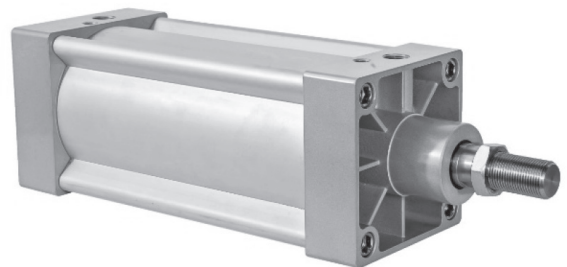


Neles Easyflow™ heavy duty pneumatic cylinders Series SN

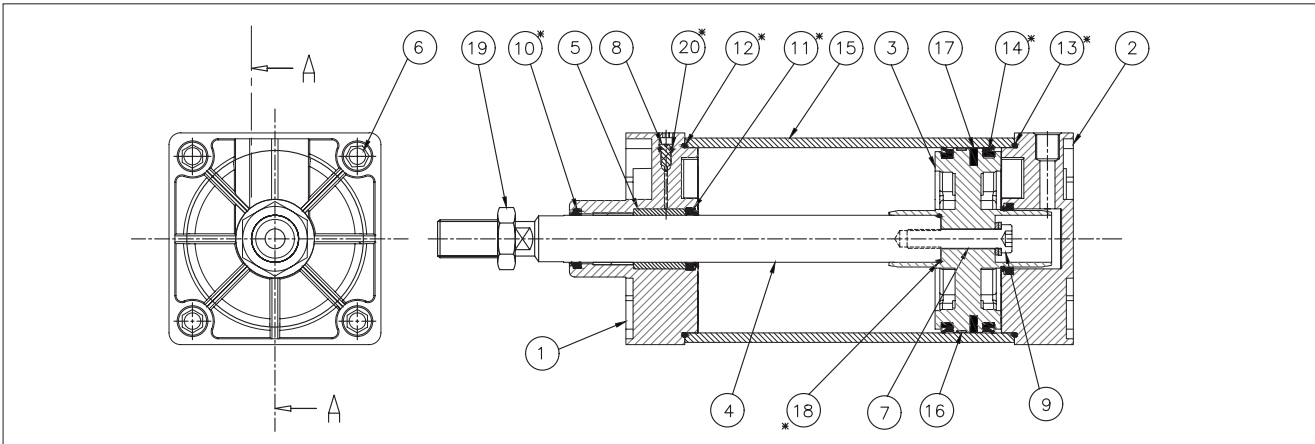
Cylinder diameter 125 to 160 mm as per
ISO 15552 and VDMA 24562

Features

- According to ISO 15552 & VDMA 24562
- Cylinder tube from extruded profile aluminium micro honed for extremely low friction.
- Cylinder barrel treated for special anodizing to reduce friction.
- Adjustable cushioning at both ends.
- High energy absorption due to special seal profile.
- Lubrication not necessary (maintain once started oil mist lubrication).
- Operating pressure range 1-10 bar.
- Operating temperature: -20 °C to 80 °C with NBR seals and -20 °C to 125 °C with Viton.
- Operating medium: Compressed air, filtered to minimum 50 µm.
- Permanent magnet is standard.



Construction



Part	Material	Part no	Part	Material	Part no
Cylinder tube	Anodized aluminium	15	Cushioning seal	NBR	11*
Cover	Aluminium	1, 2	Rod seal	Polyurethane	10*
Piston rod	Stainless steel (SS 410/SS 420)	4	O-ring	NBR	18*
Piston	Aluminium	3	Cover bolt	Galvanized steel	6
Cover seal	NBR	12*, 13*	Permanent magnet	-	17
Lip seal	NBR	14*	SHC screw	HGA steel	7
Piston rod guide	Phosphor bronze	5	Piston guide	High polymer	16
Washer	Steel	9	Lock nut	Steel	19
Cushioning screw	Steel	8	O-ring	NBR	20*

NOTE-1: * MARKED COMPONENTS ARE THE PARTS OF THE SEAL KIT.

Series SN

Forces (output thrust) for double acting cylinder

Double acting cylinder		Force (N)										
Bore diameter (mm)	Piston rod diameter (mm)	Pressure (bar)										
			1	2	3	4	5	6	7	8	9	10
125	32	Extend	1228	2455	3682	4909	6136	7364	8591	9817	11045	12272
		Retract	1147	2294	3441	4587	5734	6881	8028	9174	10321	11468
160	40	Extend	2011	4022	6032	8043	10053	12064	14075	16085	18096	20107
		Retract	1885	3770	5655	7540	9425	11310	13195	15080	16965	18850

Max. 0.1 bar is necessary to deal with the mechanical friction
To obtain a uniform speed, the load degree is not to be chosen over 60%

