

# Bellows Pad (4.5-Stage)

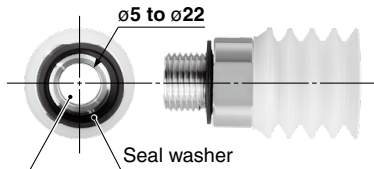
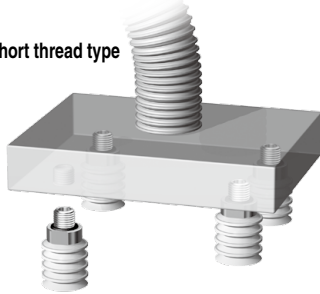
Symbol/Form

ZJ: Bellows type

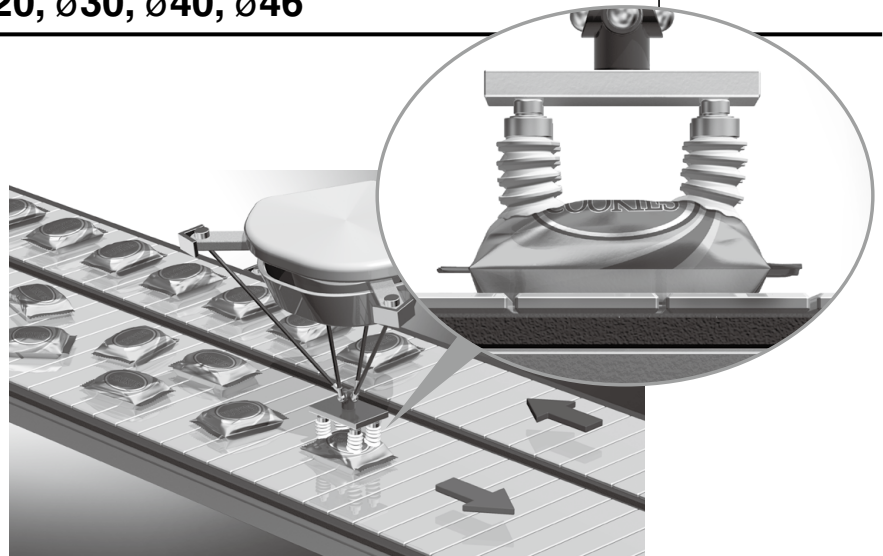
Pad diameter  $\varnothing 15, \varnothing 20, \varnothing 30, \varnothing 40, \varnothing 46$

- For adsorbing workpieces moving at high speeds
- Follows various shapes of workpieces
- Pad material: Silicone rubber (Rubber hardness: A40, A50, A60)

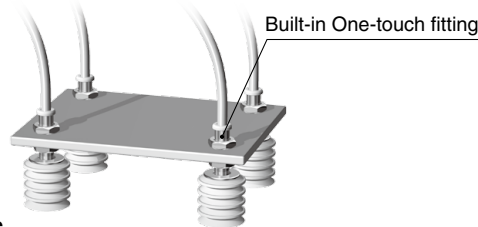
• Short thread type



- Large opening size (short thread type):  $\varnothing 5$  to  $\varnothing 22$   
For vacuum blower pumps with high suction flow rates



• One-touch fitting type



## How to Order

Pad unit **ZP2 - B15 ZJ S**

Symbol	Pad diameter
<b>B15</b>	$\varnothing 15^{*1}$
<b>B20</b>	$\varnothing 20^{*1}$
<b>B30</b>	$\varnothing 30^{*1}$
<b>40</b>	$\varnothing 40$
<b>46</b>	$\varnothing 46$

\*1 Pad O.D.

Symbol	Form
<b>ZJ</b>	Bellows type (4.5-stage)

• Pad material

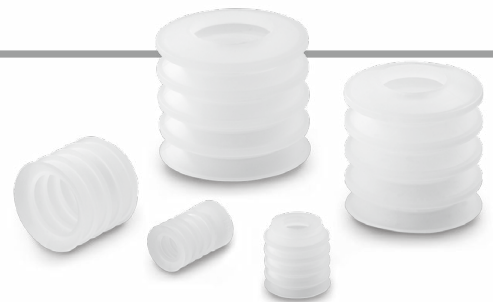
Symbol	Material	Applicable pad diameter					
		$\varnothing 15$	$\varnothing 20$	$\varnothing 30$	$\varnothing 40$	$\varnothing 46$	
<b>N</b>	NBR	—	—	—	●	●	
<b>U</b>	Urethane rubber	—	—	—	●	●	
<b>F</b>	FKM	—	—	—	●	●	
<b>GN</b>	Conductive NBR	—	—	—	●	●	
<b>GS</b>	Conductive silicone rubber (Black)	—	—	—	●	●	
<b>S</b>	Silicone rubber*1*2 (White)	Rubber hardness (Shore A: $\pm 5^\circ$ )	40	●	●	—	—
			50	—	—	—	●
<b>S6</b>	Silicone rubber*1 High-hardness type (White)	60	●	●	●	—	

\*1 Compliant with the FDA (USA Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use"

\*2 Compliant with the standards for "Rubber apparatus (excluding baby drinking apparatus) and containers/packaging" (D3) (Partial revision: Ministry of Health, Labour, and Welfare Notification No. 595, 2012) in Section 3 "Apparatus and Containers/Packaging" of the Food Sanitation Act, Article 18 "Specifications and Standards for Food and Food Additives, etc." (Ministry of Health and Welfare Notification No. 370, 1959).

### Mounting Bracket Part Nos.

Adapter Assembly p. 281



Model Selection

For Special Applications

Mark-free

For Film Adsorption

Multistage

Flat

Nozzle

Sponge

For Disk Adsorption

For Panel Holding

Ball Spine Buffer

Construction

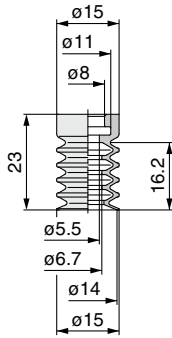
Mounting Bracket Assembly

Precautions

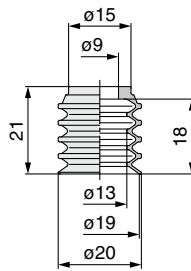
# Bellows Pad (4.5-Stage) **ZP2 Series**

## Dimensions: Pad Unit

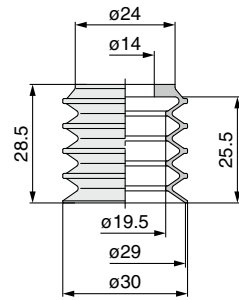
**ZP2-B15ZJ** □



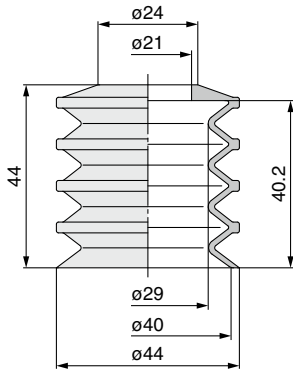
**ZP2-B20ZJ** □



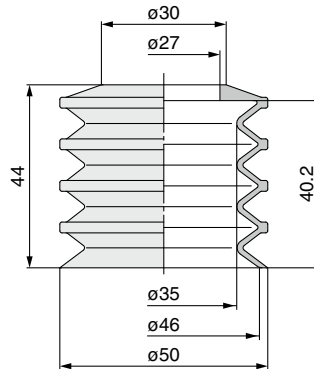
**ZP2-B30ZJ** □



**ZP2-40ZJ** □



**ZP2-46ZJ** □



Weight	[g]
ZP2-B15ZJ □	2.0
ZP2-B20ZJ □	2.0
ZP2-B30ZJ □	4.5
ZP2-40ZJN	16.0
ZP2-40ZJ □	15.0
ZP2-40ZJU	16.0
ZP2-40ZJF	25.0
ZP2-40ZJGN	16.0
ZP2-40ZJGS	16.0
ZP2-46ZJN	19.0
ZP2-46ZJ □	17.0
ZP2-46ZJU	19.0
ZP2-46ZJF	30.0
ZP2-46ZJGN	19.0
ZP2-46ZJGS	19.0

## How to Order

Vertical vacuum inlet with adapter

**ZP2 - T B15 ZJ S - A10 - 06**



**Pad diameter**

Symbol	Pad diameter
<b>B15</b>	ø15*1
<b>B20</b>	ø20*1
<b>B30</b>	ø30*1
<b>40</b>	ø40
<b>46</b>	ø46

\*1 Pad O.D.

**Pad form**

Symbol	Form
<b>ZJ</b>	Bellows type (4.5-stage)

**Pad material**

Symbol	Material	Applicable pad diameter					
		ø15	ø20	ø30	ø40	ø46	
<b>N</b>	NBR	—	—	—	●	●	
<b>U</b>	Urethane rubber	—	—	—	●	●	
<b>F</b>	FKM	—	—	—	●	●	
<b>GN</b>	Conductive NBR	—	—	—	●	●	
<b>GS</b>	Conductive silicone rubber (Black)	—	—	—	●	●	
<b>S</b>	Silicone rubber*1*2 (White)	Rubber hardness (Shore A: ±5°)	40	●	●	—	—
			50	—	—	●	●
<b>S6</b>	Silicone rubber*1*2 High-hardness type (White)	60	●	●	—	—	

\*1 Compliant with the FDA (USA Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use"

\*2 Compliant with the standards for "Rubber apparatus (excluding baby drinking apparatus) and containers/packaging" (D3) (Partial revision: Ministry of Health, Labour, and Welfare Notification No. 595, 2012) in Section 3 "Apparatus and Containers/Packaging" of the Food Sanitation Act, Article 18 "Specifications and Standards for Food and Food Additives, etc." (Ministry of Health and Welfare Notification No. 370, 1959).

**Vacuum inlet**

Symbol	Vacuum inlet	Connection thread					
		A10	A16	A20	A30	AL12	AL14
<b>Nil</b>	Short thread	●	●	●	●	—	—
<b>06</b>	One-touch fitting(ø6)	—	—	—	—	●	●

**Connection thread**

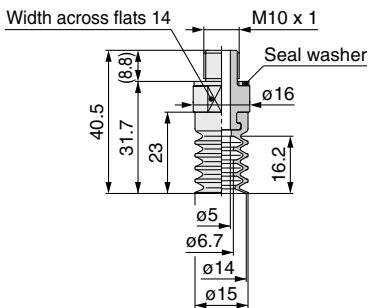
Type	Symbol	Size	ø15	ø20	ø30	ø40	ø46
Short thread	<b>A10</b>	M10 x 1	●	●	—	—	—
	<b>A16</b>	M16 x 1.5	—	—	●	—	—
	<b>A20</b>	M20 x 1.5	—	—	—	●	—
	<b>A30</b>	M30 x 1.5	—	—	—	—	●
One-touch fitting	<b>AL12</b>	M12 x 1	●	●	—	—	—
	<b>AL14</b>	M14 x 1	—	—	●	●	●

\* The pad is shipped together but does not come assembled.

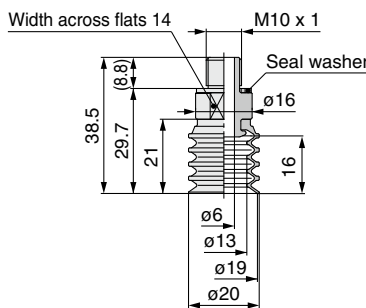
## Dimensions

### ■ Vacuum inlet: Short thread type

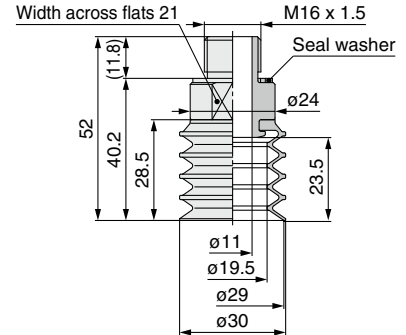
#### ZP2-TB15ZJ□-A10



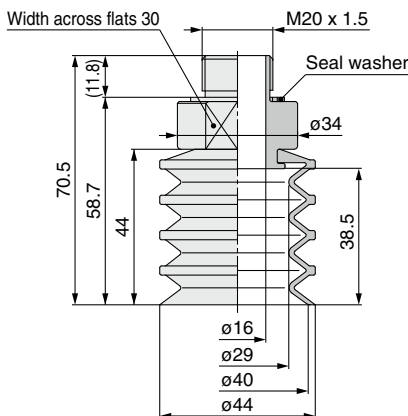
#### ZP2-TB20ZJ□-A10



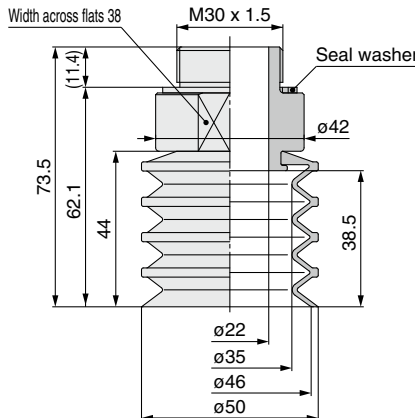
#### ZP2-TB30ZJ□-A16



#### ZP2-T40ZJ□-A20



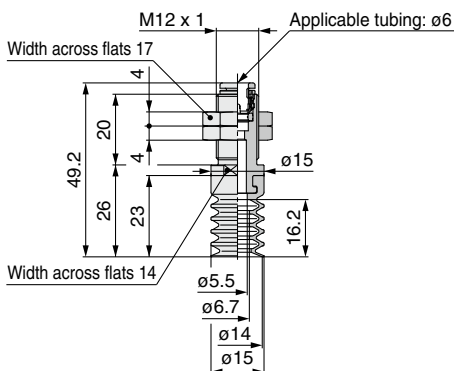
#### ZP2-T46ZJ□-A30



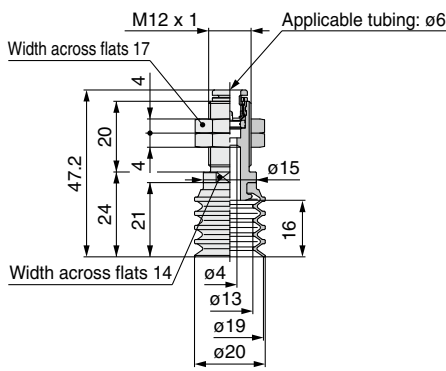
Weight	[g]
ZP2-TB15ZJ□-A10	9.0
ZP2-TB20ZJ□-A10	9.0
ZP2-TB30ZJ□-A16	20.5
ZP2-T40ZN-A20	51.0
ZP2-T40ZJ□-A20	50.0
ZP2-T40ZJU-A20	51.0
ZP2-T40ZJF-A20	60.0
ZP2-T40ZJGN-A20	51.0
ZP2-T40ZJGS-A20	51.0
ZP2-T46ZJN-A30	84.0
ZP2-T46ZJ□-A30	82.0
ZP2-T46ZJU-A30	84.0
ZP2-T46ZJF-A30	95.0
ZP2-T46ZJGN-A30	84.0
ZP2-T46ZJGS-A30	84.0

### ■ Vacuum inlet: One-touch fitting type

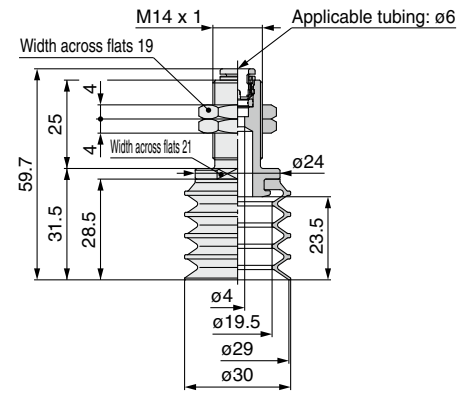
#### ZP2-TB15ZJ□-AL12-06



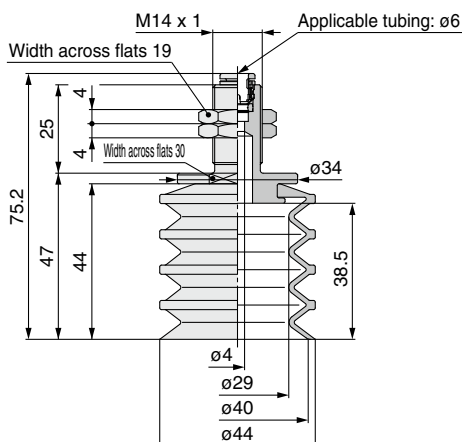
#### ZP2-TB20ZJ□-AL12-06



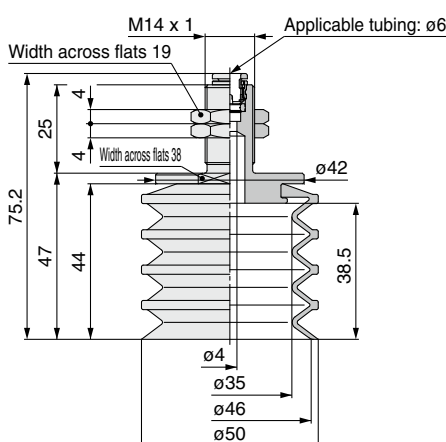
#### ZP2-TB30ZJ□-AL14-06



#### ZP2-T40ZJ□-AL14-06



#### ZP2-T46ZJ□-AL14-06



Weight	[g]
ZP2-TB15ZJ□-AL12-06	17.0
ZP2-TB20ZJ□-AL12-06	17.0
ZP2-TB30ZJ□-AL14-06	26.5
ZP2-T40ZJN-AL14-06	46.0
ZP2-T40ZJ□-AL14-06	45.0
ZP2-T40ZJU-AL14-06	46.0
ZP2-T40ZJF-AL14-06	55.0
ZP2-T40ZJGN-AL14-06	46.0
ZP2-T40ZJGS-AL14-06	46.0
ZP2-T46ZJN-AL14-06	56.0
ZP2-T46ZJ□-AL14-06	54.0
ZP2-T46ZJU-AL14-06	56.0
ZP2-T46ZJF-AL14-06	67.0
ZP2-T46ZJGN-AL14-06	56.0
ZP2-T46ZJGS-AL14-06	56.0

Model Selection

For Special Applications

Mark-free

For Film Adsorption

Multistage

Flat

Nozzle

Sponge

For Disk Adsorption

For Panel Holding

Ball Spine Buffer

Construction

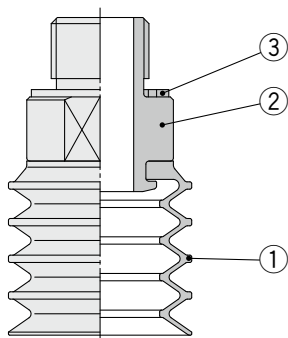
Mounting Bracket Assembly

Precautions

# Bellows Pad (4.5-Stage) **ZP2 Series**

## Component Parts

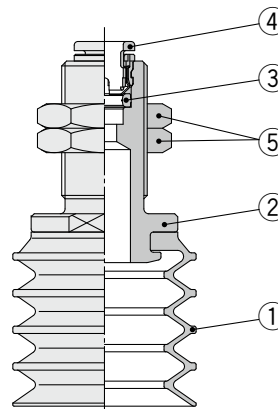
### ■ Short thread type (Pad with adapter)



#### Component Parts

No.	Description	Material (Surface treatment)
1	<b>Pad</b>	Refer to the pad material (page 276).
2	<b>Adapter</b>	Aluminum alloy (Anodized)
3	<b>Seal washer</b>	Structural steel/NBR

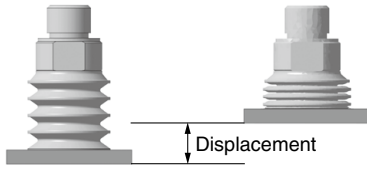
### ■ One-touch fitting type (Pad with adapter)



#### Component Parts

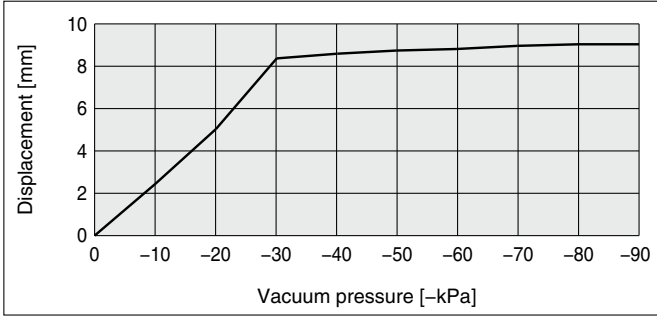
No.	Description	Material (Surface treatment)
1	<b>Pad</b>	Refer to the pad material (page 276).
2	<b>Adapter</b>	Aluminum alloy (Anodized)
3	<b>Seal</b>	NBR
4	<b>Cassette</b>	—
5	<b>Nut</b>	Steel (Zinc chromated)

## Pad Displacement to Vacuum Pressure (Pad material: Silicone rubber)

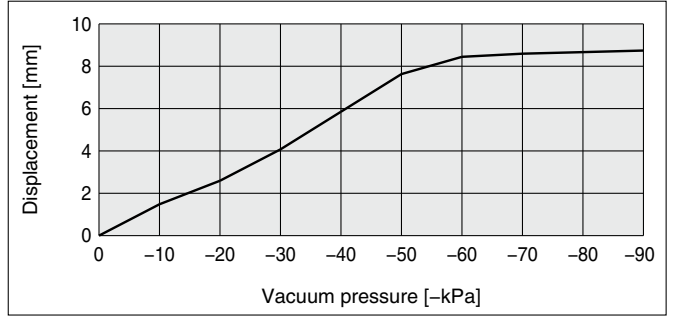


The data shown below are not guaranteed but actual measured (initial value). These values depend on the operating environment, workpiece weight and transfer method, so they cannot be guaranteed by SMC. Thorough research and confirmation are necessary before use.

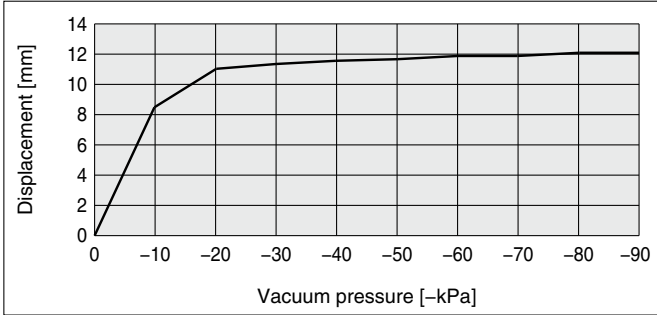
**ZP2-B15ZJS**



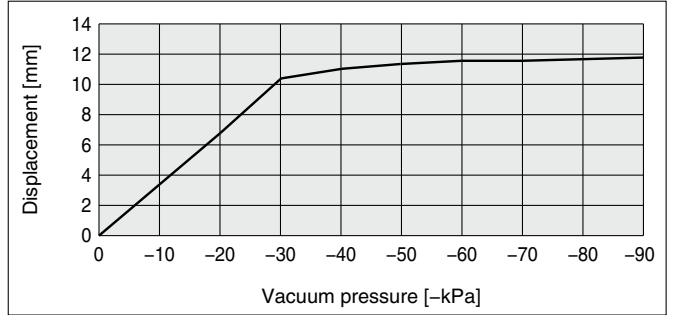
**ZP2-B15ZJS6**



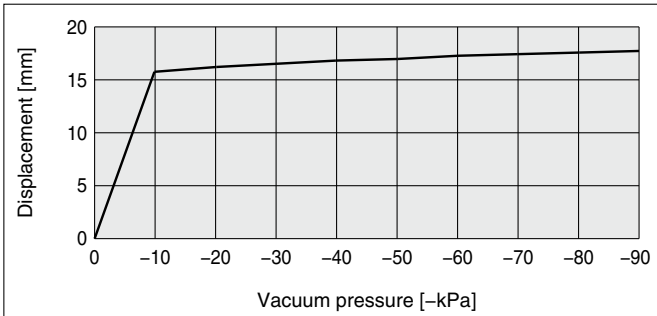
**ZP2-B20ZJS**



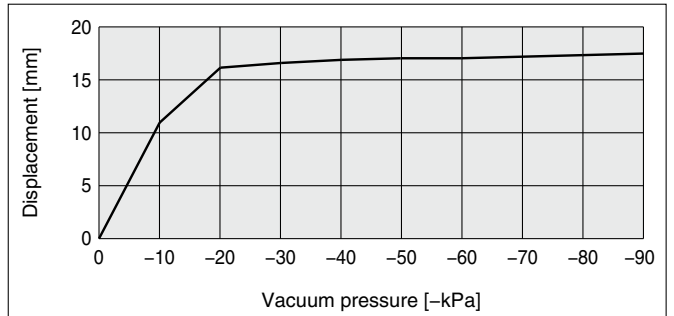
**ZP2-B20ZJS6**



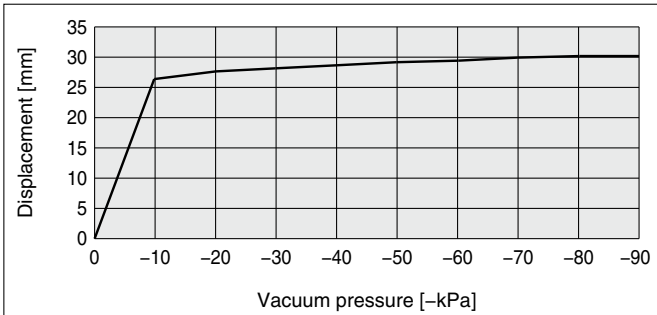
**ZP2-B30ZJS**



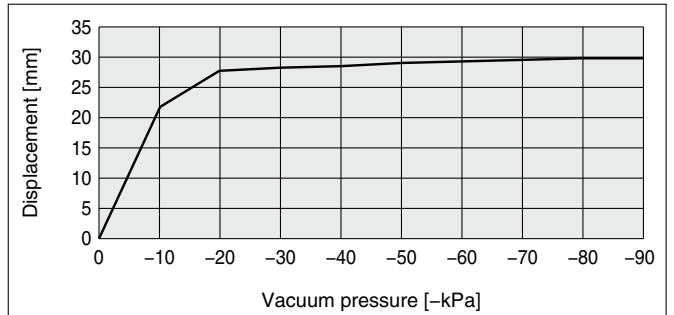
**ZP2-B30ZJS6**



**ZP2-40ZJS**

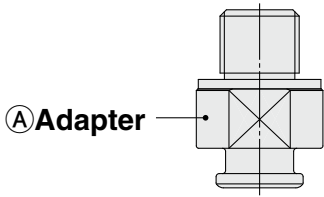


**ZP2-46ZJS**



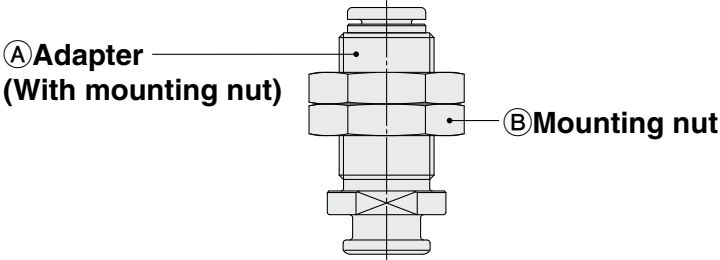
# Bellows Pad (4.5-Stage) *ZP2 Series* Mounting Bracket Assembly

## Adapter Assembly

Product part no.	<p style="text-align: center;">ZP2 - T ① ZJ □ - ②</p> <p style="text-align: center;">             Pad diameter ●      ● Connection thread (Male thread)              Bellows type ●      ● Pad material         </p>
Component parts	 <p>① Adapter</p>

		Symbol	① Pad diameter symbol						
			B15	B20	B30	40	46		
① Adapter	② Connection thread Male thread (Short thread)	M10 x 1	A10	ZP2A-Z31-1P	ZP2A-Z31-2P	—			
		M16 x 1.5	A16	—		ZP2A-Z31-3P	—		
		M20 x 1.5	A20	—			ZP2A-Z31-4P	—	
		M30 x 1.5	A30	—				ZP2A-Z31-5P	

## Adapter Assembly

Product part no.	<p style="text-align: center;">ZP2 - T ① ZJ □ - ② ③</p> <p style="text-align: center;">             Pad diameter ●      ● Vacuum inlet (One-touch fitting)              Bellows type ●      ● Connection thread (Male thread)              Pad material ●         </p>
Component parts	 <p>① Adapter (With mounting nut)</p> <p>② Mounting nut</p>

		Symbol			Symbol	① Pad diameter symbol					
						B15	B20	B30	40	46	
① Adapter	② Connection thread Male thread	M12 x 1	AL12	③ Vacuum inlet One-touch fitting	ø6	06	ZP2A-Z32-1	ZP2A-Z32-2	—		
		M14 x 1	AL14				—		ZP2A-Z32-3	ZP2A-Z32-4	ZP2A-Z32-5
② Mounting nut (Single unit)				M12 x 1		ZPNA-M12C		—			
				M14 x 1		—		ZPNA-M14			