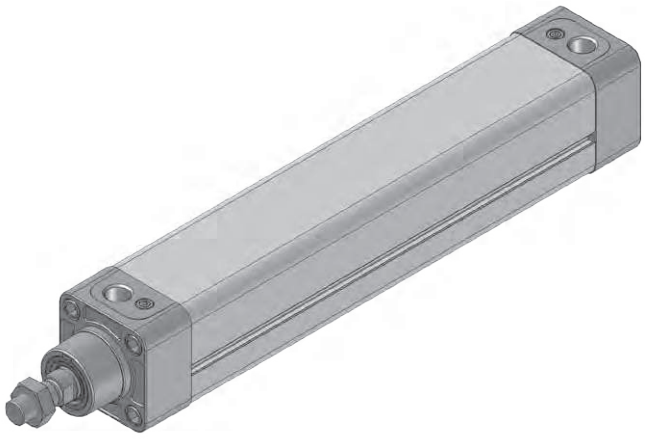
SERIES 21

CYLINDERS ISO 15552

CYLINDERS ISO 15552

General Information

32-100 MM DIAMETER



21 series cylinders are manufactured to ISO 15552 standard which specifies interchangeable mounting dimensions.
The cylinder tube and end plates have a clean profile making them suitable for use in dusty environments and wash down environments such as the food industry.
The cylinder tube is internally and externally anodised, offering an excellent resistance to corrosion while providing a low friction surface for the piston.
This product has been designed to have extraordinary strength.

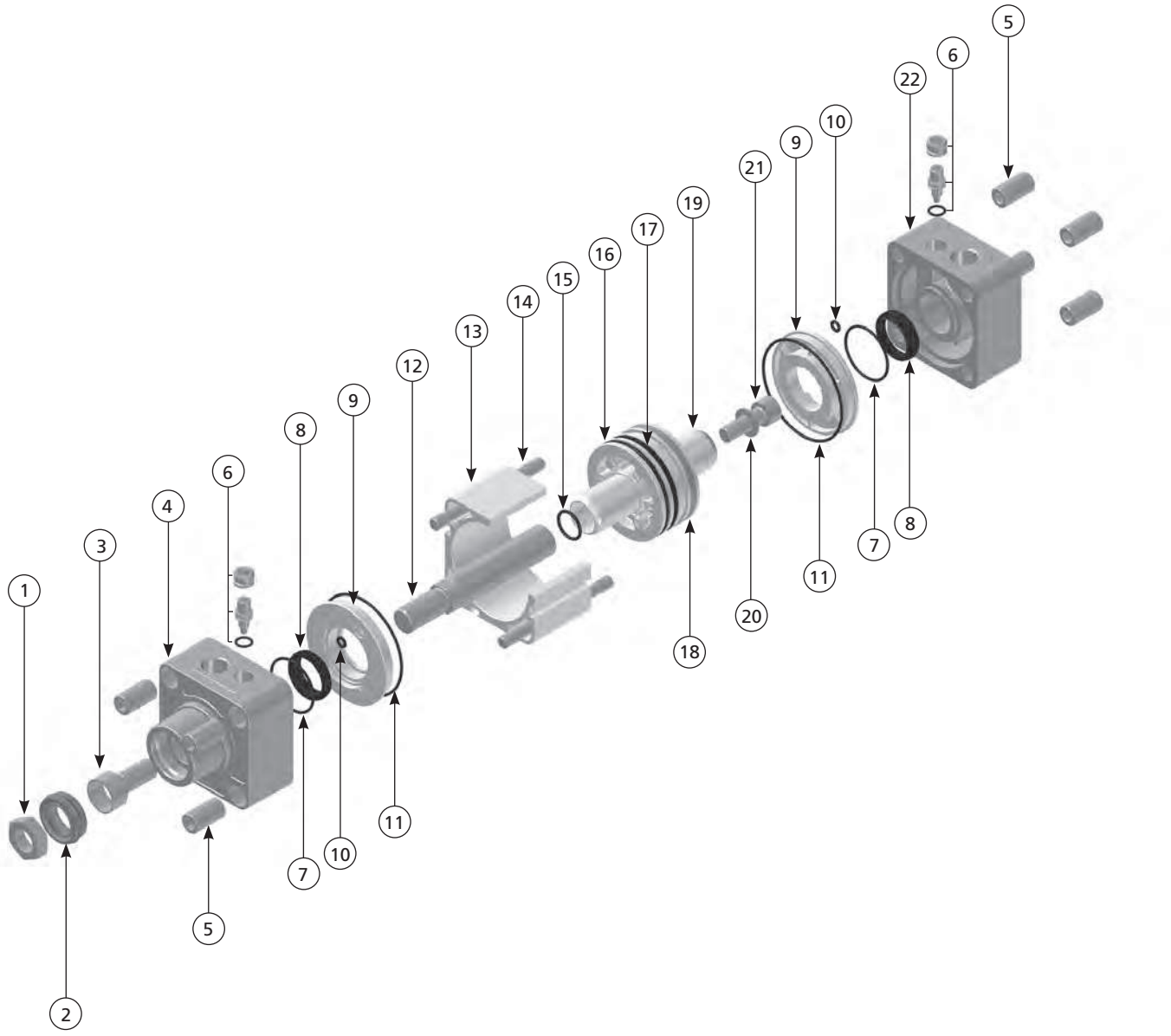
The piston design (magnetic as standard and complete with cushion bushings) is a solid aluminium block. The tube is assembled using end caps with internal tie rods.
This clean and simple design facilitates the easy supply of versions for high and low temperature applications.

The cylinder is RoHS certified (Directive 2002/95/CE) and it is also available certified for Atex (Directive 94/9/CE) in zone II 2G/D c T4 T135°C -10°C<T_a<50°C.

Technical Data

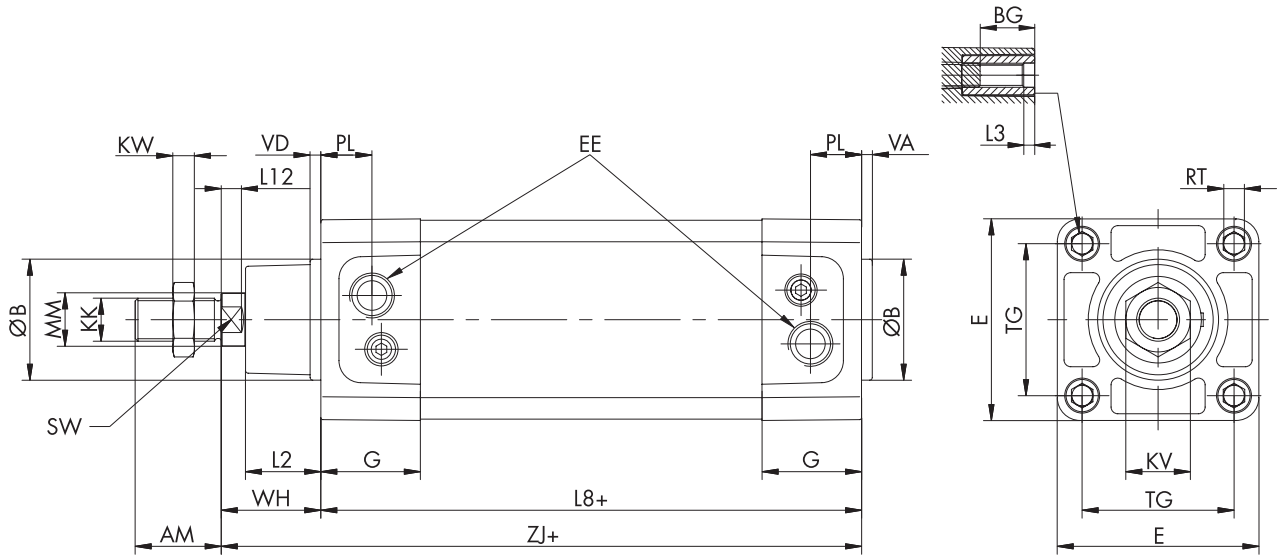
Piston diameters:	Ø 32, 40, 50, 63, 80, 100 (mm)
Ports:	Ø 32 = G1/8; Ø 40, Ø 50 = G1/4; Ø 63, Ø 80 = G3/8; Ø 100 = G1/2
End plates:	Painted aluminium alloy casting
Piston rod:	C45 chromium plated steel (upon request stainless steel)
Profiled tube:	Aluminium alloy anodised 15 µm
Piston with cushion bushings:	Aluminium alloy casting
Tie-rods:	Fe 37
Cushioning adjustment screw:	Nickel-plated brass
Piston rod seal:	Polyurethane mixture 94 SH A (Viton® on request)
Piston seal:	NBR 70 SH A (Viton® on request)
Cushion seals:	NBR 90 SH A (Viton® on request)
Other seals:	NBR
Operating medium:	5 µm filtered air, lubricated or not (dry air must be used for application below 0 °C)
Max pressure:	10 bar
Operating temperature:	NBR seals: -20 °C to +80 °C Viton® seals: -10 °C to +150 °C
Cushioning length:	Ø 32 40 50 63 80 100 mm 20 22 26 30 32 34
Stroke tolerance:	Ø 32 - 50 < 500 mm: + 2.0 mm > 500 mm: + 3.2 mm Ø 63 - 100 < 500 mm: + 2.5 mm > 500 mm: + 4.0 mm
Standard strokes:	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 (mm)

