







Basic Pad ZP Series

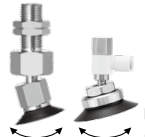


RoHS

∅2, ∅4, ∅6, ∅8, ∅10, ∅13, ∅16, ∅20, ∅25, ∅32, ∅40, ∅50

Flat Type, Flat Type with Ribs, Bellows Type, Thin Flat Type, Thin Flat Type with Ribs, Deep Type

12 sizes, 6 types of pad forms, and a wide range of adapter variations

Pad form	Application
Flat type 	For workpieces with flat and undeformed surfaces
Flat type with ribs 	For workpieces which are easily deformed Workpieces can be removed easily thanks to the ribs.
Bellows type 	For use where there is no space for a buffer or for workpieces with inclined surfaces
Thin flat type 	For soft workpieces such as thin sheets or vinyl Wrinkling or deformation during adsorption can be reduced.
Thin flat type with ribs 	For soft workpieces such as thin sheets or vinyl Workpieces can be removed easily thanks to the ribs.
Deep type 	For workpieces with curved surfaces or for spherical workpieces

Mounting bracket	Application
Ball joint 	For workpieces with inclined or curved surfaces
With adapter 	The adapter can be selected according to the installation conditions.
With buffer 	For workpieces of varying heights The buffer can reduce the impact to the workpiece during adsorption.



CONTENTS

Basic Pad ZP Series

Variations	p. 27
Specifications	p. 29

Flat Type

· How to Order	p. 31
· Dimensions/Models	p. 32

Flat Type with Ribs

· How to Order	p. 50
· Dimensions/Models	p. 51

Flat, Ball Joint Type

· How to Order	p. 61
· Dimensions/Models	p. 62

Bellows Type

· How to Order	p. 67
· Dimensions/Models	p. 68

Thin Flat Type

· How to Order	p. 86
· Dimensions/Models	p. 87

Thin Flat Type with Ribs

· How to Order	p. 95
· Dimensions/Models	p. 96

Deep Type

· How to Order	p. 104
· Dimensions/Models	p. 105


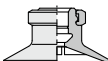





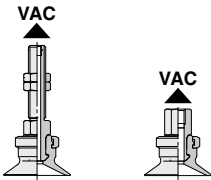
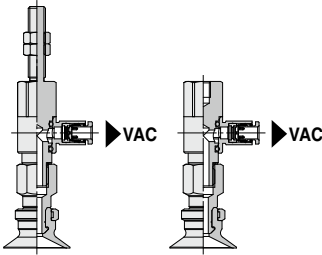
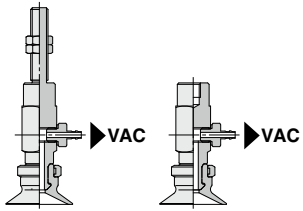
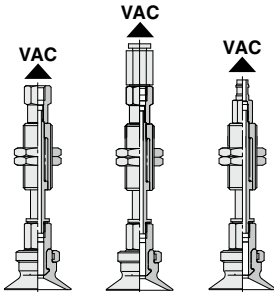
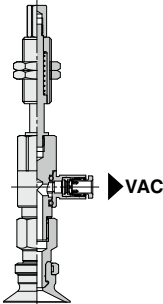
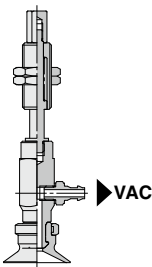
Construction	p. 115
(Flat type/Flat type with ribs/Bellows type/Thin flat type/Thin flat type with ribs/Deep type)	

Construction	p. 119
(Flat, Ball joint type)	

Mounting Bracket Assembly	p. 121
(Flat type/Flat type with ribs/Bellows type/Thin flat type/Thin flat type with ribs/Deep type)	

Mounting Bracket Assembly	p. 127
(Flat, Ball joint type)	

Specific Product Precautions	p. 165
------------------------------------	--------

		Vacuum inlet direction						
								
		Flat type	Flat type with ribs	Bellows type	Thin flat type	Thin flat type with ribs	Deep type	
Vertical	Single unit		p. 32	p. 51	p. 68	p. 87	p. 96	p. 105
	ZPT With adapter		p. 33 p. 34	p. 51 p. 52	p. 69 p. 70	p. 87	p. 96	p. 105 p. 106
Lateral	ZPR With adapter		p. 35 p. 37	p. 53 p. 54	p. 71 p. 73	p. 88 p. 89	p. 97 p. 98	p. 107 p. 108
	ZPY With adapter		p. 39 p. 41	p. 55 p. 56	p. 75 p. 77	p. 90 p. 91	p. 99 p. 100	p. 109 p. 110
Vertical	ZPT With buffer		p. 43	p. 57	p. 79	p. 92	p. 101	p. 111
	ZPR With buffer		p. 46	p. 59	p. 82	p. 93	p. 102	p. 113
Lateral	ZPY With buffer		p. 48	p. 60	p. 84	p. 94	p. 103	p. 114

Ball Joint Type		Vacuum inlet direction	Flat type
Vacuum inlet direction	Single unit		p. 62
Vertical	ZPT With adapter		p. 62 p. 63
Lateral	ZPR With adapter		p. 64
Vertical	ZPT With buffer		p. 65
Lateral	ZPR With buffer		p. 66

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Basic Pad *ZP Series* Specifications

Pad Material

Material	NBR (Nitrile rubber)	Silicone rubber*1*2	Urethane rubber	FKM (Fluoro rubber)	Conductive NBR (Nitrile rubber)	Conductive silicone rubber
Color of rubber	Black	White	Brown	Black		
Rubber hardness (Shore A: ±5°)	50	40	50 to 60	60	50 to 65	50 to 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).

Adapter Specifications

Vacuum Inlet Direction **Vertical** T Type/ZPT

Connection		Male thread						Female thread									
Pad diameter		ø2 to ø8		ø10 to ø16		ø20 to ø32		ø40, ø50		ø2 to ø8*1		ø10 to ø16		ø20 to ø32		ø40, ø50	
Connection thread	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M6 x 1 M8 x 1	M6 x 1 G1/4	M4 x 0.7 M5 x 0.8	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M8 x 1.25 G1/4	1/8 (Rc, NPT, NPTF)	1/8 (Rc, NPT, NPTF)	1/8 (Rc, NPT, NPTF)	M8 x 1.25 G1/4	1/8 (Rc, NPT, NPTF)
Vacuum inlet	Female thread	Use the connection thread, M3 x 0.5		Use the connection thread, M3 x 0.5		Use the connection thread, M3 x 0.5		Use the connection thread, M3 x 0.5									

*1 Refer to ø2 to ø8 for the thin flat type and thin flat type with ribs.

Vacuum Inlet Direction **Lateral** R Type/ZPR

Connection		Male thread				Female thread									
Pad diameter		ø2 to ø16		ø20 to ø32		ø40, ø50		ø2 to ø8*1		ø10 to ø16		ø20 to ø32		ø40, ø50	
Connection thread	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M6 x 1 M8 x 1	M6 x 1 M8 x 1	M4 x 0.7 M5 x 0.8	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M8 x 1.25 G1/4	1/8 (Rc, NPT, NPTF)	1/8 (Rc, NPT, NPTF)	M8 x 1.25 G1/4
Vacuum inlet	One-touch fitting	ø4, ø6		ø4, ø6, ø8		ø6, ø8		ø4, ø6		ø4, ø6, ø8		ø6, ø8			

*1 Refer to ø2 to ø8 for the thin flat type and thin flat type with ribs.

Vacuum Inlet Direction **Lateral** Y Type/ZPY

Connection		Male thread				Female thread									
Pad diameter		ø2 to ø16		ø20 to ø32		ø40, ø50		ø2 to ø8*1		ø10 to ø16		ø20 to ø32		ø40, ø50	
Connection thread	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M6 x 1 M8 x 1	M6 x 1 M8 x 1	M4 x 0.7 M5 x 0.8	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M5 x 0.8 M6 x 1	M8 x 1.25 G1/4	1/8 (Rc, NPT, NPTF)	1/8 (Rc, NPT, NPTF)	M8 x 1.25 G1/4
Vacuum inlet	Barb fitting*2	ø4, ø6		ø6		ø4, ø6		ø6							

*1 Refer to ø2 to ø8 for the thin flat type and thin flat type with ribs.

*2 Applicable tubing: Nylon tubing, Soft tubing

Buffer Specifications

Pad diameter		ø2 to ø8*1		ø10 to ø32		ø40, ø50	
Non-rotating specification		J: Rotating, K: Non-rotating					
Stroke [mm]		6, 10, 15, 25		10, 20, 30, 40, 50		10, 20, 30, 50	
Connection thread		M8 x 1		M10 x 1		M14 x 1	
Spring reactive force [N]	At 0 stroke	0.8		1.0		2.0	
	At full stroke	1.2		3.0		5.0	

*1 Refer to ø2 to ø8 for the thin flat type and thin flat type with ribs.

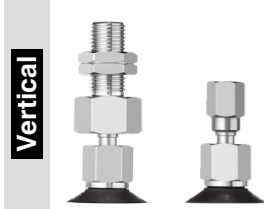
Basic Pad *ZP Series* Specifications

Ball Joint Type

Adapter Specifications (Ball Joint Type)

Ball joint rotating angle	30°
---------------------------	-----

Vacuum Inlet Direction **Vertical** T Type/ZPT□F



Connection	Male thread			Female thread		
Pad diameter	ø10 to ø16	ø20 to ø32	ø40, ø50	ø10 to ø16	ø20 to ø32	ø40, ø50
Connection thread	M8 x 1	M10 x 1	M14 x 1	M5 x 0.8	M5 x 0.8 M8 x 1.25 1/8 (Rc, NPT, NPTF)	M8 x 1.25 1/8 (Rc, NPT, NPTF)
Vacuum inlet	M5 x 0.8			Use the connection thread.		

Vacuum Inlet Direction **Lateral** R Type/ZPR□F



Connection	Female thread		
Pad diameter	ø10 to ø16	ø20 to ø32	ø40, ø50
Connection thread	M5 x 0.8	M5 x 0.8 M8 x 1.25	M5 x 0.8 M8 x 1.25
Vacuum inlet	One-touch fitting	ø4, ø6	ø6, ø8

Buffer Specifications (Ball Joint Type)



Pad diameter	ø10 to ø16		ø20 to ø50	
Non-rotating specification	J: Rotating, K: Non-rotating			
Stroke [mm]	10, 20, 30, 40, 50		10, 20, 30, 50	
Connection thread	M10 x 1		M14 x 1	
Spring reactive force [N]	At 0 stroke	1.0	2.0	
	At full stroke	3.0	5.0	

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions



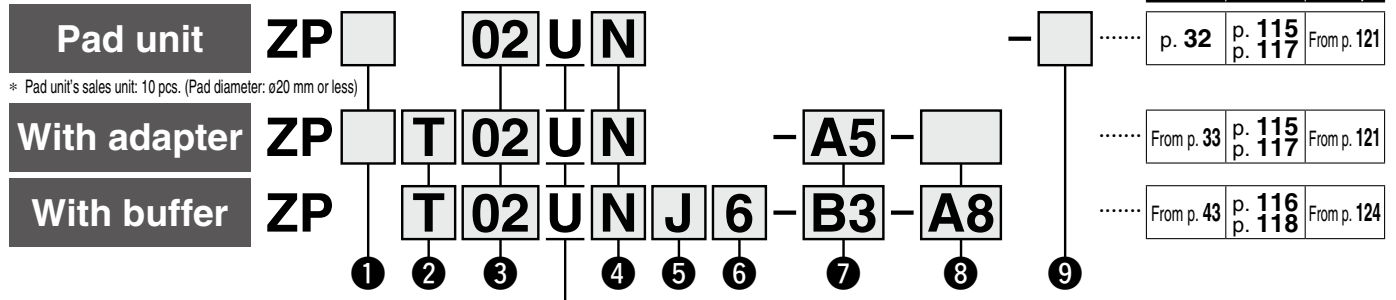
Basic Pad

Flat Type

ZP Series



How to Order



1 Adapter (Lock ring) material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad unit (with lock ring) and the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

2 Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

3 Pad diameter

02	ø2	16	ø16
04	ø4	20	ø20
06	ø6	25	ø25
08	ø8	32	ø32
10	ø10	40	ø40
13	ø13	50	ø50

4 Material

N	NBR
S	Silicone rubber*1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

5 Buffer specification

J	Rotating
K	Non-rotating
JN*1	Rotating (Without buffer plate)
KN*1	Non-rotating (Without buffer plate)

*1 Only for pad diameters ø2 to ø8

6 Buffer stroke

Stroke [mm]	Pad diameter [mm]											
	ø2	ø4	ø6	ø8	ø10	ø13	ø16	ø20	ø25	ø32	ø40	ø50
6	●	●	●	●	—	—	—	—	—	—	—	—
10	●	●	●	●	●	—	—	●	●	●	●	●
15	●	●	●	●	—	—	—	—	—	—	—	—
20	—	—	—	—	●	●	●	●	●	●	●	●
25	●	●	●	●	—	—	—	—	—	—	—	—
30	—	—	—	—	●	●	●	●	●	●	●	●
40	—	—	—	—	●	●	●	●	●	●	—	—
50	—	—	—	—	●	●	●	●	●	●	●	●

*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)

With adapter

7 Vacuum inlet

○: ZP□/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø2 to ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A5	M5 x 0.8	○*1	—	—	—
	AS5		○*1	—	—	—
	A6		○*1	—	—	—
	AS6	M6 x 1	—	○*1	○*1	○*1
	AG01		—	○*1	○*1	—
	AG02		—	—	—	○*1
Female thread	Nil	M3 x 0.5	—	○●Connection thread: AS(A6)	○●Connection thread: A6	○●Connection thread: A6
		M5 x 0.8	—	○●Connection thread: A8	○●Connection thread: A8	—
	B4	M4 x 0.7	○*1	—	—	—
	B5	M5 x 0.8	○*1	○*1	○*1	—
	B6	M6 x 1	—	○*1	○*1	○*1
	B8	M8 x 1.25	—	—	○*1	○*1
	BG01	G1/8	—	○*1	○*1	—
	BG02	G1/4	—	—	—	○*1
	B01	Rc1/8	—	○*1	○*1	○*1
	N01*4	NPT1/8	—	○*1	○*1	○*1
	T01*4	NPTF1/8	—	○*1	○*1	○*1
	One-touch fitting	04	ø4	●	●	●
06		ø6	●	●	●	●
08		ø8	—	—	●	●
Barb fitting	N4	For ø4 nylon tubing*2	△	△	△	—
	N6	For ø6 nylon tubing*2	△	△	△	△
	U4	For ø4 soft tubing*3	△	△	△	—
	U6	For ø6 soft tubing*3	△	△	△	△

*1 Use the connection thread. *2 Nylon tube piping *3 Soft nylon/Polyurethane tube piping *4 Not compatible with stainless steel materials

8 Connection thread

Type	Symbol	Size	Pad diameter [mm]			
			ø2 to ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A5	M5 x 0.8	●△	○*1●△	—	—
	A6	M6 x 1	—	—	○*1●△	—
	A8	M8 x 1	—	—	○*1●△	○*1●△
Female thread	B4	M4 x 0.7	●△	—	—	—
	B5	M5 x 0.8	●△	●△	●△	—
	B6	M6 x 1	—	●△	●△	●△
	B8	M8 x 1.25	—	—	●△	●△

*1 ○: ZP□/Vertical comes with a vacuum inlet (female thread).

With buffer

7 Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø2 to ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B3	M3 x 0.5	○	—	—	—
	B5	M5 x 0.8	○	○	○	○
	B01	Rc1/8	—	—	—	○
	N01	NPT1/8	—	—	—	○
	T01	NPTF1/8	—	—	—	○
One-touch fitting	04	ø4	○●	○●	○●	—
	06	ø6	○●	○●	○●	○●
	08	ø8	—	—	●	○●
Barb fitting	N4	For ø4 nylon tubing*1	○△	△	△	—
	N6	For ø6 nylon tubing*1	△	○△	○△	○△
	U4	For ø4 soft tubing*2	○△	△	△	—
	U6	For ø6 soft tubing*2	△	○△	○△	○△

*1 Nylon tube piping *2 Soft nylon/Polyurethane tube piping

8 Connection thread

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø2 to ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A8	M8 x 1	○●△	—	—	—
	A10	M10 x 1	—	○●△	○●△	—
	A14	M14 x 1	—	—	—	○●△

9 Lock ring

Symbol	Pad diameter [mm]	
	ø2 to ø8	ø10 to ø50
Nil	—	With lock ring
X19	None*1	Without lock ring

*1 The lock ring cannot be used for pad diameters ø2 to ø8.

Lock ring unit

Part no.	Pad diameter [mm]
ZP□L1	ø10 to ø16
ZP□L2	ø20 to ø32
ZP□L3	ø40, ø50

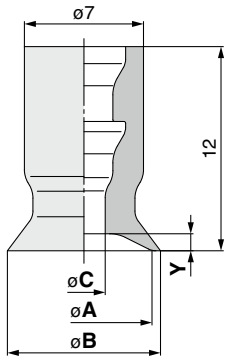
□: Nil/Brass S/Stainless steel

* The pad, lock ring, mounting nut, fitting, and buffer plate are shipped together but do not come assembled.

Dimensions/Models

Single unit $\varnothing 2$ to $\varnothing 8$

ZP **02** U **N**
① ②



Construction p. 115

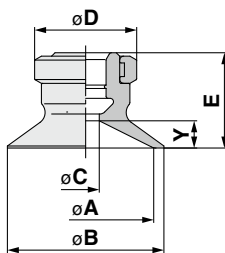
Mounting Bracket Assembly From p. 121

Model	① Pad dia.	Form	② ^{*1} Material	A	B	C	Y
				ZP	02	U	N S U F GN GS
04	4	4.8	1.6	0.8			
06	6	7	2.5				
08	8	9		1			

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Single unit $\varnothing 10$ to $\varnothing 50$

ZP **10** U **N**
① ② ③



Construction p. 117

Mounting Bracket Assembly From p. 121

① Lock ring material

Nil	Brass
S	Stainless steel (Stainless steel 304)

Model	① Lock ring material	② Pad dia.	Form	③ ^{*1} Material	A	B	C	D	E	Y
					ZP	Nil S	10 13 16 20 25 32 40 50	U	N S U F GN GS	10
13	15	12.5	3.5							
16	18	15	14	4						
20	23		14.5	4.5						
25	28	7	18	18.5	6.5					
32	35			19.5	7.5					
40	43									
50	53									

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

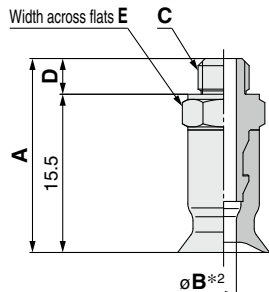
Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter $\varnothing 2$ to $\varnothing 8$

ZP T 02 U N - A5
① ② ③ ④



Construction	p. 115
Adapter Assembly	p. 121

① Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

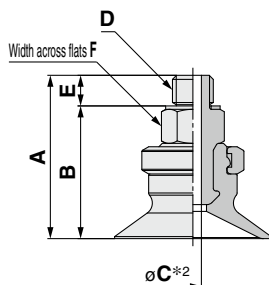
A5	M5 x 0.8
A6	M6 x 1

Model						A	B*2	C	D	E
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material	④ Vacuum inlet					
ZP	Nil S	T	U	N S U F GN GS	A5	19	1.2	M5 x 0.8	3.5	7
					02		1.6			
					06		2.5			
					08					
					A6	20	1.2	M6 x 1	4.5	8
					02		1.6			
					06		2.5			
					08					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
 *2 Indicates the minimum hole size of the adapter or vacuum pad

With adapter $\varnothing 10$ to $\varnothing 50$

ZP T 10 U N - AS5
① ② ③ ④



Construction	p. 117
Adapter Assembly	p. 121

① Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

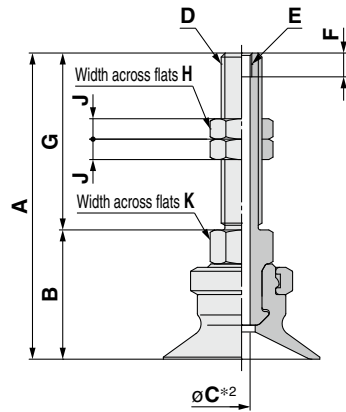
AS5	M5 x 0.8
AS6	M6 x 1
AG01	G1/8
AG02	G1/4

Model						A	B	C*2	D	E	F	
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material	④ Vacuum inlet							
ZP	Nil S	T	U	N S U F GN GS	AS5	10	21	17.5	2.5	M5 x 0.8	3.5	8
						13						
						16						
						20						
						25						
						32						
						35						
						40						
					45							
					AS6	22	17.5	2.5	M6 x 1	4.5	8	
					13							
					16							
					20							
					25							
					32							
					40							
					50							
					AG01	30	24.5	2.5	G1/8	5.5	17	
					13							
					16							
					20							
					25							
					32							
					AG02	39	32.5	7	G1/4	6.5	21	
13												
16												
20												

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
 *2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 50$



Construction	p. 117
Adapter Assembly	p. 121

ZP 1 T 2 U N 3 - 4 A5

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Connection thread (Male thread)

A5	M5 x 0.8 (M3 x 0.5 With female thread)
A6	M6 x 1 (M3 x 0.5 With female thread)
A8	M8 x 1 (M5 x 0.8 With female thread)

		Model														
ZP	Adapter material 1 Nil S	Vacuum inlet direction T	Pad dia. 2	Form U	Material 3 N S U F GN GS	Connection thread 4	A	B	C*2	D	E	F	G	H	J	K
										10			A5	38	17	2.5
			13				38.5	17.5								
			16													
			10			A6	43	17								
			13				43.5	17.5								
			16													
			20				45	19	2.5	M6 x 1	M3 x 0.5	3.5	26	8	4	8
			25				45.5	19.5								
			32				50.5	24.5								
			40				51.5	25.5								12
			50													
			20			A8	40	24	4							
			25													
			32				40.5	24.5		M8 x 1	M5 x 0.8	5	16	12	4	12
			40				41.5	25.5	4.2							
			50													

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

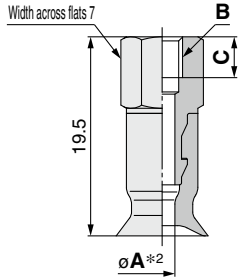
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter $\varnothing 2$ to $\varnothing 8$



Construction p. 115
Adapter Assembly p. 121

ZP T 02 U N - B4

① ② ③ ④

① Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

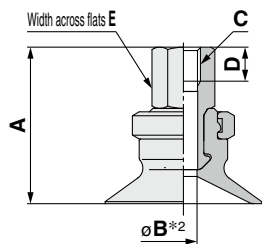
④ Vacuum inlet (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

		Model					A*2	B	C	
	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet				
ZP	Nil	T	02	U	N S U F GN GS	B4	1.2	M4 x 0.7	4	
			04				1.6			
			06				2.5			
			08				1.2			
			02				1.6			
	S	T	04	U		N S U F GN GS	B5	1.2	M5 x 0.8	5
			06					1.6		
			08					2.5		
			04					1.2		
			08					1.6		

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

With adapter $\varnothing 10$ to $\varnothing 50$



Construction p. 117
Adapter Assembly p. 121

ZP T 10 U N - B5

① ② ③ ④

① Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Female thread)

B5	M5 x 0.8	BG02	G1/4
B6	M6 x 1	B01	Rc1/8
B8	M8 x 1.25	N01*1	NPT1/8
BG01	G1/8	T01*1	NPTF1/8

*1 Not compatible with stainless steel materials

		Model					A	B*2	C	D	E				
	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet									
ZP	Nil	T	10	U	N S U F GN GS	B5	21	2.5	M5 x 0.8	5	8				
			13				21.5								
			16				23								
			20				23.5								
			25				21								
			32				21.5								
			10				B6	23				4	M6 x 1	6	8
			13					23.5							
			16					32							
			20					40							
			25			50									
			32			29									
			40			29.5									
			50			32									
			10			B8		40	3.5	M8 x 1.25	8	12			
			13					32							
			16				33								
			20				27								
			25				27.5								
			32				29								
	40	29.5													
	50	29.5													
	10	BG01	10	2.5			G1/8	7.4	14						
	13		27												
	16		27.5												
	20		29												
	25		29.5												
	32		38												
	40		39												
	50		27												
	10		BG02	10		2.5				G1/4	11	17			
	13			27											
	16	27.5													
	20	29													
	25	29.5													
	32	27													
	40	27.5													
	50	29													
	10	B01 N01*3 T01*3		10		3.5	Rc1/8 NPT1/8 NPTF1/8	—	12						
	13			29											
16	29.5														
20	32														
25	33														
32	27														
40	27.5														
50	29														

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad
*3 Not compatible with stainless steel materials

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball, Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

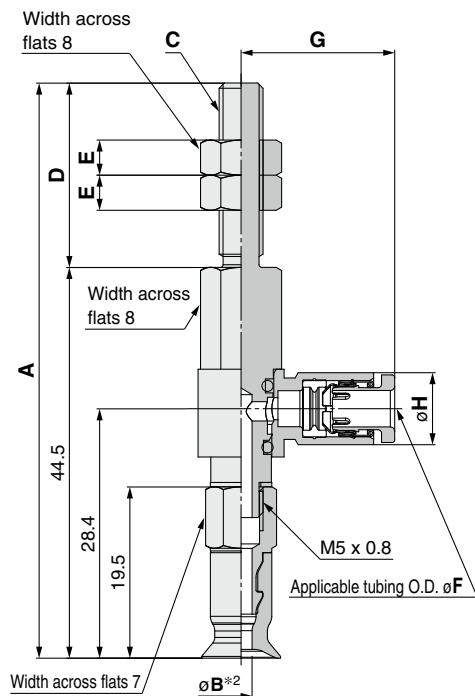
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 2$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 122

ZPR **02** U **N** - **04** - **A5**

1	2	3	4
		Vacuum inlet (One-touch fitting)	Connection thread (Male thread)
04	$\varnothing 4$		A5 M5 x 0.8
06	$\varnothing 6$		A6 M6 x 1

Model					A	B*2	C	D	E	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet						
ZP	R	U	N S U F GN GS	04	A5	65.5	1.2	M5 x 0.8	21	4
							1.6			
							2.5			
				06	A6	70.5	1.2	M6 x 1	26	4
							1.6			
							2.5			

Dimensions Per Vacuum Inlet

Model					F	G	H	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet				
ZP	R	U	N S U F GN GS	04	4	17.5	8.2	$\varnothing 2.5$
				06				6

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\phi 10$ to $\phi 50$

ZPR **10** U **N** - **04** - **A5**

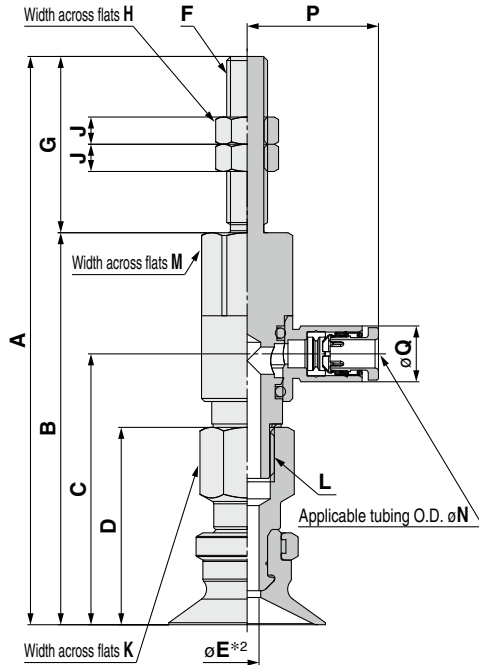
① ②

Vacuum inlet ③
(One-touch fitting)

04	$\phi 4$
06	$\phi 6$
08	$\phi 8$

④ Connection thread
(Male thread)

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1



Construction p. 117
Adapter Assembly p. 122

		Model						A	B	C	D	E ^{*2}	F	G	H	J	K	L	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread														
ZP	R	U	N S U F GN GS	04 06 08	A5	10	67	46	29.9	21	2.5	M5 x 0.8	21	8	4	8	M5 x 0.8		
						13	67.5	46.5	30.4	21.5									
						16	72	46	29.9	21	2.5		26				8	M5 x 0.8	
						10	72.5	46.5	30.4	21.5									
						13	83.5	57.6	39.8	29	3.5	M6 x 1			8	4		M8 x 1.25	
						16	84	58.1	40.3	29.5			25.9				12	M8 x 1.25	
	R	U	N S U F GN GS	04 06 08	A6	20	86.5	60.6	42.8	32	4								
						25	87.5	61.6	43.8	33									
						32	73.5	57.6	39.8	29	3.5								
						40	74	58.1	40.3	29.5		M8 x 1	15.9	12	4	12	M8 x 1.25		
						50	76.5	60.6	42.8	32	4								
						20	77.5	61.6	43.8	33									
						25													
						32													
						40													
50																			

Dimensions Per Vacuum Inlet

		Model					M	N	P	Q	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread						
ZP	R	U	N S U F GN GS	04	A5	8	4	17.5	8.2	$\phi 2.5$	
				06	A6		6	18.3	10.4	$\phi 4$	
				04	A6 A8	12	4	19.3	8.2	$\phi 3$	
				06		6	20.5	10.4	$\phi 4.5$		
				08		16	8	23.5	13.2	$\phi 6$	
	R	U	N S U F GN GS	06		12	6	20.5	10.4	$\phi 4.5$	
				08		12	6	20.5	10.4	$\phi 4.5$	
				06		16	8	23.5	13.2	$\phi 6$	
				08		16	8	23.5	13.2	$\phi 6$	
				08		16	8	23.5	13.2	$\phi 6$	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

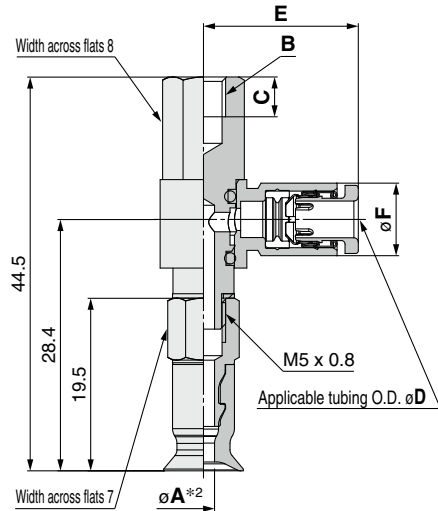
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 2$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 122

ZPR **02** U **N** - **04** - **B4**

1	2	3	4
Vacuum inlet direction	Pad dia.	Form	Material
04	$\varnothing 4$	U	N
06	$\varnothing 6$	U	S
			F
			GN
			GS

4 Connection thread
(Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

		Model				A*2	B	C
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Vacuum inlet	4 Connection thread			
ZP	R	02	U	N S U F GN GS	04 06	B4	1.2	4.5
		04					1.6	
		06					2.5	
		02				B5	1.2	5.5
		04					1.6	
		06					2.5	

Dimensions Per Vacuum Inlet

		Model				D	E	F	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	02	U	N S U F GN GS	04	B4	4	17.5	8.2	$\varnothing 2.5$
		06					06			B5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 50$

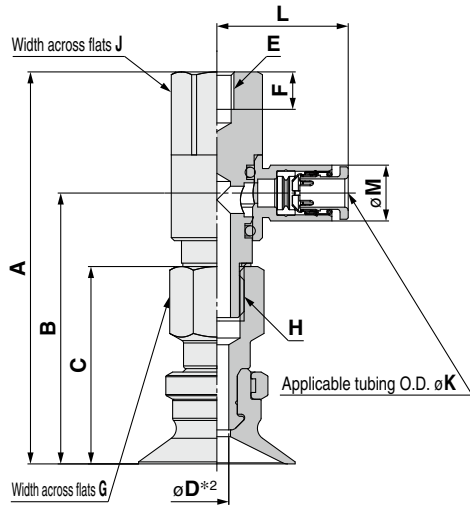
ZPR **10** **U** **N** - **04** - **B5**

1 Pad dia.
2 Form
3 Vacuum inlet (One-touch fitting)

4 Connection thread (Female thread)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25



Construction p. 117
Adapter Assembly p. 122

Model	Vacuum inlet direction	1 Pad dia.	2 Form	3 Material	4 Vacuum inlet	5 Connection thread	A	B	C	D*2	E	F	G	H										
ZP	R	10	U	N S U F GN GS	04	B5	46	29.9	21	2.5	M5 x 0.8	5.5	8	M5 x 0.8										
		13					46.5	30.4	21.5															
		16					57.6	39.8	29															
		20					58.1	40.3	29.5															
		R					25	U	N S U F GN GS	06	B6	46	29.9	21	2.5	M6 x 1	6.5	12	M8 x 1.25					
							13					46.5	30.4	21.5										
							16					57.6	39.8	29										
							20					58.1	40.3	29.5										
							R					25	U	N S U F GN GS	08	B8	57.6	39.8	29	3.5	M8 x 1.25	8.5	12	M8 x 1.25
												32					60.6	42.8	32					
												40					61.6	43.8	33					
												50					61.6	43.8	33					

Dimensions Per Vacuum Inlet

Model	Vacuum inlet direction	1 Pad dia.	2 Form	3 Material	4 Vacuum inlet	5 Connection thread	J	K	L	M	Fitting part min. hole size				
ZP	R	10	U	N S U F GN GS	04	B5	8	4	17.5	8.2	$\varnothing 2.5$				
						B6					$\varnothing 4$				
						B5					$\varnothing 3$				
						B6					$\varnothing 4.5$				
		20				U	N S U F GN GS	06	B5	12	8	23.5	13.2	10.4	$\varnothing 6$
									B6						$\varnothing 4.5$
									B8						$\varnothing 6$
									B8						$\varnothing 6$
		40				U	N S U F GN GS	06	B6	12	6	20.5	10.4	13.2	$\varnothing 4.5$
									B6						$\varnothing 4.5$
									B8						$\varnothing 6$
									B8						$\varnothing 6$
50	U	N S U F GN GS	08	B8	16	8	23.5	13.2	10.4	$\varnothing 6$					
				B8						$\varnothing 6$					
				B8						$\varnothing 6$					
				B8						$\varnothing 6$					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

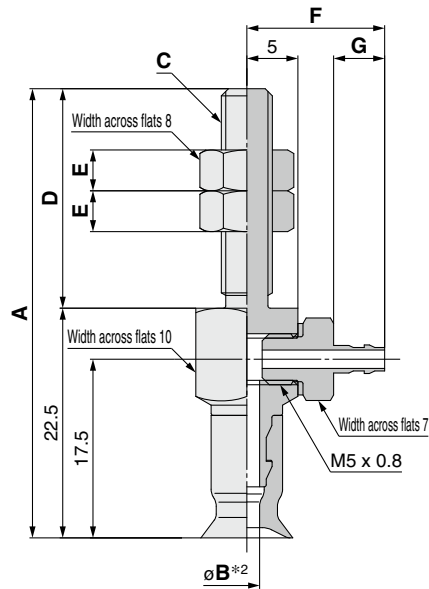
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 2$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 123

ZPY **02** **U** **N** - **N4** - **A5**

①

②

④

Vacuum inlet ③
(Barb fitting)

④ Connection thread
(Male thread)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

A5	M5 x 0.8
A6	M6 x 1

		Model				A	B*2	C	D	E	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread						
ZP	Y	02	U	N S U F GN GS	N4 N6 U4 U6	44	M5 x 0.8	21.5	4	A5	
		04								1.2	
		06								1.6	
		08				2.5	49.5	M6 x 1	27	4	A6
		02				1.2					
		04				1.6					
06	2.5										

Dimensions Per Vacuum Inlet

		Model				F	G	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread				
ZP	Y	02	U	N S U F GN GS	N4 U4	13.5	5	$\varnothing 1.8$	A5
		04							A6
		06			N6 U6	15.5	7	$\varnothing 2.5$	
		08							

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 UN - N4 - A5

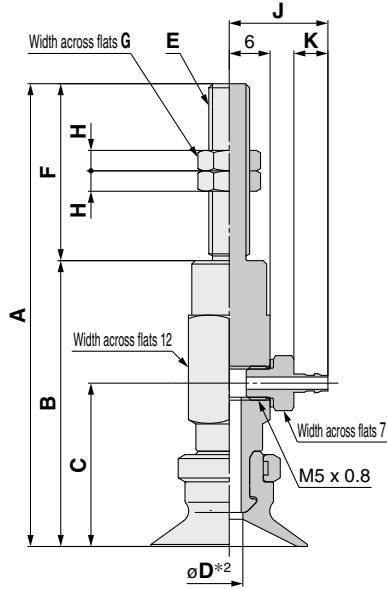
① ②

Vacuum inlet (Barb fitting)

④ **Connection thread (Male thread)**

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction	p. 117
Adapter Assembly	p. 123

		Model				A	B	C	D*2	E	F	G	H	
	Vacuum inlet direction	① Pad dia.	② Form	③ Material*1	④ Vacuum inlet									
ZP	Y	10 13 16 10 13 16 20 25 32 40 50 20 25 32 40 50	U	N S U F GN GS	N4 N6 U4 U6	A5	59	38	22	2.5	M5 x 0.8	21	8	4
							59.5	38.5	22.5					
							64	38	22	2.5				
							64.5	38.5	22.5					
						A6	68	42	24	3.5	M6 x 1	26	8	4
							68.5	42.5	24.5					
							72.5	46.5	28.5	6				
							73.5	47.5	29.5					
						A8	58	42	24	3.5	M8 x 1	16	12	4
							58.5	42.5	24.5					
							62.5	46.5	28.5	6				
							63.5	47.5	29.5					

Dimensions Per Vacuum Inlet

		Model				J	K	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	② Form	③ Material*1	④ Vacuum inlet				
ZP	Y	10 13 16 20 25 32 40 50	U	N S U F GN GS	N4 U4	A5 A6	14.5	5	$\varnothing 1.8$
							N6 U6	A6 A8	16.5
					N6 U6	A6 A8			16.5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

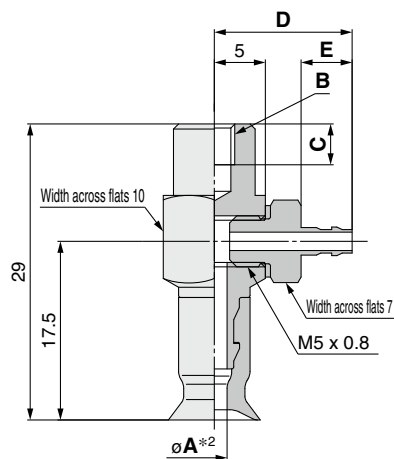
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 2$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 123

ZPY **02** U **N** - **N4** - **B4**

① ②

Vacuum inlet ③
(Barb fitting)

④ Connection thread
(Female thread)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

B4	M4 x 0.7
B5	M5 x 0.8

	Vacuum inlet direction	Model				A*2	B	C
		① Pad dia.	Form	②*1 Material	③ Vacuum inlet			
ZP	Y	02	U	N S U F GN GS	N4 N6 U4 U6	B4	M4 x 0.7	4
		04						
		06						
		08				B5		
		02						
		04						
06	B5	M5 x 0.8	5					
08								

Dimensions Per Vacuum Inlet

	Vacuum inlet direction	Model				D	E	Fitting part min. hole size	
		① Pad dia.	Form	②*1 Material	③ Vacuum inlet				④ Connection thread
ZP	Y	02	U	N S U F GN GS	N4	B4 B5	13.5	5	$\varnothing 1.8$
		04			U4				
		06			N6		15.5	7	$\varnothing 2.5$
		08			U6				

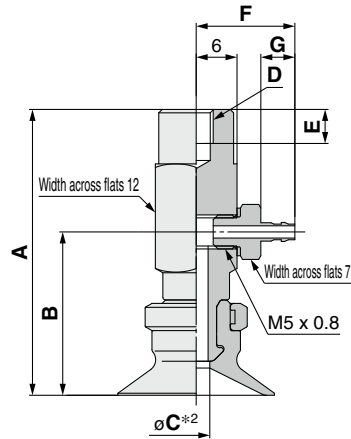
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 U N - N4 - B5



Construction p. 117
Adapter Assembly p. 123

①
②
③ Vacuum inlet (Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

④ Connection thread (Female thread)

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25

		Model					A	B	C*2	D	E		
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread								
ZP	Y	U	N S U F GN GS	N4 N6 U4 U6	B5	10	38	22	2.5	M5 x 0.8	5		
						13	38.5	22.5					
						16	42	24	3.5				
						20	42.5	24.5					
						25	38	22	2.5			M6 x 1	6
						32	38.5	22.5					
					10	42	24	3.5					
					13	42.5	24.5						
					16	46.5	28.5	6					
					20	47.5	29.5						
					25	42	24	3.5	M8 x 1.25	8			
					32	42.5	24.5						
					40	46.5	28.5	6					
					50	47.5	29.5						

Dimensions Per Vacuum Inlet

		Model					F	G	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread				
ZP	Y	U	N S U F GN GS	N4	B4	14.5	5	$\varnothing 1.8$	
				U4	B5	16.5	7	$\varnothing 2.5$	
				N6	B6				
				U6	B8				
				N4	B5	14.5	5	$\varnothing 1.8$	
				U4	B6	16.5	7	$\varnothing 2.5$	
N6	B8								
U6	B6	16.5	7	$\varnothing 2.5$					
U6	B8	16.5	7	$\varnothing 2.5$					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

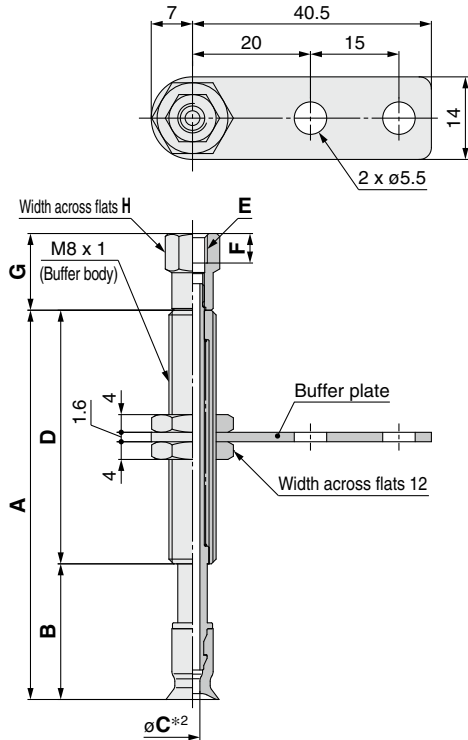
Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer $\varnothing 2$ to $\varnothing 8$

The drawings show the type with a buffer plate.



ZPT **02** **U** **N** **J** **6** - **B3** - **A8**

① ② ④

Buffer specification ③

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

⑥ Connection thread (Male thread)

A8	M8 x 1
-----------	--------

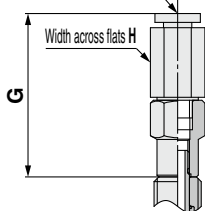
⑤ Vacuum inlet

B3	M3 x 0.5	Female thread	
B5	M5 x 0.8	Female thread	
04	$\varnothing 4$	One-touch fitting	KQ2H04-M5N
06	$\varnothing 6$		KQ2H06-M5N
N4	For $\varnothing 4$ nylon tubing	Barb fitting	
U4	For $\varnothing 4$ soft tubing		

		Model						A	B	C*2	D	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread					
ZP	T	U	N S U F GN GS	J K JN KN	6	B3 B5 04 06 N4 U4	A8	33	18	1.2	15	
					10			66	23		43	
					15			71	28			
					25			81	38			
					6			33	18			1.6
					10			66	23		43	
	15	71			28							
	25	81			38							
	6	33			18	J: 2.5 K: 2	15					
	10	66			23		43					
	15	71			28							
	25	81			38							

Vacuum inlet: One-touch fitting

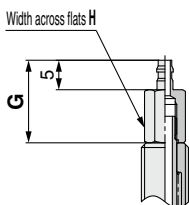
Applicable tubing O.D. $\varnothing J$



Dimensions Per Vacuum Inlet: Female Thread

		Model						E	F	G	H
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread				
ZP	T	U	N S U F GN GS	J K JN KN	6	B3 B5	A8	M3 x 0.5	3	11	6
					10						
					15						
					25			M5 x 0.8	5	13	8
					6						
					10						

Vacuum inlet: Barb fitting



Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						G	H	J	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread					
ZP	T	U	N S U F GN GS	J K JN KN	6	04 06	A8	27.7	8	4	$\varnothing 2.5$	
					10							
					15					10		6
					25							
					6							
					10							

Dimensions Per Vacuum Inlet: Barb Fitting

		Model						G	H	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread			
ZP	T	U	N S U F GN GS	J K JN KN	6	N4 U4	A8	14	6	$\varnothing 1.8$
					10					
					15					
					25					
					6					
					10					

Construction p. 116

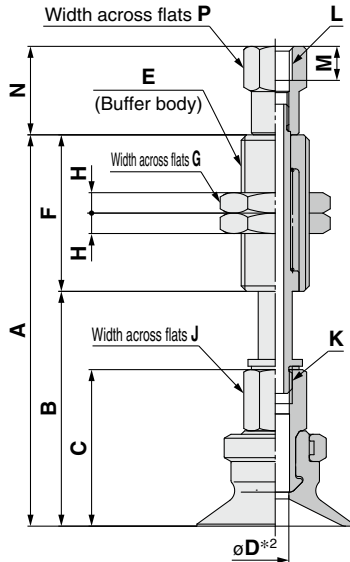
Buffer Assembly p. 124

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$



Construction p. 118
Buffer Assembly p. 124

ZPT **10** **U** **N** **J** **10** - **B5** - **A10**

Buffer specification **3**

J	Rotating
K	Non-rotating

6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

5 Vacuum inlet (Female thread)

B5	M5 x 0.8
B01	Rc1/8
N01	NPT1/8
T01	NPTF1/8

		Model						A	B	C	D*2	E	F	G	H	J	K				
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread														
ZP	T	U	N S U F GN GS	J K	10 20 30 40 50	B5 04 06 N6 U6	A10	55.5	32.5	21	J: 2.5 K: 2	M10 x 1	23	14	3	8	M5 x 0.8				
								93.5	42.5												
								103.5	52.5												
								139.5	62.5												
								149.5	72.5												
								56	33												
								94	43												
								104	53												
								140	63												
								150	73												
								57.5	34.5												
								95.5	44.5												
	105.5	54.5																			
	141.5	64.5																			
	151.5	74.5																			
	58	35																			
	96	45																			
	106	55																			
	142	65																			
	152	75																			
	T	40	U	N S U F GN GS	J K	10 20 30 40 50	B5 B01 N01 T01	A14	94.5	44.5	32	4	M14 x 1	50	19	4	12	M8 x 1.25			
									104.5	54.5											
									114.5	64.5											
									159.5	84.5											
95.5									45.5												
105.5									55.5												
115.5		65.5																			
160.5		85.5																			
T		50	U			N S U F GN GS	J K	10 20 30 40 50	06 08 N6 U6	A14	95.5		45.5	33	4	M14 x 1	50	19	4	12	M8 x 1.25
											105.5		55.5								
											115.5		65.5								
											160.5		85.5								

Dimensions Per Vacuum Inlet: Female Thread

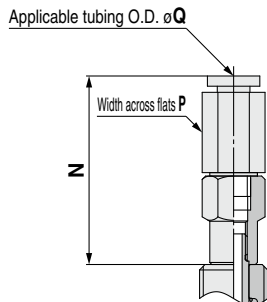
		Model						L	M	N	P								
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread												
ZP	T	U	N S U F GN GS	J K	10 20 30 40 50	B5	A10	M5 x 0.8	5	13	8								
								40 50	B5	A14	M5 x 0.8	4.5	15	10					
											10 20 30 40 50	B01 N01 T01	Rc1/8 NPT1/8 NPTF1/8	—	16.5	13			
														10 20 30 40 50	B01 N01 T01	Rc1/8 NPT1/8 NPTF1/8	—	12	13

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$

Vacuum inlet: One-touch fitting



ZPT **10** U **N** **J** **10** - **04** - **A10**

Buffer specification **3**

J	Rotating
K	Non-rotating

6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

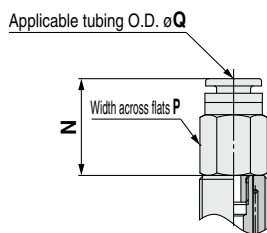
5 Vacuum inlet

	Vacuum inlet	One-touch fitting	Pad diameter	
			$\varnothing 10$ to $\varnothing 32$	$\varnothing 40, \varnothing 50$ (10 st only)
04	$\varnothing 4$	One-touch fitting	KQ2H04-M5N	KQ2H06-01NS
06	$\varnothing 6$		KQ2H06-M5N	
08	$\varnothing 8$		KQ2H08-01NS	
N6	For $\varnothing 6$ nylon tubing	Barb fitting		
U6	For $\varnothing 6$ soft tubing			

Dimensions Per Vacuum Inlet: One-touch Fitting

Model	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread	N	P	Q	Fitting part min. hole size											
													ZP	T									
ZP	T	10	U	N S U F GN GS	J K	10	04	A10	27.7	8	4	$\varnothing 2.5$											
		13				20																	
		16				30																	
		20				40	06			A14	31.8		10	6									
		25				50																	
		32																					
	T	40 50	U	N S U F GN GS	J K	J K	10	06	A14	35.9	14	8	$\varnothing 4.5$ $\varnothing 6$										
							20							30									
							30							50									
							T	40 50			U	N S U F GN GS		J K	J K	20	06	A14	19.9	12	6	$\varnothing 3$	
																30							50
																50							
T	40 50	U	N S U F GN GS	J K	J K	20			08	A14			24.9			14	8			$\varnothing 3$			
						30															50		
						50																	

Vacuum inlet: Built-in One-touch fitting Pad diameter: $\varnothing 40, \varnothing 50$ (Buffer stroke: 20 to 50 st)



Dimensions Per Vacuum Inlet: Barb Fitting

Model	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread	N	P	Fitting part min. hole size											
												ZP	T									
ZP	T	10	U	N S U F GN GS	J K	10	N6	A10	15	6	$\varnothing 2.5$											
		13				20																
		16				30																
		20				40	U6			A14		19	10									
		25				50																
		32																				
	T	40 50	U	N S U F GN GS	J K	J K	10	N6	A14	12	10	$\varnothing 2.5$										
							20						30									
							30						50									
							T	40 50			U		N S U F GN GS	J K	J K	20	U6	A14	12	10	$\varnothing 2.5$	
																30						50
																50						

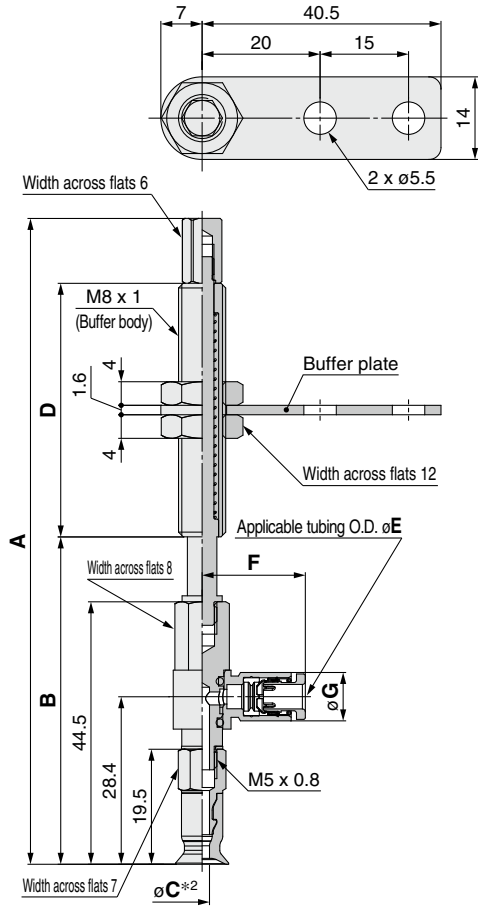
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction	p. 118
Buffer Assembly	p. 124

Dimensions/Models

With buffer/One-touch fitting $\phi 2$ to $\phi 8$

The drawings show the type with a buffer plate.



Construction p. 116
Buffer Assembly p. 125

ZPR **02** **U** **N** **J** **6** - **04** - **A8**

Buffer specification **3**

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet (One-touch fitting)

04	$\phi 4$
06	$\phi 6$

		Model						A	B	C ^{#2}	D		
Vacuum inlet direction	1 Pad dia.	Form	2 ^{#1} Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread						
ZP	R	02	U	N S U F GN GS	J K JN KN	6	04	06	A8	1.2	15		
						10					78.5	52.5	43
						15					109.5	55.5	
						25					114.5	60.5	
						6					78.5	52.5	15
						10					109.5	55.5	
	15	114.5	60.5										
	6	78.5	52.5	15									
	10	109.5	55.5										
	15	114.5	60.5										
	25	124.5	70.5	43									
	6	78.5	52.5		15								
10	109.5	55.5											
15	114.5	60.5	2.5										
25	124.5	70.5											

Dimensions Per Vacuum Inlet

		Model						E	F	G	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 ^{#1} Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	R	02	U	N S U F GN GS	J K JN KN	6	04	A8	4	17.5	8.2	$\phi 2.5$
		10										
		15										
25	6	10.4	$\phi 4$									
6	18.3											
10												
15												

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** **U** **N** **J** **10** - **04** - **A10**

① ② ③ ④

⑥ Connection thread (Male thread)

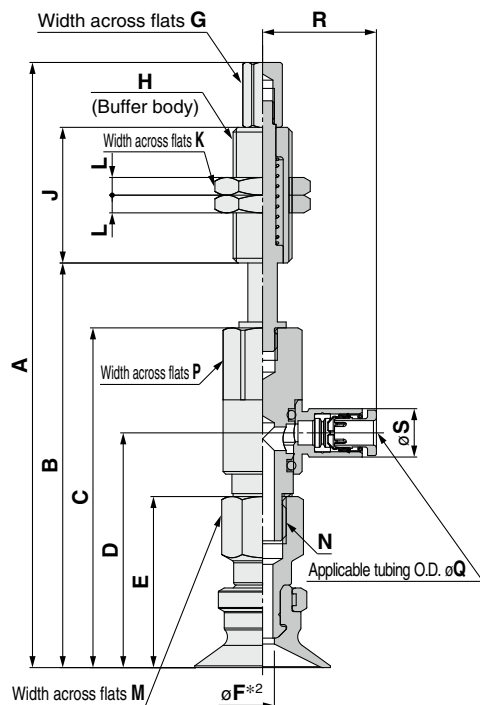
Buffer specification ③

J	Rotating
K	Non-rotating

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet (One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$



Construction	p. 118
Buffer Assembly	p. 125

		Model																			
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread	A	B	C	D	E	^{*2} F	G	H	J	K	L	M	N	
ZP	R	U	N S U F G N S	J K	10	04	06	91	57	46	29.9	21	2.5	6	M10 x 1	23	14	3	8	M5 x 0.8	
					20			129	67							51					
					30			139	77							77					
					40			175	87							77					
					50			185	97							23					
					10			91.5	57.5							23					
					20			129.5	67.5							51					
					30			139.5	77.5							51					
					40			175.5	87.5							77					
					50			185.5	97.5							77					
					10			102.6	68.6							23					
					20			140.6	78.6							51					
	30	150.6	88.6	51																	
	40	186.6	98.6	77																	
	50	196.6	108.6	77																	
	10	103.1	69.1	23																	
	20	141.1	79.1	51																	
	30	151.1	89.1	51																	
	40	187.1	99.1	77																	
	50	197.1	109.1	77																	
	10	140.6	72.6	50																	
	20	137.6	82.6	50																	
	30	147.6	92.6	75																	
	40	192.6	112.6	75																	
50	192.6	112.6	75																		
10	141.6	73.6	50																		
20	138.6	83.6	50																		
30	148.6	93.6	75																		
40	193.6	113.6	75																		
50	193.6	113.6	75																		

Dimensions Per Vacuum Inlet

		Model						P	Q	R	S	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread					
ZP	R	U	N S U F G N S	J K	10	04	A10	8	4	17.5	8.2	$\varnothing 2.5$
					20							
					30							
					40							
					50							
					10							
	20											
	30											
	40											
	50											
	10	08			A14	16	8	23.5	13.2	$\varnothing 6$		
	20											
30												
40												
50												
10	06		A14	12							6	20.5
20												
30												
40												
50												
10		08			A14	16	8	23.5	13.2	$\varnothing 6$		
20												
30												
40												
50												

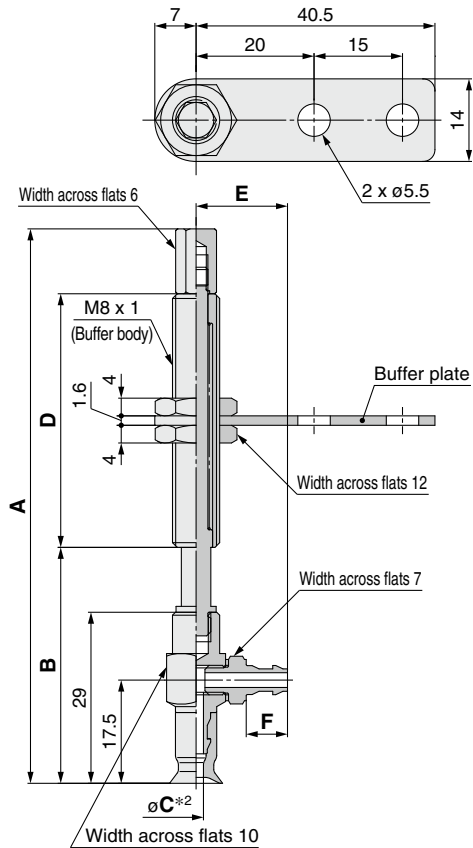
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer/barb fitting $\varnothing 2$ to $\varnothing 8$

The drawings show the type with a buffer plate.



Construction	p. 116
Buffer Assembly	p. 126

ZPY **02** U **N** **J** **6** - **N4** - **A8**

①

②

④

⑥

Buffer specification ③

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

⑥ Connection thread
(Male thread)

A8	M8 x 1
-----------	--------

⑤ Vacuum inlet
(Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model						A	B	C*2	D	
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread					
ZP	Y	02	U	N S U F GN GS	J K JN KN	6	N4 N6 U4 U6	A8	63	37	1.2	15
						10			94	40		43
						15			99	45		
						25			109	55		
						6			63	37		15
						10			94	40		43
	04	U	N S U F GN GS	J K JN KN	6	N4 N6 U4 U6	A8	63	37	1.6	15	
					10			94	40		43	
					15			99	45			
					25			109	55			
					6			63	37		15	
					10			94	40		43	
06 08	U	N S U F GN GS	J K JN KN	6	N4 N6 U4 U6	A8	63	37	2.5	15		
				10			94	40		43		
				15			99	45				
				25			109	55				
				6			63	37		15		
				10			94	40		43		

Dimensions Per Vacuum Inlet

		Model						E	F	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread				
ZP	Y	02	U	N S U F GN GS	J K JN KN	6	N4 U4 N6 U6	A8	13.5	5	$\varnothing 1.8$
		10				15			15.5	7	$\varnothing 2.5$
		15				25					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Belows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY **10** U **N** **J** **10** - **N4** - **A10**

① ② ④

⑥ Connection thread
(Male thread)

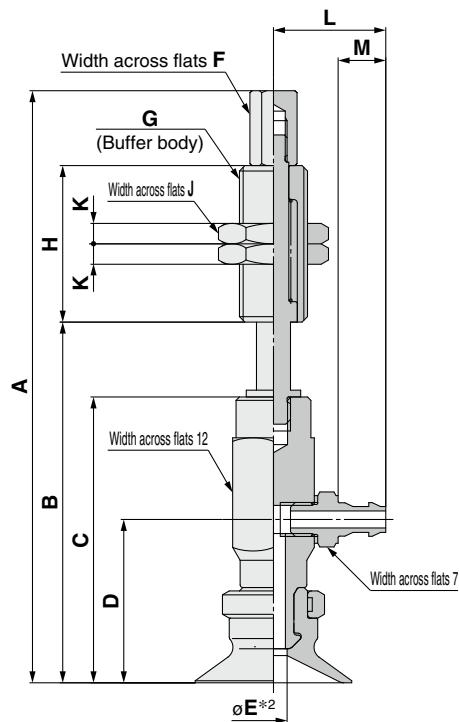
Buffer specification ③

J	Rotating
K	Non-rotating

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet
(Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction p. 118
Buffer Assembly p. 126

		Model						A	B	C	D	*2 E	F	G	H	J	K
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread										
ZP	Y	U	N S U F GN GS	J K	10	N4 N6 U4 U6	A10	83	49	38	22	2.5	6	M10 x 1	14	3	23
					20			121	59								51
					30			131	69								77
					40			167	79								23
					50			177	89	77							
					10			83.5	49.5	23							
					20			121.5	59.5	51							
					30			131.5	69.5	77							
					40			167.5	79.5	23							
					50			177.5	89.5	77							
					10			87	53	23							
					20			125	63	51							
	30	135	73	77													
	40	171	83	23													
	50	181	93	77													
	10	87.5	53.5	23													
	20	125.5	63.5	51													
	30	135.5	73.5	77													
	40	171.5	83.5	23													
	50	181.5	93.5	77													
	10	126.5	58.5	50													
	20	123.5	68.5	75													
	30	133.5	78.5	50													
	40	178.5	98.5	19													
50	127.5	59.5	75														
10	124.5	69.5	50														
20	134.5	79.5	75														
30	179.5	99.5															
40																	
50																	

Dimensions Per Vacuum Inlet

		Model						L	M	Fitting part min. hole size				
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread							
ZP	Y	U	N S U F GN GS	J K	10 20 30 40 50	N4 U4	A10	14.5	5	$\varnothing 1.8$				
								N6 U6	A10	16.5	7	$\varnothing 2.5$		
						N6 U6	A14			16.5	7	$\varnothing 2.5$		

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad



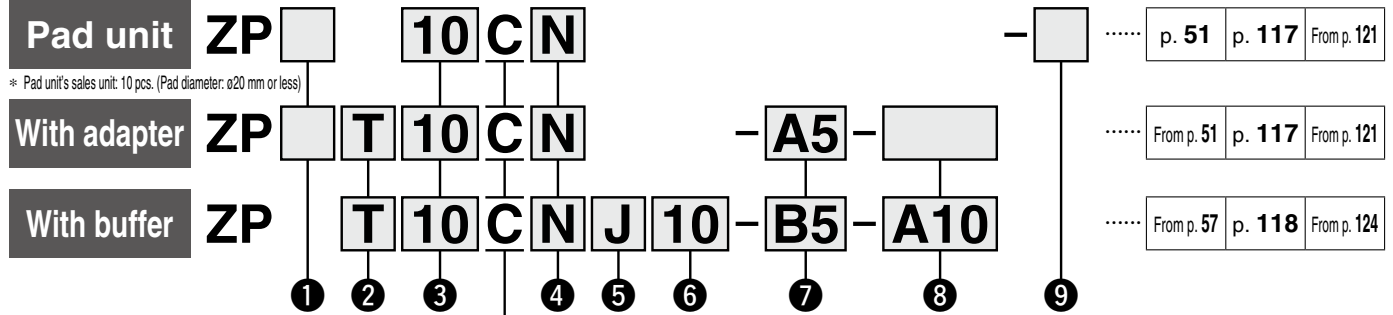
Basic Pad

Flat Type with Ribs

ZP Series



How to Order



1 Adapter (Lock ring) material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad unit (with lock ring) and the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

2 Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

3 Pad diameter

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

4 Material

N	NBR
S	Silicone rubber*1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

*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)

5 Buffer specification

J	Rotating
K	Non-rotating

6 Buffer stroke

Stroke [mm]	Pad diameter [mm]							
	ø10	ø13	ø16	ø20	ø25	ø32	ø40	ø50
10	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	—	—
50	●	●	●	●	●	●	●	●

With adapter

7 Vacuum inlet

○: ZP□/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	AS5	M5 x 0.8	○*4	○*4	—
	AS6	M6 x 1	○*4	○*4	○*4
	AG01	G1/8	○*4	○*4	—
	AG02	G1/4	—	—	○*4
Female thread	Nil	M3 x 0.5	○ (Connection thread: A5/A6)	○ (Connection thread: A6)	○ (Connection thread: A6)
	Nil	M5 x 0.8	—	○ (Connection thread: A8)	○ (Connection thread: A8)
	B5	M5 x 0.8	○*4	○*4	—
	B6	M6 x 1	○*4	○*4	○*4
	B8	M8 x 1.25	—	○*4	○*4
	BG01	G1/8	—	○*4	—
	BG02	G1/4	—	—	○*4
	B01	Rc1/8	—	—	○*4
	N01*3	NPT1/8	—	—	○*4
	T01*3	NPTF1/8	—	—	○*4
	One-touch fitting	04	ø4	●	●
06		ø6	●	●	●
08		ø8	—	●	●
Barb fitting	N4	For ø4 nylon tubing*1	△	△	—
	N6	For ø6 nylon tubing*1	△	△	△
	U4	For ø4 soft tubing*2	△	△	—
	U6	For ø6 soft tubing*2	△	△	△

*1 Nylon tube piping *2 Soft nylon/Polyurethane tube piping
*3 Not compatible with stainless steel materials *4 Use the connection thread.

8 Connection thread

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A5	M5 x 0.8	○*1 ●△	—	—
	A6	M6 x 1	○*1 ●△	○*1 ●△	○*1 ●△
	A8	M8 x 1	—	○*1 ●△	○*1 ●△
Female thread	B5	M5 x 0.8	●△	●△	—
	B6	M6 x 1	●△	●△	●△
	B8	M8 x 1.25	—	●△	●△

*1 ○: ZP□/Vertical comes with a vacuum inlet (female thread).

With buffer

7 Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B5	M5 x 0.8	○	○	○
	B01	Rc1/8	—	—	○
	N01	NPT1/8	—	—	○
	T01	NPTF1/8	—	—	○
One-touch fitting	04	ø4	○●	○●	—
	06	ø6	○●	○●	○●
	08	ø8	—	●	○●
Barb fitting	N4	For ø4 nylon tubing*1	△	△	—
	N6	For ø6 nylon tubing*1	○△	○△	○△
	U4	For ø4 soft tubing*2	△	△	—
	U6	For ø6 soft tubing*2	○△	○△	○△

*1 Nylon tube piping *2 Soft nylon/Polyurethane tube piping

8 Connection thread

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A10	M10 x 1	○●△	○●△	—
	A14	M14 x 1	—	—	○●△

9 Lock ring

Symbol	Pad diameter	
	All sizes	
Nil	With lock ring	
X19	Without lock ring	

Lock ring unit

Part no.	Pad diameter [mm]
ZP□L1	ø10 to ø16
ZP□L2	ø20 to ø32
ZP□L3	ø40, ø50

□: Nil/Brass S/Stainless steel

* The pad, mounting nut, fitting, and buffer plate are shipped together but do not come assembled.

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

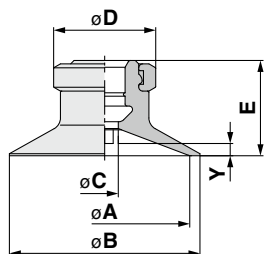
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

Single unit $\varnothing 10$ to $\varnothing 50$



Construction p. 117
Mounting Bracket Assembly From p. 121

ZP 10 C N
1 2 3

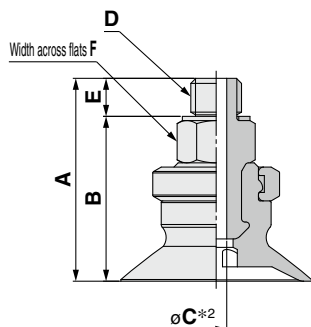
1 Lock ring material

Nil	Brass
S	Stainless steel (Stainless steel 304)

ZP	Lock ring material	Pad dia.	Form	Material	Model						
					A	B	C	D	E	Y	
ZP	Nil S	10	C	N S U F GN GS	4	10	12	4	13	12	1.7
		13				15	1.8				
		16				18	1.2				
		20				23	1.7				
		25				28	1.8				
		32				35	2.3				
	S	40			43	7	18	3.3			
		50			53			3.8			
									14	1.8	
									14.5	2.3	
									18.5	3.3	
									19.5	3.8	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

With adapter $\varnothing 10$ to $\varnothing 50$



Construction p. 117
Adapter Assembly p. 121

ZP T 10 C N - AS5
1 2 3 4

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Vacuum inlet (Male thread)

AS5	M5 x 0.8
AS6	M6 x 1
AG01	G1/8
AG02	G1/4

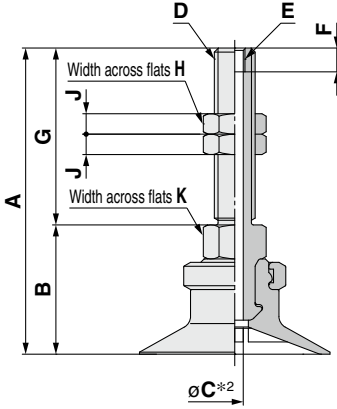
ZP	Adapter material	Vacuum inlet direction	Pad dia.	Form	Material	Vacuum inlet	Model																																					
							A	B	C*2	D	E	F																																
ZP	Nil S	T	10 13 16 20 25 32 40 50	C	N S U F GN GS	AS5	2.5	M5 x 0.8	3.5	8	21	17.5	2.5	M5 x 0.8	3.5	8																												
											21.5	18																																
											23	19.5																																
											23.5	20																																
											S	T					10 13 16 20 25 32 40 50	C	N S U F GN GS	AS6	2.5	M6 x 1	4.5	12	22	17.5	2.5	M6 x 1	4.5	12														
																									22.5	18																		
																									24	19.5																		
																									24.5	20																		
																									29.5	25																		
																									30.5	26																		
																									S	T					10 13 16 20 25 32 40 50	C	N S U F GN GS	AG01	4	G1/8	5.5	17	30	24.5	2.5	G1/8	5.5	17
																																							30.5	25				
	32	26.5																																										
	32.5	27																																										
	39	32.5																																										
	40	33.5																																										
	S	T	10 13 16 20 25 32 40 50	C	N S U F GN GS	AG02	7	G1/4	6.5	21	30	24.5	2.5	G1/4	6.5	21																												
											30.5	25																																
											32	26.5																																
											32.5	27																																
											39	32.5																																
											40	33.5																																

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 50$



Construction p. 117
Adapter Assembly p. 121

ZP T 10 C N - A5
1 2 3 4

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Connection thread (Male thread)

A5	M5 x 0.8 (M3 x 0.5 With female thread)
A6	M6 x 1 (M3 x 0.5 With female thread)
A8	M8 x 1 (M5 x 0.8 With female thread)

		Model							A	B	C ^{*2}	D	E	F	G	H	J	K								
ZP	1 Adapter material	Vacuum inlet direction	2 Pad dia.	Form	3 ^{*1} Material	4 Connection thread																				
ZP	Nil S	T	10	C	N S U F GN GS	A5	38	17	2.5	M5 x 0.8	M3 x 0.5	3.5	21	8	4	8										
			13				38.5	17.5																		
			16																							
			13																					43	17	
			20																							
			25																						43.5	17.5
			32																							
			40																							45
			50																							
			25																							
			32																							
			40																							
			50																							
			25																							
			32																							
40	40	24																								
50																										
25																						40.5	24.5			
32																										
40																						41.5	25.5			
50																										
25																						41.5	25.5			

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
 *2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

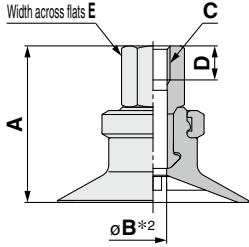
Precautions

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 50$

ZP T 10 C N - B5

① ② ③ ④



Construction p. 117
Adapter Assembly p. 121

① Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Female thread)

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25
BG01	G1/8
BG02	G1/4
B01	Rc1/8
N01*1	NPT1/8
T01*1	NPTF1/8

*1 Not compatible with stainless steel materials

Model	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③*1 Material	④ Vacuum inlet	A	B*2	C	D	E											
												ZP	Nil	S	T	C	N	S	U	F	GN	GS
ZP	Nil	T	10	C	N	B5	21	2.5	M5 x 0.8	5	8											
			13				21.5															
			16				4	M6 x 1	6	8												
			20								23											
			25								23.5											
			32								23.5											
			10				S	T	13	C	N	B6	21	2.5	M6 x 1	6	8					
			16						21.5													
			20						4				M8 x 1.25	8	12							
			25													23						
			32													23.5						
			40													32						
			50						33				4.9	12								
			20						S				T	25	C	N	B8	29	3.5	M8 x 1.25	8	12
			32											29.5								
			40											6.6				Rc1/8	—	12		
			50				32															
			50				33															
			10				S	T	13	C	N	BG01	27	2.5	G1/8	7.4	14					
			16						27.5													
20	4	G1/4	11	17																		
25					29																	
32					29.5																	
40					38																	
50	39	7	17																			
10	S	T	13	C	N	B01			27				2.5	Rc1/8	—	12						
16			27.5																			
20			3.5						NPT1/8				—	12								
25							29															
32							29.5															
40							32															
50			33				7	12														

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

*3 Not compatible with stainless steel materials

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** C **N** - **04** - **A5**

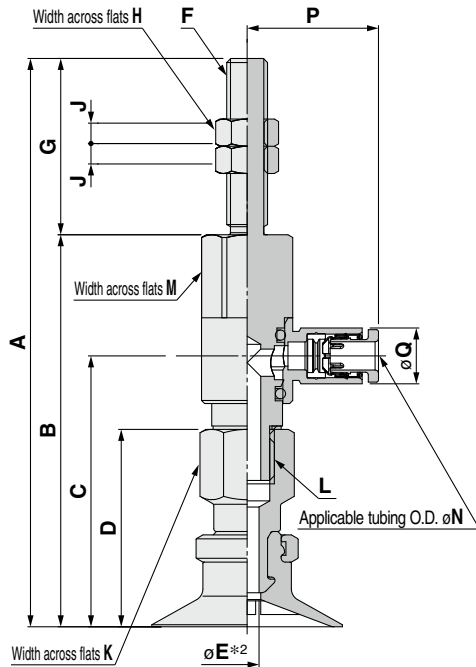
① ②

Vacuum inlet ③
(One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

④ Connection thread
(Male thread)

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1



Construction	p. 117
Adapter Assembly	p. 122

		Model					A	B	C	D	E ^{*2}	F	G	H	J	K	L						
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread																		
ZP	R	C	N S U F GN GS	04 06 08	A5	10	67	46	29.9	21	2.5	M5 x 0.8	21	8	4	8	M5 x 0.8						
						13	67.5	46.5	30.4	21.5													
						16	72	46	29.9	21	2.5	26	8	4	8	M5 x 0.8							
						13	72.5	46.5	30.4	21.5													
						20	83.5	57.6	39.8	29	3.5	M6 x 1	25.9	8	4	12	M8 x 1.25						
						25	84	58.1	40.3	29.5													
						32	86.5	60.6	42.8	32	4	8	4	12	M8 x 1.25								
						40	87.5	61.6	43.8	33													
						50	73.5	57.6	39.8	29	3.5	M8 x 1	15.9	12	4	12	M8 x 1.25						
						20	74	58.1	40.3	29.5													
						25	76.5	60.6	42.8	32	4	8	4	12	M8 x 1.25								
						32	77.5	61.6	43.8	33													
						40																	
						50																	

Dimensions Per Vacuum Inlet

		Model					M	N	P	Q	Fitting part min. hole size			
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread									
ZP	R	C	N S U F GN GS	04	A5	8	4	17.5	8.2	8	$\varnothing 2.5$			
					A6						10.4	$\varnothing 4$		
				06	A6	12	6	19.3	8.2	10.4	10.4	10.4	$\varnothing 3$	
					A8								13.2	$\varnothing 4.5$
				08	A6	16	8	23.5	13.2	13.2	13.2	13.2	13.2	$\varnothing 6$
					A8									10.4
				06	A6	12	6	20.5	10.4	10.4	10.4	10.4	10.4	$\varnothing 4.5$
					A8									13.2
08	A6	16	8	23.5	13.2	13.2	13.2	13.2	13.2	$\varnothing 6$				
	A8									10.4	$\varnothing 4.5$			

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

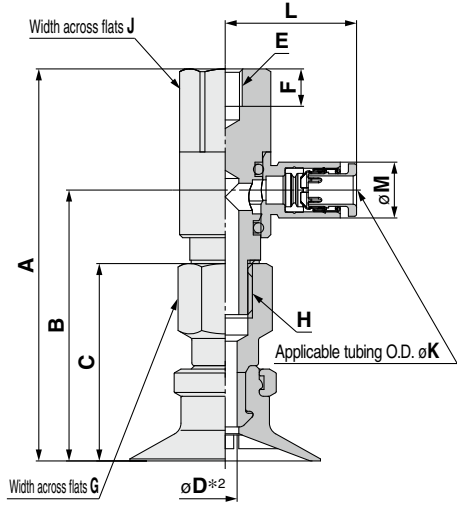
With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** C **N** - **04** - **B5**

1 Pad dia.
2 Form
3 Vacuum inlet (One-touch fitting)
4 Connection thread (Female thread)

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$



Construction p. 117
Adapter Assembly p. 122

ZP	R	Model				A	B	C	D ^{*2}	E	F	G	H	
		Vacuum inlet direction	1 Pad dia.	2 Form	3 Vacuum inlet									4 Connection thread
ZP	R	C	N S U F GN GS	04 06 08	B5	10	46	29.9	21	2.5	M5 x 0.8	5.5	8	M5 x 0.8
						13	46.5	30.4	21.5					
						16	46.5	30.4	21.5					
						20	57.6	39.8	29					
					B6	25	57.6	39.8	29	3.5	M6 x 1	6.5	12	M8 x 1.25
						32	58.1	40.3	29.5					
						40	57.6	39.8	29					
						50	60.6	42.8	32					
					B8	20	57.6	39.8	29	4	M8 x 1.25	8.5	12	M8 x 1.25
						25	58.1	40.3	29.5					
						32	60.6	42.8	32					
						40	61.6	43.8	33					
					B8	50	57.6	39.8	29	4	M8 x 1.25	8.5	12	M8 x 1.25
						50	58.1	40.3	29.5					
						50	60.6	42.8	32					
						50	61.6	43.8	33					

Dimensions Per Vacuum Inlet

ZP	R	Model				J	K	L	M	Fitting part min. hole size
		Vacuum inlet direction	1 Pad dia.	2 Form	3 Vacuum inlet					
ZP	R	C	N S U F GN GS	04	B5	8	4	17.5	8.2	$\varnothing 2.5$
					B6					$\varnothing 4$
				04	B5	12	4	19.3	8.2	$\varnothing 3$
					B6					$\varnothing 4.5$
				06	B8	16	8	23.5	13.2	$\varnothing 6$
					B6					$\varnothing 4.5$
				08	B6	12	6	20.5	10.4	$\varnothing 4.5$
					B8					$\varnothing 6$
08	B8	16	8	23.5	13.2	$\varnothing 6$				

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 C N - N4 - A5

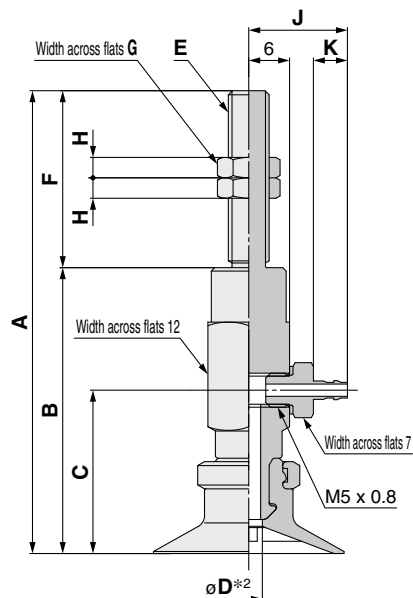
① ②

Vacuum inlet
(Barb fitting) ③

④ Connection thread
(Male thread)

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction	p. 117
Adapter Assembly	p. 123

		Model				A	B	C	D*2	E	F	G	H										
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread																	
ZP	Y	10	C	N S U F GN GS	N4 N6 U4 U6	A5	59	38	22	2.5	M5 x 0.8	21	8	4									
		13					59.5	38.5	22.5														
		16					64	38	22														
		10				A6	13	C	N S U F GN GS	N4 N6 U4 U6	A6	64.5	38.5	22.5	2.5	M6 x 1	26	8	4				
		16					68					42	24										
		20					68.5					42.5	24.5										
		25					A8				32	C	N S U F GN GS	N4 N6 U4 U6	A8	72.5	46.5	28.5	3.5	M8 x 1	16	12	4
		40									73.5					47.5	29.5						
		50									58					42	24						
		20				A6	25	C	N S U F GN GS	N4 N6 U4 U6	A6				58.5	42.5	24.5	3.5	M6 x 1	26	8	4	
		32					62.5								46.5	28.5							
		40					63.5								47.5	29.5							
50	A8	50	C	N S U F GN GS	N4 N6 U4 U6	A8	63.5				47.5	29.5	6	M8 x 1	16	12	4						

Dimensions Per Vacuum Inlet

		Model				J	K	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread			
ZP	Y	10	C	N S U F GN GS	N4	A5	14.5	5	$\varnothing 1.8$
		13			U4				
		16			N6	A6	16.5	7	$\varnothing 2.5$
		20							
25	N6	A8	16.5	7	$\varnothing 2.5$				
32						U6			
40									
50									

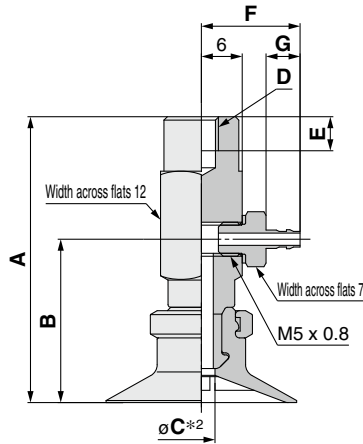
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 C N - N4 - B5



Construction p. 117
Adapter Assembly p. 123

① ②
Vacuum inlet (Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

④ **Connection thread (Female thread)**

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25

		Model					A	B	C*2	D	E		
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread								
ZP	Y	C	N S U F GN GS	N4 N6 U4 U6	B5	10	38	22	2.5	M5 x 0.8	5		
						13	38.5	22.5					
						16	42	24	3.5				
						20	42.5	24.5					
						25	38	22	2.5			M6 x 1	6
						32	38.5	22.5					
					10	42	24	3.5					
					13	42.5	24.5						
					16	46.5	28.5	6					
					20	47.5	29.5						
					25	42	24	3.5	M8 x 1.25	8			
					32	42.5	24.5						
					40	46.5	28.5	6					
					50	47.5	29.5						

Dimensions Per Vacuum Inlet

		Model					F	G	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread				
ZP	Y	C	N S U F GN GS	N4	B4	14.5	5	$\varnothing 1.8$	
				U4	B5	16.5	7	$\varnothing 2.5$	
				N6	B5				
				U6	B8	14.5	5	$\varnothing 1.8$	
				N6	B6	16.5	7	$\varnothing 2.5$	
				U6	B8				
				N6	B6	16.5	7	$\varnothing 2.5$	
				U6	B8	16.5	7	$\varnothing 2.5$	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

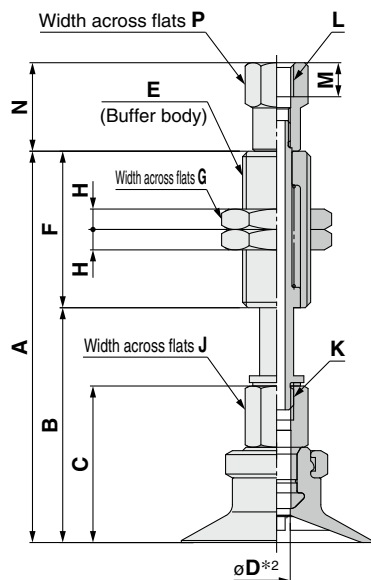
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$



Construction p. 118
Buffer Assembly p. 124

ZPT **10** C **N** **J** **10** - **B5** - **A10**

① ② ③ ④ ⑤ ⑥

Buffer specification ③

J	Rotating
K	Non-rotating

⑥ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet (Female thread)

B5	M5 x 0.8
B01	Rc1/8
N01	NPT1/8
T01	NPTF1/8

		Model										A	B	C	D*2	E	F	G	H	J	K		
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread															
ZP	T	10 13	C	N S U F GN GS	J K	10	B5 04 06 N6 U6	A10	55.5	32.5	21	J: 2.5 K: 2	M10 x 1	14	3	8	M5 x 0.8	23					
						20			93.5	42.5								51					
						30			103.5	52.5								77					
						40			139.5	62.5								23					77
						50			149.5	72.5								23					77
						10			56	33								51					
		20				94			43	21.5	51												
		30				104			53	23	51												
		40				140			63	23	77												
		50				150			73	23	77												
		10				57.5			34.5	23	51												
		20				95.5			44.5	23	51												
		30				105.5			54.5	23	51												
		40				141.5			64.5	23	77												
		50				151.5			74.5	23	77												
		10				58			35	23.5	23												
		20				96			45	23.5	51												
		30				106			55	23.5	51												
		40				142			65	23.5	77												
		50				152			75	23.5	77												
		10				94.5			44.5	4	50												
		20				104.5			54.5	4	50												
		30				114.5			64.5	4	75												
		50				159.5			84.5	4	75												
10	95.5	45.5	4	50																			
20	105.5	55.5	4	50																			
30	115.5	65.5	4	50																			
50	160.5	85.5	4	75																			

Dimensions Per Vacuum Inlet: Female Thread

		Model							L	M	N	P					
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread									
ZP	T	10 13 16 20 25 32	C	N S U F GN GS	J K	10	B5	A10	M5 x 0.8	5	13	8					
						20											
						30											
						40											
						50											
						10							B5	A14	M5 x 0.8	4.5	15
		20															
		30															
		50															
		10				B01 N01 T01	A14	Rc1/8 NPT1/8 NPTF1/8	—	16.5	13						
		20															
		30															
50																	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$

ZPT **10** **C** **N** **J** **10** - **04** - **A10**

① ② ③ ④

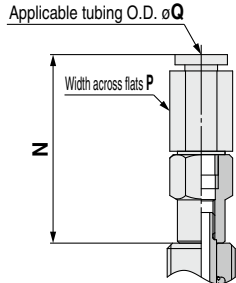
⑥ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

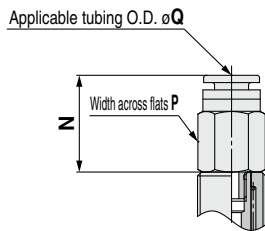
⑤ Vacuum inlet

	Vacuum inlet	One-touch fitting	Pad diameter	
			$\varnothing 10$ to $\varnothing 32$	$\varnothing 40, \varnothing 50$ (10 st only)
04	$\varnothing 4$	One-touch fitting	KQ2H04-M5N	KQ2H06-01NS KQ2H08-01NS
06	$\varnothing 6$		KQ2H06-M5N	
08	$\varnothing 8$		KQ2H08-M5N	
N6	For $\varnothing 6$ nylon tubing	Barb fitting		
U6	For $\varnothing 6$ soft tubing			

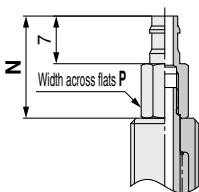
Vacuum inlet: One-touch fitting



Vacuum inlet: Built-in One-touch fitting
Pad diameter: $\varnothing 40, \varnothing 50$ (Buffer stroke: 20 to 50 st)



Vacuum inlet: Barb fitting



Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						N	P	Q	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread				
ZP	T	C	N S U F GN GS	J K	10	04	A10	27.7	8	4	$\varnothing 2.5$
					13						
					16						
					20						
					25						
					32						
	40 50	06	A14	10	06	A14	31.8	10	6	$\varnothing 4.5$	
				20			35.9	14	8	$\varnothing 6$	
				30			19.9	12	6	$\varnothing 3$	
				40			24.9	14	8		
				50							

Dimensions Per Vacuum Inlet: Barb Fitting

		Model						N	P	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread			
ZP	T	C	N S U F GN GS	J K	10	N6	A10	15	6	$\varnothing 2.5$
					20					
					30					
					40					
					50					
					40 50					
	20									
	30									
	40									
	50									

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction	p. 118
Buffer Assembly	p. 124

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** C **N** **J** **10** - **04** - **A10**

① ② ③ ④

⑥ Connection thread (Male thread)

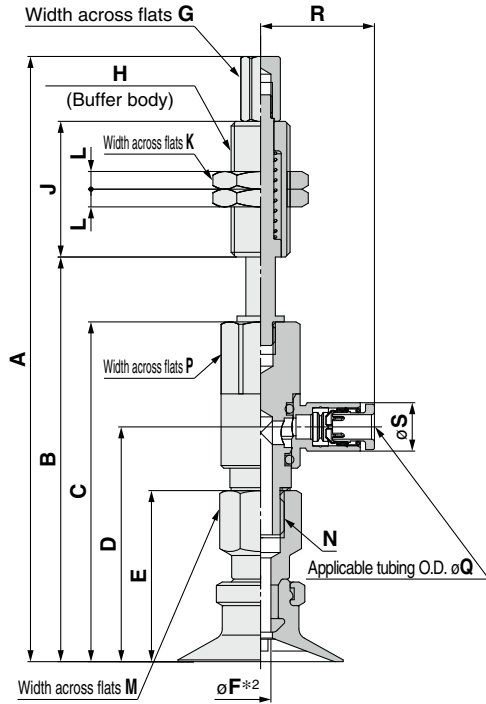
Buffer specification ③

J	Rotating
K	Non-rotating

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet (One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$



Construction p. 118
Buffer Assembly p. 125

		Model																									
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread	A	B	C	D	E	^{*2} F	G	H	J	K	L	M	N							
ZP	R	C	N S U F G N S	J K	10	04	A10	91	57							23											
					20	129		67								51											
					30	139		77	46	29.9	21									77							
					40	175		87																			
					50	185		97									2.5							8	M5 x 0.8		
					10	91.5		57.5													23						
					20	129.5		67.5													51						
					30	139.5		77.5	46.5	30.4	21.5										77						
					40	175.5		87.5																			
					50	185.5		97.5																			
					10	102.6		68.6												6	23	14	3				
					20	140.6		78.6													51						
	30	150.6	88.6	57.6	39.8	29																					
	40	186.6	98.6																								
	50	196.6	108.6										3.5							12	M8 x 1.25						
	10	103.1	69.1													23											
	20	141.1	79.1																								
	30	151.1	89.1	58.1	40.3	29.5										51											
	40	187.1	99.1																								
	50	197.1	109.6																								
	10	140.6	72.6																								
	20	137.6	82.6														50										
	30	147.6	92.6	60.6	42.8	32																					
	50	192.6	112.6																								
10	141.6	73.6												4	75	19	4	12		M8 x 1.25							
20	138.6	83.6																									
30	148.6	93.6	61.6	43.8	33																						
50	193.6	113.6														75											

Dimensions Per Vacuum Inlet

		Model							P	Q	R	S	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread						
ZP	R	C	N S U F G N S	J K	10	04	A10	8	4	17.5	8.2	$\varnothing 2.5$	
					20	06							
					30	06							
					40	06							
					50	06							
					50	08							
	R	C	N S U F G N S	J K	10	04	A14	12	6	20.5	10.4	$\varnothing 3$	
					20	06							
					30	06							
					40	08							
					50	08							
					50	08							

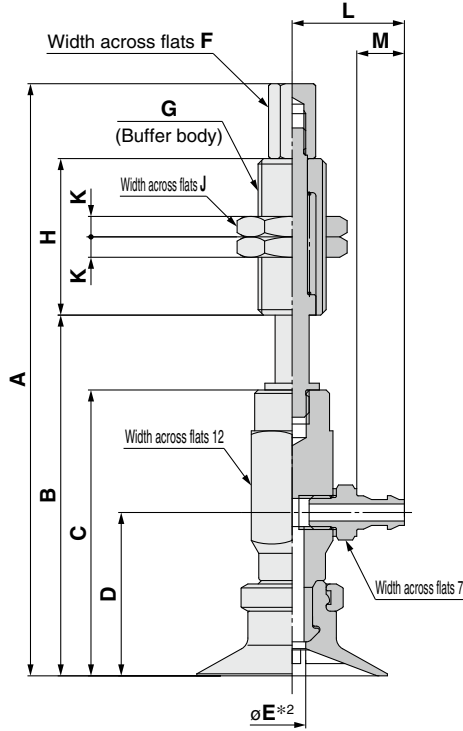
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY **10** C **N** **J** **10** - **N4** - **A10**



Construction p. 118
Buffer Assembly p. 126

Buffer specification **3**

J	Rotating
K	Non-rotating

6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

5 Vacuum inlet (Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model										A	B	C	D	*2 E	F	G	H	J	K																	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread																															
ZP	Y	C	N S U F GN GS	J K	10 20 30 40 50	N4 U4 U6	A10	83	49	38	22	2.5	6	M10 x 1	14	3	23																					
								121	59								51																					
								131	69								77																					
								167	79								77																					
								177	89																													
								10	83.5	49.5																												
								20	121.5	59.5																												
								30	131.5	69.5																												
								40	167.5	79.5																												
								50	177.5	89.5																												
								10	87	53																												
								20	125	63																												
	30	135	73																																			
	40	171	83																																			
	50	181	93																																			
	10	87.5	53.5																																			
	20	125.5	63.5																																			
	30	135.5	73.5																																			
	40	171.5	83.5																																			
	50	181.5	93.5																																			
	10	126.5	58.5																																			
	20	123.5	68.5																																			
	30	133.5	78.5																																			
	40	178.5	88.5																																			
50	187.5	98.5																																				
10	127.5	59.5																																				
20	124.5	69.5																																				
30	134.5	79.5																																				
40	179.5	89.5																																				
50	189.5	99.5																																				

Dimensions Per Vacuum Inlet

		Model							L	M	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	Y	C	N S U F GN GS	J K	10 20 30 40 50	N4 U4	A10	14.5	5	$\varnothing 1.8$		
								N6 U6	A14	16.5	7	$\varnothing 2.5$
										N6 U6	A14	16.5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions



Basic Pad

Flat Type Ball Joint Type

ZP Series



How to Order

	Dimensions/Models	Construction	Mounting Bracket Assembly
Pad unit ZP 10 F N	p. 62	p. 119	From p. 127
With adapter ZP T 10 F N - B5 - A8	From p. 62	p. 119	From p. 127
With buffer ZP T 10 F N J 10 - B5 - A10	From p. 65	p. 120	From p. 129

①
②
③
④
⑤
⑥
⑦

● Ball joint type

① Vacuum inlet direction

T	Vertical
R	Lateral (With One-touch fitting)

② Pad diameter

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

⑤ Buffer stroke

Stroke [mm]	Pad diameter [mm]	
	ø10 to ø16	ø20 to ø50
10	●	●
20	●	●
30	●	●
40	●	—
50	●	●

③ Material

N	NBR
S	Silicone rubber*1
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

④ Buffer specification

J	Rotating
K	Non-rotating

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

With adapter

⑥ Vacuum inlet/⑦ Connection thread

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting)

⑥ Vacuum inlet			⑦ Connection thread			Pad diameter [mm]		
Type	Symbol	Size	Type	Symbol	Size	ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B5	M5 x 0.8	Male thread	A8	M8 x 1	○	—	—
				A10	M10 x 1	—	○	—
				A14	M14 x 1	—	—	○
—	Nil	—*1	Female thread	B5	M5 x 0.8	○	○	—
				B8	M8 x 1.25	—	○	○
				B01	Rc1/8	—	○	○
				N01	NPT1/8	—	○	○
				T01	NPTF1/8	—	○	○
				B5	M5 x 0.8	●	—	—
				B8	M8 x 1.25	—	●	●
One-touch fitting	04	ø4	Female thread	B5	M5 x 0.8	—	—	—
				B8	M8 x 1.25	—	●	●
				B5	M5 x 0.8	—	●	●
B8	M8 x 1.25	—	●	●				

*1 Use the connection thread.

With buffer

⑥ Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting)

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B5	M5 x 0.8	○	—	—
	B01	Rc1/8	—	○	○
	N01	NPT1/8	—	○	○
	T01	NPTF1/8	—	○	○
One-touch fitting	04	ø4	○●	—	—
	06	ø6	○●	○●	○●
	08	ø8	—	○●	○●

⑦ Connection thread ○: ZPT/Vertical ●: ZPR/Lateral

Type	Symbol	Size	Pad diameter [mm]		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A10	M10 x 1	○●	—	—
	A14	M14 x 1	—	○●	○●

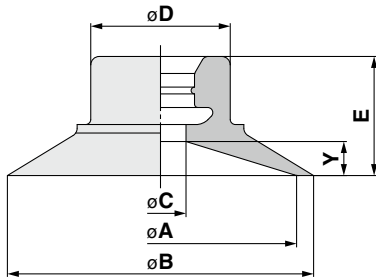
Lock ring unit

Part no.	Pad diameter [mm]
ZPLF	ø40, ø50

* The mounting nut and fitting are shipped together but do not come assembled.

Dimensions/Models

Single unit $\varnothing 10$ to $\varnothing 50$



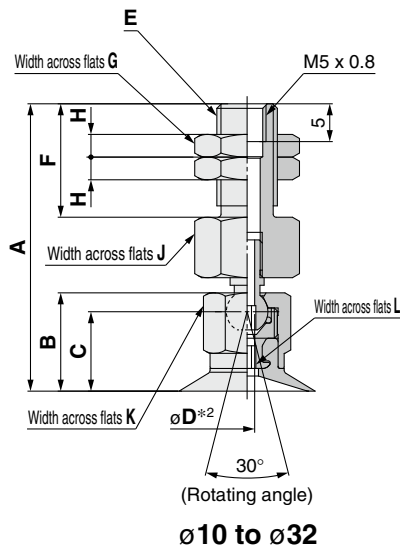
Construction p. 119
Mounting Bracket Assembly From p. 127

ZP **10** F **N**
① ②

Model	① Pad dia.	Form	② ^{*1} Material	A	B	C	D	E	Y
	10	F	N S U F GN GS	10	12	3	8.2	6.5	1.5
	13			13	15				
	16			16	18				
	20			20	22	4	10.2	8.5	3
	25			25	28				
	32			32	35			9	
	40			40	43	10	26	13	5
	50			50	53	8		14	6

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

With adapter $\varnothing 10$ to $\varnothing 50$



$\varnothing 10$ to $\varnothing 32$

ZPT **10** F **N** - **B5** - **A8**
① ② ③ ④

Vacuum inlet (Female thread)

B5 M5 x 0.8

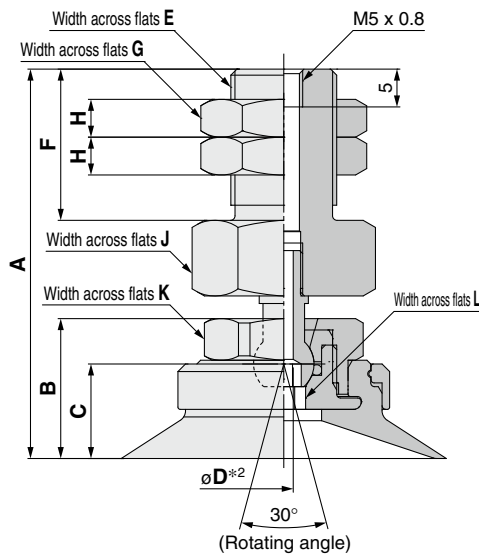
④ Connection thread (Male thread)

A8	M8 x 1
A10	M10 x 1
A14	M14 x 1

Model	Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread	A	B	C	*2 D	E	F	G	H	J	K	L
ZP	T	10	F	N S U F GN GS	B5	A8	37.5	12.5	10	2	M8 x 1	15	12	4	12	10	2
		13					38	13	10.5								
		16					48.5	15.5	12.5								
		20					2	M10 x 1	20	14	3	16	12	3			
		25													49	16	13
		32													51.5	18.5	12.5
		40					2.5	M14 x 1	20	19	4	21	19	5			
		50													52.5	19.5	13.5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad



$\varnothing 40, \varnothing 50$

Construction p. 119
Adapter Assembly p. 127

Dimensions/Models

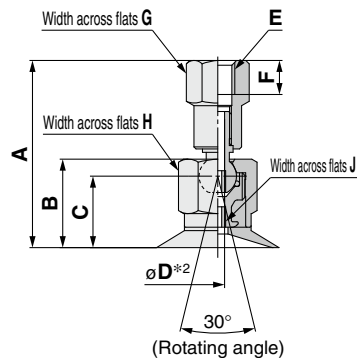
With adapter $\varnothing 10$ to $\varnothing 50$

ZPT **10** F **N** - **B5**

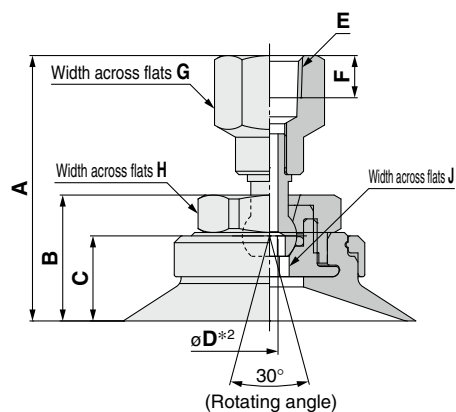
① ②

③ Connection thread (Female thread)

B5	M5 x 0.8
B8	M8 x 1.25
B01	Rc1/8
N01	NPT1/8
T01	NPTF1/8



$\varnothing 10$ to $\varnothing 32$



$\varnothing 40, \varnothing 50$

		Model			A	B	C	D*2	E	F	G	H	J
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Connection thread									
ZP	T	10	F	N S U F GN GS	27	12.5	10	2	M5 x 0.8	5	8	10	2
		13											
		16											
		20											
		25											
		32			36	15.5	12.5	2	M8 x 1.25	8	12	12	3
		32											
		40											
		50											
		20			36	15.5	12.5	2	Rc1/8 NPT1/8 NPTF1/8	14	12	12	3
		25											
		32											
		40											
		20			36.5	16	13	2.5	N/A	14	19	19	5
		25											
		32											
40													
20	36	15.5	12.5	2	N/A	14	12	12	3				
25													
32													
40													
20	36.5	16	13	2.5	N/A	14	19	19	5				
25													
32													
40													

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction p. 119

Adapter Assembly p. 127

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 50$

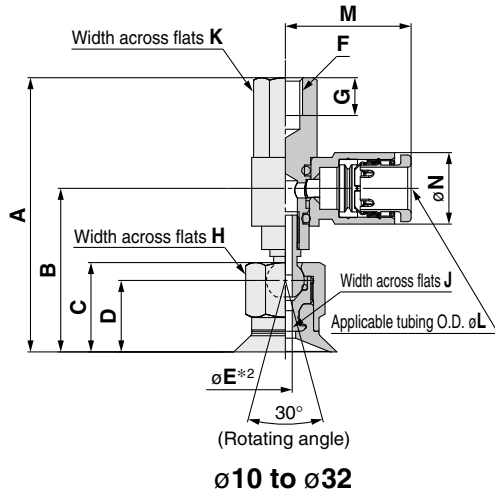
ZPR **10** F **N** - **04** - **B5**

① Pad dia.
② Form
③ Vacuum inlet (One-touch fitting)

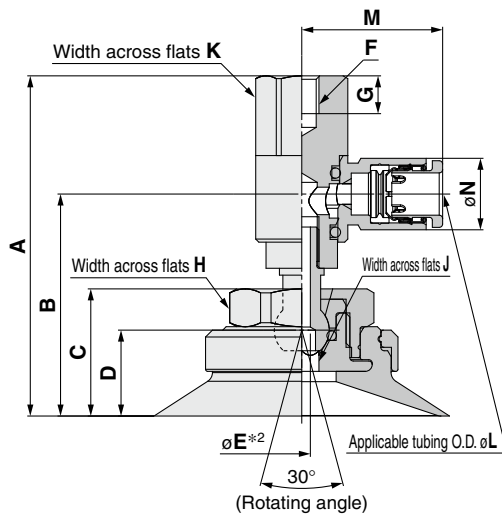
④ Connection thread (Female thread)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

B5	M5 x 0.8
B8	M8 x 1.25



$\varnothing 10$ to $\varnothing 32$



$\varnothing 40, \varnothing 50$

Model	Vacuum inlet direction	① Pad dia.	② Form	③ Material	④ Vacuum inlet	⑤ Connection thread	A	B	C	D	*2 E	F	G	H	J										
							ZP	R	F	N	S	U	F	GN	GS	04	06	08	B5	B8	2	2.5	2	2.5	5.5
ZP	R	10	F	N	S	U	F	GN	GS	04	06	08	B5	B8	2	2.5	2	2.5	5.5	8.5	12	19	2	3	5
		13																							
		16																							
		20																							
		25																							
		32																							
		40																							
		50																							
		20																							
		25																							
		32																							
		40																							
50																									

Dimensions Per Vacuum Inlet

Model	Vacuum inlet direction	① Pad dia.	② Form	③ Material	④ Vacuum inlet	⑤ Connection thread	K	L	M	N	Fitting part min. hole size					
							ZP	R	F	N	S	U	F	GN	GS	04
ZP	R	10	F	N	S	U	F	GN	GS	04	B5	8	4	17.5	8.2	$\varnothing 2.5$
		13														
		16														
		20														
		25														
		32														
		40														
		50														

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction	p. 119
Adapter Assembly	p. 128

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

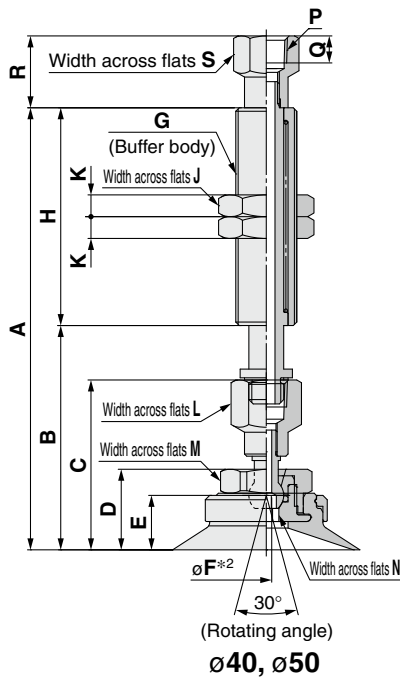
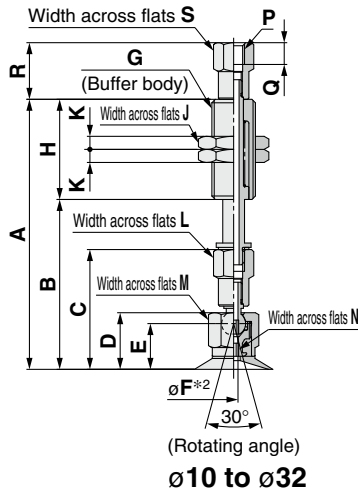
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer ø10 to ø50



ZPT 10 F N J 10 - B5 - A10

1 2 3 4

Buffer specification 3

J	Rotating
K	Non-rotating

6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

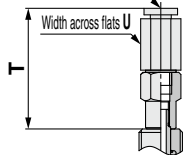
5 Vacuum inlet

		Pad diameter	
		ø10 to ø16	ø20 to ø50 (10 st only)
B5	M5 x 0.8	Female thread	
B01	Rc1/8		
N01	NPT1/8		
T01	NPTF1/8	One-touch fitting	KQ2H04-M5N KQ2H06-M5N KQ2H06-01NS KQ2H08-01NS
04	ø4		
06	ø6		
08	ø8		

Model														A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S					
Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread																												
ZP	T	F	N S U F G S	J K	10	B5	A10	61.5	38.5	27	12.5	10	2	M10 x1	23	14	3	8	10	2	M5 x 0.8	5	13	8											
					20			99.5	48.5						51																				
					30			109.5	58.5						77																				
					40			145.5	68.5						77																				
					50			155.5	78.5						23																				
					10			62	39						51																				
					20			100	49						77																				
					30			110	59						27.5										13	10.5									
					40			146	69						50																				
					50			156	79						75																				
					10			98.5	48.5						2										M14 x1	19	4	12	1	Rc1/8 NPT1/8 NPTF1/8	3	12	5	13	16.5
					20			108.5	58.5																										
	30	118.5	68.5	75																															
	40	163.5	88.5	50																															
	50	169	89	75																															
	10	99	49	50																															
	20	109	59	36.5	16	13																													
	30	119	69	19	4	12																													
	40	164	89	75																															
	50	171.5	91.5	50																															
	10	101.5	51.5	2.5	M14 x1	19	4	12	1	Rc1/8 NPT1/8 NPTF1/8	3	12	5	13		16.5																			
	20	111.5	61.5														50																		
	30	121.5	71.5												75																				
	40	166.5	91.5												50																				
50	172.5	92.5	75																																
10	102.5	52.5	50																																
20	112.5	62.5	75																																
30	122.5	72.5	75																																
40	167.5	92.5	75																																

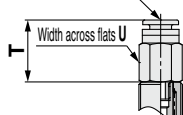
Vacuum inlet: One-touch fitting

Applicable tubing O.D. øV



Vacuum inlet: Built-in One-touch fitting
Pad diameter: ø20 to ø50 (Buffer stroke: 20 to 50 st)

Applicable tubing O.D. øV



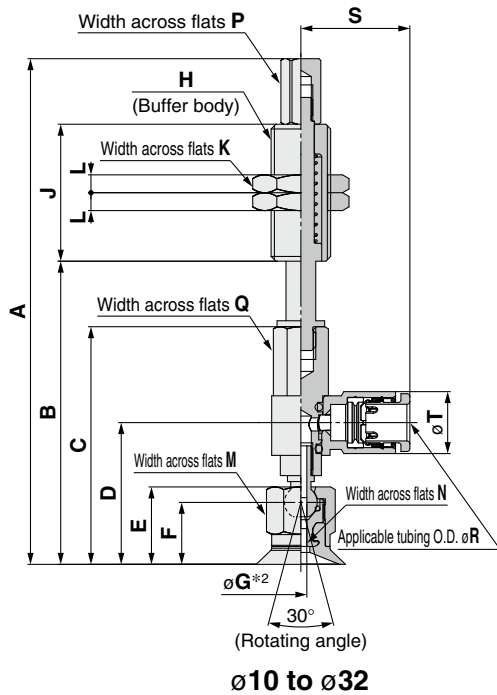
Dimensions Per Vacuum Inlet: One-touch Fitting

Model														T	U	V	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread										
ZP	T	F	N S U F G S	J K	10	A10	A10	27.7	8	4	ø2.5						
					20												
					30												
					40												
					50												
					10											A14	ø4.5
	20	31.8	10	6	ø4.5												
	30	35.9	14	8	ø6												
	40	ø3	19.9	12	6	6											
	50						24.9	14	8								

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 50$



ZPR **10** F **N** **J** **10** - **04** - **A10**

1 2 4 6

Buffer specification 3

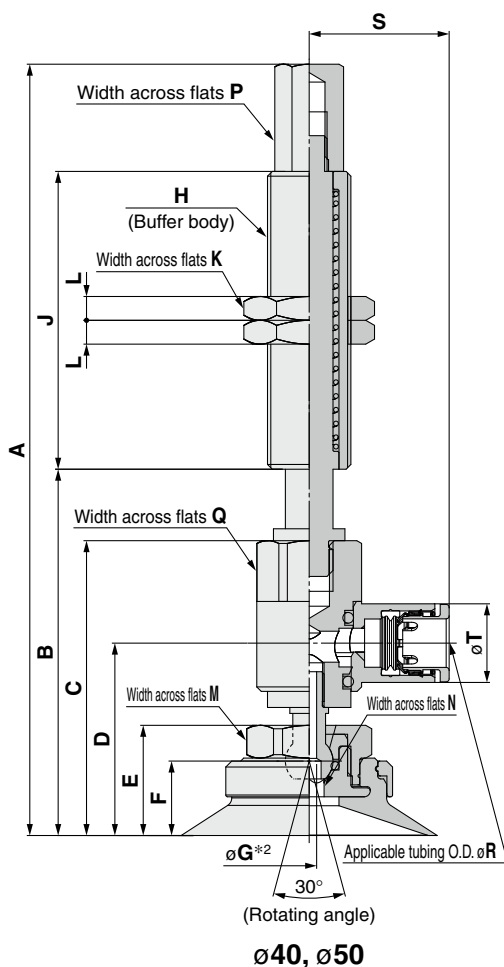
J	Rotating
K	Non-rotating

6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

5 Vacuum inlet (One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$



		Model																										
Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread	A	B	C	D	E	F	G	H	J	K	L	M	N	P							
ZP	R	F	N S U F GN GS	J K	10	04 06	A10	84.5	50.5						M10 x1	23												
					20			122.5	60.5					51														
					30			132.5	70.5	39.5	23.4	12.5	10															
					40			168.5	80.5																			
					50			178.5	90.5																			
					10			85	51																			
					20			123	61																			
					30			133	71	40	23.9	13	10.5															
					40			169	81																			
					50			179	91																			
					10			126.5	58.5																			
					20			123.5	68.5																			
	30	133.5	78.5	46.5	29.3	15.5	12.5																					
	40	178.5	98.5																									
	50	127	59																									
	10	124	69																									
	20	134	79	47	29.8	16	13																					
	30	179	99																									
	40	129.5	61.5																									
	50	126.5	71.5																									
	10	136.5	78.5	49.5	32.3	18.5	12.5																					
	20	181.5	101.5																									
	30	130.5	62.5																									
	40	127.5	72.5																									
50	137.5	82.5	50.5	33.3	19.5	13.5																						

Dimensions Per Vacuum Inlet: One-touch Fitting

		Model																								
Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread	Q	R	S	T	Fitting part min. hole size														
ZP	R	F	N S U F GN GS	J K	10	04	A10	8	4	17.5	8.2	ø2.5														
					20							6	18.3	10.4	ø4											
					30										12	20.5	10.4	ø4.5								
					40													16	23.5	13.2	ø6					
					50																12	20.5	10.4	ø4.5		
					10																			06	A14	12
	20	8	23.5	13.2	ø6																					
	30				12	6	20.5	10.4	ø4.5																	
	40								16	8	23.5	13.2	ø6													
	50												12	6	20.5	10.4	ø4.5									
	10																08	A14	16	8	23.5	13.2	ø6			
	20																						8	23.5	13.2	ø6

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction	p. 120
Buffer Assembly	p. 130

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

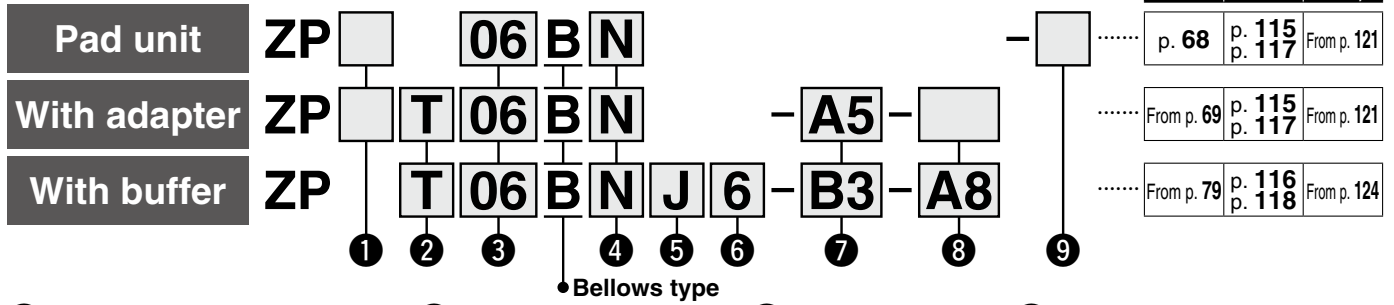
Precautions



Basic Pad Bellows Type ZP Series



How to Order



① Adapter (Lock ring) material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad unit (with lock ring) and the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

② Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

③ Pad diameter

06	ø6	20	ø20
08	ø8	25	ø25
10	ø10	32	ø32
13	ø13	40	ø40
16	ø16	50	ø50

④ Material

N	NBR
S	Silicone rubber*1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

⑤ Buffer specification

J	Rotating
K	Non-rotating
JN*1	Rotating (Without buffer plate)
KN*1	Non-rotating (Without buffer plate)

*1 Only for pad diameters ø6 and ø8

⑥ Buffer stroke

Stroke [mm]	Pad diameter [mm]									
	ø6	ø8	ø10	ø13	ø16	ø20	ø25	ø32	ø40	ø50
6	●	●	—	—	—	—	—	—	—	—
10	●	●	●	●	●	●	●	●	●	●
15	●	●	—	—	—	—	—	—	—	—
20	—	—	●	●	●	●	●	●	●	●
25	●	●	—	—	—	—	—	—	—	—
30	—	—	●	●	●	●	●	●	●	●
40	—	—	●	●	●	●	●	●	●	—
50	—	—	●	●	●	●	●	●	●	●

*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)

With adapter

⑦ Vacuum inlet ○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø6, ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A5	M5 x 0.8	○*1	—	—	—
	AS5		○*1	—	—	—
	A6	M6 x 1	○*1	—	—	—
	AS6		○*1	—	—	—
	AG01		○*1	—	—	—
AG02	G1/4	—	—	—	○*1	
Female thread	Nil	M3 x 0.5	—	○ Connection thread: AS(A6)	○ Connection thread: AB	○ Connection thread: AB
		M5 x 0.8	—	○ Connection thread: AB	○ Connection thread: AB	—
	B4	M4 x 0.7	○*1	—	—	—
	B5	M5 x 0.8	○*1	—	—	—
	B6	M6 x 1	—	○*1	—	○*1
	B8	M8 x 1.25	—	—	○*1	○*1
	BG01	G1/8	—	○*1	—	—
	BG02	G1/4	—	—	—	○*1
	B01	Rc1/8	—	○*1	—	○*1
	N01*4	NPT1/8	—	○*1	—	○*1
	T01*4	NPTF1/8	—	○*1	—	○*1
One-touch fitting	04	ø4	●	●	●	●
	06	ø6	●	●	●	●
	08	ø8	—	—	●	●
Barb fitting	N4	For ø4 nylon tubing*2	△	△	△	—
	N6	For ø6 nylon tubing*2	△	△	△	△
	U4	For ø4 soft tubing*3	△	△	△	—
	U6	For ø6 soft tubing*3	△	△	△	△

*1 Use the connection thread. *2 Nylon tube piping *3 Soft nylon/Polyurethane tube piping *4 Not compatible with stainless steel materials

⑧ Connection thread ○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø6, ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A5	M5 x 0.8	●△	○*1●△	—	—
	A6	M6 x 1	—	—	○*1●△	—
	A8	M8 x 1	—	—	○*1●△	○*1●△
Female thread	B4	M4 x 0.7	●△	—	—	—
	B5	M5 x 0.8	●△	●△	●△	—
	B6	M6 x 1	—	●△	●△	—
	B8	M8 x 1.25	—	—	●△	●△

*1 ○: ZPT/Vertical comes with a vacuum inlet (female thread).

With buffer

⑦ Vacuum inlet ○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø6, ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B3	M3 x 0.5	○	—	—	—
	B5	M5 x 0.8	○	○	○	○
	B01	Rc1/8	—	—	—	○
	N01	NPT1/8	—	—	—	○
	T01	NPTF1/8	—	—	—	○
One-touch fitting	04	ø4	○●	○●	○●	—
	06	ø6	○●	○●	○●	○●
	08	ø8	—	—	●	○●
Barb fitting	N4	For ø4 nylon tubing*1	○△	△	△	—
	N6	For ø6 nylon tubing*1	△	○△	○△	○△
	U4	For ø4 soft tubing*2	○△	△	△	—
	U6	For ø6 soft tubing*2	△	○△	○△	○△

*1 Nylon tube piping *2 Soft nylon/Polyurethane tube piping

⑧ Connection thread ○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø6, ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
Male thread	A8	M8 x 1	○●△	—	—	—
	A10	M10 x 1	—	○●△	○●△	—
	A14	M14 x 1	—	—	—	○●△

⑨ Lock ring

Symbol	Pad diameter [mm]	
	ø6, ø8	ø10 to ø50
Nil	With lock ring	—
X19	Without lock ring	—

*1 The lock ring cannot be used for pad diameters ø6 and ø8.

Lock ring unit

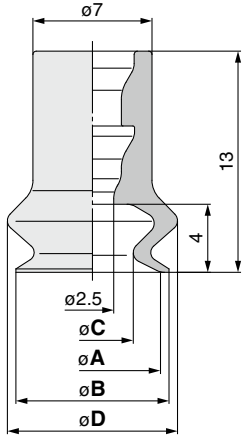
Part no.	Pad diameter [mm]
ZP□L1	ø10 to ø16
ZP□L2	ø20 to ø32
ZP□L3	ø40, ø50

□: Nil/Brass S/Stainless steel

* The pad, lock ring, mounting nut, fitting, and buffer plate are shipped together but do not come assembled.

Dimensions/Models

Single unit $\phi 6$ to $\phi 8$



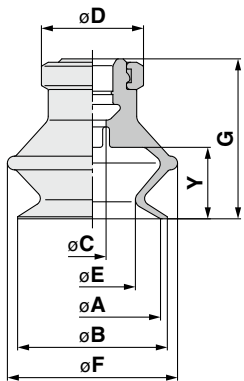
ZP **06** B **N**
① ②

Model				A	B	C	D
ZP	① Pad dia.	Form	② Material				
		06	B	N S U F GN GS	6	7	3.4
	08	B	N S U F GN GS	8	9	4.8	10

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction p. 115
Mounting Bracket Assembly From p. 121

Single unit $\phi 10$ to $\phi 50$



ZP **10** B **N**
① ② ③

① Lock ring material

Nil	Brass
S	Stainless steel (Stainless steel 304)

Model							A	B	C	D	E	F	G	Y
ZP	① Lock ring material	② Pad dia.	Form	③ Material										
						Nil S	10 13 16 20 25 32 40 50	B	N S U F GN GS	4	7	13	15	18

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction p. 117
Mounting Bracket Assembly From p. 121

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

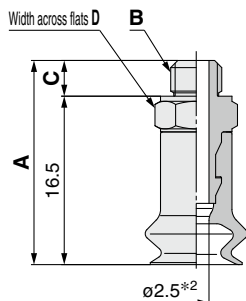
Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter $\varnothing 6$ to $\varnothing 8$

ZP T 06 B N - A5
① ② ③ ④



Construction p. 115

Adapter Assembly p. 121

① Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

A5	M5 x 0.8
A6	M6 x 1

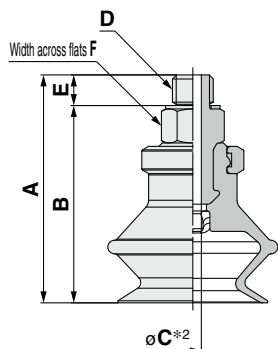
Model	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet	A	B	C	D

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

With adapter $\varnothing 10$ to $\varnothing 50$

ZP T 10 B N - AS5
① ② ③ ④



Construction p. 117

Adapter Assembly p. 121

① Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

AS5	M5 x 0.8
AS6	M6 x 1
AG01	G1/8
AG02	G1/4

Model	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet	A	B	C*2	D	E	F

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

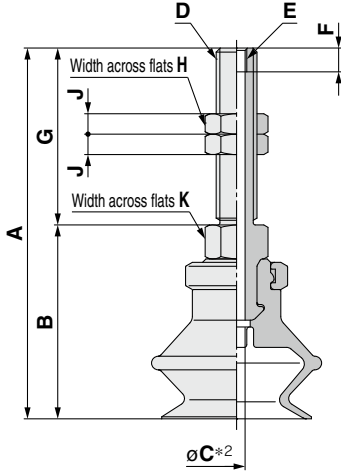
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 50$

ZP T 10 B N - A5

1
 2
 3
 4



Construction p. 117
Adapter Assembly p. 121

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Connection thread (Male thread)

A5	M5 x 0.8 (M3 x 0.5 With female thread)
A6	M6 x 1 (M3 x 0.5 With female thread)
A8	M8 x 1 (M5 x 0.8 With female thread)

		Model														
ZP	Adapter material 1 Nil S	Vacuum inlet direction T	Pad dia. 2 10 13 16 20 25 32 40 50	Form B	Material 3 N S U F GN GS	Connection thread 4 A5 A6 A8	A	B	C*2	D	E	F	G	H	J	K
							42	21	2.5	M5 x 0.8	M3 x 0.5	3.5	21	8	4	8
44.5	23.5															
46	25															
47	21															
49.5	23.5	4	M8 x 1	M5 x 0.8	5	16	12	4	12							
51	25															
54.5	28.5															
55	29															
60	34	4.2														
66	40															
70	44															
49.5	33.5															
50	34															
55	39															
56	40															
60	44															

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

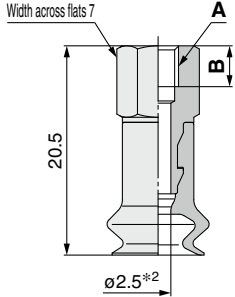
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter ø6 to ø8



Construction p. 115
Adapter Assembly p. 121

ZP T 06 B N - B4

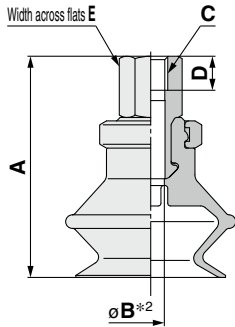
① ② ③ ④

① Adapter material		④ Vacuum inlet (Female thread)	
Nil	Brass	B4	M4 x 0.7
S	Stainless steel (Stainless steel 304)	B5	M5 x 0.8

Model	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet	A		B	
ZP	Nil S	T	06 08	B	N S U F GN GS	B4	M4 x 0.7		4	
						B5	M5 x 0.8		5	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

With adapter ø10 to ø50



Construction p. 117
Adapter Assembly p. 121

ZP T 10 B N - B5

① ② ③ ④

① Adapter (Lock ring) material		④ Vacuum inlet (Female thread)			
Nil	Brass	B5	M5 x 0.8	BG02	G1/4
S	Stainless steel (Stainless steel 304)	B6	M6 x 1	B01	Rc1/8
		B8	M8 x 1.25	N01*1	NPT1/8
		BG01	G1/8	T01*1	NPTF1/8

*1 Not compatible with stainless steel materials

Model	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material*1	④ Vacuum inlet	A	B*2	C	D	E	
ZP	Nil S	T	10 13 16 20 25 32 38 40 50 20 25 32 40 50 10 13 16 20 25 32 40 50 10 13 16 20 25 32 40 50	B	N S U F GN GS	B5	25	2.5	M5 x 0.8	5	8	
							27.5					
							29					
							32.5					
							33					
							38					
						B6	25	2.5	M6 x 1	6	8	
							27.5					
							29					
							32.5					
							33					
							38					
						B8	25	3.5	M8 x 1.25	8	12	
							27.5					
							29					
							32.5					
							33					
							38					
						BG01	25	4	G1/8	7.4	14	
							27.5					
							29					
							32.5					
							33					
							38					
						BG02	25	7	G1/4	11	17	
							27.5					
							29					
							32.5					
							33					
							38					
B01 N01*3 T01*3	31	2.5	Rc1/8 NPT1/8 NPTF1/8	—	12							
	33.5											
	35											
	38.5											
	39											
	44											
	47.5											
	44											
	47.5											
	51.5											

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad
*3 Not compatible with stainless steel materials

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

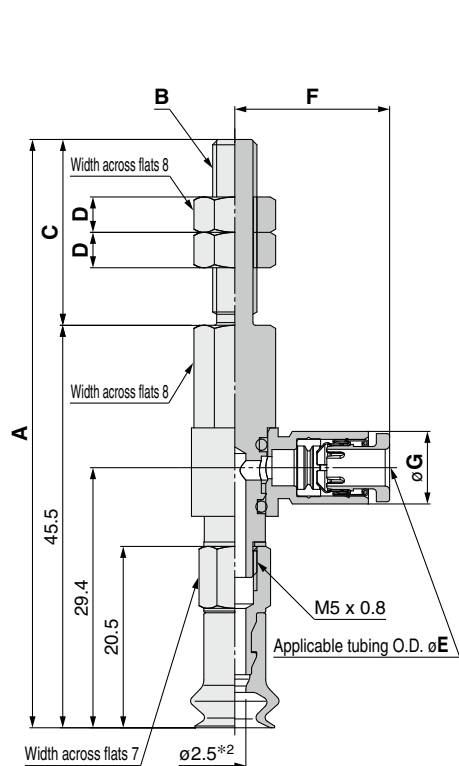
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 6$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 122

ZPR **06** **B** **N** - **04** - **A5**

1	2	3	4 Connection thread (Male thread)
04	$\varnothing 4$	04	A5 M5 x 0.8
06	$\varnothing 6$	06	A6 M6 x 1

Model						A	B	C	D	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	06 08	B	N S U F GN GS	04	A5	66.5	M5 x 0.8	21	4
					06	A6	71.5	M6 x 1	26	4

Dimensions Per Vacuum Inlet

Model						E	F	G	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	06 08	B	N S U F GN GS	04	A5	4	17.5	8.2	$\varnothing 2.5$
					06	A6	6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** **B** **N** - **04** - **A5**

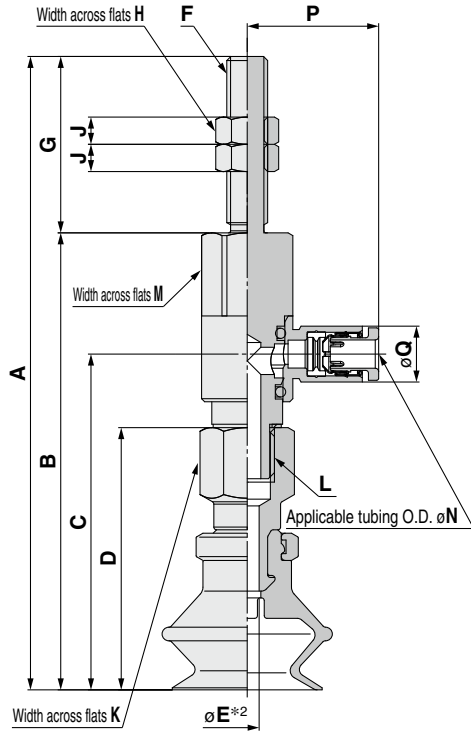
① ②

Vacuum inlet ③
(One-touch fitting)

④ Connection thread
(Male thread)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1



Construction	p. 117
Adapter Assembly	p. 122

Model						A	B	C	D	*2 E	F	G	H	J	K	L												
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread																							
ZP	R	B	N S U F GN GS	04 06 08	A5	71	50	33.9	25	2.5	M5 x 0.8	21	8	4	8	M5 x 0.8												
						10	13	16	75								54	37.9	29									
						10	13	16	76								50	33.9	25									
						20	25	32	78.5								52.5	36.4	27.5	2.5	26	8	4	8	M5 x 0.8			
						40	50	80	80								54	37.9	29									
					A6	93	67.1	49.3	38.5	3.5	M6 x 1	25.9	8	4	12	M8 x 1.25												
						20	25	32	98.5								67.6	49.8	39									
						40	50	102	76.1								58.3	47.5										
						20	25	32	106								80.1	62.3	51.5	4	8	4	12	M8 x 1.25				
						40	50	83	67.1								49.3	38.5										
	A8	83.5	67.6	49.8		39	3.5	M8 x 1	15.9								12	4	12	M8 x 1.25								
		20	25	32		88.5															72.6	54.8	44					
		40	50	92		76.1															58.3	47.5						
		20	25	32		96															80.1	62.3	51.5	4	8	4	12	M8 x 1.25
		40	50	106		80.1															62.3	51.5						

Dimensions Per Vacuum Inlet

Model						M	N	P	Q	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread					
ZP	R	B	N S U F GN GS	04	A5	8	4	17.5	8.2	$\varnothing 2.5$
					06					
				20	A6	12	6	19.3	8.2	$\varnothing 3$
					32					
				40	06	16	8	23.5	13.2	$\varnothing 6$
					08					
				50	06	12	6	20.5	10.4	$\varnothing 4.5$
					08					
				50	06	16	8	23.5	13.2	$\varnothing 6$
					08					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

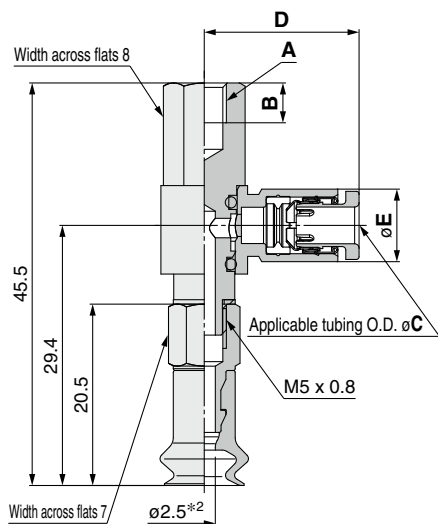
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\phi 6$ to $\phi 8$



Construction	p. 115
Adapter Assembly	p. 122

ZPR **06** **B** **N** - **04** - **B4**

①

②

④

Connection thread
(Female thread)

Vacuum inlet
(One-touch fitting)

04	$\phi 4$
06	$\phi 6$

B4	M4 x 0.7
B5	M5 x 0.8

Model						A	B	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread			
ZP	R	06 08	B	N S U F GN GS	04	B4	M4 x 0.7	4.5
					06	B5	M5 x 0.8	5.5

Dimensions Per Vacuum Inlet

Model						C	D	E	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread					
ZP	R	06 08	B	N S U F GN GS	04	B4 B5	4	17.5	8.2	$\phi 2.5$
					06		6	18.3	10.4	$\phi 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\phi 10$ to $\phi 50$

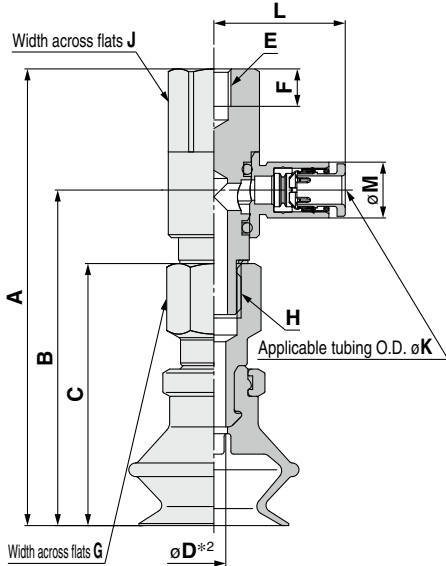
ZPR **10** **B** **N** - **04** - **B5**

1 **2** **3**
Vacuum inlet
(One-touch fitting)

4 Connection thread
(Female thread)

04	$\phi 4$
06	$\phi 6$
08	$\phi 8$

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25



Construction p. 117
Adapter Assembly p. 122

		Model				A	B	C	D*2	E	F	G	H						
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread														
ZP	R	B	N S U F GN GS	04 06 08	B5	10	50	33.9	25	2.5	M5 x 0.8	5.5	8	M5 x 0.8					
						13	52.5	36.4	27.5										
						16	54	37.9	29										
						20	67.1	49.3	38.5	3.5									
						25	67.6	49.8	39										
						32	72.6	54.8	44										
						R	B	N S U F GN GS	04 06 08	B6	10	50	33.9	25	2.5	M6 x 1	6.5	12	M8 x 1.25
											13	52.5	36.4	27.5					
											16	54	37.9	29					
											20	67.1	49.3	38.5	3.5				
	25	67.6	49.8	39															
	32	72.6	54.8	44															
	R	B	N S U F GN GS	04 06 08	B8						20	67.1	49.3	38.5	4	M8 x 1.25	8.5	12	M8 x 1.25
											25	67.6	49.8	39					
											32	72.6	54.8	44					
											40	76.1	58.3	47.5	4				
						50	80.1	62.3	51.5										
						20	67.1	49.3	38.5	3.5									
						25	67.6	49.8	39										
						32	72.6	54.8	44										
40						76.1	58.3	47.5	4										
50						80.1	62.3	51.5											

Dimensions Per Vacuum Inlet

		Model				J	K	L	M	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	B	N S U F GN GS	04	B5	8	4	17.5	8.2	$\phi 2.5$
				06	B6					6
				04	B5	12	4	19.3	8.2	$\phi 3$
				06	B6					6
	08	B8		16	8	23.5	13.2	$\phi 6$		
	06	B6						6	20.5	10.4
	08	B8		16	8	23.5	13.2	$\phi 6$		

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

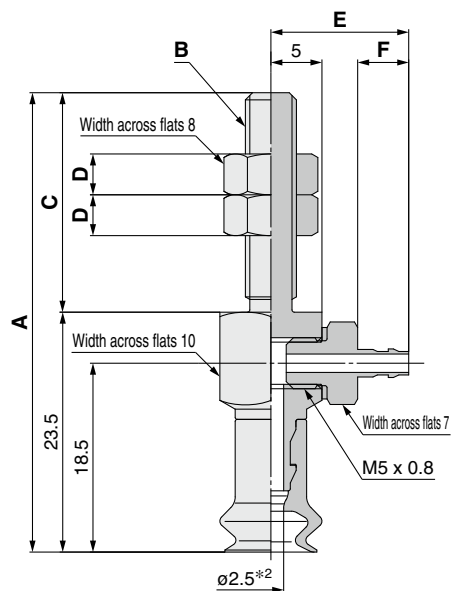
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 6$ to $\varnothing 8$



Construction	p. 115
Adapter Assembly	p. 123

ZPY **06** **B** **N** - **N4** - **A5**

① ②

Vacuum inlet ③
(Barb fitting)

④ Connection thread
(Male thread)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

A5	M5 x 0.8
A6	M6 x 1

	Vacuum inlet direction	Model				A	B	C	D	
		① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet					④ Connection thread
ZP	Y	06 08	B	N S U F GN GS	N4 N6 U4 U6	A5	45	M5 x 0.8	21.5	4
						A6	50.5	M6 x 1	27	4

Dimensions Per Vacuum Inlet

	Vacuum inlet direction	Model				E	F	Fitting part min. hole size	
		① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet				④ Connection thread
ZP	Y	06 08	B	N S U F GN GS	N4 U4	A5 A6	13.5	5	$\varnothing 1.8$
					N6 U6		15.5	7	$\varnothing 2.5$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY **10** **B** **N** - **N4** - **A5**

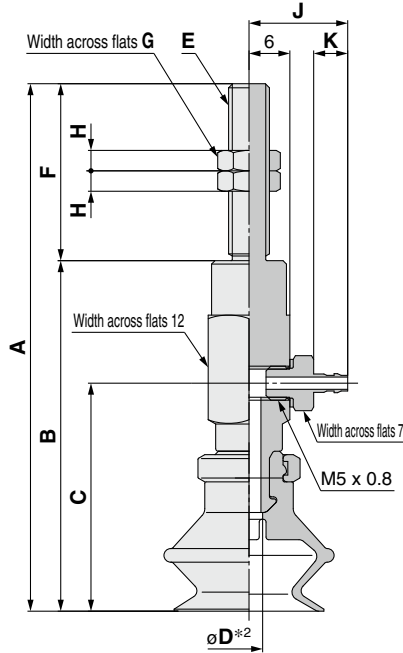
① ②

Vacuum inlet (Barb fitting)

④ **Connection thread (Male thread)**

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction p. 117
Adapter Assembly p. 123

		Model				A	B	C	D*2	E	F	G	H	
	Vacuum inlet direction	① Pad dia.	② Form	③ Material*1	④ Vacuum inlet									
ZP	Y	10	B	N S U F GN GS	N4 N6 U4 U6	A5	63	42	26	2.5	M5 x 0.8	21	8	4
		13					65.5	44.5	28.5					
		16					67	46	30					
		10					68	42	26					
		13				70.5	44.5	28.5	2.5	M6 x 1	26	8	4	
		16				72	46	30						
		20				77.5	51.5	33.5						
		25				78	52	34						
		32				83	57	39	3.5	M8 x 1	16	12	4	
		40				88	62	44						
		50				92	66	48						
		20				67.5	51.5	33.5						
		25				68	52	34	3.5	M8 x 1	16	12	4	
		32				73	57	39						
		40				78	62	44						
		50				82	66	48						

Dimensions Per Vacuum Inlet

		Model				J	K	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	② Form	③ Material*1	④ Vacuum inlet				
ZP	Y	10	B	N S U F GN GS	N4	A5	14.5	5	$\varnothing 1.8$
		U4							
		13			N6	A6	16.5	7	$\varnothing 2.5$
		16			U6				
		20			N6	A8	16.5	7	$\varnothing 2.5$
		25			U6				
32	U6								
40	U6								
50	U6								

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

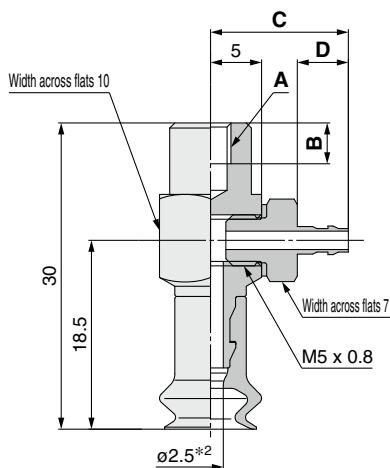
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\phi 6$ to $\phi 8$



Construction p. 115
Adapter Assembly p. 123

ZPY **06** **B** **N** - **N4** - **B4**

① ②

Vacuum inlet ③
(Barb fitting)

④ Connection thread
(Female thread)

N4	For $\phi 4$ nylon tubing	M-5AN-4
N6	For $\phi 6$ nylon tubing	M-5AN-6
U4	For $\phi 4$ soft tubing	M-5AU-4
U6	For $\phi 6$ soft tubing	M-5AU-6

B4	M4 x 0.7
B5	M5 x 0.8

	Vacuum inlet direction	Model				A	B	
		① Pad dia.	② Form	③ Vacuum inlet	④ Connection thread			
ZP	Y	06 08	B	N S U F GN GS	N4 N6 U4 U6	B4	M4 x 0.7	4
						B5	M5 x 0.8	5

Dimensions Per Vacuum Inlet

	Vacuum inlet direction	Model				C	D	Fitting part min. hole size	
		① Pad dia.	② Form	③ Vacuum inlet	④ Connection thread				
ZP	Y	06 08	B	N S U F GN GS	N4 U4	B4 B5	13.5	5	$\phi 1.8$
					N6 U6		15.5	7	$\phi 2.5$

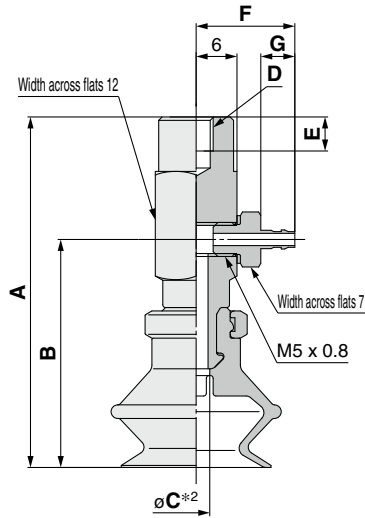
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 B N - N4 - B5



Construction p. 117
Adapter Assembly p. 123

①
②
③ Vacuum inlet (Barb fitting)

④ Connection thread (Female thread)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25

		Model				A	B	C*2	D	E
Vacuum inlet direction	① Pad dia.	② Form	③ Material	④ Vacuum inlet						
ZP	Y	B	N S U F GN GS	N4 N6 U4 U6	B5	42	26	2.5	M5 x 0.8	5
						44.5	28.5			
						46	30			
						51.5	33.5			
						52	34			
						57	39			
					B6	42	26	2.5	M6 x 1	6
						44.5	28.5			
						46	30			
						51.5	33.5			
	52	34								
	57	39								
	62	44	6							
	66	48								
	51.5	33.5								
	B8	52	34	3.5		M8 x 1.25	8			
		57	39							
		62	44							
		66	48							

Dimensions Per Vacuum Inlet

		Model				F	G	Fitting part min. hole size		
Vacuum inlet direction	① Pad dia.	② Form	③ Material	④ Vacuum inlet						
ZP	Y	B	N S U F GN GS	N4 U4	B4	14.5	5	$\varnothing 1.8$		
				N6 U6	B5					
				N4 U4	B5	14.5	5	$\varnothing 1.8$		
				N6 U6	B6 B8					
				40	50	N6 U6	B6 B8	16.5	7	$\varnothing 2.5$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

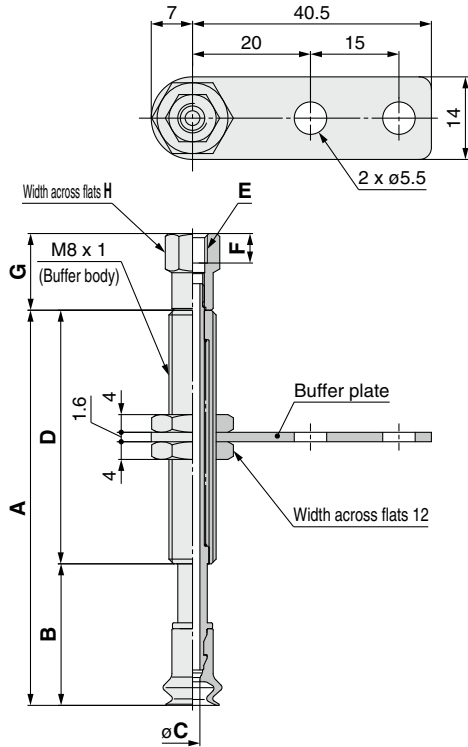
Mounting Bracket Assembly

Precautions

Dimensions/Models

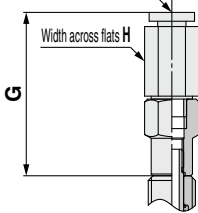
With buffer $\varnothing 6$ to $\varnothing 8$

The drawings show the type with a buffer plate.

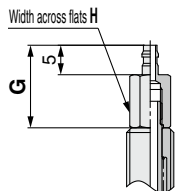


Vacuum inlet: One-touch fitting

Applicable tubing O.D. $\varnothing J$



Vacuum inlet: Barb fitting



Construction	p. 116
Buffer Assembly	p. 124

ZPT **06** **B** **N** **J** **6** - **B3** - **A8**

1	2	3	4	5	6	
J	Rotating	Buffer specification	6	5 Vacuum inlet	6 Connection thread (Male thread)	
K	Non-rotating		B3			M3 x 0.5
JN	Rotating (Without buffer plate)		04			$\varnothing 4$
KN	Non-rotating (Without buffer plate)		06			$\varnothing 6$

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet

B3	M3 x 0.5	Female thread	
B5	M5 x 0.8	Female thread	
04	$\varnothing 4$	One-touch fitting	KQ2H04-M5N
06	$\varnothing 6$	One-touch fitting	KQ2H06-M5N
N4	For $\varnothing 4$ nylon tubing	Barb fitting	
U4	For $\varnothing 4$ soft tubing	Barb fitting	

		Model						A	B	C*2	D	
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	06 08	B	N S U F GN GS	J K JN KN	6	B3	A8	34	19	J: 2.5 K: 2	15
						10	B5		67	24		43
						15	04		72	29		
						25	06 N4 U4		82	39		

Dimensions Per Vacuum Inlet: Female Thread

		Model						E	F	G	H	
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	06 08	B	N S U F GN GS	J K JN KN	6	B3	A8	M3 x 0.5	3	11	6
						10 15 25	B5		M5 x 0.8	5	13	8

Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						G	H	J	Fitting part min. hole size	
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	06 08	B	N S U F GN GS	J K JN KN	6	04	A8	27.7	8	4	$\varnothing 2.5$
						10 15 25	06			10	6	

Dimensions Per Vacuum Inlet: Barb Fitting

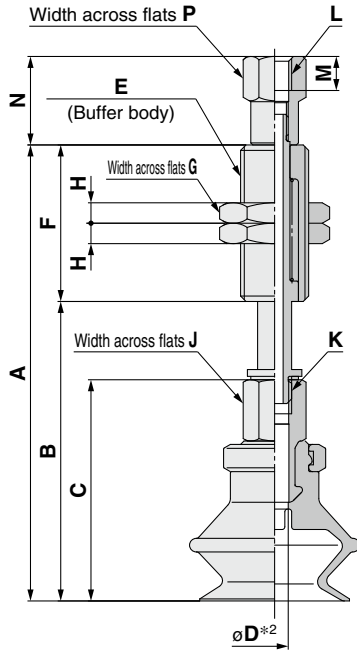
		Model						G	H	Fitting part min. hole size	
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	T	06 08	B	N S U F GN GS	J K JN KN	6 10 15 25	N4 U4	A8	14	6	$\varnothing 1.8$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$



Construction p. 118
Buffer Assembly p. 124

ZPT 10 B N J 10 - B5 - A10

1	2	3	4	5	6	
Buffer specification			Vacuum inlet (Female thread)		Connection thread (Male thread)	
J	Rotating		B5	M5 x 0.8	A10	M10 x 1
K	Non-rotating		B01	Rc1/8	A14	M14 x 1
			N01	NPT1/8		
			T01	NPTF1/8		

		Model																
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread	A	B	C	D*2	E	F	G	H	J	K
ZP	T	10	B	N S U F GN GS	J K	10	B5 04 06 N6 U6	A10	59.5	36.5	25	J: 2.5 K: 2	M10 x 1	23	14	3	8	M5 x 0.8
						20			97.5	46.5								
						30			107.5	56.5								
						40			143.5	66.5								
						50			153.5	76.5								
						10			62	39								
						20			100	49								
						30			110	59								
						40			146	69								
						50			156	79								
						10			63.5	40.5								
						20			101.5	50.5								
						30			111.5	60.5								
						40			147.5	70.5								
						50			157.5	80.5								
						10			67	44								
						20			105	54								
						30			115	64								
						40			151	74								
						50			161	84								
		10	67.5	44.5														
		20	105.5	54.5														
		30	115.5	64.5														
		40	151.5	74.5														
		50	161.5	84.5														
		10	72.5	49.5														
		20	110.5	59.5														
		30	120.5	69.5														
		40	156.5	79.5														
		50	166.5	89.5														
		10	110	60														
		20	120	70														
		30	130	80														
		40	175	100														
		50	175	100														
		10	114	64														
		20	124	74														
		30	134	84														
		50	179	104														

Dimensions Per Vacuum Inlet: Female Thread

		Model								L	M	N	P
	Vacuum inlet direction	1 Pad dia.	Form	2 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	T	10	B	N S U F GN GS	J K	10	B5	A10	M5 x 0.8	5	13	8	
		20											
		30											
		40											
		50											
		10				B5							A10
		20											
		30											
		40											
		50											
		10					B01 N01 T01	A14	Rc1/8 NPT1/8 NPTF1/8	—	16.5	13	
		20											
30													
40													
50													

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 50$

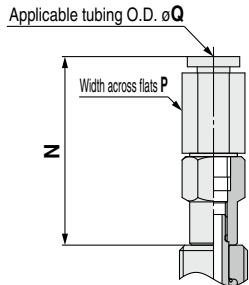
ZPT **10** **B** **N** **J** **10** - **04** - **A10**

① ② ④

⑥ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

Vacuum inlet: One-touch fitting



Buffer specification ③

J	Rotating
K	Non-rotating

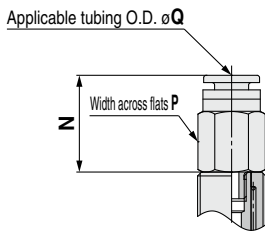
⑤ Vacuum inlet

			Pad diameter	
			$\varnothing 10$ to $\varnothing 32$	$\varnothing 40, \varnothing 50$ (10 st only)
04	$\varnothing 4$	One-touch fitting	KQ2H04-M5N	KQ2H06-01NS
06	$\varnothing 6$		KQ2H06-M5N	
08	$\varnothing 8$		KQ2H08-01NS	
N6	For $\varnothing 6$ nylon tubing	Barb fitting		
U6	For $\varnothing 6$ soft tubing			

Dimensions Per Vacuum Inlet: One-touch Fitting

	Vacuum inlet direction	Model						N	P	Q	Fitting part min. hole size			
		① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet					⑥ Connection thread		
ZP	T	10	B	N S U F GN GS	J K	10	A10	27.7	8	4	$\varnothing 2.5$			
		13				20								
		16				30								
		20				40								
		25				50	06		A14	31.8		10	6	$\varnothing 4.5$
		32				40	08			35.9		14	8	$\varnothing 6$
		40				20	06			19.9		12	6	$\varnothing 3$
		50				30	08			24.9		14	8	

Vacuum inlet: Built-in One-touch fitting Pad diameter: $\varnothing 40, \varnothing 50$ (Buffer stroke: 20 to 50 st)



Dimensions Per Vacuum Inlet: Barb Fitting

	Vacuum inlet direction	Model						N	P	Fitting part min. hole size	
		① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet				⑥ Connection thread
ZP	T	10	B	N S U F GN GS	J K	10	A10	15	6	$\varnothing 2.5$	
		13				N6					
		16				U6	19				
		20									A14
		25									
		32									20
40	30										
50	50	U6									

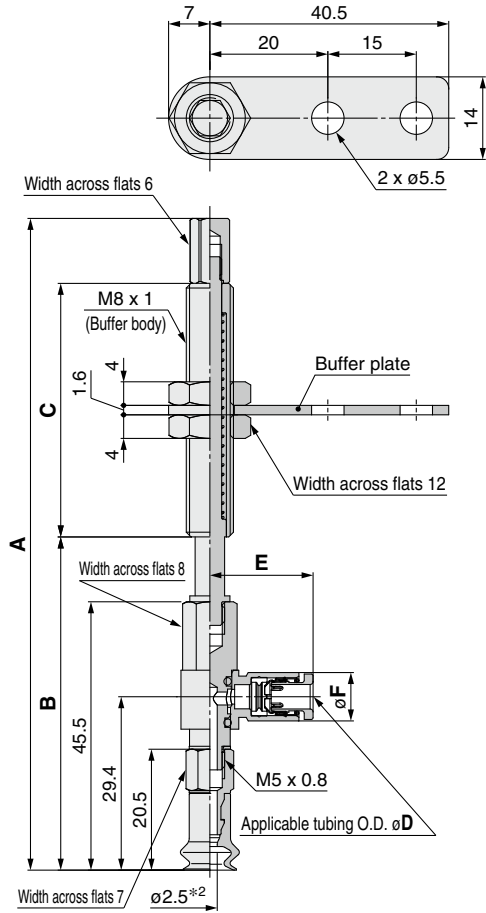
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction	p. 118
Buffer Assembly	p. 124

Dimensions/Models

With buffer/One-touch fitting $\phi 6$ to $\phi 8$

The drawings show the type with a buffer plate.



ZPR **06** **B** **N** **J** **6** - **04** - **A8**

Buffer specification **3**

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread
(Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet
(One-touch fitting)

04	$\phi 4$
06	$\phi 6$

		Model						A	B	C	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	R	06 08	B	N S U F GN GS	J	6	04 06	A8	79.5	53.5	15
					K	10			110.5	56.5	43
					JN	15			115.5	61.5	
					KN	25			125.5	71.5	

Dimensions Per Vacuum Inlet

		Model						D	E	F	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	R	06 08	B	N S U F GN GS	J	6	04	A8	4	17.5	8.2	$\phi 2.5$
					K	10			6	18.3	10.4	$\phi 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction p. 116

Buffer Assembly p. 125

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 50$

ZPR **10** **B** **N** **J** **10** - **04** - **A10**

① ② ③ ④ ⑤ ⑥ Connection thread (Male thread)

Buffer specification ③

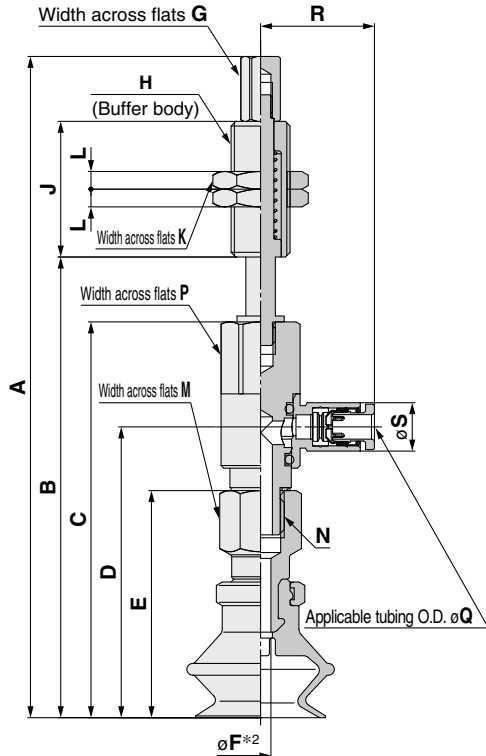
J	Rotating
K	Non-rotating

⑤ Vacuum inlet (One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

⑥ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1



Construction p. 118
Buffer Assembly p. 125

		Model																											
Vacuum inlet direction	① Pad dia.	Form	② Material*1	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread	A	B	C	D	E	*2 F	G	H	J	K	L	M	N									
ZP	R	B	N S U F GN GS	J K	10	04	A10	95	61																				
								133	71																				
								143	81	50	33.9	25																	
								179	91																				
								189	101																				
								10	10																				
								20	20																				
								30	30																				
								40	40																				
								50	50																				
								10	10																				
								20	20																				
	30	30																											
	40	40																											
	50	50																											
	10	10																											
	20	20																											
	30	30																											
	40	40																											
	50	50																											
	10	10																											
	20	20																											
	30	30																											
	40	40																											
50	50																												
10	10																												
20	20																												
30	30																												
40	40																												
50	50																												
10	10																												
20	20																												
30	30																												
40	40																												
50	50																												
10	10																												
20	20																												
30	30																												
40	40																												
50	50																												

Dimensions Per Vacuum Inlet

		Model										P	Q	R	S	Fitting part min. hole size																												
Vacuum inlet direction	① Pad dia.	Form	② Material*1	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread																																					
ZP	R	B	N S U F GN GS	J K	10	04	A10	8	4	17.5	8.2	$\varnothing 2.5$																																
																	20	06	12	6	18.3	10.4	$\varnothing 4$																					
																								30	06	16	8	23.5	13.2	$\varnothing 6$														
																															40	08	12	6	20.5	10.4	$\varnothing 4.5$							
																																						50	08	16	8	23.5	13.2	$\varnothing 6$
	20	08	16	8	23.5	13.2	$\varnothing 6$																																					

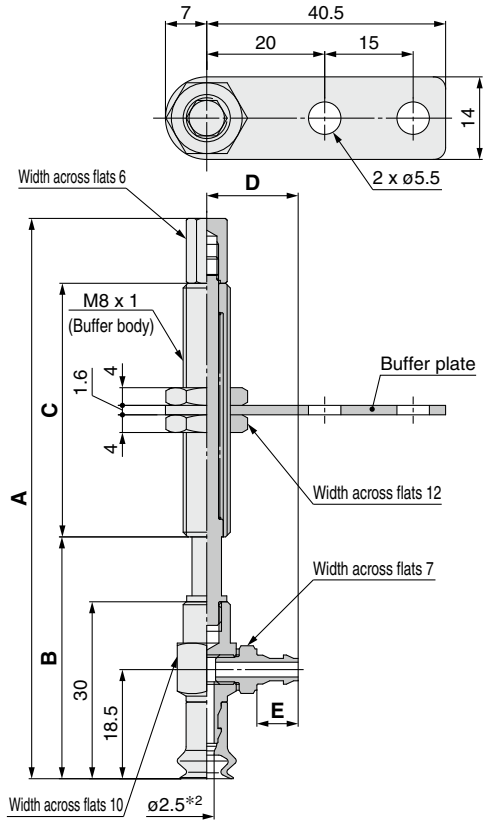
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad



Dimensions/Models

With buffer/barb fitting $\varnothing 6$ to $\varnothing 8$

The drawings show the type with a buffer plate.



Construction	p. 116
Buffer Assembly	p. 126

ZPY **06** **B** **N** **J** **6** - **N4** - **A8**

1

2

4

6

6 Connection thread
(Male thread)

A8	M8 x 1
----	--------

Buffer specification 3

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

5 Vacuum inlet
(Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

Model								A	B	C
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	06 08	B	N S U F GN GS	J K JN KN	6	A8	64	38	15
						10		95	41	43
						15		100	46	
						25		110	56	

Dimensions Per Vacuum Inlet

Model								D	E	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	06 08	B	N S U F GN GS	J K JN KN	6	A8	13.5	5	$\varnothing 1.8$
						10 15 25		N4 U4 N6 U6	15.5	7

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 50$

ZPY 10 B N J 10 - N4 - A10

① ② ④

Buffer specification ③

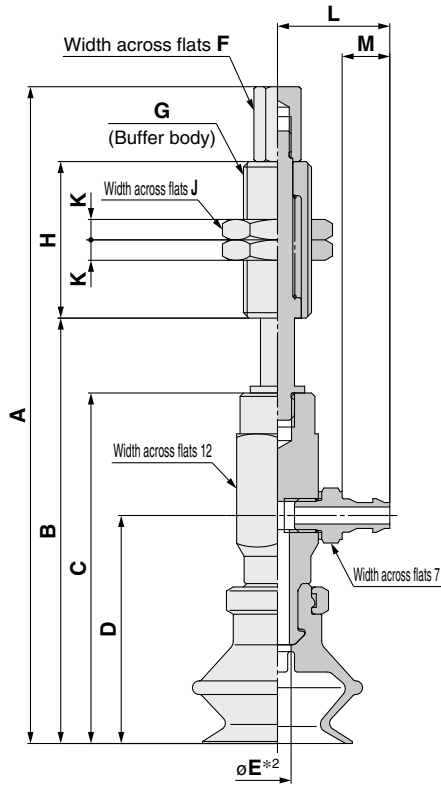
J	Rotating
K	Non-rotating

⑥ **Connection thread (Male thread)**

A10	M10 x 1
A14	M14 x 1

⑤ **Vacuum inlet (Barb fitting)**

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction p. 118
Buffer Assembly p. 126

		Model										A	B	C	D	*2 E	F	G	H	J	K
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread														
ZP	10	B	N S U F GN GS	J K	10	N4 N6 U4 U6	A10	87	53	42	26										23
					20			125	63												51
					30			135	73												77
					40			171	83												
					50			181	93												
					10			89.5	55.5												23
					20			127.5	65.5												51
					30			137.5	75.5												77
					40			173.5	85.5												
					50			183.5	95.5												
					10			91	57												23
					20			129	67												51
	30	139	77	77																	
	40	175	87																		
	50	185	97																		
	10	96.5	62.5	23																	
	20	134.5	72.5	51																	
	30	144.5	82.5	77																	
	40	180.5	92.5																		
	50	190.5	102.5																		
	10	97	63	23																	
	20	135	73	51																	
	30	145	83	77																	
	40	181	93																		
50	191	103																			
10	102	68	23																		
20	140	78	51																		
30	150	88	77																		
40	186	98																			
50	196	108																			
10	142	74	23																		
20	139	84	51																		
30	149	94	75																		
40	194	114																			
50	146	78																			
10	143	88	50																		
20	153	98																			
30	153	98																			
40	198	118																			
50																					

Dimensions Per Vacuum Inlet

		Model							L	M	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread				
ZP	Y	B	N S U F GN GS	J K	10 20 30 40 50	N4 U4 N6 U6	A10	14.5	5	$\varnothing 1.8$	
								A14	16.5	7	$\varnothing 2.5$
									A14	16.5	7

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad



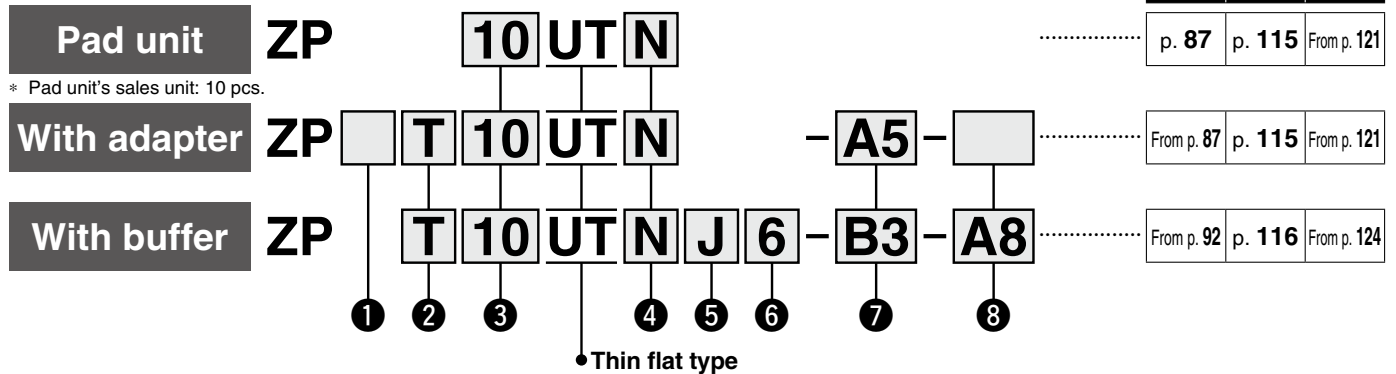
Basic Pad

Thin Flat Type

ZP Series



How to Order



1 Adapter material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

2 Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

3 Pad diameter

10	ø10
13	ø13
16	ø16

4 Material

N	NBR
S	Silicone rubber *1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

*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)

5 Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Buffer stroke

Stroke [mm]	Pad diameter	
	All sizes	
6	●	
10	●	
15	●	
25	●	

With adapter

7 Vacuum inlet

○: ZP□/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A5	M5 x 0.8	○
	A6	M6 x 1	○
Female thread	B4	M4 x 0.7	○
	B5	M5 x 0.8	○
One-touch fitting	04	ø4	●
	06	ø6	●
Barb fitting	N4	For ø4 nylon tubing	△
	N6	For ø6 nylon tubing	△
	U4	For ø4 soft tubing	△
	U6	For ø6 soft tubing	△

8 Connection thread ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A5	M5 x 0.8	●△
	A6	M6 x 1	●△
Female thread	B4	M4 x 0.7	●△
	B5	M5 x 0.8	●△

It is not necessary to select a connection thread for ○: ZP□/Vertical. Use the vacuum inlet.

* The pad, mounting nut, fitting, and buffer plate are shipped together but do not come assembled.

With buffer

7 Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Female thread	B3	M3 x 0.5	○
	B5	M5 x 0.8	○
One-touch fitting	04	ø4	○●
	06	ø6	○●
Barb fitting	N4	For ø4 nylon tubing*1	○△
	N6	For ø6 nylon tubing*1	△
	U4	For ø4 soft tubing*2	○△
	U6	For ø6 soft tubing*2	△

*1 Nylon tube piping

*2 Soft nylon/Polyurethane tube piping

8 Connection thread ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A8	M8 x 1	○●△

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

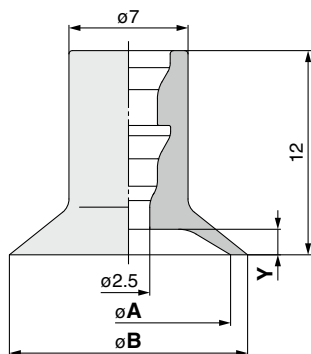
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

Single unit $\varnothing 10$ to $\varnothing 16$



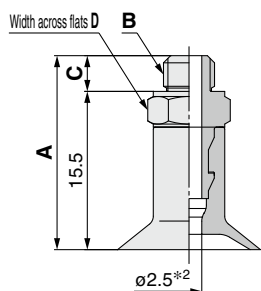
Construction p. 115
Mounting Bracket Assembly From p. 121

ZP **10** UT **N**
① ②

Model				A	B	Y
① Pad dia.	Form	② Material ^{*1}				
ZP	10	UT	N S U F GN GS	10	11	1
	13			13	14	1.5
	16			16	17	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

With adapter $\varnothing 10$ to $\varnothing 16$



Construction p. 115
Adapter Assembly p. 121

ZP **T** **10** UT **N** - **A5**
① ② ③ ④

① Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

A5	M5 x 0.8
A6	M6 x 1

Model							A	B	C	D
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material ^{*1}	④ Vacuum inlet					
ZP	Nil S	T	10 13 16	UT	N S U F GN GS	A5	19	M5 x 0.8	3.5	7
						A6	20	M6 x 1	4.5	8

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

ZP **T** **10** UT **N** - **B4**
① ② ③ ④

① Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

Model							A	B
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material ^{*1}	④ Vacuum inlet			
ZP	Nil S	T	10 13 16	UT	N S U F GN GS	B4	M4 x 0.7	4
						B5	M5 x 0.8	5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

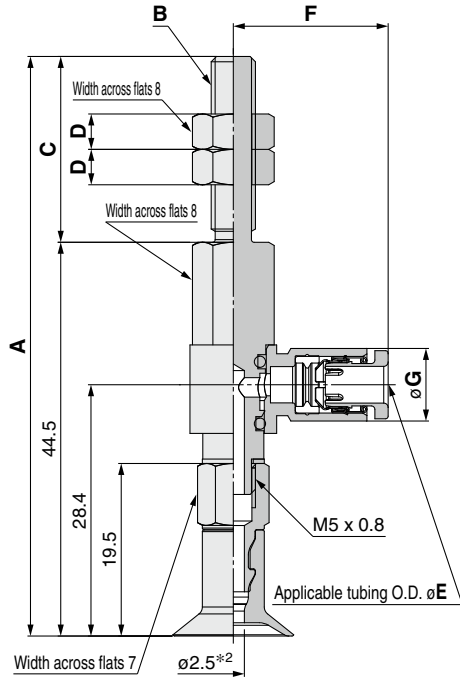
With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 16$

ZPR **10** **UT** **N** - **04** - **A5**

1 Pad dia.
2 Material
3 Vacuum inlet (One-touch fitting)
4 Connection thread (Male thread)

04	$\varnothing 4$
06	$\varnothing 6$

A5	M5 x 0.8
A6	M6 x 1



Construction	p. 115
Adapter Assembly	p. 122

Model						A	B	C	D	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	10 13 16	UT	N S U F GN GS	04	A5	65.5	M5 x 0.8	21	4
					06	A6	70.5	M6 x 1	26	4

Dimensions Per Vacuum Inlet

Model						E	F	G	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread					
ZP	R	10 13 16	UT	N S U F GN GS	04	A5 A6	4	17.5	8.2	$\varnothing 2.5$
					06		6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
 *2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

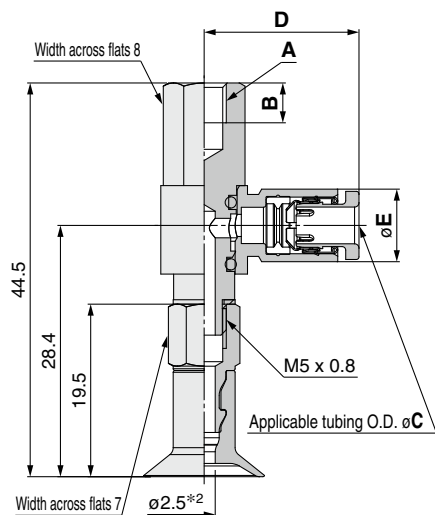
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 16$



Construction	p. 115
Adapter Assembly	p. 122

ZPR **10** UT **N** - **04** - **B4**

①

②

④

Connection thread
(Female thread)

Vacuum inlet
(One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$

B4	M4 x 0.7
B5	M5 x 0.8

Model						A	B	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread			
ZP	R	10 13 16	UT	N S U F GN GS	04	B4	M4 x 0.7	4.5
					06	B5	M5 x 0.8	5.5

Dimensions Per Vacuum Inlet

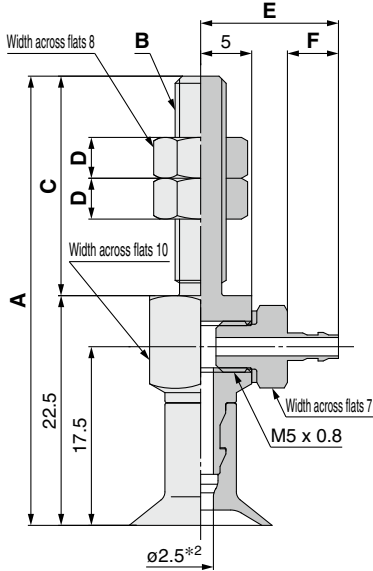
Model						C	D	E	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread					
ZP	R	10 13 16	UT	N S U F GN GS	04	B4 B5	4	17.5	8.2	$\varnothing 2.5$
					06		6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 16$



Construction	p. 115
Adapter Assembly	p. 123

ZPY **10** UT **N** - **N4** - **A5**

①
②
③ Vacuum inlet (Barb fitting)

④ Connection thread (Male thread)

A5	M5 x 0.8
A6	M6 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

Model						A	B	C	D	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread					
ZP	Y	10 13 16	UT	N	N4	A5	44	M5 x 0.8	21.5	4
				S	N6					
				F	U4	A6	49.5	M6 x 1	27	4
				GN	U6					
GS										

Dimensions Per Vacuum Inlet

Model						E	F	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread			
ZP	Y	10 13 16	UT	N	N4	13.5	5	$\varnothing 1.8$
				S	U4			
				F	N6	15.5	7	$\varnothing 2.5$
				GN				
				GS				

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

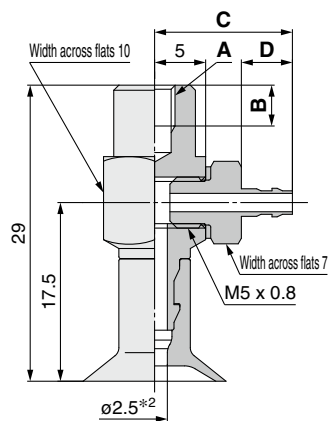
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 16$



Construction p. 115
Adapter Assembly p. 123

ZPY **10** UT **N** - **N4** - **B4**

①

②

③

④

Vacuum inlet
(Barb fitting)

Connection thread
(Female thread)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

B4	M4 x 0.7
B5	M5 x 0.8

	Vacuum inlet direction	Model				A	B	
		① Pad dia.	Form	②*1 Material	③ Vacuum inlet			④ Connection thread
ZP	Y	10 13 16	UT	N S U F GN GS	N4	B4	M4 x 0.7	4
					N6			
					U4	B5	M5 x 0.8	5
					U6			

Dimensions Per Vacuum Inlet

	Vacuum inlet direction	Model				C	D	Fitting part min. hole size	
		① Pad dia.	Form	②*1 Material	③ Vacuum inlet				④ Connection thread
ZP	Y	10 13 16	UT	N S U F GN GS	N4 U4	B4 B5	13.5	5	$\varnothing 1.8$
					N6 U6		15.5	7	$\varnothing 2.5$

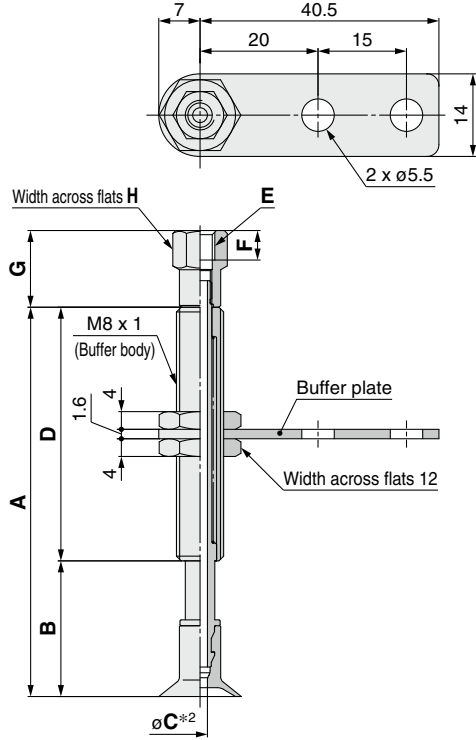
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

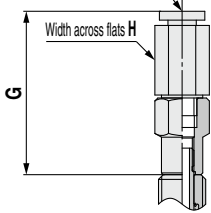
With buffer ø10 to ø16

The drawings show the type with a buffer plate.

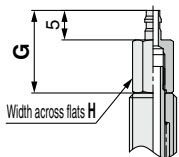


Vacuum inlet: One-touch fitting

Applicable tubing O.D. øJ



Vacuum inlet: Barb fitting



Construction	p. 116
Buffer Assembly	p. 124

ZPT 10 UT N J 6 - B3 - A8

Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet

B3	M3 x 0.5	Female thread	
B5	M5 x 0.8	Female thread	
04	ø4	One-touch fitting	KQ2H04-M5N
06	ø6	One-touch fitting	KQ2H06-M5N
N4	For ø4 nylon tubing	Barb fitting	
U4	For ø4 soft tubing	Barb fitting	

		Model						A	B	C*2	D	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	T	10 13 16	UT	N S U F GN GS	J K JN KN	6	B3 B5 04 06 N4 U4	A8	33	18	J: 2.5 K: 2	15
						10			66	23		43
						15			71	28		
						25			81	38		

Dimensions Per Vacuum Inlet: Female Thread

		Model						E	F	G	H	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	T	10 13 16	UT	N S U F GN GS	J K JN KN	6	B3 B5	A8	M3 x 0.5	3	11	6
						10 15 25			B5	M5 x 0.8	5	13

Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						G	H	J	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	T	10 13 16	UT	N S U F GN GS	J K JN KN	6	04 06	A8	27.7	8	4	ø2.5
						10 15 25				10	6	

Dimensions Per Vacuum Inlet: Barb Fitting

		Model						G	H	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	10 13 16	UT	N S U F GN GS	J K JN KN	6	N4 U4	A8	14	6	ø1.8
						10 15 25					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

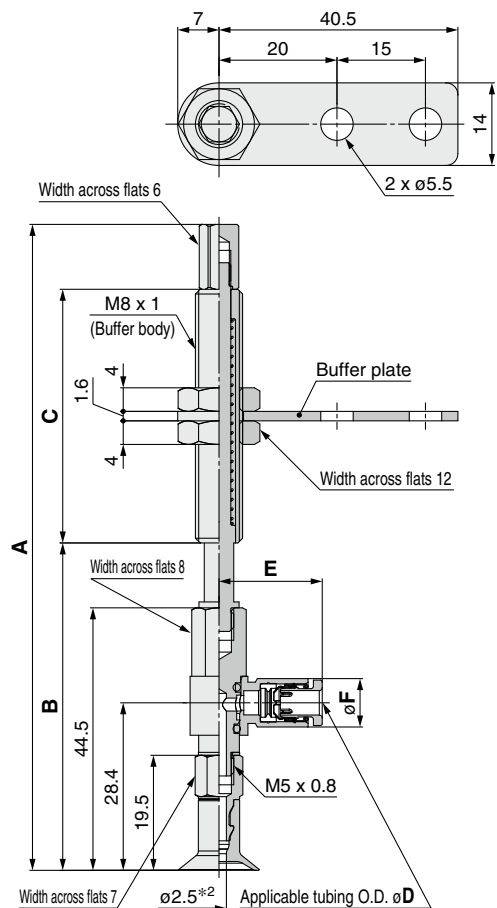
Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 16$

The drawings show the type with a buffer plate.



ZPR **10** UT **N** **J** **6** - **04** - **A8**

1	2	3	4	5	6
		Buffer specification		Vacuum inlet (One-touch fitting)	Connection thread (Male thread)
		J Rotating		04 $\varnothing 4$	A8 M8 x 1
		K Non-rotating		06 $\varnothing 6$	
		JN Rotating (Without buffer plate)			
		KN Non-rotating (Without buffer plate)			

		Model						A	B	C	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	R	10 13 16	UT	N S U F GN GS	J	6	04 06	A8	78.5	52.5	15
					K	10			109.5	55.5	43
					JN	15			114.5	60.5	
					KN	25			124.5	70.5	

Dimensions Per Vacuum Inlet

		Model						D	E	F	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	R	10 13 16	UT	N S U F GN GS	J K JN KN	6	04 06	A8	4	17.5	8.2	$\varnothing 2.5$
						10 15 25			6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

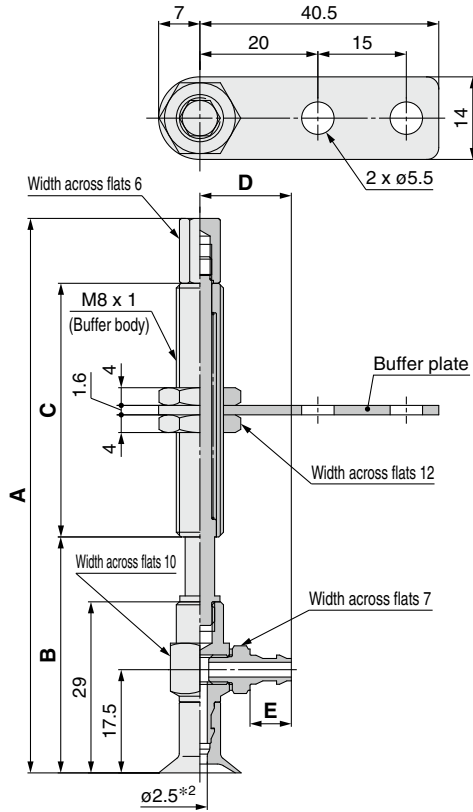
Construction p. 116

Buffer Assembly p. 125

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 16$

The drawings show the type with a buffer plate.



Construction	p. 116
Buffer Assembly	p. 126

ZPY **10** UT **N** **J** **6** - **N4** - **A8**

Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet (Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

Model								A	B	C
Vacuum inlet direction	1 Pad dia.	Form	2 ^{*1} Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	10 13 16	UT	N S U F GN GS	J K JN KN	6	A8	63	37	15
						10		94	40	43
						15		99	45	
						25		109	55	

Dimensions Per Vacuum Inlet

Model								D	E	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 ^{*1} Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	10 13 16	UT	N S U F GN GS	J K JN KN	6	A8	13.5	5	$\varnothing 1.8$
						10 15 25		N4 U4 N6 U6	15.5	7

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions



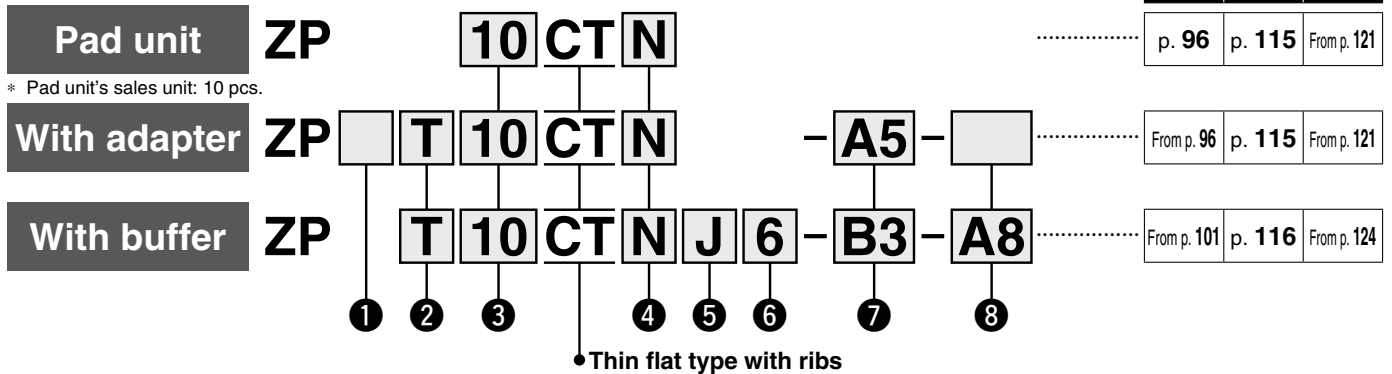
Basic Pad

Thin Flat Type with Ribs

ZP Series



How to Order



① Adapter material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

② Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

③ Pad diameter

10	ø10
13	ø13
16	ø16

④ Material

N	NBR
S	Silicone rubber*1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

*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)

⑤ Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

⑥ Buffer stroke

Stroke [mm]	Pad diameter	
	All sizes	
6	●	
10	●	
15	●	
25	●	

With adapter

⑦ Vacuum inlet

○: ZP□/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A5	M5 x 0.8	○
	A6	M6 x 1	○
Female thread	B4	M4 x 0.7	○
	B5	M5 x 0.8	○
One-touch fitting	04	ø4	●
	06	ø6	●
Barb fitting	N4	For ø4 nylon tubing	△
	N6	For ø6 nylon tubing	△
	U4	For ø4 soft tubing	△
	U6	For ø6 soft tubing	△

⑧ Connection thread ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A5	M5 x 0.8	●△
	A6	M6 x 1	●△
Female thread	B4	M4 x 0.7	●△
	B5	M5 x 0.8	●△

It is not necessary to select a connection thread for ○: ZP□/Vertical. Use the vacuum inlet.

* The pad, mounting nut, and buffer plate are shipped together but do not come assembled.

With buffer

⑦ Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Female thread	B3	M3 x 0.5	○
	B5	M5 x 0.8	○
One-touch fitting	04	ø4	○●
	06	ø6	○●
Barb fitting	N4	For ø4 nylon tubing*1	○△
	N6	For ø6 nylon tubing*1	△
	U4	For ø4 soft tubing*2	○△
	U6	For ø6 soft tubing*2	△

*1 Nylon tube piping

*2 Soft nylon/Polyurethane tube piping

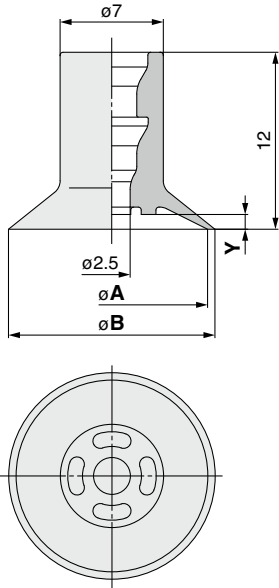
⑧ Connection thread ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter
			All sizes
Male thread	A8	M8 x 1	○●△

Dimensions/Models

Single unit $\varnothing 10$ to $\varnothing 16$



ZP **10** **CT** **N**
① ②

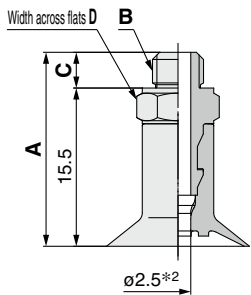
Model				A	B	Y
① Pad dia.	Form	② Material ^{*1}				
ZP	10	CT	N S U F GN GS	10	11	0.8
	13			14	1	
	16			17		

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction p. 115

Mounting Bracket Assembly From p. 121

With adapter $\varnothing 10$ to $\varnothing 16$



ZP **T** **10** **CT** **N** - **A5**
① ② ③ ④

① **Adapter material**

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ **Vacuum inlet (Male thread)**

A5	M5 x 0.8
A6	M6 x 1

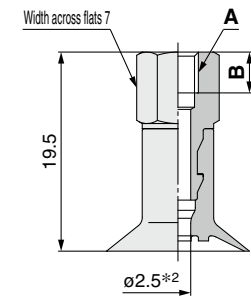
Model						A	B	C	D	
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material ^{*1}	④ Vacuum inlet					
ZP	Nil S	T	10 13 16	CT	N S U F GN GS	A5	19	M5 x 0.8	3.5	7
						A6	20	M6 x 1	4.5	8

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction p. 115

Adapter Assembly p. 121



ZP **T** **10** **CT** **N** - **B4**
① ② ③ ④

① **Adapter material**

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ **Vacuum inlet (Female thread)**

B4	M4 x 0.7
B5	M5 x 0.8

Model						A	B	
① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ Material ^{*1}	④ Vacuum inlet			
ZP	Nil S	T	10 13 16	CT	N S U F GN GS	B4	M4 x 0.7	4
						B5	M5 x 0.8	5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Construction p. 115

Adapter Assembly p. 121

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

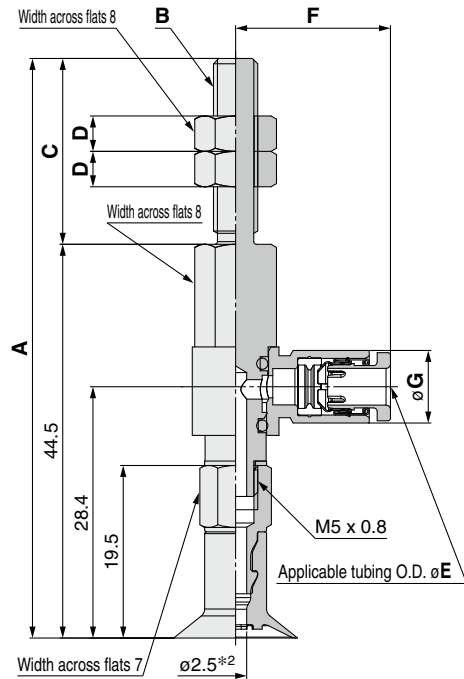
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 16$



Construction p. 115
Adapter Assembly p. 122

ZPR **10** CT **N** - **04** - **A5**

1	2	3
04	06	04
		04
		06

Vacuum inlet (One-touch fitting)

4 Connection thread (Male thread)

A5	M5 x 0.8
A6	M6 x 1

Model						A	B	C	D
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread				
ZP	R	CT	N S U F GN GS	04	A5	65.5	M5 x 0.8	21	4
					A6	70.5	M6 x 1	26	4
				06					

Dimensions Per Vacuum Inlet

Model						E	F	G	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Vacuum inlet	4 Connection thread				
ZP	R	CT	N S U F GN GS	04	A5	4	17.5	8.2	$\varnothing 2.5$
					A6	6	18.3	10.4	$\varnothing 4$
				06					

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 16$

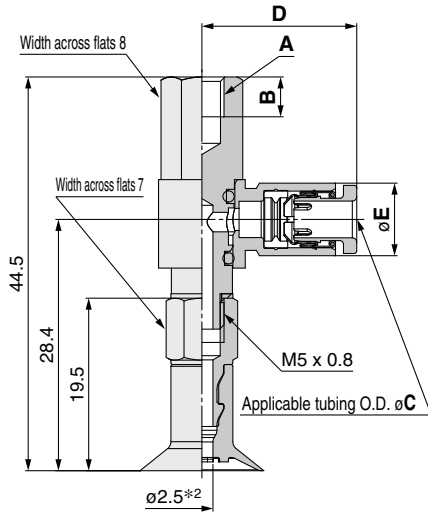
ZPR **10** CT **N** - **04** - **B4**

①
②
③ Vacuum inlet
(One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$

④ Connection thread
(Female thread)

B4	M4 x 0.7
B5	M5 x 0.8



Construction p. 115
Adapter Assembly p. 122

Model						A	B	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread			
ZP	R	10 13 16	CT	N S U F GN GS	04	B4	M4 x 0.7	4.5
					06	B5	M5 x 0.8	5.5

Dimensions Per Vacuum Inlet

Model						C	D	E	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread					
ZP	R	10 13 16	CT	N S U F GN GS	04	B4 B5	4	17.5	8.2	$\varnothing 2.5$
					06		6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

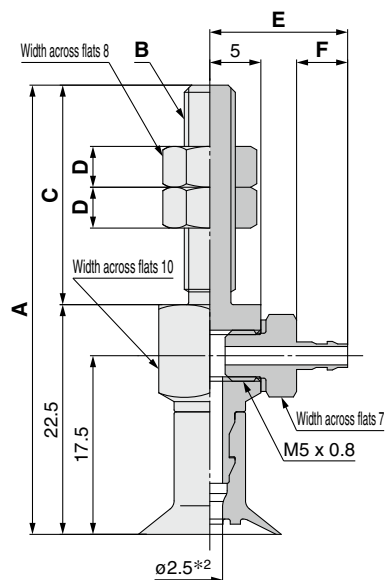
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 16$



Construction	p. 115
Adapter Assembly	p. 123

ZPY **10** CT **N** - **N4** - **A5**

①

②

④

Vacuum inlet
(Barb fitting) ③

④ Connection thread
(Male thread)

A5	M5 x 0.8
A6	M6 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model				A	B	C	D	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread					
ZP	Y	10 13 16	CT	N S U F GN GS	N4	A5	44	M5 x 0.8	21.5	4
					N6 U4 U6					
					A6	49.5	M6 x 1	27	4	

Dimensions Per Vacuum Inlet

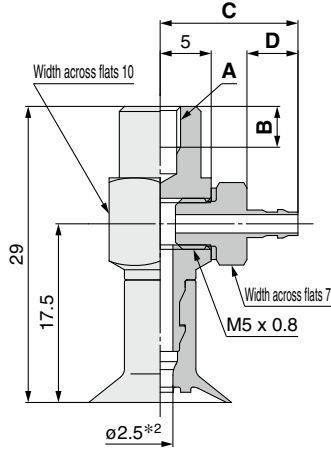
		Model				E	F	Fitting part min. hole size	
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread				
ZP	Y	10 13 16	CT	N S U F GN GS	N4 U4	A5 A6	13.5	5	$\varnothing 1.8$
					N6 U6				
						15.5	7	$\varnothing 2.5$	

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 16$



Construction p. 115
Adapter Assembly p. 123

ZPY **10** CT **N** - **N4** - **B4**

①
②
③ Vacuum inlet (Barb fitting)

④ Connection thread (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model				A	B	
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet			④ Connection thread
ZP	Y	10 13 16	CT	N S U F GN GS	N4 N6 U4 U6	B4	M4 x 0.7	4
						B5	M5 x 0.8	5

Dimensions Per Vacuum Inlet

		Model				C	D	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet				④ Connection thread
ZP	Y	10 13 16	CT	N S U F GN GS	N4 U4	B4 B5	13.5	5	$\varnothing 1.8$
					N6 U6		15.5	7	$\varnothing 2.5$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

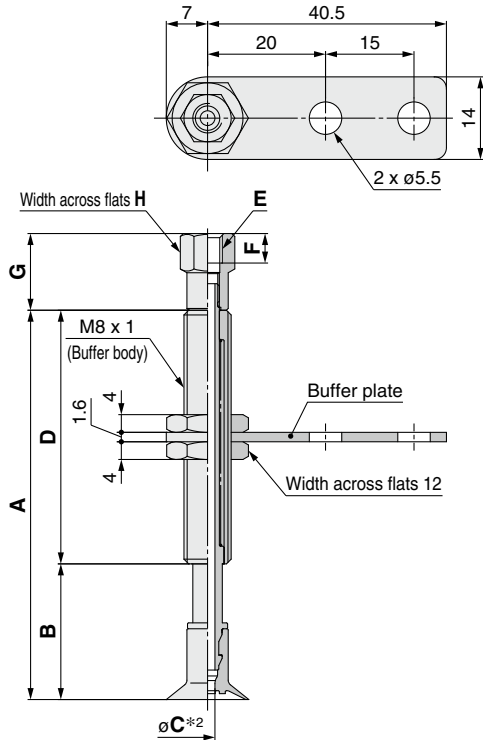
Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer ø10 to ø16

The drawings show the type with a buffer plate.



ZPT **10** **CT** **N** **J** **6** - **B3** - **A8**

Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet

B3	M3 x 0.5	Female thread	
B5	M5 x 0.8	Female thread	
04	ø4	One-touch fitting	KQ2H04-M5N
06	ø6	One-touch fitting	KQ2H06-M5N
N4	For ø4 nylon tubing	Barb fitting	
U4	For ø4 soft tubing	Barb fitting	

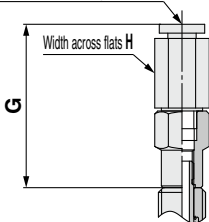
		Model						A	B	C*2	D
	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	T	10 13 16	CT	N S U F GN GS	J	6	B3	A8	33	18	15
					K	10	B5		66	23	
					JN	15	04		71	28	
					KN	25	06 N4 U4		81	38	43

Dimensions Per Vacuum Inlet: Female Thread

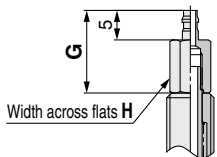
		Model						E	F	G	H	
	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	10 13 16	CT	N S U F GN GS	J	6	B3	A8	M3 x 0.5	3	11	6
					K	10 15 25	B5		M5 x 0.8	5	13	8

Vacuum inlet: One-touch fitting

Applicable tubing O.D. øJ



Vacuum inlet: Barb fitting



Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						G	H	J	Fitting part min. hole size	
	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	T	10 13 16	CT	N S U F GN GS	J	6	04	A8	27.7	8	4	ø2.5
					K	10 15 25	06			10	6	

Dimensions Per Vacuum Inlet: Barb Fitting

		Model						G	H	Fitting part min. hole size	
	Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	T	10 13 16	CT	N S U F GN GS	J	6	N4	A8	14	6	ø1.8
					K	10 15 25	U4				

Construction	p. 116
Buffer Assembly	p. 124

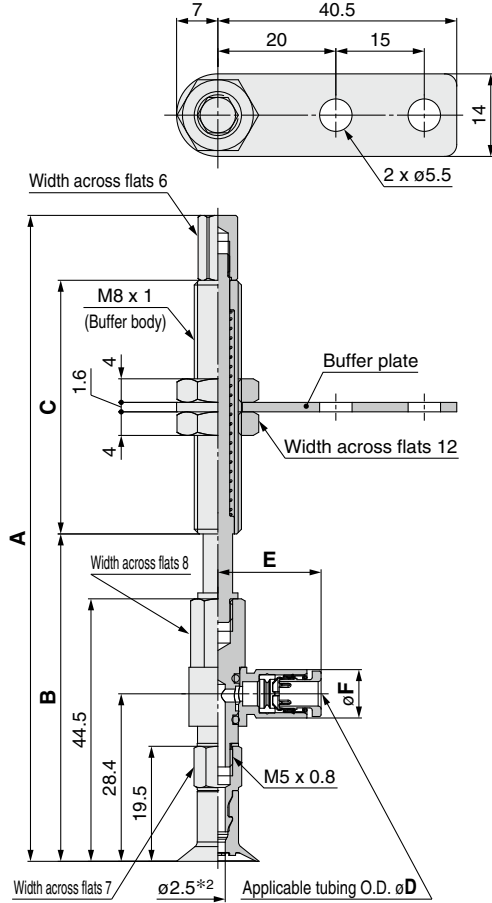
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 16$

The drawings show the type with a buffer plate.



ZPR 10 **CT** N J 6 - 04 - A8

Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread (Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet (One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$

		Model						A	B	C	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread				
ZP	R	10 13 16	CT	N S U F GN GS	J	6	04 06	A8	78.5	52.5	15
					K	10			109.5	55.5	43
					JN	15			114.5	60.5	
					KN	25			124.5	70.5	

Dimensions Per Vacuum Inlet

		Model						D	E	F	Fitting part min. hole size	
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread					
ZP	R	10 13 16	CT	N S U F GN GS	J K JN KN	6	04 06	A8	4	17.5	8.2	$\varnothing 2.5$
						10 15 25			6	18.3	10.4	$\varnothing 4$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

- Construction** p. 116
- Buffer Assembly** p. 125

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

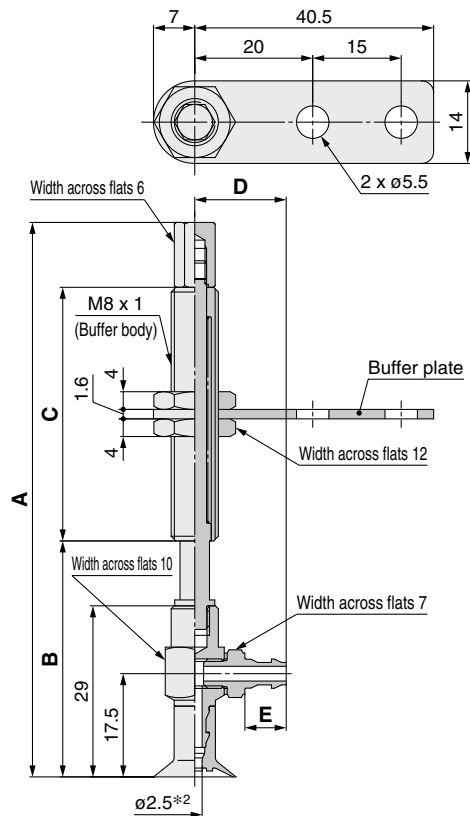
Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 16$

The drawings show the type with a buffer plate.



Construction p. 116
Buffer Assembly p. 126

ZPY **10** CT **N** **J** **6** - **N4** - **A8**

Buffer specification

J	Rotating
K	Non-rotating
JN	Rotating (Without buffer plate)
KN	Non-rotating (Without buffer plate)

6 Connection thread
(Male thread)

A8	M8 x 1
-----------	--------

5 Vacuum inlet
(Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model						A	B	C
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	10 13 16	CT	N S U F GN GS	J K JN KN	6	A8	63	37	15
						10		94		
						15		99		
						25		109		

Dimensions Per Vacuum Inlet

		Model						D	E	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2 *1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	Y	10 13 16	CT	N S U F GN GS	J K JN KN	6	A8	13.5	5	$\varnothing 1.8$
						10 15 25		N4 U4 N6 U6		

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

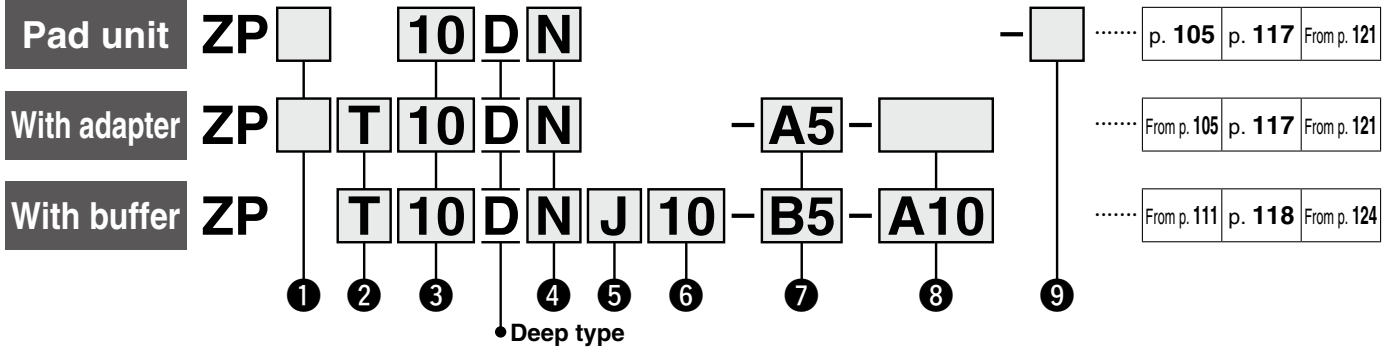
*2 Indicates the minimum hole size of the adapter or vacuum pad



Basic Pad Deep Type ZP Series



How to Order



① Adapter (Lock ring) material

Nil	Brass
S*1	Stainless steel (Stainless steel 304)

*1 Only applicable to the pad unit (with lock ring) and the pad with adapter (Vacuum inlet direction: Vertical (Option "T"))

② Vacuum inlet direction

Nil	Pad unit
T	Vertical
R	Lateral (With One-touch fitting)
Y	Lateral (With barb fitting)

③ Pad diameter

10	ø10
16	ø16
25	ø25
40	ø40

④ Material

N	NBR
S	Silicone rubber*1 *2
U	Urethane rubber
F	FKM
GN	Conductive NBR
GS	Conductive silicone rubber

*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)

⑤ Buffer specification

J	Rotating
K	Non-rotating

⑥ Buffer stroke

Stroke [mm]	Pad diameter [mm]			
	ø10	ø16	ø25	ø40
10	●	●	●	●
20	●	●	●	●
30	●	●	●	●
40	●	●	●	—
50	●	●	●	●

With adapter

⑦ Vacuum inlet

○: ZP□T/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø10, ø16	ø25	ø40	
Male thread	AS5	M5 x 0.8	○*4	○*4	—	
	AS6	M6 x 1	○*4	○*4	○*4	
	AG01	G1/8	○*4	○*4	—	
	AG02	G1/4	—	—	○*4	
Female thread	Nil	M3 x 0.5	○ (Connection thread: A5/A6)	○ (Connection thread: A6)	○ (Connection thread: A6)	
		M5 x 0.8	—	○ (Connection thread: A8)	○ (Connection thread: A8)	
	B5	M5 x 0.8	○*4	○*4	—	
	B6	M6 x 1	○*4	○*4	○*4	
	B8	M8 x 1.25	—	○*4	○*4	
	BG01	G1/8	○*4	○*4	—	
	BG02	G1/4	—	—	○*4	
	B01	Rc1/8	○*4	○*4	○*4	
	N01*3	NPT1/8	○*4	○*4	○*4	
	T01*3	NPTF1/8	○*4	○*4	○*4	
One-touch fitting	04	ø4	●	●	—	
	06	ø6	●	●	●	
	08	ø8	—	●	●	
Barb fitting	N4	For ø4 nylon tubing*1	△	△	—	
	N6	For ø6 nylon tubing*1	△	△	△	
	U4	For ø4 soft tubing*2	△	△	—	
	U6	For ø6 soft tubing*2	△	△	△	

*1 Nylon tube piping *2 Soft nylon/Polyurethane tube piping
*3 Not compatible with stainless steel materials *4 Use the connection thread.

⑧ Connection thread

Type	Symbol	Size	Pad diameter [mm]			
			ø10, ø16	ø25	ø40	
Male thread	A5	M5 x 0.8	○*1 ●△	—	—	
	A6	M6 x 1	○*1 ●△	○*1 ●△	○*1 ●△	
	A8	M8 x 1	—	○*1 ●△	○*1 ●△	
Female thread	B5	M5 x 0.8	●△	●△	—	
	B6	M6 x 1	●△	●△	●△	
	B8	M8 x 1.25	—	●△	●△	

*1 ○: ZP□T/Vertical comes with a vacuum inlet (female thread).

With buffer

⑦ Vacuum inlet

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø10, ø16	ø25	ø40	
Female thread	B5	M5 x 0.8	○	○	○	
	B01	Rc1/8	—	—	○	
	N01	NPT1/8	—	—	○	
One-touch fitting	T01	NPTF1/8	—	—	○	
	04	ø4	○●	○●	—	
	06	ø6	○●	○●	○●	
Barb fitting	08	ø8	—	●	○●	
	N4	For ø4 nylon tubing*1	△	△	—	
	N6	For ø6 nylon tubing*1	○△	○△	○△	
	U4	For ø4 soft tubing*2	△	△	—	
U6	For ø6 soft tubing*2	○△	○△	○△		

*1 Nylon tube piping
*2 Soft nylon/Polyurethane tube piping

⑧ Connection thread

○: ZPT/Vertical ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

Type	Symbol	Size	Pad diameter [mm]			
			ø10, ø16	ø25	ø40	
Male thread	A10	M10 x 1	○●△	○●△	—	
	A14	M14 x 1	—	—	○●△	

⑨ Lock ring

Symbol	Pad diameter	
	All sizes	With lock ring
Nil	Without lock ring	
X19	Without lock ring	

Lock ring unit

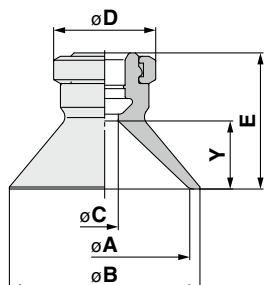
Part no.	Pad diameter [mm]
ZP□L1	ø10, ø16
ZP□L2	ø25
ZP□L3	ø40

□: Nil/Brass S/Stainless steel

* The pad, lock ring, mounting nut, fitting, and buffer plate are shipped together but do not come assembled.

Dimensions/Models

Single unit $\varnothing 10$ to $\varnothing 40$



Construction p. 117
Mounting Bracket Assembly From p. 121

ZP 10 D N
① ② ③

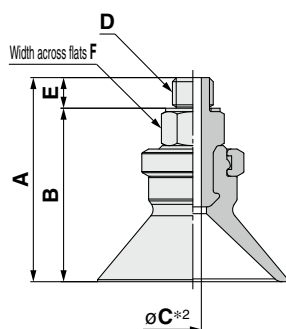
① Lock ring material

Nil	Brass
S	Stainless steel (Stainless steel 304)

ZP	① Lock ring material	② Pad dia.	Form	③ ^{*1} Material	A	B	C	D	E	Y
					Nil	S	10	D	N S U F GN GS	10
		16	18	16	7					
		25	28	15	20	10				
		40	43	7	18	29	17			

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

With adapter $\varnothing 10$ to $\varnothing 40$



Construction p. 117
Adapter Assembly p. 121

ZP T 10 D N - AS5
① ② ③ ④

① Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

④ Vacuum inlet (Male thread)

AS5	M5 x 0.8
AS6	M6 x 1
AG01	G1/8
AG02	G1/4

ZP	① Adapter material	Vacuum inlet direction	② Pad dia.	Form	③ ^{*1} Material	④ Vacuum inlet	A	B	C*2	D	E	F
							Nil	S	T	D	N S U F GN GS	AS5
		10	25	21.5								
		16	29	25.5								
		25	10	25	20.5	2.5	M6 x 1	4.5	8			
		16	26	21.5								
		25	30	25.5								
		40	10	40	35.5	2.5	G1/8	5.5	17			
		16	33	27.5								
		25	34	28.5								
		40	16	38	32.5	4	G1/4	6.5	21			
		40	AG02	49.5	43	7						

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

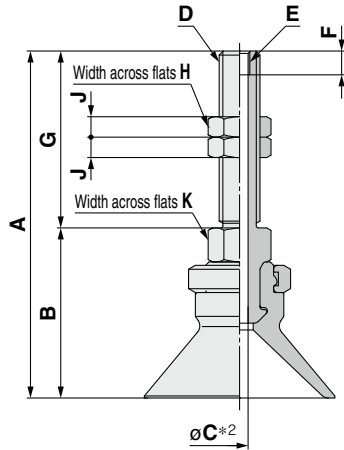
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 40$

ZP T 10 D N - A5

1
 2
 3
 4



Construction	p. 117
Adapter Assembly	p. 121

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Connection thread (Male thread)

A5	M5 x 0.8 (M3 x 0.5 With female thread)
A6	M6 x 1 (M3 x 0.5 With female thread)
A8	M8 x 1 (M5 x 0.8 With female thread)

		Model							A	B	C*2	D	E	F	G	H	J	K
ZP	1 Adapter material	Vacuum inlet direction	2 Pad dia.	Form	3 Material	4 Connection thread												
ZP	Nil S	T	10	D	N S U F GN GS	A5	41	20	2.5	M5 x 0.8	M3 x 0.5	3.5	21	8	4	8		
			16				42	21										
			10				46	20										
			16				47	21										
			25				51	25										
			40				61	35.5										
	25	46	30	4	M8 x 1	M5 x 0.8	5	16	12	4	12							
	40	51	35.5	4.2														

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

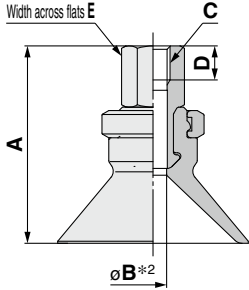
Precautions

Dimensions/Models

With adapter $\varnothing 10$ to $\varnothing 40$

ZP T 10 D N - B5

1
 2
 3
 4



Construction	p. 117
Adapter Assembly	p. 121

1 Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

4 Vacuum inlet (Female thread)

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25
BG01	G1/8
BG02	G1/4
B01	Rc1/8
N01*1	NPT1/8
T01*1	NPTF1/8

*1 Not compatible with stainless steel materials

	Model					A	B*2	C	D	E
	1 Adapter material	Vacuum inlet direction	2 Pad dia.	Form	3*1 Material					
ZP	Nil S	T	D	N S U F GN GS	B5	10	2.5	M5 x 0.8	5	8
						16				
						25				
					B6	10	2.5	M6 x 1	6	8
						16				
						25				
					B8	10	4	M8 x 1.25	8	12
						16				
						25				
					BG01	10	2.5	G1/8	7.4	14
						16				
						25				
					BG02	10	7	G1/4	11	17
						16				
						25				
					B01 N01*3 T01*3	10	2.5	Rc1/8 NPT1/8 NPTF1/8	—	12
						16				
						25				
						40				

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

*3 Not compatible with stainless steel materials

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/One-touch fitting $\varnothing 10$ to $\varnothing 40$

ZPR **10** **D** **N** - **04** - **A5**

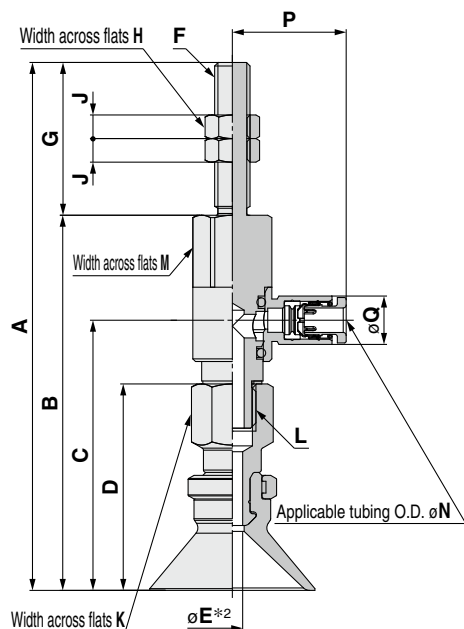
① ②

Vacuum inlet ③
(One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$

④ Connection thread
(Male thread)

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1



Construction p. 117

Adapter Assembly p. 122

		Model				A	B	C	D	E ^{*2}	F	G	H	J	K	L	
	Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread											
ZP	R	10	D	N S U F GN GS	04	A5	70	49	32.9	24	2.5	M5 x 0.8	21	8	4	8	M5 x 0.8
		71					50	33.9	25								
		16				A6	75	49	32.9	24	2.5	M6 x 1	26	8	4	8	M5 x 0.8
		76					50	33.9	25								
		10				A8	89.5	63.6	45.8	35	3.5	M8 x 1	16	12	4	12	M8 x 1.25
		16					97	71.1	53.3	42.5							
		25			79.5		63.6	45.8	35	3.5							
		40			87		71.1	53.3	42.5	4							
		25															
		40															

Dimensions Per Vacuum Inlet

		Model				M	N	P	Q	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Vacuum inlet	④ Connection thread					
ZP	R	10	D	N S U F GN GS	04	A5	8	4	17.5	8.2	$\varnothing 2.5$
		06			A6	6		18.3	10.4	$\varnothing 4$	
		16			A6	12	04	4	19.3	8.2	$\varnothing 3$
		06					6	20.5	10.4	$\varnothing 4.5$	
		25			A8	16	08	8	23.5	13.2	$\varnothing 6$
		06					12	6	20.5	10.4	$\varnothing 4.5$
		08					12	6	20.5	10.4	$\varnothing 4.5$
		08					16	8	23.5	13.2	$\varnothing 6$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/One-touch fitting $\phi 10$ to $\phi 40$

ZPR **10** D **N** - **04** - **B5**

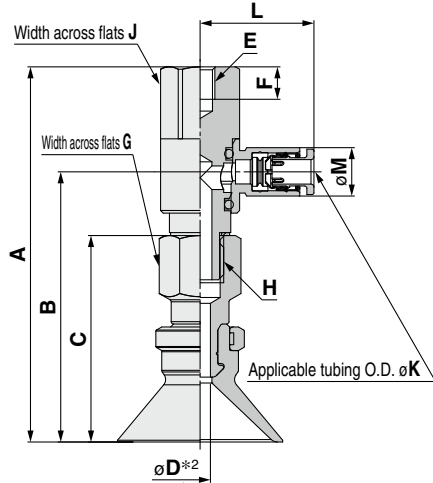
① ②

④ Connection thread
(Female thread)

Vacuum inlet
(One-touch fitting)

04	$\phi 4$
06	$\phi 6$
08	$\phi 8$

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25



Construction p. 117
Adapter Assembly p. 122

		Model				A	B	C	*2 D	E	F	G	H						
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread													
ZP	R	10	D	N S U F GN GS	04 06 08	B5	49	32.9	24	M5 x 0.8	5.5	8	M5 x 0.8						
		16					50	33.9	25				2.5	12	M8 x 1.25				
		25					63.6	45.8	35				3.5						
		10				D	N S U F GN GS	04 06 08	B6	49		32.9	24	M6 x 1	6.5	8	M5 x 0.8		
		16								50		33.9	25				2.5	12	M8 x 1.25
		25								63.6		45.8	35				3.5		
	40	D	N S U F GN GS	04 06 08	B8	71.1	53.3	42.5	M8 x 1.25	8.5	12	M8 x 1.25							
	25					63.6	45.8	35				3.5							
	40					71.1	53.3	42.5				4							

Dimensions Per Vacuum Inlet

		Model				J	K	L	M	Fitting part min. hole size		
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread						
ZP	R	10	D	N S U F GN GS	04	B5	8	4	17.5	8.2	$\phi 2.5$	
					06	B6		6	18.3	10.4	$\phi 4$	
		25			04	B5	12	4	19.3	8.2	$\phi 3$	
					06	B6		6	20.5	10.4	$\phi 4.5$	
	40	06	D	N S U F GN GS	06	B6	12	6	20.5	10.4	$\phi 4.5$	
								08	B8	8	23.5	13.2
		06								B6	6	20.5
								08	B8		8	23.5

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 40$

ZPY **10** D **N** - **N4** - **A5**

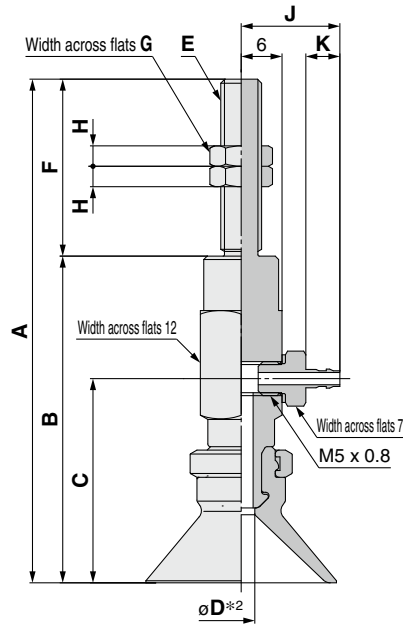
① ②

Vacuum inlet (Barb fitting)

④ **Connection thread (Male thread)**

A5	M5 x 0.8
A6	M6 x 1
A8	M8 x 1

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction p. 117
Adapter Assembly p. 123

		Model				A	B	C	D*2	E	F	G	H					
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread												
ZP	Y	10	D	N S U F GN GS	N4 N6 U4 U6	A5	62	41	25	2.5	M5 x 0.8	21	8	4				
		16					63	42	26									
		10					67	41	25									
		16					68	42	26									
		25					74	48	30									
		40					83	57	39									
		A6				64	48	30	3.5	M6 x 1	26	8	4					
						73	57	39	6									
						A8	64	48	30					3.5	M8 x 1	16	12	4
							73	57	39					6				

Dimensions Per Vacuum Inlet

		Model				J	K	Fitting part min. hole size	
	Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Vacuum inlet	④ Connection thread			
ZP	Y	10	D	N S U F GN GS	N4 U4	A5 A6	14.5	5	$\varnothing 1.8$
		16			N6 U6		16.5	7	$\varnothing 2.5$
		25			N6 U6	A6 A8	16.5	7	$\varnothing 2.5$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With adapter/barb fitting $\varnothing 10$ to $\varnothing 40$

ZPY 10 D N - N4 - B5

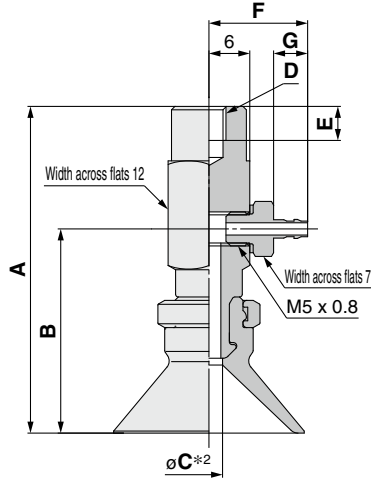
① ②

Vacuum inlet ③
(Barb fitting)

④ Connection thread
(Female thread)

B5	M5 x 0.8
B6	M6 x 1
B8	M8 x 1.25

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6



Construction	p. 117
Adapter Assembly	p. 123

		Model				A	B	C*2	D	E		
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread							
ZP	Y	D	N S U F GN GS	N4 N6 U4 U6	B5	41	25	2.5	M5 x 0.8	5		
						42	26					
						48	30					
					B6	41	25	2.5			M6 x 1	6
						42	26					
						48	30					
	B8	57		39	6	M8 x 1.25	8					
		48		30								
		57		39								

Dimensions Per Vacuum Inlet

		Model				F	G	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Vacuum inlet	④ Connection thread			
ZP	Y	D	N S U F GN GS	N4 U4	B4	14.5	5	$\varnothing 1.8$
					B5	16.5	7	$\varnothing 2.5$
				N4 U4	B5	14.5	5	$\varnothing 1.8$
					B6 B8	16.5	7	$\varnothing 2.5$
				N6 U6	B6 B8	16.5	7	$\varnothing 2.5$
					B6 B8	16.5	7	$\varnothing 2.5$

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Bellows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

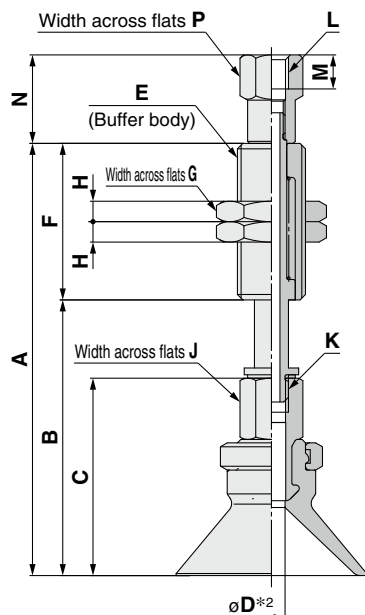
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 40$



Construction	p. 118
Buffer Assembly	p. 124

ZPT **10** D **N** **J** **10** - **B5** - **A10**

① Pad dia. ② Form ③ Buffer spec. ④ Buffer stroke ⑤ Vacuum inlet ⑥ Connection thread (Male thread)

J	Rotating
K	Non-rotating

A10	M10 x 1
A14	M14 x 1

B5	M5 x 0.8
B01	Rc1/8
N01	NPT1/8
T01	NPTF1/8

		Model						A	B	C	D*2	E	F	G	H	J	K		
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread											
ZP	T	10	D	N S U F G N S	J K	10	B5	A10	58.5	35.5	24	J: 2.5 K: 2	M10 x 1	23	14	3	8	M5 x 0.8	
						20			96.5	45.5									25
						30			106.5	55.5									
						40			142.5	65.5									
						50			152.5	75.5									
						10			59.5	36.5									
		20				97.5	46.5	29											
		30				107.5	56.5												
		40				143.5	66.5												
		50				153.5	76.5												
		10				63.5	40.5	29											
		20				101.5	50.5												
	30	111.5	60.5																
	40	147.5	70.5																
	50	157.5	80.5																
	10	105	55	42.5	4	M14 x 1	19	4	12	M8 x 1.25									
	20	115	65																
	30	125	75																
	50	170	95																

Dimensions Per Vacuum Inlet: Female Thread

		Model						L	M	N	P				
	Vacuum inlet direction	① Pad dia.	Form	②*1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread							
ZP	T	10 16 25	D	N S U F G N S	J K	10	B5	A10	M5 x 0.8	5	13	8			
						20							M5 x 0.8	4.5	15
						30									
						40									
						50									
						10									
	20														
	30														
	50														
	10	B01 N01 T01				A14	Rc1/8 NPT1/8 NPTF1/8	16.5	12	13					
	20														
	30														
50															

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

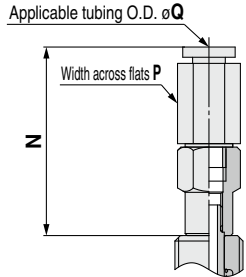
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 40$

ZPT **10** **D** **N** **J** **10** - **04** - **A10**

Vacuum inlet: One-touch fitting



Buffer specification **3**

J	Rotating
K	Non-rotating

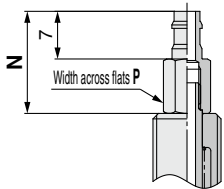
6 Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

5 Vacuum inlet

		Pad diameter	
		$\varnothing 10$ to $\varnothing 25$	$\varnothing 40$
04	$\varnothing 4$	KQ2H04-M5N	KQ2H06-01NS
06	$\varnothing 6$		
08	$\varnothing 8$	KQ2H06-M5N	KQ2H08-01NS
N6	For $\varnothing 6$ nylon tubing		
U6	For $\varnothing 6$ soft tubing		

Vacuum inlet: Barb fitting



Construction	p. 118
Buffer Assembly	p. 124

Dimensions Per Vacuum Inlet: One-touch Fitting

		Model						N	P	Q	Fitting part min. hole size			
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread							
ZP	T	D	N S U F GN GS	J K	10 20 30 40 50	04	A10	27.7	8	4	$\varnothing 2.5$			
												06	10	6
						10			08	A14				
												20	06	19.9
						30			08	24.9				
												50	08	

Dimensions Per Vacuum Inlet: Barb Fitting

		Model						N	P	Fitting part min. hole size
Vacuum inlet direction	1 Pad dia.	Form	2*1 Material	3 Buffer spec.	4 Buffer stroke	5 Vacuum inlet	6 Connection thread			
ZP	T	D	N S U F GN GS	J K	10 20 30 40 50	N6	A10	15	6	$\varnothing 2.5$
						10				
	20	U6			A14		12			
						30		U6		
	50	U6								

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Ballows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer/One-touch fitting $\varnothing 10$ to $\varnothing 40$

ZPR **10** **D** **N** **J** **10** - **04** - **A10**

① ② ③ ④

⑥ Connection thread
(Male thread)

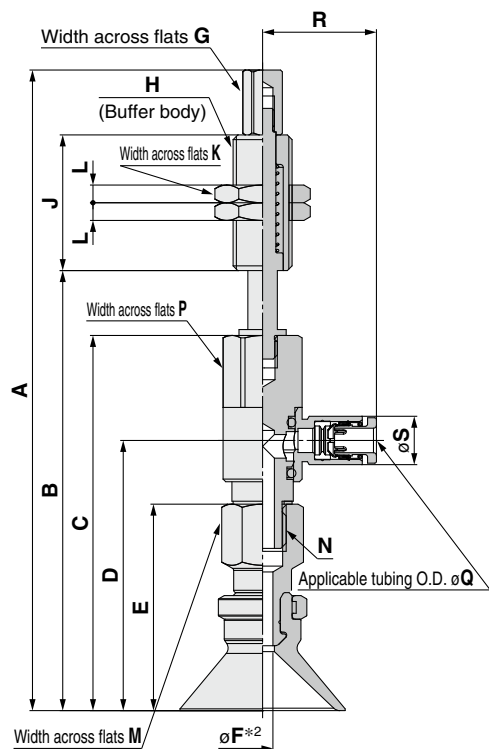
Buffer specification ③

J	Rotating
K	Non-rotating

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet
(One-touch fitting)

04	$\varnothing 4$
06	$\varnothing 6$
08	$\varnothing 8$



Construction p. 118

Buffer Assembly p. 125

		Model										A	B	C	D	E	F ^{*2}	G	H	J	K	L	M	N
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread																	
ZP	R	D	N S U F GN GS	J K	10	04	A10	94	60	49	32.9	24	2.5	6	M10 x 1	14	3	8	M5 x 0.8	23	19	4	12	M8 x 1.25
					20			132	70											51				
					30			142	80											77				
					40			178	90											23				
					50			188	100											77				
					10			95	61											23				
					20			133	71											51				
					30			143	81											50				
					40			179	91											77				
					50			189	101											23				
	10	108.6	74.6	51																				
	20	146.6	84.6	77																				
	30	156.6	94.6	63.6																				
	40	192.6	104.6	45.8																				
	50	202.6	114.6	35																				
	10	151.1	83.1	3.5																				
	20	148.1	93.1	4																				
	30	158.1	103.1	10																				
	50	203.1	123.1	10																				
	R	D	N S U F GN GS	J K	A14	06	08	A14	148.1	93.1	71.1	53.3	42.5	4	10	M14 x 1	50	19	4	12	M8 x 1.25			
30						158.1			103.1	75														
50						203.1			123.1															

Dimensions Per Vacuum Inlet

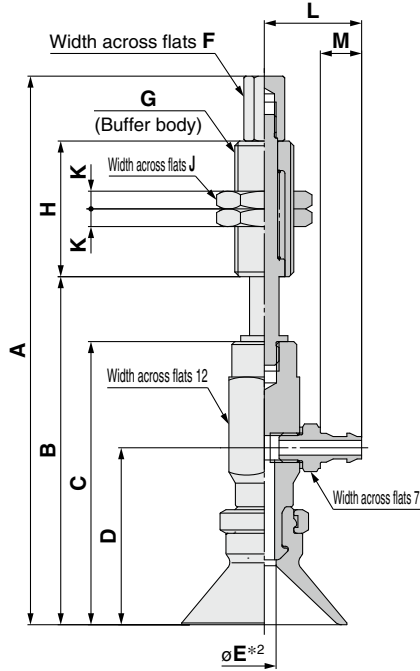
		Model							P	Q	R	S	Fitting part min. hole size				
Vacuum inlet direction	① Pad dia.	Form	② ^{*1} Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread										
ZP	R	D	N S U F GN GS	J K	10 20 30 40 50	04	A10	8	4	17.5	8.2	$\varnothing 2.5$					
													06	6	18.3	10.4	$\varnothing 4$
					06	6			20.5	10.4	$\varnothing 4.5$						
												08	16	8	23.5	13.2	$\varnothing 6$
	08	16			8	23.5	13.2	$\varnothing 6$									

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

With buffer/barb fitting $\varnothing 10$ to $\varnothing 40$



Construction p. 118
 Buffer Assembly p. 126

ZPY **10** D **N** **J** **10** - **N4** - **A10**

① ② ③ ④ ⑤ ⑥

Buffer specification ③

J	Rotating
K	Non-rotating

⑥ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

⑤ Vacuum inlet (Barb fitting)

N4	For $\varnothing 4$ nylon tubing	M-5AN-4
N6	For $\varnothing 6$ nylon tubing	M-5AN-6
U4	For $\varnothing 4$ soft tubing	M-5AU-4
U6	For $\varnothing 6$ soft tubing	M-5AU-6

		Model							A	B	C	D	*2 E	F	G	H	J	K
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread											
ZP	Y	D	N S U F G N S	J K	10	10	N4 U4	A10	86	52	41	25	2.5	6	M10 x 1	23	14	3
						20			124	62								
						30			134	72								
						40			170	82								
						50			180	92								
						10			87	53								
						20			125	63								
						30			135	73								
						40			171	83								
						50			181	93								
						10			93	59								
						20			131	69								
	30	141	79															
	40	177	89															
	50	187	99															
	10	137	69															
	20	134	79															
	30	144	89															
	50	189	109															
	Y	D	N S U F G N S	J K	40	10	N6 U6	A14	134	79	57	39	6	10	M14 x 1	50	19	4
						20			134	79								
						30			144	89								
						50			189	109								

Dimensions Per Vacuum Inlet

		Model							L	M	Fitting part min. hole size
Vacuum inlet direction	① Pad dia.	Form	② *1 Material	③ Buffer spec.	④ Buffer stroke	⑤ Vacuum inlet	⑥ Connection thread				
ZP	Y	D	N S U F G N S	J K	10	N4 U4	A10	14.5	5	$\varnothing 1.8$	
					20						
					30						
					40						
					50						
					10						N6 U6
	20										
	30										
	50										

*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*2 Indicates the minimum hole size of the adapter or vacuum pad

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

BelloWS Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

Mounting Bracket Assembly

Precautions

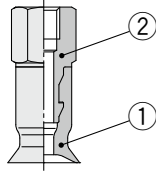
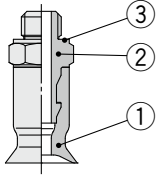
Basic Pad *ZP Series* Construction

With adapter Flat type: $\phi 2$ to $\phi 8$ Bellows type: $\phi 6$ to $\phi 8$ Thin flat type/Thin flat type with ribs: $\phi 10$ to $\phi 16$

Vacuum inlet direction **Vertical** T Type/ZP□T

ZP□T□-(A5/A6)

ZP□T□-(B4/B5)



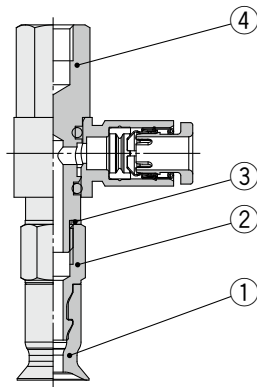
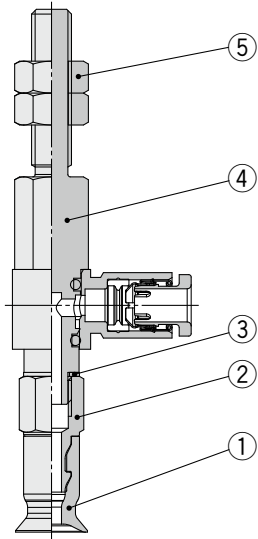
Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber,	Flat type Bellows type Thin flat type Thin flat type with ribs
		Urethane rubber, FKM,	
		Conductive NBR,	
		Conductive silicone rubber	
2	Adapter	Brass (Electroless nickel plating)	ZPT
		Stainless steel	ZPST
3	Gasket	Stainless steel/NBR	ZPT
		Stainless steel/FKM	ZPST

Vacuum inlet direction **Lateral** R Type/ZPR

ZPR□-(04/06)-(A5/A6)

ZPR□-(04/06)-(B4/B5)



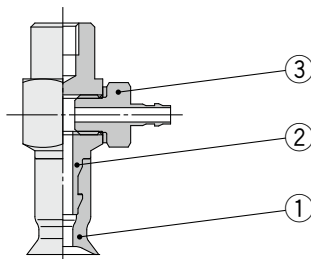
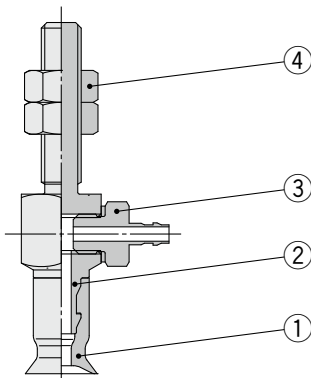
Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber,	Flat type Bellows type Thin flat type Thin flat type with ribs
		Urethane rubber, FKM,	
		Conductive NBR,	
		Conductive silicone rubber	
2	Adapter	Brass (Electroless nickel plating)	
3	Gasket	Stainless steel/NBR	
4	Adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
5	Nut	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1

Vacuum inlet direction **Lateral** Y Type/ZPY

ZPY□-(N4/N6/U4/U6)-(A5/A6)

ZPY□-(N4/N6/U4/U6)-(B4/B5)



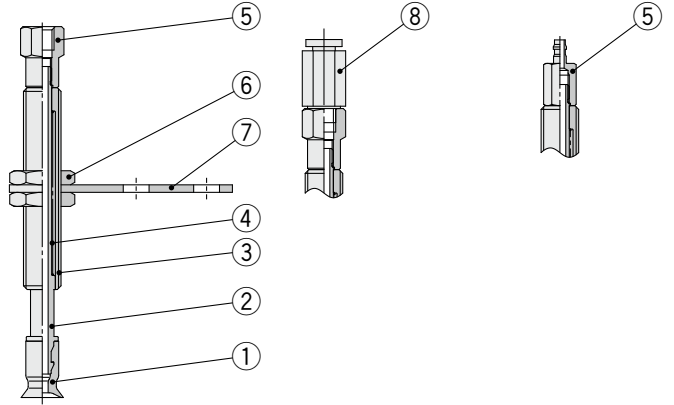
Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber,	Flat type Bellows type Thin flat type Thin flat type with ribs
		Urethane rubber, FKM,	
		Conductive NBR,	
		Conductive silicone rubber	
2	Adapter	Brass (Electroless nickel plating)	
3	Barb fitting	—	
4	Nut	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1

With buffer Flat type: $\phi 2$ to $\phi 8$ Bellows type: $\phi 6$ to $\phi 8$ Thin flat type/Thin flat type with ribs: $\phi 10$ to $\phi 16$

Vacuum inlet direction **Vertical** T Type/ZPT

ZPT□-(B3/B5)-A8 ZPT□-(04/06)-A8 ZPT□-(N4/U4)-A8

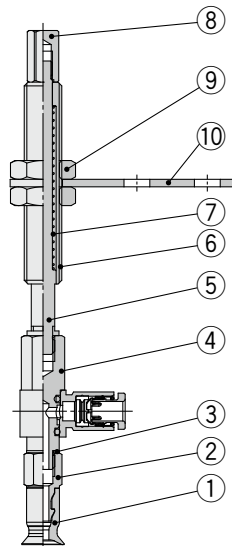


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Bellows type Thin flat type Thin flat type with ribs
2	Piston rod	Stainless steel	
3	Buffer body	Brass (Electroless nickel plating)	
4	Return spring	Stainless steel	
5	Buffer adapter	Brass (Electroless nickel plating)	
6	Nut	Carbon steel (Zinc chromated)	M8 x 1
7	Buffer plate	Steel (Trivalent chromated)	
8	Fitting	—	

Vacuum inlet direction **Lateral** R Type/ZPR

ZPR□-(04/06)-A8

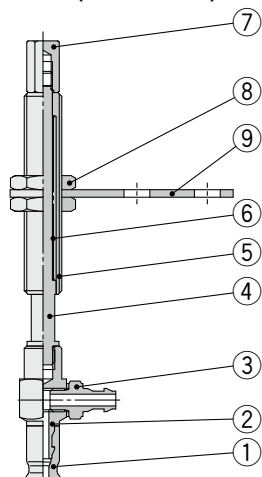


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Bellows type Thin flat type Thin flat type with ribs
2	Adapter	Brass (Electroless nickel plating)	
3	Gasket	Stainless steel 304/NBR	
4	Adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
5	Piston rod	Stainless steel	
6	Buffer body	Brass (Electroless nickel plating)	
7	Return spring	Stainless steel	
8	Buffer adapter	Brass (Electroless nickel plating)	
9	Nut	Carbon steel (Zinc chromated)	M8 x 1
10	Buffer plate	Steel (Trivalent chromated)	

Vacuum inlet direction **Lateral** Y Type/ZPY

ZPY□-(N4/N6/U4/U6)-A8

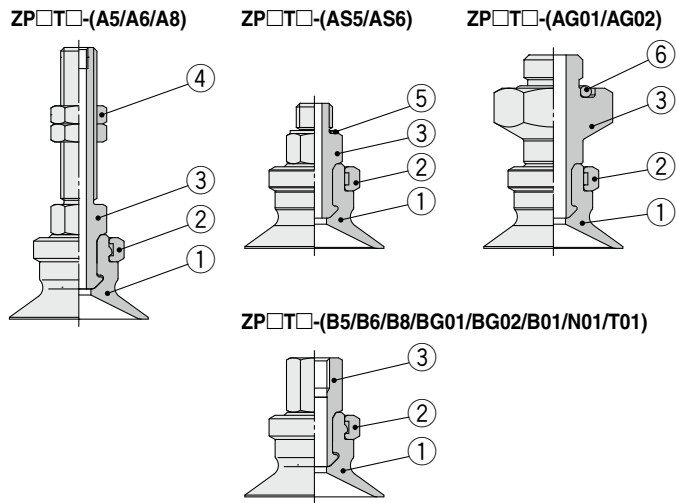


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Bellows type Thin flat type Thin flat type with ribs
2	Adapter	Brass (Electroless nickel plating)	
3	Barb fitting	—	
4	Piston rod	Stainless steel	
5	Buffer body	Brass (Electroless nickel plating)	
6	Return spring	Stainless steel	
7	Buffer adapter	Brass (Electroless nickel plating)	
8	Nut	Carbon steel (Zinc chromated)	M8 x 1
9	Buffer plate	Steel (Trivalent chromated)	

With adapter Flat type: $\varnothing 10$ to $\varnothing 50$ Flat type with ribs: $\varnothing 10$ to $\varnothing 50$ Bellows type: $\varnothing 10$ to $\varnothing 50$ Deep type: $\varnothing 10$ to $\varnothing 40$

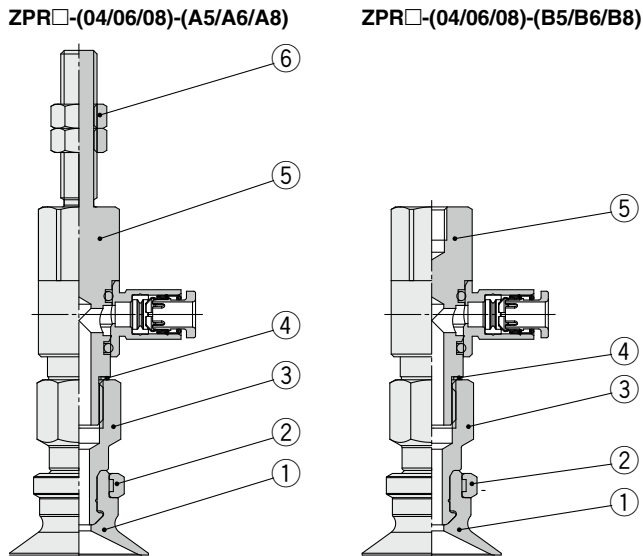
Vacuum inlet direction **Vertical** T Type/ZP□T



Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	ZPT
		Stainless steel	ZPST
3	Adapter	Brass (Electroless nickel plating)	ZPT
		Stainless steel	ZPST
4	Nut	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1
		Carbon steel (Zinc chromated)	M8 x 1
		Stainless steel	ZPST
5	Gasket	Stainless steel/NBR	ZPT
		Stainless steel/FKM	ZPST
6	O-ring	Silicone rubber (Blue)	

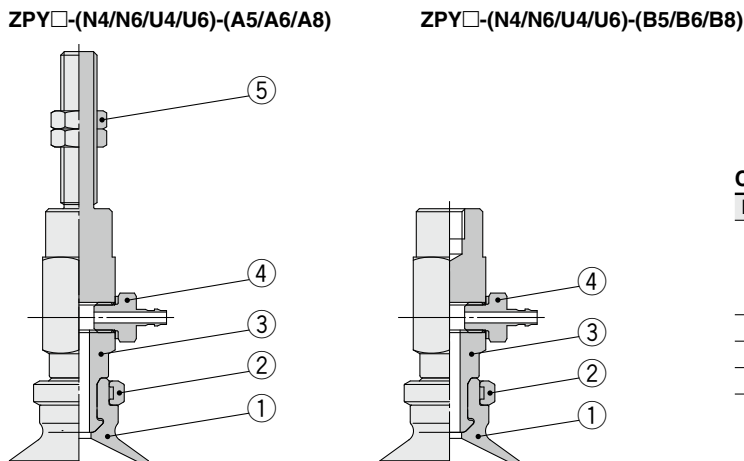
Vacuum inlet direction **Lateral** R Type/ZPR



Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	
3	Adapter	Brass (Electroless nickel plating)	
4	Gasket	Stainless steel 304/NBR	
5	Adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
6	Nut	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1
		Carbon steel (Zinc chromated)	M8 x 1

Vacuum inlet direction **Lateral** Y Type/ZPY



Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	
3	Adapter	Brass (Electroless nickel plating)	
4	Barb fitting	—	
5	Nut	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1
		Carbon steel (Zinc chromated)	M8 x 1

With buffer

Flat type: $\varnothing 10$ to $\varnothing 50$

Flat type with ribs: $\varnothing 10$ to $\varnothing 50$

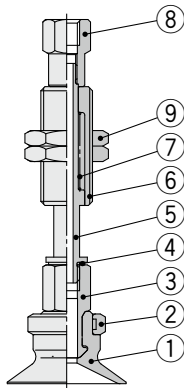
Bellows type: $\varnothing 10$ to $\varnothing 50$

Deep type: $\varnothing 10$ to $\varnothing 40$

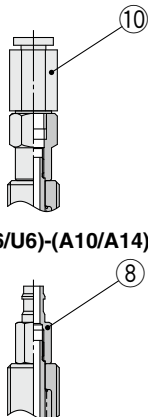
Vacuum inlet direction **Vertical** T Type/ZPT

ZPT□-(B5/B01/N01/T01)-(A10/A14)

ZPT□-(04/06/08)-(A10/A14)



ZPT□-(N6/U6)-(A10/A14)

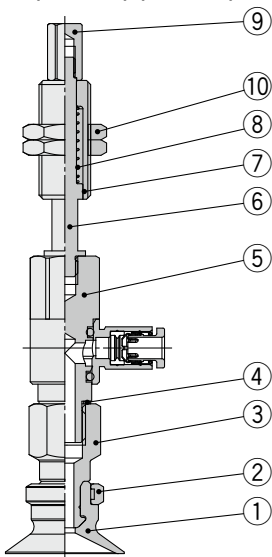


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	
3	Adapter	Brass (Electroless nickel plating)	
4	Gasket	Stainless steel/NBR	
5	Piston rod	Stainless steel	
6	Buffer body	Brass (Electroless nickel plating)	
7	Return spring	Stainless steel	
8	Buffer adapter	Brass (Electroless nickel plating)	
9	Nut	Steel (Zinc chromated)	M10 x 1 M14 x 1
10	Fitting	—	

Vacuum inlet direction **Lateral** R Type/ZPR

ZPR□-(04/06/08)-(A10/A14)

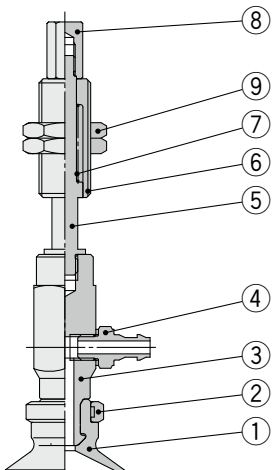


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	
3	Adapter	Brass (Electroless nickel plating)	
4	Gasket	Stainless steel/NBR	
5	Adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
6	Piston rod	Stainless steel	
7	Buffer body	Brass (Electroless nickel plating)	
8	Return spring	Stainless steel	
9	Buffer adapter	Brass (Electroless nickel plating)	
10	Nut	Steel (Zinc chromated)	M10 x 1 M14 x 1

Vacuum inlet direction **Lateral** Y Type/ZPY

ZPY□-(N4/N6/U4/U6)-(A10/A14)



Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	Lock ring	Brass (Electroless nickel plating)	
3	Adapter	Brass (Electroless nickel plating)	
4	Barb fitting	—	
5	Piston rod	Stainless steel	
6	Buffer body	Brass (Electroless nickel plating)	
7	Return spring	Stainless steel	
8	Buffer adapter	Brass (Electroless nickel plating)	
9	Nut	Steel (Zinc chromated)	M10 x 1 M14 x 1

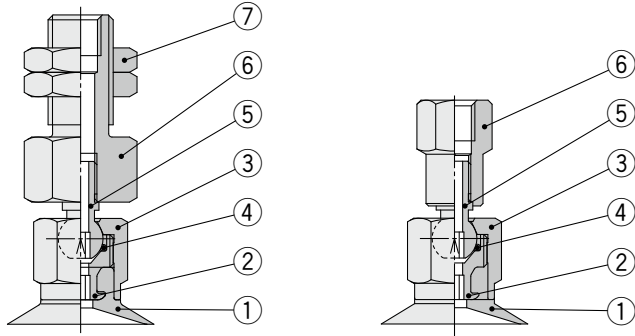
Ball Joint Type Basic Pad **ZP Series** Construction

With adapter Flat type: $\phi 10$ to $\phi 50$

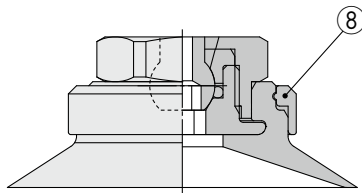
Vacuum inlet direction **Vertical** T Type/ZPT□F

ZPT□F□-(B5/A8/A10/A14)

ZPT□F□-(B5/B8/B01/N01/T01)



$\phi 10$ to $\phi 32$



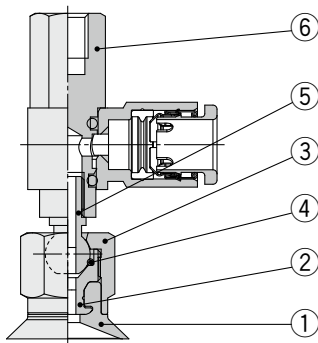
$\phi 40, \phi 50$

Component Parts

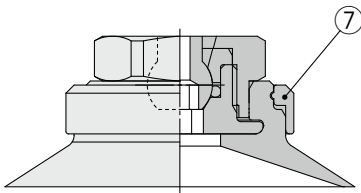
No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type
2	Adapter	Brass (Electroless nickel plating)	
3	Shaft cover	Stainless steel	
4	O-ring	FKM	
5	Shaft	Stainless steel	
6	Shaft adapter	Brass (Electroless nickel plating)	
7	Nut	Carbon steel (Zinc chromated)	M8 x 1
		Steel (Zinc chromated)	M10 x 1 M14 x 1
8	Lock ring	Aluminum (Clear anodized)	Pad diameter: $\phi 40, \phi 50$

Vacuum inlet direction **Lateral** R Type/ZPR□F

ZPR□F□-(04/06/08)-(B5/B8)



$\phi 10$ to $\phi 32$



$\phi 40, \phi 50$

Component Parts

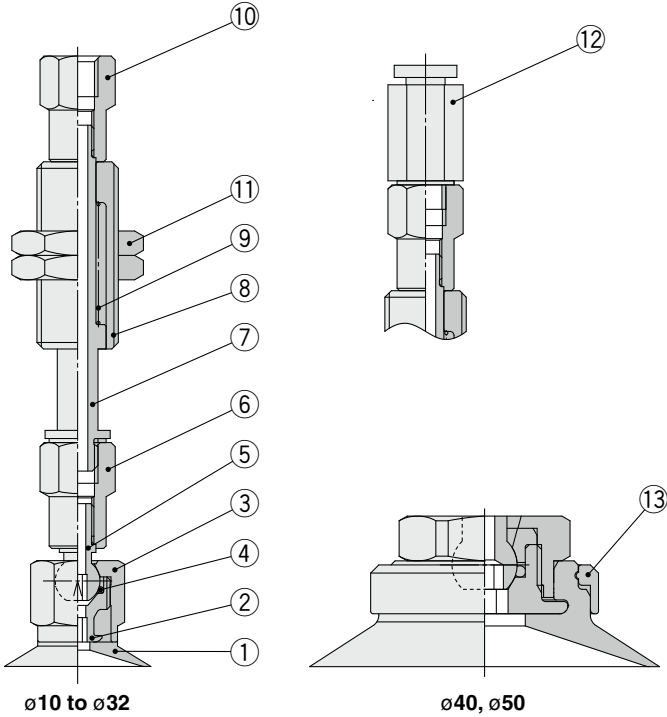
No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type
2	Adapter	Brass (Electroless nickel plating)	
3	Shaft cover	Stainless steel	
4	O-ring	FKM	
5	Shaft	Stainless steel	
6	Shaft adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
7	Lock ring	Aluminum (Clear anodized)	Pad diameter: $\phi 40, \phi 50$

With buffer Flat type: $\phi 10$ to $\phi 50$

Vacuum inlet direction **Vertical** T Type/ZPT□F

ZPT□F□-(B5/B01/N01/T01)-(A10/A14)

ZPT□F□-(04/06/08)-(A10/A14)

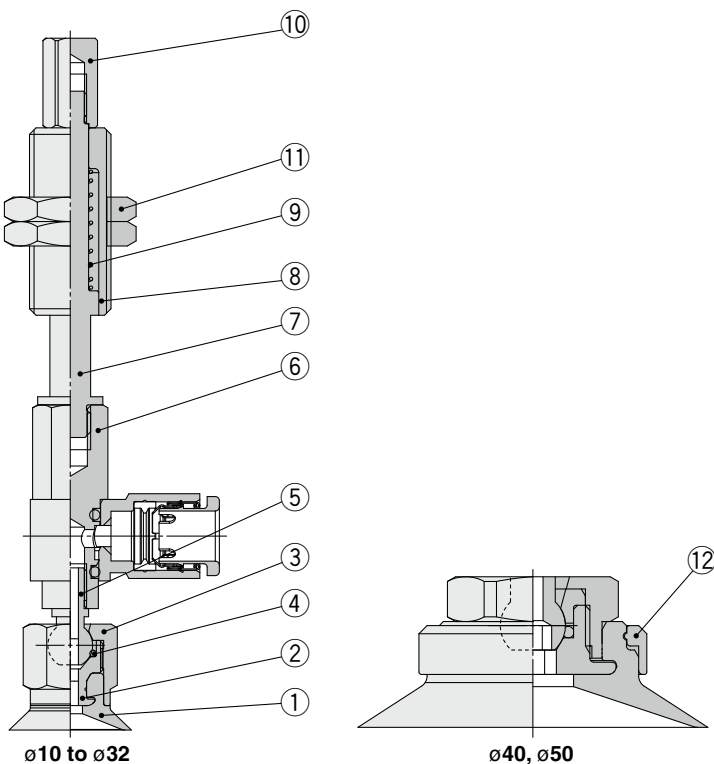


Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type
2	Adapter	Brass (Electroless nickel plating)	
3	Shaft cover	Stainless steel	
4	O-ring	FKM	
5	Shaft	Stainless steel	
6	Shaft adapter	Brass (Electroless nickel plating)	
7	Piston rod	Stainless steel	
8	Buffer body	Brass (Electroless nickel plating)	
9	Return spring	Stainless steel	
10	Buffer adapter	Brass (Electroless nickel plating)	
11	Nut	Steel (Zinc chromated)	M10 x 1 M14 x 1
12	Fitting	—	
13	Lock ring	Aluminum (Clear anodized)	Pad diameter: $\phi 40, \phi 50$

Vacuum inlet direction **Lateral** R Type/ZPR□F

ZPR□F□-(04/06/08)-(A10/A14)



Component Parts

No.	Description	Material	Note
1	Pad	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type
2	Adapter	Brass (Electroless nickel plating)	
3	Shaft cover	Stainless steel	
4	O-ring	FKM	
5	Shaft	Stainless steel	
6	Shaft adapter (With One-touch fitting)	Brass (Electroless nickel plating), PBT, NBR, Stainless steel, POM	
7	Piston rod	Stainless steel	
8	Buffer body	Brass (Electroless nickel plating)	
9	Return spring	Stainless steel	
10	Buffer adapter	Brass (Electroless nickel plating)	
11	Nut	Steel (Zinc chromated)	M10 x 1 M14 x 1
12	Lock ring	Aluminum (Clear anodized)	Pad diameter: $\phi 40, \phi 50$



Basic/Compact Type Specific Product Precautions

Be sure to read this before handling the products. Refer to page 375 for safety instructions. For vacuum equipment and vacuum pad precautions, refer to pages 376 to 379.

Mounting

1. Tighten the screw within the specified torque range when mounting the buffer.

Tightening with a torque outside of the specified range may cause malfunction.

Basic Type ZP Series

Product part number	Connection thread	Tightening torque [N·m]
ZP□(2 to 8)□(J/K)□-□-A8	M8 x 1	1.5 to 2.0
ZP□(10 to 32)□(J/K)□-□-A10	M10 x 1	2.5 to 3.5
ZP□(40/50)□(J/K)□-□-A14	M14 x 1	6.5 to 7.5

Compact Type ZP3 Series

Product part number	Connection thread	Tightening torque [N·m]
ZP3□-□(015 to 035)□J□-□	M6 x 0.75	1.5 to 1.8
ZP3□-□(015 to 035)□K□-□	M8 x 0.75	2.0 to 2.5
ZP3□-□(04 to 16)□(J/JB/K)□-□		

2. When mounting the product, tighten with the tightening torque shown in the table below. If excessive or insufficient tightening torque is applied, sealing failure or loose screws may result.

Basic Type ZP Series

Product part number	Connection thread	Tightening torque [N·m]
ZP□T□□-A5	M5 x 0.8	1.3 to 1.7
ZP□T□□-AS5		
ZP□T□□-A6	M6 x 1	1.6 to 2
ZP□T□□-AS6		
ZP□T□□-AG01	G1/8	3 to 5
ZP□T□□-AG02	G1/4	8 to 12

Compact Type ZP3 Series

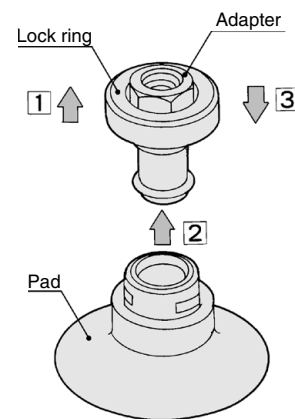
Product part number	Connection thread	Tightening torque [N·m]
ZP3□-T(015 to 035)U□-A3	M3 x 0.5	0.2 to 0.25
ZP3□-T(04 to 16)□□-A5	M5 x 0.8	1.3 to 1.7

Product part number	Connection thread	Tightening torque [N·m]
ZP□T□□-BG01	G1/8	3 to 5
ZP□T□□-BG02	G1/4	8 to 12

How to Replace the Pad

1. How to replace the pad of the basic type ZP series

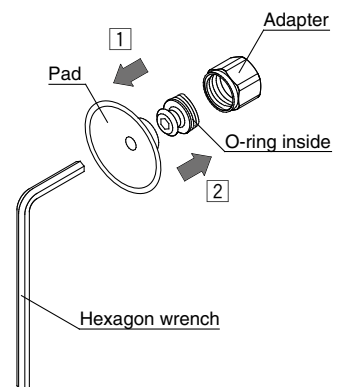
- 1 Pull the lock ring upward, and, after lifting it up to the adapter, remove the old pad by pulling it downward.
- 2 While holding the lock ring in the raised position, place a new pad onto the adapter.
- 3 Confirm that the pad is securely in place, and then return the lock ring to its original position.



2. How to replace the pad of the basic (ball joint) type ZP series

Pad diameter: $\varnothing 10$ to $\varnothing 32$

- 1 Insert a hexagon wrench into the bottom of the pad, loosen the screw, and remove the old pad from the adapter.
- 2 Place a new pad on the adapter, and, after confirming that the O-ring is in place, retighten the screw with the hexagon wrench.



Pad diameter: $\varnothing 40$, $\varnothing 50$

- 1 Pull the lock ring upward, and, after lifting it up to the adapter, remove the old pad by pulling it downward.
- 2 While holding the lock ring in the raised position, place a new pad onto the adapter.
- 3 Confirm that the pad is securely in place, and then return the lock ring to its original position.