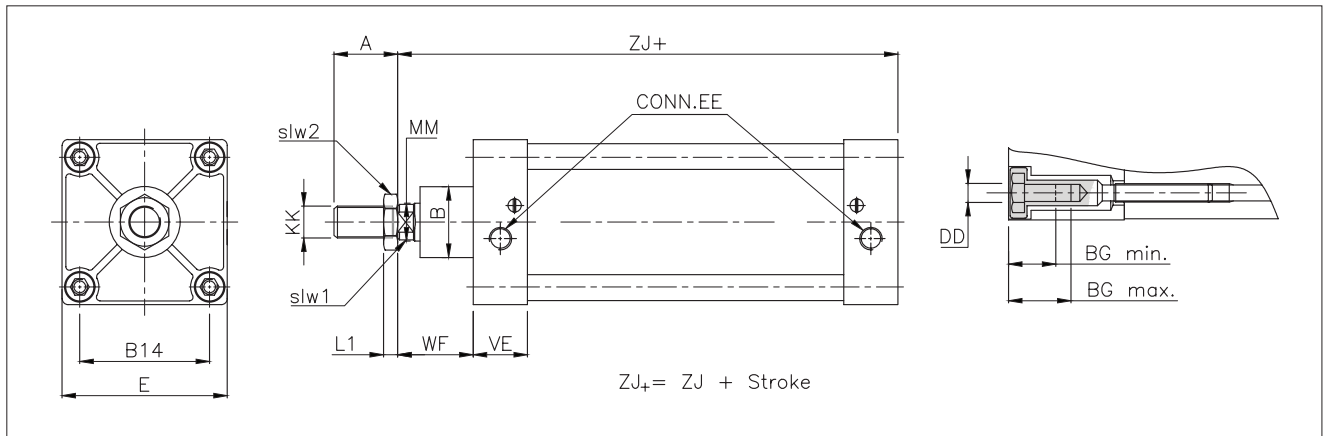
Air consumption

Air consumption		dm ³ A.N.R./cm stroke		A.N.R.= dm ³ under norm-conditions					1 dm ³ =1 litre	
Cylinder diameter	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
125	0.245	0.368	0.491	0.614	0.736	0.859	0.982	1.105	1.227	1.35
160	0.402	0.603	0.804	1.005	1.207	1.408	1.609	1.81	2.011	2.212

Special spring return cylinder can be manufactured for application, where in larger spring forces are needed. Please consult Valmet. We need working forces for your application. Force F1 when the spring is not compressed & F2 when spring is compressed Ideally we need either F1 or F2
Customised cylinders are available and we supply many customise cylinders for various applications.

- Three stage cylinders
- Tandem cylinders
- Double ended piston rod
- Knocker cylinders
- Quick closing cylinders
- Telescopic cylinders

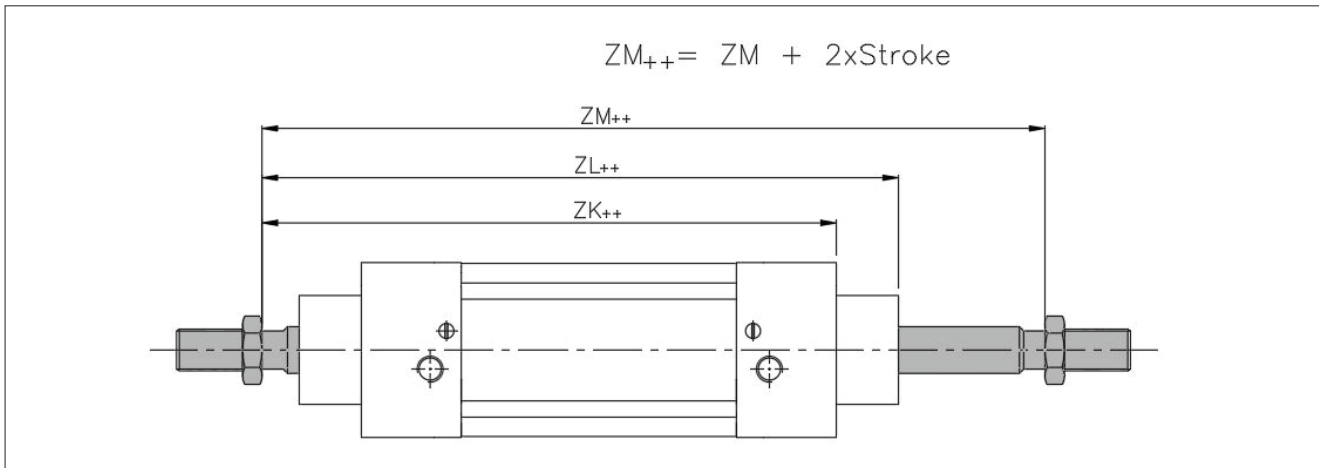
CYLINDER Ø 125 - Ø 160 AS PER ISO 15552 and VDMA 24562



Dimensional details

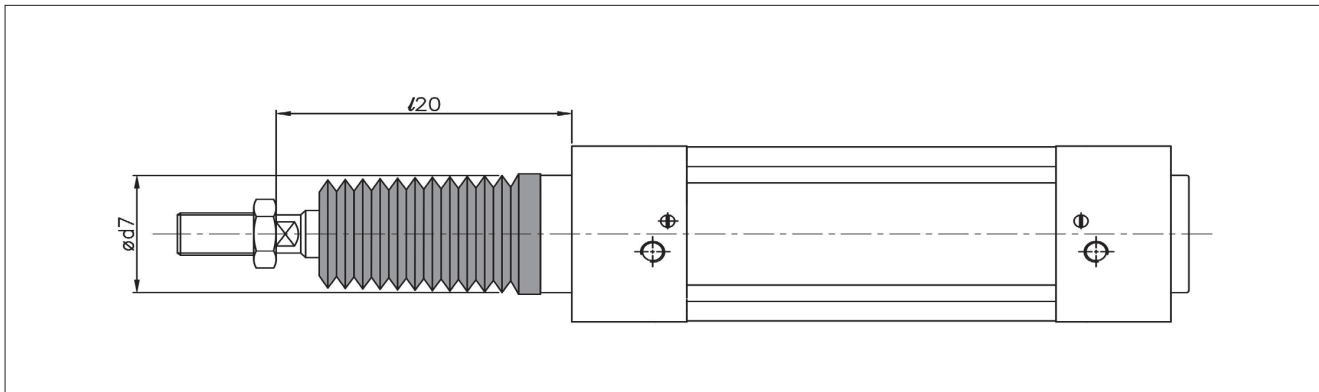
Cylinder diameter	A	ØB	BG max	DD	E max	EE	KK	MM	b14	VE	WF	ZJ	L1	slw1	slw2
125	54	60	24	M12	140	G1/2	M27 X 2	32	110	46	65	226	12	27	41
160	72	65	32	M16	180	G3/4	M36 X 2	40	140	50	80	260	14	36	55

