

PST Series

Features



- Linear motion cylinder which enhanced response ability for external high moment and high positioning accuracy by applying L.M guide at the moving table with 2 sets of parallel cylinders.
- Auto Switch for the detection of position can be attached
- Possible to manufacture Long stroke type cylinder
- Possible to mount shock absorber for high shock absorbing
- Double thrust by double cylinder structure compared with the typical cylinder

Order form

PST 16 - 125 - A2 S - SH2

① ② ③ ④ ⑤ ⑥

① Series

②, ③ Bore size & Stroke(mm)

②Name	Bore size(mm)	③Stroke(mm)
12	12	50,75,100,125,150
16	16	75,100,125,150,175,200
20	20	100,125,150,175,200,250
25	25	100,125,150,175,200,250

④ Auto Switch type

Symbol	Type	Length	Applied cylinder
A1	DSC PRO-A1	1m	PST20
A1L	(2-wire)	3m	
B1	PLC PRO-B1	1m	PST25
B1L	(3-wire)	3m	
A2	DSC PRO-A2	1m	PST12
A2L	(2-wire)	3m	
B2	PLC PRO-B2	1m	PST16
B2L	(3-wire)	3m	

⑤ Auto Switch quantity

Blank	2ea
S	1ea

⑥ Stopper specification

Blank	Urethane Stopper
SH2	Shock Absorber

*Stopper(Shock Absorber) specification

Model	Shock Absorber	Urethane Stopper
PST12	M8×P1	M5×P0.8
PST16	M10×P1	M8×P1
PST20	M12×P1	M8×P1
PST25	M14×P1.5	M10×P1

Specification

Model	PST12	PST16	PST20	PST25
Bore size(mm)	12	16	20	25
Rod(mm)	6	8	10	12
Stroke(mm)	50 ~ 150	75 ~ 200	100 ~ 250	100 ~ 250
Theoretical thrust(kgf) Note 2)	Forward	4.0×P	6.28×P	9.81×P
	Backward	1.70×P	3.0×P	4.7×P
Air port size	M5	M5	M5	M5
Main body weight(kgf)	0.6+0.0052×S.T	1.0+0.008×S.T	2.7+0.012×S.T	6.2+0.015×S.T
Max. load(kgf)	4	7.1	11.1	17.9
Fluid	Clean air Note 1)			
Air pressure(kgf/cm ²)	1.5 ~ 7 (General resistance pressure: 10.5) Note 3)			
Lubrication	No need (if need, use one sort of turbine oil: SPEC ISOVG 32)			
Temperature(°C)	5 ~ 60			
Motion speed(mm/sec)	50 ~ 500			
Motion type	Double-acting type			
Accuracy(mm)	±0.01			

Note 1) Clean air: Fresh air containing solid matters with 0.3% of supersaturated moisture and 99.9% of liquid oil that passed through the 3~10 μ m degree of filtering

Note 2) P: Air pressure(kgf/cm²)

Note 3) Guaranteed capacity of resist pressure: A pressure that does not cause an abnormality in parts when it is applied for 1 minute without any weight loaded.



Technical data by model

■ Mp, My, Mr 3 directions moment calculation formula

Pitch Moment(Mp)	Yawing Moment(My)	Rolling Moment(Mr)
$M_p = W \times (A + L_p)$ $M_p = W \times (B + L_p)$	$M_y = W \times (A + L_y)$ $M_y = W \times (C + L_y)$	$M_r = W \times (C + L_r)$ $M_r = W \times (B + L_r)$

※ W : Work weight(kgf)

■ Corrections from the central distance of moments

Unit: mm

Model	Corrections		
	A	B	C
PST12	41	13.5	24
PST16	45	17	29
PST20	59	29	34
PST25	84	32	44

■ Maximum allowable kinetic energy (Ea)

Unit: kgf · cm

Model	Stopper type	
	Urethane cushion	Shock Absorber
PST12	0.13	0.9
PST16	0.5	1.8
PST20	0.5	3.4
PST25	0.84	4.7

