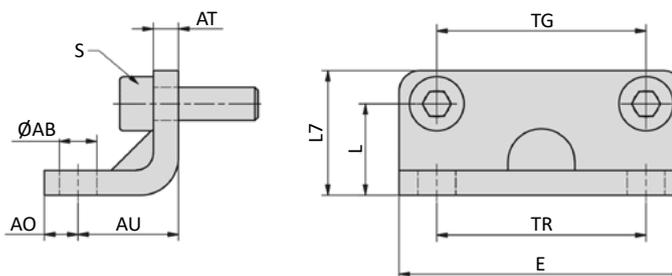
Piston Ø	A	Ø B	Ø C	Ø D	E	EE	KF	KK	L1	L2	L3	L8*	L8**	L9*	L9**	RT	SW	TG	WH
12	16	6	6	8	29	M5	M3	M6	6	4	3.5	38	48	38	48	M4	5	18	4.5
16	20	6	6	8	29	M5	M4	M8	8	4	3.5	38	48	38	48	M4	6	18	4.5
20	22	6	7.5	10	36	M5	M5	M10 x 1.25	10	4	4.5	38	48	38	48	M5	8	22	4.5
25	22	6	7.5	10	40	M5	M5	M10 x 1.25	10	4	4.5	39.5	59.5	39.5	49.5	M5	8	26	5.5
32	22	6	9	12	50	G1/8	M6	M10 x 1.25	12	4	5.5	44.5	64.5	44.5	54.5	M6	10	32	6
40	22	6	9	12	58	G1/8	M6	M10 x 1.25	12	4	5.5	45.5	65.5	45.5	55.5	M6	10	42	6.5
50	24	6	10.5	16	67	G1/8	M8	M12 x 1.25	12	4	6.5	45.5	65.5	45.5	55.5	M8	13	50	7.5
63	24	8	13.5	16	80	G1/8	M8	M12 x 1.25	14	4	8.5	50	70	50	60	M10	13	62	7.5
80	32	8	13.5	20	100	G1/8	M10	M16 x 1.5	15	4	8.5	56	86	56	76	M10	17	82	8
100	40	8	13.5	25	124	G1/4	M12	M20 x 1.5	20	4	8.5	66.5	96.5	66.5	86.5	M10	22	103	10

* up to 30 mm stroke, ** up to 35 mm stroke

Series NXD

Mounting accessories

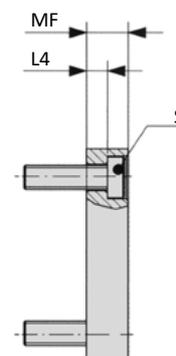
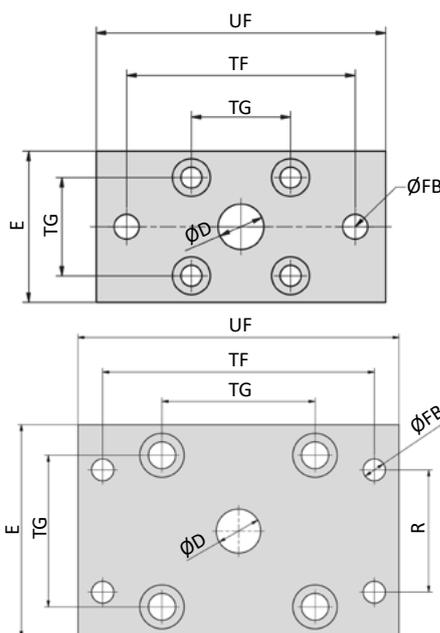
NXB-xxx-01 Foot mount



Model-no.:	\varnothing AB	AO	AU	AT	E	L	L7	S	TG	TR
NXB-032-01	6.6	8	18	5	50	16	24	M6 x 20	32	32
NXB-040-01	9	8	20	5	60	21.5	29.5	M6 x 20	42	42
NXB-050-01	9	8	24	6	68	22	30	M8 x 20	50	50
NXB-063-01	11	12	27	6	84	28.5	39	M8 x 20	62	62
NXB-080-01	11	12	30	8	102	24.5	36.5	M10 x 20	82	82
NXB-100-01	13.5	12	33	8	123	26.5	38.5	M10 x 20	103	103

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

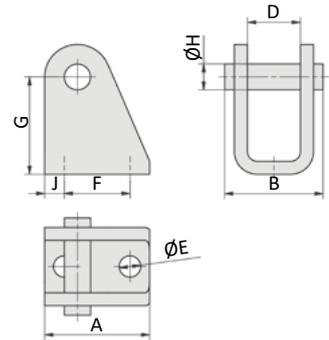
NXB-xxx-02 Flange mount



Model-no.:	\varnothing D	E	\varnothing FB	L4	MF	R	S	TF	TG	UF
NXB-016-02	10	29	5.5	4.6	10	-	M4 x 16	43	18	55
NXB-020-02	12	36	6.6	4.6	10	-	M5 x 20	55	22	70
NXB-025-02	12	40	6.6	4.6	10	-	M5 x 20	60	26	76
NXB-032-02	14	50	7	3.6	10	32	M6 x 20	65	32	80
NXB-040-02	14	60	9	3.6	10	36	M6 x 20	82	42	102
NXB-050-02	18	68	9	3.4	12	45	M8 x 25	90	50	110
NXB-063-02	18	87	9	4.4	15	50	M10 x 25	110	62	130
NXB-080-02	23	107	12	4.4	15	63	M10 x 25	135	82	160
NXB-100-02	28	128	14	4.4	15	75	M10 x 30	163	103	190

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

RC-xx Clevis mount



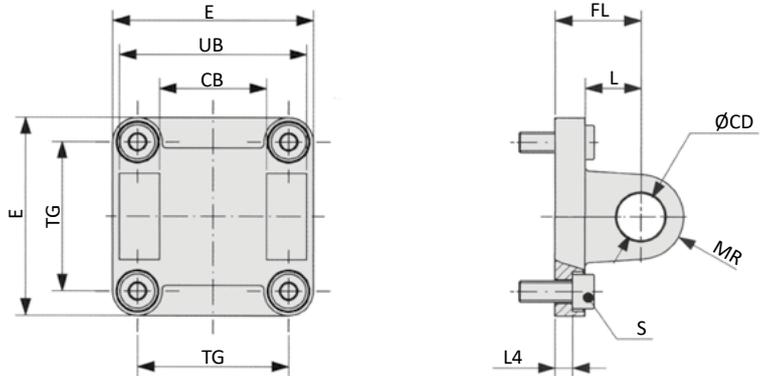
Model-no.:	Gegenlager zu:	A	B	D	Ø E	F	G	Ø H	J
RC-16	NXB-016-04	25	23	12.1	5.5	15	27	6	5
RC-30	NXB-020-04 NXB-025-04	32	30	16.1	6.6	20	30	8	6

steel, zinc plated, 2 snap rings are included..

NXB-xxx-03 Clevis mount



Inclusive clevis pin
order no.: **NXB-xxx-38**

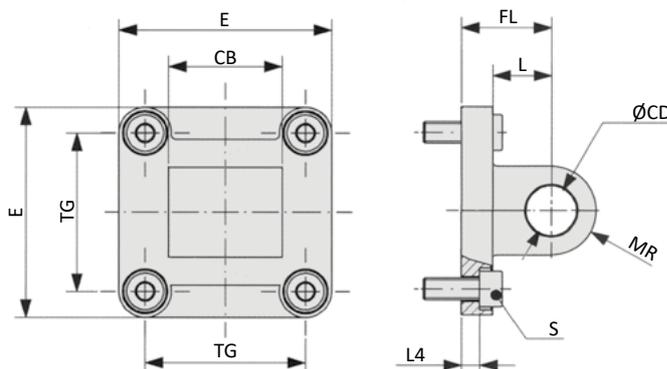


Model-no.:	CB	Ø CD	E	FL	L	L4	MR	S	TG	UB
NXB-032-03	26	10	48	22	13	5.5	10	M6 x 16	32	45
NXB-040-03	28	12	58	25	16	5.5	12.5	M6 x 16	42	52
NXB-050-03	32	12	66	27	16	6.5	12.5	M8 x 20	50	60
NXB-063-03	40	16	83	32	21	6.5	15	M10 x 25	62	70
NXB-080-03	50	16	102	36	23	10	15	M10 x 30	82	90
NXB-100-03	60	20	123	41	26	10	20	M10 x 30	103	110

Materials: Al, 4 screws in accordance with EN ISO 4762 are included..

Series NXD Mounting accessories

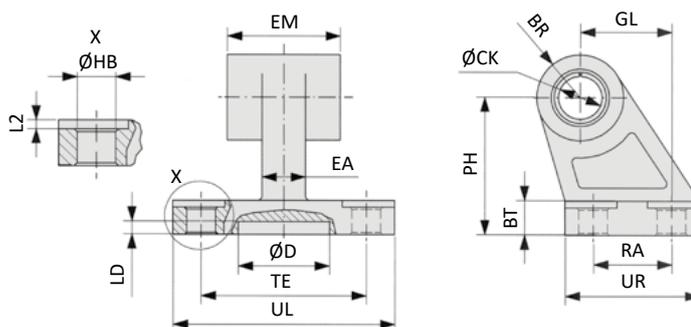
NXB-xxx-04 Swivel mount



Model-no.:	CB	Ø CD	E	FL	L	L4	MR	S	TG
NXB-016-04	12	6	27	16	10	2.6	6	M4 x 12	18
NXB-020-04	16	8	34	20	14	2.6	8	M5 x 16	22
NXB-025-04	16	8	38	20	14	2.6	8	M5 x 16	26

Materials: Al, 4 screws in accordance with EN ISO 4762 are included..

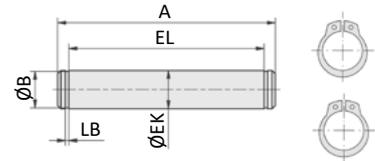
XLB-xxx-06 Swivel mount 90°



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

Materials: Al, bushing steel and PTFE

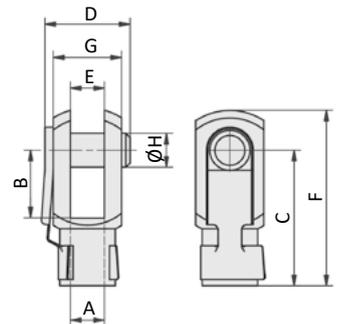
XLB-xxx-08 Clevis pin



Model-no.:	A	Ø B	Ø EK	EL	LB
XLB-032-08	53	9.6	10	46	1.1
XLB-040-08	60	11.5	12	53	1.1
XLB-050-08	68	11.5	12	61	1.1
XLB-063-08	78	15.2	16	71	1.1
XLB-080-08	98	15.2	16	91	1.1
XLB-100-08	118	19	20	111	1.3

Materials: steel, zinc plated; 2 snap rings are included..

RD-xx, FD-xx Rod clevis



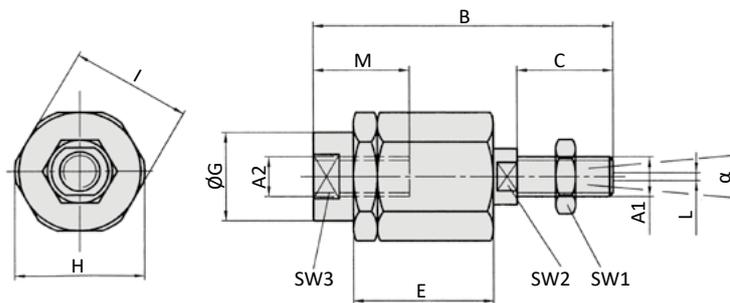
Model-no.:	for cylinder Ø	A	B	C	D	E	F	G	Ø H
RD-16	12	M6	12	24	16	6	31	12	6
RD-20	16	M8	16	32	22	8	42	16	8
RD-25	20 - 40	M10 x 1.25	20	40	26	10	52	20	10
FD-40	50, 63	M12 x 1.25	24	48	32	12	62	24	12
FD-63	80	M16 x 1.5	32	64	40	16	83	32	16
FD-80	100	M20 x 1.5	40	80	50	20	105	40	20

Materials: steel, zinc plated

Series NXD

Mounting accessories

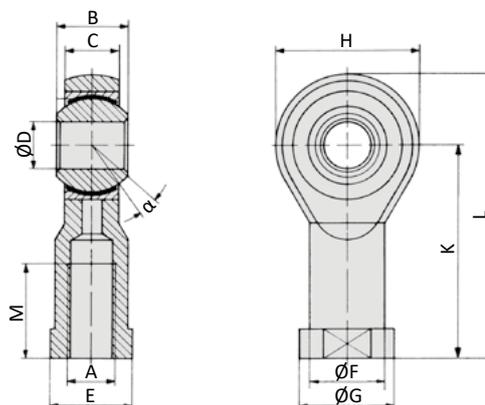
FK-xx Flexible coupling



Model-no.:	for cylinder	A1, A2	B	C	D	E	ØG	H	I	L	M	SW1	SW2	SW3	α
FK-16	12	M6	35	11	2.5	17.5	8.5	14.5	13	1	12.5	10	5	7	6°
FK-20	16	M8	57	21	5	26	12.5	19	17	2	16	13	7	11	8°
FK-32	20 - 40	M10 x 1.25	71.5	20	7.5	35	22	32	30	2	22	17	12	19	8°
FK-40	50, 63	M12 x 1.25	75	24	7.5	35	22	32	30	2	22	19	12	19	8°
FK-63	80	M16 x 1.5	104	32	10	53	32	45	41	2	30	24	20	27	6°
FK-80	100	M20 x 1.5	119	40	10	53	32	45	41	2	37	30	20	30	6°

Materials: steel, zinc plated

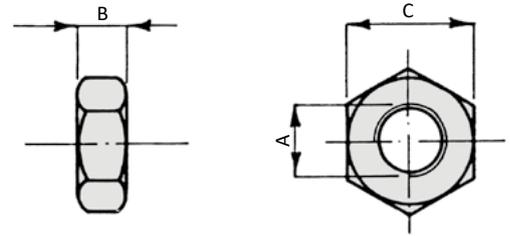
RO-xx, FO-xx Rod eye



Model-no.:	for cylinder	A	B	C	ØD	E	ØF	ØG	H	K	L	M	α
RO-16	12	M6	9	6.75	6	11	10	13	20	30	40	12	13°
RO-20	16	M8	12	9	8	14	12.5	16	24	36	48	16	14°
RO-25	20 - 40	M10 x 1.25	14	10.5	10	17	15	19	28	43	57	20	13°
FO-40	50, 63	M12 x 1.25	16	12	12	19	17.5	22	32	50	66	22	13°
FO-63	80	M16 x 1.5	21	15	16	22	22	27	42	64	85	28	15°
FO-80	100	M20 x 1.5	25	18	20	30	27.5	34	50	77	102	33	14°

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

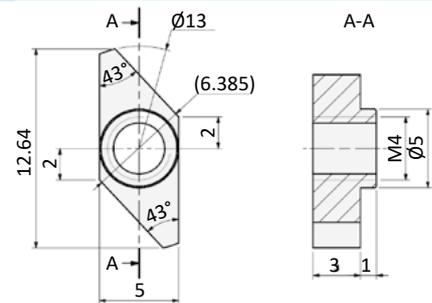
RL-xx, FE-xx Piston rod nut



Model-no.:	for cylinder	A	B	C
RL-16	12	M6	4	10
RL-20	16	M8	5	13
RL-25	20 - 40	M10 x 1.25	5	17
FE-40	50, 63	M12 x 1.25	8	19
FE-63	80	M16 x 1.5	8	24
FE-80	100	M20 x 1.5	10	30

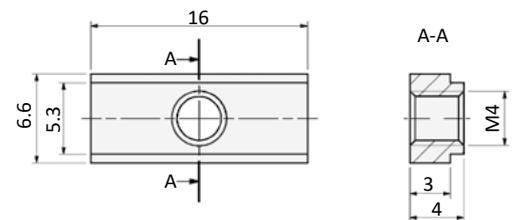
Material: steel, zinc plated

NST-T-4-U Slot nut



Materials: steel, zinc plated

NST-T-4-V Slot nut



Materials: steel, zinc plated

Proximity sensors



Series 88CQ2

double acting

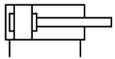
Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°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. Additionally the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Cylinder tube: Al (anodized) End caps: Al (anodized) Piston rod: steel hard chrome plated Seals: PU, NBR

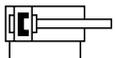


Double acting pneumatic cylinder with magnetic piston for proximity sensors and built-in cushioning rings.