Exploded View



1. Piston rod nut
2. Piston rod seal
3. Piston rod guide bushing
4. Front cover
5. Tie-rod nut
6. Cushioning adjustment screw
7. Rubber seal
8. Cushion seal
9. End cap cover ring
10. Rubber seal
11. Rubber seal
12. Piston rod
13. Cylinder body
14. Tie-rod
15. Rubber seal
16. Piston seal
17. Magnetic ring
18. Wear ring
19. Piston
20. Washer
21. Piston fixing nut
22. Rear cover

Dimensional Drawing



Ø	B e11	E	G	L2	L8+	L3	L12	EE	KK	ØMM	AM	BG	KV	KW	PL	RT	SW	TG	VA	VD	WH	ZJ+
32	30	45	30	18	94	5	6	G1/8	M10X1.25	12	22	16	17	6	13	M6	10	32.5	3	4	26	120
40	35	54	28	22	105	5	6	G1/4	M12X1.25	16	24	16	19	7	15	M6	13	38	3	4	30	135
50	40	64	30	26	106	5	8	G1/4	M16X1.5	20	32	16	24	8	15	M8	17	46.5	4	4	37	143
63	45	75	37	28	121	5	8	G3/8	M16X1.5	20	32	16	24	8	19	M8	17	56.5	4	4	37	158
80	45	93	37.5	31	128	5	10	G3/8	M20X1.5	25	40	17	30	9	20.5	M10	22	72	4	4	46	174
100	55	110	40	35	138	5	10	G1/2	M20X1.5	25	40	17	30	9	22	M10	22	89	4	4	51	189

Order Code

Order specifications		*21.*	*1*	*1*	*A.*	*0200*	
Series Number		21					
Piston diameter							
	Ø 32		1				
	Ø 40		2				
	Ø 50		3				
	Ø 63		4				
	Ø 80		5				
	Ø 100		6				
Design							
	piston rod C45 (standard)			1			
	stainless steel piston rod			2			
	piston rod C45, Viton® seal			3			
	stainless steel piston rod, Viton® seal			4			
	Atex			X			
Version							
	double acting				A		
	through piston rod				B		
	back to back				C		
	tandem				D		
	two-strokes tandem				E		
	multi-position tandem				F		
Stroke						xxxx (yyyy)	
Piston rod lock device assembled (only on versions A and B)							BS

yyyy: please add stroke of the second cylinder only on versions C, E, F

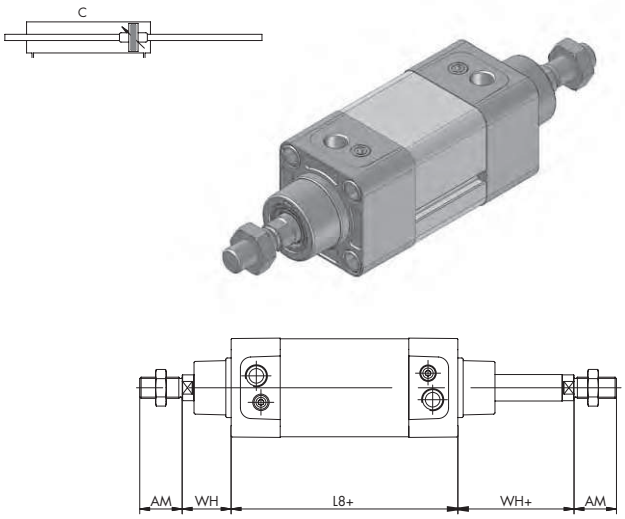
Special versions		*KX.*	*1*	*1*	*A.*	*0200.*	*zzzz**

*zzzz = project number (assigned by factory)

Through Piston Rod

TYPE B

This is a double acting cylinder with piston rod coming out from both end covers. Piston rod extends away from pressurised port.

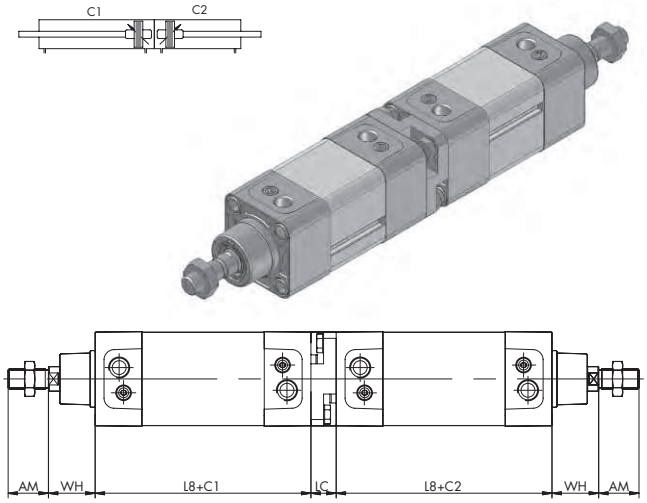


Ø	AM	WH	L8+
32	22	26	94
40	24	30	105
50	32	37	106
63	32	37	121
80	40	46	128
100	40	51	138

Back to Back *(C1 independent of C2)*

TYPE C

Two standard double acting cylinders are joined together with a flange on rear covers. Both cylinders operate independently of each other, and they work as two standard cylinders.

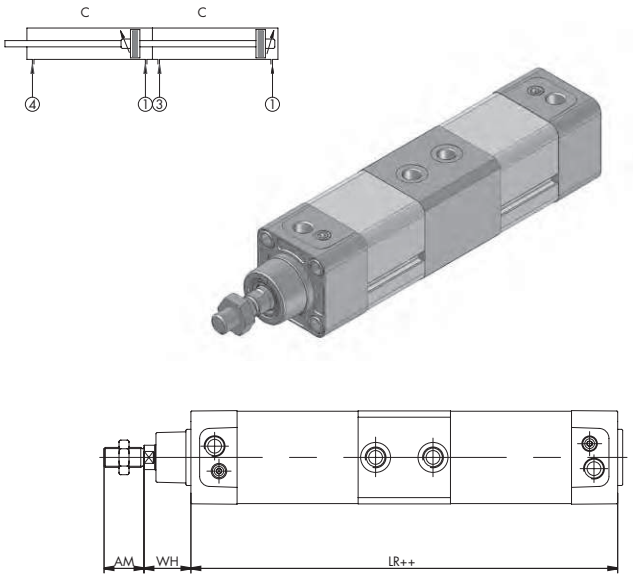


Ø	AM	WH	L8+	LC
32	22	26	94	15
40	24	30	105	15
50	32	37	106	20
63	32	37	121	20
80	40	46	128	25
100	40	51	138	25

Tandem

TYPE D

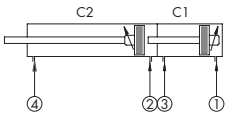
This cylinder is used to double the force. Piston rod is one single piece passing through both cylinders (for this reason the strokes of the cylinders have to be exactly the same). Pressure in 1: pressurising both cylinders from the rear covers (port 1), piston rod moves out.
Piston rod return: to have the rod retract, it is necessary to feed both cylinders (ports 3 and 4) or, if there is no load on rod return (load is applied only on the forward stroke), the rod can be returned by applying pressure only on one cylinder (3 or, in preference, 4).

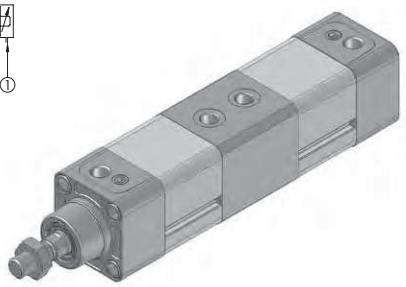


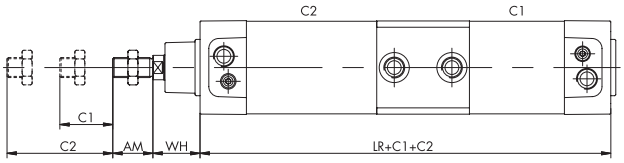
Ø	AM	WH	LR++
32	22	26	188
40	24	30	210
50	32	37	212
63	32	37	242
80	40	46	256
100	40	51	276

Two-strokes Tandem *(C2 bigger than C1)* TYPE E

This is a tandem cylinder with two different piston rods (back piston rod "pushes" against the piston of the front cylinder) used to reach two sequential positions. The produced force is the one of a single cylinder.
The stroke of the back cylinder (C1) must be less than the one of the front cylinder (C2).
Pressure in 1: both piston rods run to the stroke of the rear cylinder (C1).
Pressure in 2: the rod of the front cylinder will complete the remaining stroke (C2- C1).
Piston Rod return: to return the rod, pressurise the front of cylinder C2 (4).



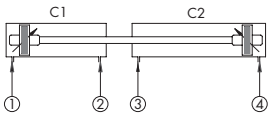


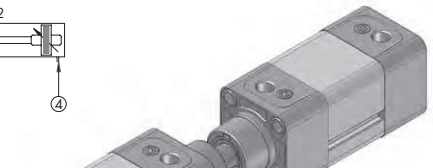


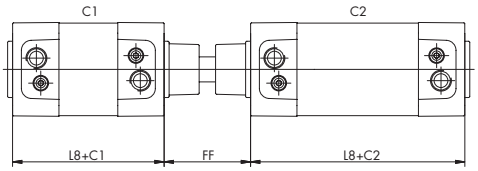
Ø	AM	WH	LR
32	22	26	188
40	24	30	210
50	32	37	212
63	32	37	242
80	40	46	256
100	40	51	276

Multi-position Tandem *(C1 independent of C2)* TYPE F

By coupling the piston rods of two cylinders with 2 different strokes (face-to-face) it is possible to reach up to three positions (we don't consider the rod in position, called zero setting, when both cylinders are pressurised in 2 and 3).
Strokes are independent of each other.
Pressure only in 1: cylinder runs to stroke C1 (Return setting: pressure in 2).
Pressure only in 4: cylinder runs to stroke C2 (Return setting: pressure in 3).
Pressure in 1 and 4 at the same time or sequential: cylinder runs to stroke C1 and C2.
Zero setting: pressure in 2 and 3 at the same time or sequential.

