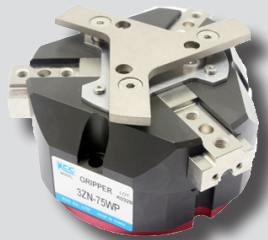


# 3ZN series



3ZN-75

### Features

- Wedge type, 3-jaw centric gripper
- Improved stability with longer gripping point between jaw & plunger.
- Improved function, stiness and outer look
- Made with flexible mounting
- Sensor is applicable

### How to order

3ZN - ① 30 ② S - ③ SL - ④ BP + ⑤ PA ⑥ 18 ⑦ N ⑧ 2 - ⑨ 2 - ⑩ WP

① Series

3ZN	Parallel gripper with 3 jaws
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② Bore size

30	Ø30	55	Ø55
42	Ø42	75	Ø75

③ Jaw type

S	KCC Standard
J	Compatible with third-party products (Key groove)

④ Type

Nil	Standard
SL	Long stroke type
PU	Power boost type
XP	Low-cost model without sensor

⑤ Optional air port

Nil	Standard
BP	Additional port on base side

※ A separate blocking plug is not provided for the additional air port.  
 ※ Additional air ports are machined from standard.  
 Therefore, the surface condition processed in standard is exposed.

⑥ Sensor

Nil	Without sensor
PA	Sensor with mount
PB	Mount only (without sensor)

※ The sensor standard: DC 3-wire type / NPN output / wire length 2m

⑦ Sensor body length

18	18mm
30	30mm

⑧ Sensor output type

N	NPN
P	PNP

⑨ Sensor wire length

2	2m (Standard)
3	3m
5	5m

⑩ Quantity of sensor parts

1	1 Set
2	2 Set (Standard)

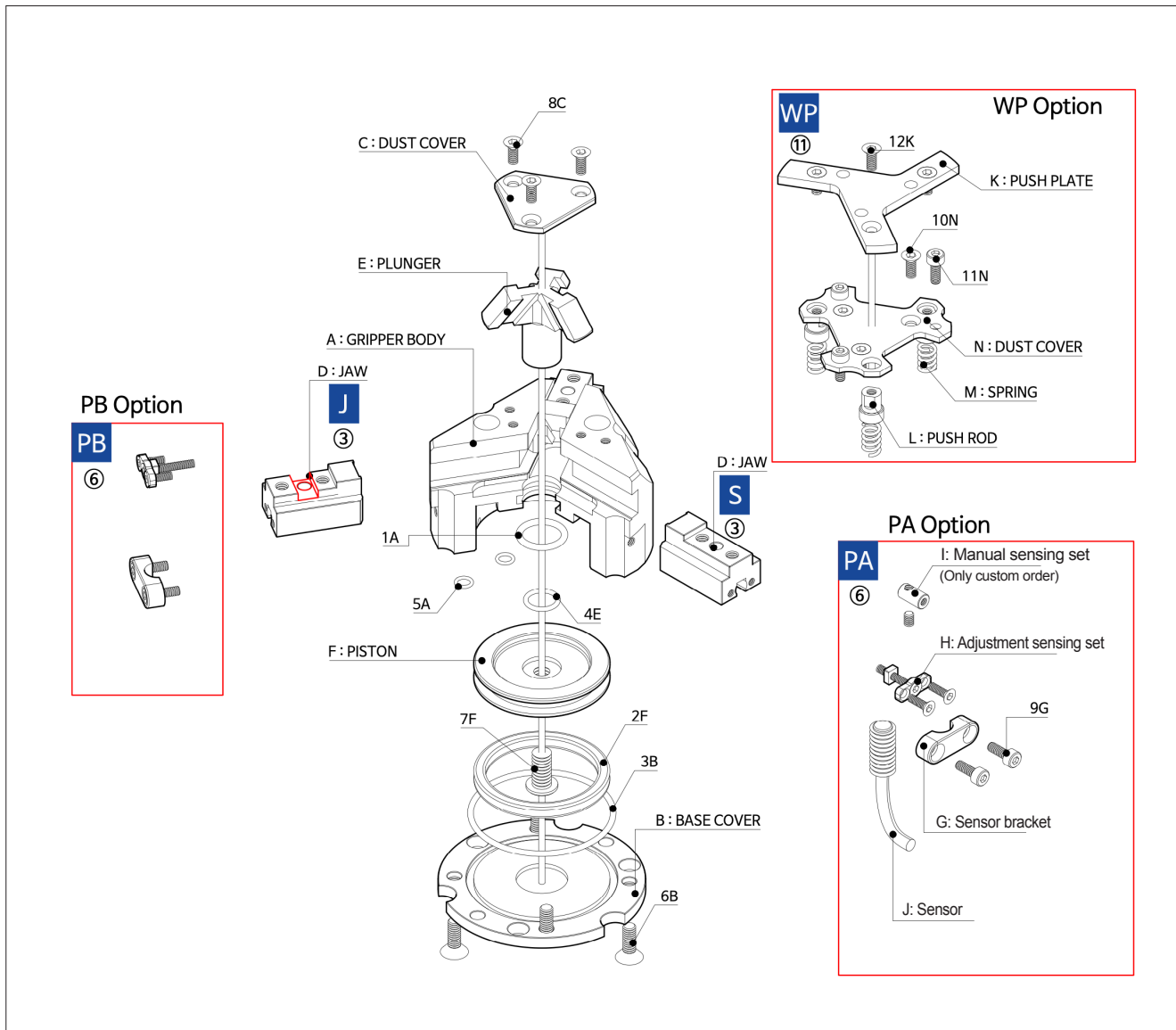
⑪ Special option

WP	Work pusher
----	-------------

### Specifications

	3ZN-30	3ZN-42	3ZN-55	3ZN-75	
Fluid	Compressed air				
Operating Pressure	1~7kgf/cm <sup>2</sup> (0.1~0.7MPa)				
Ambient Temperature	0~60°C				
Stroke(mm)	Standard	3x4	3x6	3x8	3x10
	SL	3x5	3x7.5	3x10	3x12
	PU	3x3	3x4.5	3x5.5	3x7
Port size	M5			Rc(PT) 1/8	
Air consumption(CC/Cycle)	6.7	19.7	43.9	102.3	
Max. gripping point(mm)	46	56	72	90	
Frequency(Cycle/min)	60		50	40	
Repeat Accuracy(mm)	±0.01 (After initial 100 operation) / ±0.03 (After 1 million operation)				
Weight(kg) (With work pusher)	0.19 (0.22)	0.39 (0.43)	0.7 (0.76)	1.27 (1.43)	