Dimensions for special models



DS – Double ended piston rod

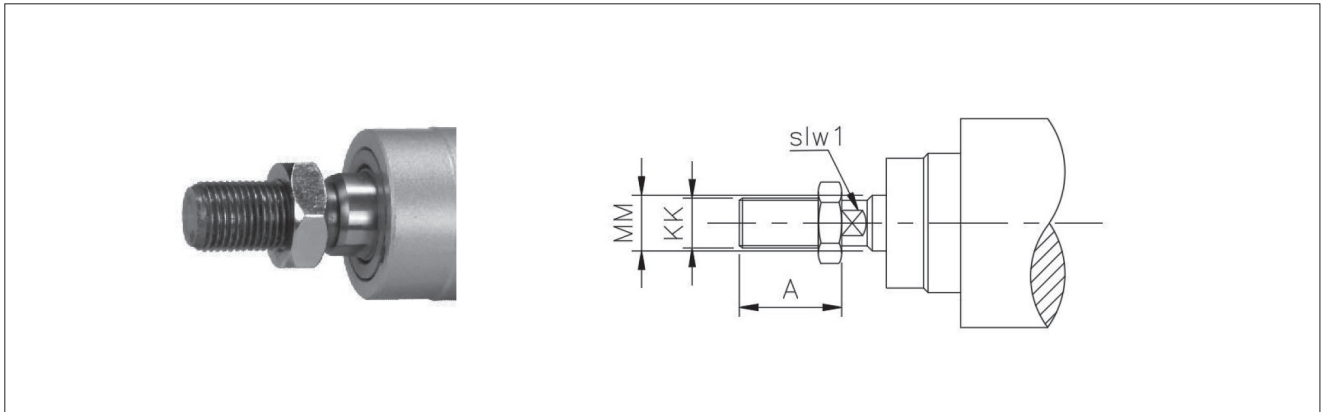
Cylinder diameter	ZK	ZL	ZM
125	226	271	292
160	260	318	342



BG - Bellows

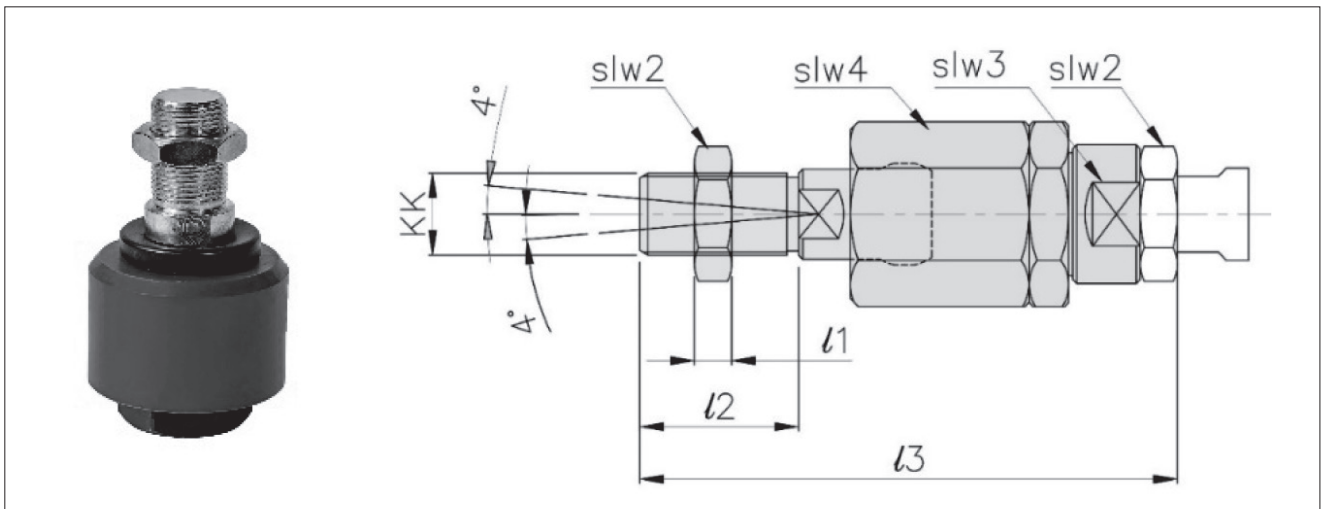
Cylinder diameter	L20 at stroke		Bellow diameter $\varnothing d7$
	0-700	701-750	
125	175	290	115
160	190	290	115