Versions



350, 360
double acting, built-in cushioning rings,



250, 260
double acting, built-in cushioning rings,
with magnetic piston

Order code

88CQ*2-***-***-***-*	
Series	Options (mounting holes)
- double acting	- through hole
M with magnetic piston	A* female thread on both sides
Piston Ø	Versions
012 12 mm	350 standard version, male thread
016 16 mm	360 standard version, female thread
020 20 mm	250 with magnetic piston, male thread
025 25 mm	260 with magnetic piston, female thread
032 32 mm	
040 40 mm	stroke (mm)
050 50 mm	XXX max. stroke see technical data
063 63 mm	
080 80 mm	
100 100 mm	

* only on request

Not all combinations are possible and available.

Technical data

Model-no.:	88CQ2-012-...	88CQ2-016-...	88CQ2-020-...	88CQ2-025-...	88CQ2-032-...
Piston Ø (mm)	12	16	20	25	32
Force at 6 bar (N)	Extension	81	81	170	265
	Retraction	109	109	127	223
Connection	M5	M5	M5	M5	G1/8
Speed	30 - 500 mm/s	30 - 500 mm/s	30 - 500 mm/s	30 - 500 mm/s	30 - 500 mm/s
Stroke (mm)	5 - 30	5 - 30	5 - 50	5 - 50	5 - 100
Piston rod thread	male	M5	M6	M8	M10 x 1.25
	female	M3	M4	M5	M6

Model-no.:	88CQ2-040-...	88CQ2-050-...	88CQ2-063-...	88CQ2-080-...	88CQ2-100-...
Piston Ø (mm)	40	50	63	80	100
Force at 6 bar (N)	Extension	678	1060	1682	2713
	Retraction	617	951	1574	2543
Connection	G1/8	G1/4	G1/4	G3/8	G3/8
Speed	30 - 350 mm/s	30 - 350 mm/s	30 - 250 mm/s	30 - 250 mm/s	30 - 250 mm/s
Stroke (mm)	5 - 100	5 - 100	5 - 100	5 - 100	5 - 100
Piston rod thread	male	M14 x 1.5	M18 x 1.5	M18 x 1.5	M22 x 1.5
	female	M8	M10	M10	M16

Proximity sensors

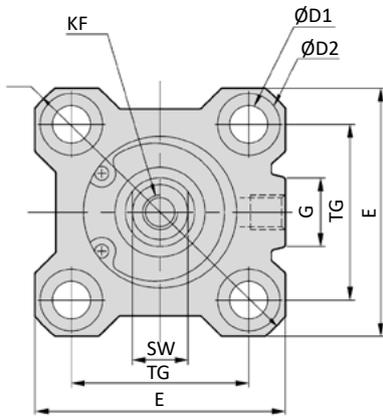


Series 88CQ2

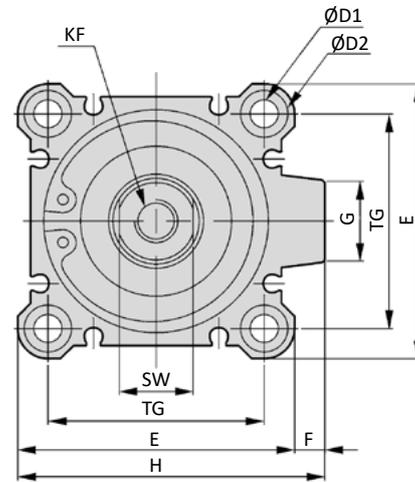
double acting

Dimensions series 88CQ2

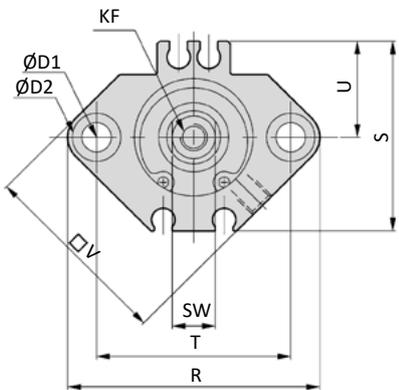
88CQ2, Ø 12 - 25



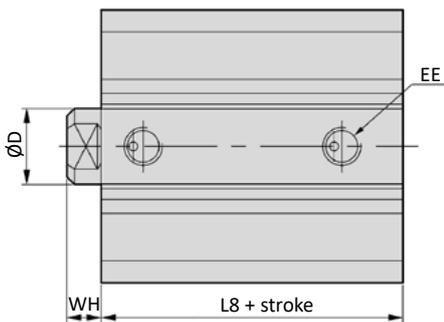
88CQ2, 88CQM2, Ø 32 - 100



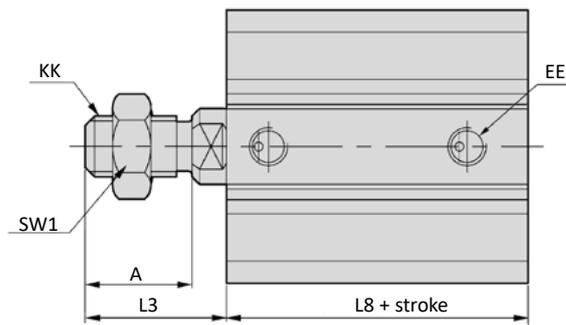
88CQM2, Ø 12 - 25



Versions 260, 360



Versions 250, 350



Dimensions series 88CQ2

Piston Ø	A	Ø D	Ø D1	Ø D2	Ø D2 (Version A)	E	EE	F	G
12	10.5	6	3.5	6.5 x 3	M4 x 7	25	M5	-	-
16	12	8	3.5	6.5 x 3	M4 x 7	29	M5	-	10
20	14	10	5.5	9 x 7	M6 x 10	36	M5	-	10
25	17.5	12	5.5	9 x 7	M6 x 10	40	M5	-	10
32	23.5	16	5.5	9 x 7	M6 x 10	45	G1/8	4.5	14
40	23.5	16	5.5	9 x 7	M6 x 10	52	G1/8	5	15
50	28.5	20	6.6	11 x 8	M8 x 14	64	G1/4	7	19
63	28.5	20	9	14 x 10.5	M10 x 18	77	G1/4	7	19
80	35.5	25	11	17.5 x 13.5	M12 x 22	98	G3/8	6	25
100	35.5	32	11	17.5 x 13.5	M12 x 22	117	G3/8	6.5	25

Piston Ø	H	KF	KK	L3	SW	SW1	TG	WH
12	-	M3	M5	14	5	8	15.5	3.5
16	-	M4	M6	15.5	6	10	20	3.5
20	-	M5	M8	18.5	8	13	25.5	4.5
25	-	M6	M10x1.25	22.5	10	17	28	5
32	49.5	M8	M14x1.5	28.5	14	22	34	7
40	57	M8	M14x1.5	28.5	14	22	40	7
50	71	M10	M18x1.5	33.5	17	27	50	8
63	84	M10	M18x1.5	33.5	17	27	60	8
80	104	M16	M22x1.5	43.5	22	32	77	10
100	123.5	M20	M26x1.5	43.5	27	41	94	12

Piston Ø	Stroke (mm)	88CQ2		88CQM2					
		L8	L8	R	S	T	U	V	
12	5 - 30	17	28	33	27.5	22	14	25	
16	5 - 30	18.5	30.5	37	29.5	28	15	29	
20	5 - 50	19.5	31.5	47	35.5	36	18	36	
25	5 - 50	22.5	32.5	52	40.5	40	21	40	
32	5 - 49	23	33	-	-	-	-	-	
	50 - 100	33	33	-	-	-	-	-	
40	5 - 49	29.5	39.5	-	-	-	-	-	
	50 - 100	39.5	39.5	-	-	-	-	-	
50	5 - 49	30.5	40.5	-	-	-	-	-	
	50 - 100	40.5	40.5	-	-	-	-	-	
63	5 - 49	36	46	-	-	-	-	-	
	50 - 100	46	46	-	-	-	-	-	
80	5 - 49	43.5	53.5	-	-	-	-	-	
	50 - 100	53.5	53.5	-	-	-	-	-	
100	5 - 49	53	63	-	-	-	-	-	
	50 - 100	63	63	-	-	-	-	-	

Series 88-CQ2

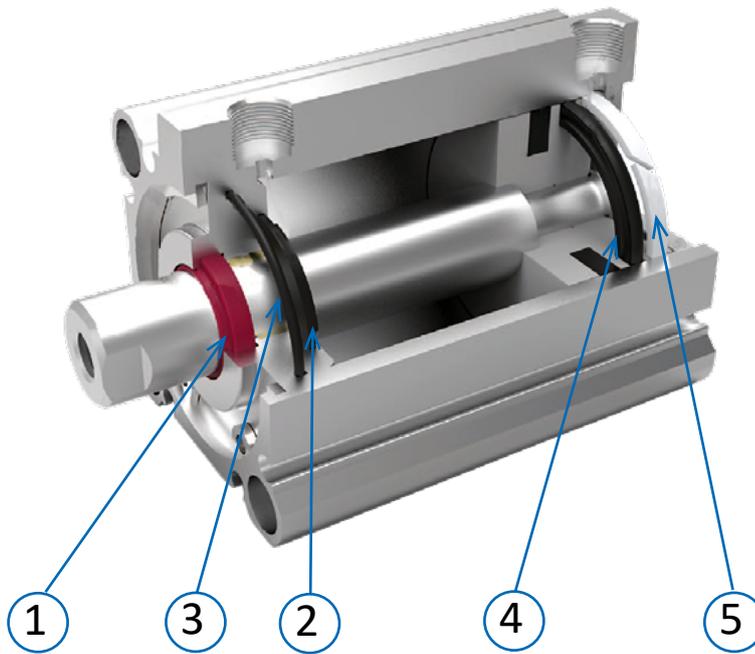
Repair kits

Order code

Series		Versions	
88-VS-CQ2 repair kit for series 88CQ2		01	standard version

Piston Ø	
012	12 mm
016	16 mm
020	20 mm
025	25 mm
032	32 mm
040	40 mm
050	50 mm
063	63 mm
080	80 mm
100	100 mm

Content



Standard version

Position	Product description	Quantity
1	piston rod seal (PUR)	1
2	damping seal (NBR)	1
3	O ring (NBR)	1
4	piston seal (NBR)	1
5	guide ring (PTFE)	1



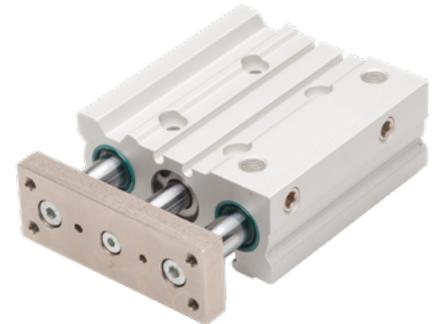
Please grease the running surfaces after fitting the seals. We recommend our assembly grease 21-MP-01-00030-50.



Series LXA guide unit, double acting

Technical details

Operating pressure	1 ... 10 bar
Temperature range	-20°C ... +80°C (-10°C...+150°C with FKM-seals)
Operating speed	50 ... 500 mm/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. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Profile: Al (anodized) Flange plate: Steel (nickel plated) Piston rod: steel hard chrome plated (optional 1.4301) Guide rod: steel hard chrome plated (optional 1.4301) Seals: PU, NBR (optional FKM)

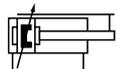


Double acting pneumatic cylinder with magnetic piston and built-in cushioning rings. The sensors can be installed directly into the sensor grooves of the Al-profile.

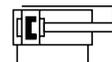
The integrated cylinder and guide unit ensures precise and accurate movement.

Standard stroke lengths in table below, additional lengths on request.

