







Basic Pad ZP Series

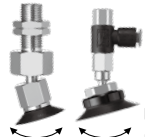


RoHS

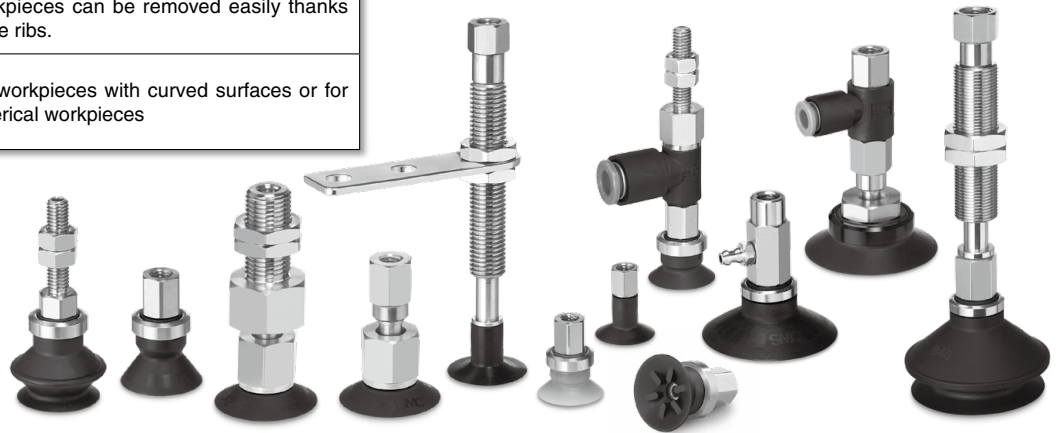
ø2, ø4, ø6, ø8, ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50

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. |



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Basic Pad ZP Series

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
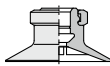





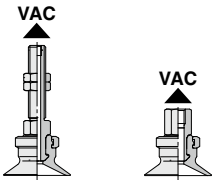
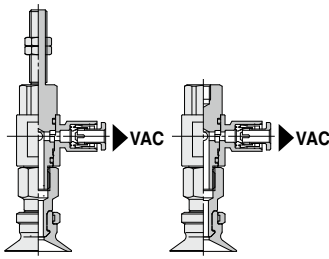
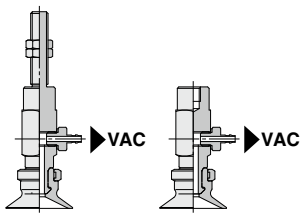
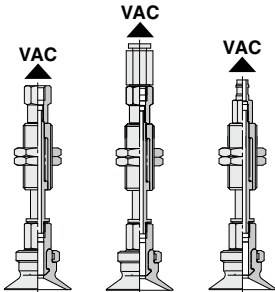
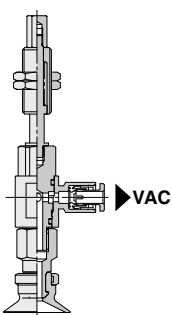
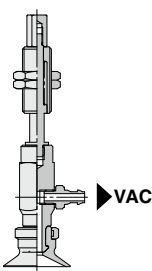
Thin Flat Type with Ribs


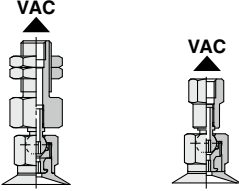
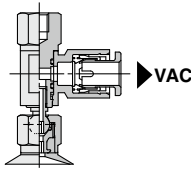
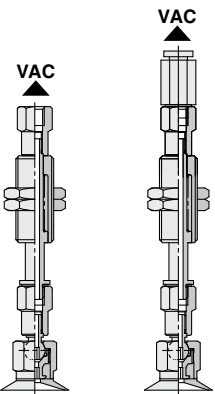
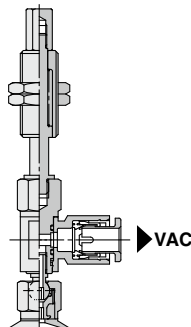
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Deep Type

| | |
|---------------------|--------|
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| | |
|--|--------|
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| (Flat, Ball joint type) | |
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| (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 | Urethane rubber | FKM (Fluoro rubber) | Conductive NBR (Nitrile rubber) | Conductive silicone rubber |
|--------------------------|-------------------------|-------------------|-----------------|------------------------|------------------------------------|-------------------------------|
| Color of rubber | Black | White | Brown | | Black | |
| Rubber hardness HS (±5°) | A50/S | A40/S | A60/S | | A50/S | |
| Identification (Dot) | — | — | — | · 1 green dot | · 1 silver dot | · 2 silver dots |

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

Adapter Specifications

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

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

*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 | | 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 M8 x 1.25 | M6 x 1 M8 x 1.25 |
| 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 | | 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 M8 x 1.25 | M6 x 1 M8 x 1.25 |
| 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.

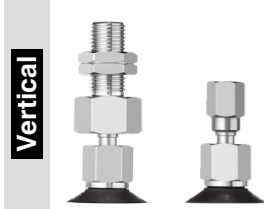
Basic Pad *ZP Series* Specifications

Ball Joint Type

Adapter Specifications (Ball Joint Type)

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

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



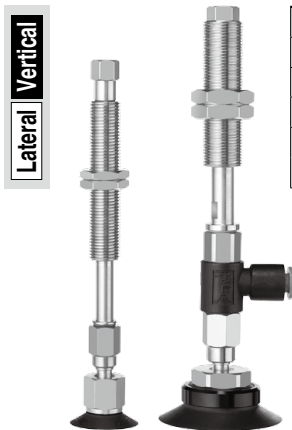
| Connection | Male thread | | | Female thread | | |
|-------------------|-------------|------------|----------|----------------------------|---|-------------------------------------|
| Pad diameter | ø10 to ø16 | ø20 to ø32 | ø40, ø50 | ø10 to ø16 | ø20 to ø32 | ø40, ø50 |
| Connection thread | M8 x 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

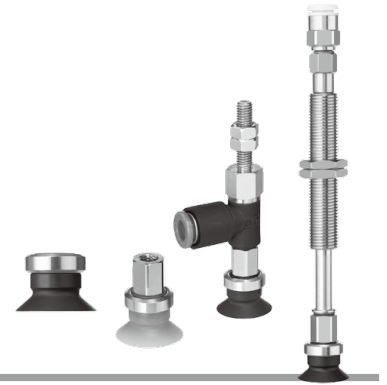
Precautions



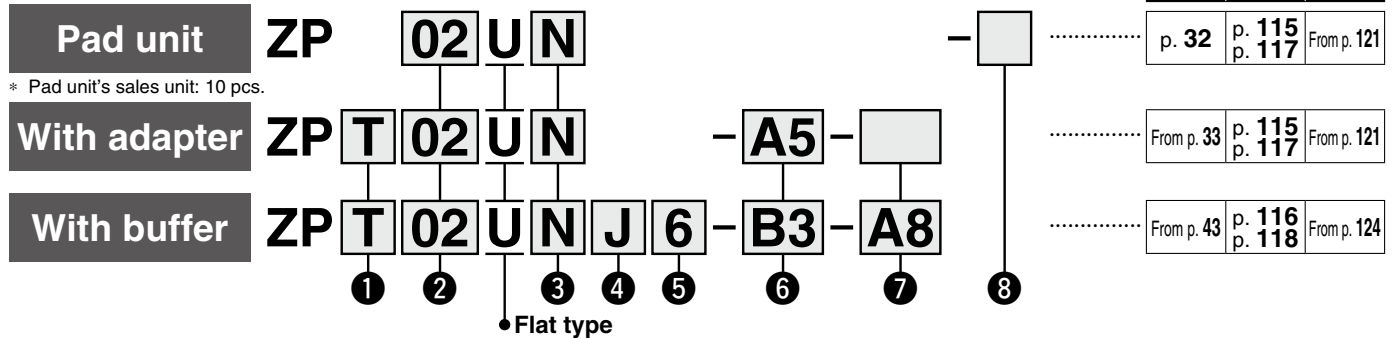
Basic Pad

Flat Type

ZP Series



How to Order



① Vacuum inlet direction

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

② Pad diameter

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

⑤ 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 | — | — | — | — | ● | ● | ● | ● | ● | — | — | — |

③ Material

| Symbol | Material |
|--------|----------------------------|
| N | NBR |
| S | Silicone rubber*1 |
| U | Urethane rubber |
| F | FKM |
| GN | Conductive NBR |
| GS | Conductive silicone rubber |

④ Buffer specification

| Symbol | 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

○: 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 | A5 | M5 x 0.8 | ○*1 | — | — | — |
| | A6 | M6 x 1 | ○*1 | — | — | — |
| 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 |
| | B4 | M4 x 0.7 | ○ | — | — | — |
| | B5 | M5 x 0.8 | ○ | ○ | — | — |
| | B6 | M6 x 1 | — | ○ | ○ | ○ |
| | B8 | M8 x 1.25 | — | — | ○ | ○ |
| | 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*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

⑦ 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 | 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 ○: ZPT/Vertical comes with a vacuum inlet (female thread).

With buffer

⑥ 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

⑦ 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 | — | — | — | ○●△ |

⑧ Lock ring

| Symbol | Pad diameter [mm] | |
|--------|-------------------|-------------------|
| | ø2 to ø8 | ø10 to ø50 |
| Nil | None*1 | 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

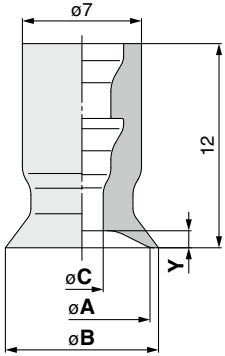
| Part no. | Pad diameter [mm] |
|----------|-------------------|
| ZPL1 | ø10 to ø16 |
| ZPL2 | ø20 to ø32 |
| ZPL3 | ø40, ø50 |

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

Dimensions/Models

Single unit $\phi 2$ to $\phi 8$

ZP **02** U **N**
① ②



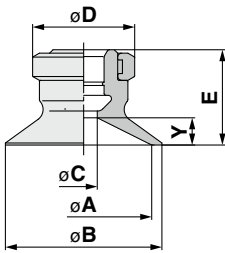
| Model | | | | A | B | C | Y |
|---------------|------|-----------------------------|----|-----|-----|-----|---|
| ① Pad dia. | Form | ② Material ^{*1} | ZP | | | | |
| 02 | U | N | 2 | 2.6 | 1.2 | 0.5 | |
| 04 | | S | 4 | 4.8 | 1.6 | 0.8 | |
| 06 | | F | 6 | 7 | 2.5 | | |
| 08 | | GN GS | 8 | 9 | |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

*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** U **N**
① ②



| Model | | | | A | B | C | D | E | Y |
|---------------|------|-----------------------------|----|----|---|----|------|-----|---|
| ① Pad dia. | Form | ② Material ^{*1} | ZP | | | | | | |
| 10 | U | N S F GN GS | 10 | 12 | 4 | 13 | 12 | 3 | |
| 13 | | | 13 | 15 | | | 12.5 | 3.5 | |
| 16 | | | 16 | 18 | | 15 | 14 | 4 | |
| 20 | | | 20 | 23 | | | 14.5 | 4.5 | |
| 25 | | | 25 | 28 | 7 | 18 | 18.5 | 6.5 | |
| 32 | | | 32 | 35 | | | 19.5 | 7.5 | |
| 40 | | | 40 | 43 | | | | | |
| 50 | | | 50 | 53 | | | | | |

*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

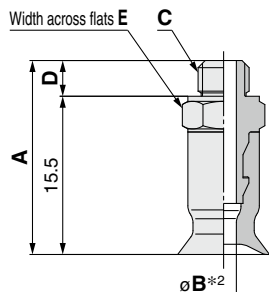
Mounting Bracket Assembly

Precautions

Dimensions/Models

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

ZPT **02** U **N** - **A5**
 ① ② ③



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 121 |

③ Vacuum inlet (Male thread)

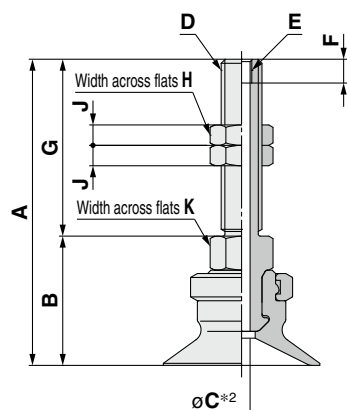
| | |
|----|----------|
| A5 | M5 x 0.8 |
| A6 | M6 x 1 |

| Model | | | | | | A | B*2 | C | D | E |
|------------------------|------------|------|------------------------------|----------------|----------|----|-----|----------|-----|---|
| Vacuum inlet direction | ① Pad dia. | Form | ②*1 Material | ③ Vacuum inlet | | | | | | |
| ZP | T | U | N S U F GN GS | A5 | 02 | 19 | 1.2 | M5 x 0.8 | 3.5 | 7 |
| | | | | | 04 | | 1.6 | | | |
| | | | | | 06 08 | | 2.5 | | | |
| | | | | A6 | 02 | 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 $\varnothing 10$ to $\varnothing 50$

ZPT **10** U **N** - **A5**
 ① ② ③



| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

③ 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 | | |
|------------------------|------------|------|------------------------------|---------------------|--------|----------|----|-----|----------|----------|-----|------|------|---|----|------|------|
| Vacuum inlet direction | ① Pad dia. | Form | ②*1 Material | ③ Connection thread | | | | | | | | | | | | | |
| ZP | T | U | N S U F GN GS | A5 | 10 | 38 | 17 | 2.5 | M5 x 0.8 | M3 x 0.5 | 3.5 | 21 | 8 | 4 | 8 | | |
| | | | | | 13 | | | | | | | | | | | | |
| | | | | | 16 | | | | | | | | | | | | |
| | | | | | 10 | | | | | | | | | | | 43 | 17 |
| | | | | | 13 | | | | | | | | | | | | |
| | | | | | 16 | | | | | | | | | | | | |
| | | | | A6 | 20 | 45 | 19 | 2.5 | M6 x 1 | M3 x 0.5 | 3.5 | 26 | 8 | 4 | 12 | | |
| | | | | | 25 | | | | | | | | | | | | |
| | | | | | 32 | | | | | | | | | | | | |
| | | | | | 40 | | | | | | | | | | | 45.5 | 19.5 |
| | | | | | 50 | | | | | | | | | | | | |
| | | | | | 50 | | | | | | | | | | | 51.5 | 25.5 |
| A8 | 20 | 40 | 24 | 4 | M8 x 1 | M5 x 0.8 | 5 | 16 | 12 | 4 | 12 | | | | | | |
| | 25 | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | 40.5 | 24.5 | | | | |
| | 40 | | | | | | | | | | | | | | | | |
| 50 | 41.5 | 25.5 | 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

Recommended Gasket Part Nos.