Piston rod connection



O - Outer thread with locknut

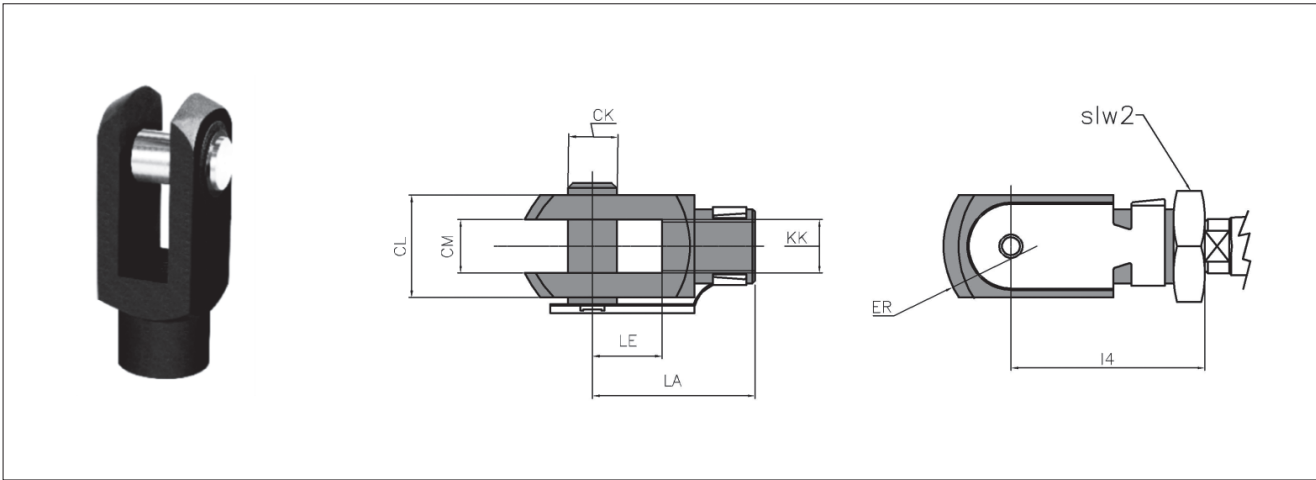
Cylinder diameter	A	KK	MM h9	SLW1
125	54	M27x2	32	27
160	72	M36x2	40	36



F - Flexible joint

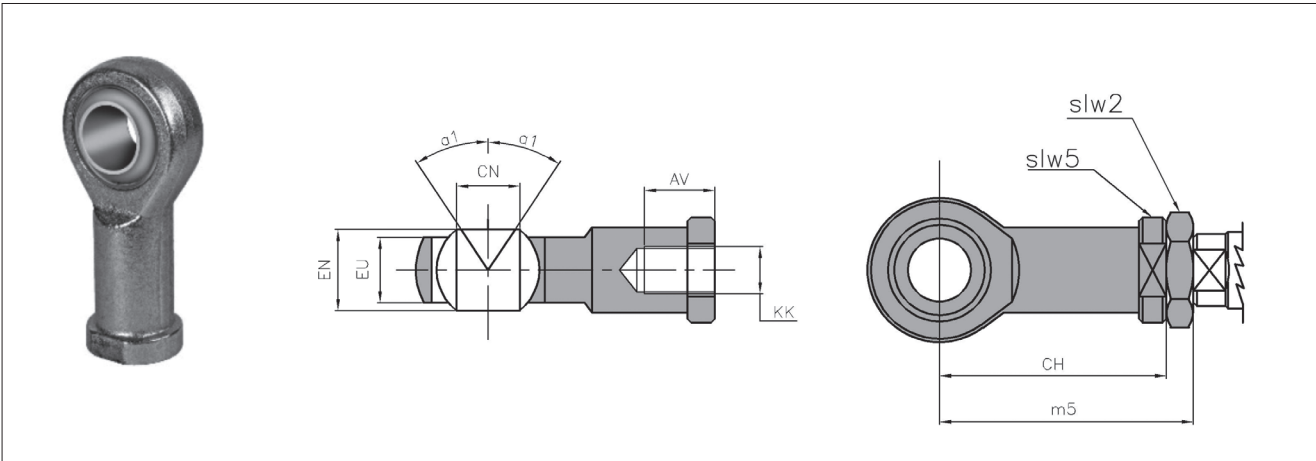
Model No	KK	l1	l2	l3 min. - max	slw2	slw3	slw4
F-125	M27 x 2	13.5	54	169-174	41	54	62
F-160	M36 x 2	18	72	281-287	55	75	80

