



CYLINDERS WITH PROFILED BARREL AND TIE RODS

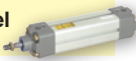
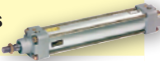
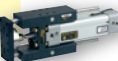
PES type

DOUBLE ACTING Ø 32 to 100 mm
compatible with ISO-AFNOR-DIN standards
equipped for magnetic position detectors
GUIDING UNITS "H" with slide bearings

CHARACTERISTICS	Fluids	air or neutral gas, filtered, lubricated or not
	Operating pressure	10 bar
	Allowable temperature	-20°C to +70°C (contact us if this limit is exceeded)
	Max. allowable speed	2 m/s
	Tube	treated aluminium alloy
	Rod	hard chrome plated steel
	Piston seals	PUR (polyurethane)
	Cushioning	adjustable pneumatic
	Standard	ISO 15552 - AFNOR NF ISO 15552 - DIN ISO 15552 (replace ISO 6431 - AFNOR NFE 49003 VDMA 24562)
	Connection	G1/8 (Ø 32mm) - G1/4 (Ø40 - 50mm) G3/8 (Ø63 - 80mm) - G1/2 (Ø 100mm)



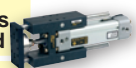
- Square shaped tube with "bi-profile" grooves (dovetail and 'T' shape) for flush-mount detectors**
- Link between tube front and rear ends by tierods**
- Effective and precise pneumatic cushioning**
- Rod guided and self-lubricating cylinder**
- Various options for all types of environments: Rod locking device, aggressive environments, high temperatures...**

YOUR SELECTION

Ø mm	stroke mm	profiled barrel 		tie rods 		Guiding unit "H" with slide bearings supplied mounted 
		reference	code	reference	code	code
double acting Ø 32 to 100 mm						
32	25	PES 32 PA 25 DM	453500030025	PES 32 TA 25 R DM	45000710	-
	50	PES 32 PA 50 DM	453500030050	PES 32 TA 50 R DM	45000711	010762
	80	PES 32 PA 80 DM	453500030080	PES 32 TA 80 R DM	45001095	010844
	100	PES 32 PA 100 DM	453500030100	PES 32 TA 100 R DM	45000712	010763
	125	PES 32 PA 125 DM	453500030125	PES 32 TA 125 R DM	45001113	010845
	160	PES 32 PA 160 DM	453500030160	PES 32 TA 160 R DM	45000713	010764
	200	PES 32 PA 200 DM	453500030200	PES 32 TA 200 R DM	45000714	010765
40	250	PES 32 PA 250 DM	453500030250	PES 32 TA 250 R DM	45000715	010766
	25	PES 40 PA 25 DM	453500040025	PES 40 TA 25 R DM	45000716	-
	50	PES 40 PA 50 DM	453500040050	PES 40 TA 50 R DM	45000717	010770
	80	PES 40 PA 80 DM	453500040080	PES 40 TA 80 R DM	45001096	010846
	100	PES 40 PA 100 DM	453500040100	PES 40 TA 100 R DM	45000718	010771
	125	PES 40 PA 125 DM	453500040125	PES 40 TA 125 R DM	45001114	010847
	160	PES 40 PA 160 DM	453500040160	PES 40 TA 160 R DM	45000719	010772
	200	PES 40 PA 200 DM	453500040200	PES 40 TA 200 R DM	45000720	010773
	250	PES 40 PA 250 DM	453500040250	PES 40 TA 250 R DM	45000721	010774
	320	PES 40 PA 320 DM	453500040320	PES 40 TA 320 R DM	45000722	010775
50	400	PES 40 PA 400 DM	453500040400	PES 40 TA 400 R DM	45000723	010776
	25	PES 50 PA 25 DM	453500050025	PES 50 TA 25 R DM	45000724	-
	50	PES 50 PA 50 DM	453500050050	PES 50 TA 50 R DM	45000725	010778
	80	PES 50 PA 80 DM	453500050080	PES 50 TA 80 R DM	45001097	010848
	100	PES 50 PA 100 DM	453500050100	PES 50 TA 100 R DM	45000726	010779
	125	PES 50 PA 125 DM	453500050125	PES 50 TA 125 R DM	45001115	010849
	160	PES 50 PA 160 DM	453500050160	PES 50 TA 160 R DM	45000727	010780
	200	PES 50 PA 200 DM	453500050200	PES 50 TA 200 R DM	45000728	010781
	250	PES 50 PA 250 DM	453500050250	PES 50 TA 250 R DM	45000729	010782
	320	PES 50 PA 320 DM	453500050320	PES 50 TA 320 R DM	45000730	010783
	400	PES 50 PA 400 DM	453500050400	PES 50 TA 400 R DM	45000731	010784
	500	PES 50 PA 500 DM	453500050500	PES 50 TA 500 R DM	45000732	010785
	630	PES 50 PA 630 DM	453500050630	PES 50 TA 630 R DM	45000733	-