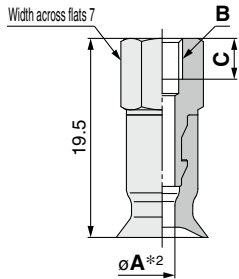
| Part no. | D vacuum inlet (Male thread) |
|----------|------------------------------|
| WCS5X0.8 | M5 x 0.8 |
| WCS6X1 | M6 x 1 |
| WCS8X1 | M8 x 1 |

Dimensions/Models

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

ZPT **02** U **N** - **B4**

① ② ③



③ Vacuum inlet (Female thread)

| | |
|-----------|----------|
| B4 | M4 x 0.7 |
| B5 | M5 x 0.8 |

| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 121 |

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

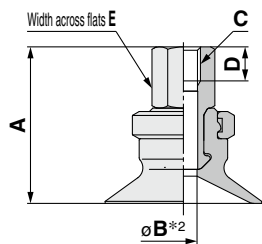
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

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

ZPT **10** U **N** - **B5**

① ② ③



③ Vacuum inlet (Female thread)

| | |
|------------|-----------|
| B5 | M5 x 0.8 |
| B6 | M6 x 1 |
| B8 | M8 x 1.25 |
| B01 | Rc1/8 |
| N01 | NPT1/8 |
| T01 | NPTF1/8 |

| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

| Model | | | | | A | B*2 | C | D | E | | | | |
|------------------------|------------|------|------------------------------|----------------|-------------------|------|-----------|---|----|-----|----------------------------|---|----|
| Vacuum inlet direction | ① Pad dia. | Form | ② *1 Material | ③ Vacuum inlet | | | | | | | | | |
| ZP | T | U | N S U F GN GS | B5 | 21 | 2.5 | M5 x 0.8 | 5 | 8 | | | | |
| | | | | | 21.5 | | | | | | | | |
| | | | | | 23 | 4 | | | | | | | |
| | | | | | 23.5 | | | | | | | | |
| | | | | | B6 | 21 | | | | 2.5 | M6 x 1 | 6 | 8 |
| | | | | | | 21.5 | | | | | | | |
| | | | | 23 | | 4 | | | | | | | |
| | | | | 23.5 | | | | | | | | | |
| | | | | 32 | | 4.9 | 12 | | | | | | |
| | | | | 33 | | | | | | | | | |
| | | | | B8 | 29 | 3.5 | M8 x 1.25 | 8 | 12 | | | | |
| | | | | | 29.5 | | | | | | | | |
| | | | | | 32 | 6.6 | | | | | | | |
| | | | | | 33 | | | | | | | | |
| | | | | | B01 N01 T01 | 27 | | | | 2.5 | Rc1/8 NPT1/8 NPTF1/8 | — | 12 |
| | | | | | | 27.5 | | | | | | | |
| | | | | 29 | | 3.5 | | | | | | | |
| | | | | 29.5 | | | | | | | | | |
| | | | | 32 | | 7 | | | | | | | |
| | | | | 33 | | | | | | | | | |

*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

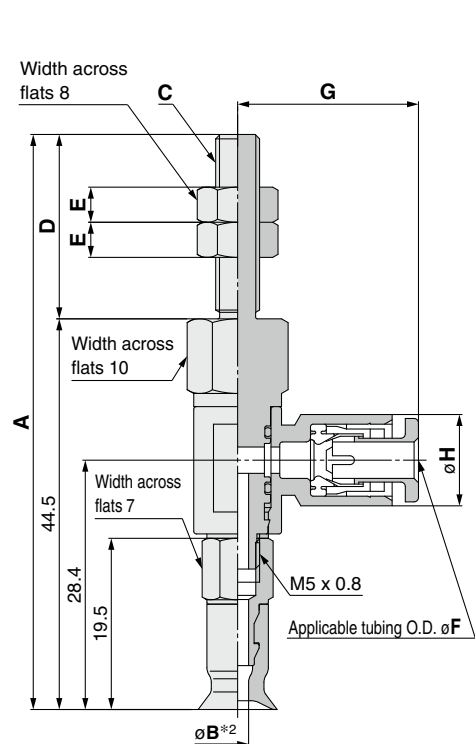
Construction

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** - **A5**

| | | |
|-----------------|-----------------|-----------|
| 1 | 2 | 3 |
| 04 | 06 | 04 |
| $\varnothing 4$ | $\varnothing 6$ | |

4 Connection thread
(Male thread)

| | |
|-----------|----------|
| A5 | M5 x 0.8 |
| A6 | M6 x 1 |

| Model | | | | | | A | B*2 | C | D | E |
|------------------------|----------------------|------|------------------------------|--------------------------|-------------------------------|------|-----|----------|----|---|
| Vacuum inlet direction | 1 Pad dia. | Form | 2 Material | 3 Vacuum inlet | 4 Connection thread | | | | | |
| ZP | R | U | N S U F GN GS | 04 06 | A5 A6 | 65.5 | 1.2 | M5 x 0.8 | 21 | 4 |
| | | | | | | | 1.6 | | | |
| | | | | | | | 2.5 | | | |
| | | | | | | 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 Material | 3 Vacuum inlet | 4 Connection thread | | | | |
| ZP | R | U | N S U F GN GS | 04 | A5 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | 06 | A6 | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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** U **N** - **04** - **A5**

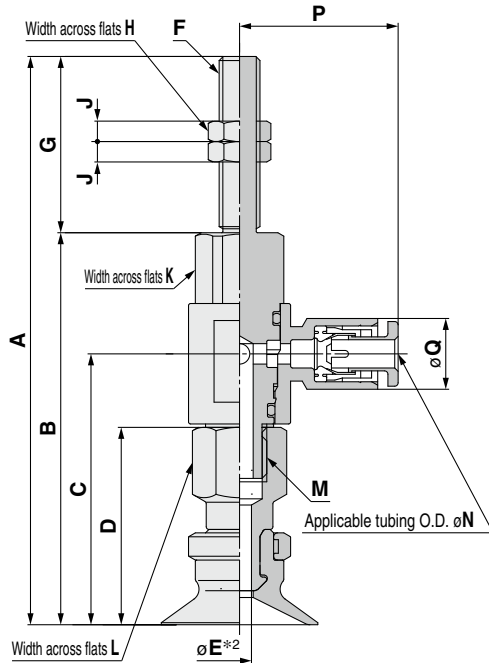
① ②

Vacuum inlet
(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 | M | | | | | | | |
|------------------------|------------|-------|------------------------------|----------------|---------------------|------|------|------|------|-----------------|----------|------|---|---|----|----|-----------|--------|------|----|---|----------|----|-----------|
| 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 | M5 x 0.8 | 21 | 8 | 4 | 10 | 8 | M5 x 0.8 | | | | | | | |
| | | | | | | 13 | 67.5 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | | | |
| | | | | | | 16 | 72 | 46 | 29.9 | 21 | | | | | | | | 2.5 | 26 | 10 | 8 | M5 x 0.8 | | |
| | | | | | | 13 | 72.5 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | | | |
| | | | | | A6 | 20 | 83.5 | 57.6 | 39.8 | 29 | M6 x 1 | 25.9 | 8 | 4 | 12 | 12 | M8 x 1.25 | | | | | | | |
| | | | | | | 25 | 84 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | |
| | | | | | | 32 | 86.5 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | |
| | | | | | | 40 | 87.5 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | |
| | | | | | | 50 | 87.5 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | |
| | | | | | | 20 | 73.5 | 57.6 | 39.8 | 29 | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | M8 x 1.25 |
| | | | | | | 25 | 74 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | |
| | | | | | | 32 | 76.5 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | |
| | | | | | 40 | 77.5 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | 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 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | A6 | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | 06 | A5 | 4 | 23.3 | 10.4 | $\varnothing 3$ |
| | | | | | A6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | 08 | A5 | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | | A6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | 08 | A5 | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | | A6 | 8 | 26.2 | 15.2 | $\varnothing 6$ |

*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

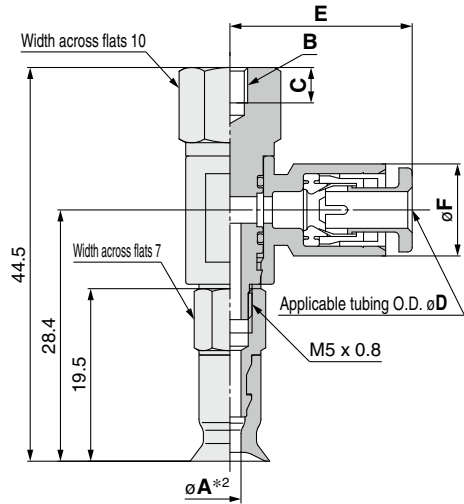
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/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 |
| 02 | 04 | U | N |
| 04 | 06 | S | S |
| 06 | 08 | F | U |
| 08 | | 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 | U | N S U F GN GS | 04 06 | B4 | 1.2 | M4 x 0.7 | 4 |
| | | | | | | 1.6 | | |
| | | | | | | 2.5 | | |
| | | | | | B5 | 1.2 | M5 x 0.8 | 5 |
| | | | | | | 1.6 | | |
| | | | | | | 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 | U | N S U F GN GS | 04 | B4 B5 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | 06 | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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 $\varnothing 50$

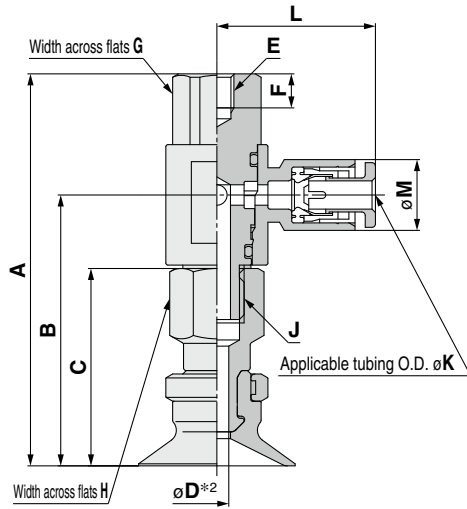
ZPR **10** **U** **N** - **04** - **B5**

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 | | | | A | B | C | D*2 | E | F | G | H | J | | | | |
|------------------------|------------|-------|------------------------------|----------------|---------------------|----|----------------|------|------|------|----------|------|-----|-----------|----------|----|----|-----------|
| 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 | B5 | 10 | 46 | 29.9 | 21 | 2.5 | M5 x 0.8 | 5 | 10 | 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 | U | 04 06 08 | B6 | 10 | 46 | 29.9 | 21 | 2.5 | M6 x 1 | 6 | 12 | 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 | U | | 04 06 08 | | | | B8 | 20 | 57.6 | 39.8 | 29 | 3.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 |
| | | | | | | | | | 25 | 60.6 | 42.8 | 32 | | | | | | |
| | | | | | | | | | 32 | 60.6 | 42.8 | 32 | | | | | | |
| | | | | | | | | | 40 | 61.6 | 43.8 | 33 | | | | | | |
| | | | | | R | U | 04 06 08 | B8 | 20 | 57.6 | 39.8 | 29 | 3.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 |
| | | | | | | | | | 25 | 60.6 | 42.8 | 32 | | | | | | |
| | | | | | | | | | 32 | 60.6 | 42.8 | 32 | | | | | | |
| | | | | | | | | | 40 | 61.6 | 43.8 | 33 | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | 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 | U | N S U F GN GS | 04 | B5 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | B6 | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | 06 | B5 | 4 | 23.3 | 10.4 | $\varnothing 3$ |
| | | | | | B6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | 08 | B5 | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | | B6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | 08 | B6 | 8 | 26.2 | 15.2 | $\varnothing 6$ |

*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

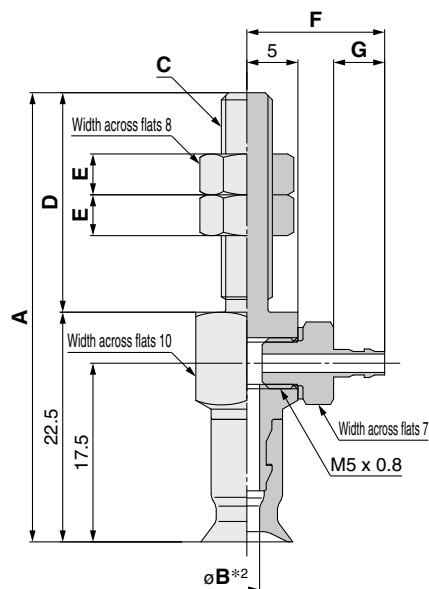
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 123 |

ZPY **02** U **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*2 | C | D | E | |
|----|------------------------|------------|------|------------------------------|----------------------|------|-----|----------|--------|----|---------------------|
| | | 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 | 1.2 | M5 x 0.8 | 21.5 | 4 | |
| | | 04 | | | | | 1.6 | | | | |
| | | 06 08 | | | | | 2.5 | | | | |
| | | 02 | | | | 49.5 | A6 | 1.2 | M6 x 1 | 27 | 4 |
| | | 04 | | | | | | 1.6 | | | |
| | | 06 08 | | | | | | 2.5 | | | |

Dimensions Per Vacuum Inlet

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

*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** - **A5**

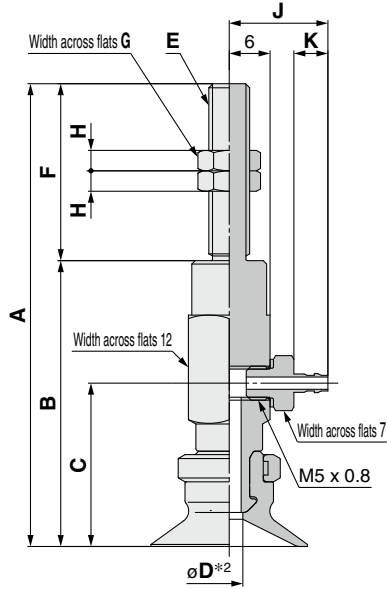
① ②

Vacuum inlet ③
(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 |

| ZP | Y | 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 | Y | U | N S U F GN GS | N4 N6 U4 U6 | A5 | 10 | 59 | 38 | 22 | 2.5 | M5 x 0.8 | 21 | 8 | 4 | | | | |
| | | | | | | 13 | 59.5 | 38.5 | 22.5 | | | | | | | | | |
| | | | | | | 16 | 2.5 | M6 x 1 | 26 | 8 | | | | | 4 | | | |
| | | | | | | 10 | | | | | | | | | | 64 | 38 | 22 |
| | | | | | | 13 | | | | | | | | | | 64.5 | 38.5 | 22.5 |
| | | | | | | 16 | | | | | | | | | | 68 | 42 | 24 |
| | | | | | 20 | 3.5 | M8 x 1 | | | | 16 | 12 | 4 | | | | | |
| | | | | | 25 | | | | | | | | | 68.5 | | 42.5 | 24.5 | |
| | | | | | 32 | 72.5 | | 46.5 | 28.5 | | | | | | | | | |
| | | | | | 40 | 73.5 | | 47.5 | 29.5 | | | | | | | | | |
| | | | | | 50 | 6 | | M5 x 0.8 | 21 | 8 | | | | 4 | | | | |
| | | | | | 20 | | | | | | | | | | 58 | 42 | 24 | |
| 25 | 3.5 | M8 x 1 | 16 | 12 | 4 | | | | | | | | | | | | | |
| 32 | | | | | | 58.5 | 42.5 | | | | 24.5 | | | | | | | |
| 40 | 62.5 | | | | | 46.5 | 28.5 | | | | | | | | | | | |
| 50 | 63.5 | | | | | 47.5 | 29.5 | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

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

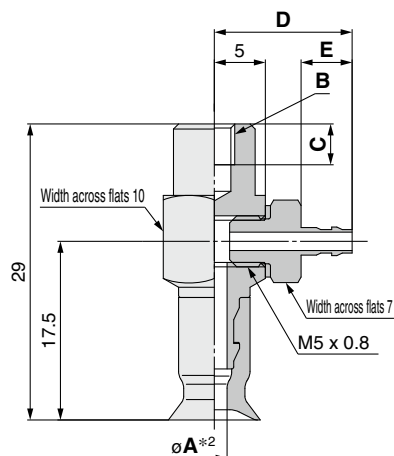
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With 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 | | | | |

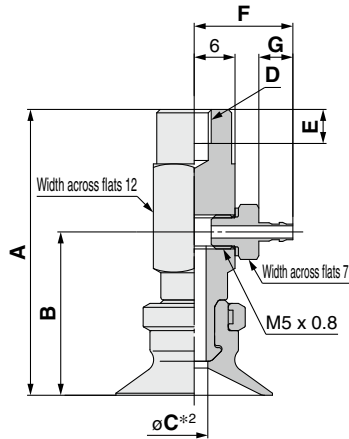
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*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 | B5 | | | | |
| | | | | U6 | B5 | 14.5 | 5 | $\varnothing 1.8$ | |
| | | | | N4 | B6 | 16.5 | 7 | $\varnothing 2.5$ | |
| | | | | U4 | B8 | | | | |
| N6 | B6 | 16.5 | 7 | $\varnothing 2.5$ | | | | | |
| U6 | B8 | | | | | | | | |
| N6 | B6 | 16.5 | 7 | $\varnothing 2.5$ | | | | | |
| U6 | B8 | | | | | | | | |

*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 $\varnothing 8$

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

① ② ④

Buffer specification ③

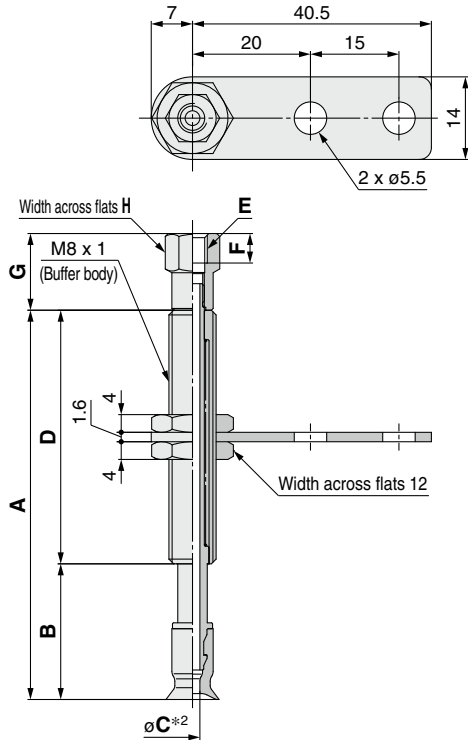
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

⑥ **Connection thread (Male thread)**

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

⑤ **Vacuum inlet**

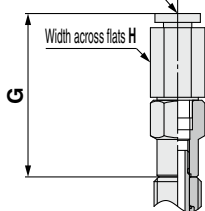
| | | | |
|-----------|----------------------------------|-------------------|------------|
| B3 | M3 x 0.5 | Female thread | |
| B5 | M5 x 0.8 | Female thread | |
| 04 | $\varnothing 4$ | One-touch fitting | KQ2H04-M5N |
| 06 | $\varnothing 6$ | | KQ2H06-M5N |
| N4 | For $\varnothing 4$ nylon tubing | 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 | 02 | U | N S U F G N G S | J K | 6 | B3 B5 04 06 N4 U4 | A8 | 33 | 18 | 1.2 | 15 |
| | | | | | | 10 | | | 66 | 23 | | 43 |
| | | | | | | 15 | | | 71 | 28 | | 43 |
| | | 25 | | | 81 | 38 | | | 15 | | | |
| | | 6 | | | 33 | 18 | | | 43 | | | |
| | | 10 | | | 66 | 23 | | | 15 | | | |
| | 04 | 15 | | 1.6 | J K | B3 B5 04 06 N4 U4 | A8 | 6 | 33 | 18 | 15 | |
| | | | | | | | | 10 | 66 | 23 | 43 | |
| | | | | | | | | 15 | 71 | 28 | 43 | |
| | | 25 | | | | | | 81 | 38 | 15 | | |
| | | 6 | | | | | | 33 | 18 | 43 | | |
| | | 10 | | | | | | 66 | 23 | 15 | | |
| 06 08 | J: 2.5 K: 2 | 1.6 | J K | B3 B5 04 06 N4 U4 | A8 | 6 | 33 | 18 | 15 | | | |
| | | | | | | 10 | 66 | 23 | 43 | | | |
| | | | | | | 15 | 71 | 28 | 43 | | | |
| 25 | 81 | 38 | | | | | | | | | | |