**Structure**



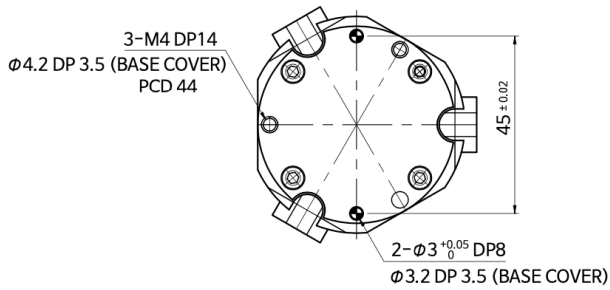
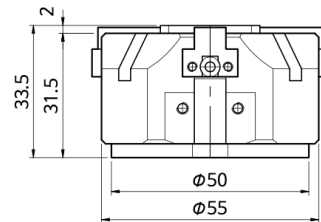
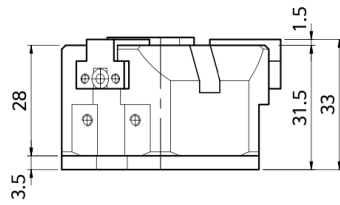
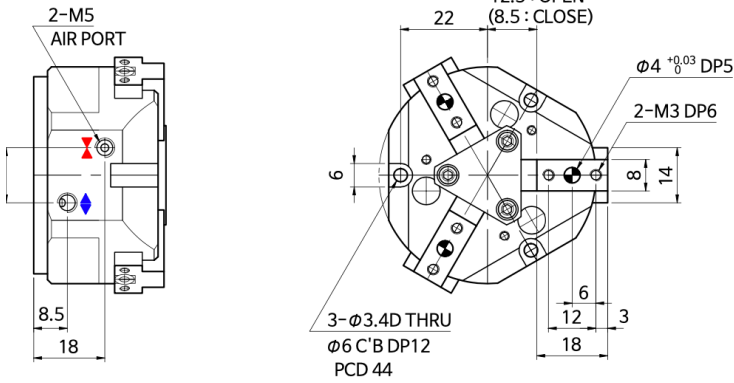
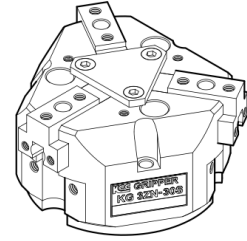
No	Parts	Material	Remark
A	Gripper Body	Aluminum alloy	Standard
B	Base Cover	Aluminum alloy	
C	Dust Cover	Aluminum alloy	
D	Jaw	Carbon steel	
E	Plunger	Steel alloy	
F	Piston	Aluminum alloy	
G	Sensor bracket	Aluminum alloy	Option PA(B)
H	Adjustable sensing set	Optional	Only custom order
I	Manual sensing set	Optional	
J	Auto switch	M8x16(30)	Option PA
K	Push plate	Steel alloy	Option WP
L	Push rod	Stainless steel	
M	Spring	Stainless steel	
N	Dust cover	Stainless steel	

No	Parts	Material	Remark
1A	Rod Packing	NBR	Standard
2F	Piston Packing	NBR	
3B	Sealing O-Ring	NBR	
4E	O-Ring	NBR	
5A	O-Ring	NBR	
6B	Fastner	Stainless steel	
7F	Fastner	Stainless steel	Option PA(B)
8C	Fastner	Stainless steel	
9G	Fastner	Stainless steel	Option PA(B)
10N	Fastner	Stainless steel	Option WP
11N	Fastner	Stainless steel	
12K	Fastner	Stainless steel	

Dimensions-Standard

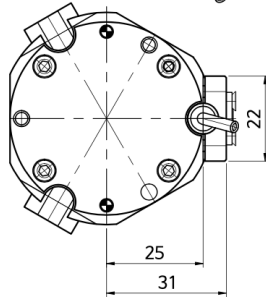
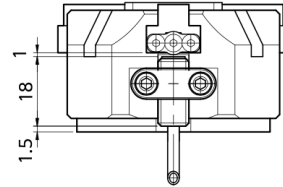
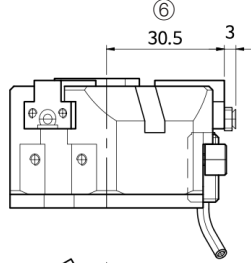
3ZN-30S

③

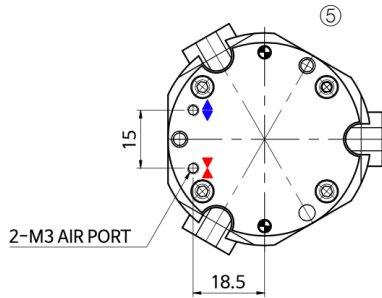


**Dimensions-Option**

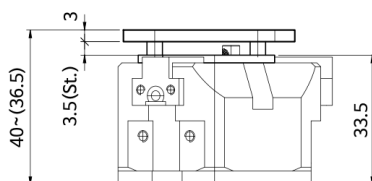
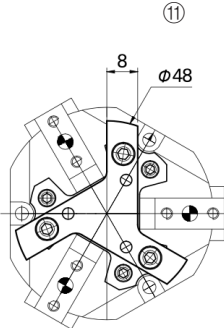
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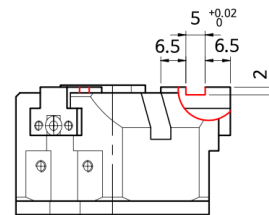
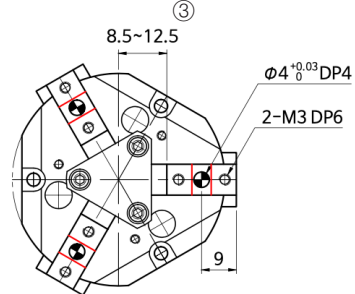
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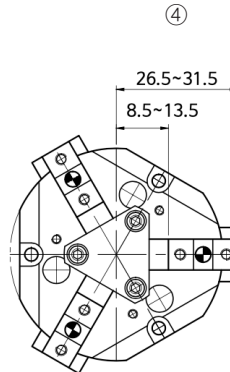
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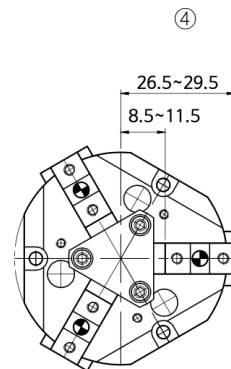
**3ZN-30J**



