

GENERAL HAND / 평행개폐형

# PH01K Series

## 특 징

- Crank Lever에 의한 평행개폐방식의 중형 General Hand
- Master Jaw 슬롯부에 Cross Roller Bearing Guide 방식채택으로 정밀개폐작용
- 고정도, 고강성형의 구조로 안정성 및 내구성의 우수
- 취부형태의 다양화
- 외부분진 및 절삭칩의 비산 등에 대응 가능한 보호커버 부착 가능 (더스트 커버 옵션 선택 시)
- 개폐검출용 Auto Switch 부착 가능



## 주문형식

### PH01K - 30 C - A1 L S

①                      ②                      ③                      ④                      ⑤                      ⑥

#### ① 기본형식

#### ② 실린더경 및 개폐범위

기 호	실린더경(mm)	개폐범위(mm)
20	20	12
30	30	24
40	40	30
50	50	36
60	63	40
80	80	50
100	100	60

#### ⑤ Auto Switch 배선 길이

기 호	배선 길이
무기호	1M
L	3M

#### ⑥ Auto Switch 수량

기 호	수 량
무기호	2개
S	1개

#### ③ 더스트 커버

기 호	더스트 커버
무기호	미장착
C	장착

#### ④ Auto Switch 사양

기 호	Switch 종류	배 선		부하전압		부하전류		보호등급	동작시간
		배선방식	배선방향	AC	DC	AC	DC		
무기호				Auto Switch 없음					
A1	자기감지 유접점	2선식	횡취출	100V	24V	5~20mA	5~40mA	IP 67	1ms
B1	자기감지 무접점	3선식	횡취출	-	24V (5~28V)	-	50mA 이하	IP 67	1ms

사 양

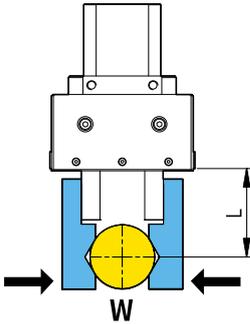
형 식	PH01K-20	PH01K-30	PH01K-40	PH01K-50	PH01K-60	PH01K-80	PH01K-100	
실린더경(mm)	20	30	40	50	63	80	100	
개폐행정(mm)	12	24	30	36	40	50	60	
실효파지력(kgf) 주3)	달힘	12.12	30.6	48.1	84.7	133	250	370
		열림	14.23	36.5	57.3	100	159	277
사용공기압 : 5kgf/cm <sup>2</sup>								
배관접속구	M5		PT1/8			PT1/4		
본체중량(kgf)	0.52	1.8	2.2	3.1	4.5	8.2	12.1	
어태치먼트허용길이 L(mm)	60	80	100	120	140	170	200	
어태치먼트변위량 H(mm) 주4)	40	50	60	70	80	90	100	
사용유체	청정공기 주1)							
사용압력(kgf/cm <sup>2</sup> )	1.5 ~ 7 (보증 내압력 : 10.5) 주2)							
사용윤활	불필요 (급유시 터어빈오일 1종 ISOVG 32)							
사용온도(°C)	5 ~ 60							
반복개폐위치정도(mm)	±0.01		±0.03			±0.05		
최고사용횟수(C.P.M)	120		90			60		
작동방식	복동형 (기구부 : Crank Lever 방식의 평행개폐) (이송부 : Cross Roller Bearing Guide)							
개폐행정공차(mm)	Open : -0.5 ~ +1 Close : -1 ~ +0.5							

주1) 청정공기 : 3~10 $\mu$ m의 여과도를 거친 99.9%의 액상유분 및 과포화 수분 0.3%의 고형물질을 함유하는 청정도의 공기  
 주2) 보증 내압력 : 무부하 상태로 1분간 상기압력을 가압했을때 부품에 이상이 발생되지 않는 압력  
 주3) 실효파지력의 파지점 위치는 Master Jaw 끝점입니다.  
 주4) 어태치먼트의 허용길이와 변위량의 기준점은 <GENERAL HAND 제품 선정 GUIDE>를 참조 하십시오.(사용공기압 5kgf/cm<sup>2</sup>일 경우의 허용치입니다.)

HAND

- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K**
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC

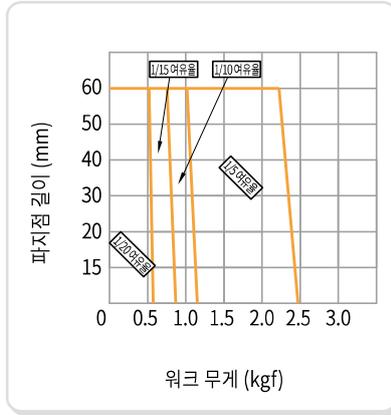
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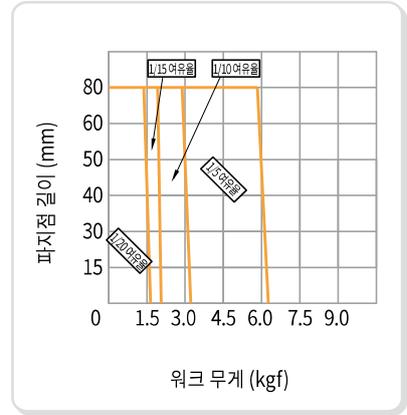
외경파지상태

W: 워크무게  
L: 파지점길이

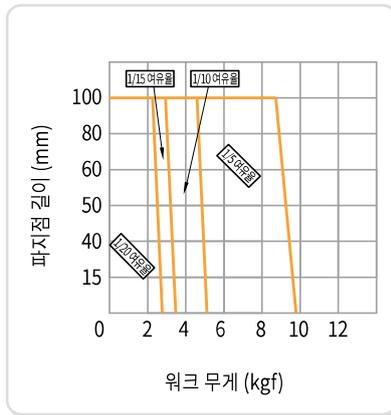
▶ PH01K-20



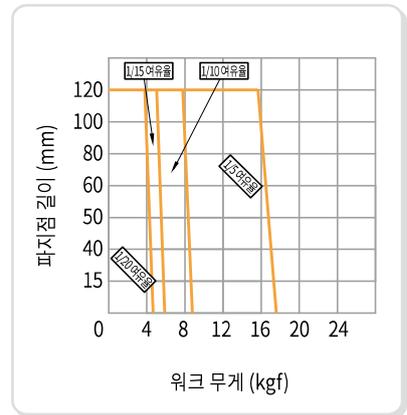
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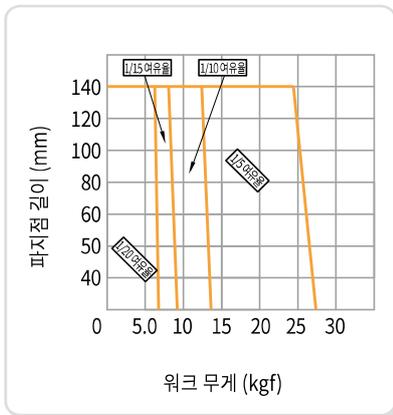
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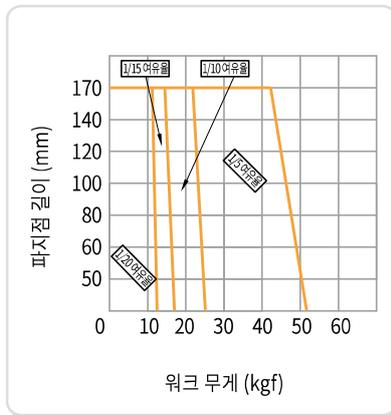
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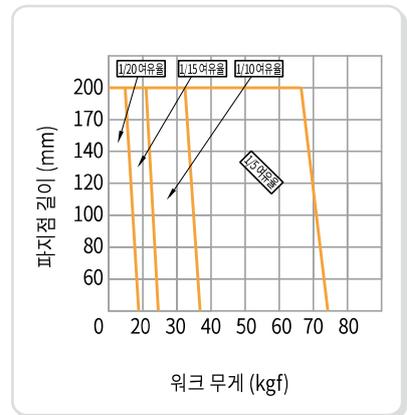
▶ PH01K-60



▶ PH01K-80

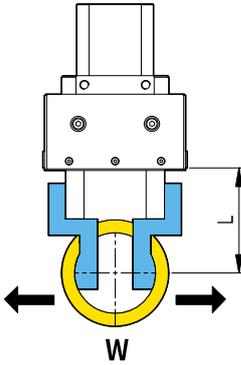


▶ PH01K-100



⚠ 주의 (Caution) 어태치먼트 길이(L값)를 파지능력 선도상의 허용 길이보다 길게 사용하게 되면 가이드부에 악영향을 주어 내구성에 문제가 발생 되오니 반드시 파지능력 선도상의 허용길이내에서 사용하십시오.