Vacuum inlet: One-touch fitting

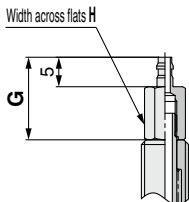
Applicable tubing O.D. $\varnothing J$



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 | 02 04 06 08 | U | N S U F G N G S | J K | 6 | B3 B5 | A8 | M3 x 0.5 | 3 | 11 | 6 |
| | | | | | | 10 | | | M5 x 0.8 | 5 | 13 | 8 |
| | | | | | | 15 25 | | | | | | |

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 | 02 04 06 08 | U | N S U F G N G S | J K | 6 | 04 06 | A8 | 27.7 | 8 | 4 | $\varnothing 2.5$ |
| | | | | | | 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 | 02 04 06 08 | U | N S U F G N G S | J K | 6 | N4 U4 | A8 | 14 | 6 | $\varnothing 1.8$ |
| | | | | | | 10 | | | | | |
| | | | | | | 15 25 | | | | | |

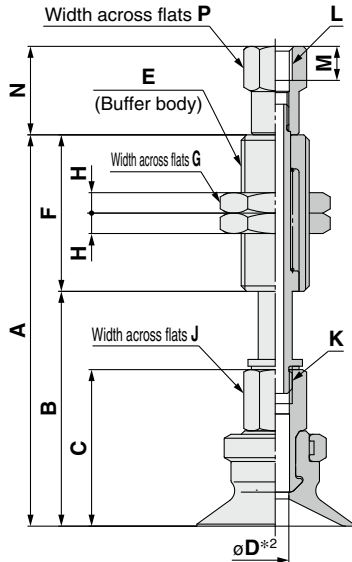
| | |
|------------------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 124 |

*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 | | | | | | | | | | | | | | | | | | |
| 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

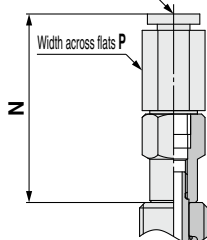
With buffer $\varnothing 10$ to $\varnothing 50$

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

① ② ③ ④ ⑤ ⑥

Vacuum inlet: One-touch fitting

Applicable tubing O.D. $\varnothing Q$



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 $\varnothing 32$ | $\varnothing 40, \varnothing 50$ (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 | | | |

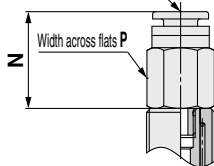
Dimensions Per Vacuum Inlet: One-touch Fitting

| | | Model | | | | | | 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 | 10 | U | 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 | | | | | |
| | | 32 | | | | | | | | | |
| | T | 40 | U | N S U F GN GS | J K | 10 | A14 | 31.8 | 10 | 6 | $\varnothing 4.5$ |
| | | 50 | | | | 35.9 | | 14 | 8 | $\varnothing 6$ | |
| | | | | | | 20 | | 19.9 | 12 | 6 | $\varnothing 3$ |
| | | | | | | 30 | | 24.9 | 14 | 8 | |
| | | | | | | 50 | | | | | |

Vacuum inlet: Built-in One-touch fitting

Pad diameter: $\varnothing 40, \varnothing 50$ (Buffer stroke: 20 to 50 st)

Applicable tubing O.D. $\varnothing Q$

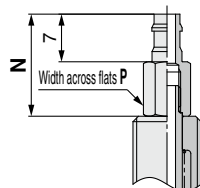


Dimensions Per Vacuum Inlet: Barb Fitting

| | | 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 | 10 | U | N S U F GN GS | J K | 10 | A10 | 15 | 6 | $\varnothing 2.5$ |
| | | 13 | | | | 20 | | | | |
| | | 16 | | | | 30 | | | | |
| | | 20 | | | | 40 | | | | |
| | | 25 | | | | 50 | | | | |
| | | 32 | | | | | | | | |
| | T | 40 | U | N S U F GN GS | J K | 10 | A14 | 19 | 10 | $\varnothing 2.5$ |
| | | 50 | | | | 20 | | | | |
| | | | | | | 30 | | | | |
| | | | | | | 50 | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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

Vacuum inlet: Barb fitting



| | |
|-----------------|--------|
| Construction | p. 118 |
| Buffer Assembly | p. 124 |

Dimensions/Models

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

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

① ② ④

Buffer specification ③

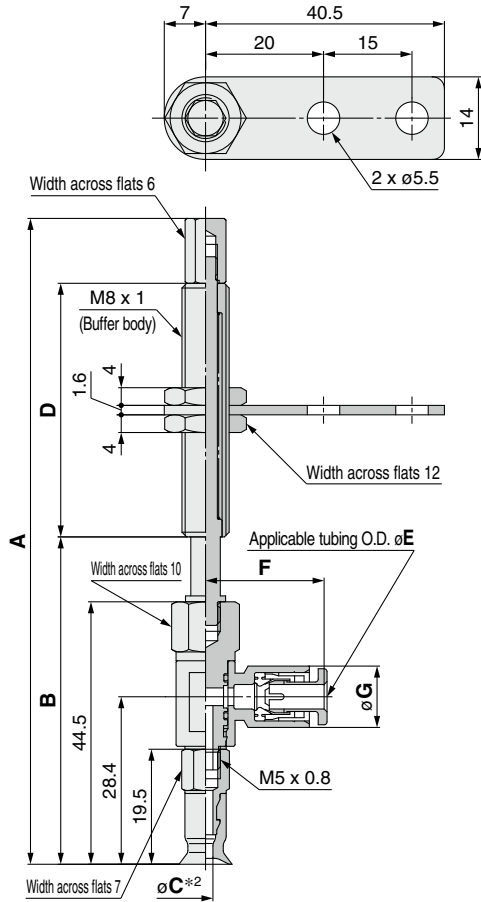
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

⑥ **Connection thread (Male thread)**

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

⑤ **Vacuum inlet (One-touch fitting)**

| | |
|-----------|-----------------|
| 04 | $\varnothing 4$ |
| 06 | $\varnothing 6$ |



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

| | Vacuum inlet direction | Model | | | | | | A | B | C*2 | D | | | | | | |
|-----------|------------------------|------------|-----------|--|----------------------|--|----------------------|-----------|-----------|-----------|-----------|---------------------|-------|-------|-------|------|----|
| | | 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 F GN GS | J K | 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 | | | | |
| | | 6 | | | | 78.5 | | | | | | | 52.5 | 15 | | | |
| | | 10 | | | | 109.5 | | | | | | | 55.5 | | | | |
| | 04 | 06 | 08 | | U | N S F GN GS | J K | 15 | 04 | 06 | A8 | 114.5 | 60.5 | 1.6 | 43 | | |
| | | | | | | | | 25 | | | | | | | 124.5 | 70.5 | |
| | | | | | | | | 6 | | | | | | | 78.5 | 52.5 | 15 |
| | | 10 | | | | | | 109.5 | | | | | | | 55.5 | | |
| | | 15 | | | | | | 114.5 | | | | | | | 60.5 | | |
| | | 25 | | | | | | 124.5 | | | | | | | 70.5 | | |
| 06 | 08 | 08 | U | N S F GN GS | J K | | 6 | 04 | 06 | A8 | 78.5 | 52.5 | 2.5 | 15 | | | |
| | | | | | | | 10 | | | | | | | 109.5 | 55.5 | 43 | |
| | | | | | | | 15 | | | | | | | 114.5 | 60.5 | | |
| | 25 | | | | | | 124.5 | | | | | | | 70.5 | | | |
| | 6 | | | | | | 78.5 | | | | | | | 52.5 | 15 | | |
| | 10 | | | | | | 109.5 | | | | | | | 55.5 | | | |

Dimensions Per Vacuum Inlet

| | Vacuum inlet direction | Model | | | | | | E | F | G | 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 | R | 02 | U | N S F GN GS | J K | 6 | 04 | A8 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | 04 | | | | 10 | | | | | | $\varnothing 4$ |
| | | 06 | | | | 15 | | | | | | 06 |
| | | 08 | | | | 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 $\varnothing 50$

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

① ② ③ ④

⑥ Connection thread
(Male thread)

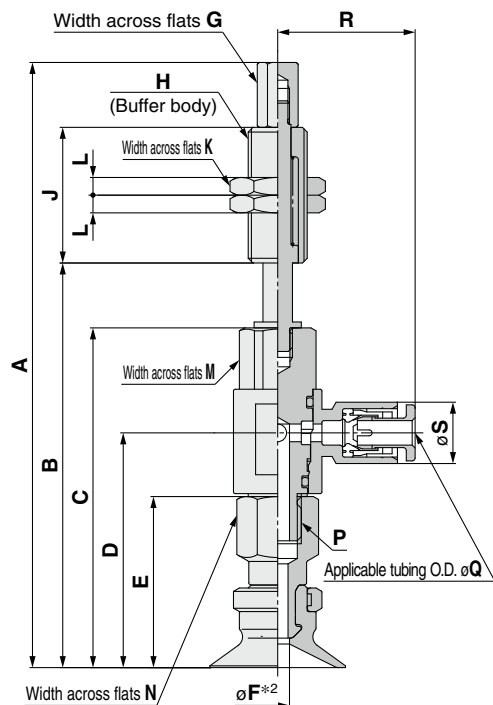
Buffer specification ③

| | |
|----------|--------------|
| 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 | | | | | | | | | | A | B | C | D | E | F | G | H | J | K | 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 | R | U | 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 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | 91.5 | | 57.5 | | | | | | | | | | | | | | | | | 23 | | | 10 | 8 | M5 x 0.8 | | |
| | | | | | 20 | 129.5 | | 67.5 | | | | | | | | | | | | | | | | | 51 | | | | | | | |
| | | | | | 30 | 139.5 | | 77.5 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 40 | 175.5 | | 87.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | 185.5 | | 97.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | 102.6 | | 68.6 | | | | | | | | | | | | | | | | | 23 | | | | | | | |
| | | | | | 20 | 140.6 | | 78.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 150.6 | 88.6 | 57.6 | 39.8 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 186.6 | 98.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 196.6 | 108.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 103.1 | 69.1 | | | | | | | | | | | | | | | | | 23 | | | | | | | | | | | | |
| | 20 | 141.1 | 79.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 151.1 | 89.1 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 187.1 | 99.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 197.1 | 109.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 140.6 | 72.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 137.6 | 82.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 147.6 | 92.6 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 192.6 | 112.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 141.6 | 73.6 | | | | | | | | | | | | | | | | | 75 | | | | | | | | | | | | | |
| 20 | 138.6 | 83.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 148.6 | 93.6 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 193.6 | 113.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | | | 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 | | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 20 | | | | | | | |
| | | | | | 30 | | | | | | | |
| | | | | | 40 | | | | | | | |
| | | | | | 50 | | | | | | | |
| | | | | | 10 | 04 | | | | | | |
| | 20 | | | | | | | | | | | |
| | 30 | 06 | | | | | | | | | | |
| | 40 | | | | | | | | | | | |
| | 50 | 08 | | | | | | | | | | |
| | 10 | 06 | | | | | | | | | | |
| | 20 | | | | | | | | | | | |
| 30 | 06 | | | | | | | | | | | |
| 50 | 08 | | | | | | | | | | | |
| 10 | 06 | | | | | | | | | | | |
| 20 | | | | | | | | | | | | |
| 30 | 08 | | | | | | | | | | | |
| 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 $\varnothing 8$

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

① ② ④

Buffer specification ③

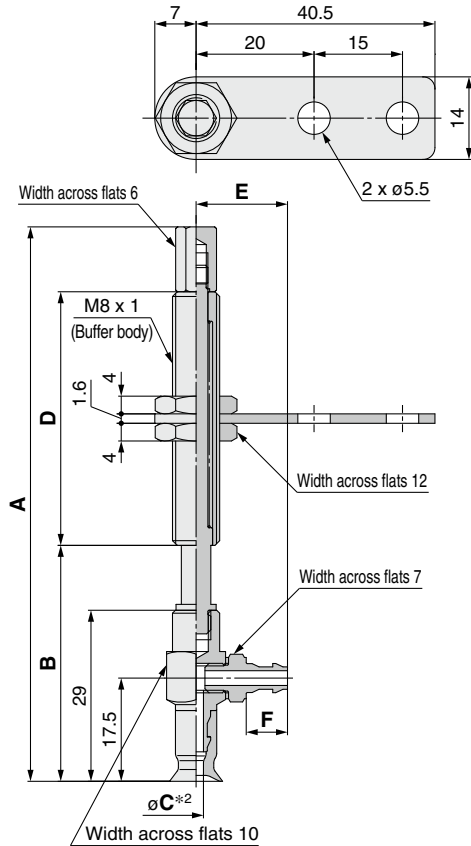
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 |



| | |
|-----------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 126 |

| | | 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 | 6 | N4 N6 U4 U6 | A8 | 63 | 37 | 1.2 | 15 |
| | | | | | | 10 | | | 94 | 40 | | 43 |
| | | | | | | 15 | | | 99 | 45 | | 43 |
| | | | | | | 25 | | | 109 | 55 | 43 | |
| | | | | | | 6 | | | 63 | 37 | 15 | |
| | | | | | | 10 | | | 94 | 40 | 43 | |
| | 04 | U | N S U F GN GS | J K | 6 | N4 N6 U4 U6 | A8 | 63 | 37 | 1.6 | 15 | |
| | | | | | 10 | | | 94 | 40 | | 43 | |
| | | | | | 15 | | | 99 | 45 | | 43 | |
| | | | | | 25 | | | 109 | 55 | 43 | | |
| | | | | | 6 | | | 63 | 37 | 15 | | |
| | | | | | 10 | | | 94 | 40 | 43 | | |
| 06 08 | U | N S U F GN GS | J K | 6 | N4 N6 U4 U6 | A8 | 63 | 37 | 2.5 | 15 | | |
| | | | | 10 | | | 94 | 40 | | 43 | | |
| | | | | 15 | | | 99 | 45 | | 43 | | |
| | | | | 25 | | | 109 | 55 | 43 | | | |
| | | | | 6 | | | 63 | 37 | 15 | | | |
| | | | | 10 | | | 94 | 40 | 43 | | | |
| 15 | 99 | 45 | 43 | | | | | | | | | |
| 25 | 109 | 55 | 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 | 6 | N4 U4 N6 U6 | A8 | 13.5 | 5 | $\varnothing 1.8$ |
| | | 04 | | | | 10 | | | | | |
| | | 06 08 | | | | 15 25 | | | | | |
| | | | | | | | | | 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

Belows Type

Thin Flat Type

Thin Flat Type with Ribs

Deep Type

Construction

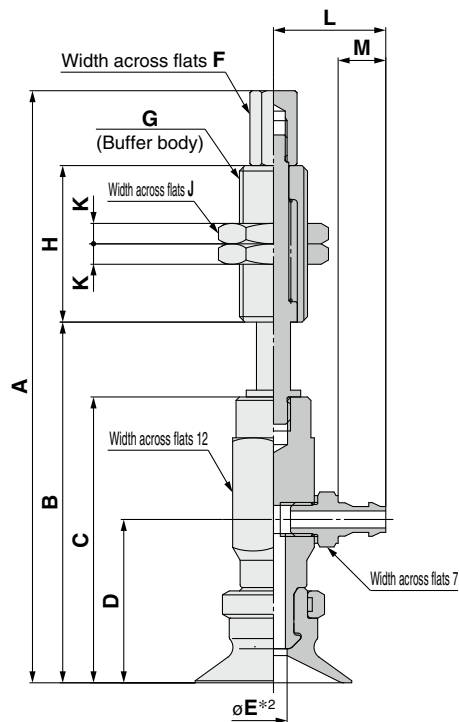
Mounting Bracket Assembly

Precautions

Dimensions/Models

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

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



| | |
|-----------------|--------|
| 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 | 10 13 | 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 | 23 | 14 | 3 | | | |
| | | | | | | 20 | | | 121 | 59 | | | | | | 51 | | | | | |
| | | | | | | 30 | | | 131 | 69 | | | | | | 77 | | | | | |
| | | | | | | 40 | | | 167 | 79 | | | | | | 77 | | | | | |
| | | | | | | 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 | 77 | | | | | | | | | | |
| | | | | | | 50 | | | 177.5 | 89.5 | 77 | | | | | | | | | | |
| | | | | | | 10 | | | 87 | 53 | 23 | | | | | | | | | | |
| | | | | | | 20 | | | 125 | 63 | 51 | | | | | | | | | | |
| | | 30 | 135 | 73 | 77 | | | | | | | | | | | | | | | | |
| | | 40 | 171 | 83 | 77 | | | | | | | | | | | | | | | | |
| | | 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 | 77 | | | | | | | | | | | | | | | | |
| | | 50 | 181.5 | 93.5 | 77 | | | | | | | | | | | | | | | | |
| | | 10 | 126.5 | 58.5 | 50 | | | | | | | | | | | | | | | | |
| | | 20 | 123.5 | 68.5 | 75 | | | | | | | | | | | | | | | | |
| | | 30 | 133.5 | 78.5 | 75 | | | | | | | | | | | | | | | | |
| | | 50 | 178.5 | 98.5 | 75 | | | | | | | | | | | | | | | | |
| 10 | 127.5 | 59.5 | 50 | | | | | | | | | | | | | | | | | | |
| 20 | 124.5 | 69.5 | 75 | | | | | | | | | | | | | | | | | | |
| 30 | 134.5 | 79.5 | 75 | | | | | | | | | | | | | | | | | | |
| 50 | 179.5 | 99.5 | 75 | | | | | | | | | | | | | | | | | | |