**3ZN-30J-SL**



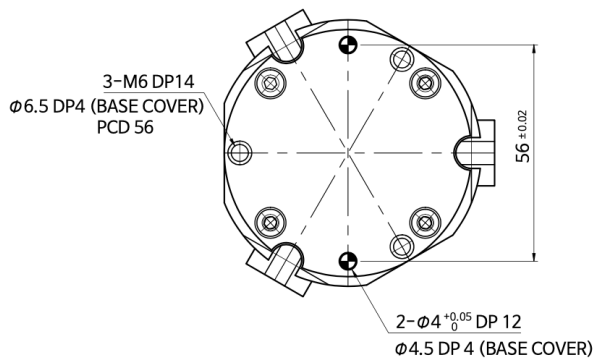
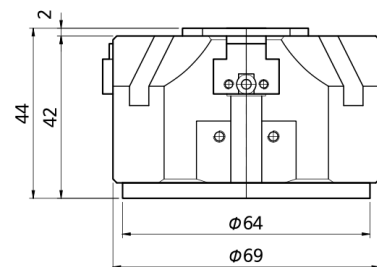
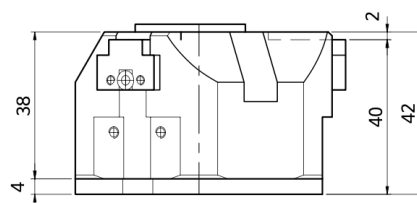
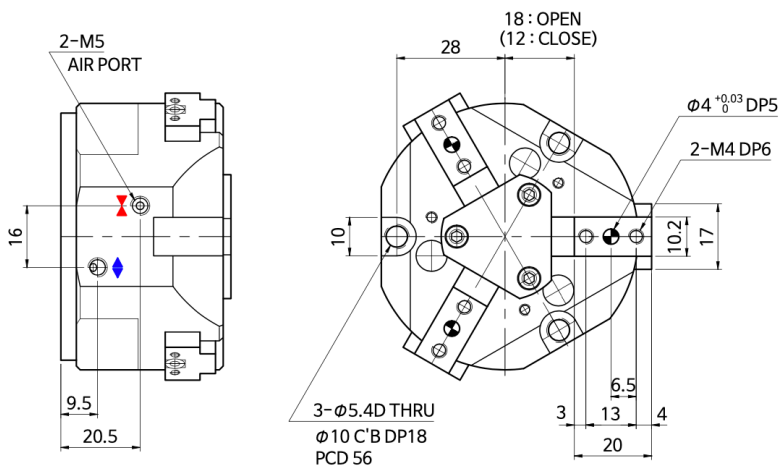
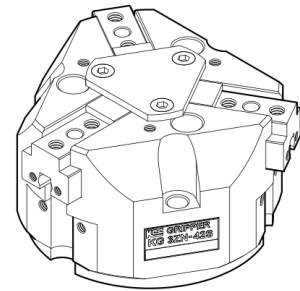
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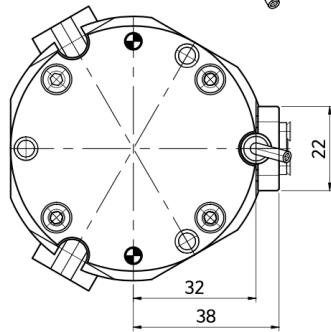
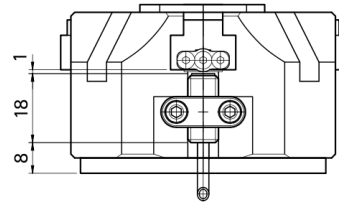
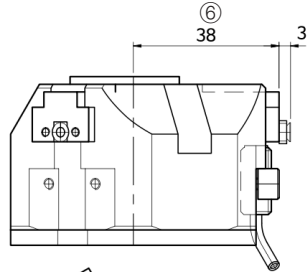
3ZN-42S

③

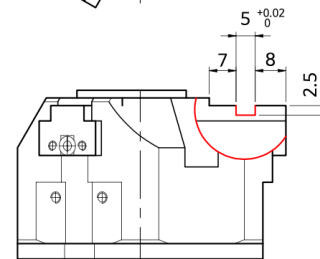
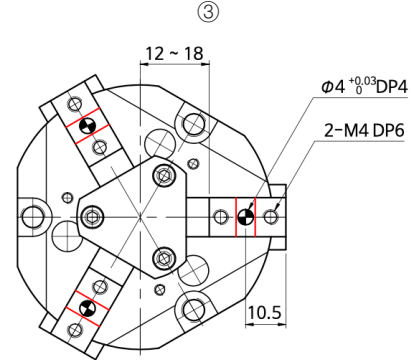