S – Fork with pin



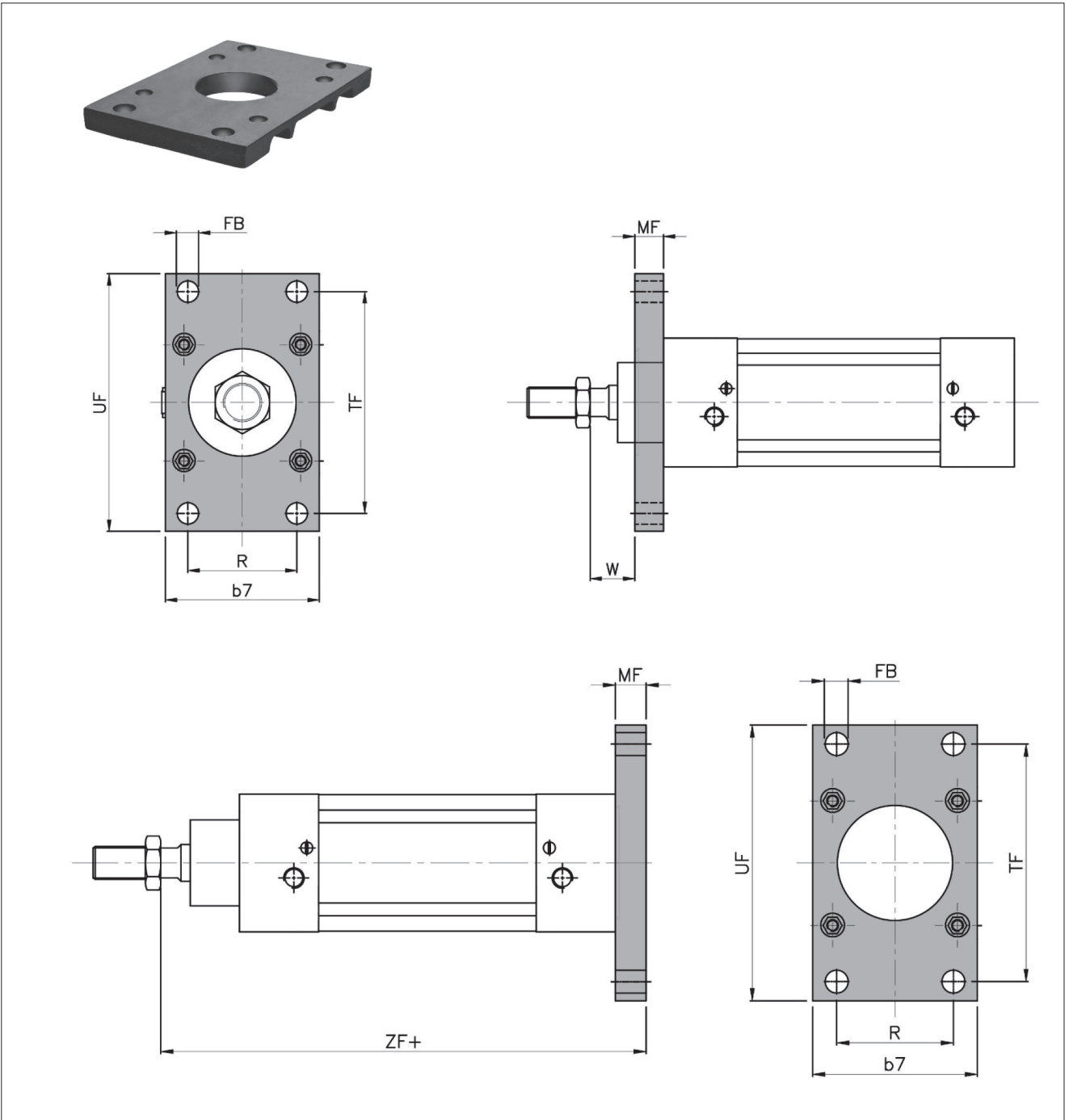
Model NO	CK (h11)	CL	CM (+0.15, +0.33)	ER max	LE min	I4 (min)	slw2	KK	LA
S-125	25	55	25	38	50	112	41	M27X2	100
S-160	35	70	35	46	72	158	55	M36X2	144

W- Ball and socket joint



Cylinder diameter	CH	CN	EF max	EN h12	EU	m5	m6	slw2	slw5	a1	KK	AV (Min)
W-125	110	30	35	37	25	122	35	41	41	4°	M27x2	51
W-160	125	35	40	43	28	144	41	50	50	4°	M36x2	56