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 | 10 | U | N S U F GN GS | J K | 10 20 30 40 50 | N4 U4 | A10 | 14.5 | 5 | $\varnothing 1.8$ | |
| | | 16.5 | | | | | | | 7 | $\varnothing 2.5$ | | |
| | | 20 | | | | | N6 U6 | A14 | 16.5 | 7 | $\varnothing 2.5$ | |
| | | 16.5 | | | | | | | 7 | $\varnothing 2.5$ | | |
| | | 30 | | | | | N6 U6 | A14 | 16.5 | 7 | $\varnothing 2.5$ | |
| | | 50 | | | | | | | N6 U6 | A14 | 16.5 | 7 |
| 40 | N6 U6 | A14 | 16.5 | 7 | $\varnothing 2.5$ | | | | | | | |
| 50 | | | 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



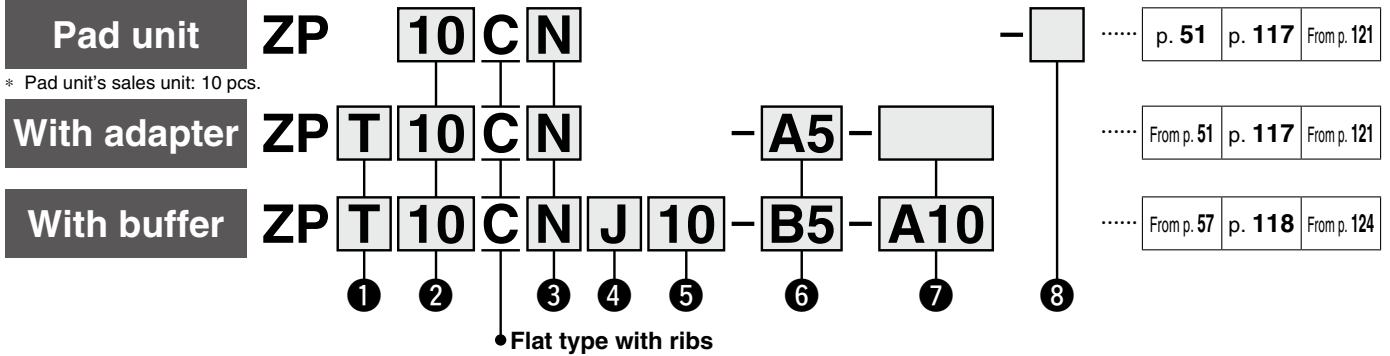
Basic Pad

Flat Type with Ribs

ZP Series



How to Order



1 Vacuum inlet direction

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

2 Pad diameter

| Symbol | Pad diameter [mm] |
|--------|-------------------|
| 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 | ø13 | ø16 | ø20 | ø25 | ø32 | ø40 | ø50 |
| 10 | ● | ● | ● | ● | ● | ● | ● | ● |
| 20 | ● | ● | ● | ● | ● | ● | ● | ● |
| 30 | ● | ● | ● | ● | ● | ● | ● | ● |
| 40 | ● | ● | ● | ● | ● | ● | — | — |
| 50 | ● | ● | ● | ● | ● | ● | ● | ● |

3 Material

| Symbol | Material |
|--------|----------------------------|
| N | NBR |
| S | Silicone rubber*1 |
| U | Urethane rubber |
| F | FKM |
| GN | Conductive NBR |
| GS | Conductive silicone rubber |

4 Buffer specification

| Symbol | 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
○: 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 | Nil | M3 x 0.5 | ○ | ○ | ○ |
| | | M5 x 0.8 | — | ○ | ○ |
| | B5 | M5 x 0.8 | ○ | ○ | — |
| | B6 | M6 x 1 | ○ | ○ | ○ |
| | B8 | M8 x 1.25 | — | ○ | ○ |
| | B01 | Rc1/8 | ○ | ○ | ○ |
| | T01 | NPT1/8 | ○ | ○ | ○ |
| 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

7 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 | 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 ○: ZPT/Vertical comes with a vacuum inlet (female thread).

With buffer

6 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

7 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 | — | — | ○●△ |

8 Lock ring

| Symbol | Pad diameter | Lock ring unit | |
|--------|-------------------|----------------|-------------------|
| | | Part no. | Pad diameter [mm] |
| Nil | All sizes | ZPL1 | ø10 to ø16 |
| X19 | With lock ring | ZPL2 | ø20 to ø32 |
| | Without lock ring | ZPL3 | ø40, ø50 |

* 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

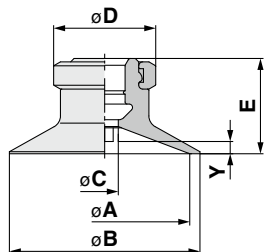
Mounting Bracket Assembly

Precautions

Dimensions/Models

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

ZP **10** C **N**
① ②



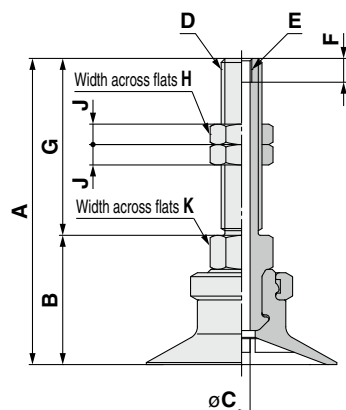
| | |
|---------------------------|-------------|
| Construction | p. 117 |
| Mounting Bracket Assembly | From p. 121 |

| Model | ① Pad dia. | ② Form | ② Material ^{*1} | A | B | C | D | E | Y | |
|-------|------------|--------|--------------------------|----|----|---|----|------|-----|------|
| | | | | | | | | | | ZP |
| | 13 | | | 13 | 15 | | | 1.8 | | |
| | 16 | | | 16 | 18 | | | 1.2 | | |
| | 20 | | | 20 | 23 | | 15 | 14 | 1.7 | |
| | 25 | | | 25 | 28 | | | | 1.8 | |
| | 32 | | | 32 | 35 | | | | 2.3 | |
| | 40 | | | 40 | 43 | 7 | 18 | 18.5 | 3.3 | |
| | 50 | | | 50 | 53 | | | | | 19.5 |

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

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

ZPT **10** C **N** - **A5**
① ② ③



| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

③ 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 | Vacuum inlet direction | ① Pad dia. | ② Form | ② Material ^{*1} | ③ Connection thread | A | B | C | D | E | F | G | H | J | K | |
|-------|------------------------|------------|--------|--------------------------|---------------------|------|------|------|--------|----------|-----|----|----|---|----|------|
| | | | | | | | | | | | | | | | | ZP |
| | | 13 | | | | 38.5 | 17.5 | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | |
| | | 10 | | | A6 | 43 | 17 | 2.5 | M6 x 1 | M3 x 0.5 | 3.5 | 26 | 8 | 4 | 8 | |
| | | 13 | | | | | 43.5 | | | | | | | | | 17.5 |
| | | 16 | | | | | | | | | | | | | | |
| | | 20 | | | | | 45 | | | | | | | | | 19 |
| | | 25 | | | | | 45.5 | | | | | | | | | 19.5 |
| | | 32 | | | | | 50.5 | | | | | | | | | 24.5 |
| | | 40 | | | | 51.5 | 25.5 | | | | | | | | | |
| | | 50 | | | | | | | | | | | | | | |
| | | 20 | | | A8 | 40 | 24 | 4 | M8 x 1 | M5 x 0.8 | 5 | 16 | 12 | 4 | 12 | |
| | | 25 | | | | | 40.5 | | | | | | | | | 24.5 |
| | | 32 | | | | | | | | | | | | | | |
| | | 40 | | | | | | | | | | | | | | |
| | | 50 | | | | | 41.5 | 25.5 | | | | | | | | |

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

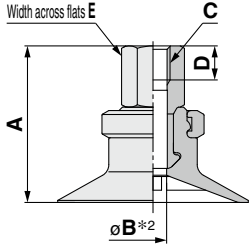
Recommended Gasket Part Nos.

| Part no. | D vacuum inlet (Male thread) |
|-----------------|------------------------------|
| WCS5X0.8 | M5 x 0.8 |
| WCS6X1 | M6 x 1 |
| WCS8X1 | M8 x 1 |

Dimensions/Models

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

ZPT **10** C **N** - **B5**



3 Vacuum inlet
(Female thread)

| | |
|------------|-----------|
| B5 | M5 x 0.8 |
| B6 | M6 x 1 |
| B8 | M8 x 1.25 |
| B01 | Rc1/8 |
| N01 | NPT1/8 |
| T01 | NPTF1/8 |

| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

| ZP | T | Model | | | A | B*2 | C | D | E |
|----|---|------------------------|--------------------------------------|-------------------|----|-----|----------------------------|---|----|
| | | Vacuum inlet direction | 1 Pad dia. | 2 Form | | | | | |
| | | C | N S U F G N G S | B5 | 10 | 2.5 | M5 x 0.8 | 5 | 8 |
| | | | | | 13 | | | | |
| | | | | | 16 | | | | |
| | | | | | 20 | | | | |
| | | | | | 25 | | | | |
| | | | | B6 | 21 | 4 | M6 x 1 | 6 | 8 |
| | | | | | 13 | | | | |
| | | | | | 16 | | | | |
| | | | | | 20 | | | | |
| | | | | | 25 | | | | |
| | | | | B8 | 21 | 4.9 | M8 x 1.25 | 8 | 12 |
| | | | | | 13 | | | | |
| | | | | | 16 | | | | |
| | | | | | 20 | | | | |
| | | | | | 25 | | | | |
| | | | | B01 N01 T01 | 21 | 7 | Rc1/8 NPT1/8 NPTF1/8 | — | 12 |
| | | | | | 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

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

③

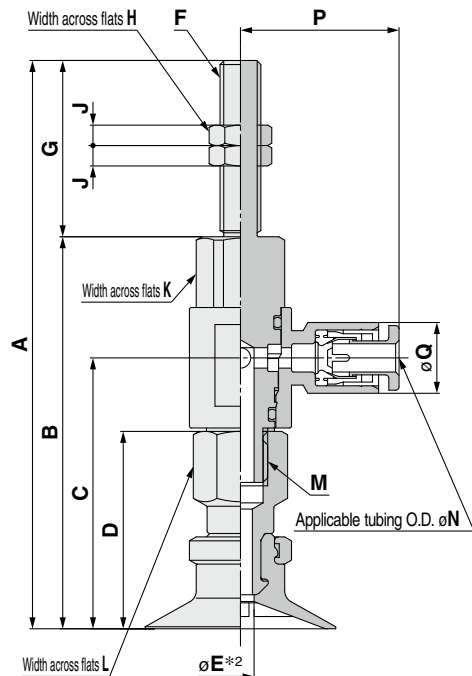
④

Connection thread
(Male thread)

Vacuum inlet
(One-touch fitting)

| | |
|----|-----------------|
| 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 | E ^{*2} | F | G | H | J | K | L | M | | | | | | | | | |
|------------------------|------------|-------|------------------------------|----------------|---------------------|------|------|------|------|-----------------|--------|----------|----|---|----|----|-----------|----------|-----|--------|------|---|----------|----|----|-----------|
| 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 | 10 | 8 | M5 x 0.8 | | | | | | | | |
| | | | | | | 13 | 67.5 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | | | | | |
| | | | | | | 16 | 72 | 46 | 29.9 | 21 | | | | | | | | | 2.5 | 26 | 10 | 8 | M5 x 0.8 | | | |
| | | | | | | 20 | 72.5 | 46.5 | 30.4 | 21.5 | | | | | | | | | 3.5 | M6 x 1 | 25.9 | 8 | 4 | 12 | 12 | M8 x 1.25 |
| | | | | | | 25 | 83.5 | 57.6 | 39.8 | 29 | | | | | | | | | | | | | | | | |
| | | | | | | 32 | 84 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | | | |
| | | | | | 40 | 86.5 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | | | | |
| | | | | | 50 | 87.5 | 61.6 | 43.8 | 33 | 4 | | | | | | | | | | | | | | | | |
| | | | | | 20 | 73.5 | 57.6 | 39.8 | 29 | 3.5 | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | M8 x 1.25 | | | | | | | | | |
| | | | | | 25 | 74 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | | | | |
| | | | | | 32 | 76.5 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | | | | |
| | | | | | 40 | 77.5 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | 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 06 08 | A5 A6 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | | A6 A8 | 4 | 23.3 | 10.4 | $\varnothing 3$ |
| | | | | | | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | | | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | | | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | | A8 | 8 | 26.2 | 15.2 | $\varnothing 6$ |

*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 $\varnothing 10$ to $\varnothing 50$

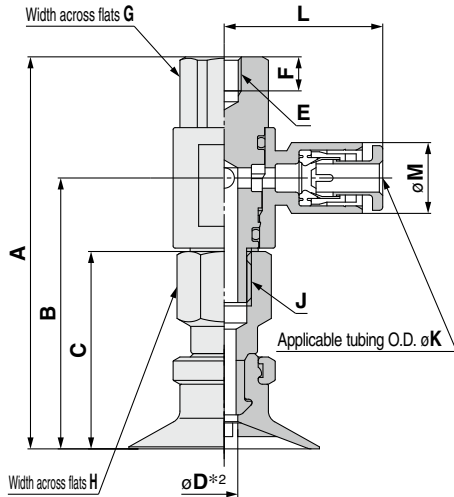
ZPR **10** C **N** - **04** - **B5**

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

4 Connection thread (Female thread)

| | |
|-----------|-----------------|
| 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 | | | | A | B | C | D*2 | E | F | G | H | J | |
|------------------------|------------|-------|------------------------------|----------------|---------------------|-----------|------|------|-----------|-----------|----------|----|----|-----------|-----------|
| 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 | B5 | 10 | 46 | 29.9 | 21 | 2.5 | M5 x 0.8 | 5 | 10 | 8 | M5 x 0.8 |
| | | | | | | 13 | 46.5 | 30.4 | 21.5 | | | | | | |
| | | | | | | 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 |
| | | | | | | 20 | 58.1 | 40.3 | 29.5 | | | | | | |
| | | | | | 25 | 46 | 29.9 | 21 | 2.5 | M6 x 1 | 6 | 10 | 8 | M5 x 0.8 | |
| | | | | | 13 | 46.5 | 30.4 | 21.5 | | | | | | | |
| | | | | | 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | |
| | | | | | 20 | 58.1 | 40.3 | 29.5 | | | | | | | |
| | 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | |
| | 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | |
| | 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | |
| | 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | |
| | 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | |
| | 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | |
| | 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | |
| | 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21.5 | | | | | | | | | | | | |
| 16 | 57.6 | 39.8 | 29 | 3.5 | | | 12 | 12 | M8 x 1.25 | | | | | | |
| 20 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | |
| 25 | 46 | 29.9 | 21 | 2.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| 13 | 46.5 | 30.4 | 21. | | | | | | | | | | | | |

Dimensions/Models

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

ZPY 10 C N - N4 - A5

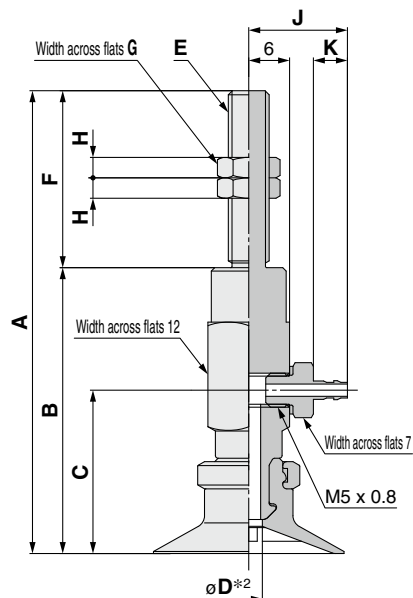
① ②

Vacuum inlet ③
(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 | C | 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 | | | | | | | | | | | | | | | |
| | | | | | | 68 | 42 | 24 | 3.5 | | | | | | | | | | | | | | |
| | | | | | | 68.5 | 42.5 | 24.5 | | | | | | | | | | | | | | | |
| | 72.5 | | | 46.5 | 28.5 | 6 | | | | | | | | | | | | | | | | | |
| | 73.5 | | | 47.5 | 29.5 | | | | | | | | | | | | | | | | | | |
| | Y | | | Y | C | N S U F GN GS | N6 U6 | A6 | 58 | 42 | 24 | 3.5 | M6 x 1 | 26 | 8 | 4 | | | | | | | |
| | | | | | | | | | 58.5 | 42.5 | 24.5 | | | | | | | | | | | | |
| | | | | | | | | | 62.5 | 46.5 | 28.5 | 6 | | | | | | | | | | | |
| | | | | | | | | | 63.5 | 47.5 | 29.5 | | | | | | | | | | | | |
| Y | | Y | C | | | | | | N S U F GN GS | N6 U6 | 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. | Form | ② ^{*1} Material | ③ Vacuum inlet | ④ Connection thread | | | | | |
| ZP | Y | C | N S U F GN GS | N4 U4 | A5 | 14.5 | 5 | $\varnothing 1.8$ | | |
| | | | | | | N6 U6 | A6 | 16.5 | 7 | $\varnothing 2.5$ |
| | | | | N6 U6 | A8 | | | 16.5 | 7 | $\varnothing 2.5$ |