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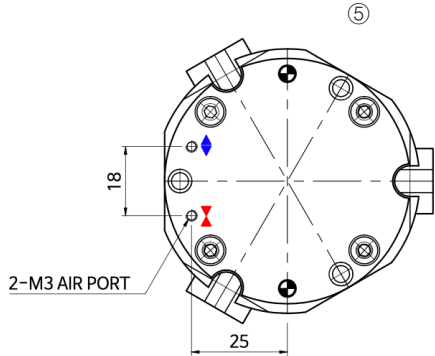
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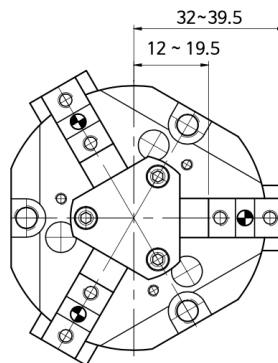
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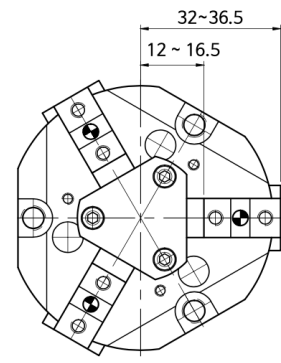
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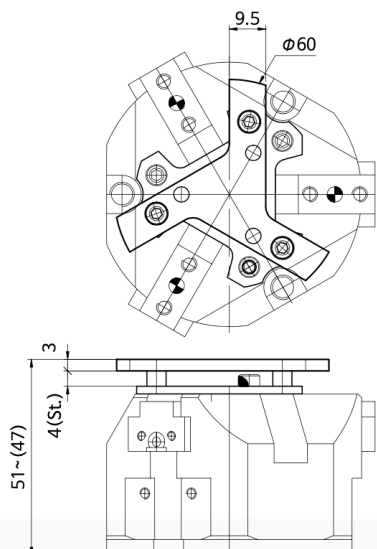
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**3ZN-42J-PU**



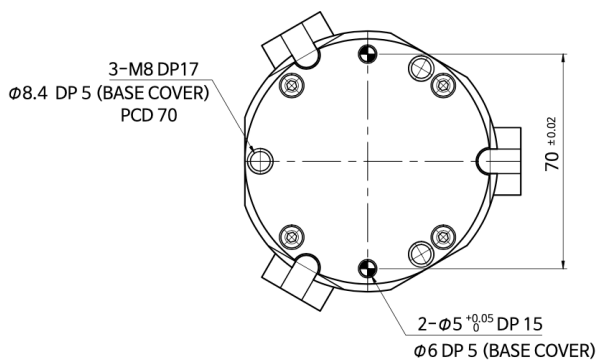
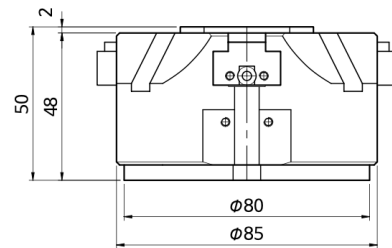
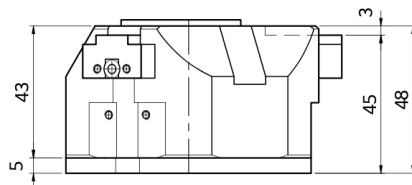
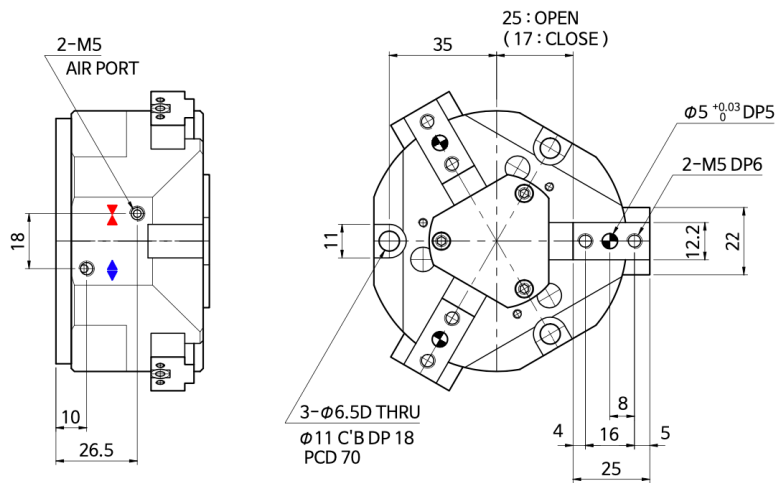
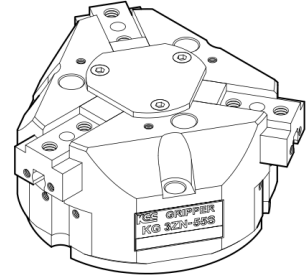
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Dimensions-Standard

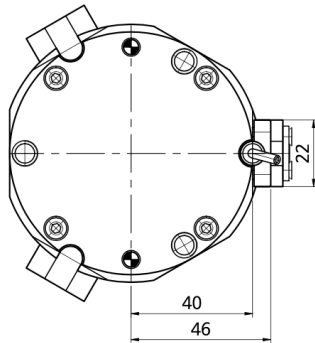
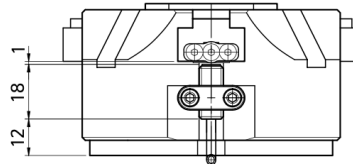
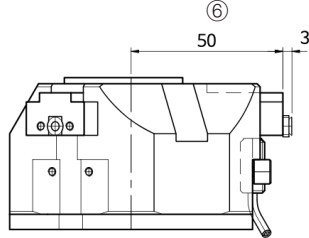
3ZN-55S