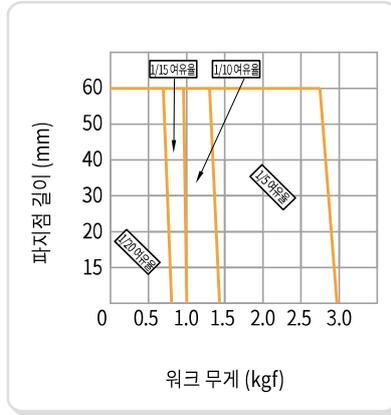
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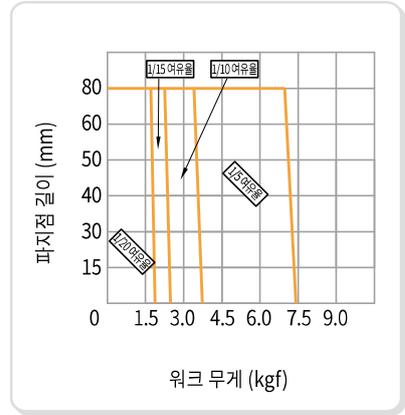
내경파지상태

W: 워크무게  
L: 파지점길이

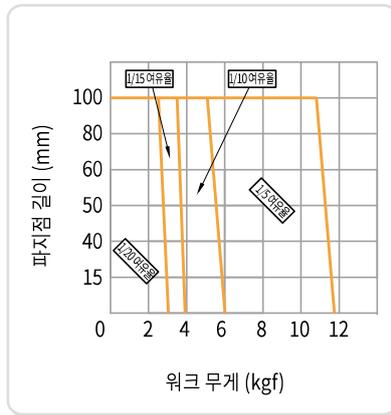
▶ PH01K-20



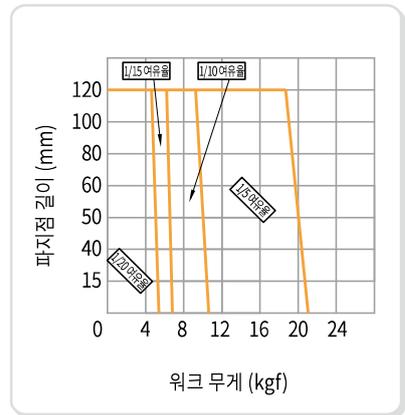
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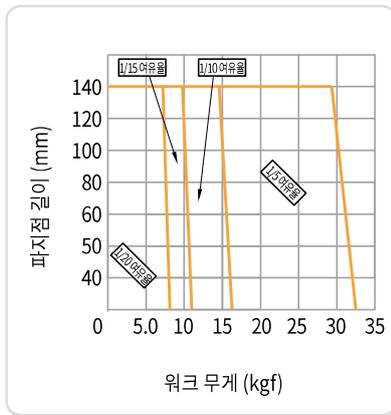
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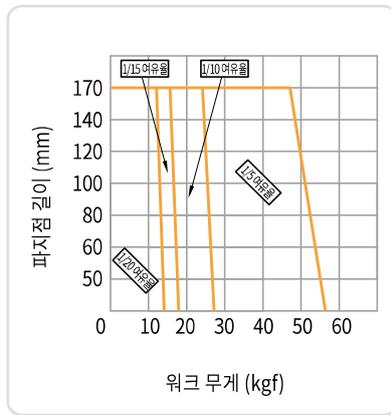
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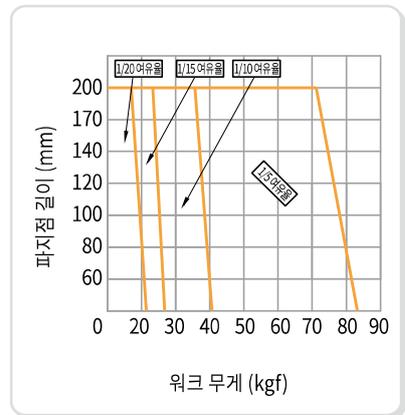
▶ PH01K-60



▶ PH01K-80



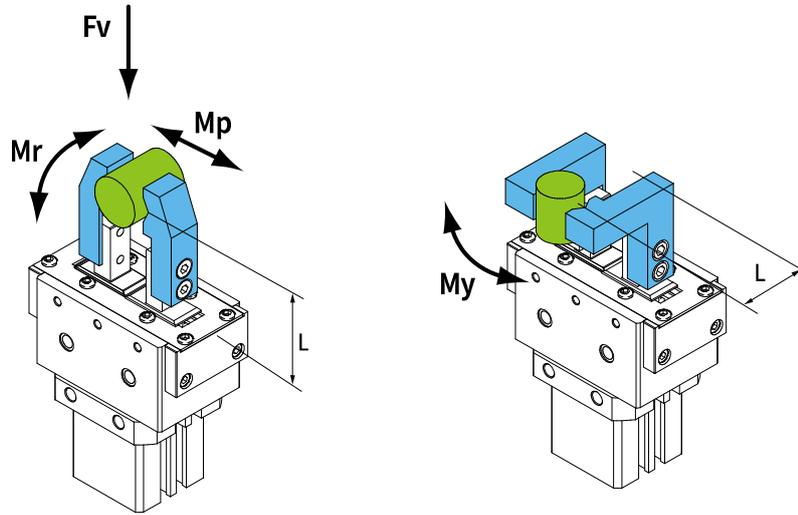
▶ PH01K-100



⚠ 주의 (Caution) 어태치먼트 길이(L값)를 파지능력 선도상의 허용 길이보다 길게 사용하게 되면 가이드부에 악영향을 주어 내구성에 문제가 발생 되오니 반드시 파지능력 선도상의 허용길이내에서 사용하십시오.

- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K**
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC

※ L: 가이드 중심에서 하중이 작용하는 점까지의 거리(cm)  
 ※ 모멘트 중심은 Guide의 중심과 일치합니다.



품 명	수직방향 허용하중 Fv (kgf)	최대허용 모멘트 (kgf·cm)		
		피치 모멘트 Mp	요잉 모멘트 My	롤링 모멘트 Mr
PH01K-20	35.5	26	26	55
PH01K-30	47	37	37	102
PH01K-40	67	64	64	179
PH01K-50	77	79	79	262
PH01K-60	120	150	150	518
PH01K-80	131	189	189	606
PH01K-100	158	237	237	774

※ 상기 허용하중 및 모멘트 값은 정적인 값을 나타내고 있습니다.

허용하중 (모멘트 하중이 가해질 경우) 계산

$$\text{허용하중 } F \text{ (kgf)} = \frac{\text{최대허용 모멘트 } M \text{ (kgf·cm)}}{\text{외력작용 지점 } L \text{ (cm)}}$$

계산 예)

PH01K-20에 어태치먼트 길이(L)가 50mm 지점에서 피치모멘트(Mp) 방향으로 정하중(F)이 2kgf가 작용할 경우 사용가능 확인

$$\Rightarrow \text{허용하중 } F \text{ (kgf)} = \frac{\text{최대허용모멘트 } M \text{ (kgf·cm)}}{\text{외력작용 지점 } L \text{ (cm)}} = \frac{26}{5} = 5.2 \text{ kgf} > 2 \text{ kgf}$$

허용하중(5.2kgf)이 정하중(2kgf)보다 크므로 적용 가능합니다.

# PH01K Series

20

20C

30

30C

40

40C

50

50C

60

60C

80

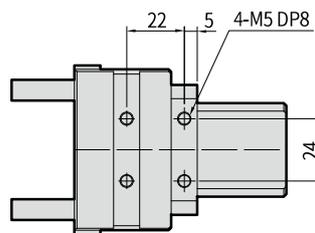
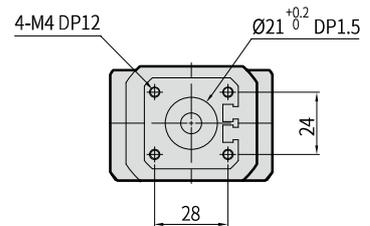
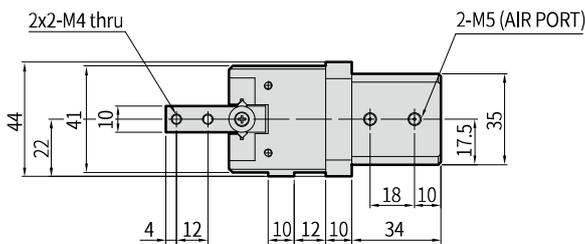
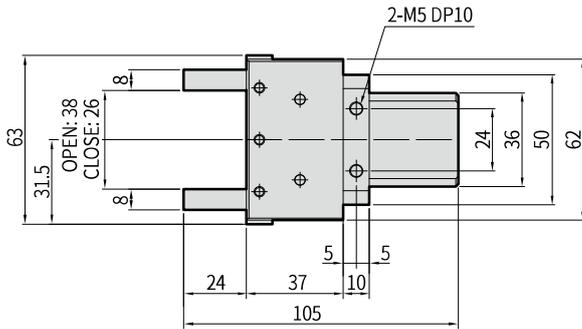
80C

