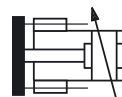


# "U" GUIDING UNIT

Ø 32 to 100 mm

with 4 slide bearings



Series  
**450-452**  
**453**  
Type  
**PES-PLS**

## CONSTRUCTION

### GUIDING UNIT

- Single block unit, metal body
  - 4 bronze sintered self-lubricating roller bearings
  - 2 chrome-plated steel guiding rods
  - Lip seals on the guiding rods
- High quality components with the following characteristics:

- High admissible loads
- Accurate guiding
- High overall sturdiness
- The cylinder rod is fixed to the guiding unit by means of an alignment compensation bracket

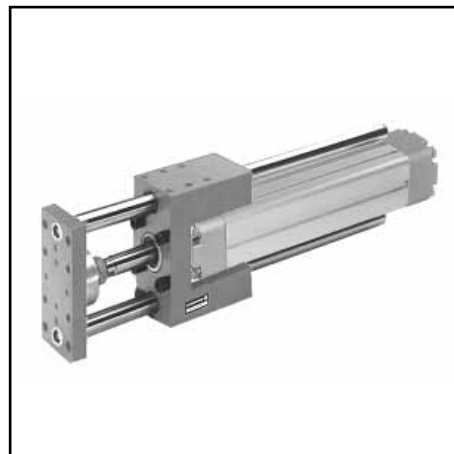
### SUITABLE CYLINDERS

- Double-acting PES type - Series 450, 453, PLS type Series 452 standard ISO 15552- AFNOR NF ISO 15552 - DIN ISO 15552
- With profiled tube plate or with tie rods
- With or without pneumatic cushioning
- Ready to receive magnetic position detectors or not

## SPECIFICATIONS

FLUID	: Air or neutral gas, filtered, lubricated or NOT
PRESSURE	: 10 bar max.
TEMPERATURE	: -20°C, +70°C
MIN. STROKE (with detectors)	: 110 mm
MAX. STROKE	: 500 mm (other strokes on request)
MAX. SPEED	: 1 m/s

For other characteristics, see leaflet P229



## MOUNTINGS

- Guiding unit on frame: 3 mounting options using 4 tapped holes (on the 2 smallest sides or on one of the large sides), more 2 holes for centring.
- Load on the guiding unit: 2 options, using 4 tapped holes or using 4 spotfaced holes, more 2 holes for centring.

**ORDERING** When ordering, please specify:

### ■ CYLINDER + GUIDING UNIT

- Standard code or reference for the PES cylinder ————— 450 .. ... (see P229-5)  
452 .. ... (see P229-9)  
453 .. ... (see P229-15)

• Optional code of the guiding unit

Cylinder stroke * (mm)	CODE OF THE GUIDING UNIT WITH SLIDE BEARINGS					
	Ø 32	Ø 40	Ø 50	Ø 63	Ø 80	Ø 100
50	010714	010722	010730	010738	010746	010754
80	010832	010834	010836	010838	010840	010842
100	010715	010723	010731	010739	010747	010755
125	010833	010835	010837	010839	010841	010843
160	010716	010724	010732	010740	010748	010756
200	010717	010725	010733	010741	010749	010757
250	010718	010726	010734	010742	010750	010758
320	010719	010727	010735	010743	010751	010759
400	010720	010728	010736	010744	010752	010760
500	010721	010729	010737	010745	010753	010761

\* Other strokes on request

See documentation P229-14 on PES cylinders series 453 with profiled barrel to define the position and the choice of grooves in relation to the guiding unit.