③

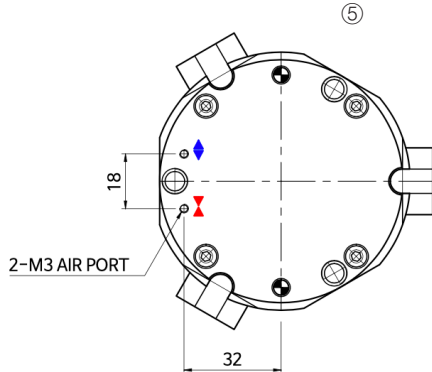


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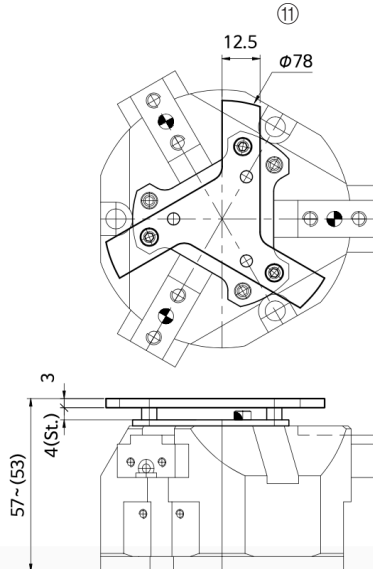
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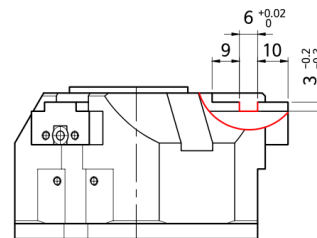
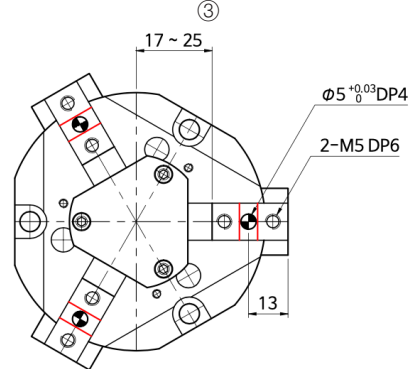
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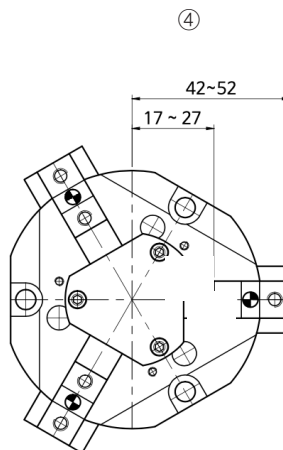
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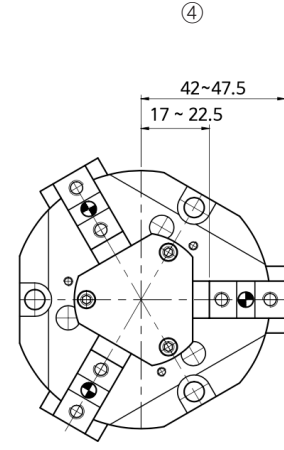
**3ZN-55J**



**3ZN-55J-SL**



**3ZN-55J-PU**

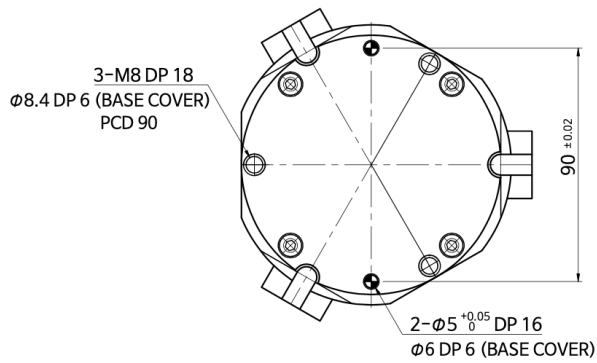
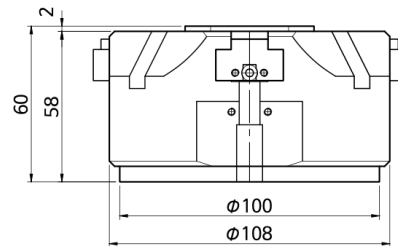
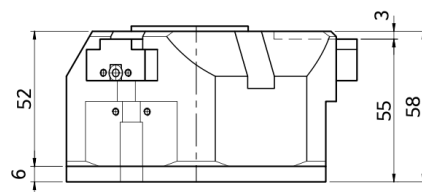
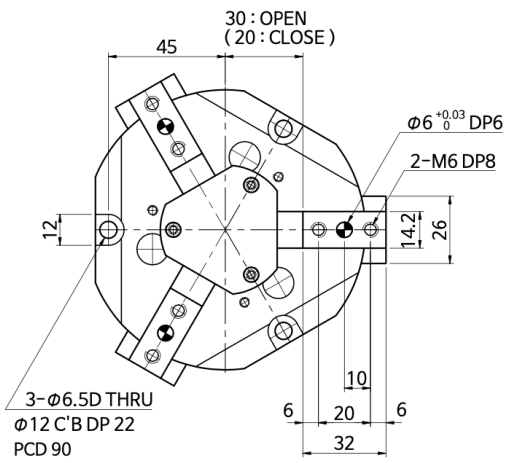
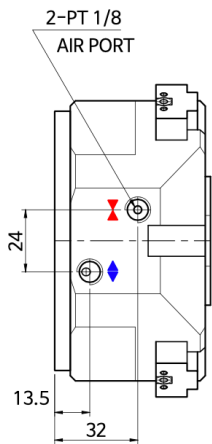
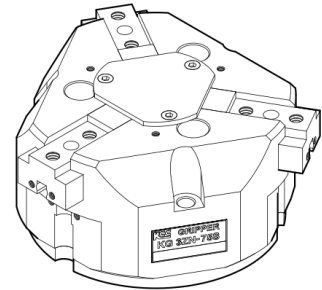




Dimensions-Standard

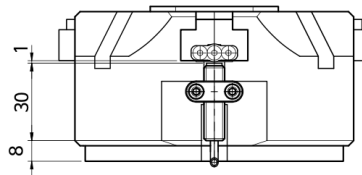
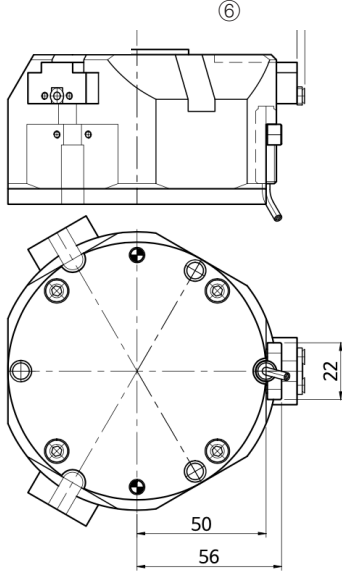
3ZN-75S