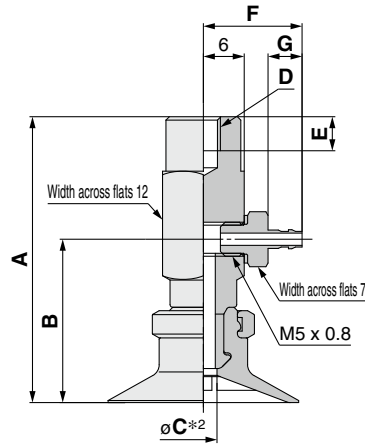
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

Dimensions/Models

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

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 | | | |
| | | | | N6 | B5 | 16.5 | 7 | $\varnothing 2.5$ |
| | | | | U6 | B8 | | | |
| | | | | N4 | B5 | 14.5 | 5 | $\varnothing 1.8$ |
| | | | | U4 | B8 | | | |
| N6 | B6 | 16.5 | 7 | $\varnothing 2.5$ | | | | |
| U6 | B8 | | | | | | | |
| N6 | B6 | 16.5 | 7 | $\varnothing 2.5$ | | | | |
| U6 | B8 | | | | | | | |

*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

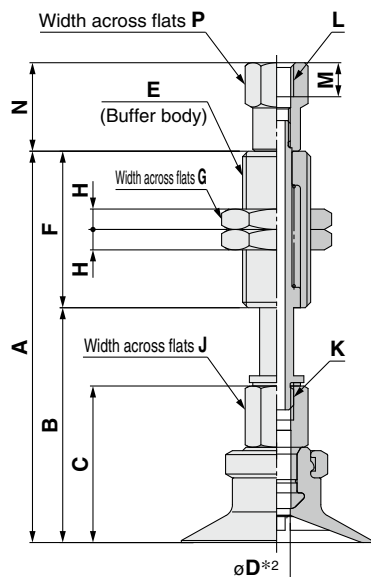
Construction

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**

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. | 2 Form | 3 Material | 4 Buffer spec. | 5 Buffer stroke | 6 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 | | | | | | | | 77 | | | |
| | | | | | | 50 | | | 149.5 | 72.5 | | | | | | | | 23 | | | |
| | | | | | | 10 | | | 56 | 33 | | | | | | | | 23 | | | |
| | | | | | | 20 | | | 94 | 43 | | | | | | | | 51 | | | |
| | | | | | | 30 | | | 104 | 53 | | | | | | | | 21.5 | | | |
| | | | | | | 40 | | | 140 | 63 | | | | | | | | 77 | | | |
| | | | | | | 50 | | | 150 | 73 | | | | | | | | 23 | | | |
| | | | | | | 10 | | | 57.5 | 34.5 | | | | | | | | 51 | | | |
| | | | | | | 20 | | | 95.5 | 44.5 | | | | | | | | 77 | | | |
| | | 30 | 105.5 | 54.5 | 23 | | | | | | | | | | | | | | | | |
| | | 40 | 141.5 | 64.5 | 77 | | | | | | | | | | | | | | | | |
| | | 50 | 151.5 | 74.5 | 23 | | | | | | | | | | | | | | | | |
| | | 10 | 58 | 35 | 51 | | | | | | | | | | | | | | | | |
| | | 20 | 96 | 45 | 77 | | | | | | | | | | | | | | | | |
| | | 30 | 106 | 55 | 23.5 | | | | | | | | | | | | | | | | |
| | | 40 | 142 | 65 | 77 | | | | | | | | | | | | | | | | |
| | | 50 | 152 | 75 | | | | | | | | | | | | | | | | | |
| | | 10 | 94.5 | 44.5 | 4 | M14 x 1 | 19 | 4 | 12 | M8 x 1.25 | | | | | | | | | | | |
| | | 20 | 104.5 | 54.5 | | | | | | | 50 | | | | | | | | | | |
| | | 30 | 114.5 | 64.5 | | | | | | | 75 | | | | | | | | | | |
| | | 40 | 159.5 | 84.5 | | | | | | | 50 | | | | | | | | | | |
| 50 | 159.5 | 84.5 | 75 | | | | | | | | | | | | | | | | | | |
| 10 | 95.5 | 45.5 | 50 | | | | | | | | | | | | | | | | | | |
| 20 | 105.5 | 55.5 | 75 | | | | | | | | | | | | | | | | | | |
| 30 | 115.5 | 65.5 | | | | | | | | | | | | | | | | | | | |
| 40 | 160.5 | 75.5 | | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet: Female Thread

| | | Model | | | | | | | L | M | N | P |
|----|------------------------|----------------------------------|--------|------------------------------|----------------|-------------------|----------------|----------------------------|----------|------|----|---|
| | Vacuum inlet direction | 1 Pad dia. | 2 Form | 3 Material | 4 Buffer spec. | 5 Buffer stroke | 6 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 | | | | | | |
| | | 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

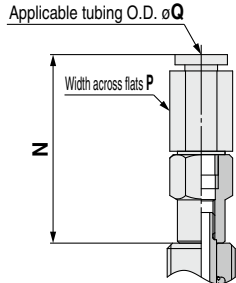
*2 Indicates the minimum hole size of the adapter or vacuum pad

Dimensions/Models

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

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

Vacuum inlet: One-touch fitting



Buffer specification

| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

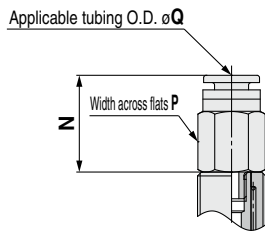
6 Connection thread (Male thread)

| | |
|------------|---------|
| A10 | M10 x 1 |
| A14 | M14 x 1 |

5 Vacuum inlet

| | | | Pad diameter | |
|-----------|----------------------------------|-------------------|--------------------------------------|---|
| | | | $\varnothing 10$ to $\varnothing 32$ | $\varnothing 40, \varnothing 50$ (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 | | | |

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



Dimensions Per Vacuum Inlet: One-touch Fitting

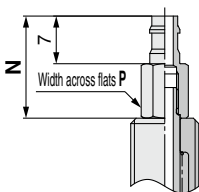
| | | Model | | | | | | N | P | Q | Fitting part min. hole size |
|------------------------|------------|-------|------------------------------|----------------|-----------------|----------------|---------------------|-------------------|---|---|-----------------------------|
| Vacuum inlet direction | 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 | 31.8 | 10 | 6 | $\varnothing 4.5$ | | | |
| | | | | 20 | 35.9 | 14 | 8 | $\varnothing 6$ | | | |
| | | | | 30 | 19.9 | 12 | 6 | $\varnothing 3$ | | | |
| | | | | 50 | 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*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 U6 | A10 | 15 | 6 | $\varnothing 2.5$ |
| | | | | | 20 | | | | | |
| | | | | | 30 | | | | | |
| | | | | | 40 | | | | | |
| | | | | | 50 | | | | | |
| | | | | | 40 50 | | | | | |
| | 20 | 12 | | | | | | | | |
| | 30 | | | | | | | | | |
| | 50 | | | | | | | | | |

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

Vacuum inlet: Barb fitting



| | |
|------------------------|--------|
| 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)

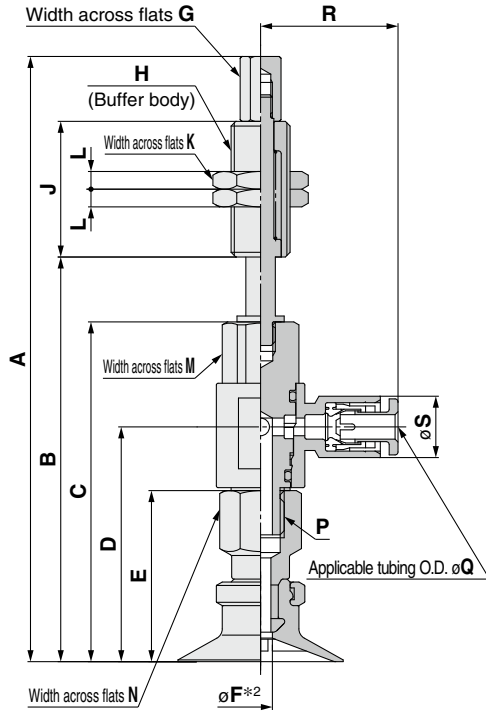
Buffer specification ③

| | |
|----------|--------------|
| 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 | F *2 | G | H | J | K | L | M | N | P | | | | | | | |
| ZP | R | C | N S U F GN GS | J K | 10 | 04 | A10 | 91 | 57 | | | | | | | 23 | | | | | | | | | | | | |
| | | | | | 20 | | | 129 | 67 | | | | | | | 51 | | | | | | | | | | | | |
| | | | | | 30 | | | 139 | 77 | 46 | 29.9 | 21 | | | | | | | 77 | | | | | | | | | |
| | | | | | 40 | | | 175 | 87 | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | 06 | | 185 | 97 | | | | | | | | | 2.5 | | | | | 10 | 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 | | | | | | | | | | | | | | | | |
| | | | | | 40 | | | 175.5 | 87.5 | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | A10 | | 185.5 | 97.5 | | | | | | | | | | | 6 | M10 x 1 | 77 | 14 | 3 | | | | |
| | | | | | 10 | | | 102.6 | 68.6 | | | | | | | | | | | | 23 | | | | | | | |
| | | | | | 20 | | | 140.6 | 78.6 | | | | | | | | | | | | 51 | | | | | | | |
| | 30 | | 150.6 | 88.6 | 57.6 | 39.8 | 29 | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | 186.6 | 98.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 06 | 196.6 | 108.6 | | | | | | | | | | 3.5 | | | | | | 12 | 12 | M8 x 1.25 | | | | | | |
| | 10 | | 103.1 | 69.1 | | | | | | | | | | | | 23 | | | | | | | | | | | | |
| | 20 | | 141.1 | 79.1 | | | | | | | | | | | | 51 | | | | | | | | | | | | |
| | 30 | | 151.1 | 89.1 | 58.1 | 40.3 | 29.5 | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | 187.1 | 99.1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 08 | 197.1 | 109.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | 140.6 | 72.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | 137.6 | 82.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | 147.6 | 92.6 | 60.6 | 42.8 | 32 | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 06 | 192.6 | 112.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | 141.6 | 73.6 | | | | | | | | | | | | 75 | | | | | | | | | | | | | |
| 20 | | 138.6 | 83.6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | 148.6 | 93.6 | 61.6 | 43.8 | 33 | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 08 | 193.6 | 113.6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 10 | M14 x 1 | 50 | 19 | 4 | 12 | 12 | M8 x 1.25 | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | | | 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 GN GS | J K | 10 | 04 | A10 | | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 20 | | | | | | | |
| | | | | | 30 | | | | | | | |
| | | | | | 40 | 06 | | | | | | |
| | | | | | 50 | | | | | | | |
| | | | | | 10 | 04 | | | | | | |
| | 20 | | | | | | | | | | | |
| | 30 | 06 | | | | | | | | | | |
| | 40 | | | | | | | | | | | |
| | 50 | 08 | | | | | | | | | | |
| | 10 | 06 | | | A14 | | 6 | 24.3 | 12.8 | $\varnothing 4.5$ | | |
| | 20 | | | | | | | | | | | |
| 50 | 08 | | | | | | | | | | | |
| 8 | | | | | 26.2 | 15.2 | $\varnothing 6$ | | | | | |
| 6 | | | | | 24.3 | 12.8 | $\varnothing 4.5$ | | | | | |
| 8 | | | | | 26.2 | 15.2 | $\varnothing 6$ | | | | | |

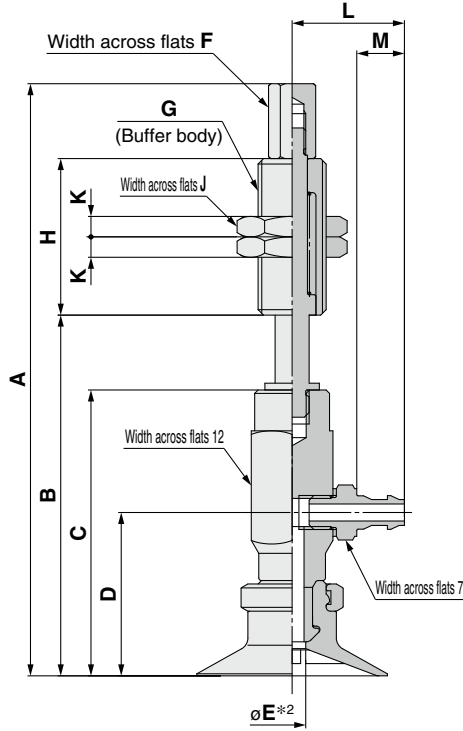
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

Dimensions/Models

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

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 | | | | | | | | 23 | | | | | | | | | | | | | | | |
| | | | | | | | | 177 | 89 | 51 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 83.5 | 49.5 | 38.5 | 22.5 | | | | | | 3.5 | | | | | 6 | M10 x 1 | 14 | 3 | 23 | | | | | | |
| | | | | | | | | 121.5 | 59.5 | | | | | | | | | | | | | | | | | 51 | | | | | | |
| | | | | | | | | 131.5 | 69.5 | | | | | | | | | | | | | | | | | 77 | | | | | | |
| | | | | | | | | 167.5 | 79.5 | | | | | | | | | | | | | | | | | 23 | | | | | | |
| | | | | | | | | 177.5 | 89.5 | 51 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 87 | 53 | 42 | 24 | | | | | | | | | | | | | | | 6 | 10 | M14 x 1 | 19 | 4 | 23 | |
| | | | | | | | | 125 | 63 | | | | | | | | | | | | | | | | | | | | | | 51 | |
| | 135 | 73 | 77 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 171 | 83 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 181 | 93 | 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 20 | 40 | N6 U6 | A14 | 10 20 30 40 50 | N6 U6 | A14 | 126.5 | 58.5 | 46.5 | 28.5 | 6 | 10 | M14 x 1 | 19 | | 4 | 50 | | | | | | | | | | | | | |
| | 123.5 | 68.5 | | | | | | | 75 | | | | | | | | | | | | | | | | | | | | | | | |
| | 133.5 | 78.5 | | | | | | | 77 | | | | | | | | | | | | | | | | | | | | | | | |
| | 178.5 | 98.5 | | | | | | | 23 | | | | | | | | | | | | | | | | | | | | | | | |
| | 127.5 | 59.5 | | | | | | | 47.5 | 29.5 | 7 | 10 | | | | | M14 x 1 | | 19 | | | 4 | 50 | | | | | | | | | |
| | 124.5 | 69.5 | | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | | |
| | 134.5 | 79.5 | | | | | | | | | | | | | | | | | | | | | 75 | | | | | | | | | |
| | 179.5 | 99.5 | | | | | | | | | | | | | | | | | | | | | 75 | | | | | | | | | |

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 |
| | | | | | | N6 U6 | 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

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 | — | B5 | M5 x 0.8 | ○ | ○ | — | | | | |
| | | | | B8 | M8 x 1.25 | — | ○ | ○ | | | | |
| | | | | B01 | Rc1/8 | — | ○ | ○ | | | | |
| | | | | N01 | NPT1/8 | — | ○ | ○ | | | | |
| | | | | T01 | NPTF1/8 | — | ○ | ○ | | | | |
| | | | | One-touch fitting | 04 | ø4 | Female thread | B5 | M5 x 0.8 | ● | — | — |
| | | | | | | | | B8 | M8 x 1.25 | — | ● | ● |
| B5 | M5 x 0.8 | — | ● | | | | | ● | | | | |
| One-touch fitting | 06 | ø6 | Female thread | B8 | M8 x 1.25 | — | ● | ● | | | | |
| | | | | 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 | — | ○● |

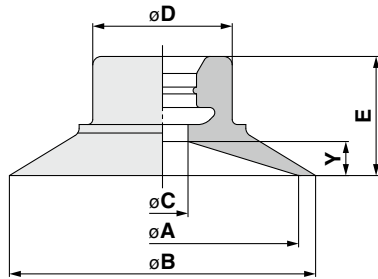
Lock ring unit

| 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 $\varnothing 50$



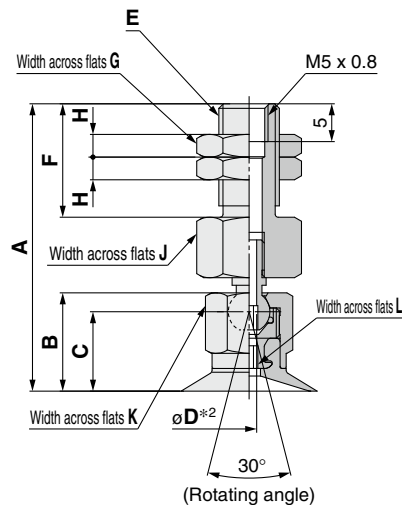
| | |
|---------------------------|-------------|
| Construction | p. 119 |
| Mounting Bracket Assembly | From p. 127 |

ZP **10** F **N**
 ① ②

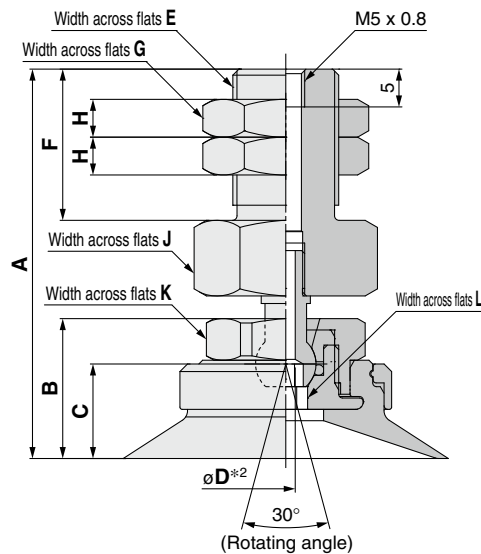
| Model | ① Pad dia. | Form | ② ^{*1} Material | A | B | C | D | E | Y | | |
|-------|------------|------|--------------------------|----|----|------|-----|---|---|----|----|
| | | | | | | | | | | ZP | 10 |
| | 13 | | 13 | 15 | | | 7 | 2 | | | |
| | 16 | | 16 | 18 | | | | | | | |
| | 20 | | 20 | 22 | 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 $\varnothing 32$



$\varnothing 40, \varnothing 50$

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

Vacuum inlet (Female thread) ③

| | |
|-----------|----------|
| 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 |
|-------|------------------------|------------|------|--------------------------|----------------|---------------------|-----|---------|----|------|---|----|----|---|---|---|---|
| | | | | | | | | | | | | | | | | | |
| | | 13 | | 38 | 13 | 10.5 | | | | | | | | | | | |
| | | 16 | | 48.5 | 15.5 | 12.5 | | | | | | | | | | | |
| | | 20 | | 49 | 16 | 13 | 2 | M10 x 1 | 20 | 14 | 3 | 16 | 12 | 3 | | | |
| | | 25 | | 51.5 | 18.5 | 12.5 | | | | | | | | | | | |
| | | 32 | | 52.5 | 19.5 | 13.5 | | | | | | | | | | | |
| | | 40 | | | | | 2.5 | M14 x 1 | 20 | 19 | 4 | 21 | 19 | 5 | | | |
| | | 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. 127 |

Dimensions/Models

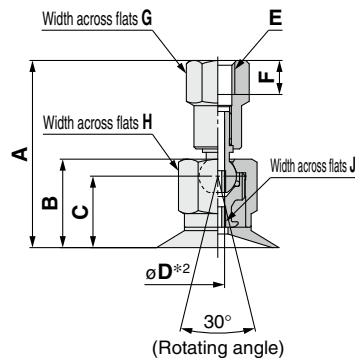
With adapter $\varnothing 10$ to $\varnothing 50$

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

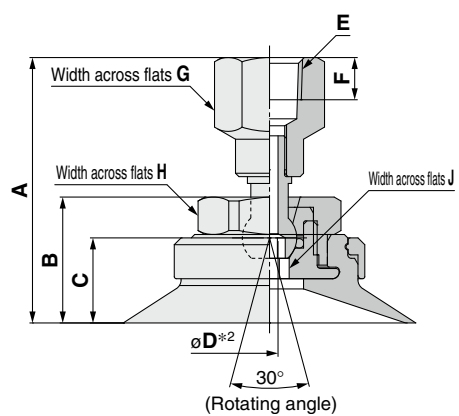
① ②

③ Vacuum inlet (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 Vacuum inlet | | | | | | | | | | | |
| ZP | T | F | N S U F GN GS | B5 | 10 | 27 | 12.5 | 10 | 2 | M5 x 0.8 | 5 | 8 | 10 | 2 | |
| | | | | | 13 | 27.5 | 13 | 10.5 | | | | | | | |
| | | | | | 16 | 32 | 15.5 | 12.5 | | | | | | | |
| | | | | | 20 | 32.5 | 16 | 13 | | | | | | | |
| | | | | | 25 | 36 | 15.5 | 12.5 | | | | | | | |
| | | | | B8 | 20 | 36.5 | 16 | 13 | 2 | M8 x 1.25 | 8 | 12 | 12 | 3 | |
| | | | | | 25 | 39 | 18.5 | 12.5 | | | | | | | |
| | | | | | 32 | 40 | 19.5 | 13.5 | | | | | | | |
| | | | | | 40 | 40 | 19.5 | 13.5 | | | | | | | |
| | | | | B01 N01 T01 | 20 | 36 | 15.5 | 12.5 | 2 | Rc1/8 NPT1/8 NPTF1/8 | 14 | 14 | 12 | 3 | |
| | | | | | 25 | 36.5 | 16 | 13 | | | | | | | |
| | | | | | 32 | 39 | 18.5 | 12.5 | | | | | | | |
| | | | | | 40 | 40 | 19.5 | 13.5 | | | | | | | |
| | | | | | 50 | 40 | 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

| | |
|------------------|--------|
| Construction | p. 119 |
| Adapter Assembly | p. 127 |

Dimensions/Models

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

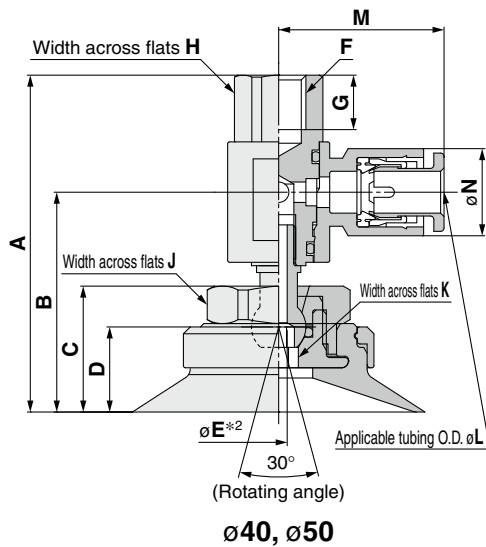
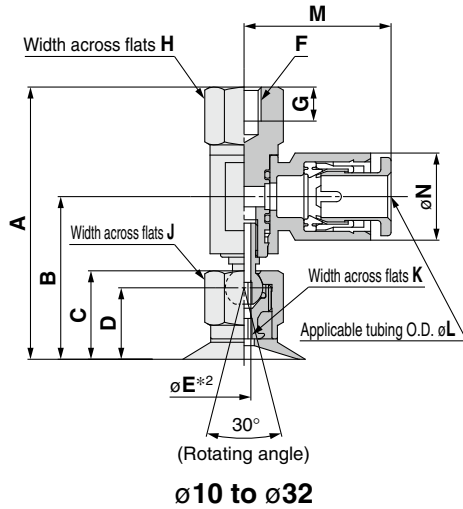
ZPR **10** F **N** - **04** - **B5**

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 |



| | | Model | | | | A | B | C | D | *2 E | F | G | H | J | K |
|------------------------|------------|-------|------------------------------|----------------|---------------------|-----|------|------|------|------|----------|---|----|----|---|
| Vacuum inlet direction | ① Pad dia. | Form | ② *1 Material | ③ Vacuum inlet | ④ Connection thread | | | | | | | | | | |
| ZP | R | F | N S U F GN GS | 04 06 08 | B5 | 10 | 39.5 | 23.4 | 12.5 | 10 | M5 x 0.8 | 5 | 10 | 10 | 2 |
| | | | | | | 13 | 40 | 23.9 | 13 | 10.5 | | | | | |
| | | | | | | 16 | 40 | 23.9 | 13 | 10.5 | | | | | |
| | | | | | | 20 | 46.5 | 29.3 | 15.5 | 12.5 | | | | | |
| | | | | | | 25 | 46.5 | 29.3 | 15.5 | 12.5 | | | | | |
| | | | | | | 32 | 47 | 29.8 | 16 | 13 | | | | | |
| | 40 | 49.5 | 32.3 | 18.5 | 12.5 | 2.5 | 8 | 12 | 19 | 5 | | | | | |
| | 50 | 50.5 | 33.3 | 19.5 | 13.5 | | | | | | | | | | |
| | 20 | 46.5 | 29.3 | 15.5 | 12.5 | | | | | | 2 | 8 | 12 | 19 | 5 |
| | 25 | 46.5 | 29.3 | 15.5 | 12.5 | | | | | | | | | | |
| | 32 | 47 | 29.8 | 16 | 13 | | | | | | | | | | |
| | 40 | 49.5 | 32.3 | 18.5 | 12.5 | | | | | | | | | | |
| 50 | 50.5 | 33.3 | 19.5 | 13.5 | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | L | M | N | Fitting part min. hole size |
|------------------------|------------|-------|------------------------------|----------------|---------------------|---|------|------|-----------------------------|
| Vacuum inlet direction | ① Pad dia. | Form | ② *1 Material | ③ Vacuum inlet | ④ Connection thread | | | | |
| ZP | R | F | N S U F GN GS | 04 | B5 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | 06 | | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | 20 | B5 B8 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | | | 25 | | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | 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

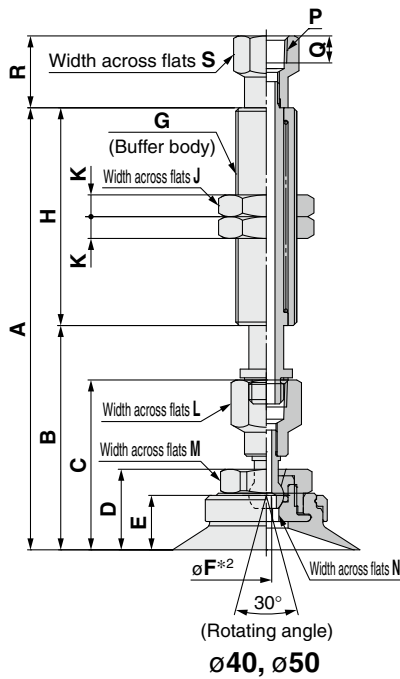
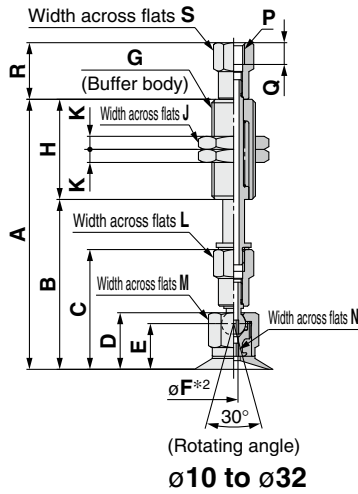
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



ZPT 10 F 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 |

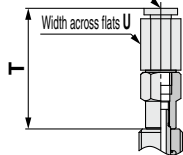
⑤ Vacuum inlet

| | | Pad diameter | |
|-----|-----------------|--------------------------------------|--|
| | | $\varnothing 10$ to $\varnothing 16$ | $\varnothing 20$ to $\varnothing 50$ (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 | $\varnothing 4$ | | |
| 06 | $\varnothing 6$ | | |
| 08 | $\varnothing 8$ | | |

| 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 | | | | | | 23 | | | | | | | | | | | | | | | |
| | | | | | 50 | | | 155.5 | 78.5 | | | | | | 51 | | | | | | | | | | | | | | | |
| | | | | | 10 | | | 62 | 39 | | | | | | 77 | | | | | | | | | | | | | | | |
| | | | | | 20 | | | 100 | 49 | | | | | | 23 | | | | | | | | | | | | | | | |
| | | | | | 30 | | | 110 | 59 | | | | | | 51 | | | | | | | | | | | | | | | |
| | | | | | 40 | | | 146 | 69 | | | | | | 77 | | | | | | | | | | | | | | | |
| | | | | | 50 | | | 156 | 79 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | | | 98.5 | 48.5 | | | | | | 16.5 | | | | | | | | | | | | | | | |
| | | | | | 20 | | | 108.5 | 58.5 | | | | | | 12 | | | | | | | | | | | | | | | |
| | 30 | 118.5 | 68.5 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 163.5 | 88.5 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 99 | 49 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 109 | 59 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 119 | 69 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 164 | 89 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 101.5 | 51.5 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 111.5 | 61.5 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 121.5 | 71.5 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 166.5 | 91.5 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 102.5 | 52.5 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 112.5 | 62.5 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 122.5 | 72.5 | 16.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 167.5 | 92.5 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | F | N S U F G S | J K | B01 N01 T01 | A14 | M14 x1 | 2.5 | 19 | 4 | 12 | 19 | 5 | Rc1/8 NPT1/8 NPTF1/8 | 13 | 16.5 | 12 | 16.5 | 12 | 16.5 | 12 | 16.5 | 12 | 16.5 | | | | | | | |

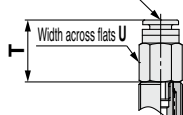
Vacuum inlet: One-touch fitting

Applicable tubing O.D. $\varnothing V$



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

Applicable tubing O.D. $\varnothing V$



Dimensions Per Vacuum Inlet: One-touch Fitting

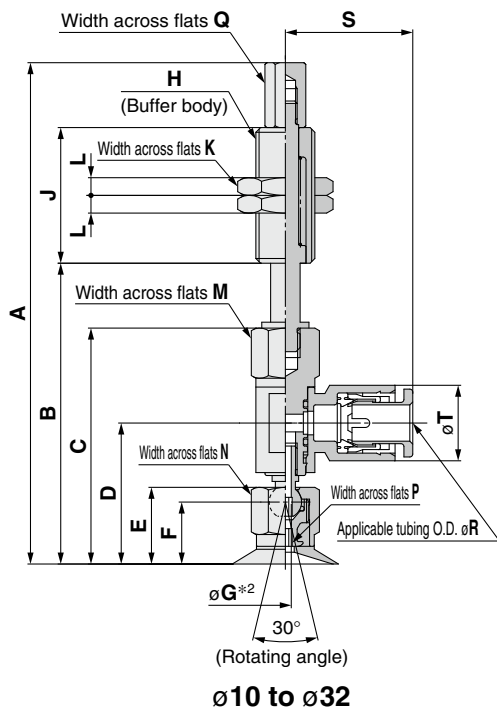
| Model | | | | | | | | | | | | | | T | U | V | Fitting part min. hole size | | | | | | | |
|------------------------|------------|------|----------------------------|----------------|-----------------|-----------------|---------------------|------|---|---|--|--|--|---|---|---|-----------------------------|--|--|--|--|--|--|--|
| 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 | | | | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | | | | | | | | | | |
| | | | | | 30 | | | | | | | | | | | | | | | | | | | |
| | | | | | 40 | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | | | | | | | | | | | | | | | | | | | |
| | 20 | 08 | 35.9 | 14 | 8 | $\varnothing 6$ | | | | | | | | | | | | | | | | | | |
| | 30 | A14 | 19.9 | 12 | 6 | $\varnothing 3$ | | | | | | | | | | | | | | | | | | |
| | 50 | | 06 | 24.9 | 14 | | 8 | | | | | | | | | | | | | | | | | |
| | 50 | | 08 | 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

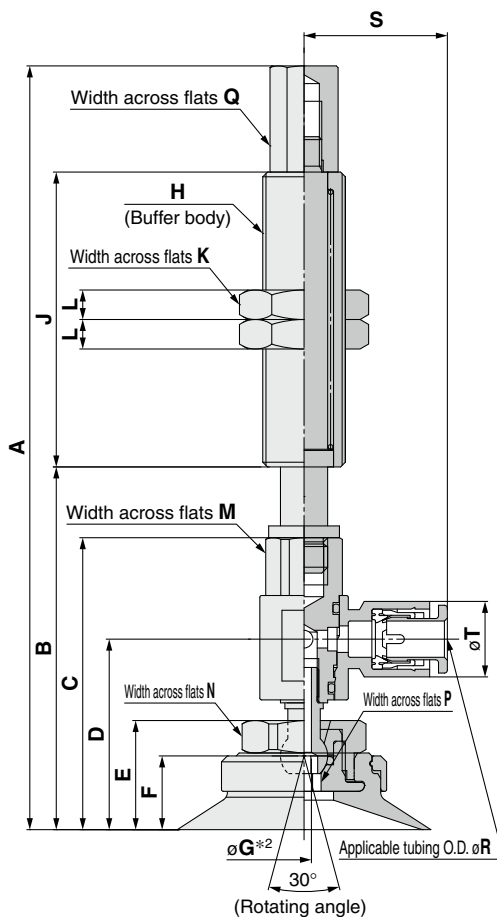
| | |
|-----------------|--------|
| Construction | p. 120 |
| Buffer Assembly | p. 129 |

Dimensions/Models

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



$\phi 10$ to $\phi 32$



$\phi 40, \phi 50$

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

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

| Model | Vacuum inlet direction | ① Pad dia. | ② Form | ③ Material | ④ Buffer spec. | ⑤ Vacuum inlet | ⑥ Connection thread | A | B | C | D | E | F | G ^{*2} | H | J | K | L | M | N | P | Q | | | | | | | | | | | | | | | | |
|-------|------------------------|------------|--------|------------|----------------|----------------|---------------------|------|-------|-------|-------|------|------|-----------------|------|-----|-------|------|----|------|----|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | 84.5 | 50.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZP | R | 10 | F | N | J | 10 | 04 | A10 | 84.5 | 50.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 122.5 | 60.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 132.5 | 70.5 | 39.5 | 23.4 | 12.5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 168.5 | 80.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 178.5 | 90.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 85 | 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | 16 | 20 | F | N | J | 10 | 06 | A10 | 123 | 61 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 133 | 71 | 40 | 23.9 | 13 | 10.5 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 169 | 81 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 179 | 91 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 126.5 | 58.5 | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 123.5 | 68.5 | | | | | | | | | | | | | | | | | | | | |
| | 20 | 25 | 32 | F | N | K | 10 | 06 | A14 | 133.5 | 78.5 | 46.5 | 29.3 | 15.5 | 12.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 178.5 | 98.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 127 | 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 124 | 69 | 47 | 29.8 | 16 | 13 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 134 | 79 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 179 | 99 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 50 | 50 | F | N | K | 10 | 08 | A14 | 129.5 | 61.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 126.5 | 71.5 | 49.5 | 32.3 | 18.5 | 12.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 136.5 | 81.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 181.5 | 101.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 130.5 | 62.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 127.5 | 72.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 50 | 50 | F | N | K | 10 | 08 | A14 | 137.5 | 82.5 | 50.5 | 33.3 | 19.5 | 13.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 182.5 | 102.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet: One-touch Fitting

| Model | Vacuum inlet direction | ① Pad dia. | ② Form | ③ Material | ④ Buffer spec. | ⑤ Vacuum inlet | ⑥ Connection thread | R | S | T | Fitting part min. hole size | | | |
|-------|------------------------|------------|--------|------------|----------------|----------------|---------------------|-----|-----|------|-----------------------------|------------|------------|------------|
| ZP | R | 10 | F | N | J | 10 | 04 | A10 | 4 | 20.6 | 10.4 | $\phi 3$ | | |
| | | | | | | | | | 6 | 21.6 | 12.8 | $\phi 4$ | | |
| | | | | | | | | | 6 | 24.3 | 12.8 | $\phi 4.5$ | | |
| | | 13 | | | | 16 | 20 | 10 | 06 | A10 | 8 | 26.2 | 15.2 | $\phi 6$ |
| | | | | | | | | | | | 6 | 24.3 | 12.8 | $\phi 4.5$ |
| | | | | | | | | | | | 8 | 26.2 | 15.2 | $\phi 6$ |
| | 20 | 25 | | | | 32 | 10 | 06 | A14 | 6 | 24.3 | 12.8 | $\phi 4.5$ | |
| | | | | | | | | | | 6 | 24.3 | 12.8 | $\phi 4.5$ | |
| | | | | | | | | | | 8 | 26.2 | 15.2 | $\phi 6$ | |

*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

| | |
|-----------------|--------|
| 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

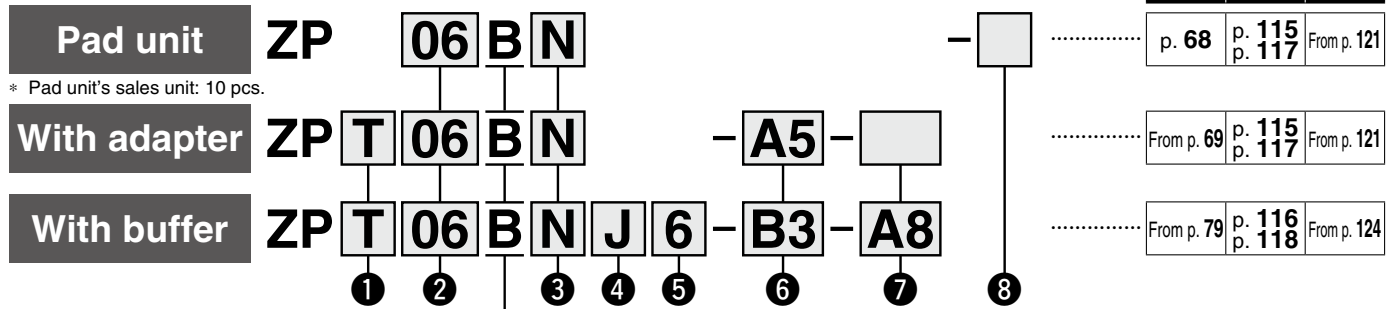
Precautions



Basic Pad Bellows Type ZP Series



How to Order



① Vacuum inlet direction

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

② Pad diameter

| Symbol | ø6 | ø8 | ø10 | ø13 | ø16 | ø20 | ø25 | ø32 | ø40 | ø50 |
|--------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 06 | ● | ● | — | — | — | — | — | — | — | — |
| 08 | — | ● | ● | — | — | — | — | — | — | — |
| 10 | — | — | ● | ● | — | — | — | — | — | — |
| 13 | — | — | — | ● | ● | — | — | — | — | — |
| 16 | — | — | — | — | ● | ● | — | — | — | — |

⑤ 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 | — | — | ● | ● | ● | ● | ● | ● | ● | ● |

③ Material

| Symbol | Material |
|--------|----------------------------|
| N | NBR |
| S | Silicone rubber*1 |
| U | Urethane rubber |
| F | FKM |
| GN | Conductive NBR |
| GS | Conductive silicone rubber |

④ Buffer specification

| Symbol | 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

○: 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 | — | — | — |
| Female thread | Nil | M3 x 0.5 | — | ○ Connection thread: A5/A6 | ○ Connection thread: A6 | ○ Connection thread: A6 |
| | | M5 x 0.8 | — | ○ Connection thread: A6 | ○ Connection thread: A6 | ○ Connection thread: A6 |
| | B4 | M4 x 0.7 | ○ | — | — | — |
| | B5 | M5 x 0.8 | ○ | ○ | ○ | — |
| | B6 | M6 x 1 | — | — | ○ | ○ |
| | B8 | M8 x 1.25 | — | — | ○ | ○ |
| | 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*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

⑦ 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●△ | ○*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 It is not necessary to select a connection thread for ○: ZPT/Vertical.

With buffer

⑥ 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

⑦ 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 | — | — | — | ○●△ |

⑧ Lock ring

| Symbol | Pad diameter [mm] | |
|--------|-------------------|-------------------|
| | ø6, ø8 | ø10 to ø50 |
| Nil | None*1 | With lock ring |
| X19 | None*1 | Without lock ring |

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

Lock ring unit

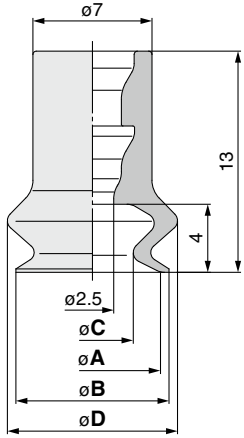
| Part no. | Pad diameter [mm] |
|----------|-------------------|
| ZPL1 | ø10 to ø16 |
| ZPL2 | ø20 to ø32 |
| ZPL3 | ø40, ø50 |

* 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



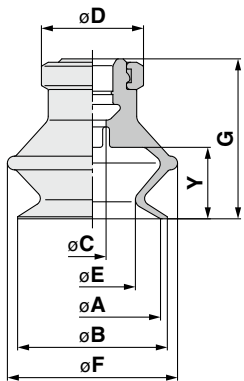
| Model | | | A | B | C | D |
|-------|---------------|------------------------------|---|---|-----|----|
| ZP | ① Pad dia. | ② Form | A | B | C | D |
| | 06 | B | | | | |
| | | N S U F GN GS | 6 | 7 | 3.4 | 9 |
| | 08 | | 8 | 9 | 4.8 | 10 |

*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



| Model | | | A | B | C | D | E | F | G | Y |
|-------|---------------|------------------------------|----|----|----|------|------|------|------|------|
| ZP | ① Pad dia. | ② Form | A | B | C | D | E | F | G | Y |
| | 10 | B | | | | | | | | |
| | 10 | N S U F GN GS | 10 | 12 | 4 | 13 | 5.5 | 13.5 | 16 | 5.5 |
| | 13 | | 13 | 15 | | | 8.7 | 19 | 18.5 | 7.5 |
| | 16 | | 16 | 18 | | | 10 | 21 | 20 | 8.5 |
| | 20 | | 20 | 22 | | | 12.6 | 25 | 23.5 | 10.5 |
| | 25 | | 25 | 27 | 15 | 16 | 28 | 24 | | |
| | 32 | | 32 | 34 | 18 | 18.9 | 37 | 29 | 14 | |
| | 40 | | 40 | 43 | 7 | 18 | 24.4 | 47 | 34 | |
| | 50 | | 50 | 53 | | | 33.4 | 57 | 38 | 19 |

*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

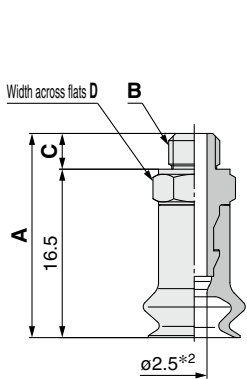
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 121 |

ZPT **06** B **N** - **A5**
 ① ② ③

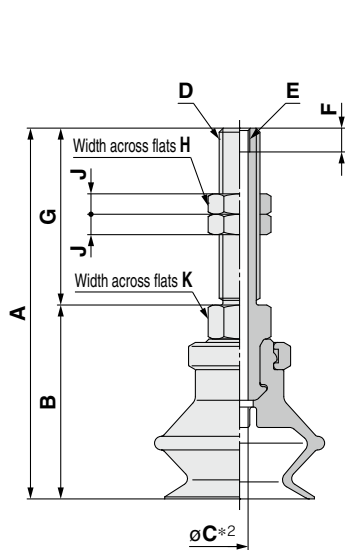
③ Vacuum inlet (Male thread)

| | |
|----|----------|
| 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 | | | | | |
| ZP | T | 06 08 | B | N S U F GN GS | A5 | 20 | M5 x 0.8 | 3.5 | 7 |
| | | | | A6 | 21 | 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

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



| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

ZPT **10** B **N** - **A5**
 ① ② ③

③ 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 | |
|------------------------|------------|--|--------------------------|------------------------------|----|------|------|-----|----------|----------|-----|----|----|---|----|
| Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Connection thread | | | | | | | | | | | |
| ZP | T | 10 13 16 10 13 16 20 25 32 40 50 20 25 32 40 50 | B | N S U F GN GS | A5 | 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 | | | | | | | | |
| | | | | | A6 | 49.5 | 23.5 | 2.5 | M6 x 1 | M3 x 0.5 | 3.5 | 26 | 8 | 4 | 8 |
| | | | | | | 51 | 25 | | | | | | | | |
| | | | | | | 54.5 | 28.5 | | | | | | | | |
| | | | | | | 55 | 29 | | | | | | | | |
| | | | | | | 60 | 34 | | | | | | | | |
| | | | | | | 66 | 40 | | | | | | | | |
| | | | | | | 70 | 44 | | | | | | | | |
| | | | | | | 70 | 44 | | | | | | | | |
| | | | | | A8 | 49.5 | 33.5 | 4 | M8 x 1 | M5 x 0.8 | 3 | 16 | 12 | 4 | 12 |
| | | | | | | 50 | 34 | | | | | | | | |
| | | | | | | 55 | 39 | | | | | | | | |
| | | | | | | 56 | 40 | | | | | | | | |
| 60 | 44 | 4.2 | | | | | | | | | | | | | |

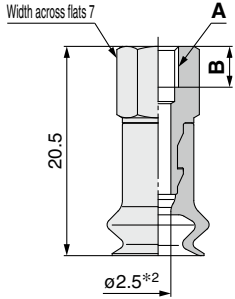
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber
 *2 Indicates the minimum hole size of the adapter or vacuum pad

Recommended Gasket Part Nos.

| Part no. | D vacuum inlet (Male thread) |
|----------|------------------------------|
| WCS5X0.8 | M5 x 0.8 |
| WCS6X1 | M6 x 1 |
| WCS8X1 | M8 x 1 |

Dimensions/Models

With adapter ø6 to ø8



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 121 |

ZPT **06** B **N** - **B4**

① ② ③

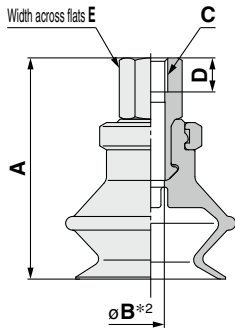
③ Vacuum inlet (Female thread)

| | |
|-----------|----------|
| 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 | | | |
| ZP | 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 |

ZPT **10** B **N** - **B5**

① ② ③

③ Vacuum inlet (Female thread)

| | |
|------------|-----------|
| B5 | M5 x 0.8 |
| B6 | M6 x 1 |
| B8 | M8 x 1.25 |
| B01 | Rc1/8 |
| N01 | NPT1/8 |
| T01 | NPTF1/8 |

| Model | | | | | | A | B*2 | C | D | E | | | | |
|------------------------|------------|--|--------------------------|------------------------------|------|------|-----------|-----------|----|----|-----|----------------------------|---|----|
| Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Vacuum inlet | | | | | | | | | | |
| ZP | T | 10 13 16 20 25 32 40 50 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 | 40 | 4.9 | M8 x 1.25 | 8 | 12 | | | | |
| | | | | | | 47.5 | | | | | | | | |
| | | | | | | 51.5 | | | | | | | | |
| | | | | | | 38.5 | | | | | 3.5 | Rc1/8 NPT1/8 NPTF1/8 | — | 12 |
| | | | | | | 39 | | | | | | | | |
| | | | | | | 44 | | | | | | | | |
| | | | | | 47.5 | | | | | | | | | |
| | | | | | 51.5 | | | | | | | | | |
| | | | | | 51.5 | 7 | M8 x 1.25 | 8 | 12 | | | | | |
| | | | | | 31 | | | | | | | | | |
| | | | | | 33.5 | | | | | | | | | |
| | | | | | 35 | | | | | | | | | |
| 38.5 | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | |

*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

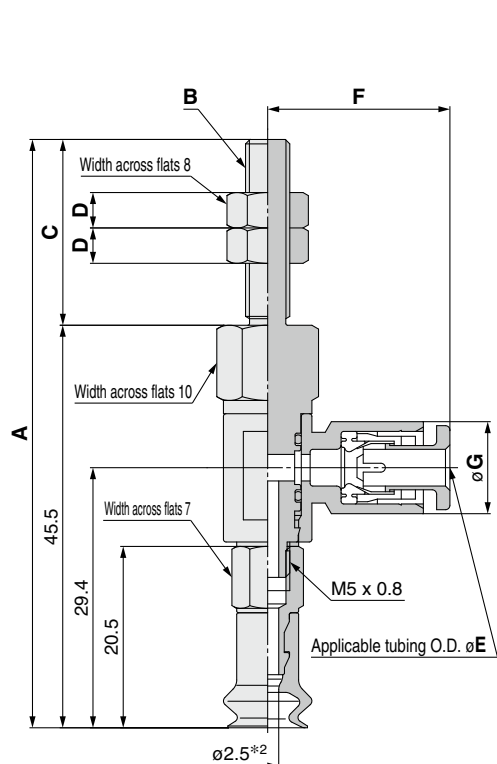
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



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

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

| | |
|-----------|----------|
| A5 | M5 x 0.8 |
| A6 | M6 x 1 |

| Model | | | | | | A | B | C | D | 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 | 66.5 | M5 x 0.8 | 21 | 4 | $\varnothing 3$ |
| | | | | | 06 | A6 | 71.5 | M6 x 1 | 26 | 4 | $\varnothing 4$ |

Dimensions Per Vacuum Inlet

| Model | | | | | | E | F | G |
|------------------------|-------------------|----------|----------------------|------------------------------|----------------------------|---|------|------|
| 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 | 4 | 20.6 | 10.4 |
| | | | | | 06 | 6 | 21.6 | 12.8 |

| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 122 |

*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** - **A5**

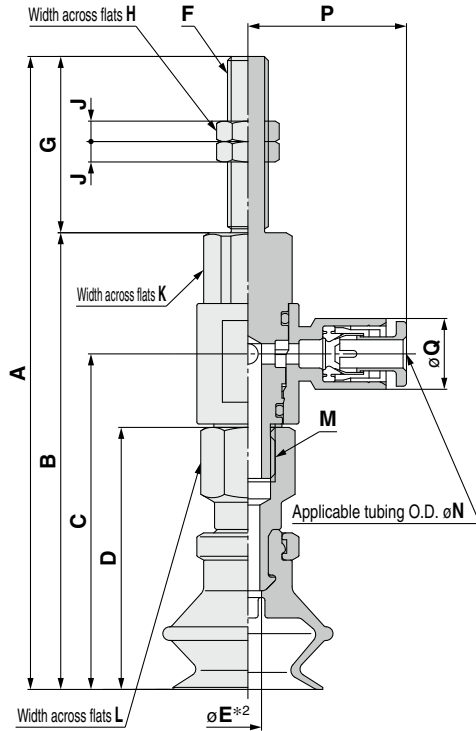
① ②

Vacuum inlet
(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 | ^{*2} E | F | G | H | J | K | L | M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|------------|------|------------------------------|----------------|---------------------|--------|------|------|------|-----------------|----------|----|-----------|--------|------|----|----------|--------|----|----|-----------|--------|------|----------|-----------|------|----|----|-----------|--------|-----------|--------|------|----|----|----|-----------|----|-----------|--------|------|----|---|----|----|----|-----------|
| 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 | 10 | 8 | M5 x 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 73.5 | 52.5 | 36.4 | 27.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 75 | 54 | 37.9 | 29 | 2.5 | | | | | | | | M6 x 1 | 26 | 8 | 4 | 10 | 8 | M5 x 0.8 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 76 | 50 | 33.9 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 78.5 | 52.5 | 36.4 | 27.5 | 3.5 | | | | | | | | | | | | | | | M8 x 1.25 | 25.9 | 12 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | | | | | | | | | |
| | | | | | | 80 | 54 | 37.9 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 93 | 67.1 | 49.3 | 38.5 | 4 | | | | | | | | | | | | | | | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | |
| | | | | | | 93.5 | 67.6 | 49.8 | 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 98.5 | 72.6 | 54.8 | 44 | 3.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 |
| | | | | | | 98.5 | 72.6 | 54.8 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 102 | 76.1 | 58.3 | 47.5 | 4 | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 106 | 80.1 | 62.3 | 51.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 83 | 67.1 | 49.3 | 38.5 | 3.5 | | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 83.5 | 67.6 | 49.8 | 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 88.5 | 72.6 | 54.8 | 44 | 4 | | | | | | | | | | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | | | | | | | | | | | |
| | 88.5 | 72.6 | 54.8 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 92 | 76.1 | 58.3 | 47.5 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | M8 x 1 | 15.9 | 12 | 4 | 12 | 12 | 12 | M8 x 1.25 | | | | | | | | | | |
| | 96 | 80.1 | 62.3 | 51.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| Model | | | | | | 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 | 4 | 20.6 | 10.4 | $\phi 3$ |
| | | | | | A6 | 6 | 21.6 | 12.8 | $\phi 4$ |
| | | | | 06 | A6 | 4 | 23.3 | 10.4 | $\phi 3$ |
| | | | | | A8 | 6 | 24.3 | 12.8 | $\phi 4.5$ |
| | | | | 08 | A6 | 8 | 26.2 | 15.2 | $\phi 6$ |
| | | | | | A8 | 6 | 24.3 | 12.8 | $\phi 4.5$ |
| | | | | 08 | A6 | 8 | 26.2 | 15.2 | $\phi 6$ |
| | | | | | A8 | 8 | 26.2 | 15.2 | $\phi 6$ |

*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

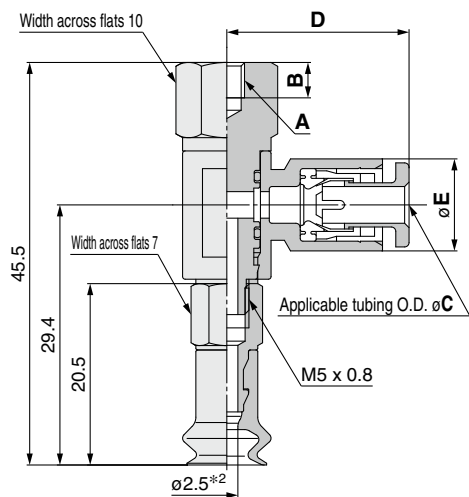
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 122 |

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

| | | | |
|-------------------------------------|----------|----------|---|
| 1 | 2 | 3 | 4 Connection thread (Female thread) |
| Vacuum inlet (One-touch fitting) | | | |
| 04 | $\phi 4$ | | B4 M4 x 0.7 |
| 06 | $\phi 6$ | | 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 |
| | | | | | 06 | B5 | M5 x 0.8 | 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 | 20.6 | 10.4 | $\phi 3$ |
| | | | | | 06 | | 6 | 21.6 | 12.8 | $\phi 4$ |

*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 $\phi 50$

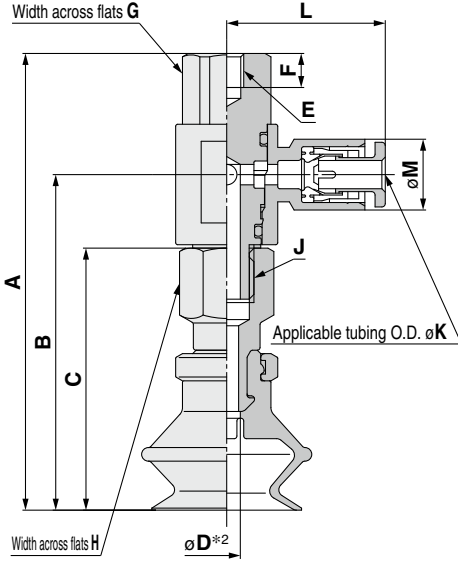
ZPR **10** **B** **N** - **04** - **B5**

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

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

4 Connection thread
(Female thread)

| | |
|----|-----------|
| 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 | J | | |
|------------------------|------------|--------|------------------------------|----------------|---------------------|-----------|------|------|------|-----------|----------|-----------|----|----------|----------|-----------|
| Vacuum inlet direction | 1 Pad dia. | 2 Form | 3*1 Material | 4 Vacuum inlet | 5 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 | 10 | 8 | M5 x 0.8 | |
| | | | | | | 13 | 52.5 | 36.4 | 27.5 | | | | | | | |
| | | | | | | 16 | 54 | 37.9 | 29 | | | | | | | |
| | | | | | | 20 | 67.1 | 49.3 | 38.5 | | | | | | | |
| | | | | | | 25 | 67.6 | 49.8 | 39 | | | | | | | |
| | | | | | 32 | 72.6 | 54.8 | 44 | | | | | | | | |
| | | | | | 10 | 50 | 33.9 | 25 | 2.5 | M5 x 0.8 | 6 | 10 | 8 | M5 x 0.8 | | |
| | | | | | 13 | 52.5 | 36.4 | 27.5 | | | | | | | | |
| | | | | | 16 | 54 | 37.9 | 29 | | | | | | | | |
| | | | | | 20 | 67.1 | 49.3 | 38.5 | | | | | | | | |
| | 25 | 67.6 | 49.8 | 39 | | | | | | | | | | | | |
| | 32 | 72.6 | 54.8 | 44 | | | | | | | | | | | | |
| | 40 | 76.1 | 58.3 | 47.5 | 4 | M6 x 1 | 6 | 12 | 12 | M8 x 1.25 | | | | | | |
| | 50 | 80.1 | 62.3 | 51.5 | | | | | | | | | | | | |
| | 20 | 67.1 | 49.3 | 38.5 | | | | | | | 3.5 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 |
| | 25 | 67.6 | 49.8 | 39 | | | | | | | | | | | | |
| | 32 | 72.6 | 54.8 | 44 | | | | | | | | | | | | |
| | 40 | 76.1 | 58.3 | 47.5 | | | | | | | | | | | | |
| | 50 | 80.1 | 62.3 | 51.5 | 4 | M8 x 1.25 | 8 | 12 | 12 | M8 x 1.25 | | | | | | |
| | 20 | 67.1 | 49.3 | 38.5 | | | | | | | | | | | | |
| 25 | 67.6 | 49.8 | 39 | | | | | | | | | | | | | |
| 32 | 72.6 | 54.8 | 44 | | | | | | | | | | | | | |
| 40 | 76.1 | 58.3 | 47.5 | | | | | | | | | | | | | |
| 50 | 80.1 | 62.3 | 51.5 | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | K | L | M | Fitting part min. hole size |
|------------------------|------------|--------|------------------------------|----------------|---------------------|---|------|------|-----------------------------|
| Vacuum inlet direction | 1 Pad dia. | 2 Form | 3*1 Material | 4 Vacuum inlet | 5 Connection thread | | | | |
| ZP | R | B | N S U F GN GS | 04 | B5 | 4 | 20.6 | 10.4 | $\phi 3$ |
| | | | | 06 | B6 | 6 | 21.6 | 12.8 | $\phi 4$ |
| | | | | 04 | B5 | 4 | 23.3 | 10.4 | $\phi 3$ |
| | | | | 06 | B6 | 6 | 24.3 | 12.8 | $\phi 4.5$ |
| | | | | 08 | B8 | 8 | 26.2 | 15.2 | $\phi 6$ |
| | | | | 06 | B6 | 6 | 24.3 | 12.8 | $\phi 4.5$ |
| | | | | 08 | B8 | 8 | 26.2 | 15.2 | $\phi 6$ |
| | | | | 08 | B8 | 8 | 26.2 | 15.2 | $\phi 6$ |

*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

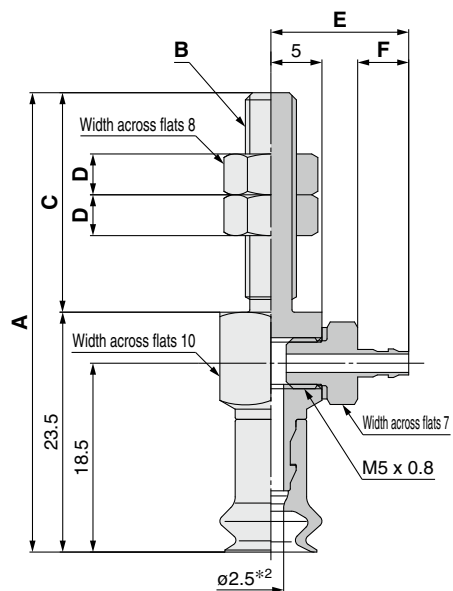
Construction

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. | ② Form | ③ Material | ④ Vacuum inlet | | | | | |
| 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. | ② Form | ③ Material | ④ Vacuum inlet | | | | |
| 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 | $\varnothing 2.5$ |

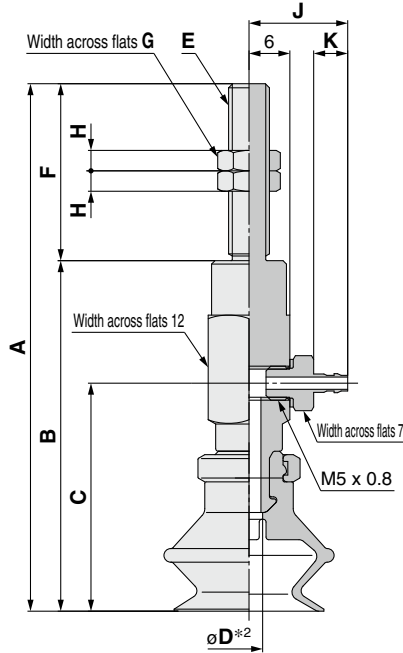
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*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)

| | | |
|-----------|----------------------------------|---------|
| 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 (Male thread)**

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

| | |
|-------------------------|--------|
| 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 U4 | A5 | 63 | 42 | 26 | 2.5 | M5 x 0.8 | 21 | 8 | 4 | | | | | | | |
| | | 65.5 | | | | | 44.5 | 28.5 | | | | | | | | | | | | | |
| | | 67 | | | | | 46 | 30 | | | | | | | | | | | | | |
| | | 68 | | | | | 42 | 26 | | | | | | | | | | | | | |
| | | 70.5 | | | | | 44.5 | 28.5 | | | | | | | | | | | | | |
| | | 72 | | | | | 46 | 30 | | | | | | | | | | | | | |
| | | 77.5 | | | | | 51.5 | 33.5 | | | | | | | | | | | | | |
| | | 78 | | | | | 52 | 34 | | | | | | | | | | | | | |
| | | 83 | | | | | 57 | 39 | | | | | | | | | | | | | |
| | | 88 | | | | | 62 | 44 | | | | | | | | | | | | | |
| | | 92 | | | 66 | 48 | | | | | | | | | | | | | | | |
| | | 20 | | | N6 U6 | A6 | 67.5 | 51.5 | 33.5 | 2.5 | M6 x 1 | 26 | 8 | 4 | | | | | | | |
| | | 25 | | | | | 78 | 52 | 34 | | | | | | | | | | | | |
| | | 32 | | | | | 83 | 57 | 39 | | | | | | | | | | | | |
| | | 40 | | | | | 88 | 62 | 44 | | | | | | | | | | | | |
| | | 50 | | | | | 92 | 66 | 48 | | | | | | | | | | | | |
| | | 20 | | | | | N6 U6 | A8 | 67.5 | | | | | | 51.5 | 33.5 | 3.5 | M8 x 1 | 16 | 12 | 4 |
| | | 25 | | | | | | | 68 | | | | | | 52 | 34 | | | | | |
| | | 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 U4 | A5 | 14.5 | 5 | $\varnothing 1.8$ | | | |
| | | 13 | | | | | | | | | | |
| | | 16 | | | | | | | | | | |
| | | 20 | | | N6 U6 | A6 | | | | 16.5 | 7 | $\varnothing 2.5$ |
| | | 25 | | | | | | | | | | |
| | | 32 | | | | | | | | | | |
| 40 | N6 U6 | A8 | 16.5 | 7 | $\varnothing 2.5$ | | | | | | | |
| 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

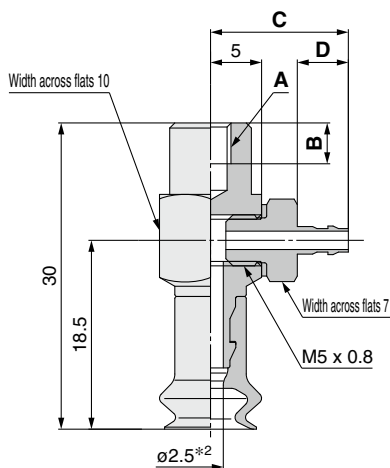
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With adapter/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 Material | 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 Material | 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 | $\phi 2.5$ |

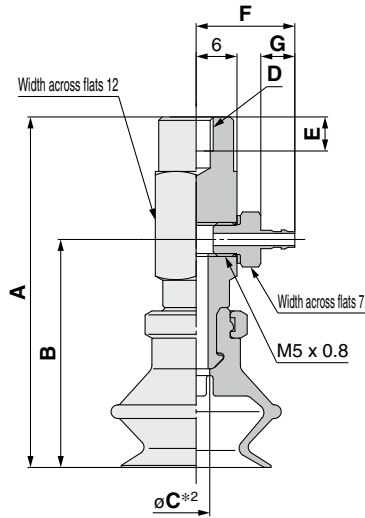
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

*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 | 3.5 | | |
| | | | | | | 52 | 34 | | | |
| | | | | | | 57 | 39 | | | |
| | | | | | B6 | 42 | 26 | 2.5 | M6 x 1 | 6 |
| | | | | | | 44.5 | 28.5 | | | |
| | | | | | | 46 | 30 | | | |
| | | | | | | 51.5 | 33.5 | 3.5 | | |
| | | | | | | 52 | 34 | | | |
| | | | | | | 57 | 39 | | | |
| | B8 | 62 | 44 | 6 | | M8 x 1.25 | 8 | | | |
| | | 66 | 48 | | | | | | | |
| | | 51.5 | 33.5 | | | | | 3.5 | | |
| | | 52 | 34 | | | | | | | |
| | | 57 | 39 | | | | | | | |
| | | 62 | 44 | 6 | | | | | | |
| | 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 | | | | 16.5 |
| | | | | N4 U4 | B5 | 14.5 | 5 | $\varnothing 1.8$ | |
| | | | | N6 U6 | B6 B8 | | | | 16.5 |
| | | | | 40 | N6 | B6 | 16.5 | 7 | |
| | | | | 50 | U6 | B8 | | | |

*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 $\varnothing 8$

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

① ② ④

Buffer specification ③

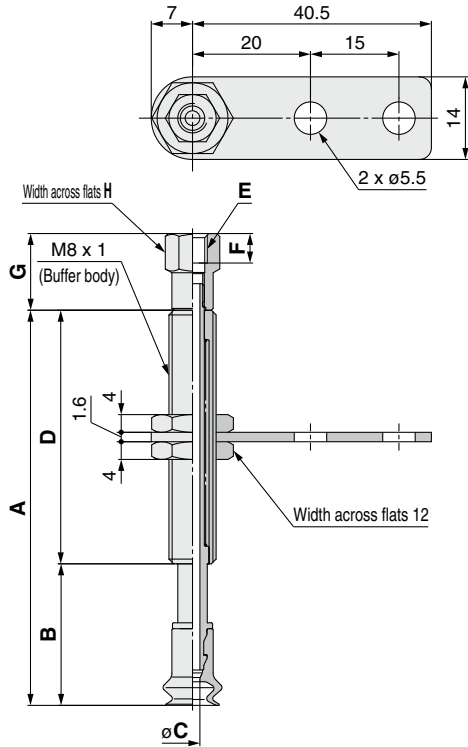
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

⑥ **Connection thread (Male thread)**

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

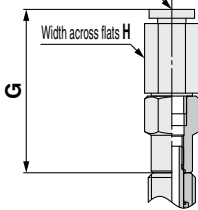
⑤ **Vacuum inlet**

| | | | |
|-----------|----------------------------------|-------------------|------------|
| B3 | M3 x 0.5 | