

**MEDIUM / HEAVY DUTY**

**DOUBLE ACTING CYLINDERS, Ø 32 to 250 mm  
CONFORMING WITH ISO 6431 - CETOP STANDARDS  
TRINORM ISO / CETOP - SERIES 436 - TYPE : PIS**

2



P240-GB-R2

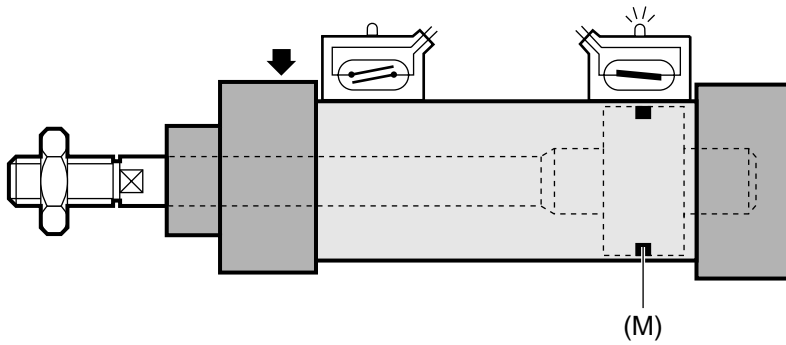
**JOUCOMATIC** 



# TRINORM ISO/CETOP AIR CYLINDERS Ø 32 to 250 mm

## OPERATIONAL DIAGRAMS

- AIR CYLINDER EQUIPPED FOR MAGNETIC DETECTOR (reed swith or magneto-resistive)



Air cylinders equipped of a magnet (M) designed to operate in combination with the magnetic position detectors (DM). These air cylinders can be equipped with one or more magnetic position detectors (without contact) attached to the tube by a clamp or a tie rod. They allow limit positions to be detected, as well as the intermediate piston positions.

2

**DEFINING THE DIAMETER OF AN AIR CYLINDER** - See forces defined, P200-5

## DEFINING THE PART NUMBER OF A Ø 32 to 250 mm TRINORM ISO/CETOP AIR CYLINDER

	<b>PIS</b>	..	<b>A</b>	...	-	<b>DM</b>
Type TRINORM - ISO : prefix <b>PIS</b>	----- ----- ----- ----- -----					
TRINORM - CETOP : prefix <b>PCE</b>	----- ----- ----- ----- -----					
Air cylinder diameter (mm) _____	----- ----- ----- ----- -----					
End-of-stroke adjustable pneumatic cushioning = suffix <b>A</b> _____	----- ----- ----- ----- -----					
Length of stroke (mm) _____	----- ----- ----- ----- -----					
Air cylinder designed to receive magnetic position detectors: add suffix <b>DM</b> _____	----- ----- ----- ----- -----					

## ORDERING

When ordering, please specify:

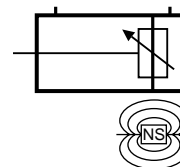
The air cylinder standard code or part number _____	436 . . . . . + . . . . .
The code or part number of any option(s) _____	----- ----- ----- ----- -----
The code and quantity of any mountings _____	: 434 . . . . .
The code and quantity of any magnetic detectors _____	: 881 . . . . .
The code and quantity of detector mountings _____	: 881 . . . . .

Series 436  
Type : PIS-DM

Aluminium  
air cylinders

**MEDIUM/HEAVY DUTY**  
**DOUBLE ACTING CYLINDERS Ø 32 - 200 mm**

equipped for magnetic position detectors  
Conforming with ISO-CETOP standards  
With pneumatic cushioning  
**TRINORM/DM - ISO-CETOP**

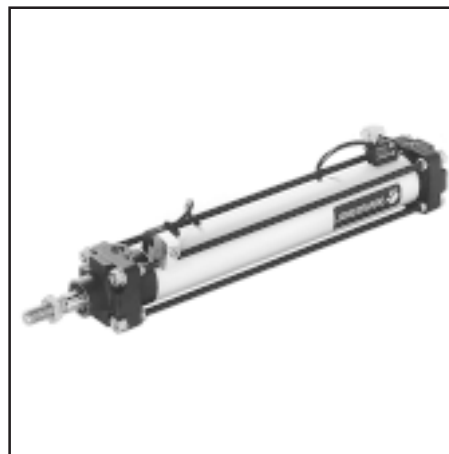


**SPECIFICATIONS**

FLUID : air or neutral gas, filtered, lubricated or not  
PRESSURE : 10 bar max.  
TEMPERATURE : - 10°C, + 70°C  
STANDARDS : **ISO 6431 - 8140 - 8139**  
**CETOP RP43P - RP102 P - RP103 P - RP107P**

**CONSTRUCTION**

Non-magnetic barrel : hard anodized aluminium alloy  
Rod : hard chrome steel  
Piston : acetal resin (POM), galvanized steel and light alloy  
fitted with a permanent annular magnet  
Piston seals : polyurethane (PUR) or nitrile (NBR)  
Cushioning seals : nitrile (NBR)  
Front and rear covers : light alloy  
Metal bearing : selflubricated  
Tie rods : steel  
Rod nut : galvanized steel  
Cushioning : pneumatic, adjustable from both sides



