

# PH08 Series

## Features



- Parallel open & close type by Link Lever
- Expanded stroke
- Precision open & close motion with the application of Cross Roller Guide
- High-accuracy, high-solidity structure
- Compact type structure and stable gripping force ensured with synchronization of 2 sets of cylinder by York
- Auto Switch for the detection of position can be attached

## Order form

**PH08 - 10 - A2 S**  
 ①            ②            ③            ④

③ Auto Switch type

Symbol	Type	Length	Applied cylinder
A1	DSC PRO-A1 (2-wire)	1m	∅ 20
A1L		3m	
B1	PLC PRO-B1 (3-wire)	1m	
B1L		3m	
A2	DSC PRO-A2 (2-wire)	1m	∅ 10, ∅ 16, ∅ 30
A2L		3m	
B2	PLC PRO-B2 (3-wire)	1m	
B2L		3m	

※For Auto Switch mounting of PH08-06, please contact our company.

① Series

② Bore size & Stroke(mm)

Name	Bore size(mm)	Stroke(mm)
6	6	8
10	10	15
16	16	20
20	20	20
30	30	30

④ Auto Switch quantity

Blank	2ea
S	1ea

## Specification

Model	PH08-06	PH08-10	PH08-16	PH08-20	PH08-30
Bore size(mm)	6	10	16	20	30
Stroke(mm)	8	15	20	20	30
Gripping force(kgf) Air pressure(5kgf/cm <sup>2</sup> ) Note 2)	Close 1.23	3.4	8.8	13.8	31
Air port size	M3	M5	M5	M5	PT1/8
Main body weight(kgf)	0.085	0.14	0.32	0.7	1.3
Allowable length of attachment L(mm)	30	40	50	60	80
Displacement of attachment H(mm) Note 3)	15	20	30	40	50
Fluid	Clean air Note 1)				
Air pressure(kgf/cm <sup>2</sup> )	1.5 ~ 7 (General resistance pressure: 10.5) Note 4)				
Lubrication	No need (if need, use one sort of turbine oil: SPEC ISOVG 32)				
Temperature(°C)	5 ~ 60				
Accuracy(mm)	±0.05				
Max. Cycle Per Minute(C.P.M)	80				
Motion type	Double-acting type (Structure: Parallel open & close by Link Lever) (Guide: Cross Roller Bearing Guide)				
Tolerance of open & close stroke(mm)	Open: -0.5 ~ +1, Close: -1 ~ +0.5				

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 $\mu$ m degree of filtering

Note 2) The position of gripping point for gripping force is the end point of the Finger.

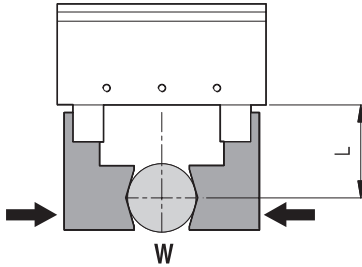
Note 3) For the base point of tolerable length and displacement in attachment, refer to page 48.(Tolerable value with 5kgf/cm<sup>2</sup> of Air pressure.)

Note 4) 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.



▶ Refer to page 49 for how to read the graph.

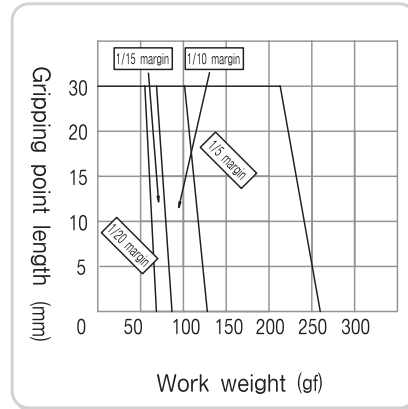
## WORK outer diameter gripping force graph



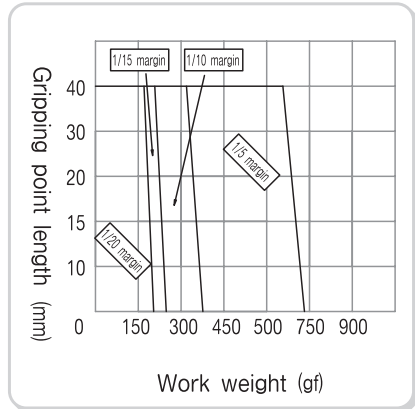
Outer diameter gripping state

W: Work weight  
L: Gripping point length

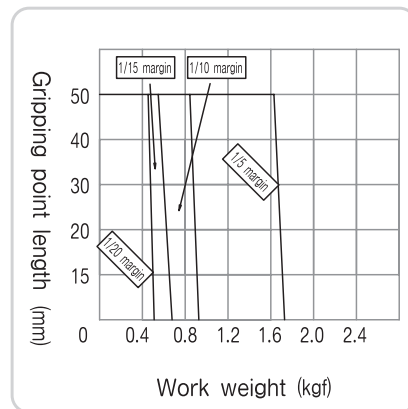
◆PH08-06



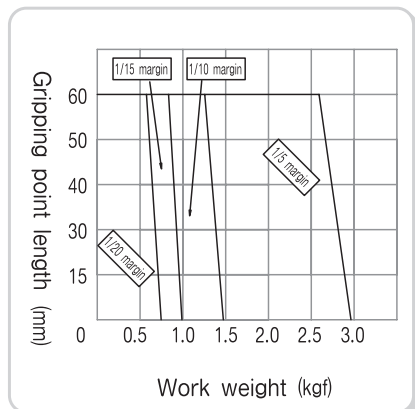
◆PH08-10



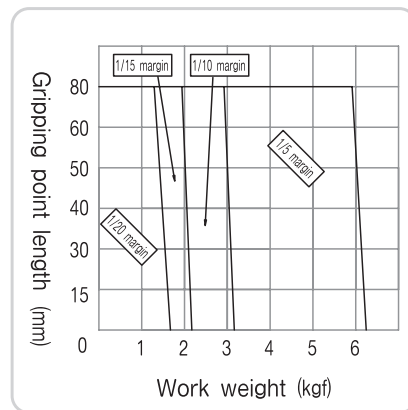
◆PH08-16



◆PH08-20



◆PH08-30



HAND

- PH01-A
- PH01-D
- PH01-G
- PH01K
- PH01K-C
- PH02
- PH04
- PH05
- PH06
- PH06-L
- PH07
- PH08**
- PH09
- PH12
- PH14-S
- PH15-S
- PH21
- PH22
- PH23

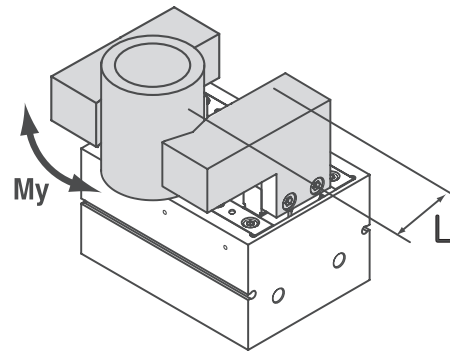
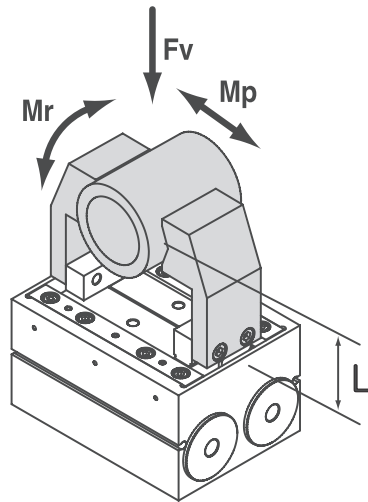
### ⚠ Caution

If using the attachment longer than allowable length as specified in the graph, it may have an adverse effect on the guide and cause problem to durability. Always use the gripping force within the specified length.



# PH08 Series

## Allowable moment / Allowable load checking



- ※ L: Distance from the center of guide to the point at which the load is applied (cm)
- ※ The center of moment is equal to the center of guide.