Versions



-0**
double acting, adjustable cushioning,
with magnetic piston, guide unit



-2**
double acting, built-in cushioning rings,
with magnetic piston, guide unit

Order code

Series		LXA-**-***-***-***		Seals	
LXA				0	piston rod seal PU, other seals NBR
				2	all seals FKM
				4	piston rod seal FKM, other seals NBR
Guide		Materials		Cushioning	
G	bronze bearings	0	piston rod and guide rods stainless steel	0	adjustable cushioning
K	ball bearings	5	piston rod and guide rods steel, hard chrome plated	2	built-in cushioning rings
Piston Ø		Stroke (mm)			
016	16 mm	XXX	max. 200 mm		
020	20 mm	Standard	see dimensions		
025	25 mm				
032	32 mm				
040	40 mm				
050	50 mm				
063	63 mm				

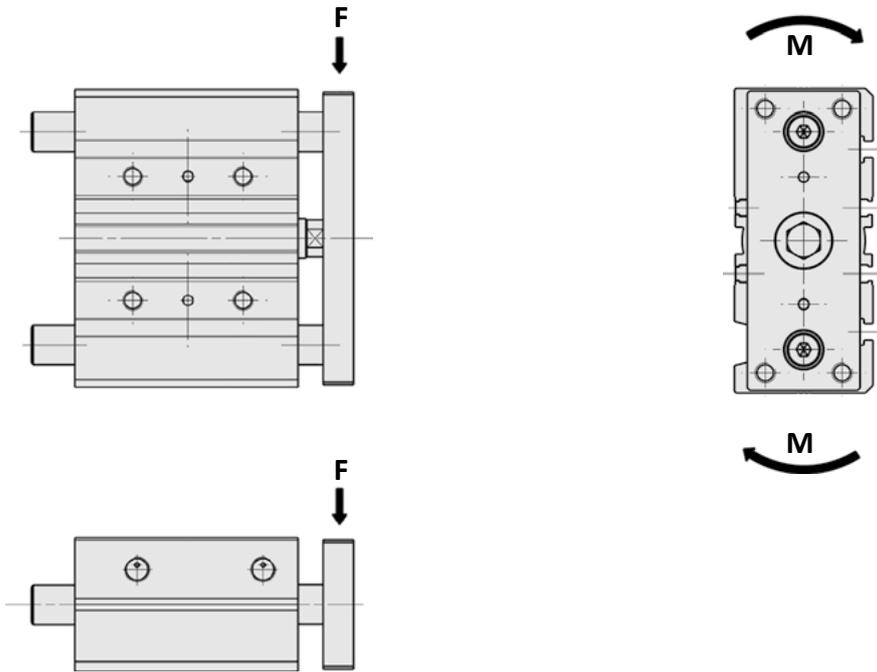
Technical data

Model-no.:	LXA-016-...	LXA-020-...	LXA-025-...	LXA-032-...	LXA-040-...	LXA-050-...	LXA-063-...
Piston Ø (mm)	16	20	25	32	40	50	63
Force at 6 bar (N)	Extension	109	170	265	434	678	1060
	Retraction	81	127	204	326	570	890
Connection	M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4