**CHOICE OF EQUIPMENT (CUSHIONED CYLINDER)**

Bore Ø (mm)	Strokes (mm) (1)	CODES (2)	REFERENCES to specify on order	Con-nection Ø	Cushioning length (mm)
<b>32</b>	50	<b>436 00 409</b>	PIS 32 A 50-DM	G 1/8	15
	100	<b>436 00 410</b>	PIS 32 A 100-DM		
	160	<b>436 00 411</b>	PIS 32 A 160-DM		
	200	<b>436 00 412</b>	PIS 32 A 200-DM		
	250	<b>436 00 413</b>	PIS 32 A 250-DM		
<b>40</b>	50	<b>436 00 414</b>	PIS 40 A 50-DM	G 1/4	20
	100	<b>436 00 415</b>	PIS 40 A 100-DM		
	160	<b>436 00 416</b>	PIS 40 A 160-DM		
	200	<b>436 00 417</b>	PIS 40 A 200-DM		
	250	<b>436 00 418</b>	PIS 40 A 250-DM		
	320	<b>436 00 419</b>	PIS 40 A 320-DM		
	400	<b>436 00 420</b>	PIS 40 A 400-DM		
<b>50</b>	50	<b>436 00 421</b>	PIS 50 A 50-DM	G 1/4	20
	100	<b>436 00 422</b>	PIS 50 A 100-DM		
	160	<b>436 00 423</b>	PIS 50 A 160-DM		
	200	<b>436 00 424</b>	PIS 50 A 200-DM		
	250	<b>436 00 425</b>	PIS 50 A 250-DM		
	320	<b>436 00 426</b>	PIS 50 A 320-DM		
	400	<b>436 00 427</b>	PIS 50 A 400-DM		
<b>63</b>	50	<b>436 00 428</b>	PIS 63 A 50-DM	G 3/8	21
	100	<b>436 00 429</b>	PIS 63 A 100-DM		
	160	<b>436 00 430</b>	PIS 63 A 160-DM		
	200	<b>436 00 431</b>	PIS 63 A 200-DM		
	250	<b>436 00 432</b>	PIS 63 A 250-DM		
	320	<b>436 00 433</b>	PIS 63 A 320-DM		
	400	<b>436 00 434</b>	PIS 63 A 400-DM		
	500	<b>436 00 435</b>	PIS 63 A 500-DM		
600	<b>436 00 436</b>	PIS 63 A 600-DM			
<b>80</b>	50	<b>436 00 437</b>	PIS 80 A 50-DM	G 3/8	21
	100	<b>436 00 438</b>	PIS 80 A 100-DM		
	160	<b>436 00 439</b>	PIS 80 A 160-DM		
	200	<b>436 00 440</b>	PIS 80 A 200-DM		
	250	<b>436 00 441</b>	PIS 80 A 250-DM		
	320	<b>436 00 442</b>	PIS 80 A 320-DM		
	400	<b>436 00 443</b>	PIS 80 A 400-DM		
	500	<b>436 00 444</b>	PIS 80 A 500-DM		
600	<b>436 00 445</b>	PIS 80 A 600-DM			
<b>100</b>	50	<b>436 00 752</b>	PIS 100 A 50-DM	G 1/2	24
	100	<b>436 00 753</b>	PIS 100 A 100-DM		
	160	<b>436 00 754</b>	PIS 100 A 160-DM		
	200	<b>436 00 755</b>	PIS 100 A 200-DM		
	250	<b>436 00 756</b>	PIS 100 A 250-DM		
	320	<b>436 00 757</b>	PIS 100 A 320-DM		
	400	<b>436 00 758</b>	PIS 100 A 400-DM		
	500	<b>436 00 759</b>	PIS 100 A 500-DM		
	600	<b>436 00 760</b>	PIS 100 A 600-DM		
	700	<b>436 00 761</b>	PIS 100 A 700-DM		
800	<b>436 00 762</b>	PIS 100 A 800-DM			
900	<b>436 00 763</b>	PIS 100 A 900-DM			
1000	<b>436 00 764</b>	PIS 100 A 1000-DM			

Bore Ø (mm)	Strokes (mm) (1)	CODES (2)	REFERENCES to specify on order	Con-nection Ø	Cushioning length (mm)
<b>125 ISO</b>	50	<b>436 00 778</b>	PIS 125 A 50-DM	G 1/2	24
	100	<b>436 00 779</b>	PIS 125 A 100-DM		
	160	<b>436 00 780</b>	PIS 125 A 160-DM		
	200	<b>436 00 781</b>	PIS 125 A 200-DM		
	250	<b>436 00 782</b>	PIS 125 A 250-DM		
	320	<b>436 00 783</b>	PIS 125 A 320-DM		
	400	<b>436 00 784</b>	PIS 125 A 400-DM		
	500	<b>436 00 785</b>	PIS 125 A 500-DM		
	600	<b>436 00 786</b>	PIS 125 A 600-DM		
	700	<b>436 00 787</b>	PIS 125 A 700-DM		
	800	<b>436 00 788</b>	PIS 125 A 800-DM		
	900	<b>436 00 789</b>	PIS 125 A 900-DM		
	1000	<b>436 00 790</b>	PIS 125 A 1000-DM		
<b>125 CETOP</b>	50	<b>436 00 804</b>	PCE 125 A 50-DM	G 1/2	24
	100	<b>436 00 805</b>	PCE 125 A 100-DM		
	160	<b>436 00 806</b>	PCE 125 A 160-DM		
	200	<b>436 00 807</b>	PCE 125 A 200-DM		
	250	<b>436 00 808</b>	PCE 125 A 250-DM		
	320	<b>436 00 809</b>	PCE 125 A 320-DM		
	400	<b>436 00 810</b>	PCE 125 A 400-DM		
	500	<b>436 00 811</b>	PCE 125 A 500-DM		
	600	<b>436 00 812</b>	PCE 125 A 600-DM		
	700	<b>436 00 813</b>	PCE 125 A 700-DM		
	800	<b>436 00 814</b>	PCE 125 A 800-DM		
	900	<b>436 00 815</b>	PCE 125 A 900-DM		
	1000	<b>436 00 816</b>	PCE 125 A 1000-DM		
<b>160</b>	50	<b>436 00 830</b>	PIS 160 A 50-DM	G 3/4	30
	100	<b>436 00 831</b>	PIS 160 A 100-DM		
	160	<b>436 00 832</b>	PIS 160 A 160-DM		
	200	<b>436 00 833</b>	PIS 160 A 200-DM		
	250	<b>436 00 834</b>	PIS 160 A 250-DM		
	320	<b>436 00 835</b>	PIS 160 A 320-DM		
	400	<b>436 00 836</b>	PIS 160 A 400-DM		
	500	<b>436 00 837</b>	PIS 160 A 500-DM		
	600	<b>436 00 838</b>	PIS 160 A 600-DM		
	700	<b>436 00 839</b>	PIS 160 A 700-DM		
	800	<b>436 00 840</b>	PIS 160 A 800-DM		
	900	<b>436 00 841</b>	PIS 160 A 900-DM		
	1000	<b>436 00 842</b>	PIS 160 A 1000-DM		
<b>200</b>	50	<b>436 00 856</b>	PIS 200 A 50-DM	G 3/4	30
	100	<b>436 00 857</b>	PIS 200 A 100-DM		
	160	<b>436 00 858</b>	PIS 200 A 160-DM		
	200	<b>436 00 859</b>	PIS 200 A 200-DM		
	250	<b>436 00 860</b>	PIS 200 A 250-DM		
	320	<b>436 00 861</b>	PIS 200 A 320-DM		
	400	<b>436 00 862</b>	PIS 200 A 400-DM		
	500	<b>436 00 863</b>	PIS 200 A 500-DM		
	600	<b>436 00 864</b>	PIS 200 A 600-DM		
	700	<b>436 00 865</b>	PIS 200 A 700-DM		
	800	<b>436 00 866</b>	PIS 200 A 800-DM		
	900	<b>436 00 867</b>	PIS 200 A 900-DM		
	1000	<b>436 00 868</b>	PIS 200 A 1000-DM		

(1) Others strokes on request (to specify on order within the code)

(2) The magnetic position detectors are ordered separately (reed switch or magneto-resistive type, see pages P232-19 and 21)