■ Maximum allowable moment

Unit: kgf · cm

Model	Allowable moment		
	Pitching moment Mp	Yawing moment My	Rolling moment Mr
PST12	30	30	50
PST16	63	63	102
PST20	236	236	330
PST25	519	519	732

■ Maximum allowable load (Wa)

Unit: kgf

Model	Maximum allowable load
PST12	4
PST16	7.1
PST20	11.1
PST25	17.9

■ Model selection method

- Kinetic energy review $\frac{1}{2} \times \frac{W \text{ (work Weight)}}{g \text{ (gravity acceleration)}} \times [1.4V \text{ (average speed)}]^2 < \text{allowable kinetic energy}$
- Load factor review $\frac{\text{Loading factor}}{\text{Max. load}} + \frac{\text{Static moment}}{\text{Allowable moment}} + \frac{\text{Dynamic moment}}{\text{Allowable moment}} < 1$

※ For detailed model selection method, please refer to page 233.



PST Series

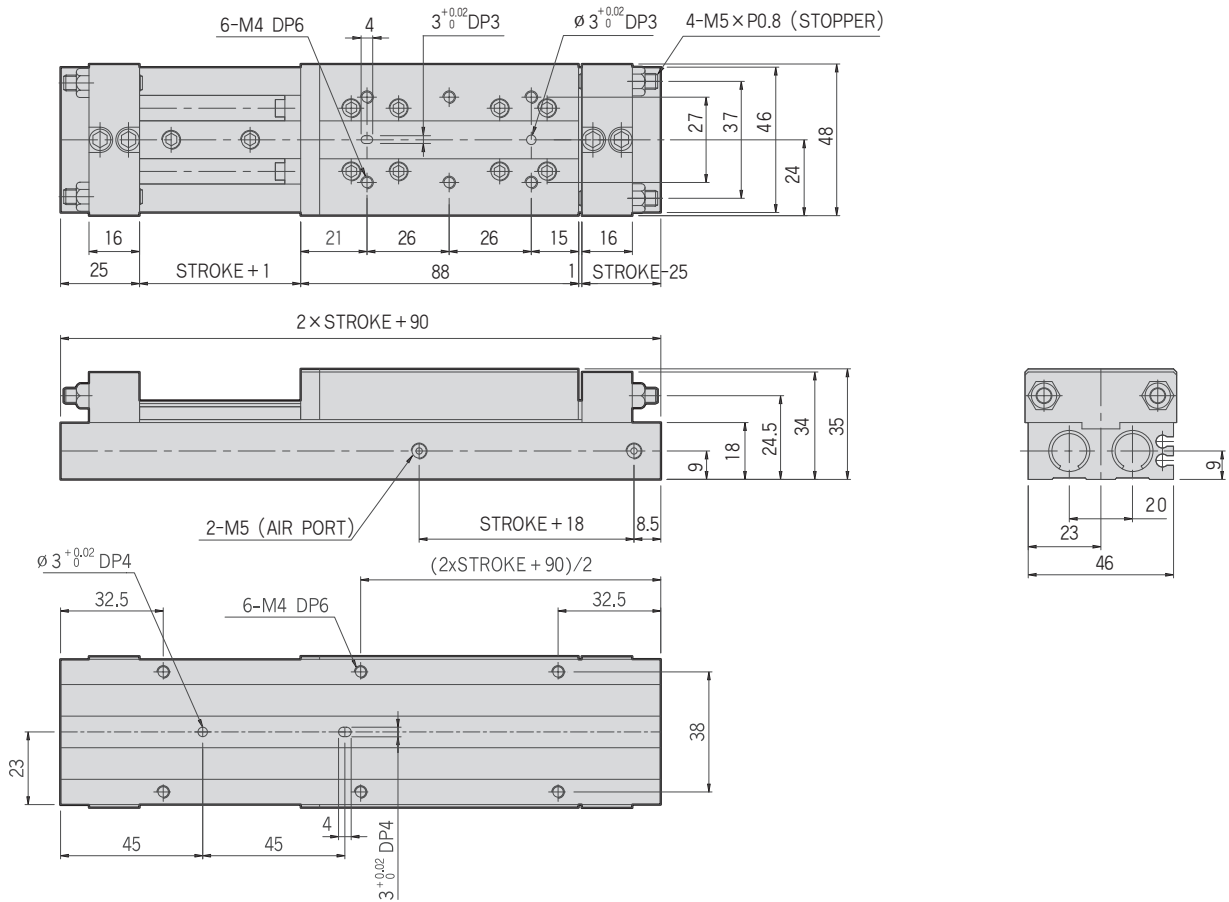
12

16

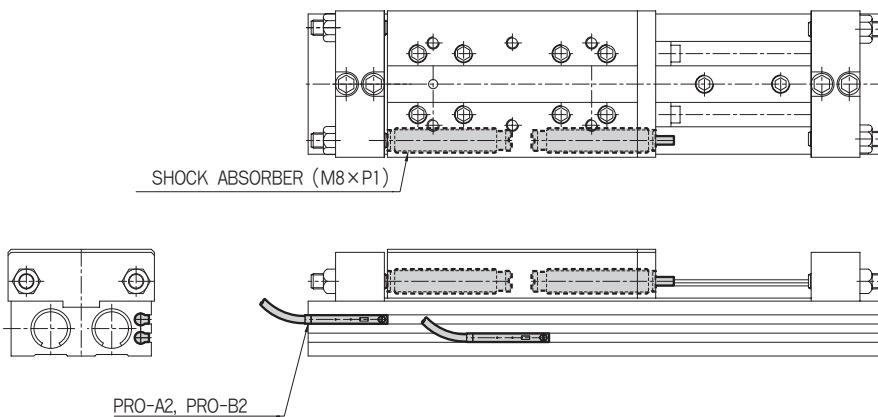
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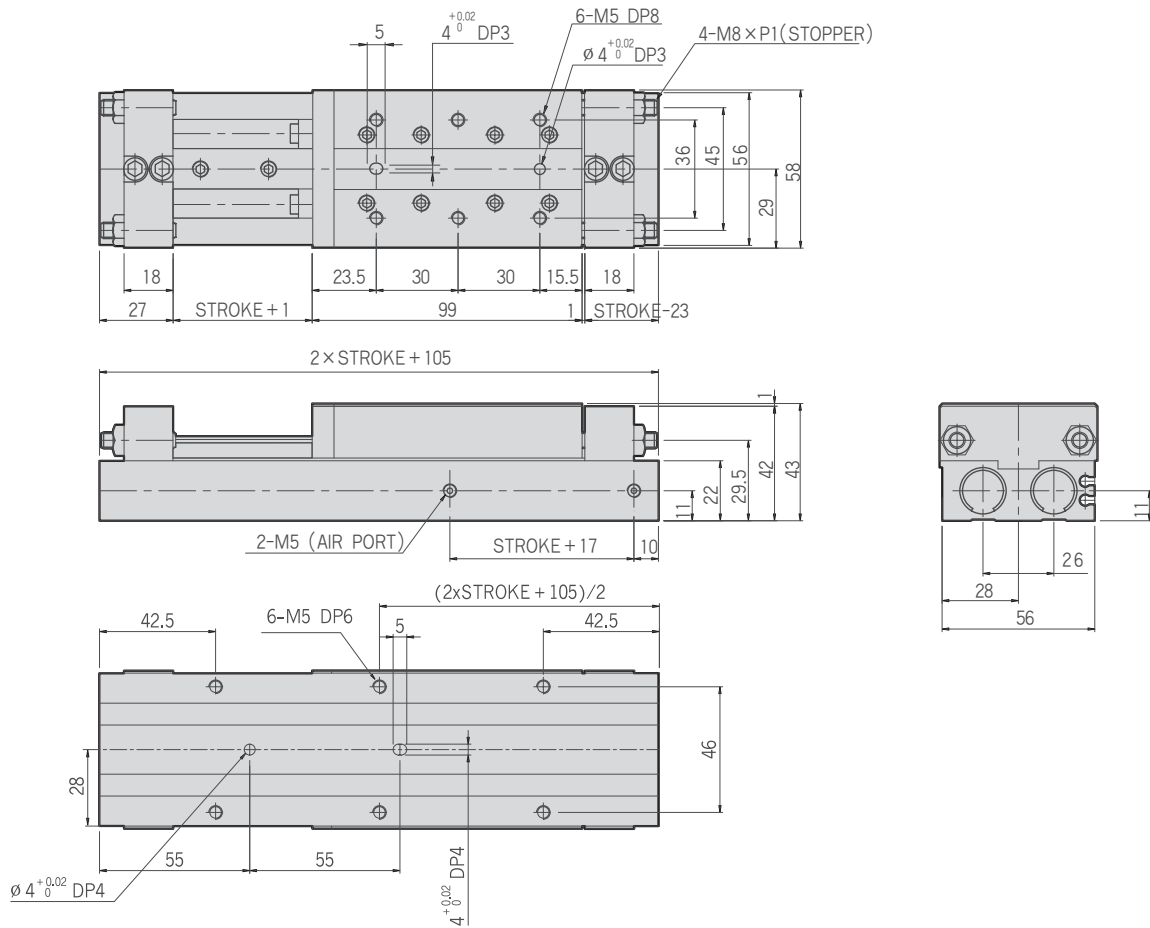
PST12



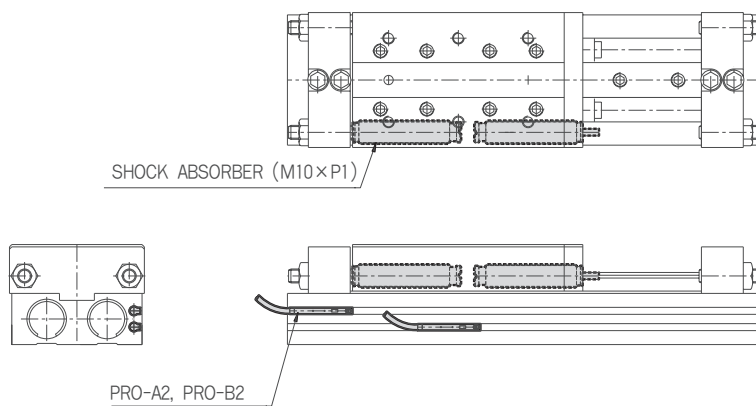
PST12-Auto Switch & Shock Absorber



PST16



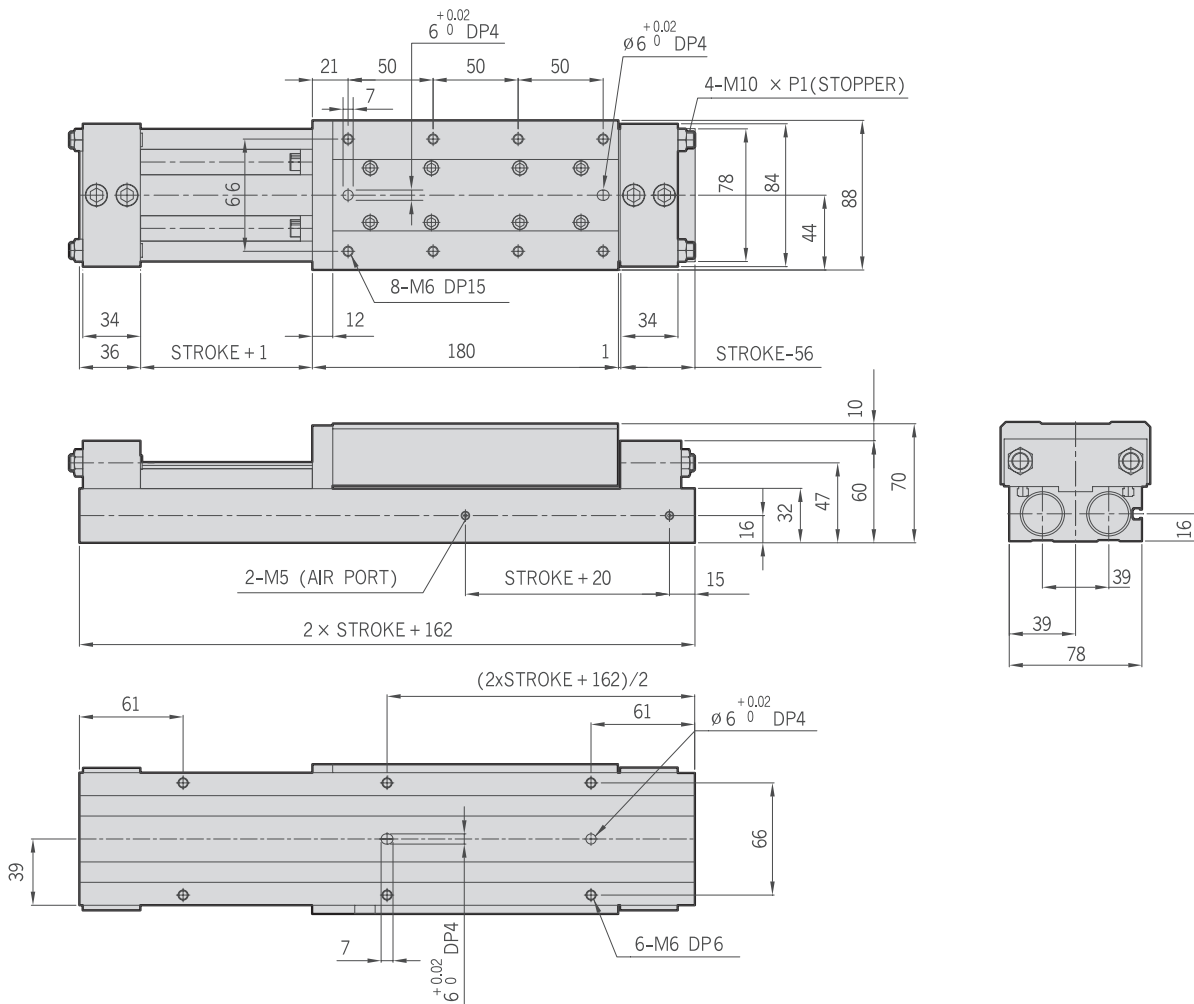
PST16-Auto Switch & Shock Absorber



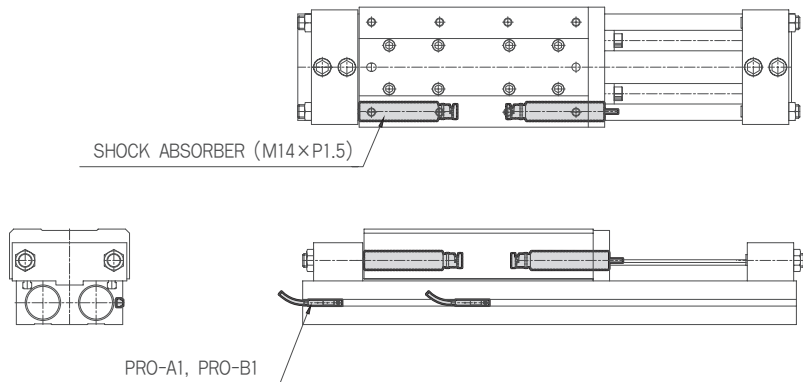
PRECISION

PST-NS
PST
SC
ST
STS-L
SD
PSW

PST25



PST25-Auto Switch & Shock Absorber



- PRECISION**
- PST-NS
 - PST**
 - SC
 - ST
 - STS-L
 - SD
 - PSW