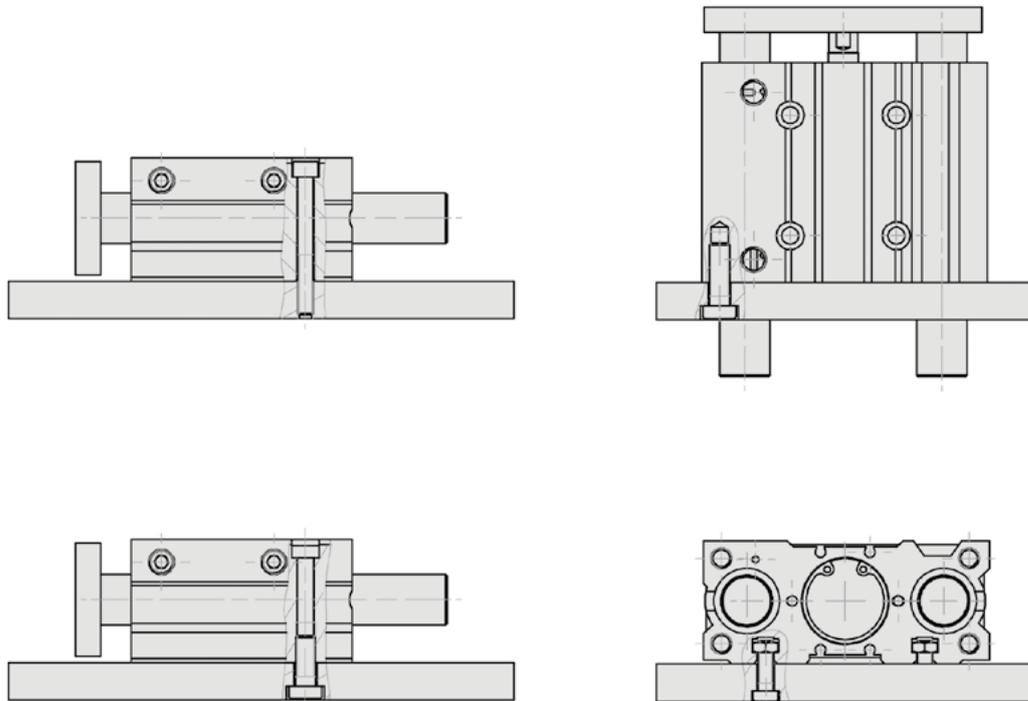
Series LXA

guide unit, double acting

Technical information



Mounting examples

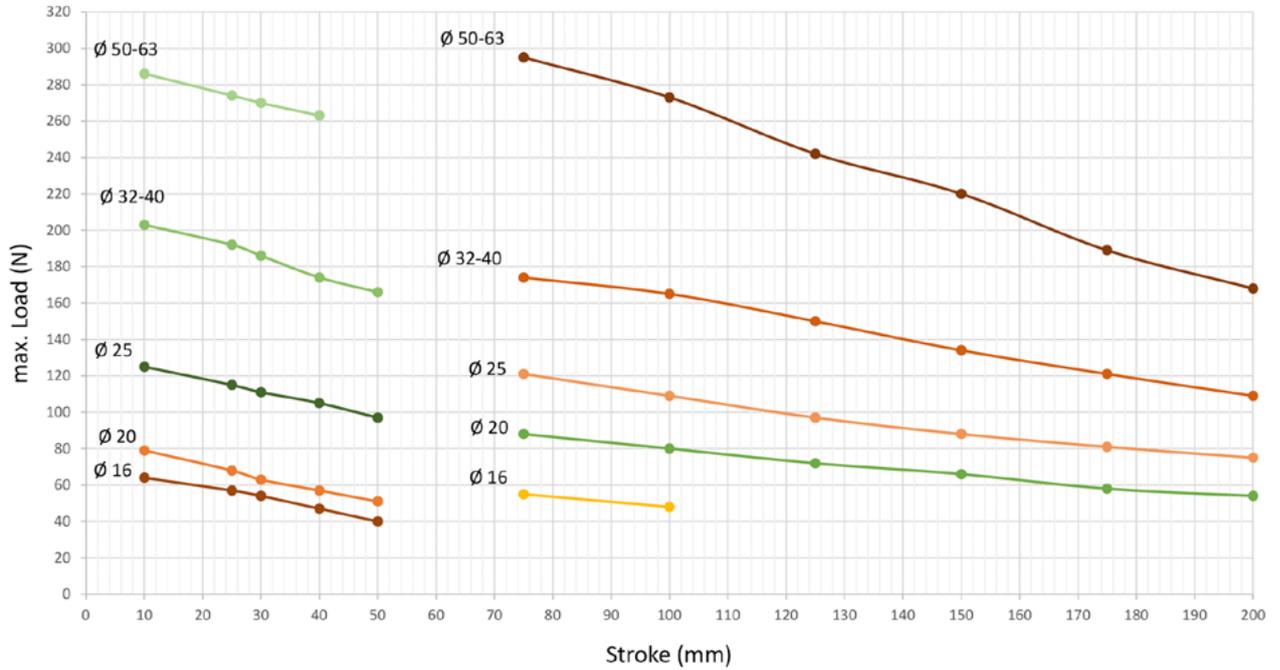


Proximity sensors

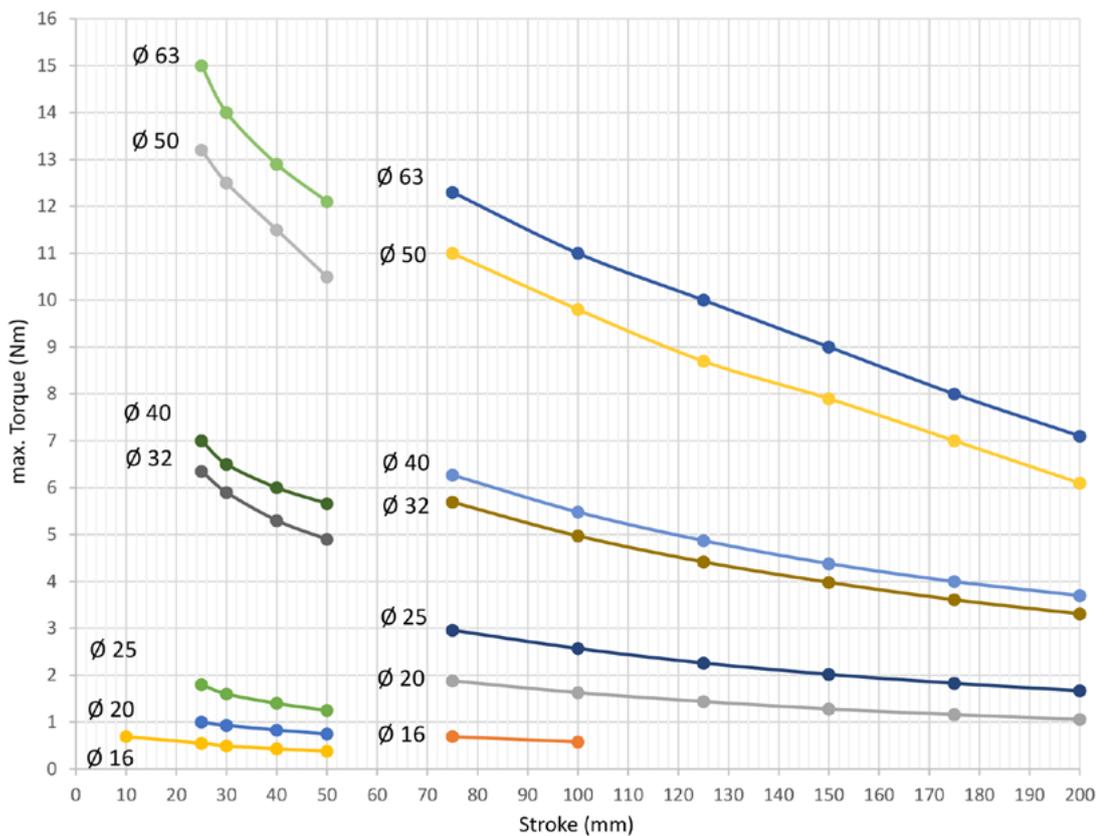


Technical information

Maximal Load F (N) LXA-G, version with built-in cushioning rings



Maximal Torque M (Nm) LXA-G, version with built-in cushioning rings

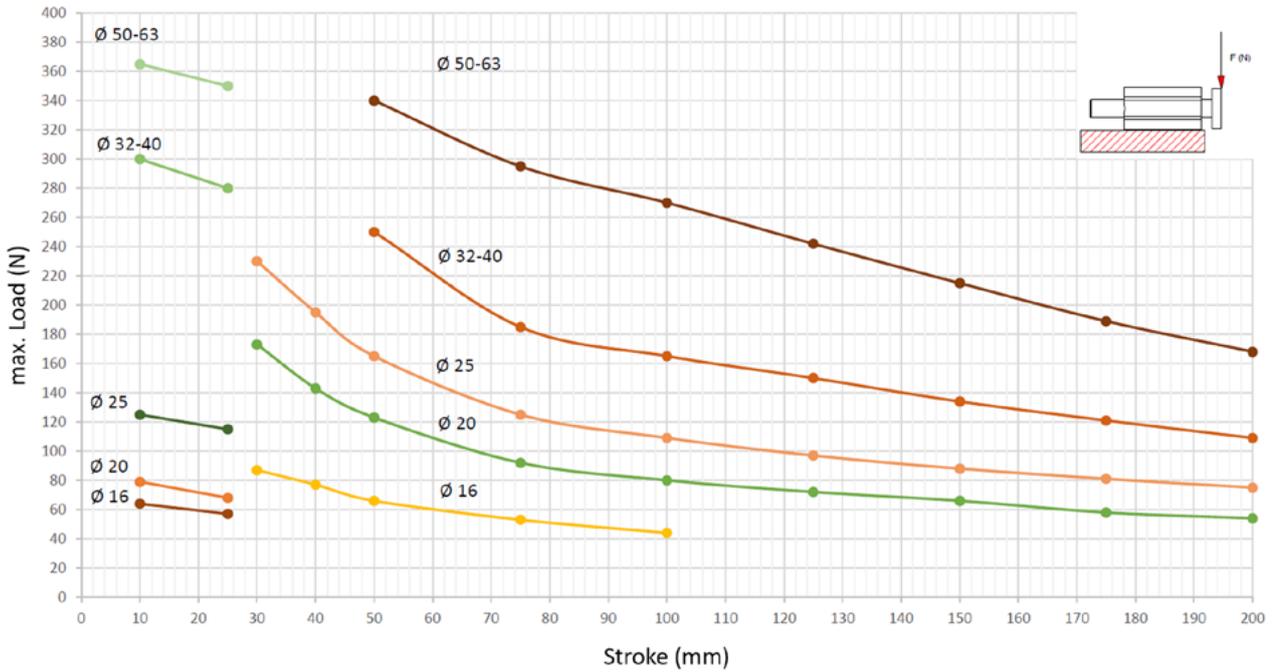


Series LXA

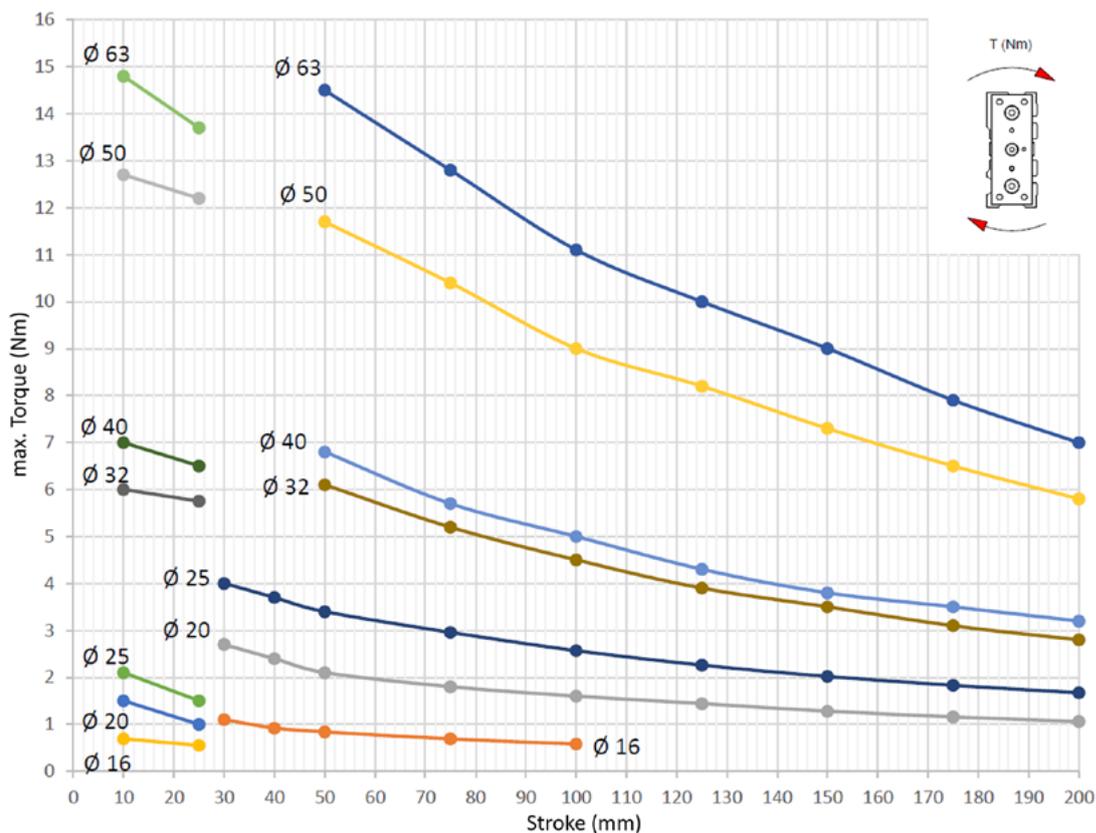
guide unit, double acting

Technical information

Maximal Load F (N) LXA-G, version with adjustable cushioning

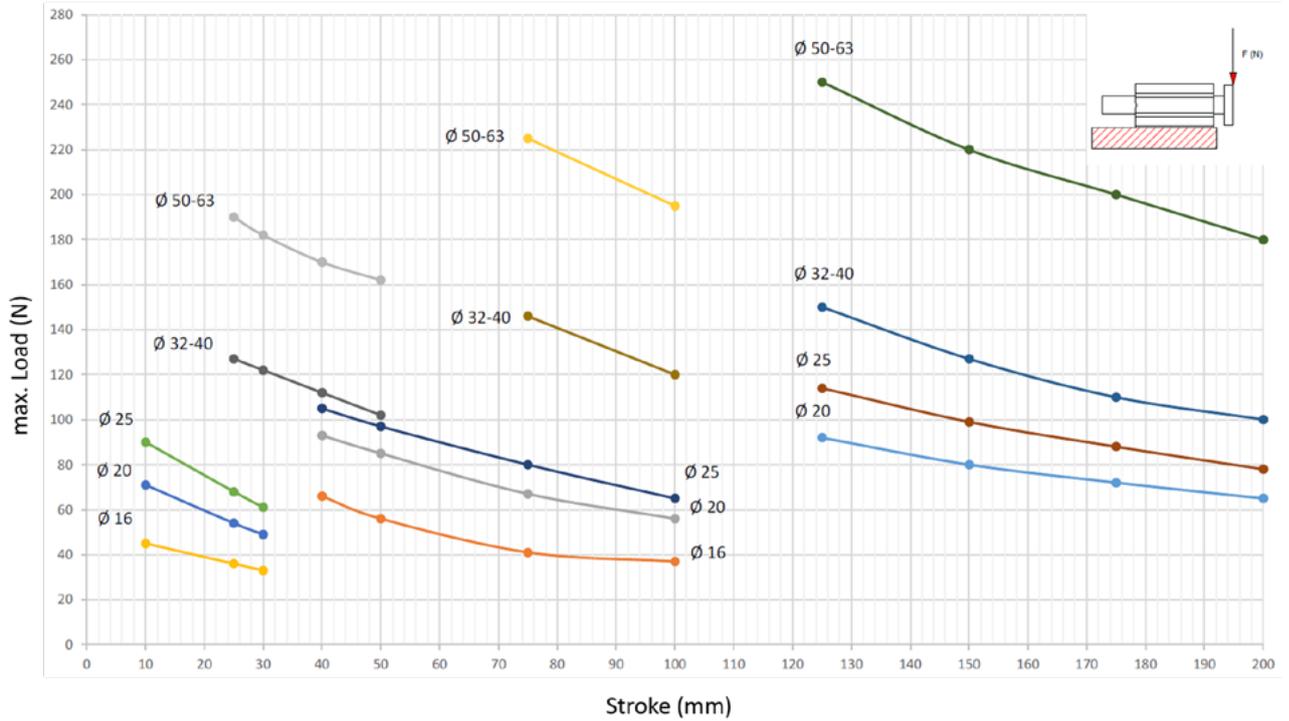


Maximal Torque M (Nm) LXA-G, version with adjustable cushioning

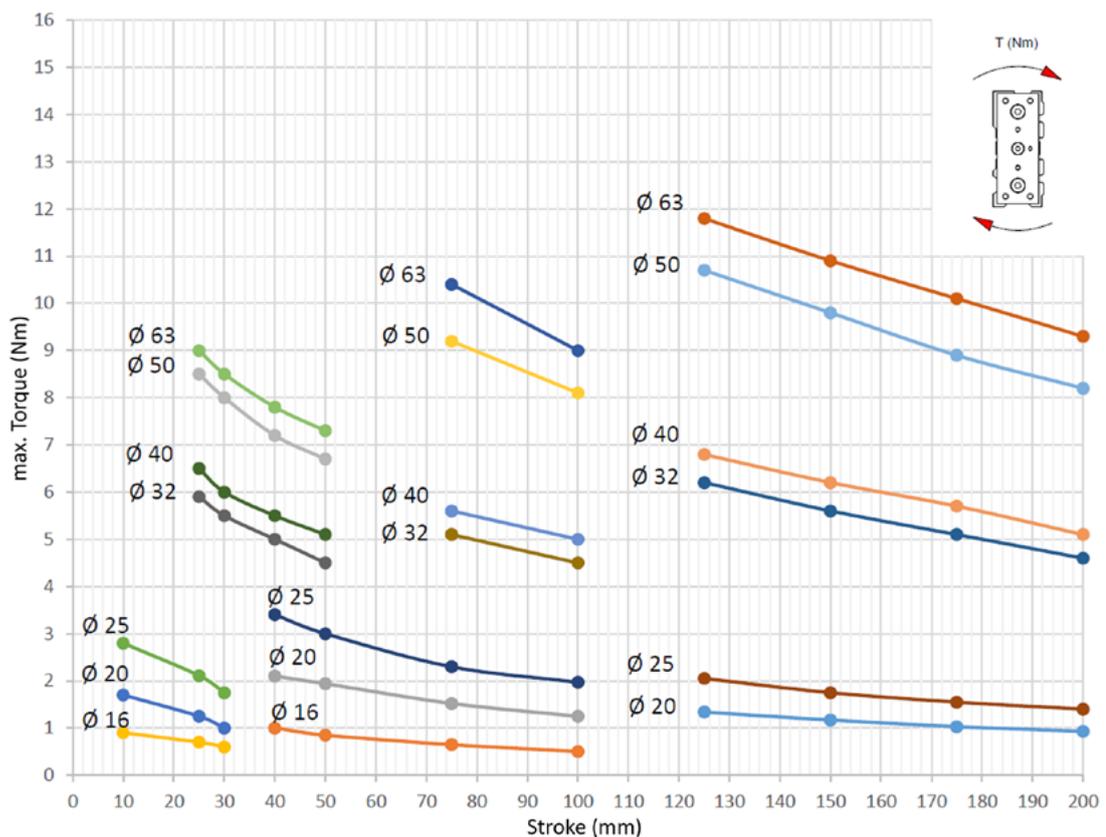


Technical information

Maximal Load F (N) LXA-K, version with built-in cushioning rings



Maximal Torque M (Nm) LXA-K, version with built-in cushioning rings

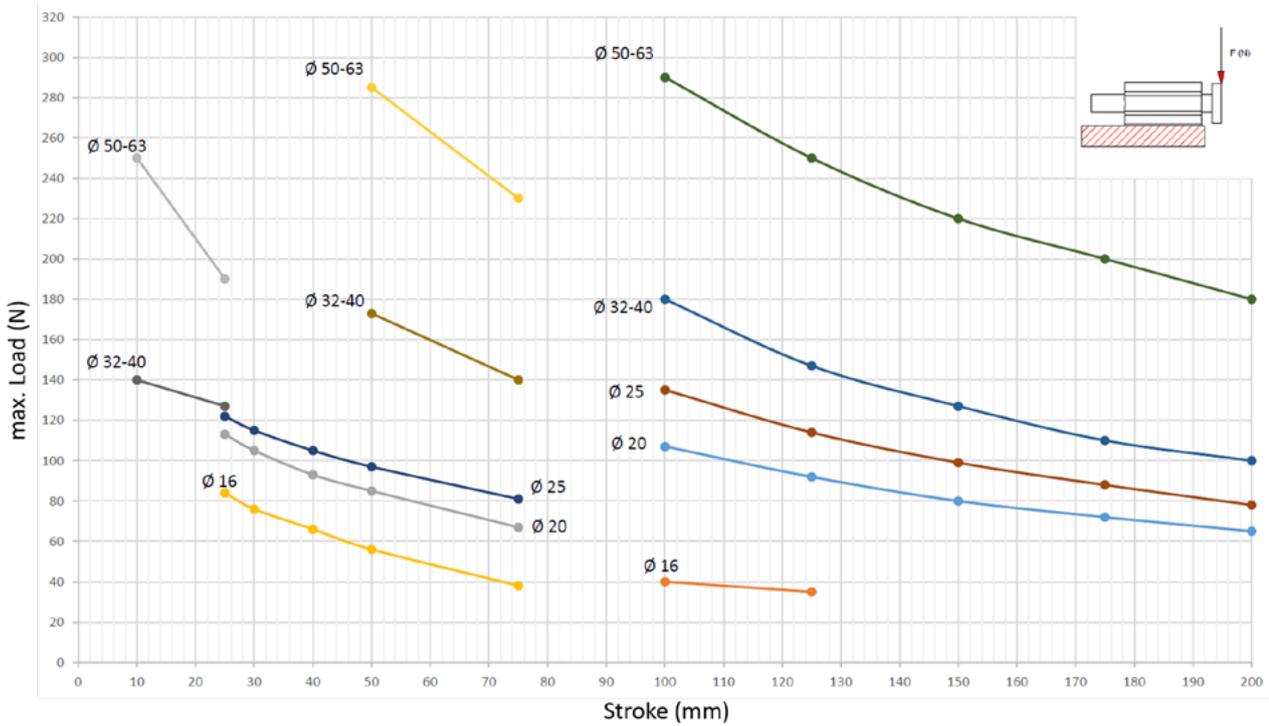


Series LXA

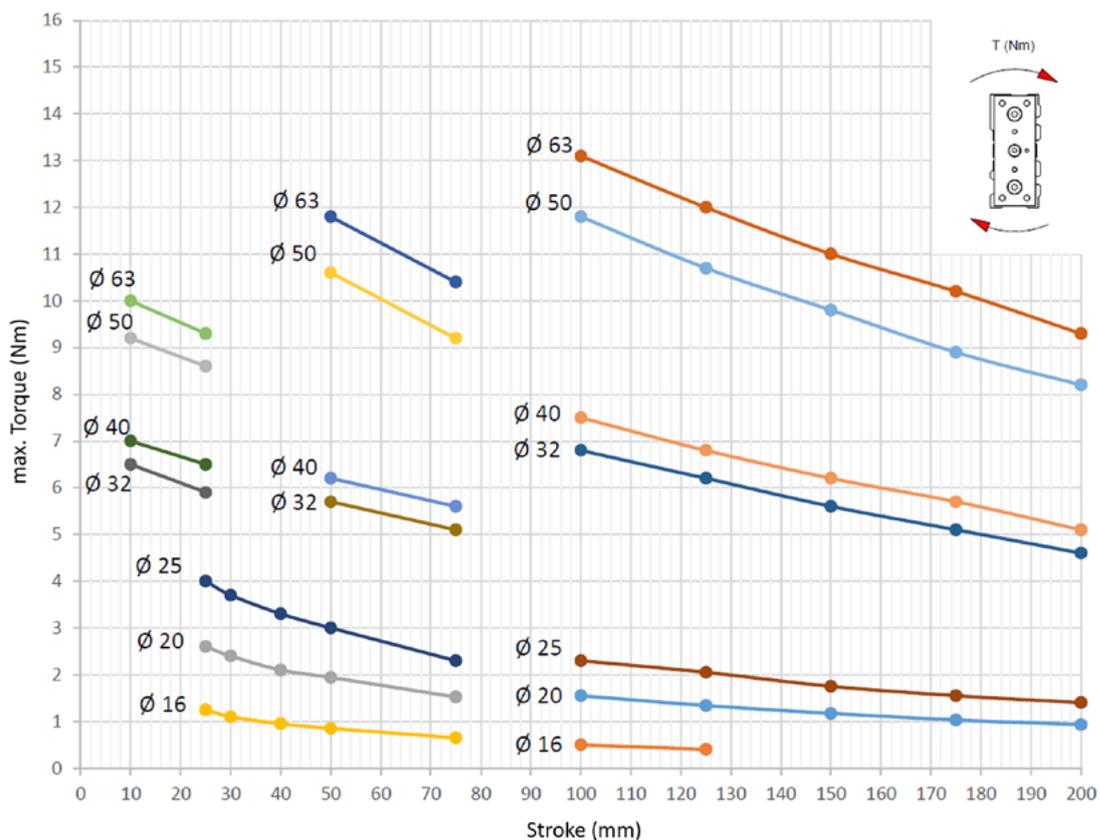
guide unit, double acting

Technical information

Maximal Load F (N) LXA-K, version with adjustable cushioning



Maximal Torque M (Nm) LXA-K, version with adjustable cushioning



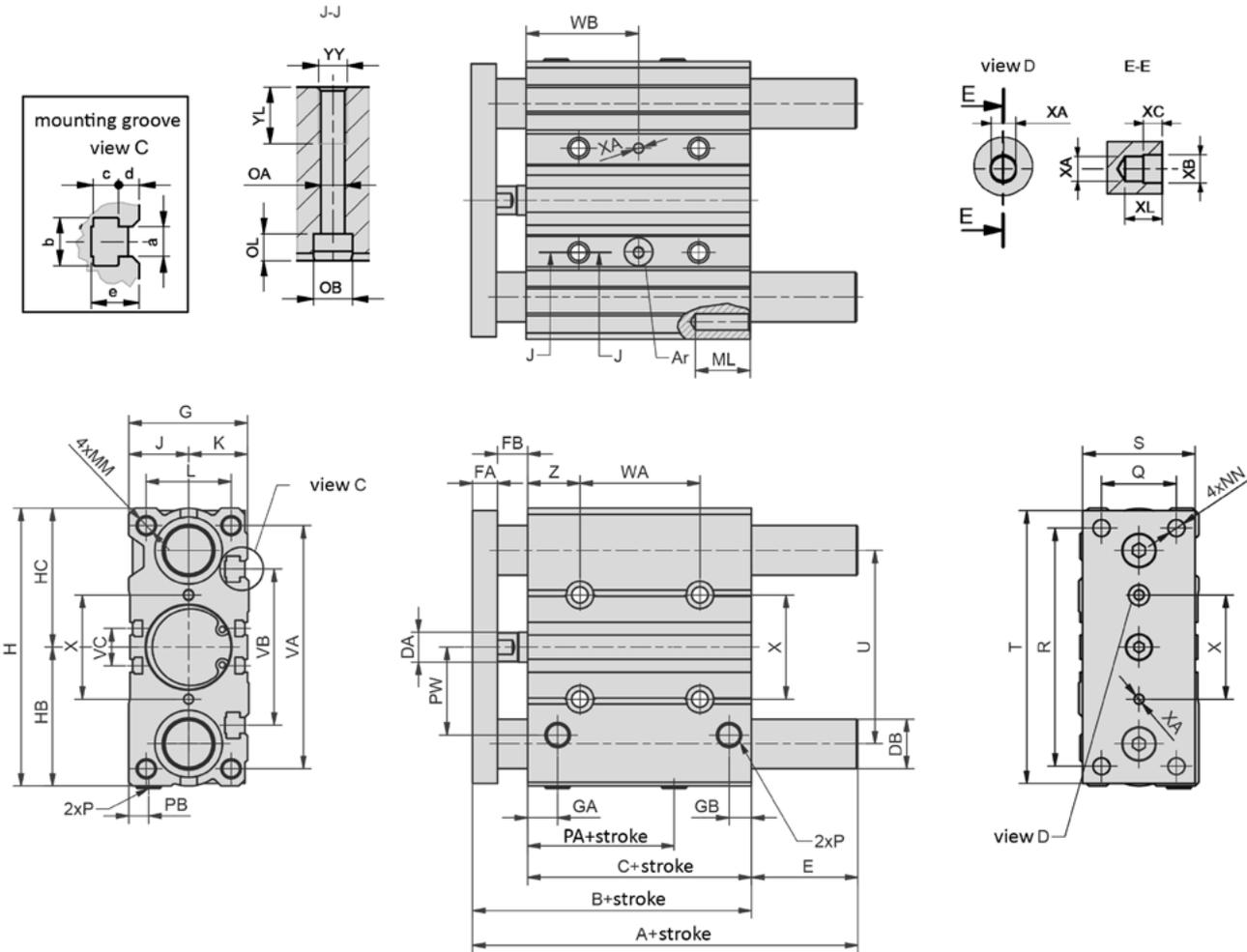
Dimensions bronze bearings, built-in cushioning rings