**MOUNTINGS**

Bore Ø (mm)	CODES to specify on order							
	Rectangular front or rear flange MF1 - MF2	Feet (3) MS1	Removable support	Rear trunnion MP2	Rear male trunnion MP4	Centre (4) trunnion MT4	Female rod clevis RP 102P	Spherical bearing rod end RP 103P
32	434 00 007	434 00 100	434 00 145	434 00 031	434 00 022	410 510	434 00 016	434 00 001
40	434 00 008	434 00 101	434 00 146	434 00 032	434 00 023	410 511	434 00 017	434 00 002
50	434 00 009	434 00 102	434 00 147	434 00 033	434 00 024	410 512	434 00 018	434 00 003
63	434 00 010	434 00 103	434 00 148	434 00 034	434 00 025	410 513	434 00 018	434 00 003
80	434 00 011	434 00 104	434 00 149	434 00 035	434 00 026	410 514	434 00 019	434 00 004
100	434 00 012	434 00 105	434 00 150	434 00 036	434 00 027	410 515	434 00 019	434 00 004
125 ISO CETOP	434 00 013	434 00 106	434 00 151	434 00 037	434 00 028	410 516	434 00 020	434 00 005
	434 00 013	434 00 106	434 00 151	434 00 037	434 00 028	410 516	434 00 058	434 00 109
160	434 00 014	434 00 107	434 00 152	434 00 038	434 00 029	410 517	434 00 021	434 00 006
200	434 00 015	434 00 108	434 00 153	434 00 039	434 00 030	410 518	434 00 021	434 00 006

(3) Corresponds to a set of 2 parts.

(4) - The centre trunnion code and the dimension XV along with orientation code of the trunnion with respect to the ports must be added to the cylinder code.

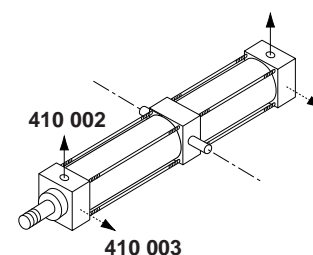
- Trunnion axis is perpendicular to supply ports: code **410 002** (standard orientation)
- other position upon request : code **410 003**.

NOTE: With the exception of the centre trunnion, fittings are delivered separately.

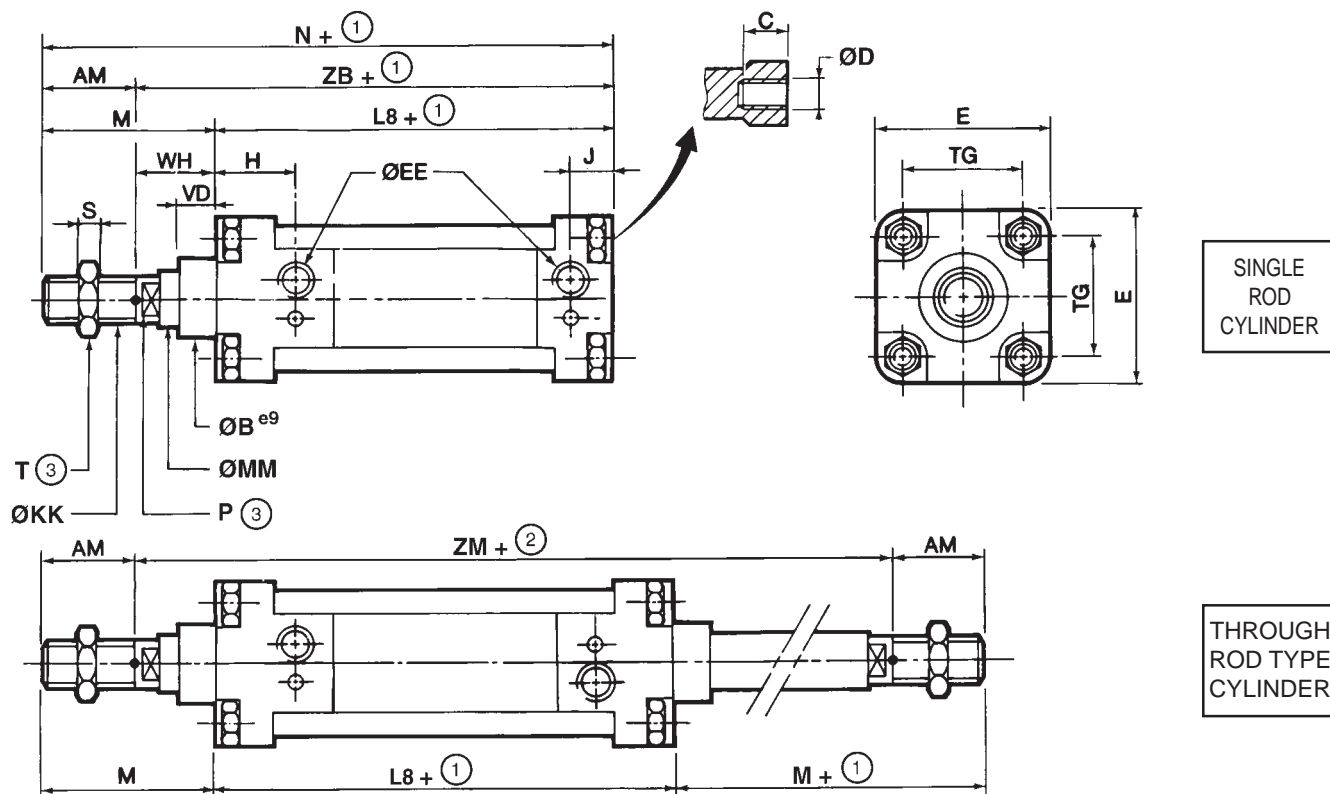
**DIMENSIONS:** see following pages

**OPTIONS AND SPECIFIC VERSIONS:** (see page P240-12)

**Ø 250 mm :** only with steel barrel and extended tie rods  
version non-equipped for magnetic position detector



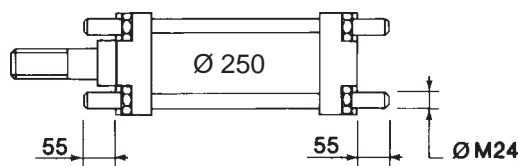
## DIMENSIONS AND WEIGHTS - BARE CYLINDER