CYLINDERS WITH PROFILED BARREL AND TIE RODS - PES type

YOUR SELECTION

Ø mm	stroke mm	profiled barrel 		tie rods 		guiding unit "H" with slide bearings supplied mounted 
		reference	code	reference	code	code
63	25	PES 63 PA 25 DM	453500060025	PES 63 TA 25 R DM	45000734	-
	50	PES 63 PA 50 DM	453500060050	PES 63 TA 50 R DM	45000735	010786
	80	PES 63 PA 80 DM	453500060080	PES 63 TA 80 R DM	45001098	010850
	100	PES 63 PA 100 DM	453500060100	PES 63 TA 100 R DM	45000736	010787
	125	PES 63 PA 125 DM	453500060125	PES 63 TA 125 R DM	45001116	010851
	160	PES 63 PA 160 DM	453500060160	PES 63 TA 160 R DM	45000737	010788
	200	PES 63 PA 200 DM	453500060200	PES 63 TA 200 R DM	45000738	010789
	250	PES 63 PA 250 DM	453500060250	PES 63 TA 250 R DM	45000739	010790
	320	PES 63 PA 320 DM	453500060320	PES 63 TA 320 R DM	45000740	010791
	400	PES 63 PA 400 DM	453500060400	PES 63 TA 400 R DM	45000741	010792
	500	PES 63 PA 500 DM	453500060500	PES 63 TA 500 R DM	45000742	010793
	630	PES 63 PA 630 DM	453500060630	PES 63 TA 630 R DM	45000743	-
80	25	PES 80 PA 25 DM	453500080025	PES 80 TA 25 R DM	45000744	-
	50	PES 80 PA 50 DM	453500080050	PES 80 TA 50 R DM	45000745	010794
	80	PES 80 PA 80 DM	453500080080	PES 80 TA 80 R DM	45001099	010852
	100	PES 80 PA 100 DM	453500080100	PES 80 TA 100 R DM	45000746	010795
	125	PES 80 PA 125 DM	453500080125	PES 80 TA 125 R DM	45001117	010853
	160	PES 80 PA 160 DM	453500080160	PES 80 TA 160 R DM	45000747	010796
	200	PES 80 PA 200 DM	453500080200	PES 80 TA 200 R DM	45000748	010797
	250	PES 80 PA 250 DM	453500080250	PES 80 TA 250 R DM	45000749	010798
	320	PES 80 PA 320 DM	453500080320	PES 80 TA 320 R DM	45000750	010799
	400	PES 80 PA 400 DM	453500080400	PES 80 TA 400 R DM	45000751	010800
	500	PES 80 PA 500 DM	453500080500	PES 80 TA 500 R DM	45000752	010801
	630	PES 80 PA 630 DM	453500080630	PES 80 TA 630 R DM	45000753	-
100	50	PES 100 PA 50 DM	453500010050	PES 100 TA 50 R DM	45001192	010802
	80	PES 100 PA 80 DM	453500010080	PES 100 TA 80 R DM	45001193	010854
	100	PES 100 PA 100 DM	453500010100	PES 100 TA 100 R DM	45001194	010803
	125	PES 100 PA 125 DM	453500010125	PES 100 TA 125 R DM	45001195	010855
	160	PES 100 PA 160 DM	453500010160	PES 100 TA 160 R DM	45001196	010804
	200	PES 100 PA 200 DM	453500010200	PES 100 TA 200 R DM	45001197	010805
	250	PES 100 PA 250 DM	453500010250	PES 100 TA 250 R DM	45001198	010806
	320	PES 100 PA 320 DM	453500010320	PES 100 TA 320 R DM	45001199	010807
	400	PES 100 PA 400 DM	453500010400	PES 100 TA 400 R DM	45001200	010808
	500	PES 100 PA 500 DM	453500010500	PES 100 TA 500 R DM	45001201	010809
630	PES 100 PA 630 DM	453500010630	PES 100 TA 630 R DM	45001202	-	

OPTIONS AND ACCESSORIES

Standardised mountings
(see page 41)



Position detectors
and mounting kits
(see page 50)



Flow regulators
(see page 108)

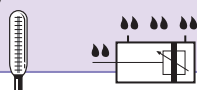


Other strokes
and diameters

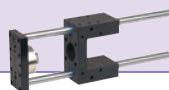
Hollow through rod
version



High temperature versions,
aggressive environments...



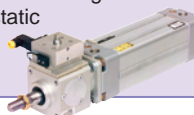
Guiding unit "U"



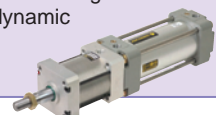
Guiding unit "H" with ball
bearings



Rod-locking device
static



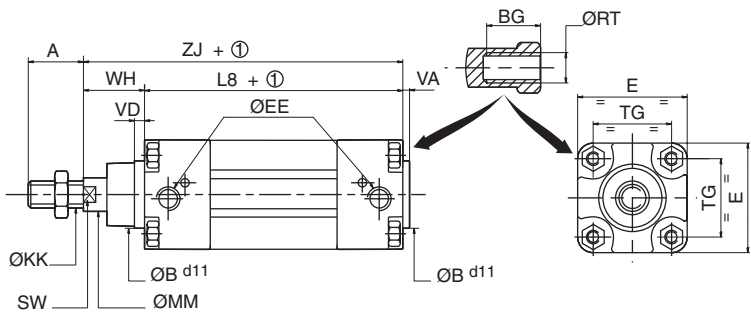
Rod locking device
dynamic



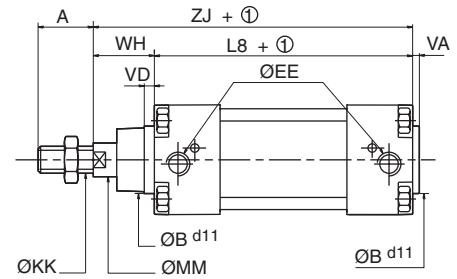
CYLINDERS WITH PROFILED BARREL AND TIE RODS - PES type

DIMENSIONS

Profiled barrel cylinders PES 453



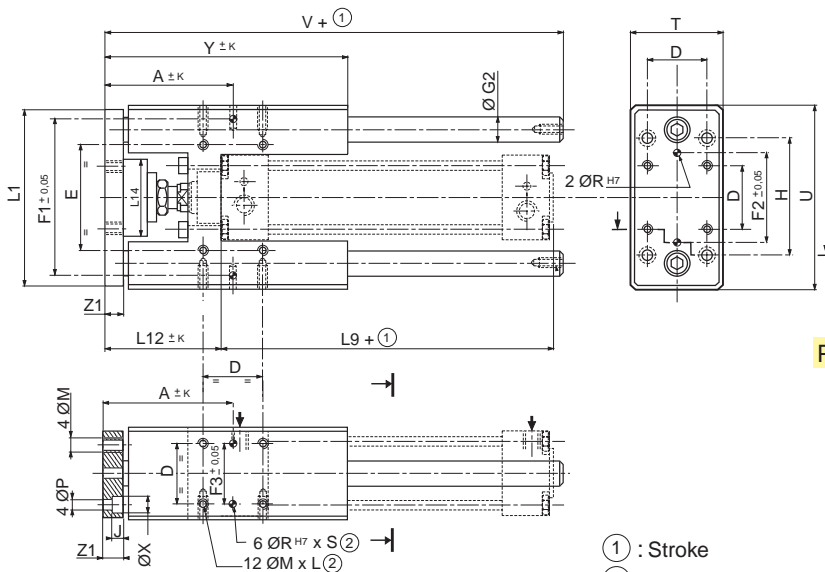
Cylinders with tie rods PES 450



① Stroke

Ø mm	A	B	BG	E	EE	KK	L8	MM	RT	SW	TG	VA	VD	WH	ZJ
32	22	30	16	50	G1/8	M10 x 1,25	94	12	M6	10	32,5 ^{±0,5}	4	4	26	120
40	24	35	16	57,5	G1/4	M12 x 1,25	105	16	M6	13	38 ^{±0,5}	4	4	30	135
50	32	40	16	65	G1/4	M16 x 1,5	106	20	M8	17	46,5 ^{±0,6}	4	4	37	143
63	32	45	16	79	G3/8	M16 x 1,5	121	20	M8	17	56,5 ^{±0,7}	4	4	37	158
80	40	45	17	100	G3/8	M20 x 1,5	128	25	M10	22	72 ^{±0,7}	4	4	46	174
100	40	55	17	120	G1/2	M20 x 1,5	138	25	M10	22	89 ^{±0,7}	4	4	51	189