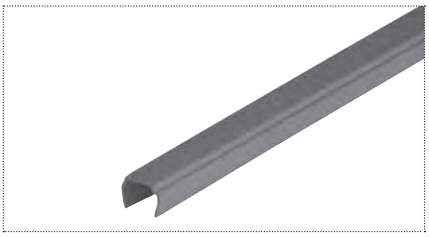






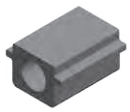
Ø	FF	L8+
32	48	94
40	54	105
50	69	106
63	69	121
80	86	128
100	91	138

Cylinder Groove Cover



Code	Description
20.001	Groove cover for use with position transmitter

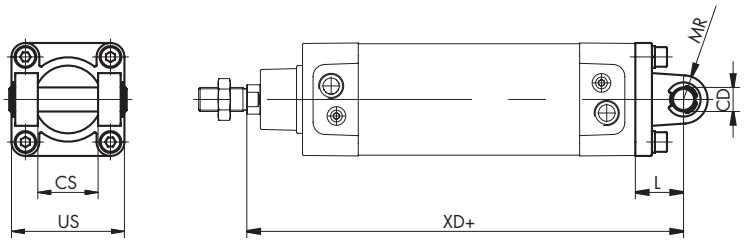
Note: The cylinder groove cover is 2 m in length and can be cut to size.



Code	Description
20.002	Standard groove cover

Note: Specify length. Cover supplied cut to size.

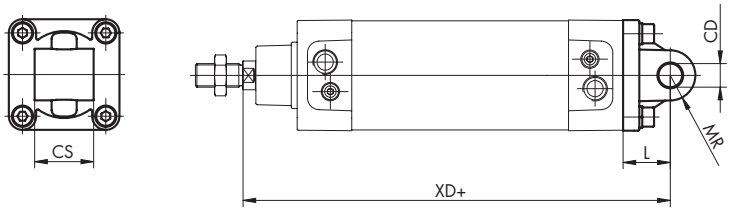
Female Trunnion



Code	Ø	CS	US	L	XD+	CD	MR
18.001.01	32	26	45	22	142	10	11
18.001.02	40	28	52	25	160	12	13
18.001.03	50	32	65	27	170	12	13
18.001.04	63	40	75	32	190	16	17
18.001.05	80	50	95	36	210	16	17
18.001.06	100	60	115	41	230	20	21

Note: Bolt and fixing screws included.

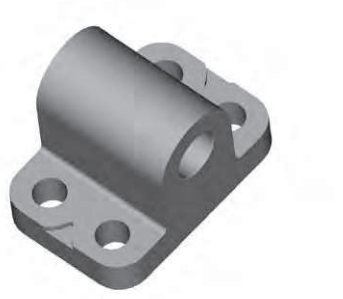
Male Trunnion

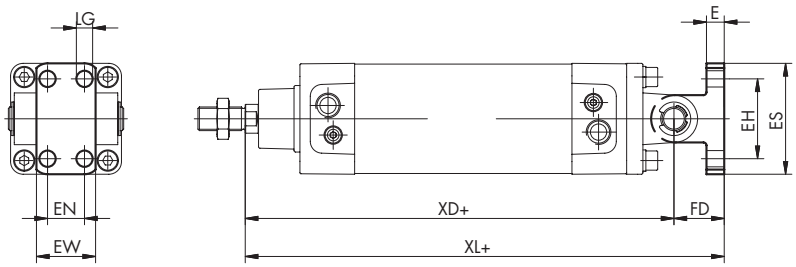


Code	Ø	CS	L	XD+	CD	MR
18.002.01	32	26	22	142	10	11
18.002.02	40	28	25	160	12	13
18.002.03	50	32	27	170	12	13
18.002.04	63	40	32	190	16	17
18.002.05	80	50	36	210	16	17
18.002.06	100	60	41	230	20	21

Note: Fixing screws included.

Trunnion Mounting Bracket

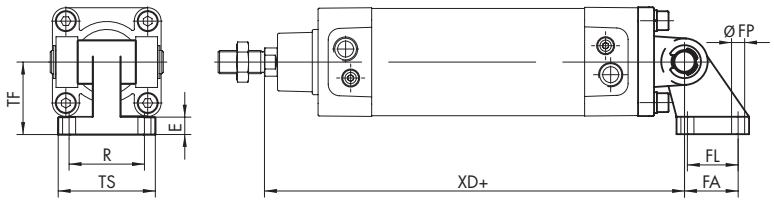




Code	Ø	LG	EN	EW	XL+	XD+	FD	EH	ES	E
18.003.01	32	7	-	25	160	142	18	28	40	8
18.003.02	40	9	16	28	186	160	26	38	52	10
18.003.03	50	9	16	32	196	170	26	38	52	10
18.003.04	63	11	25	40	224	190	34	54	75	12
18.003.05	80	11	25	50	244	210	34	54	75	12
18.003.06	100	14	32	60	271	230	41	90	115	16

Note: Cetop standard, for use with female trunnion.

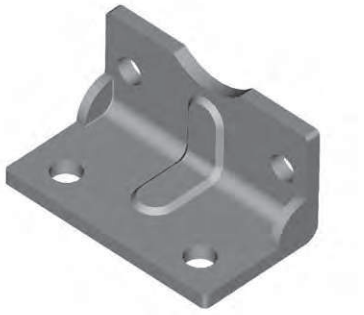
Square Angle Trunnion Mounting Bracket

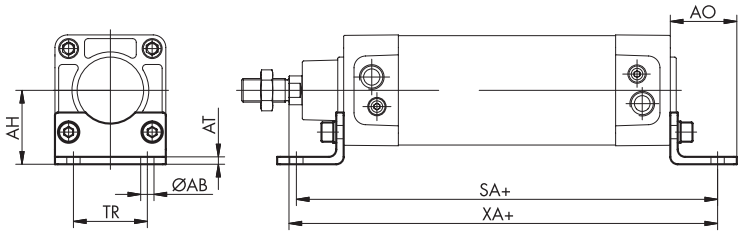


Code	Ø	TS	R	FP	XD+	FA	FL	TF	E
18.014.01	32	38	31	7	142	21	18	32	8
18.014.02	40	41	35	7	160	24	22	36	10
18.014.03	50	50	45	9	170	33	30	45	12
18.014.04	63	52	50	9	190	37	35	50	12
18.014.05	80	66	60	11	210	47	40	63	14
18.014.06	100	76	70	14	230	55	50	71	15

Note: For use with female trunnion.

Mounting Bracket

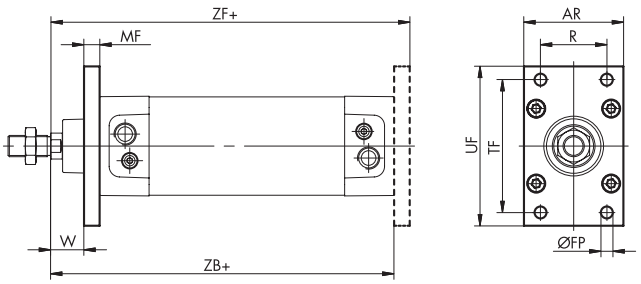




Code	Ø	AT	AH	TR	AB	SA+	XA+	AO
18.005.01	32	4	32	32	7	142	144	35
18.005.02	40	4	36	36	9	161	163	43
18.005.03	50	4	45	45	9	170	175	47
18.005.04	63	6	50	50	9	185	190	47
18.005.05	80	6	63	63	12	210	215	61
18.005.06	100	6	71	75	14	220	230	66

Note: Kit includes only one bracket and fixing screws.

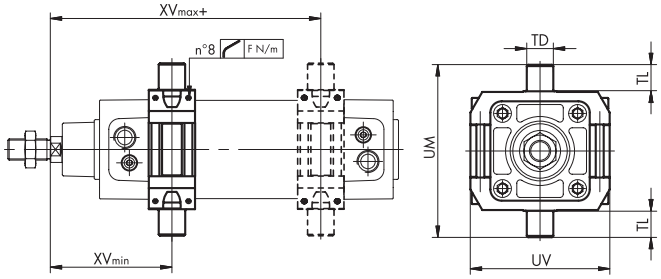
Mounting Plate



Code	Ø	W	ZF+	R	FP	TF	UF	ZB+	AR	MF
18.006.01	32	16	130	32	7	64	80	120	50	10
18.006.02	40	20	145	36	9	72	90	135	55	10
18.006.03	50	25	155	45	9	90	110	143	65	12
18.006.04	63	25	170	50	9	100	120	158	75	12
18.006.05	80	31	189	63	12	126	150	174	95	15
18.006.06	100	36	204	75	14	150	178	189	115	15

Note: Fixing screws included.

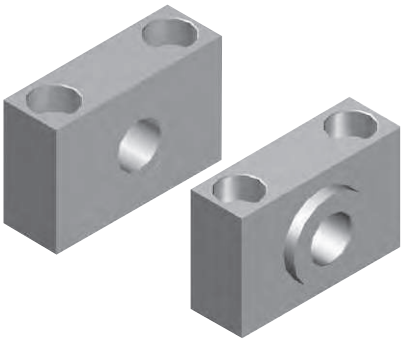
Swivel Bearing

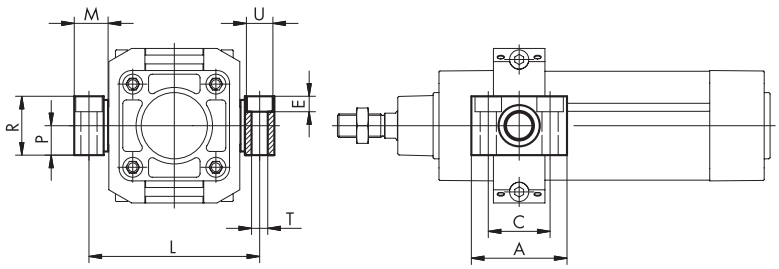


Code	Ø	TD e9	TL h14	UM	UV	XVmin	XVmax+	F [N/m]
21.1R.07	32	12	12	74	65	66.5	79.5	2
21.2R.07	40	16	16	95	75	71	94	2
21.3R.07	50	16	16	107	85	80	100	2.5
21.4R.07	63	20	20	130	105	91.5	103.5	2.5
21.5R.07	80	20	20	150	130	101	118.5	5
21.6R.07	100	25	25	182	145	113.5	126.5	5

Note: Adjustable.

Swivel Bearing Support

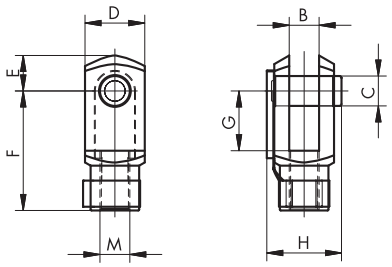




Code	Ø	A	C	P	R	M	L	ØT	ØU	E
20.007.11	32	46	32	15	30	18	71	7	11	6.5
20.007.12	40	55	36	18	36	21	87	9	15	8.5
20.007.12	50	55	36	18	36	21	99	9	15	9.5
20.007.14	63	65	42	20	40	23	116	11	18	10.5
20.007.14	80	65	42	20	40	23	136	11	18	10.5
20.007.16	100	75	50	25	14	28.5	164	13	20	12.5

Note: Set of 2.

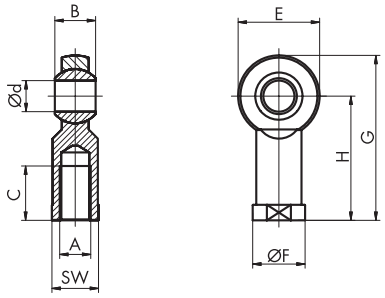
Clevis



Code	Ø	M	B	C	D	E	F	G	H
18.008.01	32	M10x1.25	10	10	20	12	40	20	26
18.008.02	40	M12x1.25	12	12	24	14	48	24	32
18.008.03	50	M16x1.5	16	16	32	19	64	32	40
18.008.03	63	M16x1.5	16	16	32	19	64	32	40
18.008.04	80	M20x1.5	20	20	40	25	80	40	48
18.008.04	100	M20x1.5	20	20	40	25	80	40	48

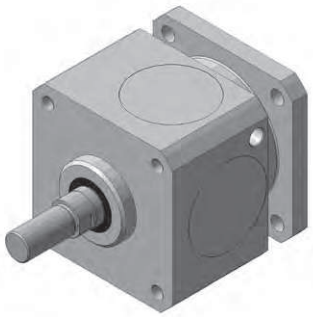
Note: Lockable pin included.

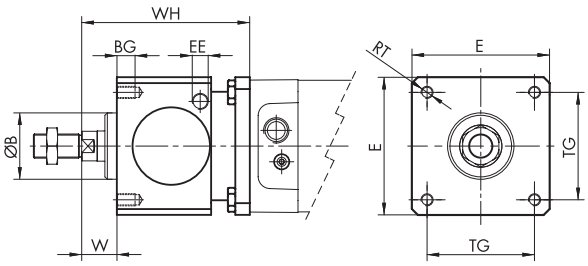
Rod End - Spherical Bearing



Code	Ø	A	B	C	d^{H7}	E	F	G	H	SW
18.009.01	32	M10x1.25	14	20	10	28	19	57	43	17
18.009.02	40	M12x1.25	16	22	12	32	22	66	50	19
18.009.03	50	M16x1.5	21	28	16	42	27	85	64	22
18.009.03	63	M16x1.5	21	28	16	42	27	85	64	22
18.009.04	80	M20x1.5	25	33	20	50	34	102	77	30
18.009.04	100	M20x1.5	25	33	20	50	34	102	77	30

Piston Rod Lock device

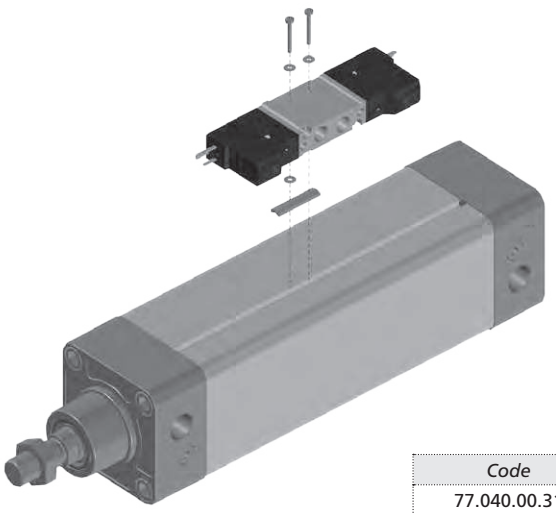


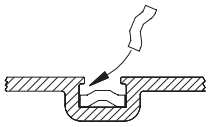


Code	Ø	B	BG	E	EE	RT	TG	W	WH	F_{max} [N]
KBS.3001.032	32	30	8	47	G1/8	M6	32.5	26	86	790
KBS.3001.040	40	35	8	54	G1/8	M6	38	30	100	1240
KBS.3001.050	50	40	12	65	G1/8	M8	46.5	37	127	1930
KBS.3001.063	63	45	12	75	G1/8	M8	56.5	37	127	3060
KBS.3001.080	80	45	16	95	G1/4	M10	72	46	156	5400
KBS.3001.100	100	55	16	114	G1/4	M10	89	51	161	7700

Note: Operating pressure: 3 to 6 bar locking by friction with piston rod stopped Special length piston rod may be required.

LPP Valve (Series 77) Mounting Bracket

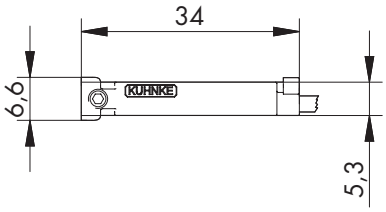




Code	Description
77.040.00.31	for 15 mm LPP valve
77.240.00.31	for 18 mm LPP valve

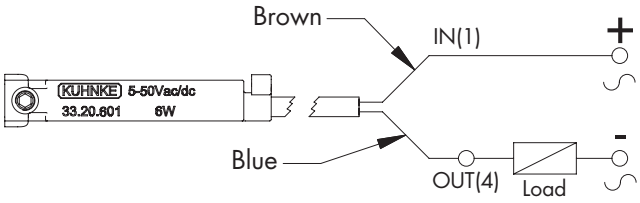
Note: Kit includes 10 brackets and mounting screws.

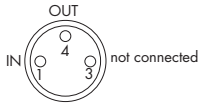
Position Transmitter



Position Transmitter REED (2 pole)

Contact type: N.O.
Cable: 2 x 0.14 mm²
Switching capacity: max 6 W
Switching voltage: 5-50 V AC/DC
Switching current: max 200 mA
Voltage drop: 3 V
Switching time: 0.6 ms
Switching rate: max 400 Hz
Service life: 10^7 operations, depending on the load
Ambient temperature range: -5°C to +75°C
Protection class: IP67
Status indicator: LED
Housing material: plastic

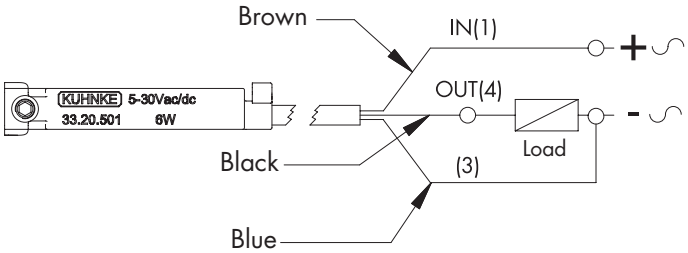


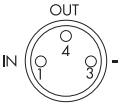


Code	Description
33.20.601	with cable L = 2000 mm
33.20.681	socket M8, cable L = 300 mm

Position Transmitter REED (3 pole)

Contact type: N.O.
Cable: 3 x 0.14 mm²
Switching capacity: max 6 W
Switching voltage: 5-30 V AC/DC
Switching current: max 500 mA
Voltage drop: 0.1 V
Switching time: 0.6 ms
Switching rate: max 400 Hz
Service life: 10^7 operations, depending on the load
Ambient temperature range: -5°C to +75°C
Protection class: IP67
Status indicator: LED
Housing material: plastic

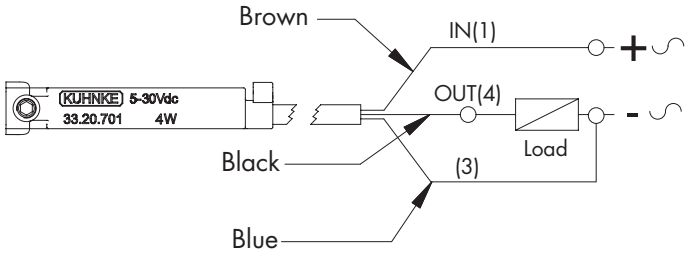


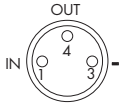


Code	Description
33.20.501	with cable L = 2000 mm
33.20.581	socket M8, cable L = 300 mm