③

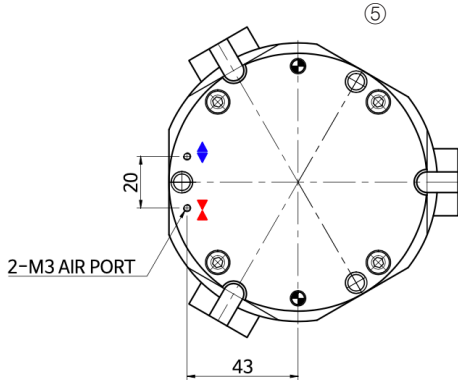


Dimensions-Option

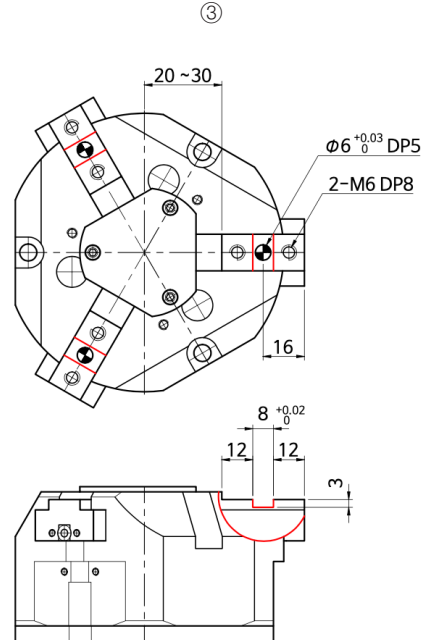
3ZN-75□+PA



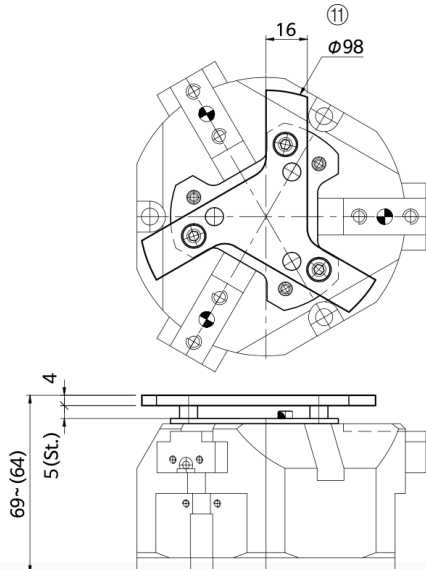
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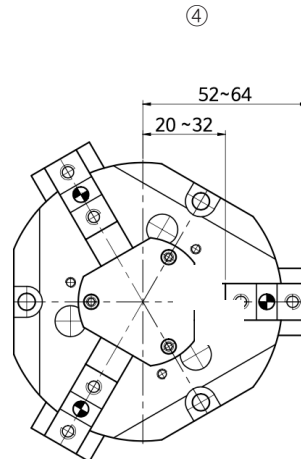
3ZN-75J



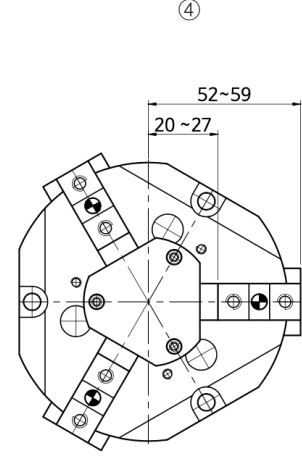
3ZN-75□-WP



3ZN-75J-SL



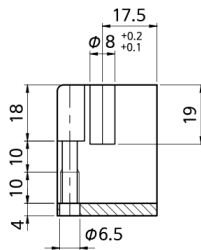
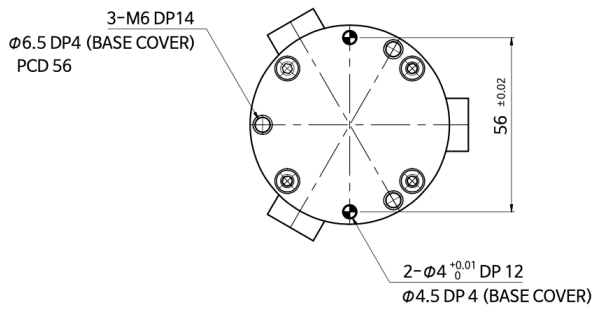
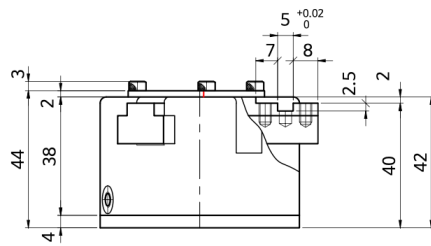
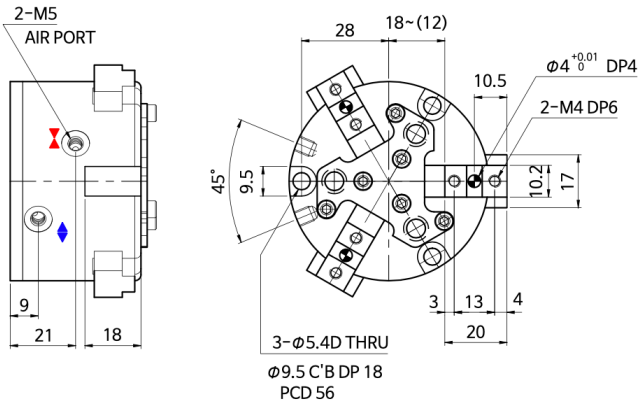
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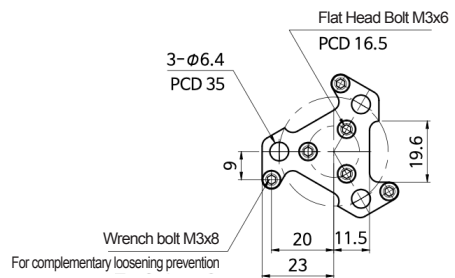
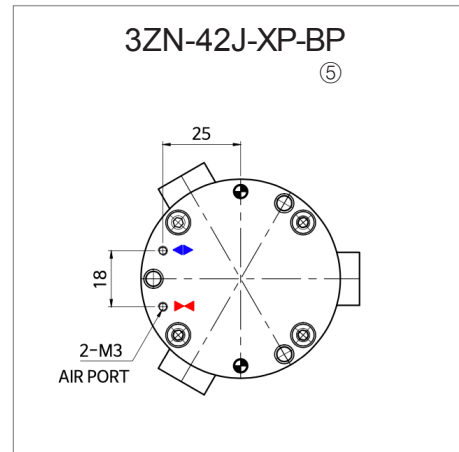
**Dimensions-Option**

**3ZN-42J-XP**

④



Detailed drawing of WP attachment

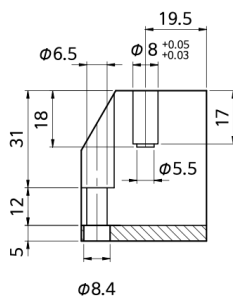
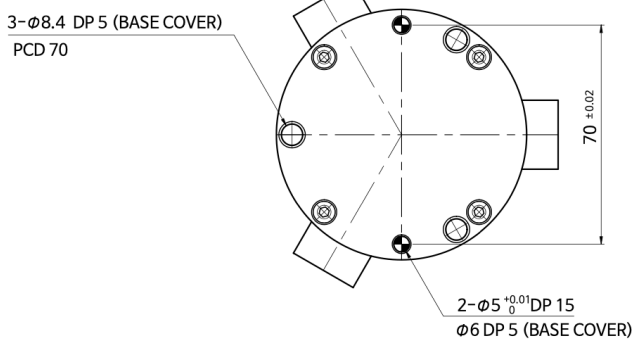
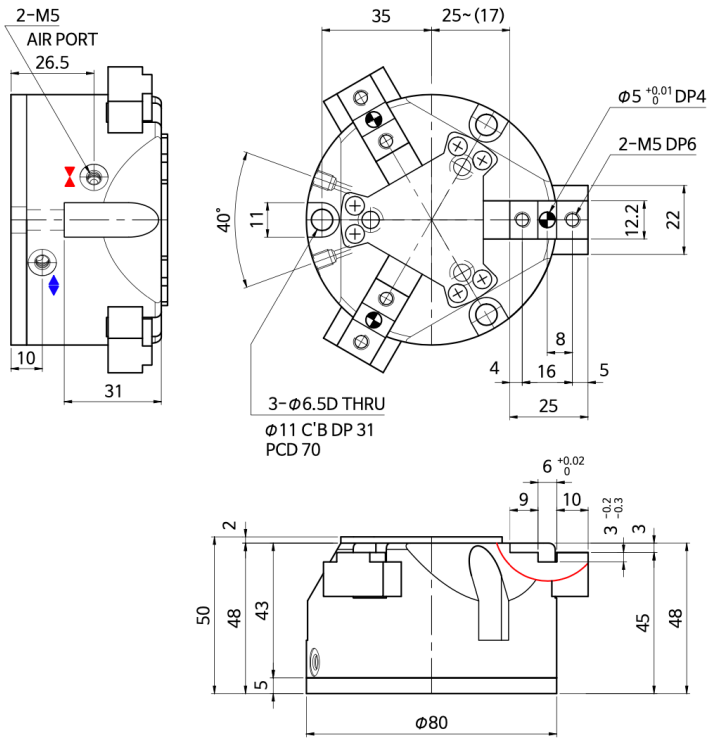


Dust cover detail drawing

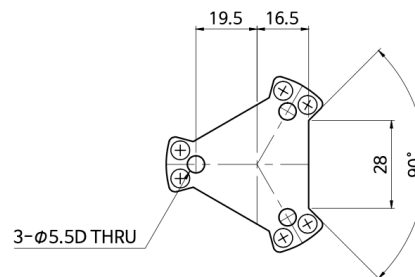
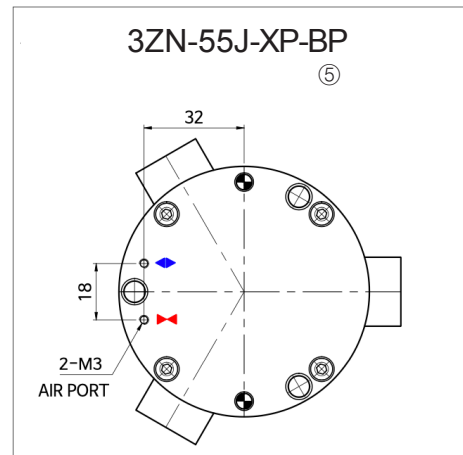
**Dimensions-Option**

**3ZN-55J-XP**

④



Detailed drawing of WP attachment



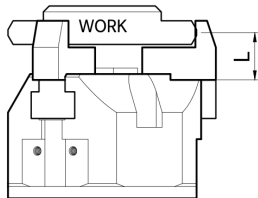
Dust cover detail drawing

**Gripping force calculation formula**

	Standard		SL		PU	
	Open	Close	Open	Close	Open	Close
3ZN-30	$\frac{579.2xp}{1+0.0085xL}$	$\frac{514.8xp}{1+0.0085xL}$	$\frac{504.6xp}{1+0.0085xL}$	$\frac{448.5xp}{1+0.0085xL}$	$\frac{762.4xp}{1+0.0085xL}$	$\frac{677.7xp}{1+0.0085xL}$
3ZN-42	$\frac{1148.1xp}{1+0.0074xL}$	$\frac{1054.4xp}{1+0.0074xL}$	$\frac{1000.3xp}{1+0.0074xL}$	$\frac{918.7xp}{1+0.0074xL}$	$\frac{1511.3xp}{1+0.0074xL}$	$\frac{1388xp}{1+0.0074xL}$
3ZN-55	$\frac{1995.7xp}{1+0.0006xL}$	$\frac{1826.8xp}{1+0.0006xL}$	$\frac{1738.8xp}{1+0.0006xL}$	$\frac{1591.6xp}{1+0.0006xL}$	$\frac{2627xp}{1+0.0006xL}$	$\frac{2404.7xp}{1+0.0006xL}$
3ZN-75	$\frac{3745.4xp}{1+0.0047xL}$	$\frac{3479.1xp}{1+0.0047xL}$	$\frac{3263.3xp}{1+0.0047xL}$	$\frac{3031.3xp}{1+0.0047xL}$	$\frac{4930.4xp}{1+0.0047xL}$	$\frac{4579.8xp}{1+0.0047xL}$

※ Gripping force unit: [N], Pressure unit: [MPa], L(Gripping point distance) unit = [mm]  
 ※ This formula is used to calculate the gripping force using an arbitrary pressure and <L> value.

**Effective gripping force (Standard: Default, SL: 17% Down, PU: 32% Up)**



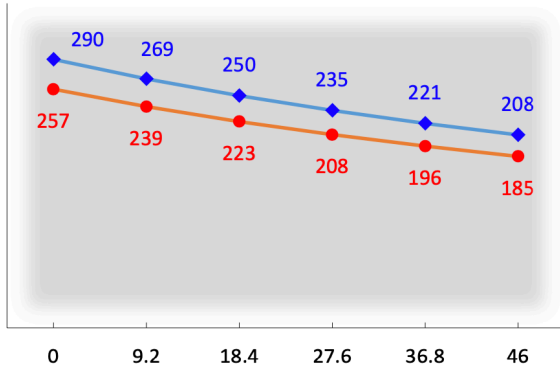
A graph showing the standard type obtained by dividing the maximum <L> value of a product into five.

※ If you calculate the gripping force of the product X 1/5, 1/10, 1/20, you can calculate the work weight for each usage condition.  
 ※ It is more stable if the <L> of the attachment is short, the coefficient of friction with the workpiece is large, and the weight is light.

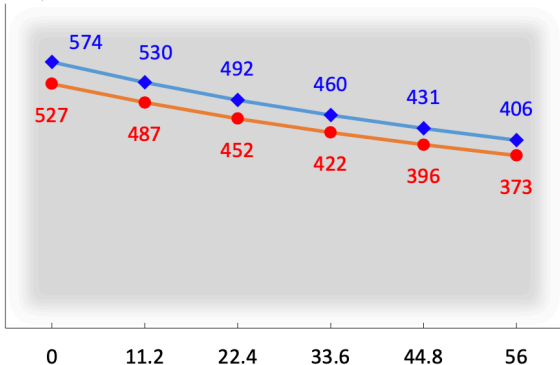
**Gripping force [N] (Pressure = 0.5[MPa])**

◆ : Open | ● : Close

◆ 3ZN-30

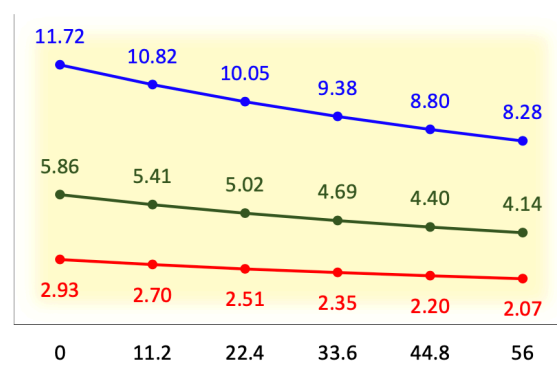
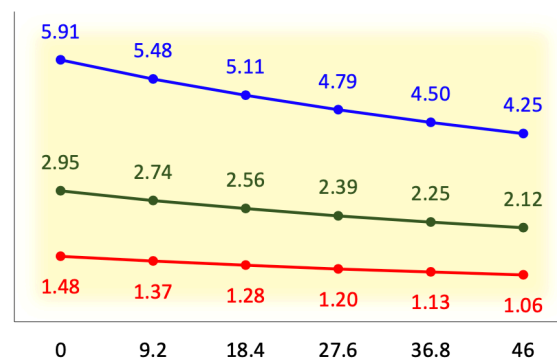


◆ 3ZN-42



**WORK weight by condition when closed [kg] (Pressure = 0.5[MPa])**

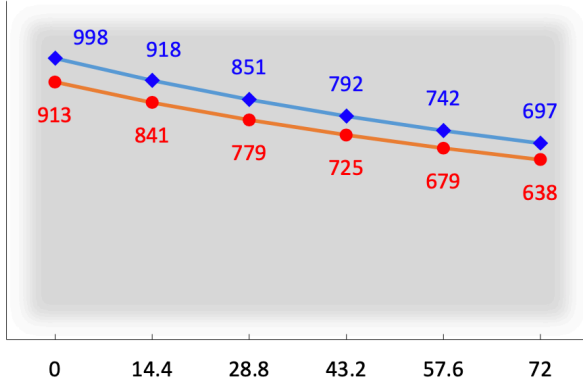
(Condition of use)  
 — : Fixed or slow moving  
 — : General deceleration and acceleration such as linear motion  
 — : Rapid deceleration and acceleration such as robot attachment or rotation



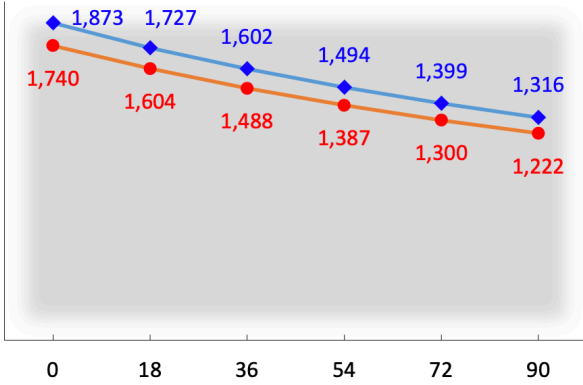
Effective gripping force (Standard: Default, SL: 17% Down, PU: 32% Up)

Gripping force [N] (Pressure = 0.5[MPa])

◆ 3ZN-55



◆ 3ZN-75



WORK weight by condition when closed [kg] (Pressure = 0.5[MPa])