### ■ GUIDING UNIT ALONE :

Cylinder stroke * (mm)	CODE OF THE GUIDING UNIT WITH SLIDE BEARINGS					
	Ø 32	Ø 40	Ø 50	Ø 63	Ø 80	Ø 100
50	88145128	88145136	88145144	88145152	88145160	88145168
80	88145306	88145308	88145310	88145312	88145314	88145316
100	88145129	88145137	88145145	88145153	88145161	88145169
125	88145307	88145309	88145311	88145313	88145315	88145317
160	88145130	88145138	88145146	88145154	88145162	88145170
200	88145131	88145139	88145147	88145155	88145163	88145171
250	88145132	88145140	88145148	88145156	88145164	88145172
320	88145133	88145141	88145149	88145157	88145165	88145173
400	88145134	88145142	88145150	88145158	88145166	88145174
500	88145135	88145143	88145151	88145159	88145167	88145175

\* Other strokes on request

**MINIATURE MAGNETIC POSITIONS DETECTORS**

The magnetic position detectors are ordered separately:

- "T" model (see page P291), reed switch or magneto-resistive type
- "BIM" model, magneto-inductive (see page P297)

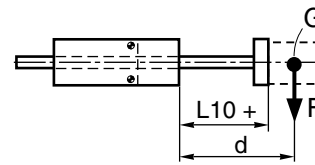
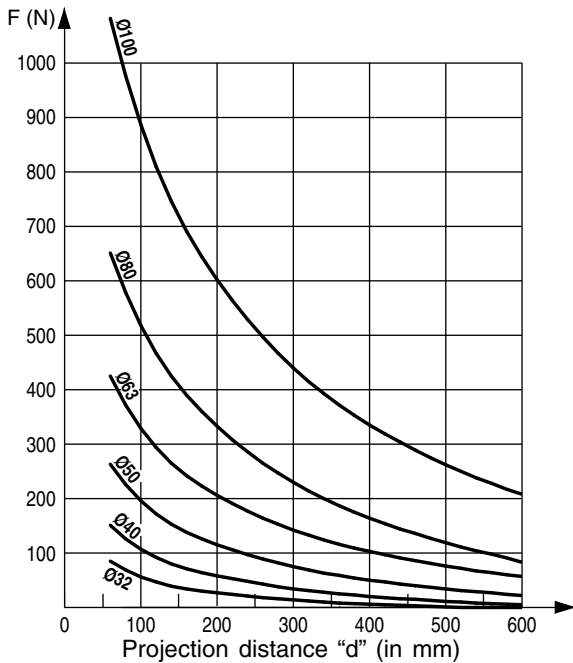
\*\* In the case of use of a BIM magnetic detector on PES series 450 Ø 32, it is necessary to add the option code = **995125**

- **Front position control** (rod out): Its mounting excepted, the magnetic position detector and its electrical characteristics are identical to the detector used for the PES cylinders.
- **Rear position control** (rod in): Detector and support are identical to those used for PES cylinders.

**Min. stroke (mm) of series 450 type PES cylinders with tie-rods and magnetic position detection**

	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
detectors on one tie-rod	65	60	85	85	100	100
detectors on different tie-rods	50	50	75	65	80	75

**MAXIMUM ADMISSIBLE LOAD "F" ON THE ROD END**



d = the projection distance (in mm) corresponding to the dimension L10 + the stroke length + the distance from the load centre of gravity (G) to the mating surface of the cylinder flange

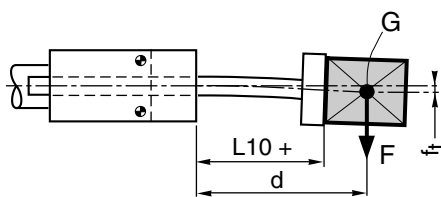
**Note:**

The values in the opposite chart correspond to those in regular horizontal movement of the guiding unit with the rods in the same horizontal plane. In the case of vibration or jerky movement, **halve** the maximum allowable load values.