100

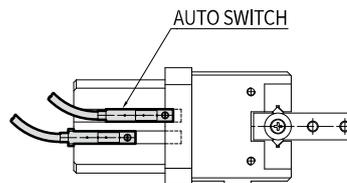
100C

HAND

## PH01K-20



## PH01K-20 Auto Switch 장착 예



PH01-A  
PH01-D  
PH01-G  
PH01J-C

**PH01K**

PH02

PH02-H

PH04

PH05

PH06

PH06-L

PH06-L2

PH07

PH08

PH09

PH10

PH12

PH14-S

PH14-CL

PH14-CF

PH15-S

PH15-CL

PH15-CF

PH15-W

PH21

PH22

PH23

PH25

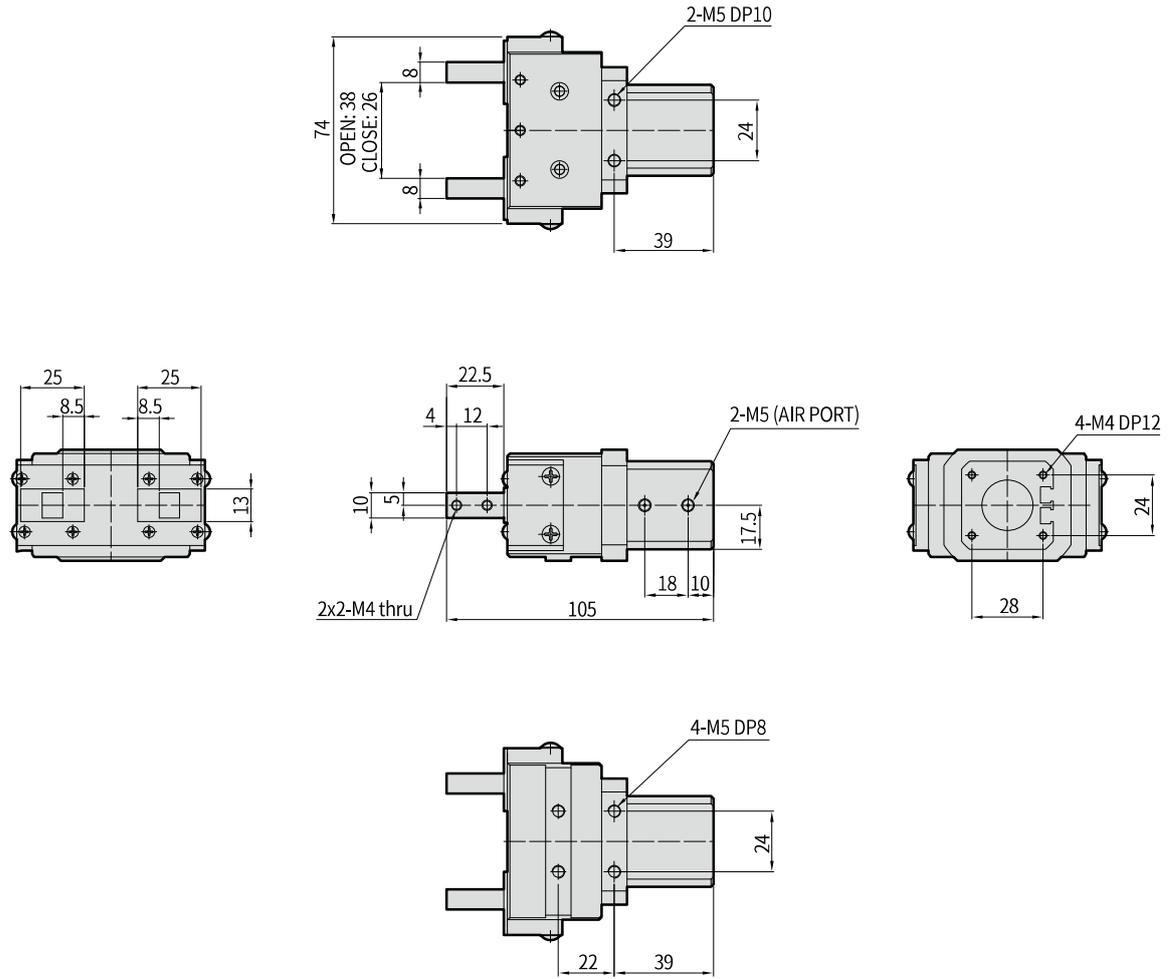
PH32

PHC

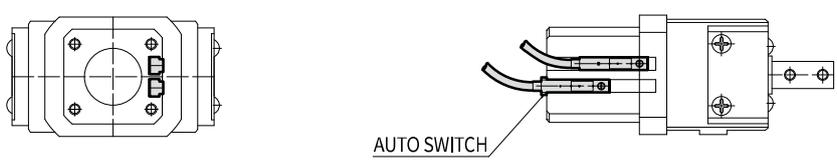
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-20C



## PH01K-20C Auto Switch 장착 예



20

20C

30

30C

40

40C

50

50C

60

60C

80

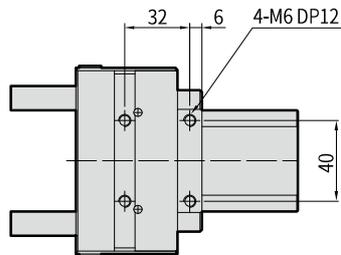
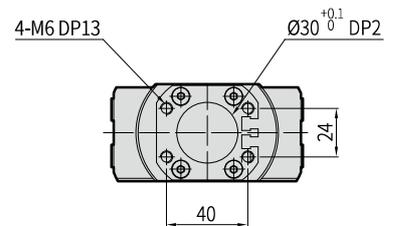
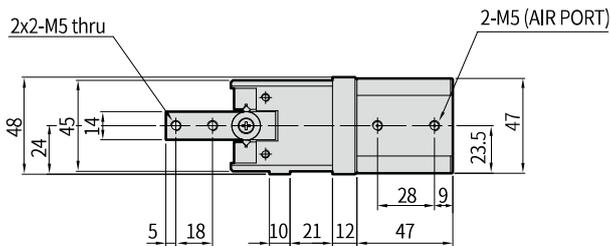
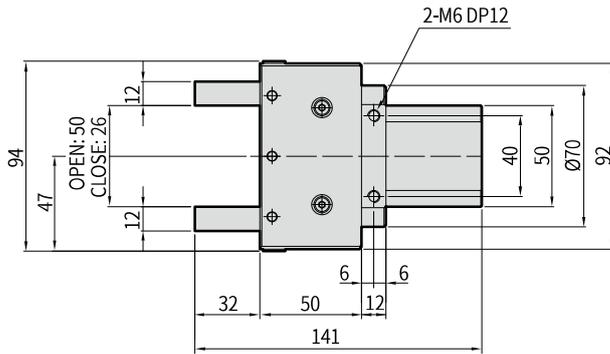
80C

100

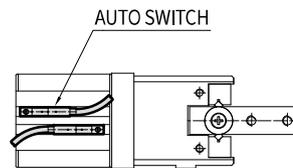
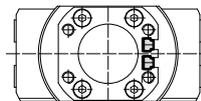
100C