Dimension	Stroke	Piston Ø	16	20	25	32	40	50	63
A+	0-50		42	53	53.5	97	97	106.5	106.5
A+	75-200		64.5	84.5	85	102	102	118	118
B+			46	53	53.5	59.5	66	72	77
C+			33	37	37.5	37.5	44	44	49
ØDA			8	10	10	12	12	16	16
ØDB			10	12	16	20	20	25	25
E	0-50		0	0	0	37.5	31	34.5	29.5
E	75-200		18.5	31.5	31.5	42.5	36	46	41
FA			8	10	10	10	10	15	15
FB			5	6	6	12	12	13	13
G			30	36	42	48	54	64	78
GA			11	11.5	11.5	12	15	15	15.5
GB			8	9	10	9	12	12	13.5
H			64	84	94	113	121	149	163
HB			32.5	41.5	46.5	56	60	74	81
HC			32	42.5	47.5	57	61	75	82
J			15	18	21	24	27	32	39
K			15	18	21	24	27	32	39
L			22	24	30	34	40	46	58
MM			M5	M5	M6	M8	M8	M10	M10
ML			12	13	15	16	16	20	22
NN			M5	M5	M6	M8	M8	M10	M10
OA			4.2	5.2	5.2	6.5	6.5	8.5	8.5
OB			8	9.5	9.5	11	11	14	14
OL			4.5	5.5	5.5	7.5	7.5	9	9
P			M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4
PA+			15	13.5	12.5	6.5	13	9	13
PB			10	11	14	16	18	21.5	28
PW			19	25	30	35.5	39.5	47	58
Q			16	18	26	30	30	40	50
R			54	70	78	96	104	130	130
S			25	30	40	45	45	60	70
T			62	81	91	110	118	146	158
U			46	54	64	78	86	110	124
VA			56	72	82	98	106	130	142
VB			38	44	50	63	72	92	110
VC			10.5	12.5	15	19.5	25	33	34
WA	0-30		24	24	24	24	24	24	28
WA	40-100		44	44	44	48	48	48	52
WA	125-200		110	120	120	124	124	124	128
WB	0-30		17	29	29	33	34	36	38
WB	40-100		27	39	39	45	46	48	50
WB	125-200		60	77	77	83	84	86	88
X			24	28	34	42	50	66	80
ØXA			3	3	4	4	4	5	5
XB			3.5	3.5	4.5	4.5	4.5	6	6
XC			3	3	3	3	3	4	4
XL			6	6	6	6	6	8	8
YY			M5	M6	M6	M8	M8	M10	M10
YL			10	12	12	16	16	20	22
Z			5	17	17	21	22	24	24
a			4.4	5.4	5.4	6.5	6.5	8.5	11
b			7.4	8.4	8.4	10.5	10.5	13.5	17.8
c			3.7	4.5	4.5	5.5	5.5	7.5	10
d			3.5	3.6	3.8	4.5	5	5.5	8
e			6.7	8.6	9	10.5	10.5	14.5	19.5

Series LXA

guide unit, double acting

Dimensions bronze bearings, built-in cushioning rings



Piston Ø	Standard stroke lengths (mm)														
	10	20	30	40	50	75	100	125	150	175	200	250	300	350	400
16															
20															
25															
32															
40															
50															
63															

Intermediate strokes are made with the profile of the standard superior stroke and with an internal spacer which limits the stroke to the required one.

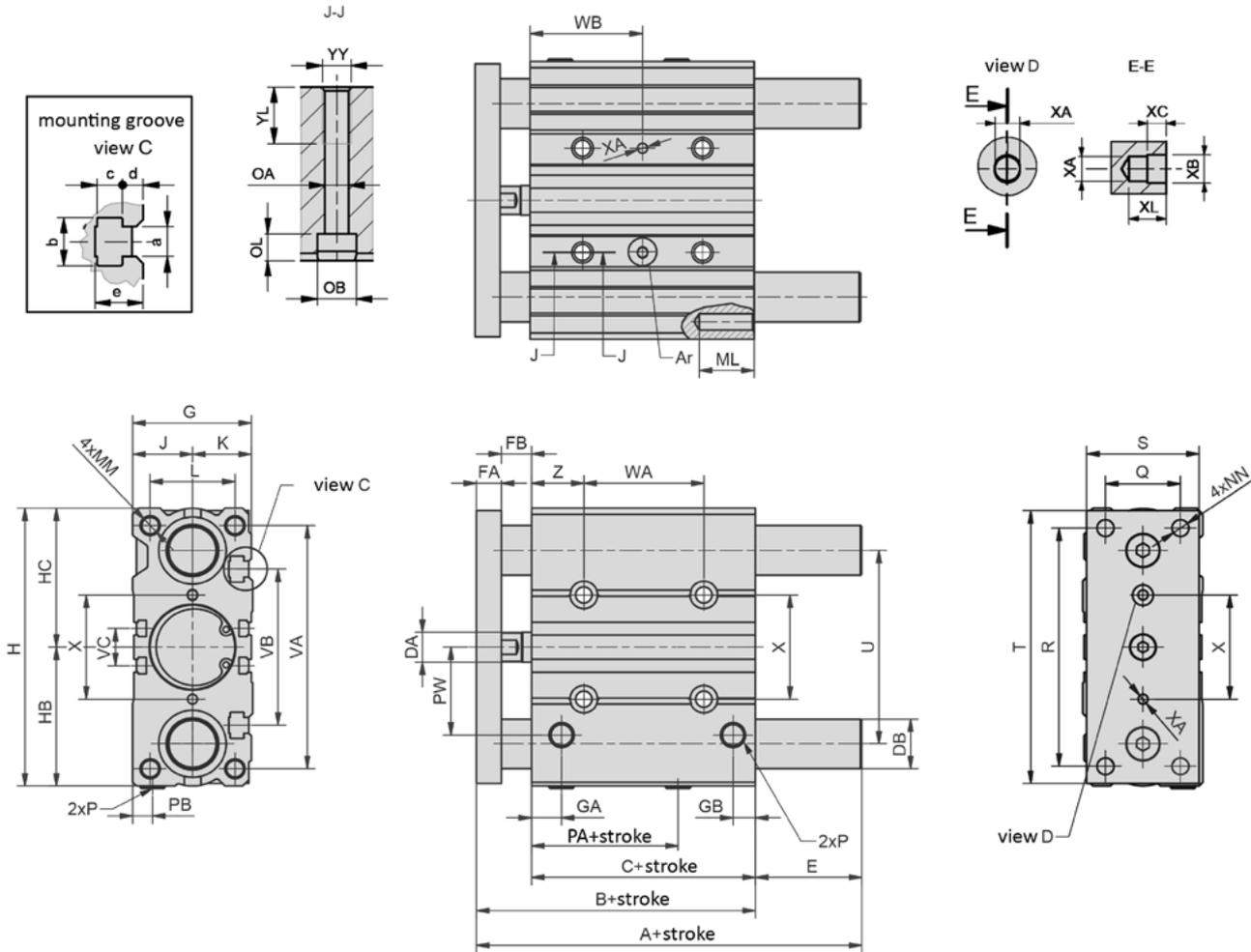
Dimensions ball bearings, built-in cushioning rings

Dimension	stroke	Piston \emptyset	16	20	25	32	40	50	63
A+	0-30		49	63	69.5	-	-	-	-
A+	40-100		65	80	86	-	-	-	-
A+	125-200		-	104	104.5	-	-	-	-
A+	0-50		-	-	-	81	81	93	93
A+	75-100		-	-	-	98	98	114	114
A+	125-200		-	-	-	118	118	134	134
B+			46	53	53.5	59.5	66	72	77
C+			33	37	37.5	37.5	44	44	49
\emptyset DA			8	10	10	12	12	16	16
\emptyset DB			8	12	14	20	20	25	25
E	0-30		3	10	16	-	-	-	-
E	40-100		19	27	32.5	-	-	-	-
E	125-200		-	51	51	-	-	-	-
E	0-50		-	-	-	21.5	15	21	16
E	75-100		-	-	-	38.5	32	42	37
E	125-200		-	-	-	58.5	52	62	57
FA			8	10	10	10	10	15	15
FB			5	6	6	12	12	13	13
G			30	36	42	48	54	64	78
GA			11	11.5	11.5	12	15	15	15.5
GB			8	9	10	9	12	12	13.5
H			64	84	94	113	121	149	163
HB			32.5	41.5	46.5	56	60	74	81
HC			32	42.5	47.5	57	61	75	82
J			15	18	21	24	27	32	39
K			15	18	21	24	27	32	39
L			22	24	30	34	40	46	58
MM			M5	M5	M6	M8	M8	M10	M10
ML			12	13	15	16	16	20	22
NN			M5	M5	M6	M8	M8	M10	M10
OA			4.2	5.2	5.2	6.5	6.5	8.5	8.5
OB			8	9.5	9.5	11	11	14	14
OL			4.5	5.5	5.5	7.5	7.5	9	9
P			M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4
PA+			15	13.5	12.5	6.5	13	9	13
PB			10	11	14	16	18	21.5	28
PW			19	25	30	35.5	39.5	47	58
Q			16	18	26	30	30	40	50
R			54	70	78	96	104	130	130
S			25	30	40	45	45	60	70
T			62	81	91	110	118	146	158
U			46	54	64	78	86	110	124
VA			56	72	82	98	106	130	142
VN			38	44	50	63	72	92	110
VC			10.5	12.5	15	19.5	25	33	34
WA	0-30		24	24	24	24	24	24	28
WA	40-100		44	44	44	48	48	48	52
WA	125-200		110	120	120	124	124	124	128
WB	0-30		17	29	29	33	34	36	38
WB	40-100		27	39	39	45	46	48	50
WB	125-200		60	77	77	83	84	86	88
X			24	28	34	42	50	66	80
\emptyset XA			3	3	4	4	4	5	5
XB			3.5	3.5	4.5	4.5	4.5	6	6
XC			3	3	3	3	3	4	4
XL			6	6	6	6	6	8	8
YY			M5	M6	M6	M8	M8	M10	M10
YL			10	12	12	16	16	20	22
Z			5	17	17	21	22	24	24
a			4.4	5.4	5.4	6.5	6.5	8.5	11
b			7.4	8.4	8.4	10.5	10.5	13.5	17.8
c			3.7	4.5	4.5	5.5	5.5	7.5	10
d			3.5	3.6	3.8	4.5	5	5.5	8
e			6.7	8.6	9	10.5	10.5	14.5	19.5

Series LXA

guide unit, double acting

Dimensions ball bearings, built-in cushioning rings



Piston Ø	Standard stroke lengths (mm)														
	10	20	30	40	50	75	100	125	150	175	200	250	300	350	400
16															
20															
25															
32															
40															
50															
63															

Intermediate strokes are made with the profile of the standard superior stroke and with an internal spacer which limits the stroke to the required one.

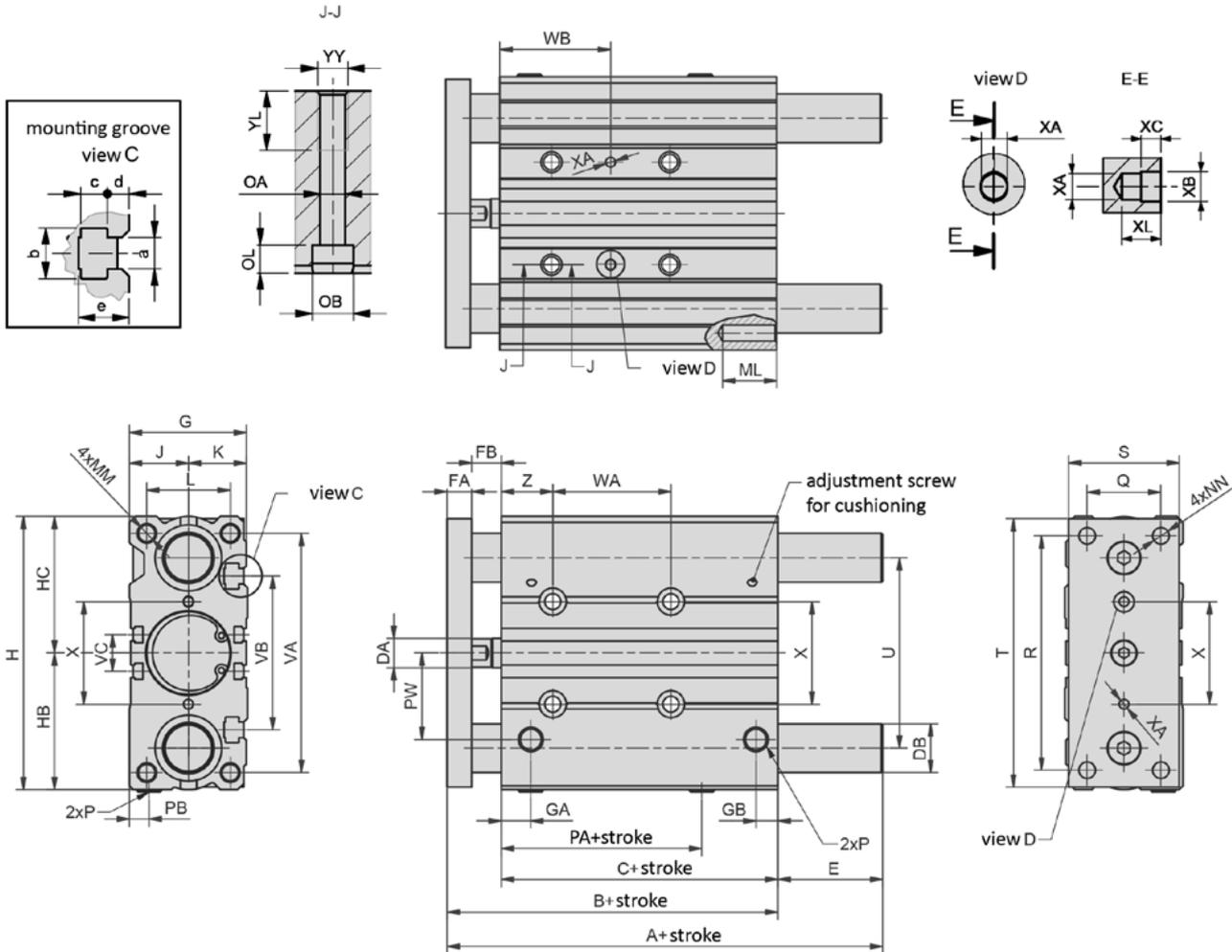
Dimensions bronze bearings, adjustable cushioning