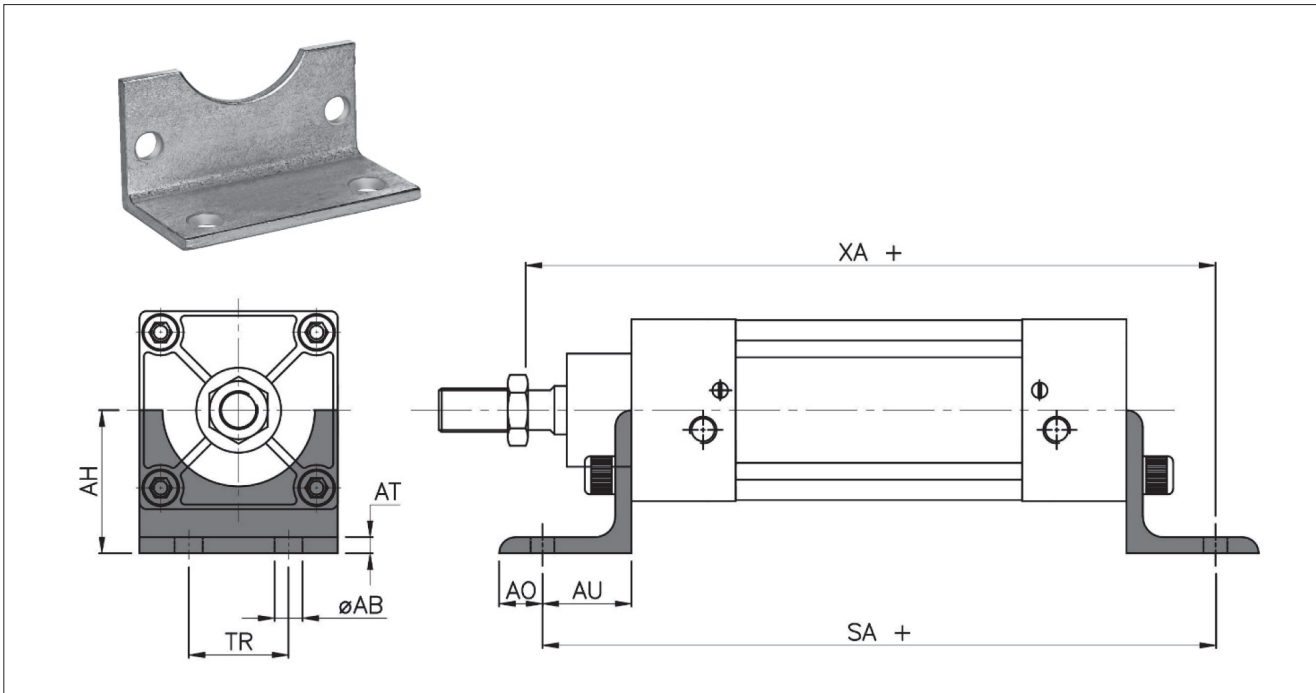
Cylinder mountings



F1 – Front flange, F2 – Rear flange

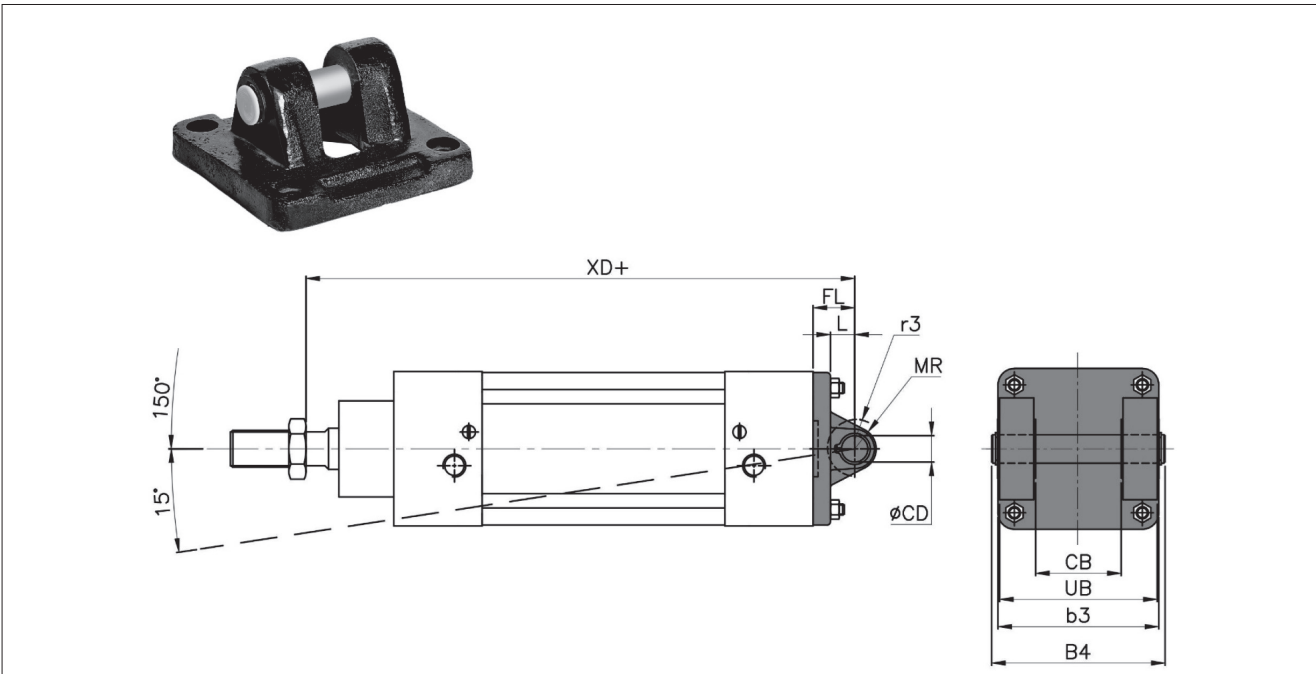
Model	FB H13	MF	R JS14	TF JS14	UF max	ZF	b7 max	w
F1-125 F2-125	16	20	90	180	220	245	140	45
F1-160 F2-160	18	20	115	230	275	281	175	60

S1 - Pedestal



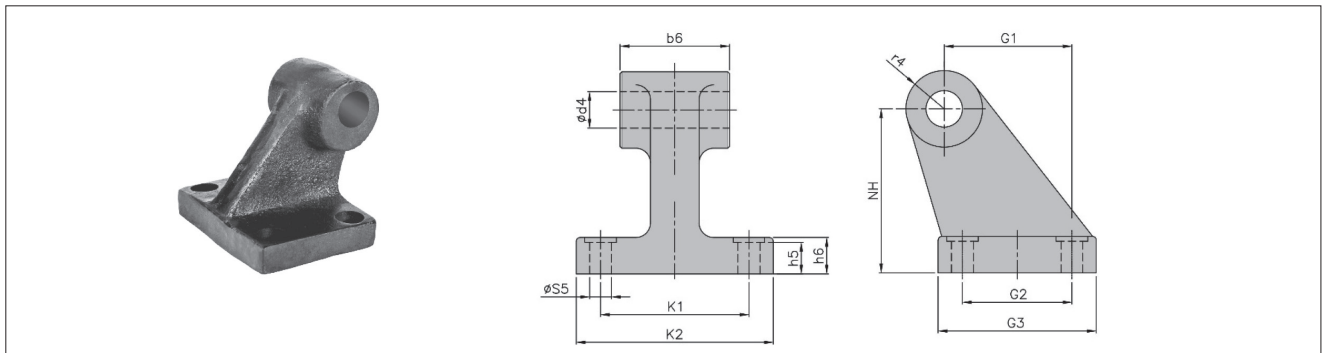
Model	AB H13	AH ±0,5	AO	AT	AU	SA	TR ±0,3	XA
MS1-125	16	90	20	8	45	251	90	271
MS1-160	18	115	20	10	60	300	115	320

P2 – Female hinge rear



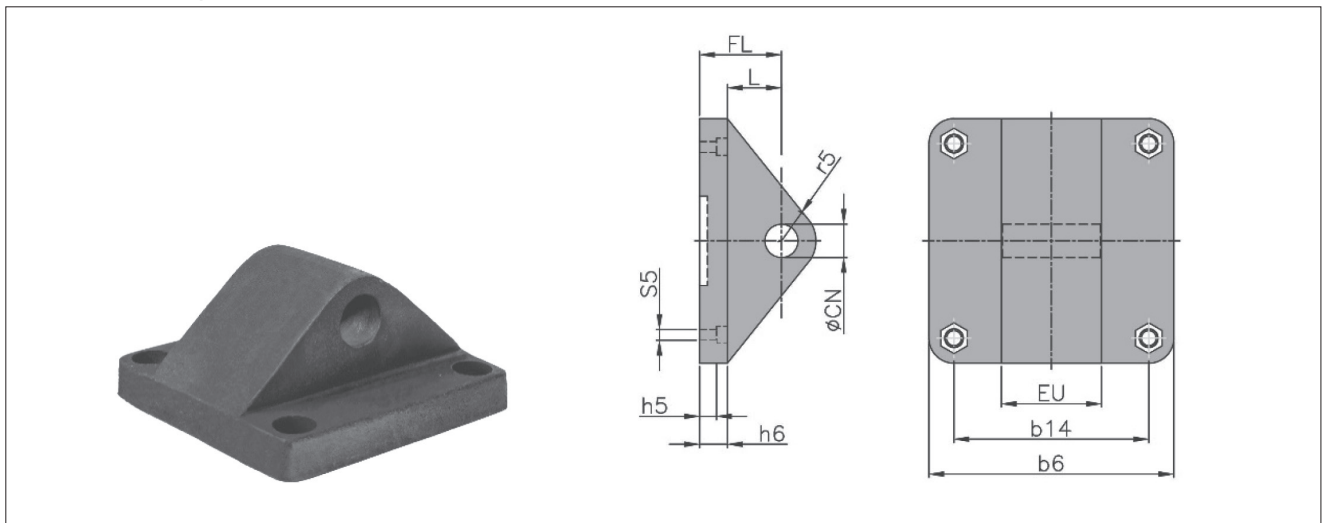
Model No	CB d10	CD h9	FL	L	MR max	UB d12	XD	b3 max	b4 max	r3 max
P2-125	70	25	50	30	26	130	276	139	140	26
P2-160	90	30	55	35	31	170	315	175	205	31

B2 – Male cardon hinge



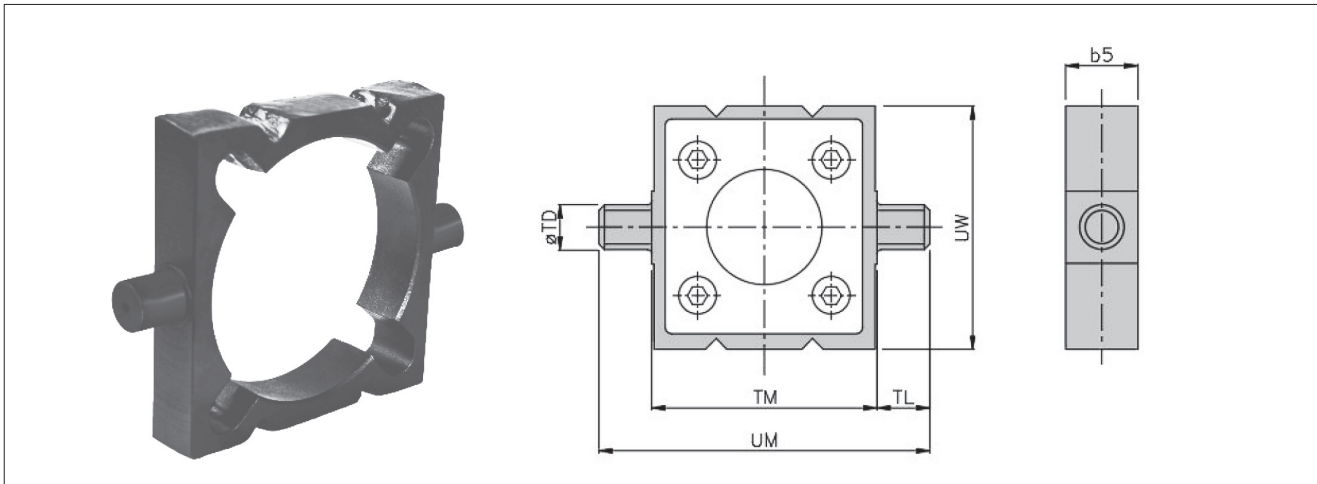
Model No	G1 JS14	G2 JS14	G3 max	K1 JS14	K2 max	NH JS15	S5 H13	b6 0/-4.0	d4 H9	h5	h6 max	r4 max
B2-125	70	60	90	94	124	90	11	70	25	6	20	19
B2-160	97	88	126	118	156	115	14	90	30	23	25	31