HAND

PH01K-30



PH01K-30 Auto Switch 장착 예



PH01-A  
PH01-D  
PH01-G  
PH01J-C

**PH01K**

PH02

PH02-H

PH04

PH05

PH06

PH06-L

PH06-L2

PH07

PH08

PH09

PH10

PH12

PH14-S

PH14-CL

PH14-CF

PH15-S

PH15-CL

PH15-CF

PH15-W

PH21

PH22

PH23

PH25

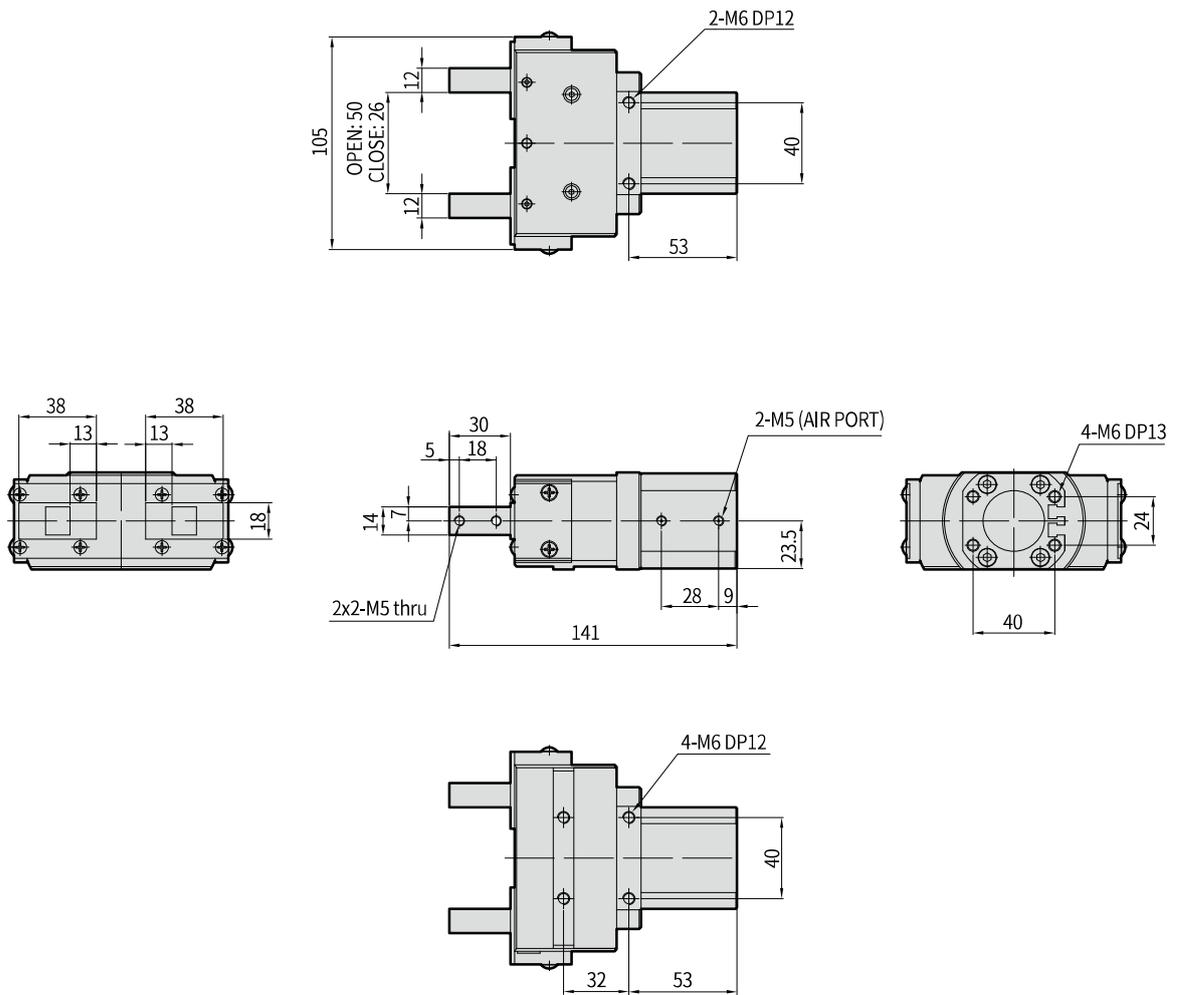
PH32

PHC

# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-30C



## PH01K-30C Auto Switch 장착 예



20

20C

30

30C

40

40C

50

50C

60

60C

80

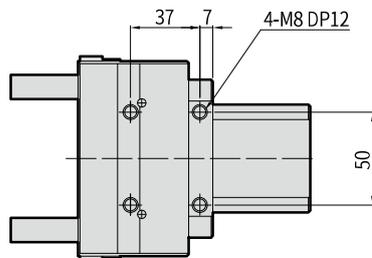
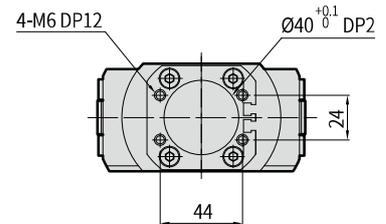
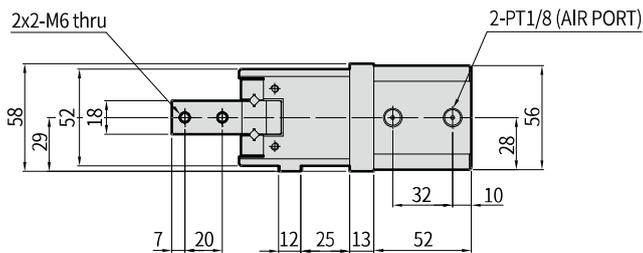
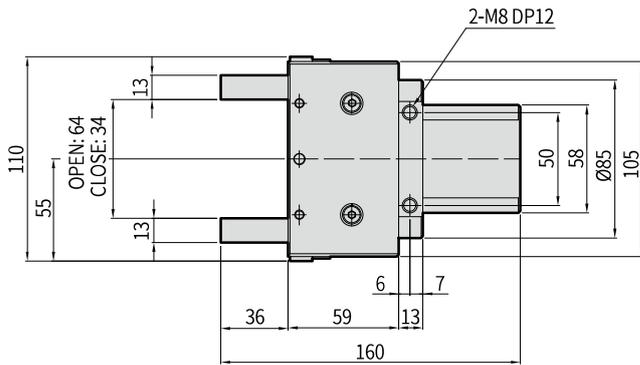
80C

100

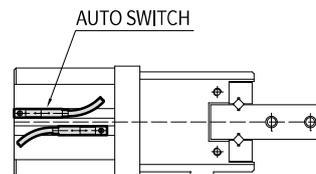
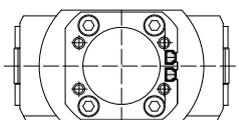
100C

HAND

PH01K-40



PH01K-40 Auto Switch 장착 예



PH01-A  
PH01-D  
PH01-G  
PH01J-C

**PH01K**

PH02

PH02-H

PH04

PH05

PH06

PH06-L

PH06-L2

PH07

PH08

PH09

PH10

PH12

PH14-S

PH14-CL

PH14-CF

PH15-S

PH15-CL

PH15-CF

PH15-W

PH21

PH22

PH23

PH25

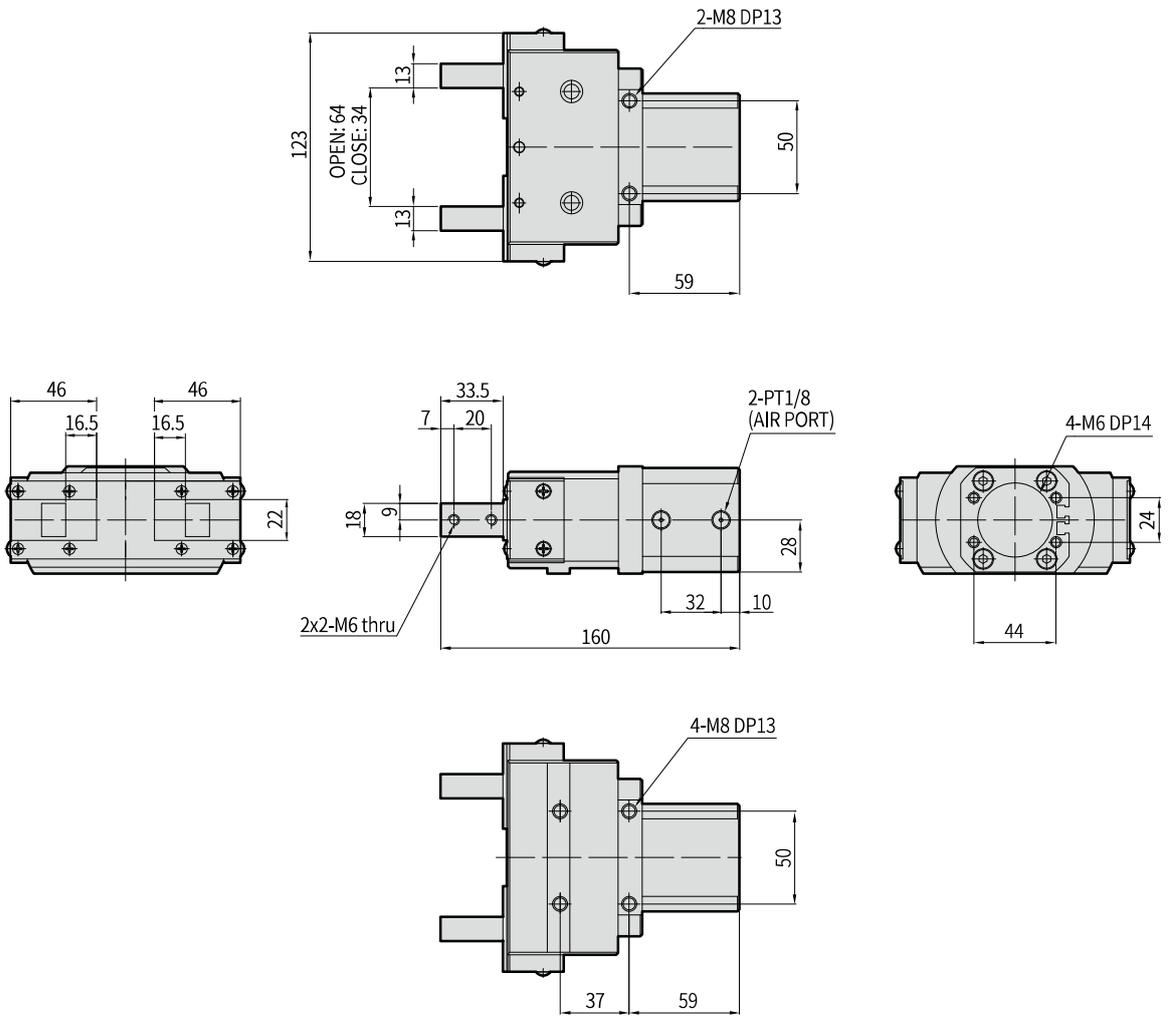
PH32

PHC

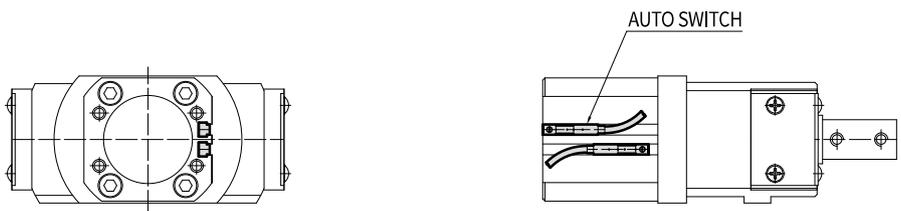
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-40C

