Gas spring with delayed return stroke — TPSR

Gas springs of the TPSR series make it possible to control stem recovery speed when the gas spring opens after its compression. During the compression phase, TPSR gas springs work in just the same manner as that of a conventional gas spring (see operation graph below).

It is during the phase when the gas spring recovers its original position that we obtain this delay-effect that allows us to avoid damage to delicate parts since the press does not recover its original position at the same speed. This characteristic allows for a maximum optimisation of working conditions.

Speed selection is carried out by manipulating an internal valve situated on the stem head. Turning the valve to the right decreases the speed and turning it to the left increases it (see figure 1).

In order to avoid damage in the sealing system due to an increase in temperature, the gas spring stroke rate should be limited. The temperature should not be allowed to go above 80°C. In order to use this product correctly the customer is to provide data as requested in the order sample.

The TPSR series is manufactured in ISO-norm dimensions. They admit operation both in the autonomous mode and connected to a control panel.

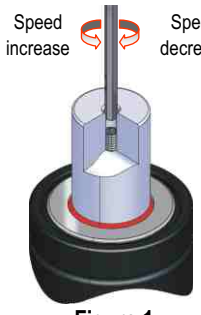
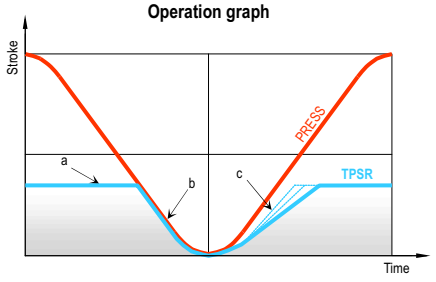
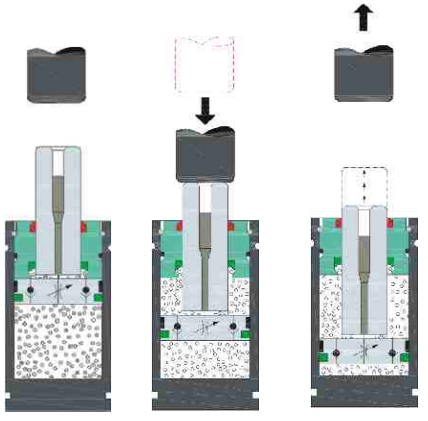


Figure 1

Required data:

Working stroke .....(mm)
Press speed .....(m/min)
Required gas spring
expansion speed .....(m/min)
Maximum press rate .....(strokes/min)

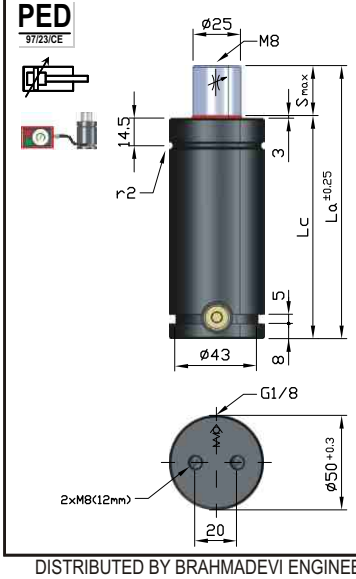




a) Figure 2 b) Figure 3 c) Figure 4

TPSR 750

PED 97/23/CE



Pressure medium	Nitrogen Gas (N_2)	Force increase by temperature	0,33% / 1ºC
Max. charging pressure	150 Bar	Max. stem speed	12 m/min
Min. charging pressure	35 Bar	Maintenance kit	kit SR750
Rod seal area	4,91 cm^2	Recommended max. strokes/min*	5 - 20
Max. working temperature	80ºC	*Maximum rate will depend on working parameters.	

Code	S max mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	V l	Kg
TPSR 750x25	25	145	120	740 (±5%)	960	150	0,06	1,35
TPSR 750x38	38	171	133		995		0,8	1,40
TPSR 750x50	50	195	145		1020		0,09	1,52
TPSR 750x63	63	222	159		1075		0,10	1,70
TPSR 750x80	80	255	175		1085		0,13	1,82
TPSR 750x100	100	295	195		1095		0,16	1,85
TPSR 750x125	125	345	220		1150		0,18	2,20