Item	Perpendicular direction allowable load Fv (kgf)	Maximum allowable moment (kgf · cm)		
		Pitching moment Mp	Yawing moment My	Rolling moment Mr
PH08-06	13	2.3	2.3	5.9
PH08-10	32	10	10	29
PH08-16	44	20	20	39
PH08-20	83	58	58	116
PH08-30	106	87	87	163

※ Above allowable load and moment values represent static values.

### Allowable load(when moment load is added) calculation

$$\text{Allowable load } F \text{ (kgf)} = \frac{\text{Maximum allowable moment } M \text{ (kgf} \cdot \text{cm)}}{\text{External force applied point } L \text{ (cm)}}$$

#### Calculation ex)

To check the availability if 4kgf of static load (F) is applied in the direction of pitching moment (Mp) at the 50mm point of attachment length (L) in PH08-20

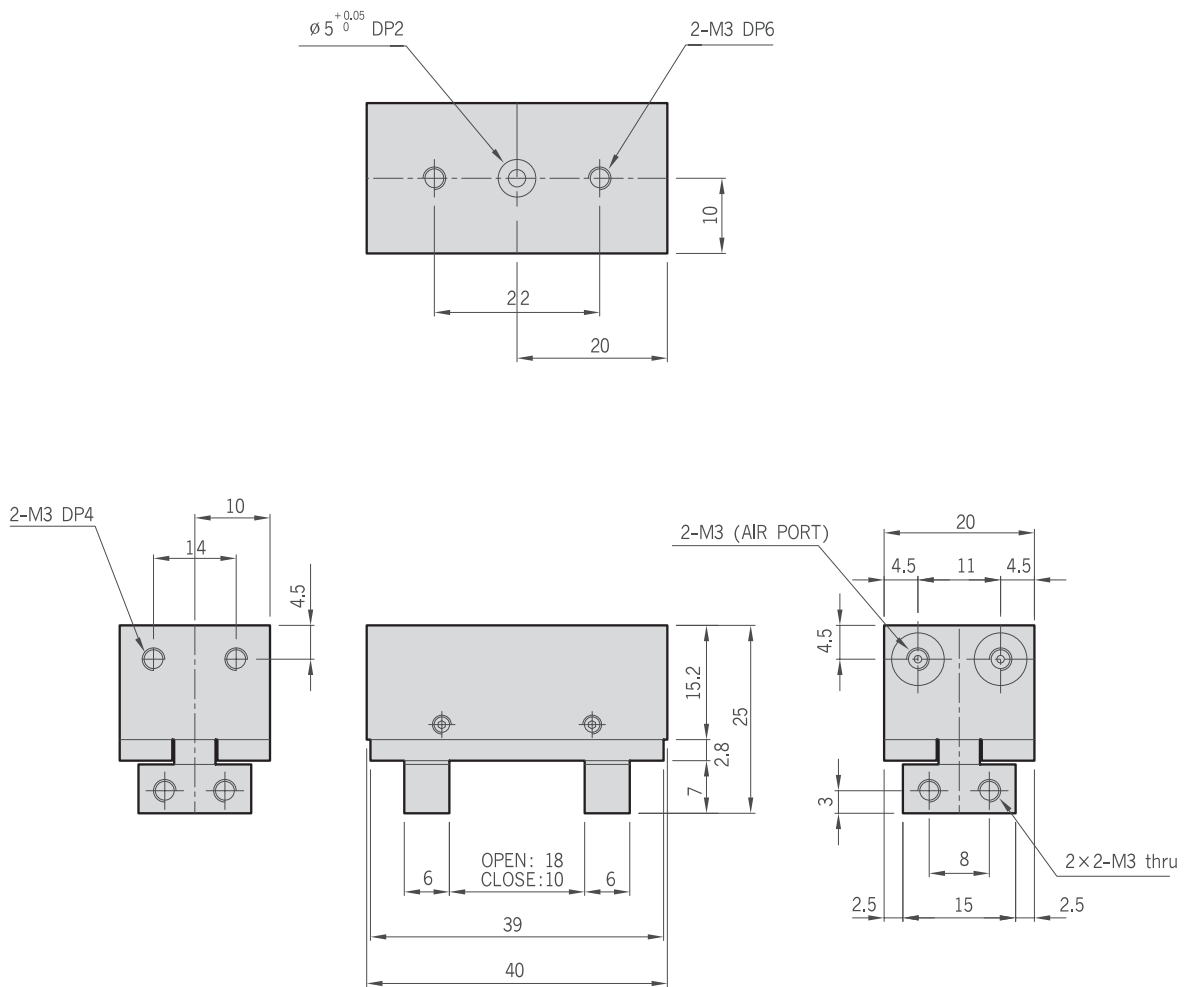
$$\Rightarrow \text{Allowable load } F \text{ (kgf)} = \frac{\text{Maximum allowable moment } M \text{ (kgf} \cdot \text{cm)}}{\text{External force applied point } L \text{ (cm)}} = \frac{58}{5} = 11.6 \text{ kgf} > 4\text{kgf}$$

