Basic Pad
Flat Type
ZP Series

How to Order

		Dimensions/ Models	Construction	Mounting Bracket Assembly
Pad unit	ZP ☐ 02 U N – ☐	p. **32**	p. **115** p. **117**	From p. **121**
With adapter	ZP ☐ T 02 U N – A5 – ☐	From p. **33**	p. **115** p. **117**	From p. **121**
With buffer	ZP T 02 U N J 6 – B3 – A8	From p. **43**	p. **116** p. **118**	From p. **124**

∗ Pad unit's sales unit: 10 pcs. (Pad diameter: ø20 mm or less)

❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

● Flat type

❶ 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"))

❷ Vacuum inlet direction

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

❸ 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

❹ 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)

❺ 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

❻ 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	—	—	—	—	●	●	●	●	●	●	●	●

With adapter

❼ Vacuum inlet

○: ZP☐T/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	○∗1	—
	A6	M6 x 1	○∗1	—	—	—
	AS6		—	○∗1	○∗1	○∗1
	AG01	G1/8	—	○∗1	○∗1	—
	AG02	G1/4	—	—	—	○∗1
Female thread	**Nil**	M3 x 0.5	—	○ (❽ Connection thread: A5/A6)	○ (❽ Connection thread: A6)	○ (❽ Connection thread: A6)
		M5 x 0.8	—	—	○ (❽ Connection thread: A8)	○ (❽ 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

❽ Connection thread

○: ZP☐T/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●△	—	—
	A6	M6 x 1	●△	○∗1●△	○∗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☐T/Vertical comes with a vacuum inlet (female thread).

With buffer

❼ 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

❽ 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	—	—	—	○●△

❾ Lock ring

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

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

Lock ring unit

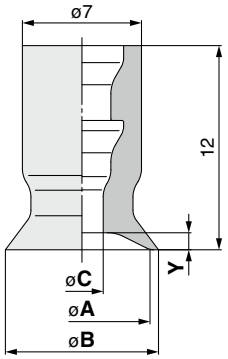
Part no.	Pad diameter [mm]
ZP☐L1	ø10 to ø16
ZP☐L2	ø20 to ø32
ZP☐L3	ø40, ø50

☐: 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 ø2 to ø8



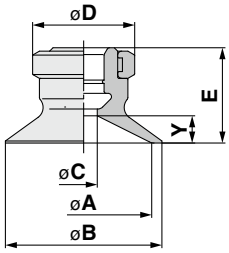
Construction p. 115
Mounting Bracket Assembly From p. 121

ZP 02 U N
❶ ❷

Model ❶ Pad dia.	Form	❷ *1 Material	A	B	C	Y
ZP 02	U	N S U F GN GS	2	2.6	1.2	0.5
ZP 04	U	N S U F GN GS	4	4.8	1.6	0.8
ZP 06	U	N S U F GN GS	6	7	2.5	0.8
ZP 08	U	N S U F GN GS	8	9	2.5	1

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

Single unit ø10 to ø50



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Mounting Bracket Assembly From p. 121

ZP □ 10 U N
❶ ❷ ❸

❶ Lock ring material

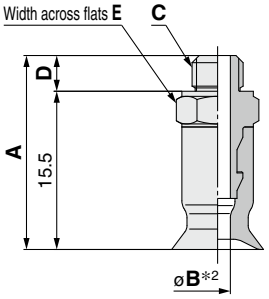
Nil	Brass
S	Stainless steel (Stainless steel 304)

Model ❶ Lock ring material	❷ Pad dia.	Form	❸ *1 Material	A	B	C	D	E	Y
ZP Nil	10	U	N S U F GN GS	10	12	4	13	12	3
ZP Nil	13	U	N S U F GN GS	13	15	4	13	12	3
ZP Nil	16	U	N S U F GN GS	16	18	4	13	12.5	3.5
ZP Nil	20	U	N S U F GN GS	20	23	4	15	14	4
ZP Nil	25	U	N S U F GN GS	25	28	4	15	14	4
ZP Nil	32	U	N S U F GN GS	32	35	4	15	14.5	4.5
ZP Nil	40	U	N S U F GN GS	40	43	7	18	18.5	6.5
ZP Nil	50	U	N S U F GN GS	50	53	7	18	19.5	7.5
ZP S	10	U	N S U F GN GS	10	12	4	13	12	3
ZP S	13	U	N S U F GN GS	13	15	4	13	12	3
ZP S	16	U	N S U F GN GS	16	18	4	13	12.5	3.5
ZP S	20	U	N S U F GN GS	20	23	4	15	14	4
ZP S	25	U	N S U F GN GS	25	28	4	15	14	4
ZP S	32	U	N S U F GN GS	32	35	4	15	14.5	4.5
ZP S	40	U	N S U F GN GS	40	43	7	18	18.5	6.5
ZP S	50	U	N S U F GN GS	50	53	7	18	19.5	7.5

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

Dimensions/Models

With adapter ø2 to ø8



Construction p. 115
Adapter Assembly p. 121

ZP □ T 02 U N – A5
❶ ❷ ❸ ❹

❶ Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

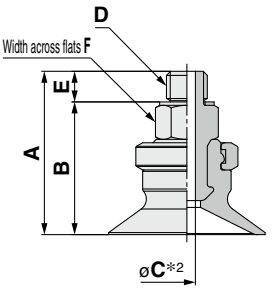
❹ Vacuum inlet (Male thread)

A5	M5 x 0.8
A6	M6 x 1

Model							A	B*2	C	D	E
	❶ Adapter material	Vacuum inlet direction	❷ Pad dia.	Form	❸ *1 Material	❹ Vacuum inlet					
ZP	Nil S	T	02	U	N S U F GN GS	A5	19	1.2	M5 x 0.8	3.5	7
			04					1.6			
			06 08					2.5			
			02			A6	20	1.2	M6 x 1	4.5	8
			04					1.6			
			06 08					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

With adapter ø10 to ø50



Construction p. 117
Adapter Assembly p. 121

ZP □ T 10 U N – AS5
❶ ❷ ❸ ❹

❶ Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

❹ Vacuum inlet (Male thread)

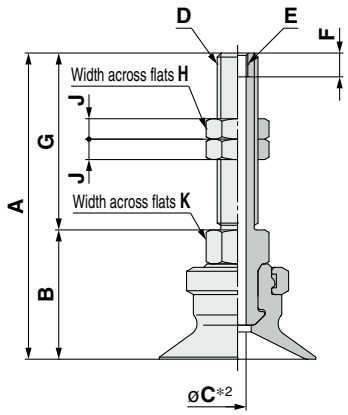
AS5	M5 x 0.8
AS6	M6 x 1
AG01	G1/8
AG02	G1/4

Model							A	B	C*2	D	E	F
	❶ Adapter material	Vacuum inlet direction	❷ Pad dia.	Form	❸ *1 Material	❹ Vacuum inlet						
ZP	Nil S	T	10 13	U	N S U F GN GS	AS5	21	17.5	2.5	M5 x 0.8	3.5	8
			16				21.5	18				
			20 25				23	19.5				
			32				23.5	20				
			10 13			AS6	22	17.5	2.5	M6 x 1	4.5	8
			16				22.5	18				
			20 25				24	19.5				
			32				24.5	20				
			40				29.5	25				12
			50				30.5	26				
			10 13			AG01	30	24.5	2.5	G1/8	5.5	17
			16				30.5	25				
			20 25				32	26.5	4			
			32				32.5	27				
			40			AG02	39	32.5	7	G1/4	6.5	21
			50				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 ø10 to ø50



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Adapter Assembly p. 121

ZP ☐ T 10 U N – A5
❶ ❷ ❸ ❹

❶ Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

❹ Connection thread (Male thread)

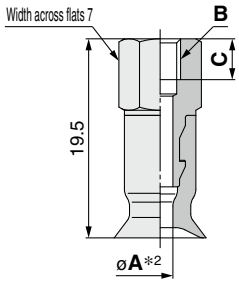
A5	M5 x 0.8 (M3 x 0.5 With female thread)
A6	M6 x 1 (M3 x 0.5 With female thread)
A8	M8 x 1 (M5 x 0.8 With female thread)

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

Dimensions/Models

With adapter ø2 to ø8



Construction p. 115
Adapter Assembly p. 121

ZP ☐ T 02 U N - B4
❶ ❷ ❸ ❹

❶ Adapter material

Nil	Brass
S	Stainless steel (Stainless steel 304)

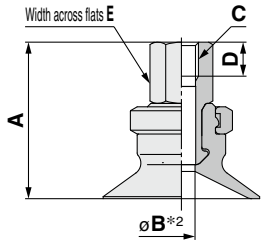
❹ Vacuum inlet (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

Model ❶ Adapter material	Vacuum inlet direction	❷ Pad dia.	Form	❸ *1 Material	❹ Vacuum inlet	A*2	B	C
ZP Nil, S	T	02, 04, 06, 08	U	N, S, U, F, GN, GS	B4	1.2, 1.6, 2.5	M4 x 0.7	4
		02, 04, 06, 08			B5	1.2, 1.6, 2.5	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 U N - B5
❶ ❷ ❸ ❹

❶ Adapter (Lock ring) material

Nil	Brass
S	Stainless steel (Stainless steel 304)

❹ 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

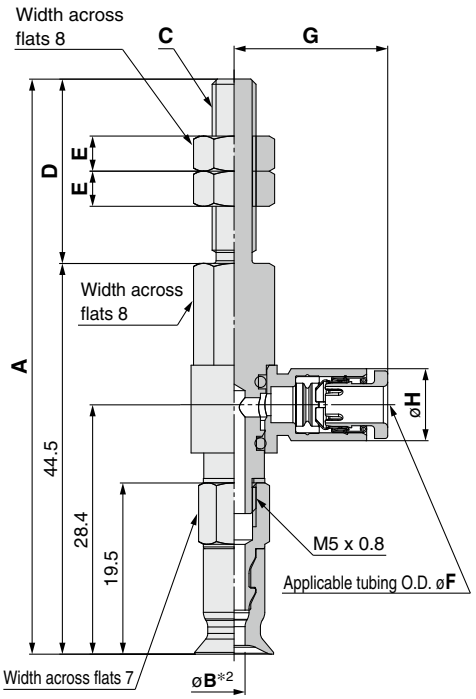
*1 Not compatible with stainless steel materials

Model ❶ Adapter material	Vacuum inlet direction	❷ Pad dia.	Form	❸ *1 Material	❹ Vacuum inlet	A	B*2	C	D	E
ZP Nil, S	T	10, 13, 16, 20, 25, 32	U	N, S, U, F, GN, GS	B5	21, 21.5, 23, 23.5	2.5, 4	M5 x 0.8	5	8
		10, 13, 16, 20, 25, 32, 40, 50			B6	21, 21.5, 23, 23.5, 32, 33	2.5, 4, 4.9	M6 x 1	6	8, 12
		20, 25, 32, 40, 50			B8	29, 29.5, 32, 33	3.5, 6.6	M8 x 1.25	8	12
		10, 13, 16, 20, 25, 32			BG01	27, 27.5, 29, 29.5	2.5, 4	G1/8	7.4	14
		40, 50			BG02	38, 39	7	G1/4	11	17
		10, 13, 16, 20, 25, 32, 40, 50			B01 N01*3 T01*3	27, 27.5, 29, 29.5, 32, 33	2.5, 3.5, 7	Rc1/8 NPT1/8 NPTF1/8	—	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

Dimensions/Models

With adapter/One-touch fitting ø2 to ø8



Construction p. 115
Adapter Assembly p. 122

ZPR 02 U N – 04 – A5

❶ ❷ ❸ ❹

❸ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6

❹ Connection thread (Male thread)

A5	M5 x 0.8
A6	M6 x 1

Model							A	B*2	C	D	E
	❶ Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread					
ZP	R	02	U	N S U F GN GS	04 06	A5	65.5	1.2	M5 x 0.8	21	4
		04						1.6			
		06 08						2.5			
		02				A6	70.5	1.2	M6 x 1	26	4
		04						1.6			
		06 08						2.5			

Dimensions Per Vacuum Inlet

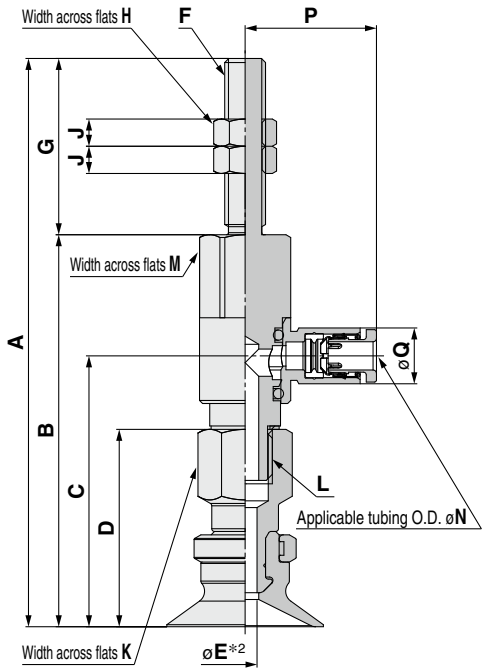
Model							F	G	H	Fitting part min. hole size
	❶ Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread				
ZP	R	02 04 06 08	U	N S U F GN GS	04	A5 A6	4	17.5	8.2	ø2.5
					06		6	18.3	10.4	ø4

*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 ø10 to ø50



Construction p. 117
Adapter Assembly p. 122

ZPR 10 U N – 04 – A5

❶ ❷ ❸ ❹

❸ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6
08	ø8

❹ Connection thread (Male thread)

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

Model							A	B	C	D	E *2	F	G	H	J	K	L
Vacuum inlet direction		❶ Pad dia.	Form	❷ Material *1	❸ Vacuum inlet	❹ Connection thread											
ZP	R	10 13	U	N S U F GN GS	04 06 08	A5	67	46	29.9	21	2.5	M5 x 0.8	21	8	4	8	M5 x 0.8
		16					67.5	46.5	30.4	21.5							
		10 13				A6	72	46	29.9	21	2.5	M6 x 1	26	8	4	8	M5 x 0.8
		16					72.5	46.5	30.4	21.5							
		20 25					83.5	57.6	39.8	29	3.5		25.9			12	M8 x 1.25
		32					84	58.1	40.3	29.5							
		40					86.5	60.6	42.8	32	4						
		50					87.5	61.6	43.8	33							
		20 25				A8	73.5	57.6	39.8	29	3.5	M8 x 1	15.9	12	4	12	M8 x 1.25
		32					74	58.1	40.3	29.5							
		40					76.5	60.6	42.8	32	4						
		50					77.5	61.6	43.8	33							

Dimensions Per Vacuum Inlet

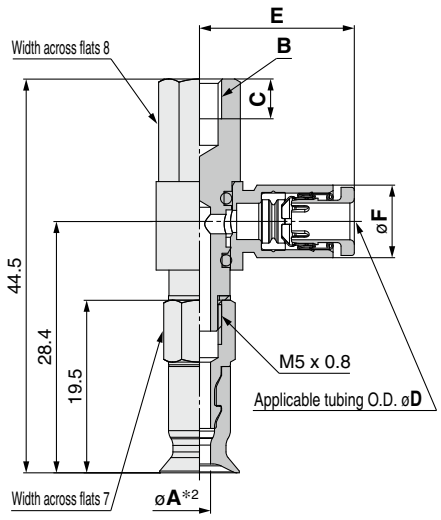
Model							M	N	P	Q	Fitting part min. hole size
Vacuum inlet direction		❶ Pad dia.	Form	❷ Material *1	❸ Vacuum inlet	❹ Connection thread					
ZP	R	10 13 16	U	N S U F GN GS	04	A5 A6	8	4	17.5	8.2	ø2.5
					06			6	18.3	10.4	ø4
		20 25 32			04	A6 A8	12	4	19.3	8.2	ø3
					06			6	20.5	10.4	ø4.5
					08		16	8	23.5	13.2	ø6
		40 50			06		12	6	20.5	10.4	ø4.5
					08		16	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

Dimensions/Models

With adapter/One-touch fitting ø2 to ø8



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ZPR 02 U N – 04 – B4
❶ ❷ ❸ ❹

❸ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6

❹ Connection thread (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

Model							A*2	B	C
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread			
ZP	R	02	U	N S U F GN GS	04 06	B4	1.2	M4 x 0.7	4.5
		04					1.6		
		06 08					2.5		
		02				B5	1.2	M5 x 0.8	5.5
		04					1.6		
		06 08					2.5		

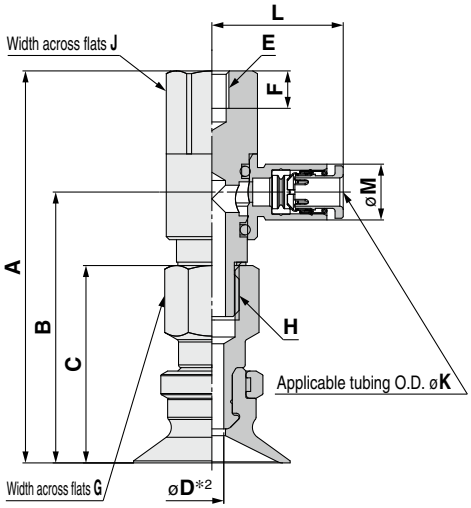
Dimensions Per Vacuum Inlet

Model							D	E	F	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread				
ZP	R	02 04 06 08	U	N S U F GN GS	04	B4 B5	4	17.5	8.2	ø2.5
					06		6	18.3	10.4	ø4

*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 ø10 to ø50



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Adapter Assembly p. 122

ZPR ❶10 U ❷N – ❸04 – ❹B5

❹ Connection thread (Female thread)

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

❸ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6
08	ø8

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

Dimensions Per Vacuum Inlet

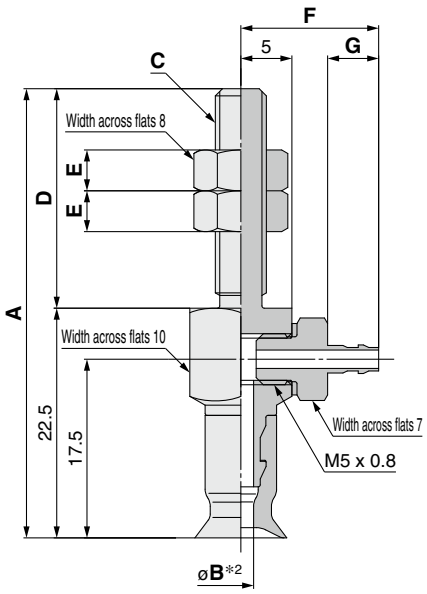
Model							J	K	L	M	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread					
ZP	R	10, 13, 16	U	N, S, U, F, GN, GS	04	B5, B6	8	4	17.5	8.2	ø2.5
					06			6	18.3	10.4	ø4
		20, 25, 32			04	B5	12	4	19.3	8.2	ø3
					06	B6		6	20.5	10.4	ø4.5
					08	B8	16	8	23.5	13.2	ø6
		40, 50			06	B6	12	6	20.5	10.4	ø4.5
					08	B8	16	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

Dimensions/Models

With adapter/barb fitting ø2 to ø8



ZPY 02 U N – N4 – A5
❶ ❷ ❸ ❹

❸ Vacuum inlet (Barb fitting)

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

❹ Connection thread (Male thread)

A5	M5 x 0.8
A6	M6 x 1

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

Dimensions Per Vacuum Inlet

Model							F	G	Fitting part min. hole size
Vacuum inlet direction		❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread			
ZP	**Y**	**02 04 06 08**	**U**	**N S U F GN GS**	**N4 U4**	**A5 A6**	13.5	5	ø1.8
					N6 U6		15.5	7	ø2.5

*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

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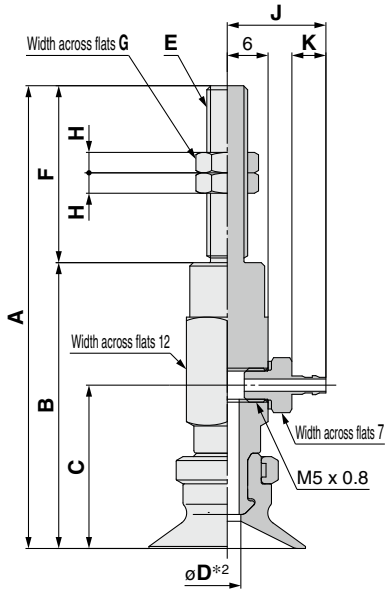
Adapter Assembly p. 123

Dimensions/Models

With adapter/barb fitting ø10 to ø50



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ZPY 10 U N – N4 – A5
❶ ❷ ❸ ❹

❸ **Vacuum inlet (Barb fitting)**

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

❹ **Connection thread (Male thread)**

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

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

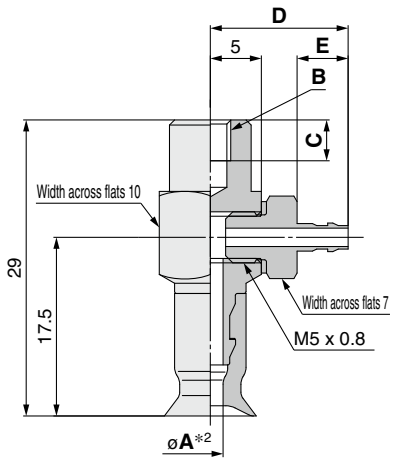
Dimensions Per Vacuum Inlet

Model							J	K	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread			
ZP	Y	10 13 16 20 25 32	U	N S U F GN GS	N4 U4	A5 A6	14.5	5	ø1.8
					N6 U6		16.5	7	ø2.5
		40 50			N6 U6	A6 A8	16.5	7	ø2.5

*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 ø2 to ø8



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Adapter Assembly p. 123

ZPY ❶02 U ❷N – ❸N4 – ❹B4

❸ Vacuum inlet (Barb fitting)

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

❹ Connection thread (Female thread)

B4	M4 x 0.7
B5	M5 x 0.8

Model							A*2	B	C
	Vacuum inlet direction	❶ Pad dia.	Form	❷ Material*1	❸ Vacuum inlet	❹ Connection thread			
ZP	Y	02	U	N S U F GN GS	N4 N6 U4 U6	B4	1.2	M4 x 0.7	4
		04					1.6		
		06 08					2.5		
		02				B5	1.2	M5 x 0.8	5
		04					1.6		
		06 08					2.5		

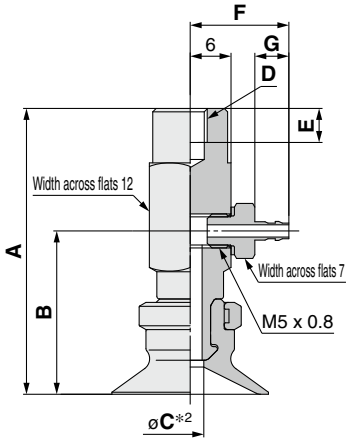
Dimensions Per Vacuum Inlet

Model							D	E	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ Material*1	❸ Vacuum inlet	❹ Connection thread			
ZP	Y	02 04 06 08	U	N S U F GN GS	N4 U4	B4 B5	13.5	5	ø1.8
					N6 U6		15.5	7	ø2.5

*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 ø10 to ø50



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Adapter Assembly p. 123

ZPY ❶10 U ❷N – ❸N4 – ❹B5

❸ Vacuum inlet (Barb fitting)

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

❹ 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	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread					
ZP	Y	10, 13	U	NSUFGNGS	N4 N6 U4 U6	B5	38	22	2.5	M5 x 0.8	5
		16					38.5	22.5			
		20, 25					42	24	3.5		
		32					42.5	24.5			
		10, 13				B6	38	22	2.5	M6 x 1	6
		16					38.5	22.5			
		20, 25					42	24	3.5		
		32					42.5	24.5			
		40					46.5	28.5	6		
		50					47.5	29.5			
		20, 25				B8	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	❶ Pad dia.	Form	❷ *1 Material	❸ Vacuum inlet	❹ Connection thread			
ZP	Y	10, 13, 16	U	NSUFGNGS	N4 U4	B4 B5	14.5	5	ø1.8
					N6 U6		16.5	7	ø2.5
		20, 25, 32			N4 U4	B5 B6 B8	14.5	5	ø1.8
					N6 U6		16.5	7	ø2.5
		40, 50			N6 U6	B6 B8	16.5	7	ø2.5

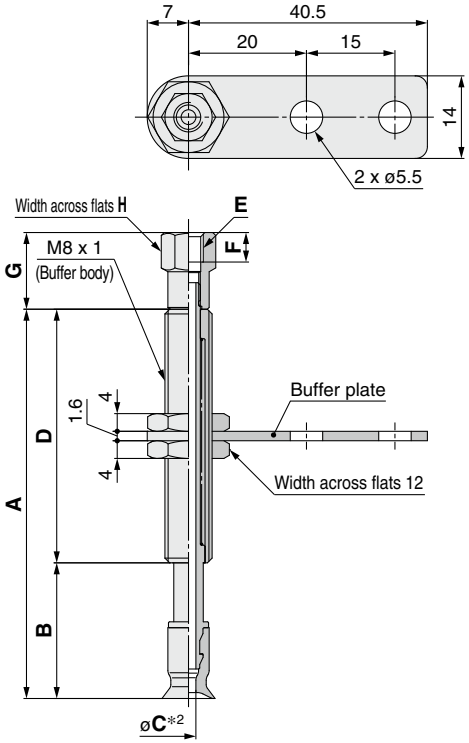
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

Dimensions/Models

With buffer ø2 to ø8

The drawings show the type with a buffer plate.



ZPT 02 U N J 6 – B3 – A8
❶ ❷ ❸ ❹ ❺ ❻

❸ Buffer specification

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

❻ Connection thread (Male thread)

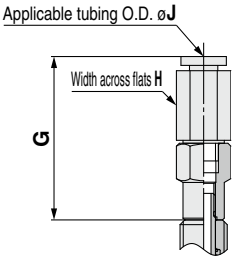
A8	M8 x 1

❺ Vacuum inlet

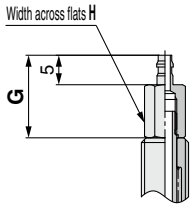
B3	M3 x 0.5	Female thread	
B5	M5 x 0.8		
04	ø4	One-touch fitting	KQ2H04-M5N
06	ø6		KQ2H06-M5N
N4	For ø4 nylon tubing	Barb fitting	
U4	For ø4 soft tubing		

Model									A	B	C*2	D
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	T	02	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		
		04				6			33	18	1.6	15
						10			66	23		43
						15			71	28		
						25			81	38		
		06 08				6			33	18	J: 2.5 K: 2	15
						10			66	23		43
						15			71	28		
						25			81	38		

Vacuum inlet: One-touch fitting



Vacuum inlet: Barb fitting



Dimensions Per Vacuum Inlet: Female Thread

Model									E	F	G	H
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	T	02 04 06 08	U	N S U F GN GS	J K JN KN	6 10 15 25	B3	A8	M3 x 0.5	3	11	6
							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	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	T	02 04 06 08	U	N S U F GN GS	J K JN KN	6 10 15 25	04	A8	27.7	8	4	ø2.5
							06			10	6	

Dimensions Per Vacuum Inlet: Barb Fitting

Model									G	H	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread			
ZP	T	02 04 06 08	U	N S U F GN GS	J K JN KN	6 10 15 25	N4	A8	14	6	ø1.8
							U4				

*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

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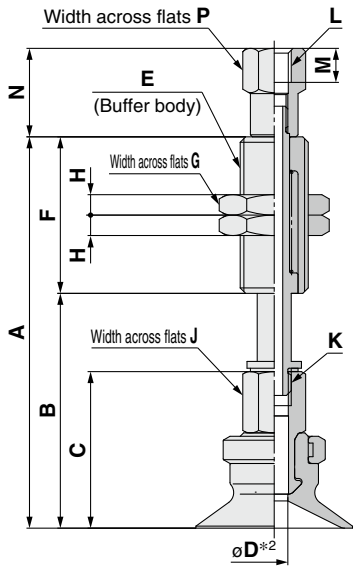
Buffer Assembly p. 124

Dimensions/Models

With buffer ø10 to ø50



Construction p. 118
Buffer Assembly p. 124

ZPT 10 U N J 10 - B5 - A10
❶ ❷ ❸ ❹ ❺ ❻

❸ Buffer specification

J	Rotating
K	Non-rotating

❻ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

❺ 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	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread										
ZP	T	10, 13	U	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	23	14	3	8	M5 x 0.8
						20			93.5	42.5				51				
						30			103.5	52.5								
						40			139.5	62.5				77				
						50			149.5	72.5								
		16				10			56	33	21.5			23				
						20			94	43				51				
						30			104	53								
						40			140	63				77				
						50			150	73								
		20, 25				10			57.5	34.5	23			23				
						20			95.5	44.5				51				
						30			105.5	54.5								
						40			141.5	64.5				77				
						50			151.5	74.5								
		32				10			58	35	23.5			23				
						20			96	45				51				
						30			106	55								
						40			142	65				77				
						50			152	75								
		40				10	B5, B01, N01, T01, 06, 08, N6, U6	A14	94.5	44.5	32	4	M14 x 1	50	19	4	12	M8 x 1.25
						20			104.5	54.5								
						30			114.5	64.5				75				
						50			159.5	84.5								
		50				10			95.5	45.5	33			50				
						20			105.5	55.5								
						30			115.5	65.5				75				
						50			160.5	85.5								

Dimensions Per Vacuum Inlet: Female Thread

Model									L	M	N	P
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	T	10, 13, 16, 20, 25, 32	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				10	B5	A14	M5 x 0.8	4.5	15	10
						20, 30, 50				5	9	
						10	B01, N01, T01		Rc1/8, NPT1/8, NPTF1/8	—	16.5	13
						20, 30, 50					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

Dimensions/Models

With buffer ø10 to ø50

ZPT 10 U N J 10 – 04 – A10
(1) (2) (3) (4) (5) (6)

Buffer specification (3)

J	Rotating
K	Non-rotating

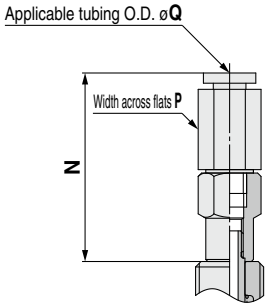
(6) Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

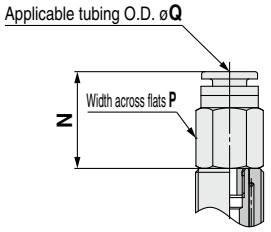
(5) Vacuum inlet

			Pad diameter	
			ø10 to ø32	ø40, ø50 (10 st only)
04	ø4	One-touch fitting	KQ2H04-M5N	
06	ø6		KQ2H06-M5N	KQ2H06-01NS
08	ø8			KQ2H08-01NS
N6	For ø6 nylon tubing	Barb fitting		
U6	For ø6 soft tubing			

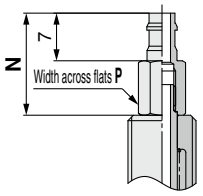
Vacuum inlet: One-touch fitting



Vacuum inlet: Built-in One-touch fitting
Pad diameter: ø40, ø50 (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) Material *1	(3) Buffer spec.	(4) Buffer stroke	(5) Vacuum inlet	(6) Connection thread				
ZP	T	10, 13, 16, 20, 25, 32	U	N, S, U, F, GN, GS	J, K	10, 20, 30, 40, 50	04	A10	27.7	8	4	ø2.5
							06			10	6	
		40, 50				10	06	A14	31.8	10	6	ø4.5
							08		35.9	14	8	ø6
						20, 30, 50	06		19.9	12	6	ø3
							08		24.9	14	8	

Dimensions Per Vacuum Inlet: Barb Fitting

Model									N	P	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	T	10, 13, 16, 20, 25, 32	U	N, S, U, F, GN, GS	J, K	10, 20, 30, 40, 50	N6	A10	15	6	ø2.5
							U6				
		40, 50				10	N6	A14	19	10	
							U6				
						20, 30, 50	N6		12		
							U6				

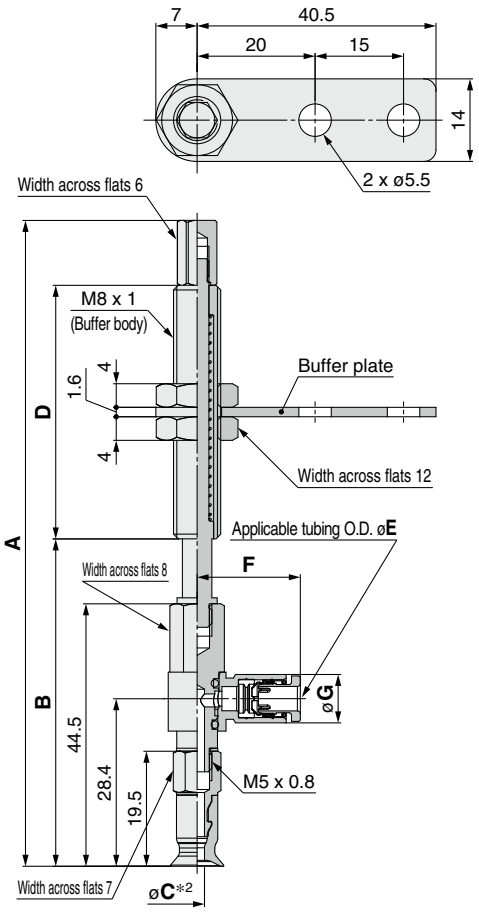
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

Construction p. 118
Buffer Assembly p. 124

Dimensions/Models

With buffer/One-touch fitting ø2 to ø8

The drawings show the type with a buffer plate.



Construction p. 116
Buffer Assembly p. 125

ZPR 02 U N J 6 - 04 - A8
❶ ❷ ❸ ❹ ❺ ❻

❸ Buffer specification

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

❻ Connection thread (Male thread)

A8	M8 x 1

❺ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6

Model									A	B	C*2	D
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	R	02	U	N S U F GN GS	J K JN KN	6	04 06	A8	78.5	52.5	1.2	15
						10			109.5	55.5		43
						15			114.5	60.5		
						25			124.5	70.5		
		04				6			78.5	52.5	1.6	15
						10			109.5	55.5		43
						15			114.5	60.5		
						25			124.5	70.5		
		06 08				6			78.5	52.5	2.5	15
						10			109.5	55.5		43
						15			114.5	60.5		
						25			124.5	70.5		

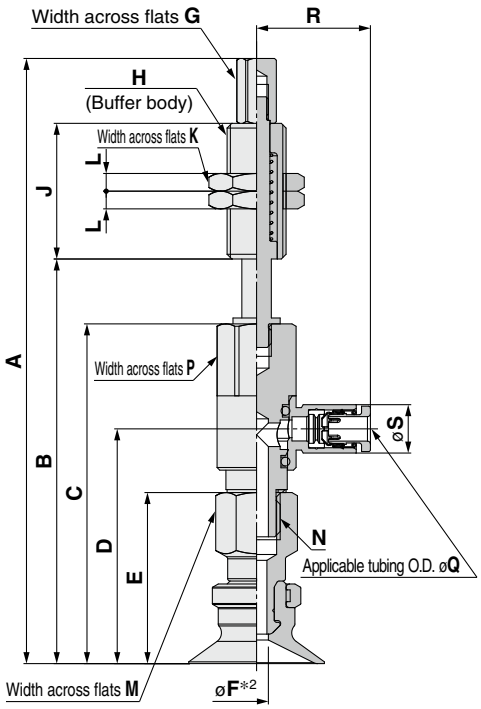
Dimensions Per Vacuum Inlet

Model									E	F	G	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread				
ZP	R	02 04 06 08	U	N S U F GN GS	J K JN KN	6 10 15 25	04	A8	4	17.5	8.2	ø2.5
							06		6	18.3	10.4	ø4

*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 ø10 to ø50



Construction p. 118
Buffer Assembly p. 125

ZPR ❶10 U ❷N ❸J ❹10 - ❺04 - ❻A10

❸ Buffer specification

J	Rotating
K	Non-rotating

❻ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

❺ Vacuum inlet (One-touch fitting)

04	ø4
06	ø6
08	ø8

Model									A	B	C	D	E	*2 F	G	H	J	K	L	M	N
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread													
ZP	R	10, 13	U	N, S, U, F, GN, GS	J, K	10	04, 06	A10	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											
						50			185	97											
		16				10			91.5	57.5	46.5	30.4	21.5				23				
						20			129.5	67.5							51				
						30			139.5	77.5							77				
						40			175.5	87.5											
						50		A10	185.5	97.5											
		20, 25				10	04, 06, 08		102.6	68.6	57.6	39.8	29	3.5			23			12	M8 x 1.25
						20			140.6	78.6							51				
						30			150.6	88.6							77				
						40			186.6	98.6											
						50			196.6	108.6											
		32				10			103.1	69.1	58.1	40.3	29.5				23				
						20			141.1	79.1							51				
						30			151.1	89.1											
						40			187.1	99.1							77				
						50			197.1	109.6											
		40				10	06, 08	A14	140.6	72.6	60.6	42.8	32	4	10	M14 x 1	50	19	4	12	M8 x 1.25
						20			137.6	82.6											
						30			147.6	92.6											
						50			192.6	112.6							75				
		50				10			141.6	73.6	61.6	43.8	33				50				
						20			138.6	83.6											
						30			148.6	93.6											
						50			193.6	113.6							75				

Dimensions Per Vacuum Inlet

Model									P	Q	R	S	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread					
ZP	R	10, 13, 16	U	N, S, U, F, GN, GS	J, K	10, 20, 30, 40, 50	04	A10	8	4	17.5	8.2	ø2.5
							06			6	18.3	10.4	ø4
		20, 25, 32				10, 20, 30, 40, 50	04		12	4	19.3	8.2	ø3
							06			6	20.5	10.4	ø4.5
							08		16	8	23.5	13.2	ø6
		40, 50				10, 20, 30, 50	06	A14	12	6	20.5	10.4	ø4.5
							08		16	8	23.5	13.2	ø6

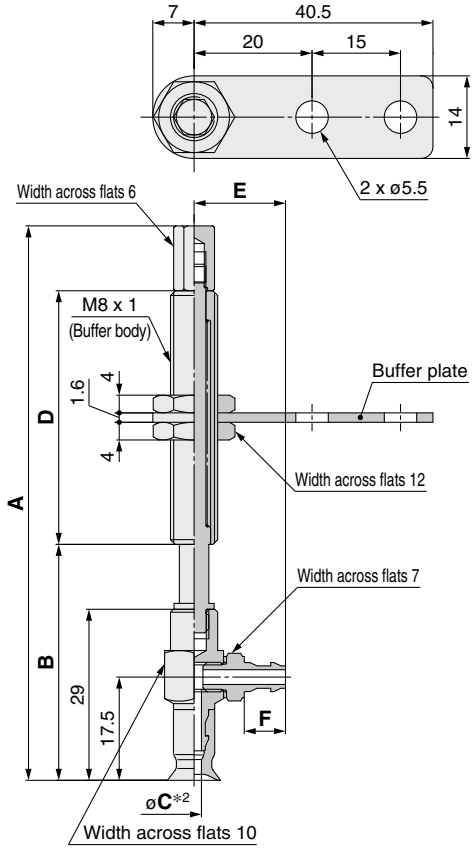
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

Dimensions/Models

With buffer/barb fitting ø2 to ø8

The drawings show the type with a buffer plate.



Construction p. 116
Buffer Assembly p. 126

ZPY 02 U N J 6 – N4 – A8
❶ ❷ ❸ ❹ ❺ ❻

❸ Buffer specification

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

❻ Connection thread (Male thread)

A8	M8 x 1

❺ Vacuum inlet (Barb fitting)

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

Model									A	B	C*2	D
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ 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		
		04				6			63	37	1.6	15
						10			94	40		43
						15			99	45		
						25			109	55		
		06 08				6			63	37	2.5	15
						10			94	40		43
						15			99	45		
						25			109	55		

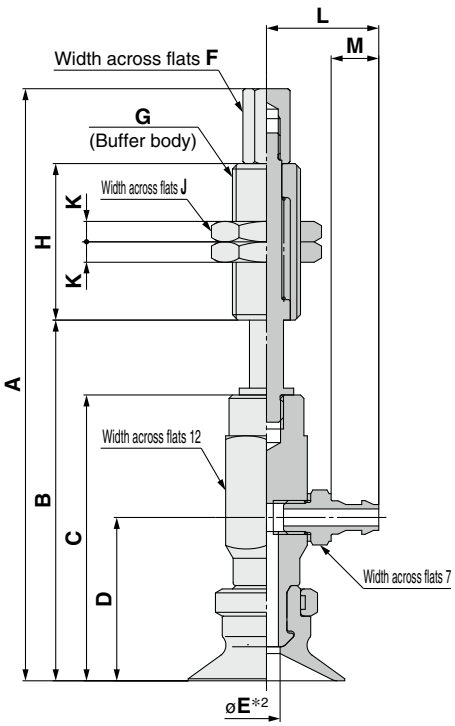
Dimensions Per Vacuum Inlet

Model									E	F	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread			
ZP	Y	02 04 06 08	U	N S U F GN GS	J K JN KN	6 10 15 25	N4 U4	A8	13.5	5	ø1.8
							N6 U6		15.5	7	ø2.5

*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/barb fitting ø10 to ø50



Construction p. 118
Buffer Assembly p. 126

ZPY ❶10 U ❷N ❸J ❹10 - ❺N4 - ❻A10

❸ Buffer specification

J	Rotating
K	Non-rotating

❻ Connection thread (Male thread)

A10	M10 x 1
A14	M14 x 1

❺ Vacuum inlet (Barb fitting)

N4	For ø4 nylon tubing	M-5AN-4
N6	For ø6 nylon tubing	M-5AN-6
U4	For ø4 soft tubing	M-5AU-4
U6	For ø6 soft tubing	M-5AU-6

Model									A	B	C	D	*2 E	F	G	H	J	K
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread										
ZP	Y	10, 13	U	NSUFGNGS	JK	10	N4 N6 U4 U6	A10	83	49	38	22	2.5	6	M10 x 1	23	14	3
						20			121	59						51		
						30			131	69						77		
						40			167	79								
						50			177	89								
		16				10			83.5	49.5	38.5	22.5				23		
						20			121.5	59.5						51		
						30			131.5	69.5						77		
						40			167.5	79.5								
						50			177.5	89.5								
		20, 25				10			87	53	42	24	3.5	6	M10 x 1	23	14	3
						20			125	63						51		
						30			135	73						77		
						40			171	83								
						50			181	93								
		32				10			87.5	53.5	42.5	24.5				23		
						20			125.5	63.5						51		
						30			135.5	73.5						77		
						40			171.5	83.5								
						50			181.5	93.5								
		40				10	N6 U6	A14	126.5	58.5	46.5	28.5	6	10	M14 x 1	50	19	4
						20			123.5	68.5								
						30			133.5	78.5								
						50			178.5	98.5						75		
		50				10			127.5	59.5	47.5	29.5				50		
						20			124.5	69.5								
						30			134.5	79.5								
						50			179.5	99.5						75		

Dimensions Per Vacuum Inlet

Model									L	M	Fitting part min. hole size
	Vacuum inlet direction	❶ Pad dia.	Form	❷ *1 Material	❸ Buffer spec.	❹ Buffer stroke	❺ Vacuum inlet	❻ Connection thread			
ZP	Y	10, 13, 16, 20, 25, 32	U	NSUFGNGS	JK	10, 20, 30, 40, 50	N4 U4	A10	14.5	5	ø1.8
							N6 U6		16.5	7	ø2.5
		40, 50					N6 U6	A14	16.5	7	ø2.5

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

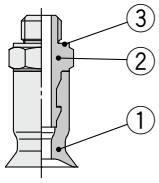
*2 Indicates the minimum hole size of the adapter or vacuum pad

Basic Pad *ZP Series*
Construction

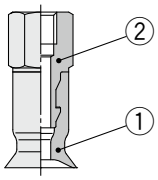
With adapter | **Flat type: ø2 to ø8** | **Bellows type: ø6 to ø8** | **Thin flat type/Thin flat type with ribs: ø10 to ø16**

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

ZP□T□-(A5/A6)



ZP□T□-(B4/B5)

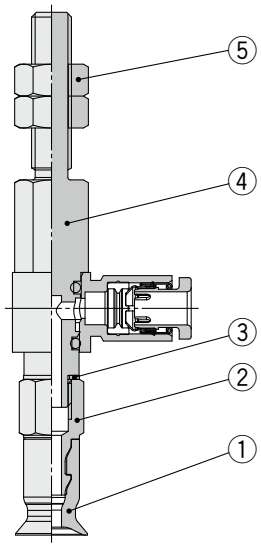


Component Parts

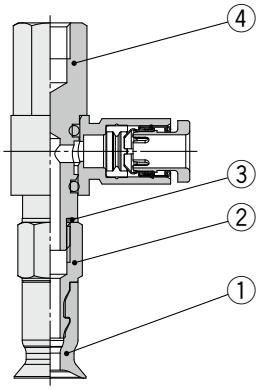
No.	Description	Material	Note
1	**Pad**	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Bellows type Thin flat type Thin flat type with ribs
2	**Adapter**	Brass (Electroless nickel plating)	**ZPT**
		Stainless steel	**ZPST**
3	**Gasket**	Stainless steel/NBR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

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

ZPR□-(04/06)-(A5/A6)



ZPR□-(04/06)-(B4/B5)

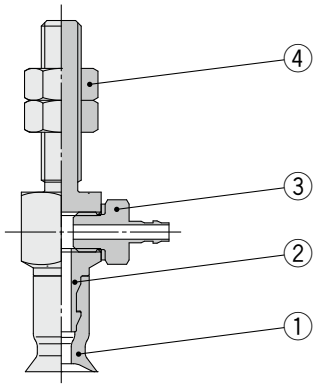


Component Parts

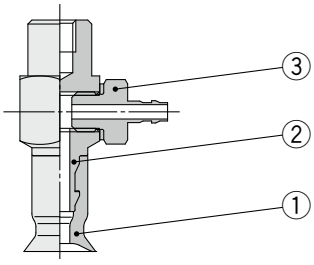
No.	Description	Material	Note
1	**Pad**	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Bellows type Thin flat type Thin flat type with ribs
2	**Adapter**	Brass (Electroless nickel plating)	
3	**Gasket**	Stainless steel/NBR	
4	**Adapter** **(With One-touch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



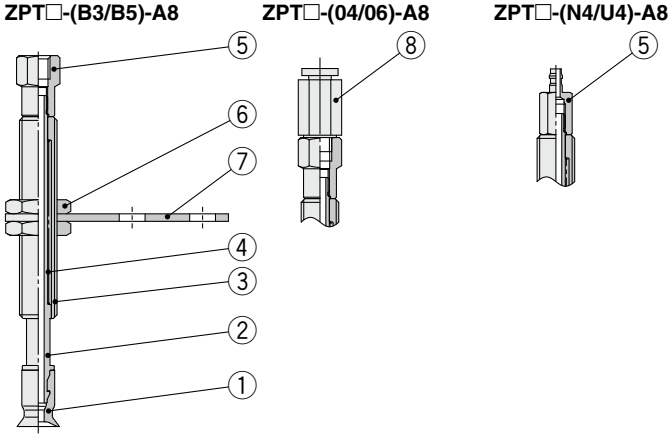
Component Parts

No.	Description	Material	Note
1	**Pad**	NBR, Silicone rubber, 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	**Nut**	Rolled steel (Zinc chromated)	M5 x 0.8 M6 x 1

With buffer | **Flat type: ø2 to ø8** | **Bellows type: ø6 to ø8** | **Thin flat type/Thin flat type with ribs: ø10 to ø16**

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

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

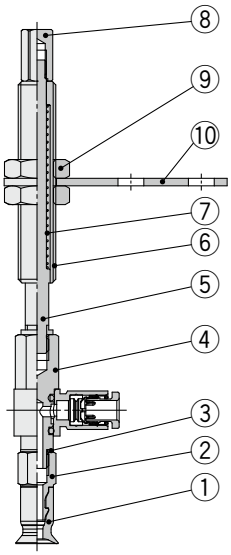


Component Parts

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

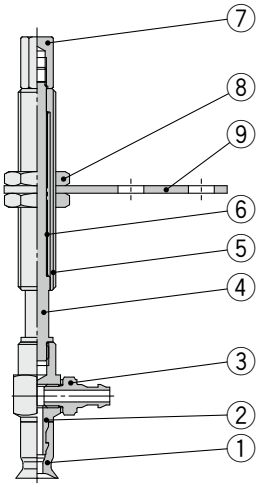


Component Parts

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



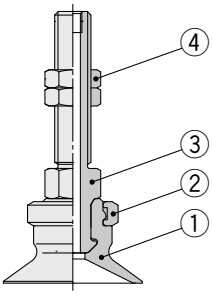
Component Parts

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)	

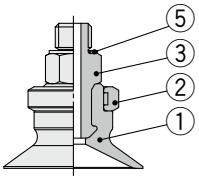
With adapter | **Flat type: ø10 to ø50** | **Flat type with ribs: ø10 to ø50** | **Bellows type: ø10 to ø50** | **Deep type: ø10 to ø40**

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

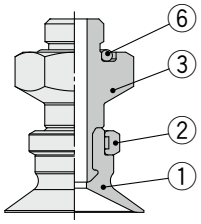
ZP□T□-(A5/A6/A8)



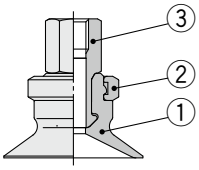
ZP□T□-(AS5/AS6)



ZP□T□-(AG01/AG02)



ZP□T□-(B5/B6/B8/BG01/BG02/B01/N01/T01)

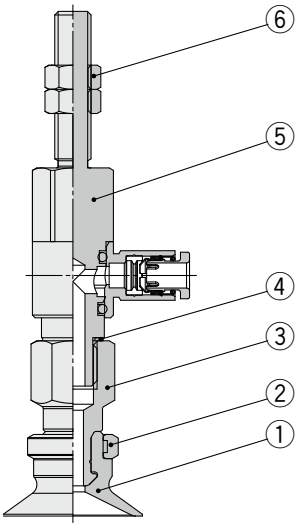


Component Parts

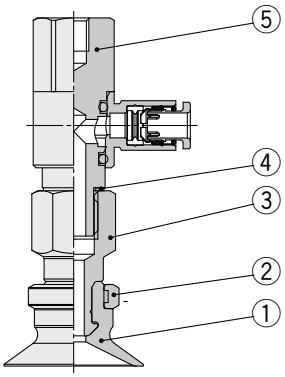
No.	Description	Material	Note	
1	**Pad**	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type	
2	**Lock ring**	Brass (Electroless nickel plating)	**ZPT**	
		Stainless steel	**ZPST**	
3	**Adapter**	Brass (Electroless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

ZPR□-(04/06/08)-(A5/A6/A8)



ZPR□-(04/06/08)-(B5/B6/B8)

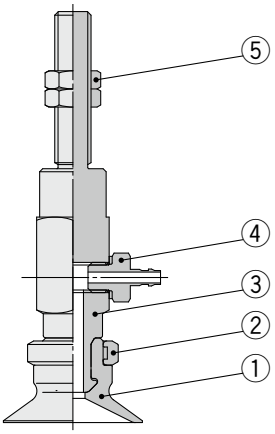


Component Parts

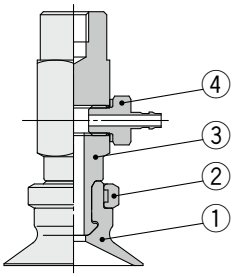
No.	Description	Material	Note
1	**Pad**	NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber	Flat type Flat type with ribs Bellows type Deep type
2	**Lock ring**	Brass (Electroless nickel plating)	
3	**Adapter**	Brass (Electroless nickel plating)	
4	**Gasket**	Stainless steel 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

ZPY□-(N4/N6/U4/U6)-(A5/A6/A8)



ZPY□-(N4/N6/U4/U6)-(B5/B6/B8)



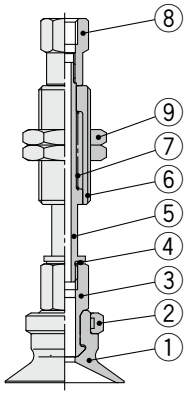
Component Parts

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

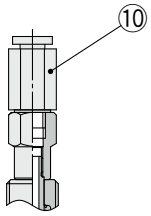
With buffer | **Flat type: ø10 to ø50** | **Flat type with ribs: ø10 to ø50** | **Bellows type: ø10 to ø50** | **Deep type: ø10 to ø40**

Vacuum inlet direction Vertical T Type/ZPT

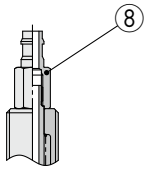
ZPT□-(B5/B01/N01/T01)-(A10/A14)



ZPT□-(04/06/08)-(A10/A14)



ZPT□-(N6/U6)-(A10/A14)

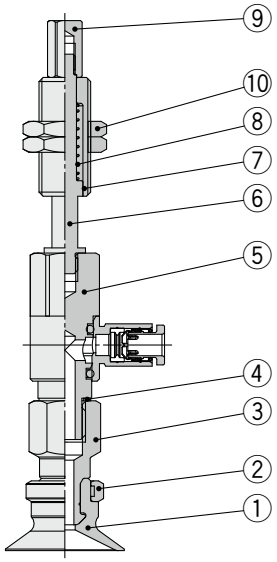


Component Parts

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)

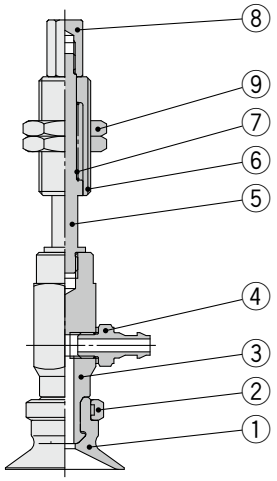


Component Parts

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