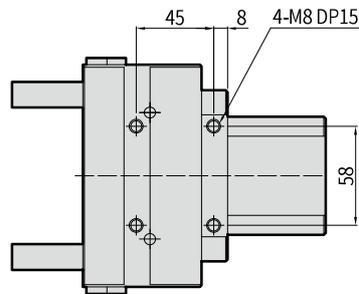
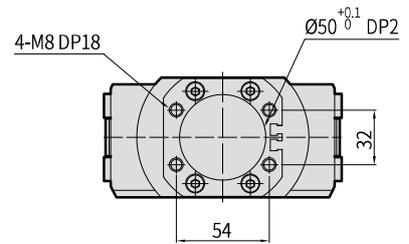
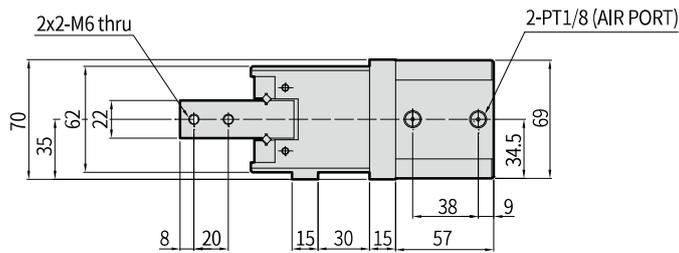
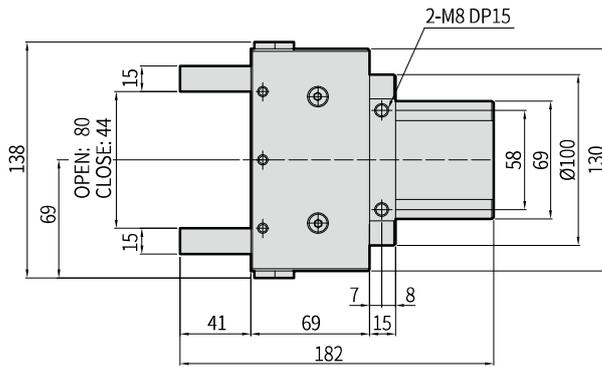


## PH01K-40C Auto Switch 장착 예

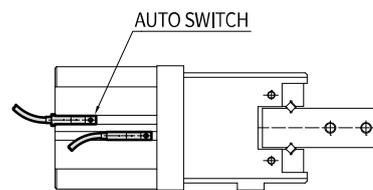
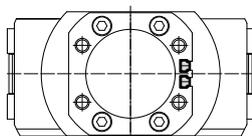


- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

PH01K-50



PH01K-50 Auto Switch 장착 예

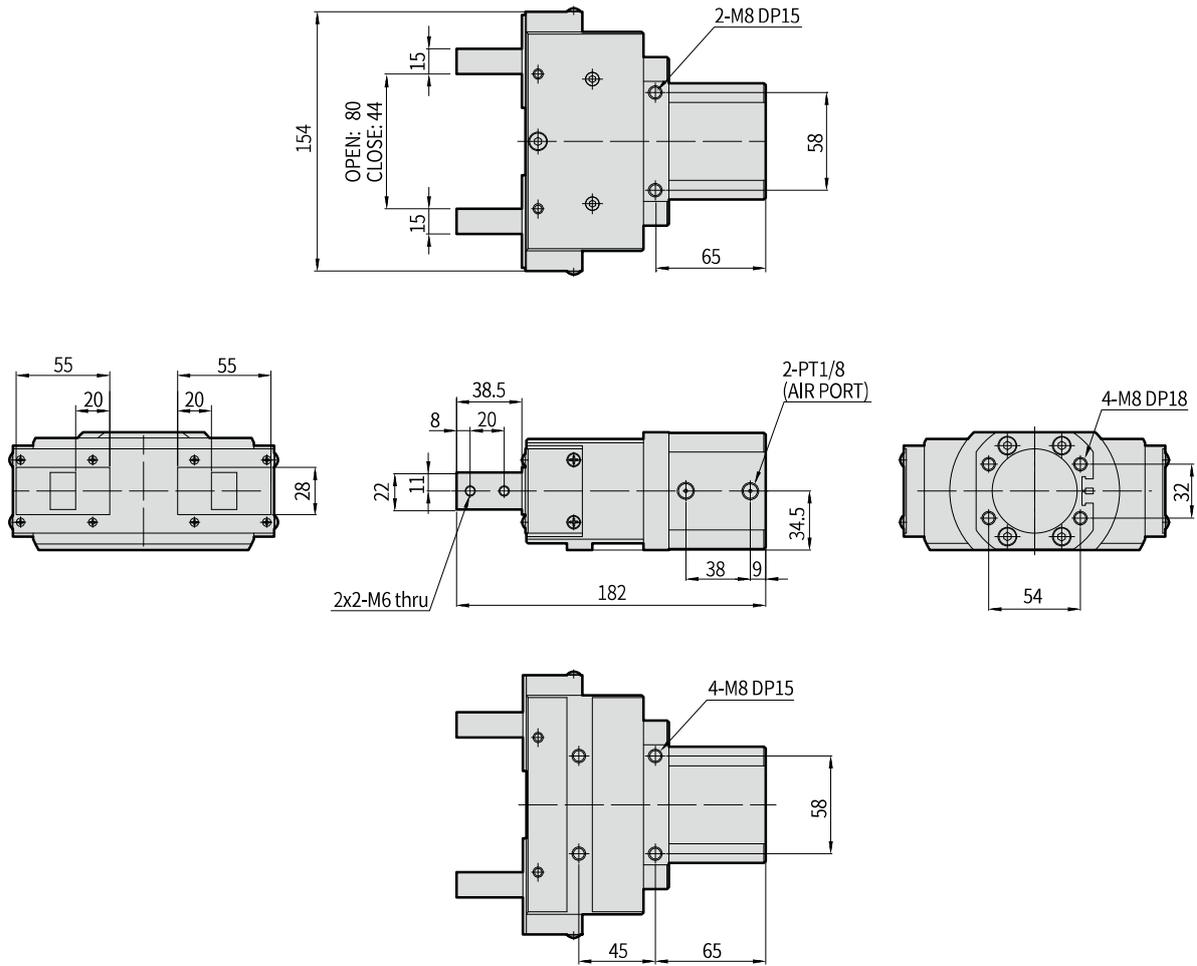


- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC

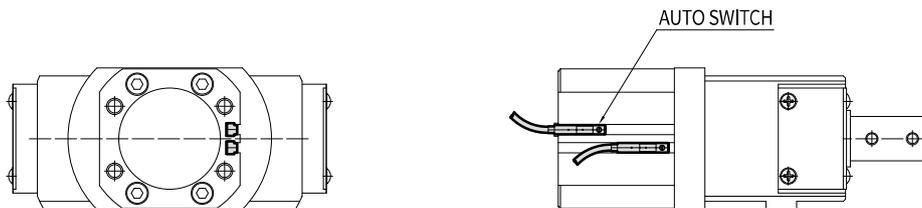
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-50C

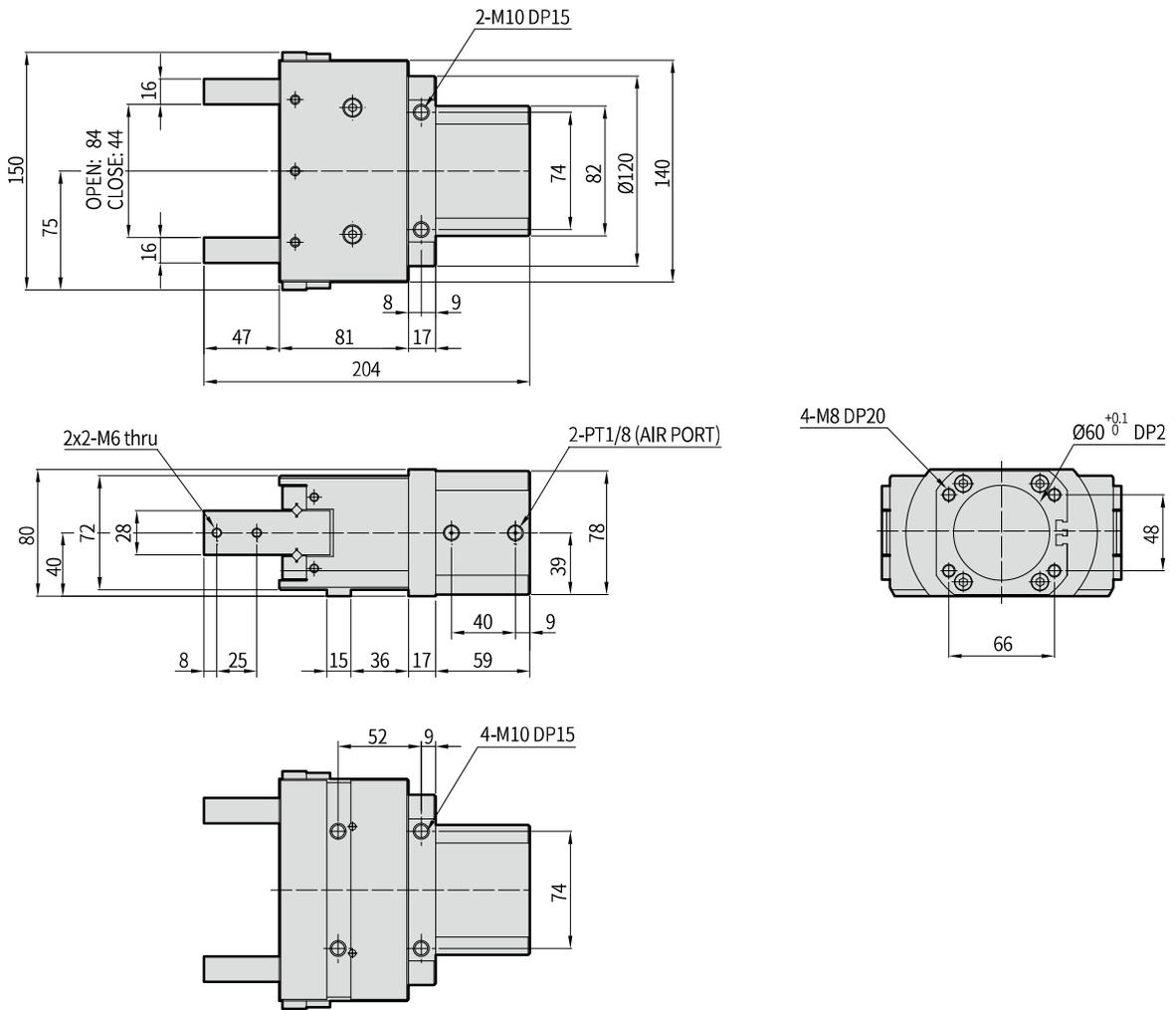


## PH01K-50C Auto Switch 장착 예



- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

PH01K-60



- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC

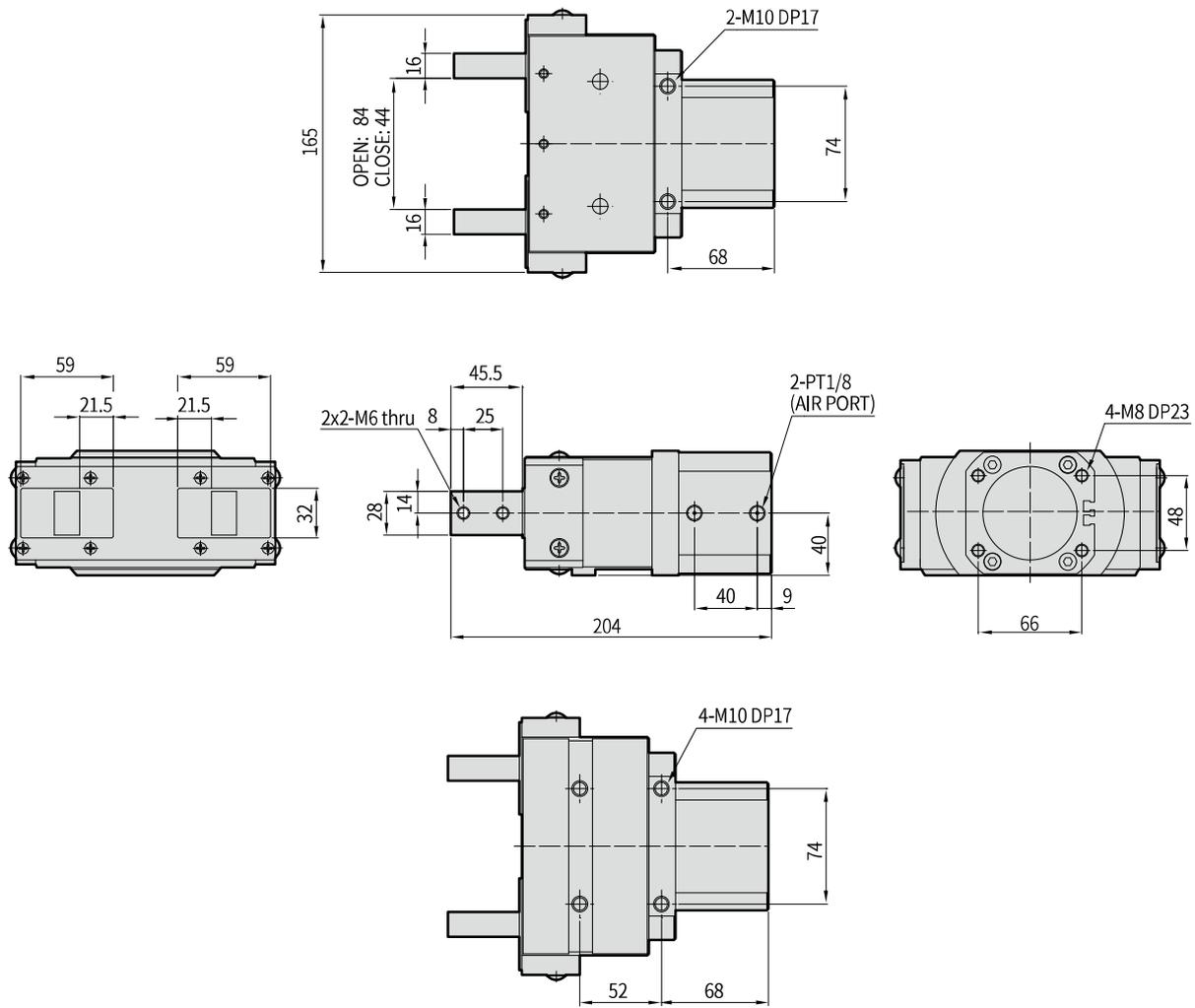
PH01K-60 Auto Switch 장착 예



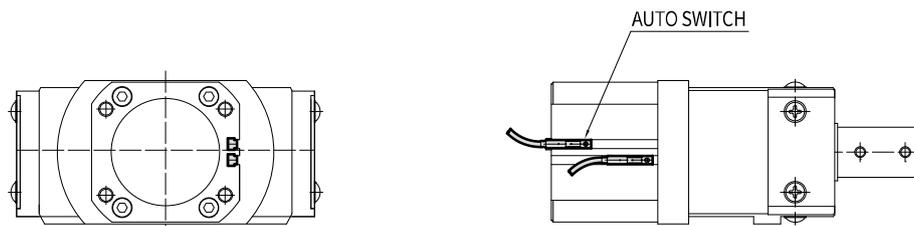
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-60C



## PH01K-60C Auto Switch 장착 예



20

20C

30

30C

40

40C

50

50C

60

60C

80

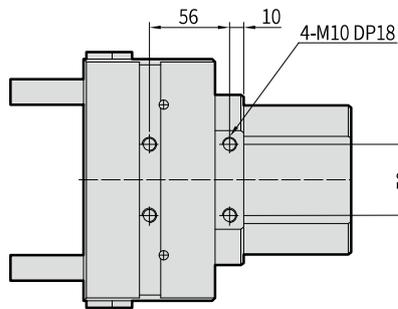
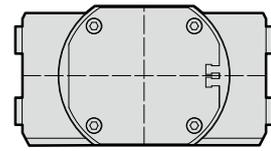
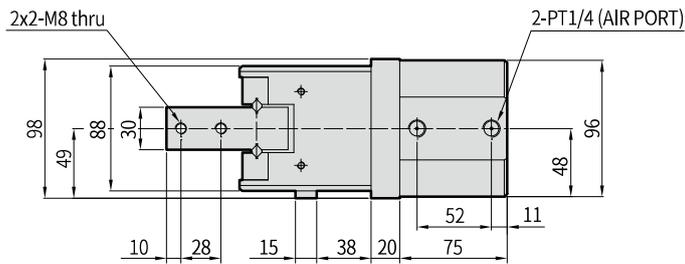
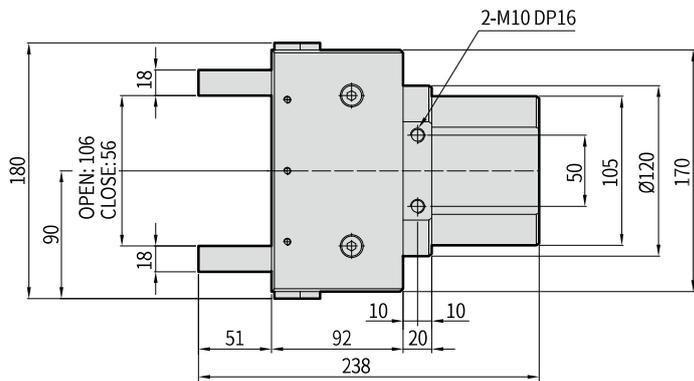
80C

100

100C

HAND

PH01K-80



PH01-A  
PH01-D  
PH01-G  
PH01J-C

**PH01K**

PH02

PH02-H

PH04

PH05

PH06

PH06-L

PH06-L2

PH07

PH08

PH09

PH10

PH12

PH14-S

PH14-CL

PH14-CF

PH15-S

PH15-CL

PH15-CF

PH15-W

PH21

PH22

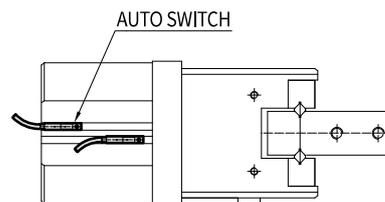
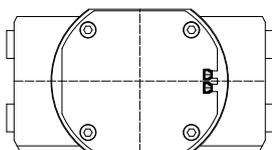
PH23

PH25

PH32

PHC

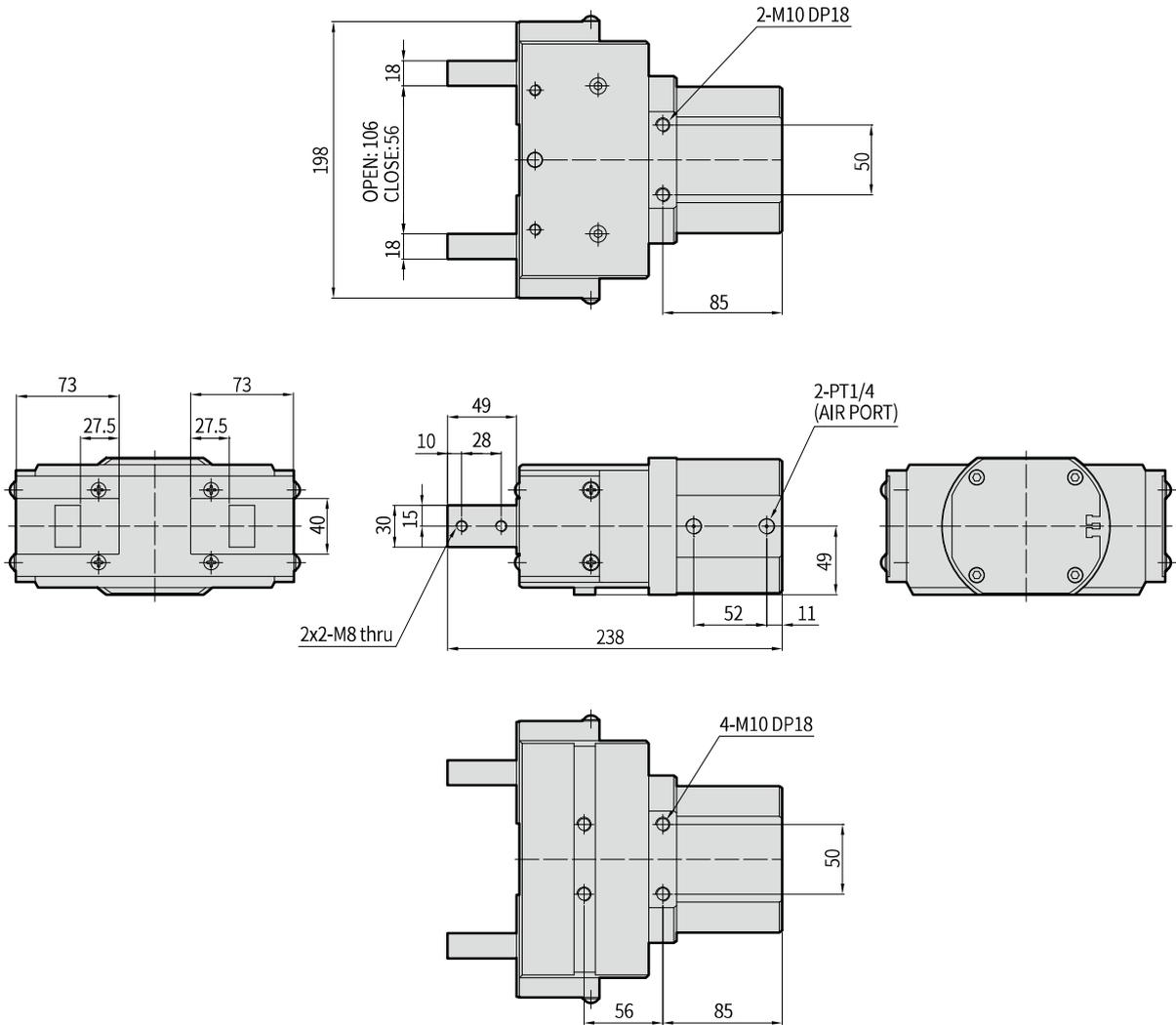
PH01K-80 Auto Switch 장착 예



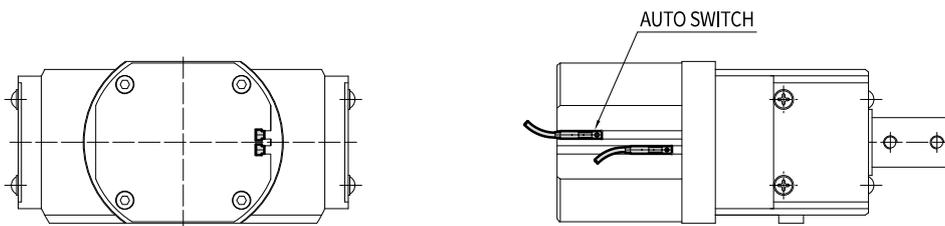
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-80C

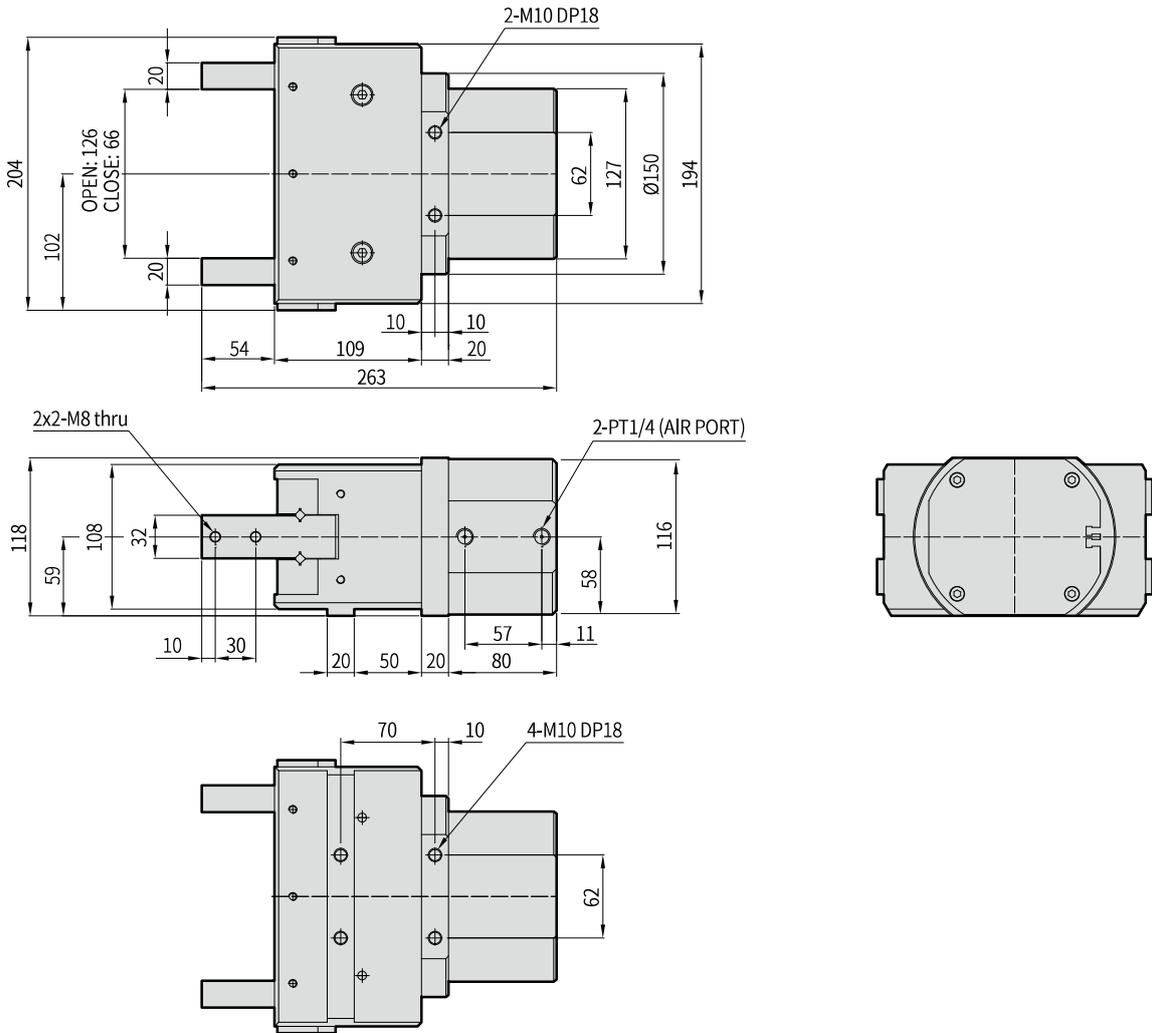


## PH01K-80C Auto Switch 장착 예



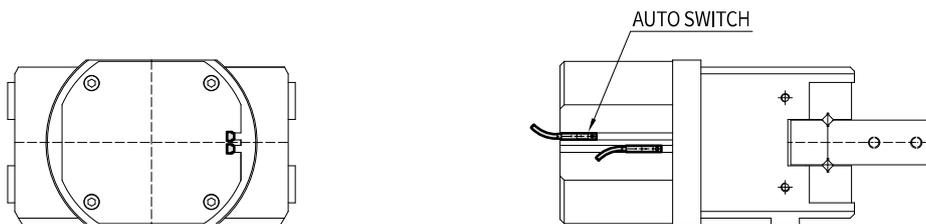
- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