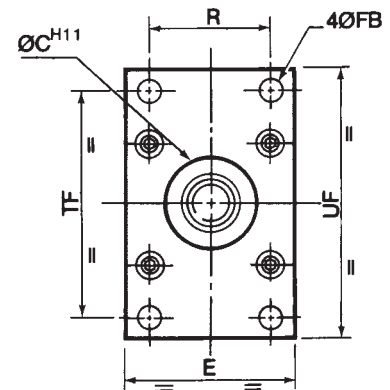
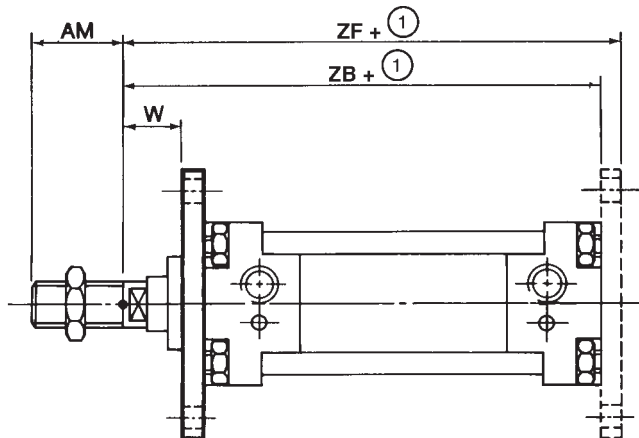
bore Ø (mm)	DIMENSIONS (mm)															
	AM	ØB	C	ØD	E	ØEE	H	J	ØKK	L8	M	ØMM	N	P	S	T
32	22	25	9	M6	45	G 1/8	18	11,5	M10 x 1,25	80	55	12	135	10	5	16
40	24	32	9	M6	52	G 1/4	29,5	11	M12 x 1,25	110	51,5	18	161,5	13	6	18
50	32	32	12	M8	65	G 1/4	29,5	14	M16 x 1,5	110	67	18	177	16	8	24
63	32	45	12	M8	75	G 3/8	33	16	M16 x 1,5	125	67	22	192	16	8	24
80	40	45	15	M10	95	G 3/8	33	16	M20 x 1,5	125	87,5	22	212,5	17	10	30
100	40	55	15	M10	115	G 1/2	30	30	M20 x 1,5	145	87,5	30	232,5	21	10	30
125																
.ISO	54	55	18	M12	140	G 1/2	36,5	18	M27 x 2	145	126,5	30	271,5	27	13,5	41
.CETOP	48	55	18	M12	140	G 1/2	36,5	18	M24 x 2	145	120,5	30	265,5	27	12	36
160	72	65	24	M16	180	G 3/4	39	20	M36 x 2	180	152	40	332	36	18	55
200	72	65	24	M16	220	G 3/4	39	20	M36 x 2	180	167	40	347	36	18	55
250 (6)	84	100	(3)	M24	280	G 1	44	26	M42 x 2	190	194	50	384	38	32	55

bore Ø (mm)	DIMENSIONS (mm)						Weights (Kg)	
	TG	U	VD	WH	ZB	ZM	(4)	(5)
32	33	90	15	33	113	156	0,640	0,320
40	40	129	15	27,5	137,5	184	0,910	0,470
50	49	129	15	35	145	199	1,200	0,600
63	59	146	20	35	160	216	1,970	0,830
80	75	146	20	47,5	172,5	241	2,700	1,100
100	90	165	20	47,5	192,5	260	5,100	1,280
125								
.ISO	110	165	20	72,5	217,5	310	6,500	2
.CETOP	110	165	20	72,5	217,5	310	6,500	2
160	140	200	25	80	260	360	13,550	3,250
200	175	200	25	95	275	390	18	4,100
250 (6)	220	206	50	110	300	426	28,800	9

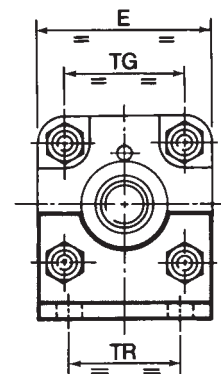
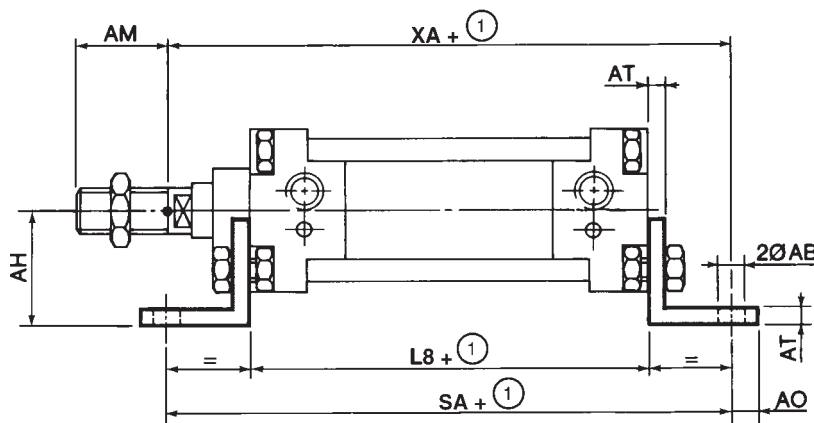
- ① : + stroke
- ② : + stroke x 2
- ③ : across flats
- (4) Cylinder weight with 0 mm stroke.
- (5) Weight to be added per additional 100 mm length.
- (6) Cylinder Ø 250 mm only front and rear protruding ties.



RECTANGULAR FRONT OR REAR MOUNTING FLANGE - MF1 - MF2



FOOT MOUNTING - MS1



① : + stroke

Bore Ø (mm)	DIMENSIONS (mm)																
	AM	AO	ØC	E	Ø AB Ø FB	L8	AH	AT	R TR	SA	TF	TG	UF	W	XA	ZB	ZF
<b>32</b>	22	6,5	25	45	7	80	32	3	32	142	64	33	80	16	144	113	130
<b>40</b>	24	9,5	32	52	9	110	36	3	36	161	72	40	90	20	163	137,5	145
<b>50</b>	32	15	32	65	9	110	45	4	45	170	90	49	110	25	175	145	155
<b>63</b>	32	15	45	75	9	125	50	4	50	185	100	59	120	25	190	160	170
<b>80</b>	40	13	45	95	12	125	63	5	63	210	126	75	150	30	215	172,5	190
<b>100</b>	40	12,5	55	115	14	145	71	5	75	220	150	90	170	35	230	192,5	205
<b>125</b>																	
<b>.ISO</b>	54	13,5	55	140	16	145	90	5	90	250	180	110	205	45	270	217,5	245
<b>.CETOP</b>	48	13,5	55	140	16	145	90	5	90	250	180	110	205	45	270	217,5	245
<b>160</b>	72	27	65	180	18	180	115	6	115	300	230	140	260	60	230	260	280
<b>200</b>	72	25	65	220	22	180	135	6	135	320	270	175	300	70	345	275	300
<b>250</b>	84	-	100	280	26	190	-	-	165	-	330	220	390	80	-	300	330