**DETERMINING THE DEFLEXION**

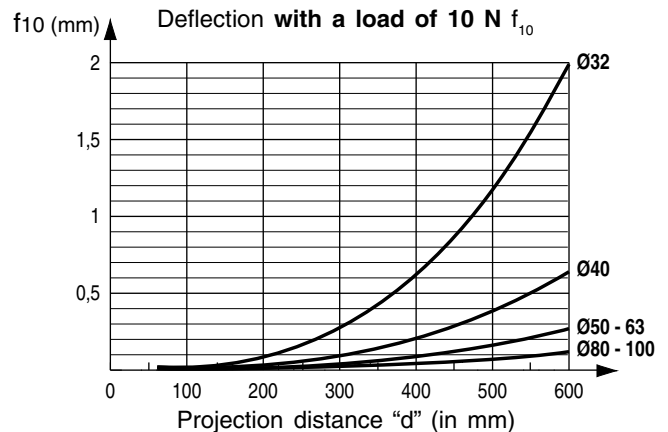
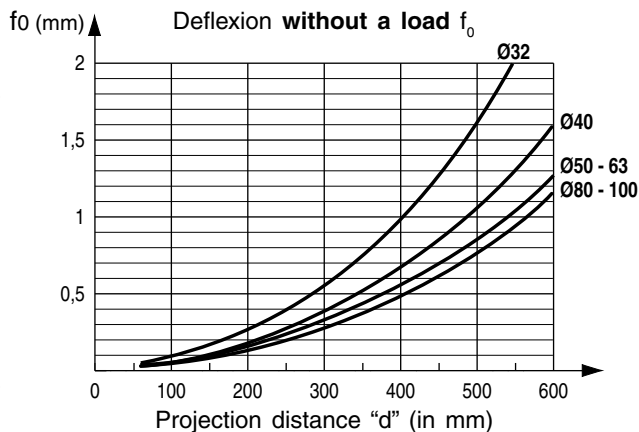
Deflection under load as a function of projection distance "d", corresponds to the sum of no-load deflection f<sub>0</sub> and flection f<sub>10</sub> under load, the latter being proportional to the deflection caused by 10 N.

d = projection distance (in mm) as defined above.



$$f_t = f_0 + (f_{10} \times \frac{F}{10})$$

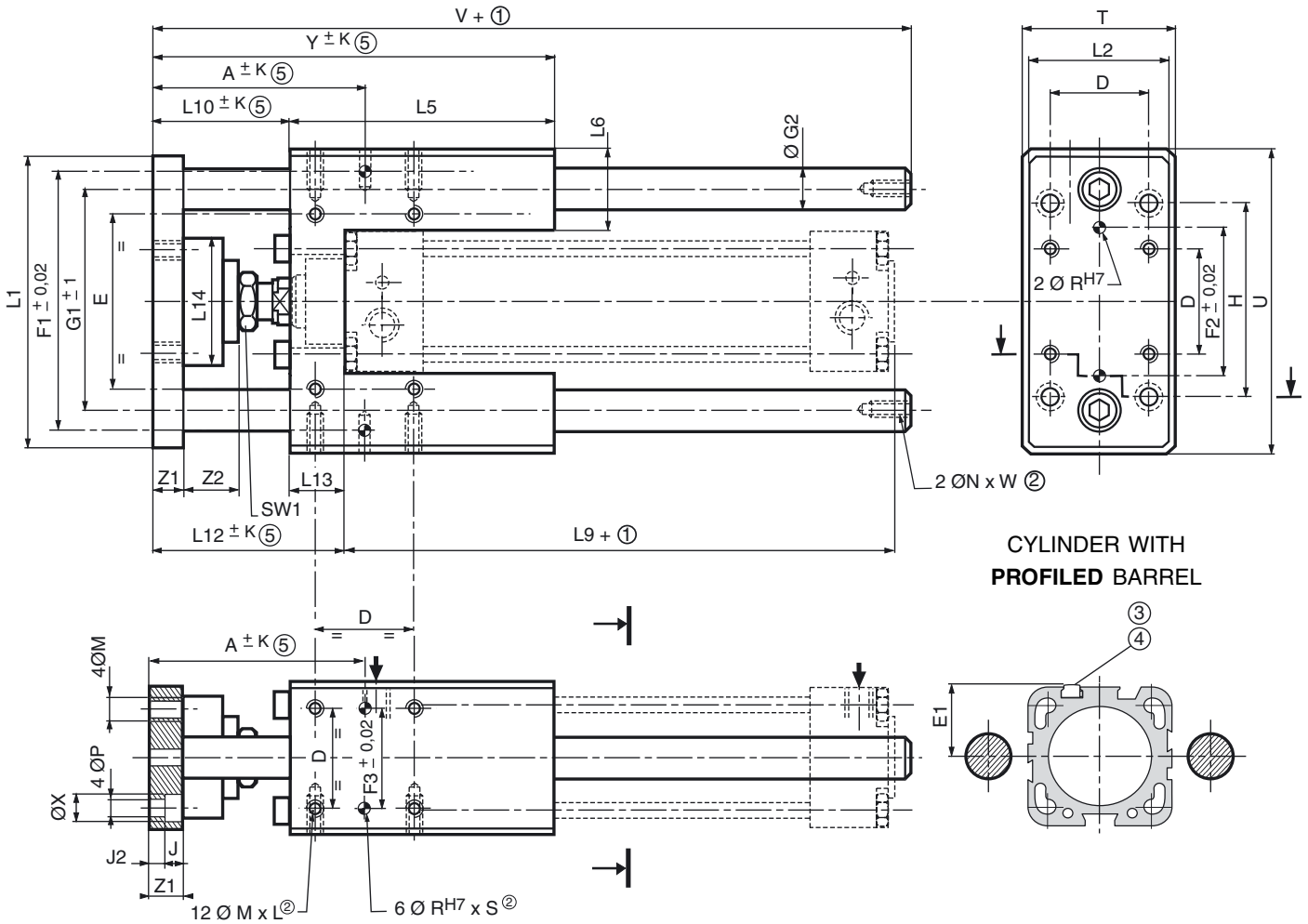
- f<sub>t</sub> = Total deflection (in mm)
- f<sub>0</sub> = Deflection without a load (in mm)
- f<sub>10</sub> = Deflection with a load of 10 N (in mm)
- F = Load on the rod ends (in N)



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DIMENSIONS (mm), WEIGHT (kg)



CYLINDER WITH  
PROFILED BARREL

- (1) : + stroke
- (2) : Depth
- (3) : Position detector mounting
- (4) : For small stroke cylinders, the standard detector for rear position control must be mounted on the profiled tube plate or tie rod opposite to the tie rod of the front position detector.
- (5) : Dimension variable:  $\pm K$  .End play: 0,1 mm
- (6) : Weights of cylinders: see leaflet P229 or P232
- (7) : Weight to be added per additional 100 mm length
- ⊕ : 6 + 2 holes  $\text{ØRH7}$  for centering pins

Ø	A	D	E	E3	F1	F2	F3	G1 $\pm 0,02$	G2 $\pm 0,02$	H $\pm 0,02$	J	J2	K	L	L1	L2	L5	L6	L9
32	78,5	32,5	61	29	81	50	32,5	74	12	78	6,5	5,5	2,5	12	90	45	75	23,2	98
40	85	38	69	32	99	54	38	86,7	16	84	6,5	5,5	3	12	110	54	90	28,3	109
50	97	46,5	85	40	119	72	46,5	103,7	20	100	9	6	4	16	130	63	104	33,3	110
63	106	56,5	100	45	132	82	56,5	118,7	20	105	9	6	4	16	145	80	120	33,3	125
80	130	72	130	52	166	106	72	147	25	130	11	9	5	20	180	100	150	40,5	132
100	140,5	89	150	61	190	131	89	173	25	150	11	9	5	20	200	120	165	40,8	142

Ø	L10	L12	L13	L14	M	N	P	R (H7)	S	SW1	T	U	V	W	X	Y	Z1	Z2	weight guiding unit	
																			(6)	(7)
32	54,5	71,5	17	45	M6	M6	6,6	6	10	16	50	97	182	11	11	129,5	12	25	1,217	0,178
40	56	77	21	46	M6	M6	6,6	6	10	18	58	115	192	11	11	146	12	25	1,928	0,316
50	68	92,5	25	55	M8	M8	9	6	10	24	70	137	237	16	15	172	15	28	3,397	0,492
63	68	93	25	68	M8	M8	9	6	10	24	85	152	237	16	15	188	15	28	4,312	0,492
80	81	115	34	90	M10	M10	11	6	10	30	105	188	280	16	18	231	20	33	8,152	0,770
100	81,5	120,5	39	90	M10	M10	11	6	10	30	130	214	280	16	18	246,5	20	33	10,417	0,770