P4 – Male hinge rear



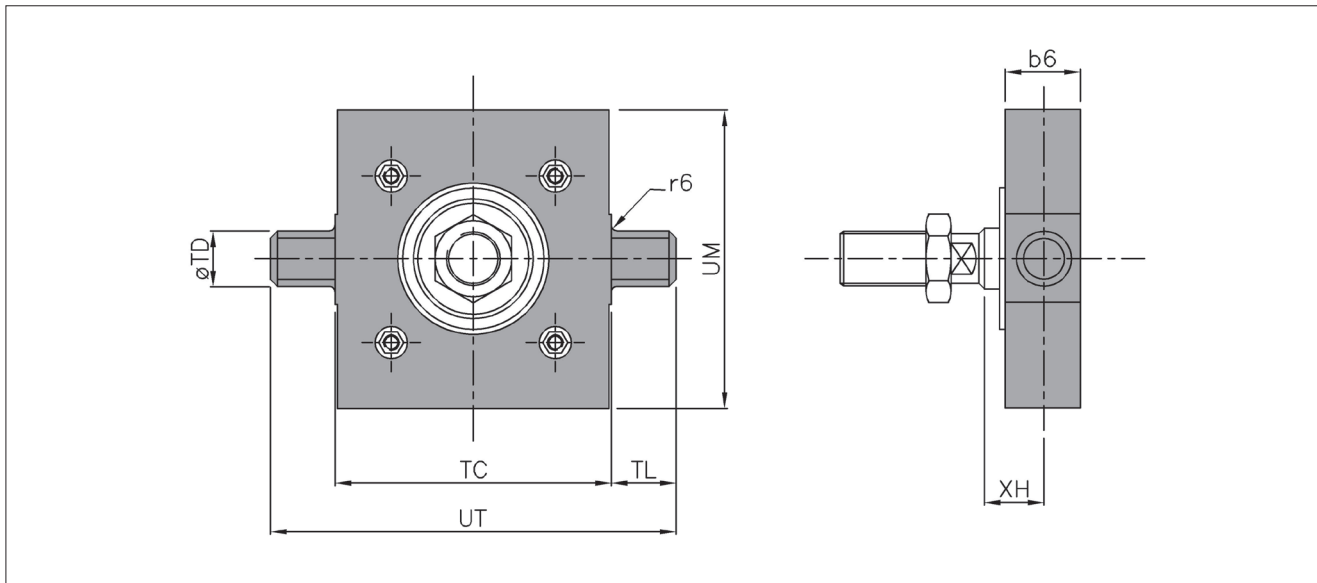
Model No	FL	L	EU	CN	h6	S5	h5	r5	b14	b6
P4-125	50	30	69	25	20	13	7	22	110	138
P4-160	55	34	89	32	25	17	19	20	140	174

T4 – Central trunnion



Model No	TD e9	TL h14	TM h14	UM	UW max	b5 max
T4-125	25	25	160	210	152	30
T4-160	32	32	200	264	220	40

T5 – Front trunnion



Model No	TC h14	TD e9	TL h14	UM	UT	XH	r6	b6
T5-125	160	25	25	146	210	40	2	50
T5-160	200	32	32	200	264	55	2.5	50

How to order

1.	2.	3.	4.	5.	6.	7.	8.	9.
SN	DA	00	BG	NB	125	025	S	P2

1.	Pneumatic cylinder series
SN	Diameter 125 & 160

2.	Action
DA	Double acting
SA	Single acting

3.	Piston rod MOC
00	SS410 / SS420
EN	EN8
ZR	SS304
ZM	SS316

4.	Special cylinder
00	Standard model
DS	Double side piston rod
RS	Reed switch (2 pcs.)
BG	Bellows

5.	Seals
NB	NBR (-20 °C TO +80 °C) (std.)
AV	Viton (-20 °C TO +125 °C)

6.	Bore
	125, 160

7.	Stroke
	025, 050, 075, 100, 125, 150, 175, 200, 225, 250, 300, 325, 350, 375, 400, 425, 450, 475, 500

8.	Piston rod connection
S	Fork with pin
F	Flexible joint
W	Ball and socket joint

9.	Cylinder mounting
P2	Female hinge rear
P4	Male hinge rear
B2	Male carden hinge
S1	Pedastal mounting
F1	Front flange
F2	Rear flange
T4	Central trunnion
T5	Front trunnion

ORDERING EXAMPLE:

1. SN-DA-00-00-NB-125/300. This is a double acting cylinder diameter 125 mm and stroke 300 mm.
2. SN-DA-ZM-BG-AV-160/300+S+P2. This is a double acting cylinder with SS316 piston rod, bellows provided, with Viton seals for high temperature application, 160 mm is bore, 300 mm is stroke, with fork, female hinge rear.

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