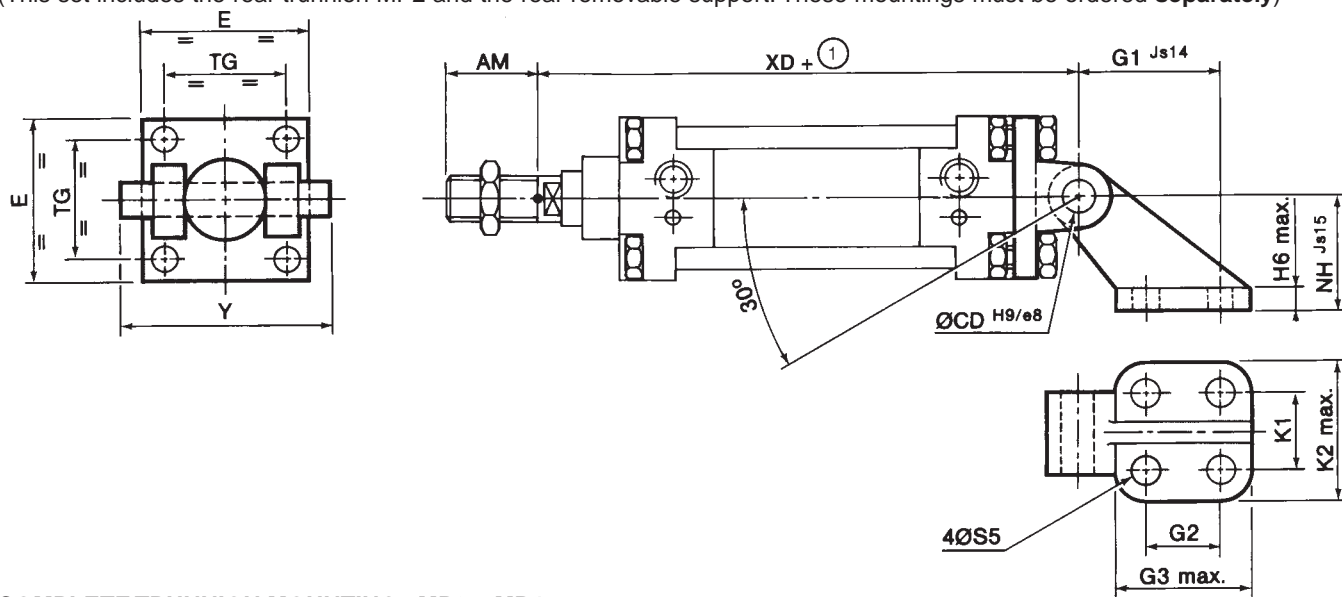
Bore Ø	WEIGHTS (Kg)	
	Front or rear flange	2 Feet
<b>32</b>	0,240	0,150
<b>40</b>	0,240	0,150
<b>50</b>	0,500	0,340
<b>63</b>	0,580	0,360
<b>80</b>	1,390	0,780

Bore Ø	WEIGHTS (Kg)	
	Front or rear flange	2 Feet
<b>100</b>	1,630	0,810
<b>125</b>	4,270	1,490
<b>160</b>	6,870	2,900
<b>200</b>	10,440	3,370
<b>250</b>	22,900	32,900

# Serie 436 - PIS

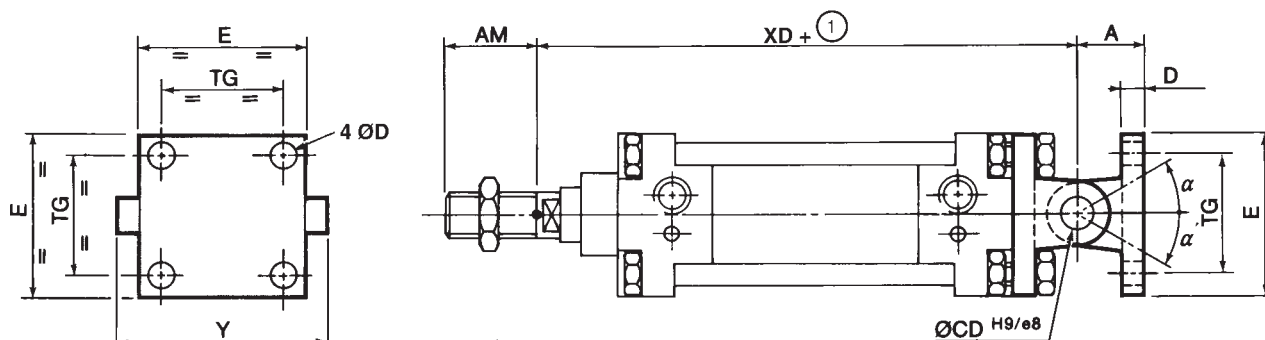
## COMPLETE TRUNNION MOUNTING WITH SUPPORT : MP2 + REMOVABLE SUPPORT

(This set includes the rear trunnion MP2 and the rear removable support. These mountings must be ordered **separately**)



## COMPLETE TRUNNION MOUNTING : MP2 + MP4

(To achieve the complete assembly, items MP2 and MP4 must be ordered **separately**)



① : + stroke

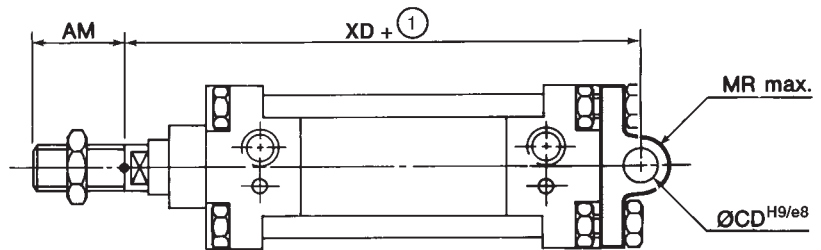
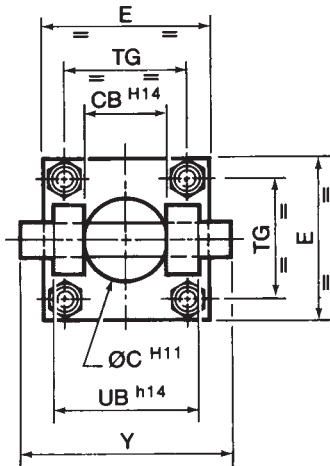
Bore Ø (mm)	DIMENSIONS (mm)																
	A	AM	CD	D	E	G1	G2	G3	H6	K1	K2	NH	S5	TG	XD	Y	α
<b>32</b>	29	22	10	7	45	21	18	31	8	38	51	32	6,6	33	142	54	45°
<b>40</b>	22,5	24	12	7	52	24	22	35	10	41	54	36	6,6	40	160	62	45°
<b>50</b>	25,5	32	12	9	65	33	30	45	12	50	65	45	9	49	170	70	25°
<b>63</b>	30	32	16	9	75	37	35	50	12	52	67	50	9	59	190	80	35°
<b>80</b>	37,5	40	16	11	95	47	40	60	14	66	86	63	11	75	210	100	35°
<b>100</b>	37,5	40	20	11	115	55	50	70	15	76	96	71	11	90	230	123	35°
<b>125</b>																	
<b>.ISO</b>	57,5	54	25	14	140	70	60	90	20	94	124	90	14	110	275	143	30°
<b>.CETOP</b>	57,5	48	25	14	140	70	60	90	20	94	124	90	14	110	275	143	30°
<b>160</b>	55	72	30	18	180	97	88	126	25	118	156	115	14	140	315	183	30°
<b>200</b>	60	72	30	18	220	105	90	130	30	122	162	135	16	175	335	183	30°
<b>250</b>	75	84	-	26	280	-	-	-	-	-	-	-	-	220	375	214	-