Electronic Position Transmitter

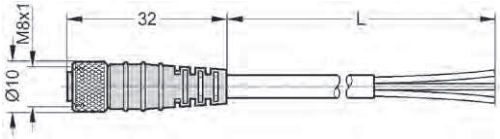
Contact Type: PNP (N.O.)
Cable: 3 x 0.14 mm²
Switching capacity: max 4 W
Switching voltage: 5-30 V DC
Switching current: max 200 mA
Voltage drop: 0.7 V
Switching time: 0.8 µs
Switching rate: max 1 kHz
Service life: 10^{11} operations, depending on the load
Ambient temperature range: -5°C to +75°C
Protection class: IP67
Status indicator: LED
Housing material: plastic

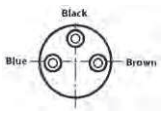




Code	Description
33.20.701	with cable L = 2000 mm
33.20.781	socket M8, cable L = 300 mm

M8 Connectors (female-straight)





Code	Description
PL08B3.V250.30	cable L = 3000 mm
PL08B3.V250.50	cable L = 5000 mm

Position Transmitter Assembly

1. Insert the transmitter into the groove from the top.

2. Turn the transmitter 90° clockwise.

3. Lay the transmitter on the groove making sure that the locking tooth is well fixed.

4. Tighten the screw (max torque 0.3 Nm).

Position Transmitter Disassembly

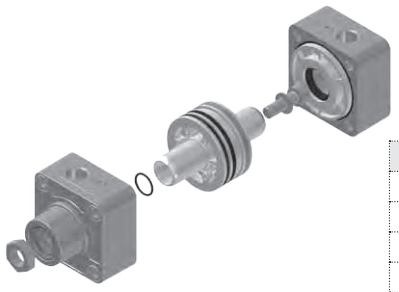
1. Loosen the screw.

2. Unlock the tooth using a screwdriver.

3. Lift the transmitter from the groove.

4. Turn the transmitter 90° anti-clockwise and lift out.

Complete Rebuild Kit for Cylinder



Note: Kit includes all parts except tube, tie-rods and piston rod.

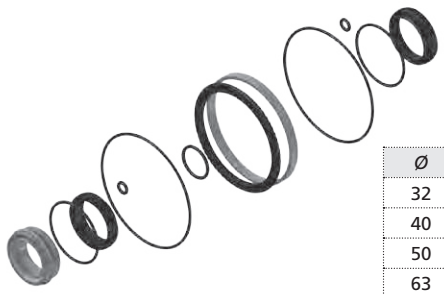
Ø	Code
32	21.1R.01
40	21.2R.01
50	21.3R.01
63	21.4R.01
80	21.5R.01
100	21.6R.01

Piston Rod

Note: xxxx = please add stroke.

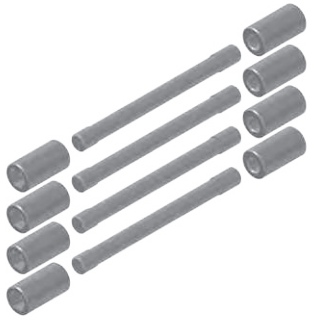
Ø	Code	
	C45 chromium-plated steel	*Stainless steel*
32	21.1R.74.xxxx	21.1R.73.xxxx
40	21.2R.74.xxxx	21.2R.73.xxxx
50	21.3R.74.xxxx	21.3R.73.xxxx
63	21.4R.74.xxxx	21.4R.73.xxxx
80	21.5R.74.xxxx	21.5R.73.xxxx
100	21.6R.74.xxxx	21.6R.73.xxxx

Seal Kit



Ø	Code
32	21.1R.11
40	21.2R.11
50	21.3R.11
63	21.4R.11
80	21.5R.11
100	21.6R.11

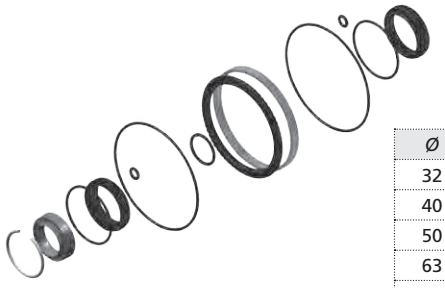
Tie-rods Kit



Note: xxxx = please add stroke.

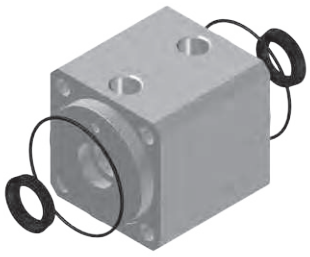
Ø	Code
32	21.1R.75.xxxx
40	21.2R.75.xxxx
50	21.3R.75.xxxx
63	21.4R.75.xxxx
80	21.5R.75.xxxx
100	21.6R.75.xxxx

Viton® Seal Kit



Ø	Code
32	21.1R.12
40	21.2R.12
50	21.3R.12
63	21.4R.12
80	21.5R.12
100	21.6R.12

Tandem Cover Kit

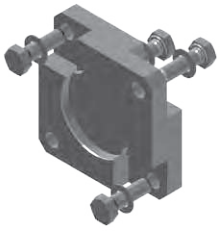


Ø	Code
32	21.1R.82
40	21.2R.82
50	21.3R.82
63	21.4R.82
80	21.5R.82
100	21.6R.82

Rod Seal Kit

Ø	Code	
	Polyurethane (std)	*Viton®*
32	21.1R.15	21.1R.16
40	21.2R.15	21.2R.16
50	21.3R.15	21.3R.16
63	21.4R.15	21.4R.16
80	21.5R.15	21.5R.16
100	21.6R.15	21.6R.16

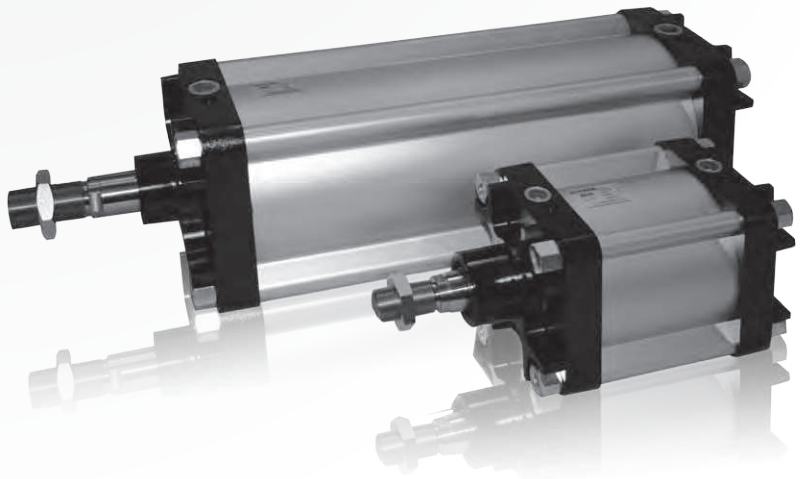
Back to Back Plate Kit



Ø	Code
32	21.1R.83
40	21.2R.83
50	21.3R.83
63	21.4R.83
80	21.5R.83
100	21.6R.83

SERIES V

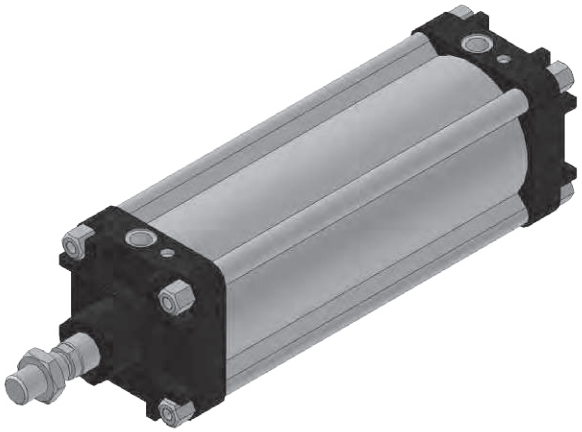
CYLINDERS ISO 15552



CYLINDERS ISO 15552

General Information

125-320 MM DIAMETER



V series cylinders are manufactured to ISO 15552 standard which specifies interchangeable mounting dimensions. The tube profile as illustrated (125- 200 diameter versions) is often known as Mickey Mouse.

This product has been designed to have extraordinary strength. The simple design facilitates options for high and low temperature applications.

Technical Data

Piston diameters:	Ø 125, 160, 200, 250, 320 (mm)
Ports:	Ø 125 = G1/2; Ø 160, Ø 200, Ø 250 = G3/4; Ø 320 = G1
Cover:	Aluminium die-cast (painted)
Piston rod:	C45 chromium-plated steel (upon request stainless steel)
Profiled tube (Ø 125 - 200):	Anodized aluminium profile
Profiled tube (Ø 250 - 320):	Round anodized aluminium
Tie-rods:	Galvanized steel
Piston seal:	NBR (Viton® on request)
Other seals:	NBR
Operating medium:	Compressed air, prepared, lubricant not necessary
Max pressure:	10 bar
Operating temperature:	NBR seals: -10 °C to +80 °C Viton® seals: -10 °C to +150 °C

Cushioning length:	Ø	125	160	200	250	320
	mm	35	45	45	50	-

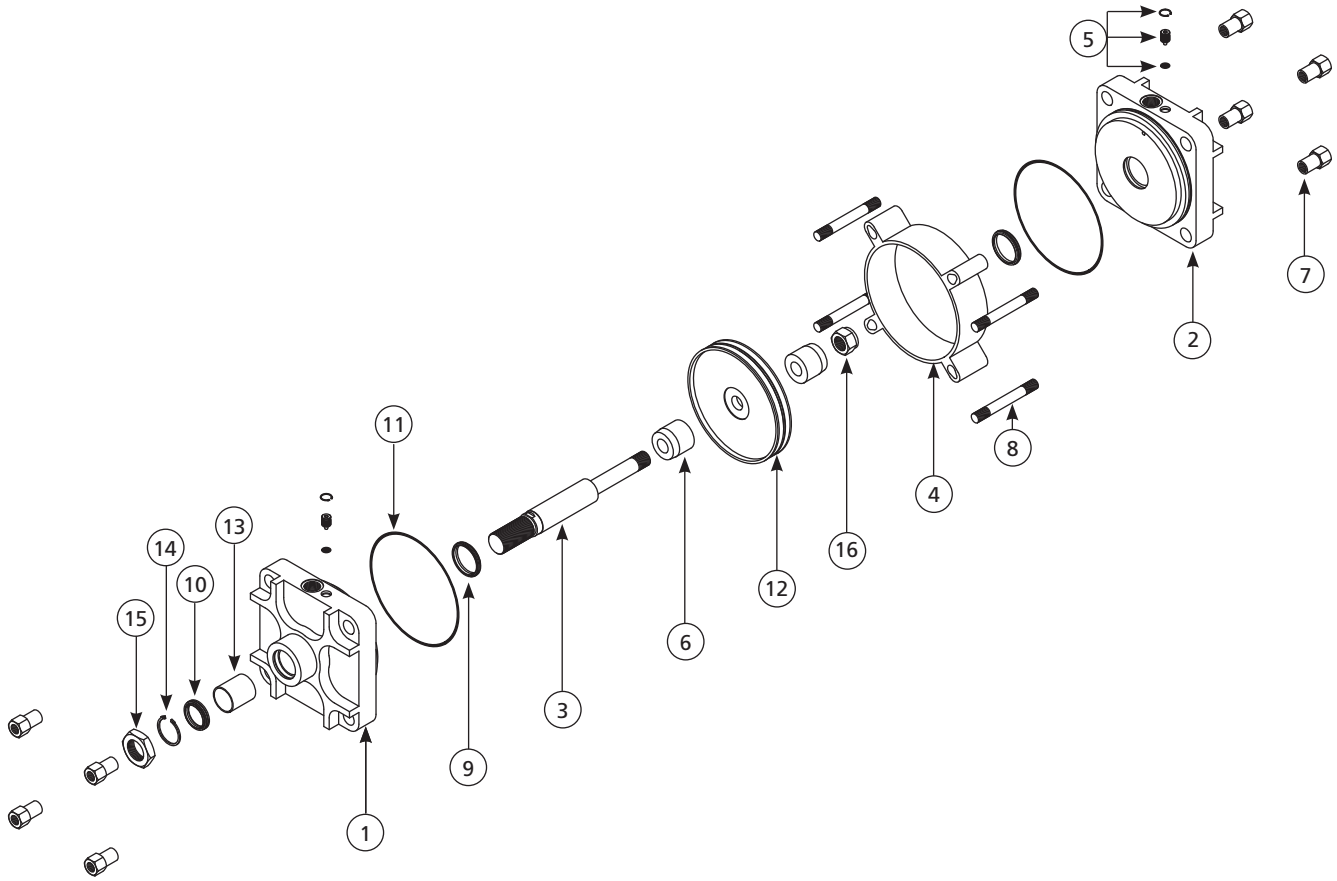
Stroke tolerance:		
	Ø 125 - 200	< 500 mm: + 4 mm
		> 500 mm: + 5 mm
	Ø 250 - 320	< 500 mm: + 5 mm
		> 500 mm: + 7 mm

Force at 6 bar:	Ø	125	160	200	250	320
	N [push]	7.200	11.760	18.440	28.840	47.260
	N [pull]	6.790	11.050	17.700	27.690	40.620

Max strokes:	3000 mm

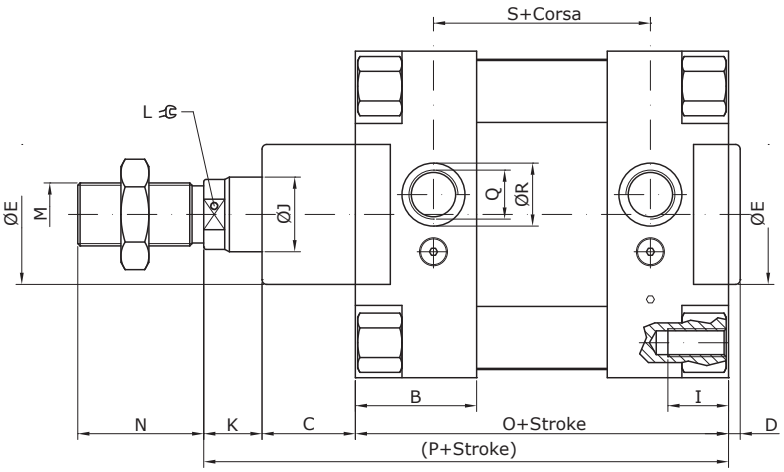
Please note that when using Viton seals with magnetic pistons, the temperature limit is determined by the magnetic ring. In this case the upper limit is 100 °C.
Accessories for cylinder diameters 250 & 320 mm are only available by special order. Contact our sales office.

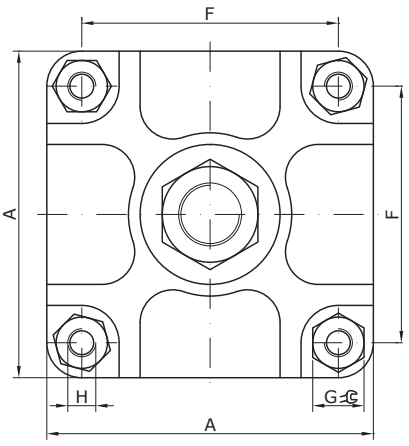
Exploded View



1. Front cover
2. Rear cover
3. Piston rod
4. Cylinder body
5. Cushioning adjustment screw
6. Spinner
7. Tie-rod nut
8. Tie-rod
9. O-ring
10. Piston rod seal
11. O-ring
12. Piston
13. Piston rod guide bushing
14. End piston rod seal ring
15. Piston rod nut
16. Piston fixing nut

Dimensional Drawing





Ø	A	B	C	D	ØE	F	G	H	I	ØJ	K	L	M	N	O	P	Q	ØR	S
125	140	52	40	5	60	110	22	M12	26	32	25	27	M27x2	54	160	225	G1/2	27	93
160	180	60	35	5	65	140	27	M16	28.5	40	45	36	M36x2	72	180	260	G3/4	35	102
200	220	59	35	5	75	175	27	M16	23.5	40	60	36	M36x2	72	180	275	G3/4	35	104
250	280	60	50	5	90	220	38	M20	30	50	25	46	M42x2	85	230	305	G3/4	35	149
320	340	60	82	5	110	270	46	M24	30	63	28	55	M48x2	96	230	340	G1	-	149

Order Code

Order specifications		*V*	*F.*	*160.*	*0300.*	*DOM*
Series Number		V				
Version						
	with magnetic piston		F			
	without magnetic piston		D			
Piston diameter						
	Ø 125 (shaped profile)			125		
	Ø 160 (shaped profile)			160		
	Ø 200 (shaped profile)			200		
	Ø 250 (round tube and tie-rods)			250		
	Ø 320 (round tube and tie-rods)			320		
Stroke						
	mm				xxxx	
Design						
	double acting					DOM
	through rod					DOM.1
	stainless steel piston rod					DOM.4
	Viton® seals					DOM.8
	tandem					DOM.2

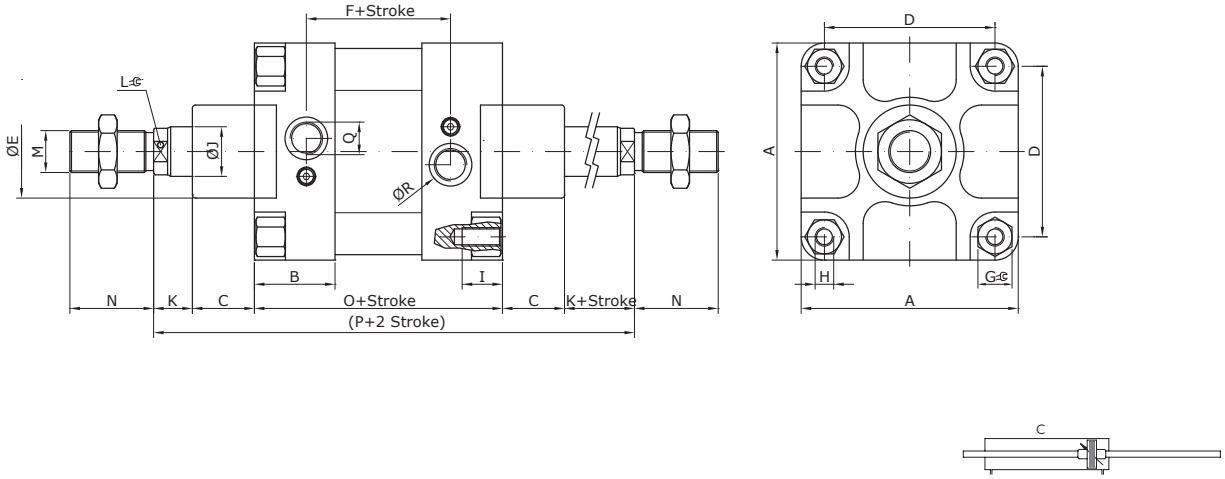
Note: Viton seals are not available for Ø 250 and Ø 320 cylinders

Special versions		*V*	*D.*	*125.*	*0300.*	*zzzz**

**zzzz = project number (assigned by factory)*

Through Piston Rod

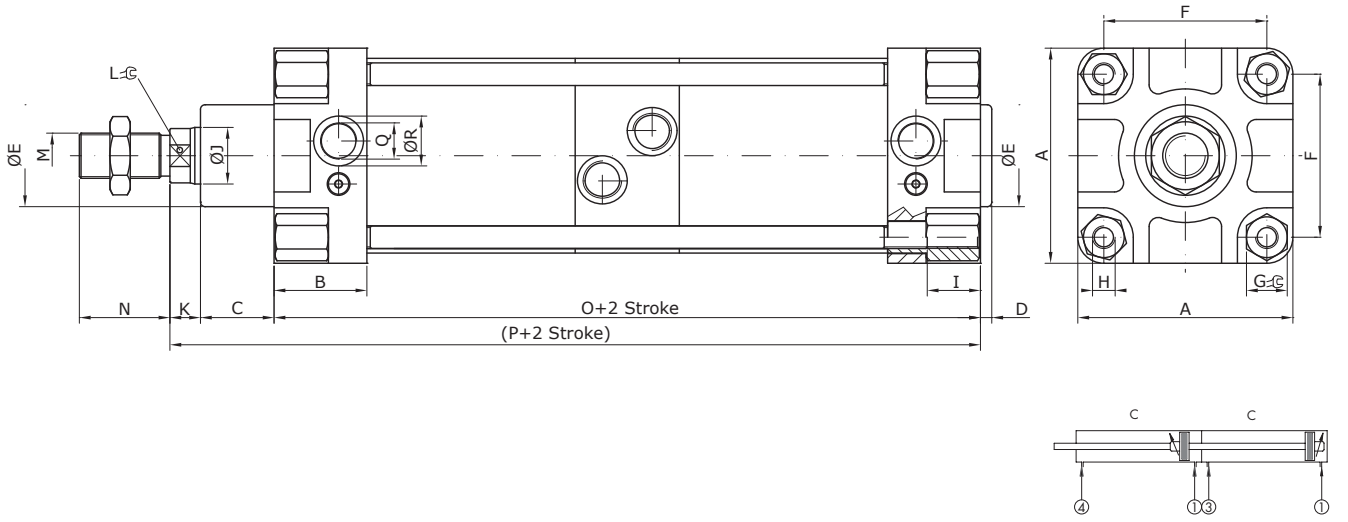
This is a double acting cylinder with piston rod coming out from both end covers.
Piston rod extends away from pressurised port.



Ø	A	B	C	D	ØE	F	G	H	I	ØJ	K	L	M	N	O	P	Q	ØR
125	140	52	40	110	60	93	22	M12	26	32	25	27	M27x2	54	160	290	G 1/2	27.5
160	180	60	35	140	65	102	27	M16	28.5	40	45	36	M36x2	72	180	340	G 3/4	35
200	220	59	35	175	75	104	27	M16	23.5	40	60	36	M36x2	72	180	370	G 3/4	35
250	280	60	50	220	90	149	38	M20	30	50	25	46	M42x2	85	230	380	G 3/4	35
320	340	60	82	270	110	170	46	M24	30	63	28	55	M48x2	96	230	450	G 1	50

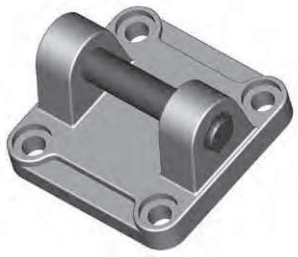
Tandem

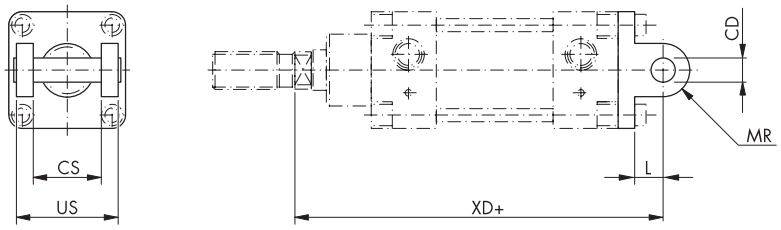
This cylinder is used to double the force. Piston rod is one single piece passing through both cylinders (for this reason the strokes of the cylinders have to be exactly the same). Pressure in 1: pressurising both cylinders from the rear covers (port 1), piston rod moves out.
Piston rod return: to have the rod retract, it is necessary to feed both cylinders (ports 3 and 4) or, if there is no load on rod return (load is applied only on the forward stroke), the rod can be returned by applying pressure only on one cylinder (3 or, in preference, 4).



Ø	A	B	C	D	ØE	F	G	H	I	ØJ	K	L	M	N	O	P	Q	ØR
125	140	52	40	5	60	110	22	M12	26	32	25	27	M27x2	54	251	316	G 1/2	27.5
160	180	60	35	5	65	140	27	M16	28.5	40	45	36	M36x2	72	282	362	G 3/4	35
200	220	59	35	5	75	175	27	M16	23.5	40	60	36	M36x2	72	284	379	G 3/4	35
250	280	60	50	5	90	220	38	M20	30	50	25	46	M42x2	85	382	457	G 3/4	35

Female Trunnion

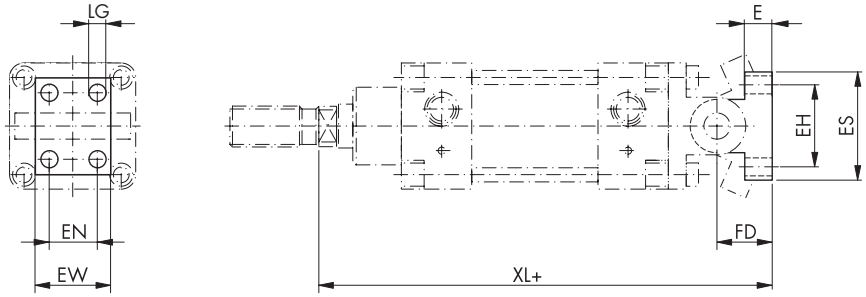




Code	Ø	CS	US	L	XD+	CD	MR
18.001.07	125	70	130	30	275	25	26
18.001.08	160	90	170	35	315	30	31
18.001.09	200	90	170	35	335	30	31

Note: Bolt and fixing screws included.

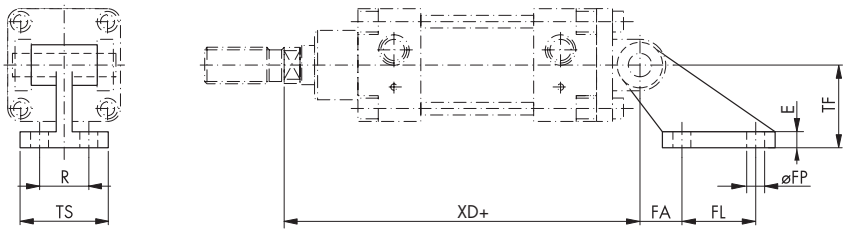
Trunnion Mounting Bracket



Code	Ø	EW	EN	LG	XL	FD	E	EH	ES
18.003.07	125	70	32	14	316	41	16	90	115
18.003.08	160	90	43	18	370	55	20	150	180
	200	90	43	18	390	55	20	150	180

Note: Cetop standard, for use with female trunnion.

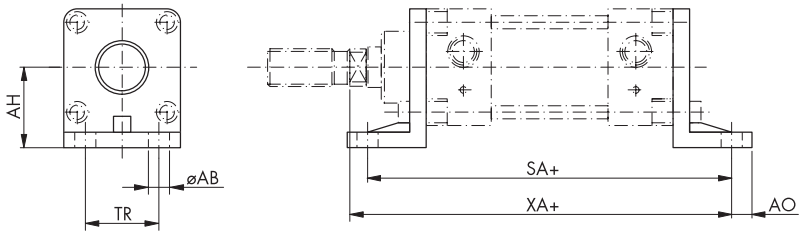
Square Angle Trunnion Mounting Bracket



Code	Ø	TS	R	FP	XD	FA	FL	E	TF
18.004.07	125	80	50	14	275	40	70	16	90
18.004.08	160	110	63	18	315	50	110	20	140
	200	110	63	18	335	50	110	20	140

Note: Cetop standard, for use with female trunnion.

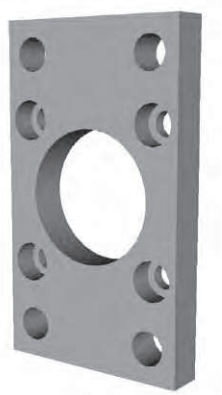
Mounting Bracket

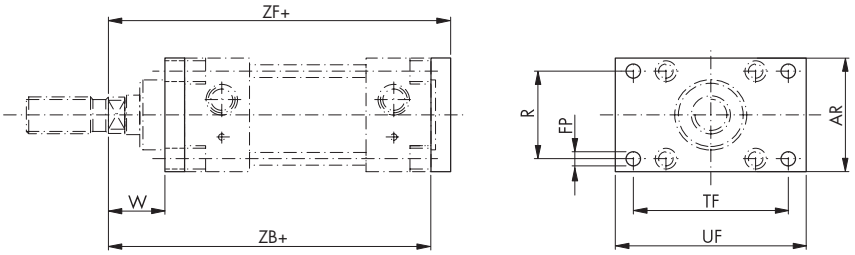


Code	Ø	AH	TR	AB	SA	XA	AO
18.005.07	125	90	90	16	250	270	15
18.005.08	160	115	115	18	300	320	20
18.005.09	200	135	135	22	320	345	30

Note: Kit includes only one bracket and fixing screws.

Mounting Plate

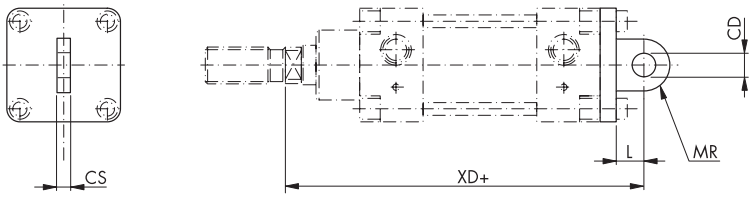




Code	Ø	W	R	FP	TF	UF	AR	ZF	ZB
18.006.07	125	45	90	16	180	220	140	245	225
18.006.08	160	60	115	18	230	270	180	280	260
18.006.09	200	70	135	22	270	312	225	300	275

Note: Fixing screws included.

Male Trunnion



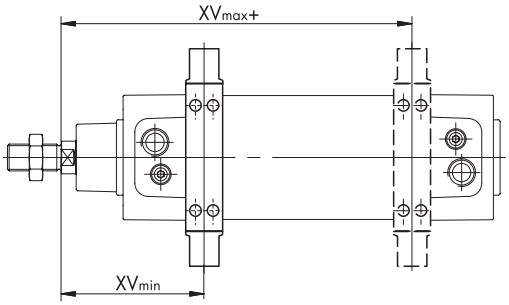
Code	Ø	CS	CD	L	MR	XD
18.002.07	125	70	25	30	26	275
18.002.08	160	90	30	35	31	315
18.002.09	200	90	30	35	31	335

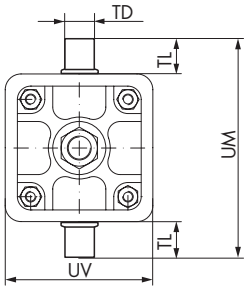
Note: Fixing screws included.

Swivel Bearing

Ø 125

Ø 160 - 200

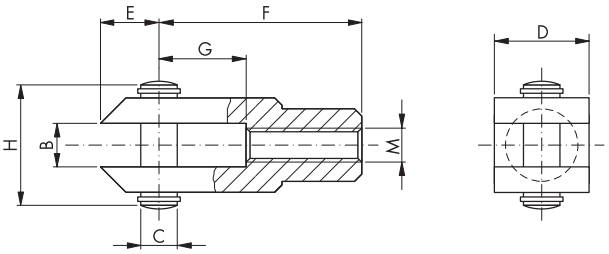




Note: These swivels could be mounted only disassembling the cylinder. For this reason we suggest to order the swivel directly assembled on the cylinder. Please contact our sales department for support.

Code	Ø	TD	TL	UM	UV	XV_{min}	XV_{min+}
18.007.07	125	25	25	210	154	133.5	156.5
18.007.08	160	32	32	264	190	160	180
18.007.09	200	32	32	314	240	174	196

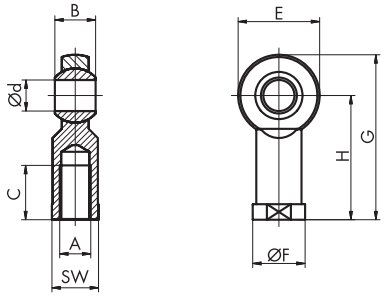
Clevis



Code	Ø	M	B	C	D	E	F	G	H
18.008.05	125	M27x2	30	30	55	38	110	54	65
18.008.06	160	M36x2	35	35	70	44	144	72	84
	200								

Note: Lockable pin included.

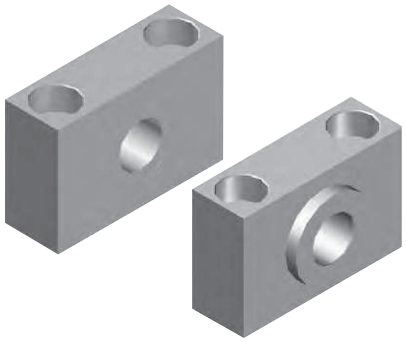
Rod End - Spherical Bearing

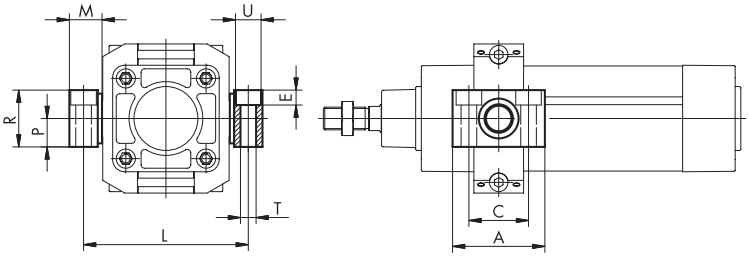


Code	Ø	A	Ød	B	E	F	H	G	C	SW
18.009.05	125	M27x2	30	37	70	50	110	145	51	41
18.009.06	160	M36x2	35	43	80	58	125	165	56	50
	200									

Note: Fixing screws included.

Swivel Bearing Support

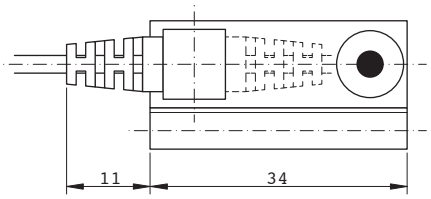


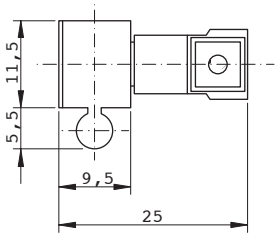


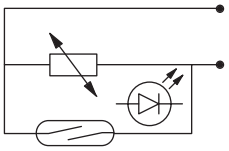
Code	Ø	M	B	C	D	E	F	G	H	H
20.007.16	125	75	50	14	13	20	192	25	50	28.5
20.007.18	160	100	66	18	17	26	245	30	60	40
	200						295			

Note: Set of 2 pcs.

Position Transmitter REED (2 pole with plug connector)







Switching output: N.O.
Switching capacity: max 10 VA
Switching voltage: 3-230 V AC/DC
Switching current: max 500 mA
Voltage drop: -
Switching time: 0.5 ms
Service life: 107 operations, depending on the load
Housing material: plastic
Protection class: IP67
Ambient temperature range: -20°C to +85°C
Status indicator: LED

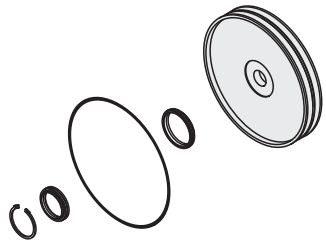
Code	Description
33.18.115	with cable L = 3000 mm

Fastening Clamps

This clamp is used to fit position transmitter 33.18.115 to larger bore ISO 15552 cylinders, 125 to 200.

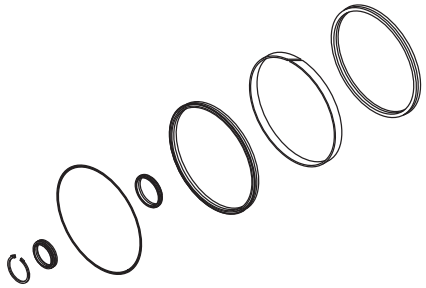
Ø	Code
125	33.009.07
160	33.009.19
200	

Seal Kit for VD *(non-magnetic piston)*



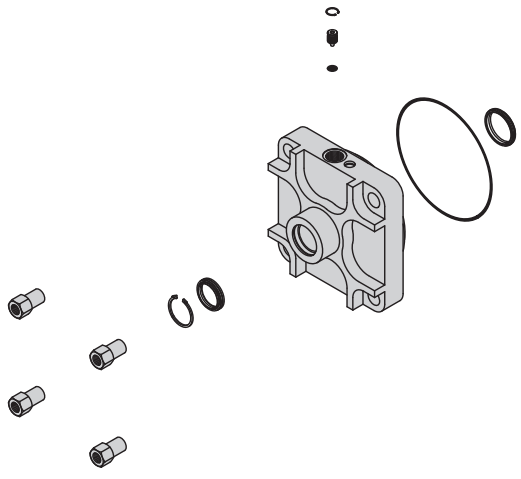
Ø	Code
125	SG.125VD.DOM
160	SG.160VD.DOM
200	SG.200VD.DOM
250	SG.250VD.DOM
320	SG.320VD.DOM

Seal Kit for VF *(magnetic piston)*



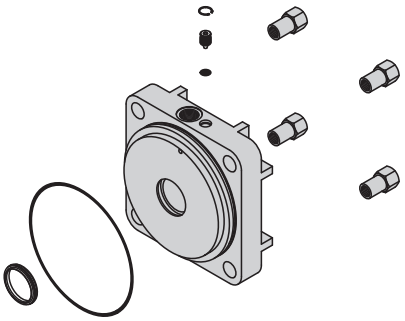
Ø	Code
125	SG.125VF.DOM
160	SG.160VF.DOM
200	SG.200VF.DOM
250	SG.250VF.DOM
320	SG.320VF.DOM

Front Cover Kit



Ø	Code
125	TEST.ANT.125.VD
160	TEST.ANT.160.VD
200	TEST.ANT.200.VD
250	TEST.ANT.250.VD
320	TEST.ANT.320.VD

Rear Cover Kit



Ø	Code
125	TEST.POS.125.VD
160	TEST.POS.160.VD
200	TEST.POS.200.VD
250	TEST.POS.250.VD
320	TEST.POS.320.VD