As tolerable load (11.6kgf) is greater than static load (4kgf), it is applicable.

PH08-06

HAND

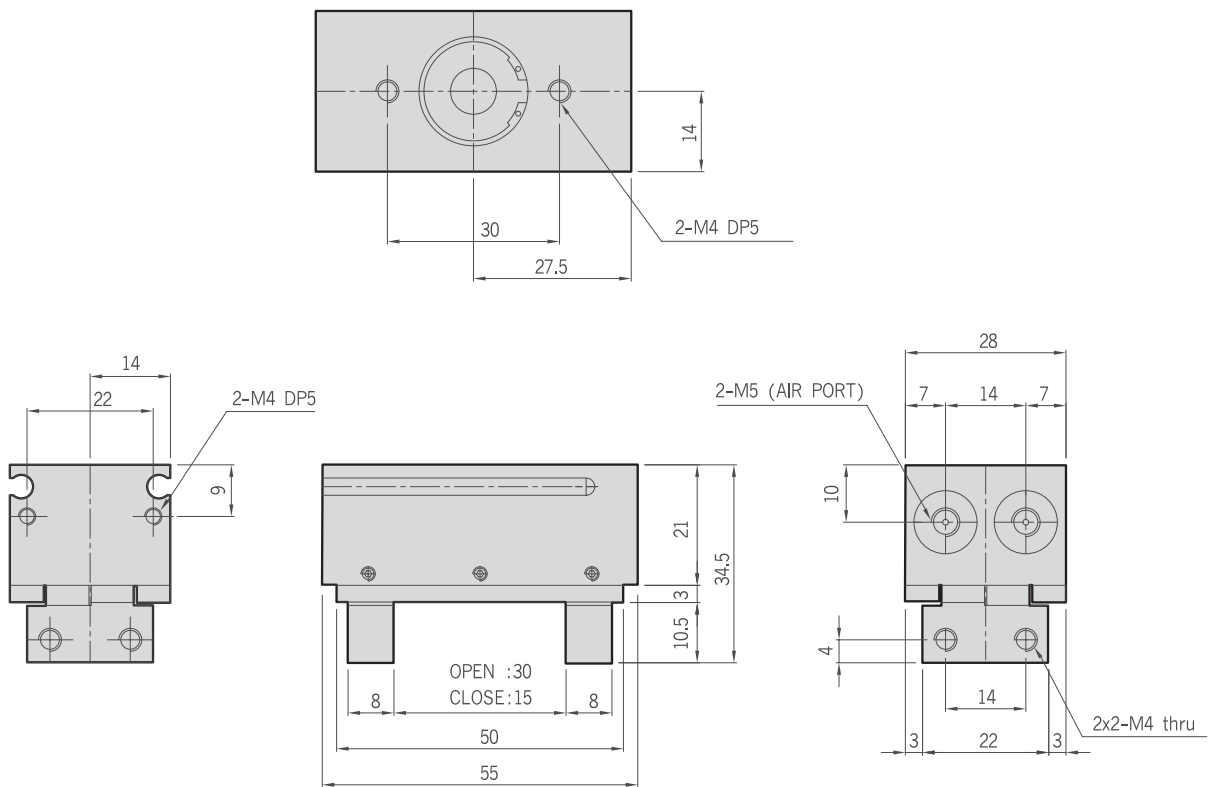
- PH01-A
- PH01-D
- PH01-G
- PH01K
- PH01K-C
- PH02
- PH04
- PH05
- PH06
- PH06-L
- PH07
- PH08**
- PH09
- PH12
- PH14-S
- PH15-S
- PH21
- PH22
- PH23



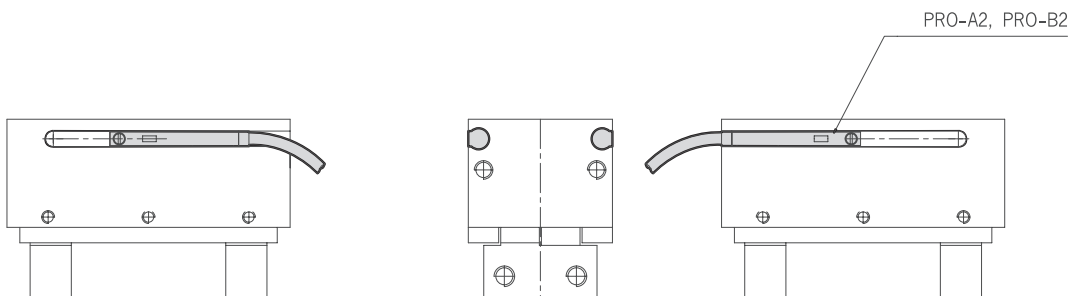
# PH08 Series

06 10 16 20 30

## PH08-10



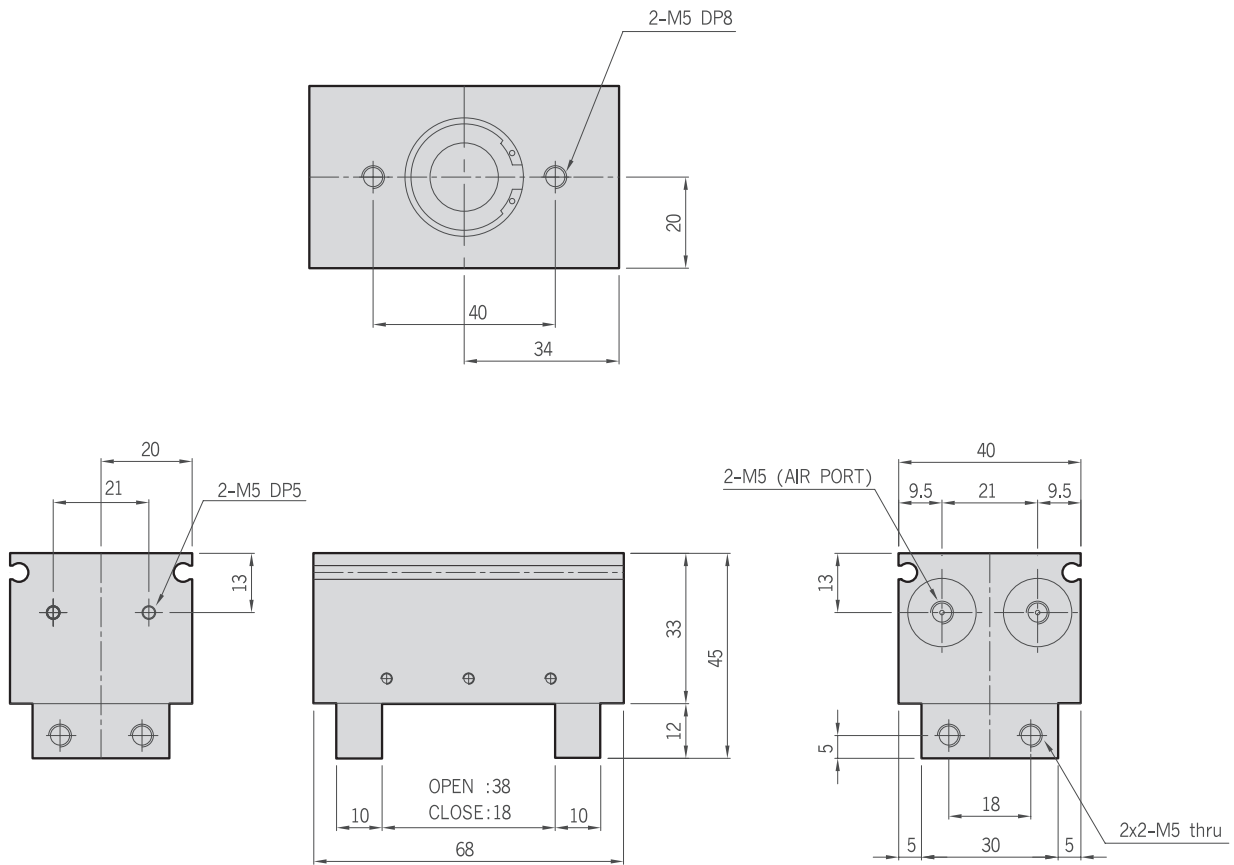
## PH08-10-Auto Switch



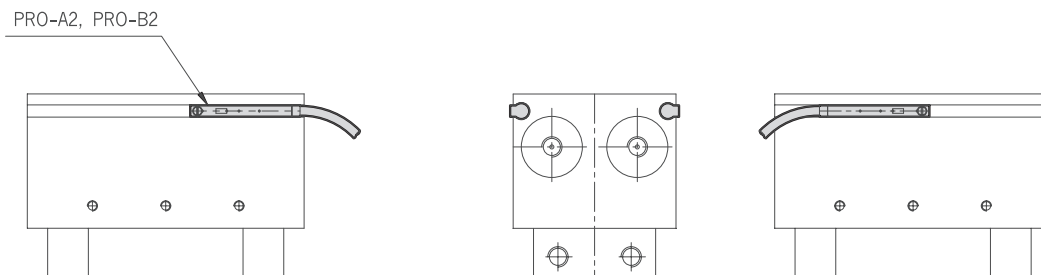
PH08-16

**HAND**

- PH01-A
- PH01-D
- PH01-G
- PH01K
- PH01K-C
- PH02
- PH04
- PH05
- PH06
- PH06-L
- PH07
- PH08**
- PH09
- PH12
- PH14-S
- PH15-S
- PH21
- PH22
- PH23



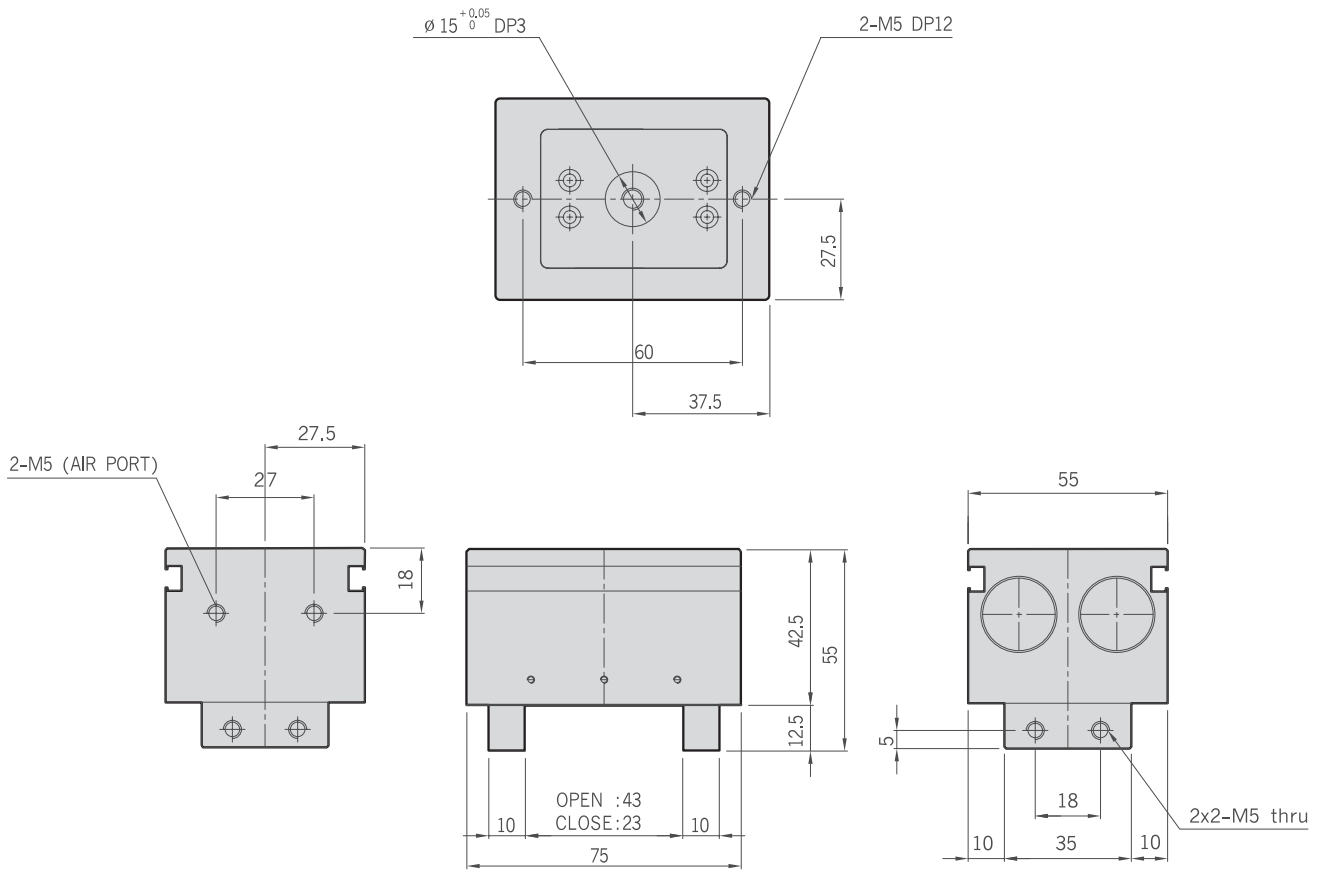
PH08-16-Auto Switch



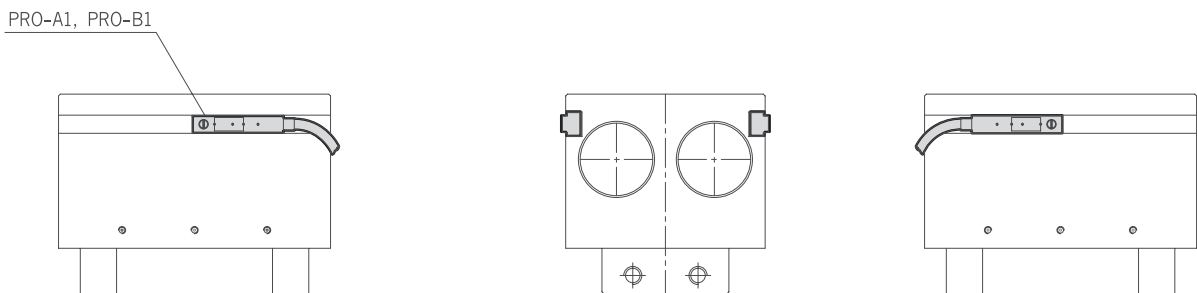
# PH08 Series

06 10 16 **20** 30

## PH08-20



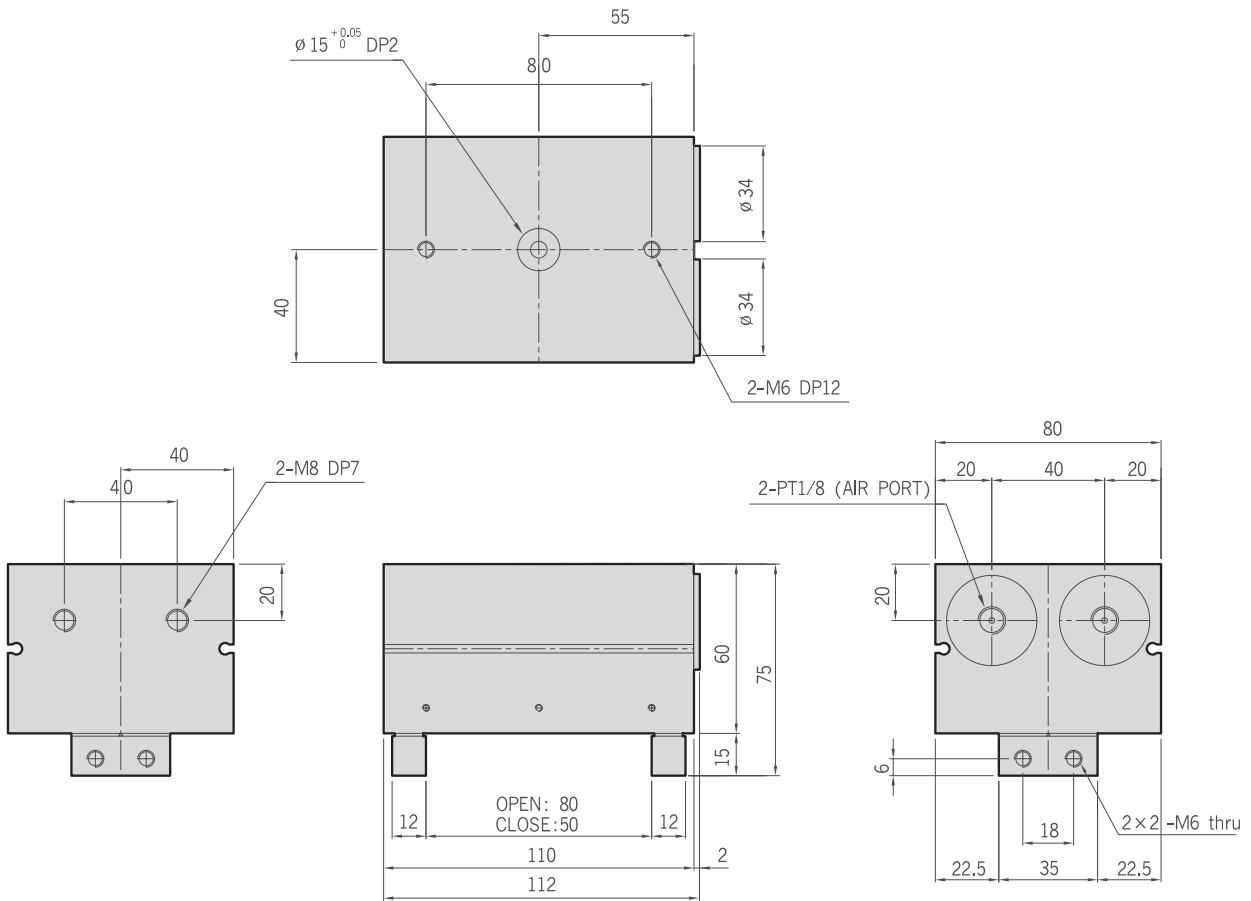
## PH08-20-Auto Switch



PH08-30

HAND

- PH01-A
- PH01-D
- PH01-G
- PH01K
- PH01K-C
- PH02
- PH04
- PH05
- PH06
- PH06-L
- PH07
- PH08**
- PH09
- PH12
- PH14-S
- PH15-S
- PH21
- PH22
- PH23



PH08-30-Auto Switch

PRO-A2, PRO-B2