Bore Ø	WEIGHTS (Kg)	
	Complete with support	Complete trunnion
<b>32</b>	0,340	0,380
<b>40</b>	0,450	0,430
<b>50</b>	0,790	0,780
<b>63</b>	1,080	1,060
<b>80</b>	2,090	2,250

Bore Ø	WEIGHTS (Kg)	
	Complete with support	Complete trunnion
<b>100</b>	2,750	3,400
<b>125</b>	6,610	7,150
<b>160</b>	13,550	12,930
<b>200</b>	17,310	18,100
<b>250</b>	-	49,300

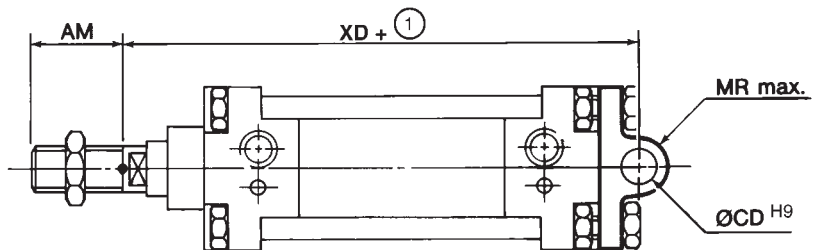
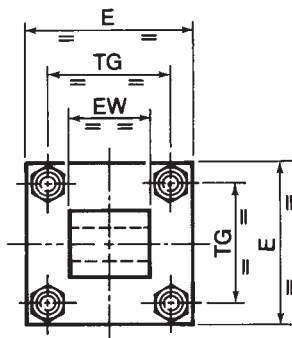


REAR TRUNNION MOUNTING - MP2



2

REAR MALE TRUNNION MOUNTING - MP4



① : + stroke

Bore Ø (mm)	DIMENSIONS (mm)										
	AM	ØC	CB	ØCD	E	EW	MR	TG	UB	XD	Y
32	22	25	26	10	45	26	11	33	45	142	54
40	24	32	28	12	52	28	13	40	52	160	62
50	32	32	32	12	65	32	13	49	60	170	70
63	32	45	40	16	75	40	17	59	70	190	80
80	40	45	50	16	95	50	17	75	90	210	100
100	40	55	60	20	115	60	21	90	110	230	123
125											
. ISO	54	55	70	25	140	70	26	110	130	275	143
. CETOP	48	55	70	25	140	70	26	110	130	275	143
160	72	65	90	30	180	90	31	140	170	315	183
200	72	65	90	30	220	90	31	175	170	335	183
250	84	100	110	40	280	110	41	220	200	375	214

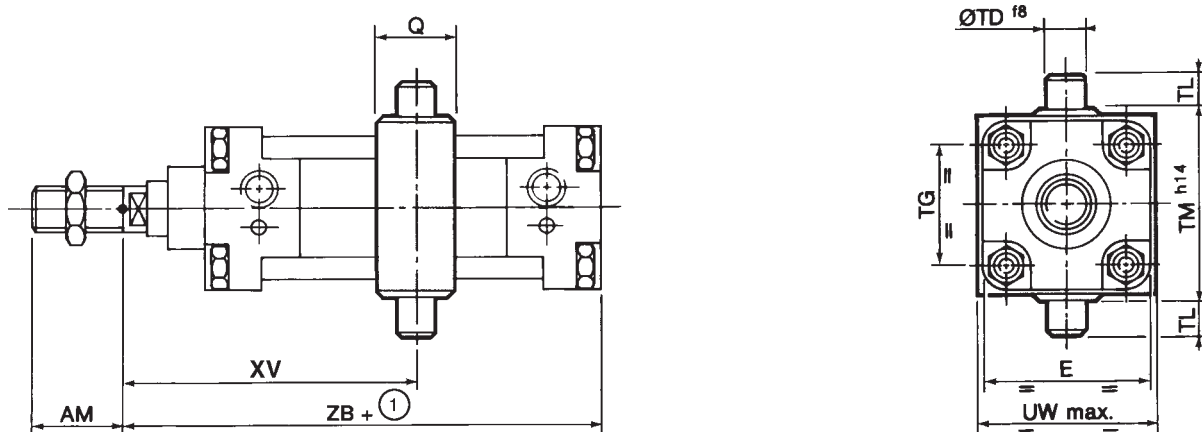
Bore Ø	WEIGHTS (Kg)	
	Rear trunnion	Rear male trunnion
32	0,200	0,210
40	0,230	0,230
50	0,400	0,430
63	0,570	0,620
80	1,240	1,110

Bore Ø	WEIGHTS (Kg)	
	Rear trunnion	Rear male trunnion
100	1,860	1,640
125	3,990	3,330
160	7,510	5,810
200	10,270	8,230
250	24,200	25,100

# Series 436 - PIS

## CENTER TRUNNION MOUNTING MT4

Note : The center trunnion is delivered fitted



Bore Ø (mm)	DIMENSIONS (mm)									WITHOUT DETECTORS		WITH DETECTORS			Weight centre trunnion (Kg)
	AM	E	Q	ØTD	TG	TL	TM	UW	ZB	XV min.	XV max.	XV min.	XV max.	①	
<b>32</b>	min22	45	22	12	33	12	50	65	113	78	78 + ①	130	① + 40	90	0,180
<b>40</b>	24	52	30	16	40	16	63	75	137,5	93	91 + ①	145	① + 50	95	0,380
<b>50</b>	32	65	30	16	49	16	75	95	145	101	98 + ①	153	① + 60	95	0,460
<b>63</b>	32	75	35	20	59	20	90	105	160	112	104 + ①	164	① + 65	100	0,820
<b>80</b>	40	95	35	20	75	20	110	130	172,5	124	112 + ①	176	① + 75	100	1,060
<b>100</b>	40	115	40	25	90	25	132	145	192,5	120	120 + ①	178	① + 10	120	1,800
<b>125</b>															
<b>. ISO</b>	54	140	40	25	110	25	160	175	217,5	146	147 + ①	203	① + 20	115	2,490
<b>. CETOP</b>	48	140	40	25	110	25	160	175	217,5	146	147 + ①	203	① + 20	115	2,490
<b>160</b>	72	180	50	32	140	32	200	220	260	164	179 + ①	225	① + 20	130	4,170
<b>200</b>	72	220	50	32	175	32	250	260	275	179	193 + ①	240	① + 25	120	4,200
<b>250</b>	84	310	60	40	220	40	320	320	300	207	219 + ①	-	-	-	17

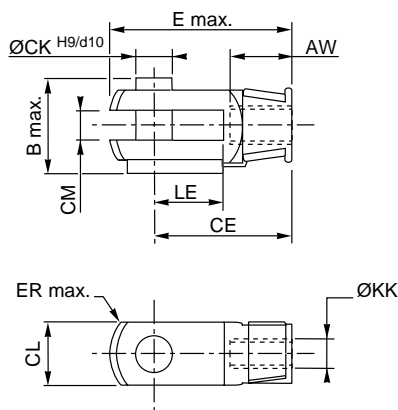
① : stroke

Without special indication on the order, all standard cylinders are delivered with dimension XV in accordance with table below. For all non standard strokes, XV must be specified on the order, in accordance however with the XV min. and XV max. values defined in the table above.