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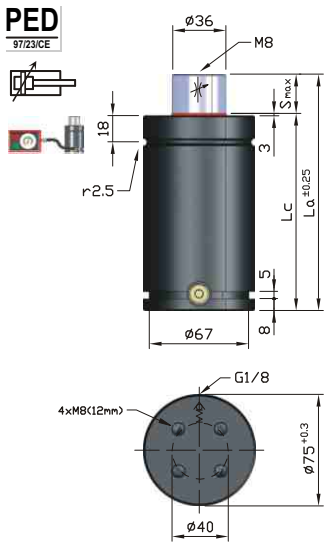
TPSR

TPSR 1500



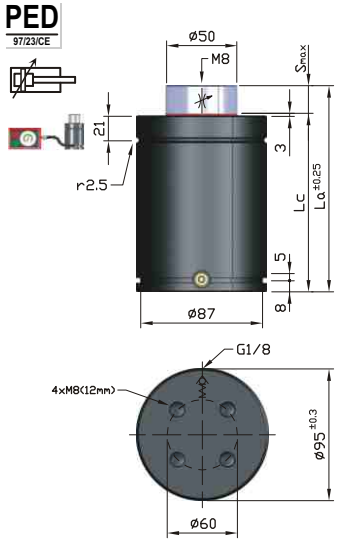
Pressure medium	Nitrogen Gas (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	10,18 cm^2
Max. working temperature	80ºC

Force increase by temperature	0,33% / 1ºC
Max. stem speed	12 m/min
Maintenance kit	kit SR1500
Recommended max. strokes/min*	5 - 20

*Maximum rate will depend on working parameters.

Code	S max mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	V l	Kg
TPSR 1500x25	25	160	135	1500 (±5%)	1805	148	0,15	3,30
TPSR 1500x38	38	186	148		1870		0,20	3,50
TPSR 1500x50	50	210	160		1910		0,24	3,65
TPSR 1500x63	63	237	174		1930		0,29	3,90
TPSR 1500x80	80	270	190		2020		0,32	4,45
TPSR 1500x100	100	310	210		2040		0,39	4,80
TPSR 1500x125	125	360	235		2080		0,45	5,36

TPSR 3000



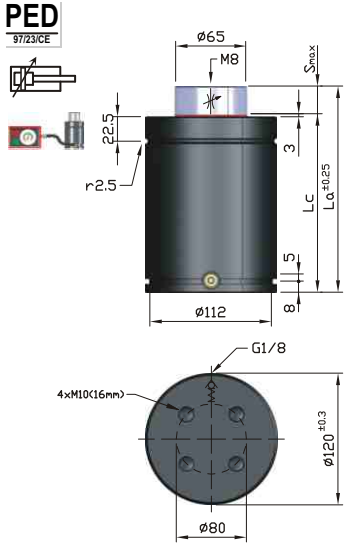
Pressure medium	Nitrogen Gas (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	19,63 cm^2
Max. working temperature	80ºC

Force increase by temperature	0,33% / 1ºC
Max. stem speed	12 m/min
Maintenance kit	kit SR3000
Recommended max. strokes/min*	5 - 20

*Maximum rate will depend on working parameters.

Code	S max mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	V l	Kg
TPSR 3000x25	25	170	145	3000 (±5%)	3660	150	0,27	5,75
TPSR 3000x38	38	196	158		3810		0,35	6,15
TPSR 3000x50	50	220	170		3910		0,42	6,53
TPSR 3000x63	63	247	184		4190		0,44	6,91
TPSR 3000x80	80	280	200		4070		0,60	7,25
TPSR 3000x100	100	320	220		4310		0,65	8,00
TPSR 3000x125	125	370	245		4370		0,78	8,15

TPSR 5000



Pressure medium	Nitrogen Gas (N_2)
Max. charging pressure	150 Bar
Min. charging pressure	35 Bar
Rod seal area	33,18 cm^2
Max. working temperature	80ºC

Force increase by temperature	0,33% / 1ºC
Max. stem speed	12 m/min
Maintenance kit	kit SR5000
Recommended max. strokes/min*	5 - 20

*Maximum rate will depend on working parameters.

Code	S max mm	La mm	Lc mm	Fa daN	Fc daN	P Bar	V l	Kg
TPSR 5000x25	25	190	165	5000 (±5%)	6280	150	0,41	12,01
TPSR 5000x38	38	216	178		6600		0,52	12,85
TPSR 5000x50	50	240	190		6820		0,62	13,60
TPSR 5000x63	63	267	204		6700		0,73	14,50
TPSR 5000x80	80	300	220		7170		0,88	15,39
TPSR 5000x100	100	340	240		7310		1,05	16,48
TPSR 5000x125	125	390	265		7440		1,26	18,05

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