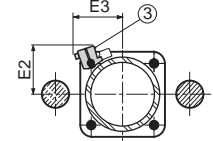
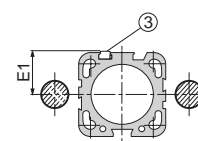
"H" guiding unit with bearings



Ø (mm)	E1	E2	E3
32	27	32	29
40	31	34	32
50	36	42	40
63	41	47	45
80	52	51	52
100	62	60	61

Profiled barrel cylinders

Cylinders with tie rods



① : Stroke


② : Depth


③ : When using short stroke cylinders, the standard position detector for the rear position control should be mounted on the profiled tube plate or tie rod opposite to that of the front detector


Ø mm	A	D	E	F1	F2	F3	G2	H	J	K	L	L1	L9	L12	M	P	R	S	T	U	V	X	Y	Z1
32	78,5	32,5	61	81	50	32,5	12	78	6,5	2,5	12	90	98	71,5	M6	6,6	6	10	50	97	182	11	147,5	12
40	85	38	69	99	54	38	16	84	6,5	3	12	110	109	77	M6	6,6	6	10	58	115	192	11	158	12
50	97	46,5	85	119	72	46,5	20	100	9	4	16	130	110	92,5	M8	9	6	10	70	137	237	15	172	15
63	106	56,5	100	132	82	56,5	20	105	9	4	16	145	125	93	M8	9	6	10	85	152	237	15	204	15
80	130	72	130	166	106	72	25	130	11	5	20	180	132	115	M10	11	6	10	105	188	280	18	243	20
100	140,5	89	150	190	131	89	25	150	11	5	20	200	142	120,5	M10	11	6	10	130	214	280	18	248,5	20


PES CYLINDERS WITH PROFILED BARREL AND TIE RODS - PEC COMPACT CYLINDERS


MOUNTINGS (supplied with mounting screws)


type	Ø cylinder	code
Low feet MS1 (batch of 2 items)		
	Ø mm	steel plate
	32	43400163
	40	43400164
	50	43400165
	63	43400166
	80	43400167
100	43400168	


type	Ø cylinder	code		
Cap, detachable clevis MP2				
	Ø mm	light alloy	cast iron+steel without bush	cast iron+steel+bush
	32	43400130	43400257	43400185
	40	43400131	43400258	43400186
	50	43400132	43400259	43400187
	63	43400133	43400260	43400188
	80	43400134	43400261	43400189
100	43400135	43400262	43400190	


type	Ø cylinder	code
High foot MS3 (per unit)		
	Ø mm	steel
	32	43400307
	40	43400308
	50	43400309
	63	43400310
	80	43400311
100	-	


type	Ø cylinder	code	
Cap, detachable eye MP4			
	Ø mm	light alloy	cast iron without bush
	32	43400125	43400266
	40	43400126	43400267
	50	43400127	43400268
	63	43400128	43400269
	80	43400129	43400270
100	43400161	43400271	


type	Ø cylinder	cast iron supplied fully assembled side XV (page 36)	cast iron supplied loose
Centre trunnion MT4 (cylinders with profiled barrel PES 453)			
	Ø mm		
	32	410564	410570
	40	410565	410571
	50	410566	410572
	63	410567	410573
	80	410568	410574
100	410569	410575	



type	Ø cylinder	code
Angular clevis bracket AB7		
	Ø mm	light alloy
	32	43400383
	40	43400384
	50	43400385
	63	43400386
	80	43400387
100	43400388	


type	Ø cylinder	steel supplied fully assembled side XV (page 37)	steel supplied loose
Centre trunnion MT4 (cylinders with profiled barrel PES 453 - PEC)			
	Ø mm		
	32	410592	410598
	40	410593	410599
	50	410594	410600
	63	410595	410601
	80	410596	410602
100	410597	410603	

type	Ø cylinder	code
Cap clevis for spherical eye or clevis bracket AB6		
	Ø mm	forged steel
	32	43400363
	40	43400364
	50	43400365
	63	43400366
	80	43400367
100	43400368	

type	Ø cylinder	cast iron supplied fully assembled side XV (page 37)
Centre trunnion MT4 (cylinders with tie rods PES 450)		
	Ø mm	
	32	410548
	40	410549
	50	410550
	63	410551
	80	410552
100	410553	

type	Ø cylinder	code
Angular clevis bracket spherical eye AB5		
	Ø mm	forged steel
	32	43400354
	40	43400355
	50	43400356
	63	43400357
	80	43400358
100	43400359	

type	Ø cylinder	female rod clevis steel	spherical rod end steel
Female rod clevis (ISO 8140 - RP 102P) AP2			
Spherical rod end (ISO 8139 - RP 103P) AP6			
cap 	Ø mm		
	32	43400016	43400001
	40	43400017	43400002
	50	43400018	43400003
	63	43400018	43400003
	80	43400019	43400004
100	43400019	43400004	
cap 			

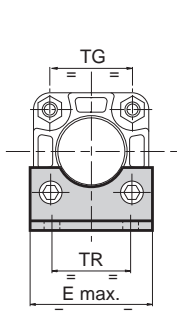
type	Ø cylinder	code
Cap eye with spherical bearing MP6		
	Ø mm	forged steel
	32	43400372
	40	43400373
	50	43400374
	63	43400375
	80	43400376
100	43400377	

CYLINDERS WITH PROFILED BARREL and TIE RODS - PES type

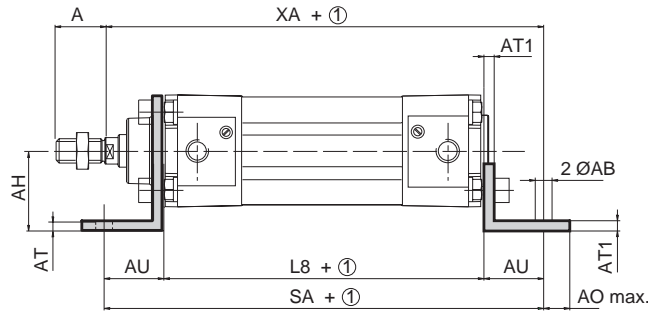
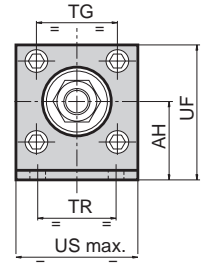
DIMENSIONS

Square feet

Low foot MS1



High foot MS3



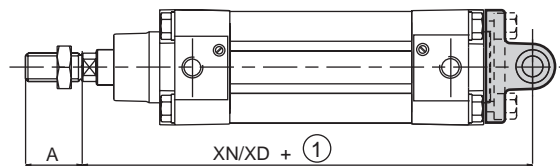
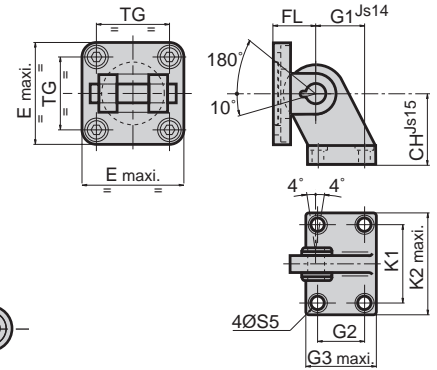
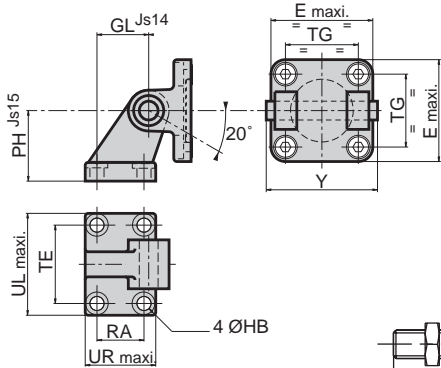
① : Stroke

Ø mm	A	AB	AH	AO	AT	AT1	AU	E/US	L8	TR	SA	TG	UF	XA
32	22	7	32	11	4	8	24	50	94	32	142	32,5	54	144
40	24	10	36	15	4	8	28	58	105	36	161	38	62	163
50	32	10	45	15	5	10	32	70	106	45	170	46,5	77	175
63	32	10	50	15	5	10	32	85	121	50	185	56,5	87	190
80	40	12	63	20	6	12	41	105	128	63	210	72	110	215
100	40	14,5	71	25	6	12	41	130	138	75	220	89	130	230

Trunnion mountings

Complete trunnion mounting with angular clevis MP2 + AB7

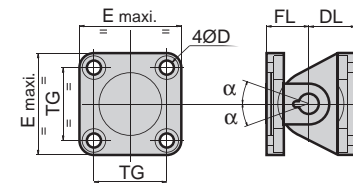
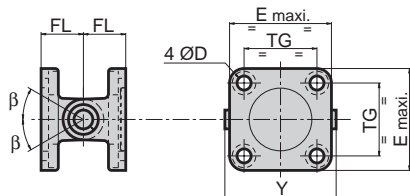
Complete trunnion mounting with angular clevis-spherical bearing AB6 + AB5



① : Stroke

Straight complete trunnion mounting MP2 + MP4

Straight complete trunnion mounting, spherical bearing AB6 + MP6



Ø mm	A	D	E	FL/DL	G1/GL	G2/RA	G3/UR	HB/S5	K1/TE	K2/UL	PH/CH	TG	XN/XD	Y	α	β
32	22	6,6	50	22	21	18	31	6,6	38	51	32	32,5	142	56	40°	45°
40	24	6,6	58	25	24	22	35	6,6	41	54	36	38	160	63	45°	50°
50	32	9	70	27	33	30	45	9	50	65	45	46,5	170	71	35°	40°
63	32	9	85	32	37	35	50	9	52	67	50	56,5	190	81	50°	55°
80	40	11	105	36	47	40	60	11	66	86	63	72	210	101	40°	45°
100	40	11	130	41	55	50	70	11	76	96	71	89	230	128	30°	35°

CYLINDERS WITH PROFILED BARREL AND TIE RODS - PES type

DIMENSIONS

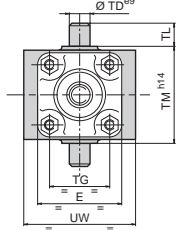
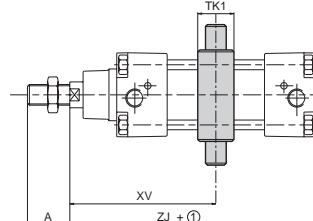
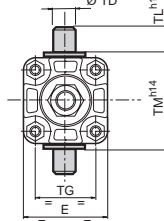
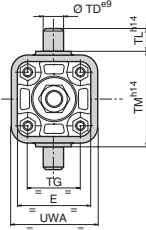
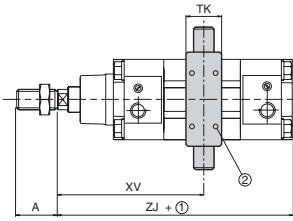
Trunnion mounting MT4

Cylinders with profiled barrel PES 453

Cylinders with tie rods PES 450

MT4 monobloc

MT4 with 2 flanges



① : Stroke

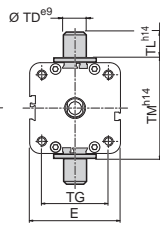
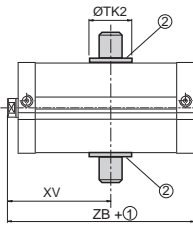
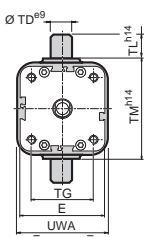
② : Mechanical axial blocking by pin

type MT4	Ø mm	without detectors		with "T" detectors			with "COMPACT" detectors			Ø mm	without detectors		with "UNI" detectors			with "COMPACT" detectors		
		XV min.	XV max.	XV min.	XV max.	① min.	XV min.	XV max.	① min.		XV min.	XV max.	XV min.	XV max.	① min.	XV min.	XV max.	① min.
monobloc	32	71,5	74,5 + ①	114	32,5 + ①	82,5	101,5	44,5 + ①	58,5	32	72	74,5 + ①	100	46,5 + ①	53,5	107	39,5 + ①	67,5
	40	80,5	84 + ①	123	42 + ①	82	111,5	53 + ①	60	40	83	82,2 + ①	112	53,2 + ①	58,8	119	46,2 + ①	72,8
	50	87	93 + ①	129	51 + ①	79	120	60 + ①	61	50	89,5	91,3 + ①	119,5	61,3 + ①	58,2	126,5	54,3 + ①	72,2
	63	90,5	105 + ①	132,5	63 + ①	70	119,5	76 + ①	46	63	93,5	102,6 + ①	130,5	65,6 + ①	64,9	136,5	59,6 + ①	76,9
	80	103,5	117 + ①	145,5	75 + ①	71	133,5	87 + ①	47	80	106,5	114,7 + ①	143,5	77,7 + ①	65,8	149,5	71,7 + ①	77,8
with 2 flanges	100	111	129 + ①	154	86 + ①	68,5	142	96 + ①	44,5	100	114	126,5 + ①	156	84,5 + ①	71,5	161	79,5 + ①	81,5
	32	73	73 + ①	73	73 + ①	74	73	73 + ①	54,5									
	40	82,5	82 + ①	82,5	82,5 + ①	74	82,5	82 + ①	56									
	50	91	89 + ①	91	89,5 + ①	73,5	91	89,5 + ①	57									
	63	95,5	100 + ①	95,5	100 + ①	73	95,5	100 + ①	35									
	80	108,5	112 + ①	108,5	112 + ①	76	108,5	112 + ①	36									
	100	118,5	121 + ①	118,5	121 + ①	82,5	119	121,5 + ①	40,5									

① : Stroke

Cylinders with profiled barrel PEC 449

MT4 monobloc



Ø mm	MT4 monobloc					MT4 with 2 flanges				
	without detectors		with "COMPACT" detectors			without detectors		with "COMPACT" detectors		
	XV min.	XV max.	XV min.	XV max.	① min.	XV min.	XV max.	XV min.	XV max.	① min.
32	33	25 + ①	47	10,5 + ①	37	34	23,5 + ①	34	23,5 + ①	31
40	34	25 + ①	48	10,5 + ①	38	35,5	23 + ①	35,5	23 + ①	34
50	35	26 + ①	62	-3 + ①	68	38,5	22 + ①	38,5	22 + ①	48
63	37	28 + ①	62	3 + ①	60	42	23 + ①	42	23 + ①	36
80	41,5	32 + ①	66,5	7 + ①	60	46,5	27,5 + ①	46,5	27 + ①	33
100	47	40 + ①	72	15 + ①	57,5	54,5	32,5 + ①	54,5	32,5 + ①	34

① : Stroke

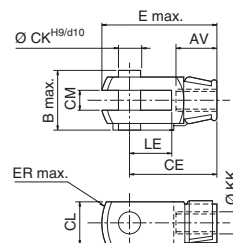
② : Mechanical axial blocking by pin

Ø mm	A	E	E1	TD	TG	TK	TK1	TK2	TL	TM	UW	UWA	ZB	ZJ
32	22	50	47	12	32,5	18	22	21	12	50	55	64,5	51	120
40	24	57,5	55	16	38	20	28	24	16	63	58	74,5	52	135
50	32	65	65	16	46,5	20	28	28	16	75	68	91	53	143
63	32	79	77	20	56,5	25	35	35	20	90	84	94	57	158
80	40	100	95	20	72	25	35	35	20	110	102	130	64	174
100	40	120	115	25	89	30	40	45	25	132	145	145	77	189

Female rod clevis and spherical rod end

Ø mm	AV AX	B	CE	CH	CK	CL	CM	CN	E	EN	ER	LE	LF	KK
32	20	26	40	43	10	20	10 ^{+0,5 +0,15}	10	56	14	14	20	15	M10 X 1,25
40	22	32	48	50	12	24	12 ^{+0,5 +0,15}	12	67	16	16	24	17	M12 X 1,25
50	28	41	64	64	16	32	16 ^{+0,5 +0,15}	16	89	21	21	32	22	M16 X 1,5
63	28	41	64	64	16	32	16 ^{+0,5 +0,15}	16	89	21	21	32	22	M16 X 1,5
80	33	48	80	77	20	40	20 ^{+0,5 +0,15}	20	112	25	25	40	26	M20 X 1,5
100	33	48	80	77	20	40	20 ^{+0,5 +0,15}	20	112	25	25	40	26	M20 X 1,5

Female rod clevis AP2



Spherical rod end AP6