Dimension	stroke	Piston \varnothing	16	20	25	32	40	50	63
A+	0-25		71	78	78.5	97	97	106.5	106.5
A+	30-50		71	86.5	87	127	127	131.5	131.5
A+	75-200		71	84.5	85	102	102	118	118
B+			71	78	78.5	84.5	91	97	102
C+			58	62	62.5	62.5	69	69	74
\varnothing DA			8	10	10	12	12	16	16
\varnothing DB			10	12	16	20	20	25	25
E	0-25		0	0	0	12.5	6	9.5	4.5
E	30-50		0	8.5	8.5	42.5	36	34.5	29.5
E	75-200		0	6.5	6.5	17.5	11	21	16
FA			8	10	10	10	10	15	15
FB			5	6	6	12	12	13	13
G			30	36	42	48	54	64	78
GA			11	11.5	11.5	12	15	15	15.5
GB			8	9	10	9	12	12	13.5
H			64	84	94	113	121	149	163
HB			32.5	41.5	46.5	56	60	74	81
HC			32	42.5	47.5	57	61	75	82
J			15	18	21	24	27	32	39
K			15	18	21	24	27	32	39
L			22	24	30	34	40	46	58
MM			M5	M5	M6	M8	M8	M10	M10
ML			12	13	15	16	16	20	22
NN			M5	M5	M6	M8	M8	M10	M10
OA			4.2	5.2	5.2	6.5	6.5	8.5	8.5
OB			8	9.5	9.5	11	11	14	14
OL			4.5	5.5	5.5	7.5	7.5	9	9
P			M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4
PA+			40	38.5	37.5	31.5	38	34	38
PB			10	10.5	13.5	16	18	21.5	28
PW			19	25	30	35.5	39.5	47	58
Q			16	18	26	30	30	40	50
R			54	70	78	96	104	130	130
S			25	30	40	45	45	60	70
T			62	81	91	110	118	146	158
U			46	54	64	78	86	110	124
VA			56	72	82	98	106	130	142
VN			38	44	50	63	72	92	110
VC			10.5	12.5	15	19.5	25	33	34
WA	0-75		44	44	44	48	48	48	52
WA	100-175		110	120	120	124	124	124	128
WA	200		/	200	200	200	200	200	200
WB	0-75		27	39	39	45	46	48	50
WB	100-175		60	77	77	83	84	86	88
WB	200		/	117	117	121	122	124	124
X			24	28	34	42	50	66	80
\varnothing XA			3	3	4	4	4	5	5
XB			3.5	3.5	4.5	4.5	4.5	6	6
XC			3	3	3	3	3	4	4
XL			6	6	6	6	6	8	8
YY			M5	M6	M6	M8	M8	M10	M10
YL			10	12	12	16	16	20	22
Z			5	17	17	21	22	24	24
a			4.4	5.4	5.4	6.5	6.5	8.5	11
b			7.4	8.4	8.4	10.5	10.5	13.5	17.8
c			3.7	4.5	4.5	5.5	5.5	7.5	10
d			3.5	3.6	3.8	4.5	5	5.5	8
e			6.7	8.6	9	10.5	10.5	14.5	19.5

Series LXA

guide unit, double acting

Dimensions bronze bearings, adjustable cushioning



Piston \varnothing	Standard stroke lengths (mm)								
	25	50	75	100	125	150	175	200	250
16	25	50	75	100					
20	25	50	75	100	125	150	175	200	250
25	25	50	75	100	125	150	175	200	250
32	25	50	75	100	125	150	175	200	250
40	25	50	75	100	125	150	175	200	250
50	25	50	75	100	125	150	175	200	250
63	25	50	75	100	125	150	175	200	250

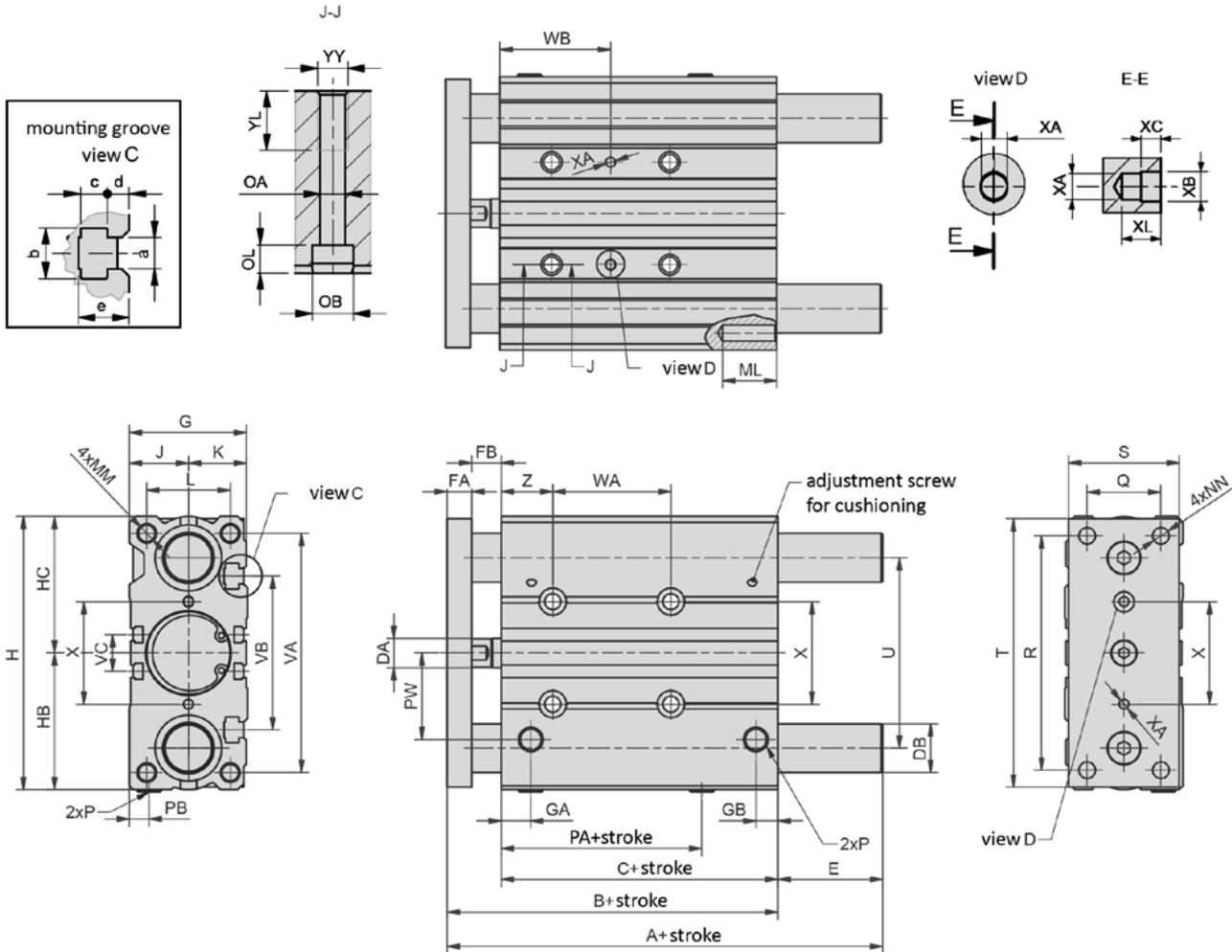
Dimensions ball bearings, adjustable cushioning

Dimension	stroke	Piston Ø	16	20	25	32	40	50	63
A+	0-25		71	95	100.5	84.5	91	97	102
A+	50		71	80	85.5	123	123	127.5	127.5
A+	75		71	80	85.5	98	98	114	114
A+	100		71	99	99.5	115.5	115.5	159	159
A+	>125		-	104	104.5	118	118	134	134
B+			71	78	78.5	84.5	91	97	102
C+			58	62	62.5	62.5	69	69	74
ØDA			8	10	10	12	12	16	16
ØDB			8	12	14	20	20	25	25
E	0-25		0	17	22	0	0	0	0
E	50		0	2	7	38.5	32	30.5	25.5
E	75		0	2	7	13.5	7	17	12
E	100		0	21	26	31	24.5	62	57
E	>125		-	26	26	33.5	27	37	32
FA			8	10	10	10	10	15	15
FB			5	6	6	12	12	13	13
G			30	36	42	48	54	64	78
GA			11	11.5	11.5	12	15	15	15.5
GB			8	9	10	9	12	12	13.5
H			64	84	94	113	121	149	163
HB			32.5	41.5	46.5	56	60	74	81
HC			32	42.5	47.5	57	61	75	82
J			15	18	21	24	27	32	39
K			15	18	21	24	27	32	39
L			22	24	30	34	40	46	58
MM			M5	M5	M6	M8	M8	M10	M10
ML			12	13	15	16	16	20	22
NN			M5	M5	M6	M8	M8	M10	M10
OA			4.2	5.2	5.2	6.5	6.5	8.5	8.5
OB			8	9.5	9.5	11	11	14	14
OL			4.5	5.5	5.5	7.5	7.5	9	9
P			M5	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4
PA+			40	38.5	37.5	31.5	38	34	38
PB			10	11.5	14	16	18	21.5	28
PW			19	25	30	35.5	39.5	47	58
Q			16	18	26	30	30	40	50
R			54	70	78	96	104	130	130
S			25	30	40	45	45	60	70
T			62	81	91	110	118	146	158
U			46	54	64	78	86	110	124
VA			56	72	82	98	106	130	142
VN			38	44	50	63	72	92	110
VC			10.5	12.5	15	19.5	25	33	34
WA	0-75		44	44	44	48	48	48	52
WA	100-175		110	120	120	124	124	124	128
WA	200		-	200	200	200	200	200	200
WB	0-75		27	39	39	45	46	48	50
WB	100-175		60	77	77	83	84	86	88
WB	200		-	117	117	121	122	124	124
X			24	28	34	42	50	66	80
ØXA			3	3	4	4	4	5	5
XB			3.5	3.5	4.5	4.5	4.5	6	6
XC			3	3	3	3	3	4	4
XL			6	6	6	6	6	8	8
YY			M5	M6	M6	M8	M8	M10	M10
YL			10	12	12	16	16	20	22
Z			5	17	17	21	22	24	24
a			4.4	5.4	5.4	6.5	6.5	8.5	11
b			7.4	8.4	8.4	10.5	10.5	13.5	17.8
c			3.7	4.5	4.5	5.5	5.5	7.5	10
d			3.5	3.6	3.8	4.5	5	5.5	8
e			6.7	8.6	9	10.5	10.5	14.5	19.5

Series LXA

guide unit, double acting

Dimensions ball bearings, adjustable cushioning



Piston Ø	Standard stroke lengths (mm)									
	25	50	75	100	125	150	175	200	250	
16	25	50	75	100						
20	25	50	75	100	125	150	175	200	250	
25	25	50	75	100	125	150	175	200	250	
32	25	50	75	100	125	150	175	200	250	
40	25	50	75	100	125	150	175	200	250	
50	25	50	75	100	125	150	175	200	250	
63	25	50	75	100	125	150	175	200	250	

Technical details

Operating pressure	1.2 ... 10 bar
Temperature range	+5°C ... +60°C
Operating speed	50 ... 500 mm/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. Alternatively the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
Materials	Profile: Al (anodized) Flange plate: Steel (zinc plated) Piston rod: steel hard chrome plated Guide rod: steel hard chrome plated Seals: PU

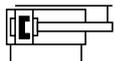


Double acting pneumatic cylinder with magnetic piston and built-in cushioning rings. The sensors can be installed directly into the sensor grooves of the Al-profile.

The integrated cylinder and guide unit ensures precise and accurate movement.

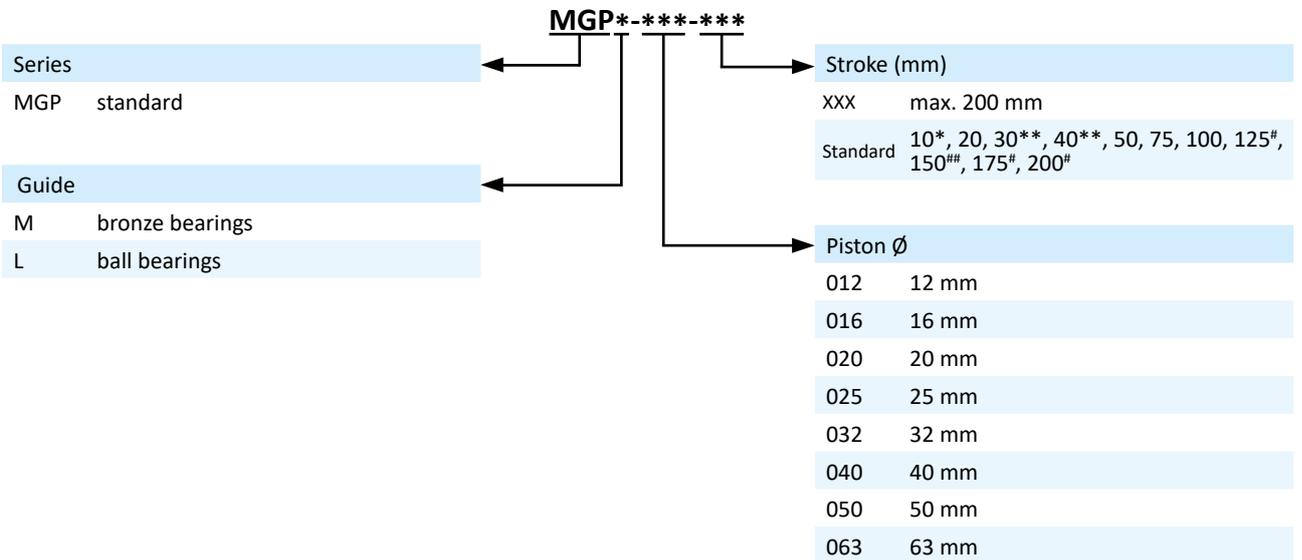
Standard stroke lengths in table below.

Versions



MGPM, MGPL
double acting, built-in cushioning rings,
with magnetic piston, guide unit

Order code



* only for Ø 12 and 16 mm, ** only for Ø 12 - 25 mm,
only for Ø 20 - 63 mm, ## only for Ø 32 - 63 mm

Series 88-MGP

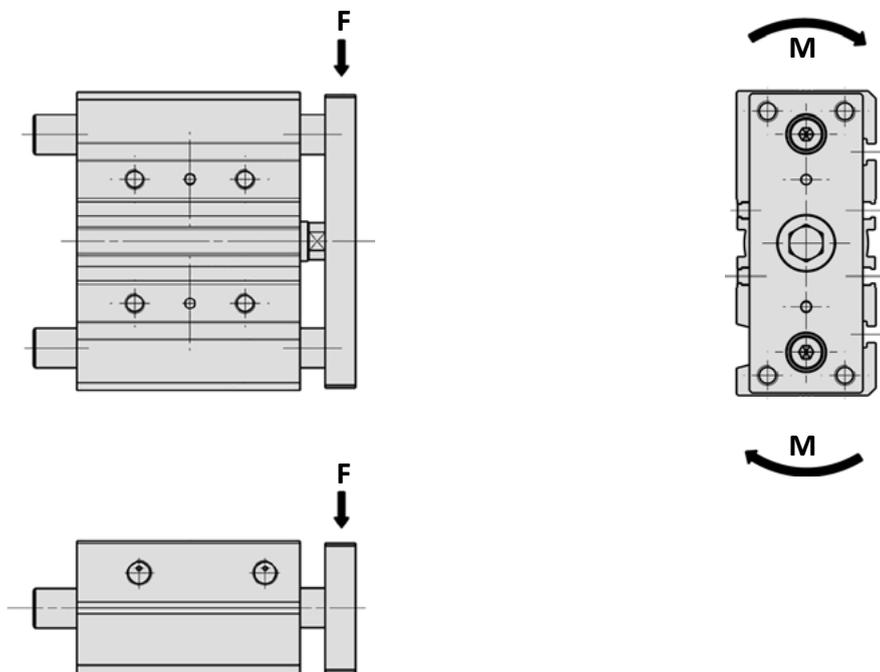
guide unit, double acting

Technical data

Model-no.:	88-MGPx-012-...	88-MGPx-016-...	88-MGPx-020-...	88-MGPx-025-...
Piston Ø (mm)	12	16	20	25
Force at 6 bar (N)	Extension	109	170	265
	Retraction	46	93	127
Connection	M5	M5	R1/8	R1/8

Model-no.:	88-MGPx-032-...	88-MGPx-040-...	88-MGPx-050-...	88-MGPx-063-...
Piston Ø (mm)	32	40	50	63
Force at 6 bar (N)	Extension	678	1060	1682
	Retraction	326	570	890
Connection	R1/8	R1/8	R1/4	R1/4

Technical information



Technical information
Maximal Load (N)

Piston Ø stroke (mm)	10	20	25	30	40	50	75	100	125	150	175	200
12	Version M	24	19	-	17	14	13	26	22	-	-	-
	Version L	37	27	-	22	35	30	23	18	-	-	-
16	Version M	38	31	-	27	23	21	37	32	-	-	-
	Version L	54	40	-	32	54	47	35	28	-	-	-
20	Version M	-	49	-	43	38	35	87	75	66	59	54
	Version L	-	58	-	48	101	90	70	58	62	54	48
25	Version M	-	69	-	60	54	49	116	100	88	79	71
	Version L	-	82	-	68	132	118	93	77	80	70	62
32	Version M	-	-	203	-	-	164	182	159	142	127	116
	Version L	-	-	113	-	-	78	130	107	130	114	101
40	Version M	-	-	203	-	-	164	182	159	142	127	116
	Version L	-	-	113	-	-	78	129	106	130	114	101
50	Version M	-	-	296	-	-	245	273	241	216	195	179
	Version L	-	-	120	-	-	83	178	148	148	129	114
63	Version M	-	-	296	-	-	245	273	241	216	195	179
	Version L	-	-	117	-	-	81	176	145	145	126	111

Maximal Torque (Nm)

Piston Ø stroke (mm)	10	20	25	30	40	50	75	100	125	150	175	200
12	Version M	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	-	-	-
	Version L	0.78	0.66	-	0.57	0.93	0.85	0.69	0.58	-	-	-
16	Version M	0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	-	-	-
	Version L	1.23	1.06	-	0.92	1.53	1.40	1.16	0.99	-	-	-
20	Version M	-	1.05	-	0.93	0.83	0.75	1.88	1.63	1.44	1.28	1.16
	Version L	-	1.70	-	1.52	3.06	2.87	2.47	2.17	2.38	2.16	1.98
25	Version M	-	1.76	-	1.55	1.38	1.25	2.96	2.57	2.26	2.02	1.83
	Version L	-	2.80	-	2.53	4.67	4.39	3.81	3.36	3.65	3.31	3.02
32	Version M	-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61
	Version L	-	-	4.76	-	-	3.86	6.53	5.75	7.10	6.46	5.92
40	Version M	-	-	7.00	-	-	5.66	6.27	5.48	4.87	4.38	3.98
	Version L	-	-	5.24	-	-	4.25	7.19	6.33	7.81	7.11	6.52
50	Version M	-	-	13.00	-	-	10.80	12.00	10.60	9.50	8.60	7.86
	Version L	-	-	7.02	-	-	5.76	12.30	10.90	11.20	10.20	9.40
63	Version M	-	-	14.70	-	-	12.10	13.50	12.00	10.70	9.69	8.86
	Version L	-	-	77.70	-	-	6.35	13.70	12.20	12.50	11.40	10.50

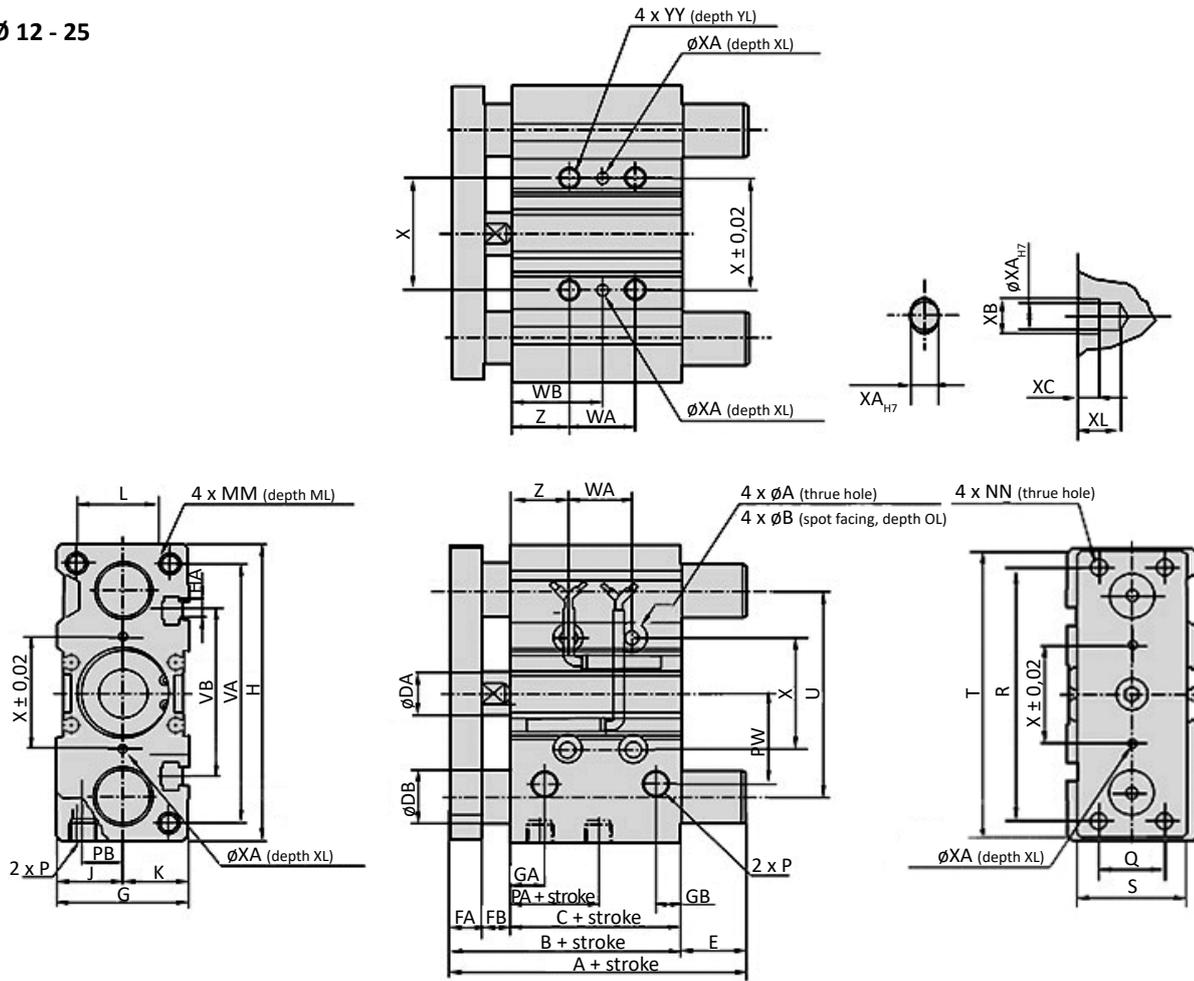
Proximity sensors


Series 88-MGP

guide unit, double acting

Dimensions

Ø 12 - 25

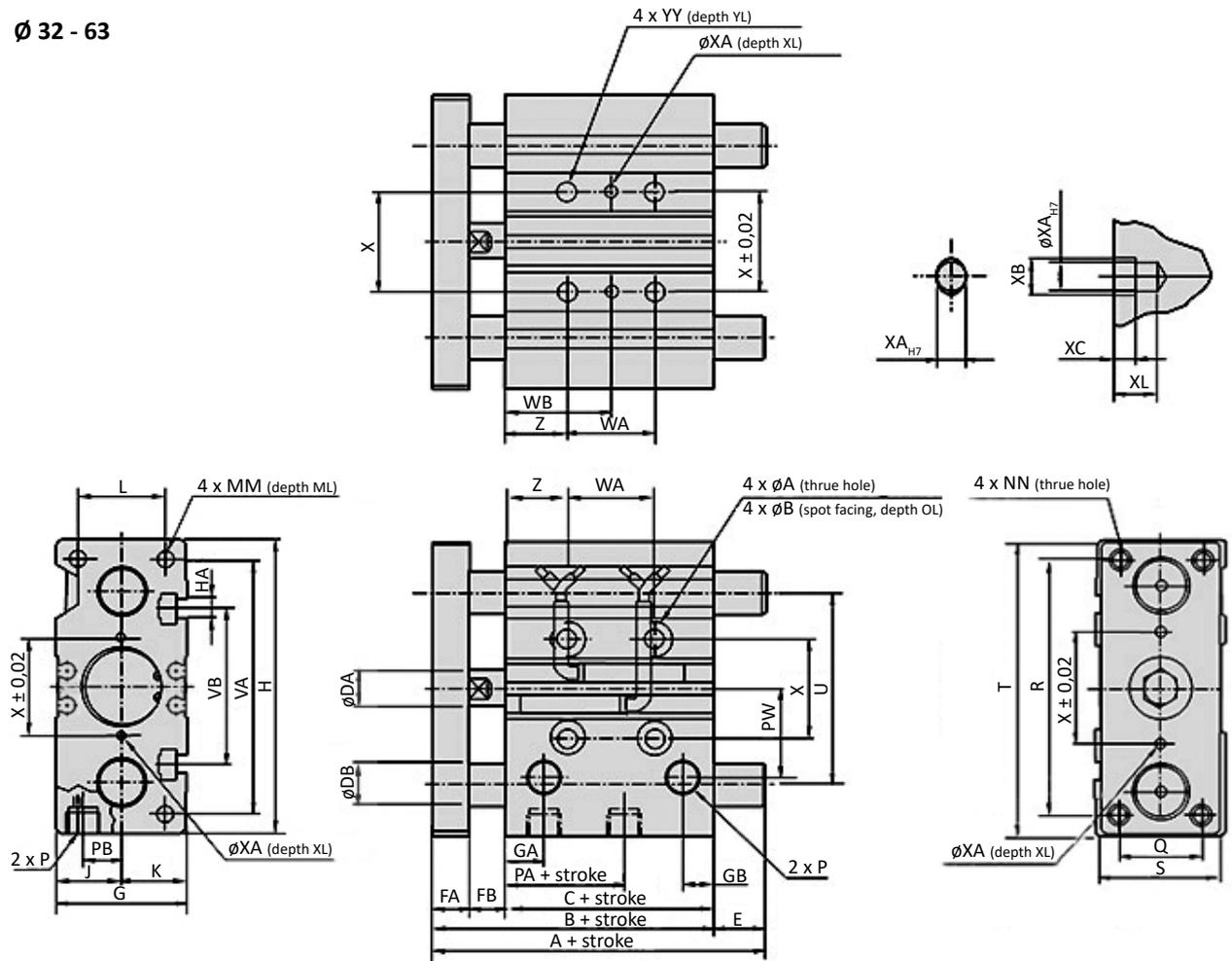


Piston-Ø	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML
12	42	29	6	8	5	26	11	7,5	58	M4	13	13	18	M4	10
16	46	33	8	8	5	30	11	8	64	M4	15	15	22	M5	12
20	53	37	10	10	6	36	10,5	8,5	83	M5	18	18	24	M5	13
25	53,5	37,5	10	10	6	42	11,5	9	93	M5	21	21	30	M6	15

Piston-Ø	NN	OA	OB	OL	P	PA	PB	PW	Q	R	S	T	U	VA	VB
12	M4	4,3	8	4,5	M5	13	8	18	14	48	22	56	41	50	37
16	M5	4,3	8	4,5	M5	15	10	19	16	54	25	62	46	56	38
20	M5	5,6	9,5	5,5	R1/8	12,5	10,5	25	18	70	30	81	54	72	44
25	M6	5,6	9,5	5,5	R1/8	12,5	13,5	28,5	26	78	38	91	64	82	50

Piston-Ø stroke (mm)	WA			WB			X	XA	XB	XC	XL	YY	YL	Z
	up to 30	40 up to 100	125 up to 200	up to 30	40 up to 100	125 up to 200								
12	20	40	-	15	25	-	23	3	3,5	3	6	M5	10	5
16	24	44	-	17	27	-	24	3	3,5	3	6	M5	10	5
20	24	44	120	29	39	77	28	3	3,5	3	6	M6	12	17
25	24	44	120	29	39	77	34	4	4,5	3	6	M6	12	17

Piston-Ø stroke (mm)	Version M	A		DB	E		Version L	A			DB	E		
		up to 50	over 50		up to 50	over 50		<30	30 - <100	≥100		<30	30 - <100	≥100
		12	42		60,5	8		0	18,5	43		55	85	6
16	46	64,5	10	0	18,5	49	65	95	8	3	19	49		
20	53	84,5	12	0	31,5	63	80	104	10	10	27	51		
25	53,5	85	16	0	31,5	69,5	80,5	104,5	13	16	32	51		

Dimensions
Ø 32 - 63


Piston-Ø	B	C	DA	FA	FB	G	GA	GB	H	HA	J	K	L	MM	ML
32	59,5	37,5	16	12	10	48	12,5	9	112	M6	24	24	34	M8	20
40	66	44	16	12	10	54	14	10	120	M6	27	27	40	M8	20
50	72	44	20	16	12	64	12	11	148	M8	32	32	46	M10	22
63	77	49	20	16	12	78	16,5	13,5	162	M10	39	39	58	M10	22

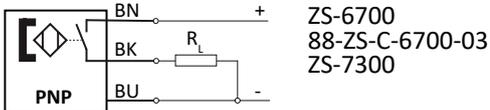
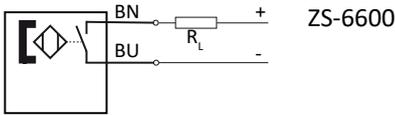
Piston-Ø	NN	OA	OB	OL	P	PA	PB	PW	Q	R	S	T	U	VA	VB
32	M8	6,6	11	7,5	R1/8	7	15	34	30	96	44	110	78	98	63
40	M8	6,6	11	7,5	R1/8	13	18	38	30	104	44	118	86	106	72
50	M10	8,6	14	9	R1/4	9	21,5	47	40	130	60	146	110	130	92
63	M10	8,6	14	9	R1/4	14	28	55	50	130	70	158	124	142	110

Piston-Ø stroke (mm)	WA			WB			X	XA	XB	XC	XL	YY	YL	Z
	25	50, 75, 100	>100	25	50, 75, 100	>100								
32	24	48	124	33	45	83	42	4	4,5	3	6	M8	16	21
40	24	48	124	34	46	84	50	4	4,5	3	6	M8	16	22
50	24	48	124	36	48	86	66	5	6	4	8	M10	20	24
63	28	52	128	38	50	88	80	5	6	4	8	M10	20	24

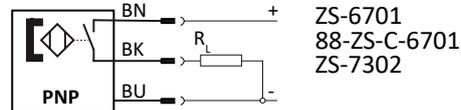
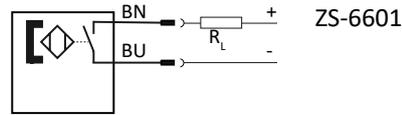
Piston-Ø stroke (mm)	Version M		DB	E		Version L			DB	E		
	25, 50	>50		25, 50	>50	50	75, 100	>100		50	75, 100	>100
32	97	102	20	37,5	42,5	81	98	118	16	21,5	38,5	58,5
40	97	102	20	31	36	81	98	118	16	15	32	52
50	106,5	118	25	34,5	46	93	114	134	20	21	42	62
63	106,5	118	25	29,5	41	93	114	134	20	16	37	57

Series ZS Proximity sensors

Proximity sensors with cable



Proximity sensors with plug



Technical data

Model-no.:	ZS-6600	ZS-6601	ZS-6700	ZS-6701
Design	2-pole inductive	2-pole inductive	3-pole inductive	3-pole inductive
Contact function	NO	NO	NO	NO
Output	NO	NO	PNP	PNP
Rated operational voltage	10 ... 30 V DC	10 ... 30 V DC	5 ... 30 V DC	5 ... 30 V DC
Rated operational current I_e	≤ 50 mA	≤ 50 mA	≤ 100 mA	≤ 100 mA
Max. voltage drop at I_e	≤ 2.65	≤ 2.65	≤ 1.0	≤ 1.0
Breaking capacity	1,4 W	1,4 W	3 W	3 W
Sensitivity	40 ~ 800 Gauss	40 ~ 800 Gauss	40 ~ 800 Gauss	40 ~ 800 Gauss
Cable length	3 m	0.3 m with M8 connection	3 m	0.3 m with M8 connection
Reverse polarity protection	nein	nein	ja	ja
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 red	LED red

Model-no.:	ZS-7300	ZS-7302
Design	3-pole inductive	3-pole inductive
Contact function	NO	NO
Output	PNP	PNP
Rated operational voltage	10 ... 30 V DC	10 ... 30 V DC
Rated operational current I_e	≤ 100 mA	≤ 100 mA
Max. voltage drop at I_e	≤ 2.5	≤ 2.5
Breaking capacity	3 W	3 W
Cable length	6 m	0.3 m with M12 connection
Temperature range	-20 ... +60°C	-20 ... +60°C
Protection	IP 67	IP 67
Switching status indication	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

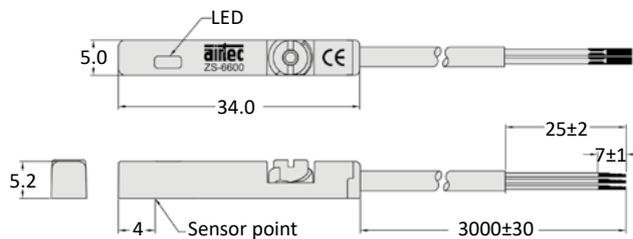
Technical data

Model-no.:	88-ZS-C-6700-03	88-ZS-C-6701
Design	C-Nut	C-Nut
Contact function	3-pole inductive	3-pole inductive
Output	NO	NO
Rated operational voltage	PNP	PNP
Rated operational current I_e	5 ... 30 V DC	5 ... 30 V DC
Max. voltage drop at I_e	≤ 200 mA	≤ 200 mA
Breaking capacity	≤ 0,5	≤ 0,5
Cable length	6 W	6 W
Temperature range	3 m	0,15 m with M8 connection
Protection	-10 ... +70°C	-10 ... +70°C
Switching status indication	IP 67	IP 67
Statusanzeige	LED red	LED red

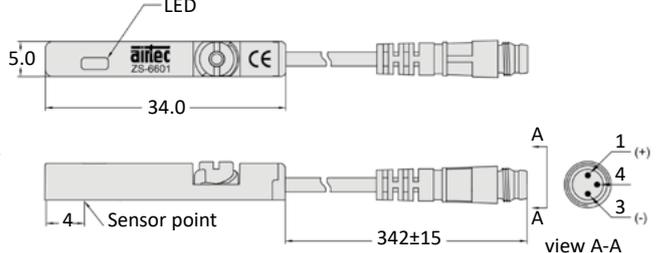


Dimensions

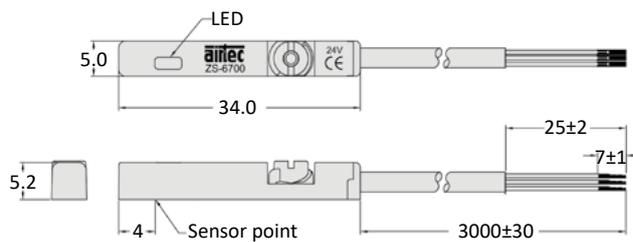
ZS-6600



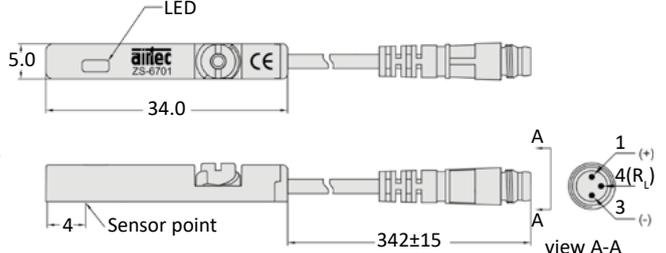
ZS-6601



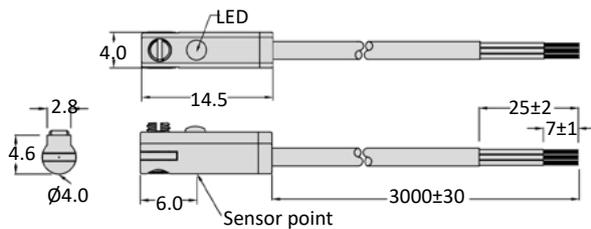
ZS-6700



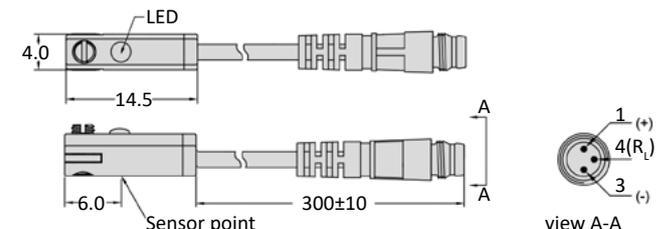
ZS-6701



88-ZS-C-6700-03



88-ZS-C-6701



Series ZS Proximity sensors

Connection cable M8

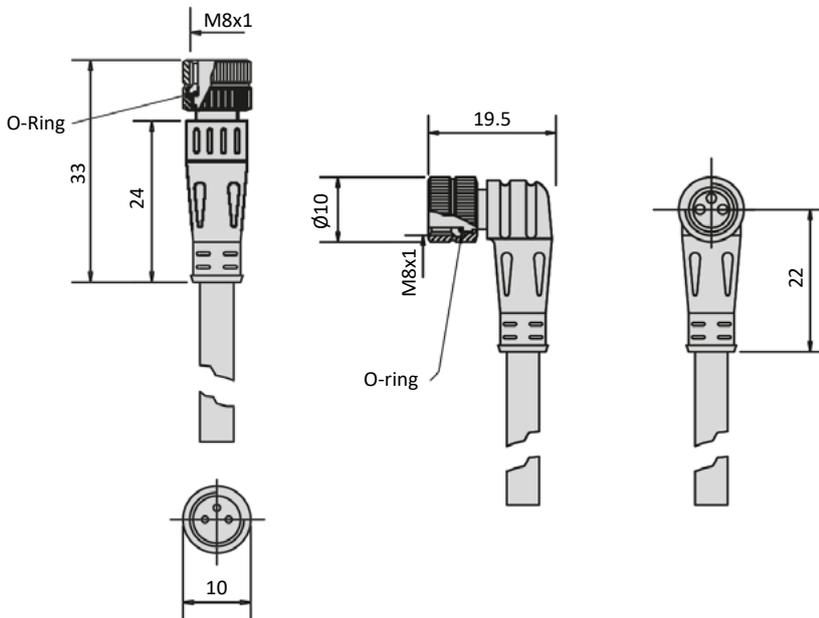
Contacts	M8 Plug socket
Protection	IP 67 according to EN 60529 in conjunction with suitable connection plug
Duty cycle	100 %
Temperature range*	-25°C...+90°C
max. voltage	60 V AC / DC
Use for	Solenoids with M8 plug, cylinder switch with M8 plug



Model-no.:	KA-10-01	KA-30-01	KA-50-01	KA-100-01
Contacts	M8 Socket, straight	M8 Socket, straight	M8 Socket, straight	M8 Socket, straight
Mounting	Coupling nut	Coupling nut	Coupling nut	Coupling nut
Cable	3-pin	3-pin	3-pin	3-pin
Length (L)	1 m	3 m	5 m	10 m

Model-no.:	KA-11-01	KA-31-01	KA-51-01	KA-101-01
Contacts	M8 Socket, elbow 90°			
Mounting	Coupling nut	Coupling nut	Coupling nut	Coupling nut
Cable	3-pin	3-pin	3-pin	3-pin
Length (L)	1 m	3 m	5 m	10 m

Dimensions



Pin assignment



- 1 = brown
- 3 = blue
- 4 = black

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. A direct sensor mounting is possible for following series:

- Series SLX, Series XL, Series 88-XSI**
- Series NXD, Series NXE**
- Series NYD, Series NYE, Series NYSE**
- Series 88CQ2**
- Series LXA**
- Series ZX**

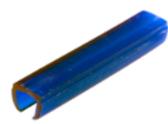
For this cylinder series separate mounting brackets are necessary for the sensor mounting:

- Series XG, Series XLZ, Series 88-XSQ, Series XM**
- Series HM, Series HE, Series HMU**
- Series CM**

Mounting brackets for proximity sensors

Model-no.:	NT-550	HTM-080/100-1
		
Design	sensor mounting	mounting bracket for tie rod design
For series	HM, HMU, HE, CM, XM, XG, XLZ	XG-160, XG-200

Cover for sensor groove

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

Version code

Cylinder - * * * - xxxx

Cylinder double acting	
0	piston rod on one side with magnetic piston adjustable cushioning
1	piston rod on one side adjustable cushioning
2	piston rod on one side with magnetic piston
3	piston rod on one side
4	double end piston rod with magnetic piston adjustable cushioning
5	double end piston rod adjustable cushioning
6	double end piston rod with magnetic piston
7	double end piston rod
8	double end piston rod through hollow with magnetic piston

Piston rod versions	
0	piston rod stainless steel male thread
1	piston rod stainless steel female thread
2	piston rod stainless steel female thread with guide and non rotating
3	piston rod stainless steel male thread non rotating
4	piston rod stainless steel female thread non rotating
5	piston rod steel hard chrome plated male thread
6	piston rod steel hard chrome plated female thread
7	double piston rod
8	piston rod stainless steel without thread
9	piston rod steel hard chrome plated female thread with guide and non rotating

Seals, Air connection	
0	standard seals (PUR, NBR) air connection G thread
1	standard seals (PUR, NBR) air connection NPT thread
2	high temperature version (FKM) air connection G thread
3	high temperature version (FKM) air connection NPT thread
4	standard seals (NBR) piston rod seal FKM air connection G thread
5	standard seals (NBR) piston rod seal FKM air connection NPT thread

xxxx - Additions*	
ATEX EX X	cylinders in accordance with 2014/34/EU (ATEX)
E8	piston rod seal E8, two-part, with plastic scraper

* Use taking into account the maximum length of 20 characters for an article number

Cylinder single acting	
0	piston rod on one side with magnetic piston normally retracted
1	piston rod on one side normally retracted
2	piston rod on one side with magnetic piston normally extended
3	piston rod on one side normally extended
4	double end piston rod with magnetic piston
5	double end piston rod

Axxx	piston rod stainless steel male thread lengthened by xxx mm [#]
Bxxx	piston rod stainless steel female thread lengthened by xxx mm
Cxxx	piston rod steel hard chrome plated male thread lengthened by xxx mm [#]
Dxxx	piston rod steel hard chrome plated female thread lengthened by xxx mm [#]
Exxx	piston rod stainless steel without thread lengthened by xxx mm [#]
Fxxx	piston rod steel hard chrome plated without thread lengthened by xxx mm [#]
V	piston rod stainless steel AISI 316 (1.4401) male thread

[#] with a double end piston rod, only one side is extended

Exceptions

Round cylinders are described by the designation of the series. A design code is only used if there are deviations from the standard described.

If it is not possible to describe the version of the cylinder using the version code, a project number in the form Pxxxx should be used.

Not all options are suitable for all cylinder series