PH01K-100



- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC

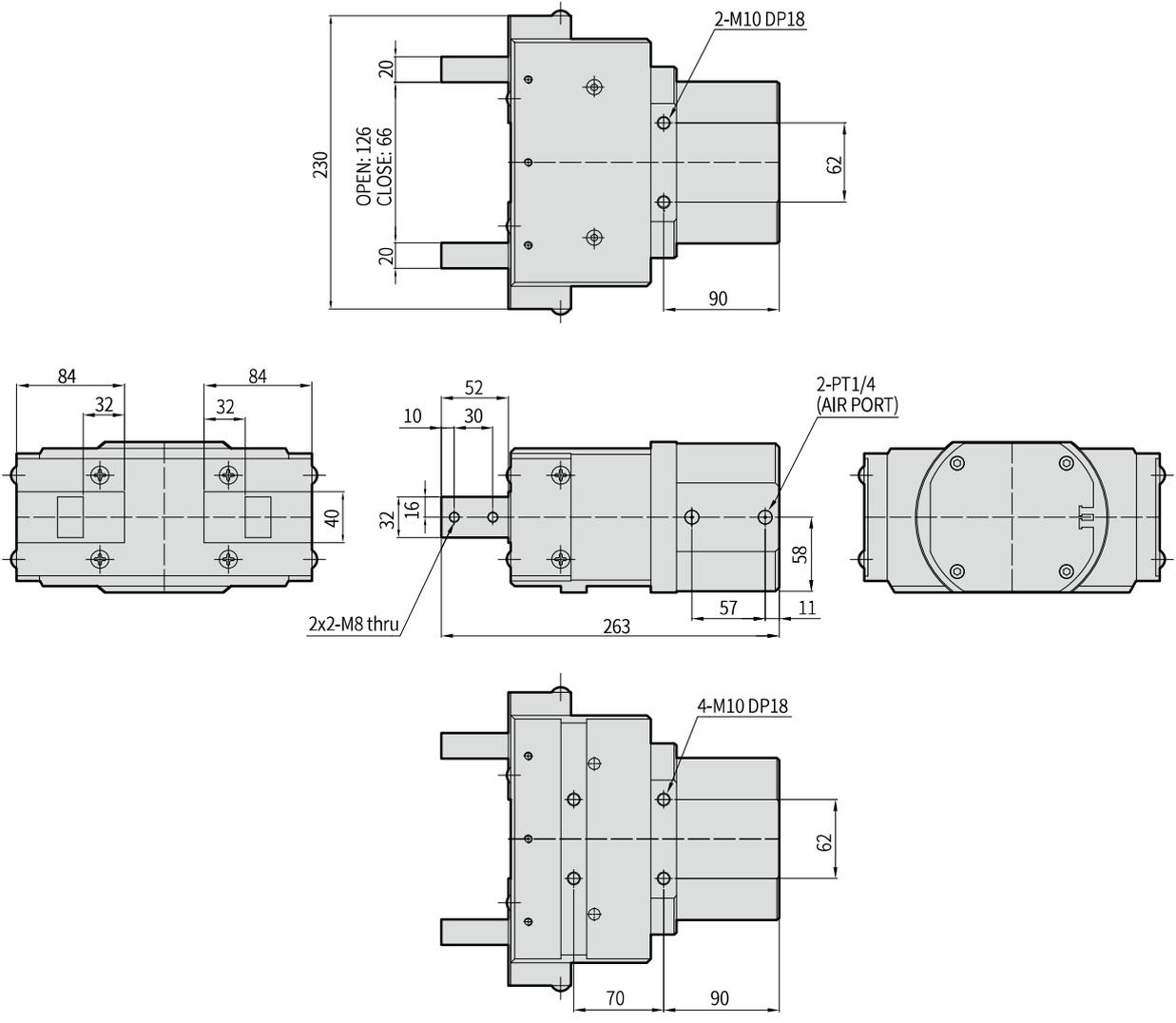
PH01K-100 Auto Switch 장착 예



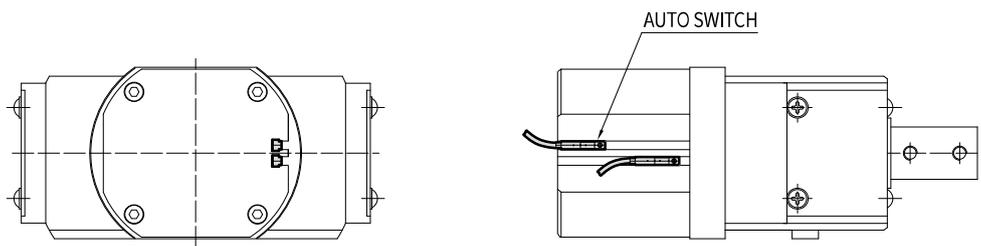
# PH01K Series

- 20
- 20C
- 30
- 30C
- 40
- 40C
- 50
- 50C
- 60
- 60C
- 80
- 80C
- 100
- 100C

## PH01K-100C

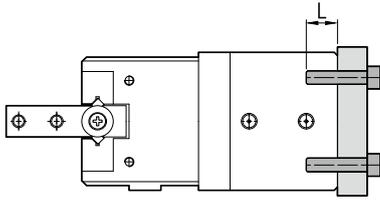


## PH01K-100C Auto Switch 장착 예



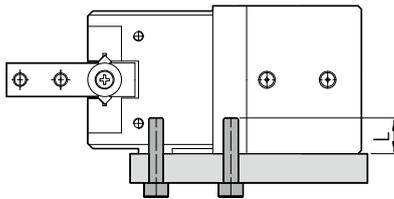
취부형태

1. 실린더 몸체 탭 취부형



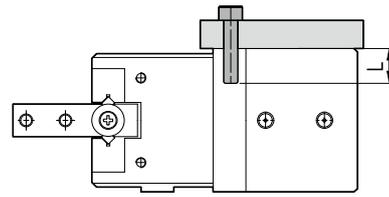
사 양	사용볼트	적정 체결 토오크 (kgf·cm)	최대나사깊이 L (mm)
PH01K-20	M4×P0.7	25	12
PH01K-30	M6×P1	81	13
PH01K-40	M6×P1	81	12
PH01K-50	M8×P1.25	157	18
PH01K-60	M8×P1.25	157	20
PH01K-80	해당사항 없음		
PH01K-100	해당사항 없음		

3. 실린더 몸체 탭 취부형



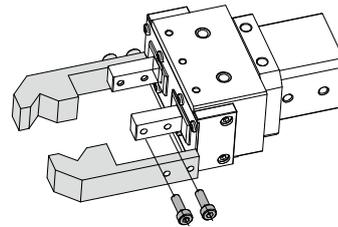
사 양	사용볼트	적정 체결 토오크 (kgf·cm)	최대나사깊이 L (mm)
PH01K-20	M5×P0.8	51	8
PH01K-30	M6×P1	81	12
PH01K-40	M8×P1.25	157	12
PH01K-50	M8×P1.25	157	15
PH01K-60	M10×P1.5	240	15
PH01K-80	M10×P1.5	240	18
PH01K-100	M10×P1.5	240	18

2. 실린더 몸체 탭 취부형



사 양	사용볼트	적정 체결 토오크 (kgf·cm)	최대나사깊이 L (mm)
PH01K-20	M5×P0.8	51	10
PH01K-30	M6×P1	81	12
PH01K-40	M8×P1.25	157	12
PH01K-50	M8×P1.25	157	15
PH01K-60	M10×P1.5	240	15
PH01K-80	M10×P1.5	240	16
PH01K-100	M10×P1.5	240	18

4. 실린더에 부착물 고정 방법



사 양	사용볼트	적정 체결 토오크 (kgf·cm)
PH01K-20	M4×P0.7	25
PH01K-30	M5×P0.8	51
PH01K-40	M6×P1	81
PH01K-50	M6×P1	81
PH01K-60	M6×P1	81
PH01K-80	M8×P1.25	157
PH01K-100	M8×P1.25	157

HAND

- PH01-A
- PH01-D
- PH01-G
- PH01J-C
- PH01K**
- PH02
- PH02-H
- PH04
- PH05
- PH06
- PH06-L
- PH06-L2
- PH07
- PH08
- PH09
- PH10
- PH12
- PH14-S
- PH14-CL
- PH14-CF
- PH15-S
- PH15-CL
- PH15-CF
- PH15-W
- PH21
- PH22
- PH23
- PH25
- PH32
- PHC