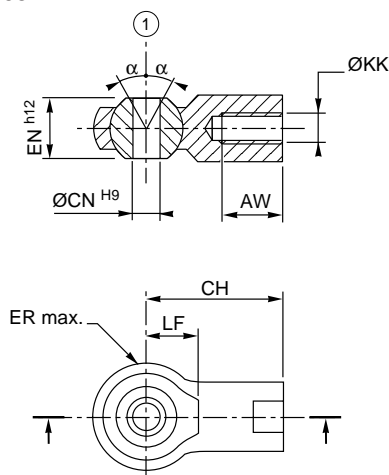
### Standard dimension XV

Bore Ø (mm)	XV (mm)													
	Strokes (mm)													
	50	100	160	200	250	320	400	500	600	700	800	900	1000	
<b>32</b>	87	108	129	150	170	-	-	-	-	-	-	-	-	
<b>40</b>	94,5	114,5	135,5	156,5	177,5	198,5	239,5	-	-	-	-	-	-	
<b>50</b>	102	122	143	164	185	206	247	-	-	-	-	-	-	
<b>63</b>	108	129	150	170	191	212	254	295	337	-	-	-	-	
<b>80</b>	120,5	141,5	162,5	182,5	203,5	224,5	266,5	307,5	349,5	-	-	-	-	
<b>100</b>	-	149,5	170,5	191,5	212,5	232,5	274,5	316,5	357,5	399,5	441,5	481,5	524,5	
<b>125</b>	-	174,5	195,5	216,5	237,5	257,5	299,5	341,5	382,5	424,5	466,5	506,5	549,5	
<b>160</b>	-	-	217	238	259	280	322	363	405	446	488	514	572	
<b>200</b>	-	-	232	253	274	295	337	378	420	447	503	529	587	
<b>250</b>	-	-	260	281	302	323	365	406	448	475	531	557	615	

FEMALE ROD CLEVIS - ISO 8140 - RP102P



SPHERICAL BEARING ROD END - ISO 8139 - RP103P



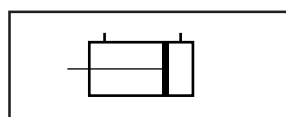
① :  $\alpha \pm 4^\circ$  clearance

Bore Ø (mm)	DIMENSIONS (mm)													
	AW	B	CE	CH	ØCK	CL	CM	ØCN	E	EN	ER	ØKK	LE	LF
32	20	26	40	43	10	20	10 <sup>+0,5</sup> +0,15	10	56	14	14	M10 x 1,25	20	15
40	22	32	48	50	12	24	12 <sup>+0,5</sup> +0,15	12	67	16	16	M12 x 1,25	24	17
50	28	41	64	64	16	32	16 <sup>+0,5</sup> +0,15	16	89	21	21	M16 x 1,5	32	22
63	28	41	64	64	16	32	16 <sup>+0,5</sup> +0,15	16	89	21	21	M16 x 1,5	32	22
80	33	48	80	77	20	40	20 <sup>+0,6</sup> +0,15	20	112	25	25	M20 x 1,5	40	26
100	33	48	80	77	20	40	20 <sup>+0,6</sup> +0,15	20	112	25	25	M20 x 1,5	40	26
125														
.ISO	51	65	110	110	30	55	30 <sup>+0,6</sup> +0,15	30	155	37	35	M27 x 2	54	36
.CETOP	42	60	100	94	25	50	25 <sup>+0,6</sup> +0,15	25	141	31	30	M24 x 2	50	31
160	56	84	144	125	35	70	35 <sup>+0,6</sup> +0,15	35	201	43	40	M36 x 2	72	41
200	56	84	144	125	35	70	35 <sup>+0,6</sup> +0,15	35	201	43	40	M36 x 2	72	41
250	60	94	168	-	40	80	40 <sup>+0,6</sup> +0,15	-	245	-	-	M42 x 2	84	-

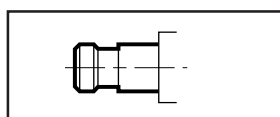
Bore Ø	WEIGHTS (Kg)	
	Rod clevis	Bearing rod end
32	0,100	0,070
40	0,150	0,120
50	0,330	0,220
63	0,330	0,220
80	0,670	0,390

Bore Ø	WEIGHTS (Kg)	
	Rod clevis	Bearing rod end
100	0,670	0,390
125	ISO : 1,810	CETOP : 1,330
160	3,850	1,600
200	3,850	1,600
250	7	-

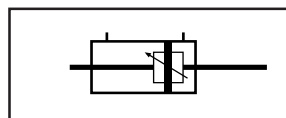
# OPTIONS AND SPECIFIC VERSIONS



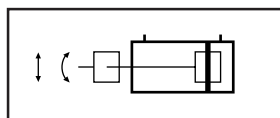
- Steel barrel
- Non cushioned version (suffix : NA)
- Ø 250 only with steel barrel and extended tie rods



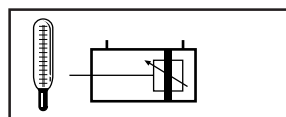
- Tenon piston rod



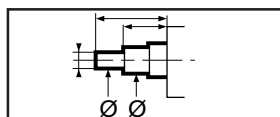
- Through rod, P/N T2



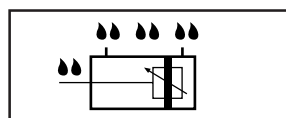
- Angular and linear compensator



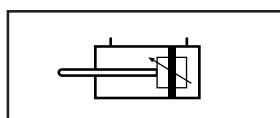
- High temperature version 150°C max. - FPM seals (version non-equipped for magnetic position detector)



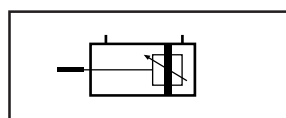
- Special machining of piston rod end



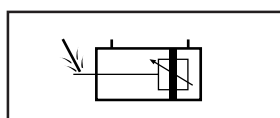
- Epoxy resin and glass fibre barrel
- Stainless steel barrel
- Anticorrosive finish on end covers & barrel
- Stainless steel screws and hardware



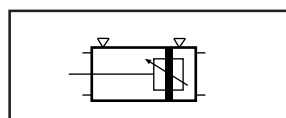
- Oversize piston rod on cylinders Ø 63 to 125 mm



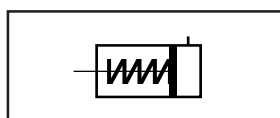
- Extended piston rod
- Extended cushioning, on request



- Impact resistant rod



- Extended tie rods on ISO version





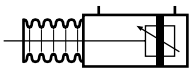
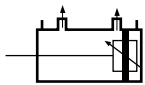
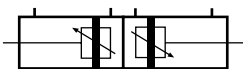
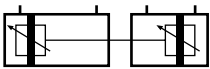






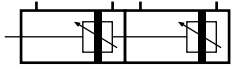
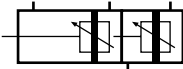
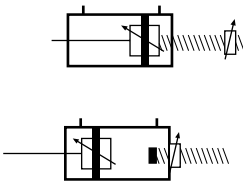
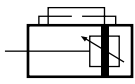
- Single-acting cylinders, the spring to extend or spring to retract

*For all these options and special versions - consult our Technical Staff.*

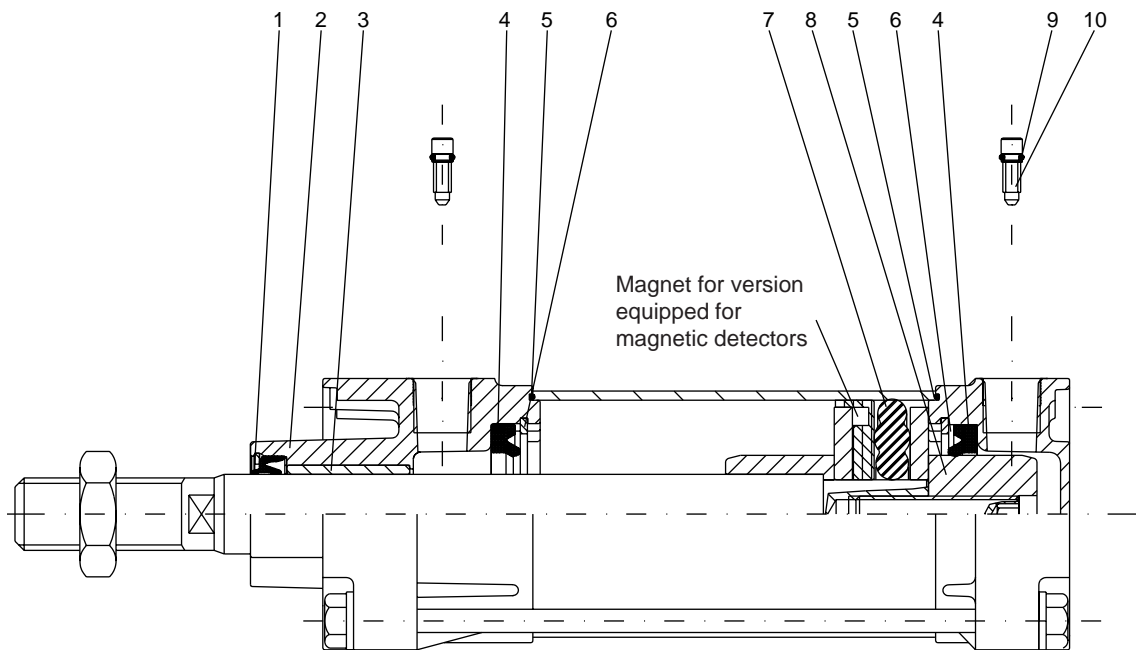
	Rod lock	Cylinders for non-rotatable rod	Guiding unit
<b>Bore Ø (mm)</b>	40 . . . 80	32-40-50-63-80	32...100
<b>Applications</b>	Mechanical device designed to lock the cylinder rod in the event of failure in power or pressure supply.	Double crossbar cylinders designed for applications requiring an antirotation system.	This ball bearing guiding unit allows extremely accurate linear drive. It incorporates an antirotating device resistant to high torsional loads.
<b>Series</b>	consult us	consult us	consult us
<b>Symbols</b>			

# OF "TRINORM - PIS" TIE-ROD CYLINDERS

	With bellows	With pressure outlets	Back-to-back	Nose-to-nose
				
<b>Bore Ø (mm)</b>	32 ... 200	32 ... 200	32 ... 200	32 ... 80
<b>Applications</b>	TRINORM cylinder equipped with rod protective bellows for use in polluted atmospheres.	This cylinder incorporates 2 pressure outlets on the barrel which allow the control of end of stroke positions, using exhaust pressure decay sensors (NOT element).	Assembly of 2 cylinders mounted back to back and assembled with 4 tie rods. This arrangement allows 3 or 4 different positions depending on whether cylinders have the same stroke or different strokes.	Assembly of 2 cylinders mounted nose to nose on a common piston rod. This arrangement allows 3 or 4 different positions depending on whether cylinders have the same stroke or different strokes.
<b>Series</b>	436	436	436	436
<b>Symbols</b>				

	Double acting tandem	3 positions	Adjustable stroke	Directional control valves on cylinders
				
<b>Bore Ø (mm)</b>	40 ... 200	40 ... 200	32 ... 125	
<b>Applications</b>	A tandem cylinder with linked piston rod develops twice the force of a standard cylinder of the same diameter. Advantage: compact size cylinder.	This 3 position cylinder is an assembly comprising 2 TRINORM cylinder bodies in line, with 2 different stroke lengths, and with piston rods <b>not</b> linked.	Cylinders equipped with a facility to adjust stroke length using a built-in mechanical stop - only <b>one</b> of the end of stroke positions can be adjusted. 2 versions available: stroke adjustable with the piston rod <b>extended</b> or <b>retracted</b> .	On request, JOUCOMATIC will adapt and connect directional control valves on cylinders for compact and monoblock assemblies.
<b>Series</b>	436	436	436	-
<b>Symbols</b>				

Spare parts kit  
**TRINORM ISO/CETOP CYLINDERS Ø 32 to 250 mm**



Ø CYLINDER	Cylinder type	CODES		
		Bearing + rod seal (item 1, 2, 3)	Seals (item 4 to 10)	
			construction I	construction II
<b>32</b>	Equipped or non-equipped for detector	<b>978 01 393</b>	<b>978 01 394</b>	
<b>40</b>	Equipped or non-equipped for detector	<b>978 01 395</b>	<b>978 01 396</b>	
<b>50</b>	Equipped or non-equipped for detector	<b>978 01 395</b>	<b>978 01 398</b>	
<b>63</b>	Equipped or non-equipped for detector	<b>978 01 399</b>	<b>978 01 400</b>	
<b>80</b>	Equipped or non-equipped for detector	<b>978 01 399</b>	<b>978 01 402</b>	
<b>100</b>	Equipped or non-equipped for detector	<b>978 01 543</b>	<b>978 01 547</b>	<b>978 01 551</b>
<b>125</b>	Equipped or non-equipped for detector	<b>978 01 569</b>	<b>978 01 548</b>	<b>978 01 552</b>
<b>160</b>	Equipped or non-equipped for detector	<b>978 01 544</b>	<b>978 01 549</b>	<b>978 01 553</b>
<b>200</b>	Equipped or non-equipped for detector	<b>978 01 544</b>	<b>978 01 550</b>	<b>978 01 554</b>
<b>250</b>	Non-equipped for detector	consult us		
1 Tube of grease, 11 cm <sup>3</sup>		<b>978 02 100</b>		

NOTE: For best results, use tube packed, code: **978 02 100**

: The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly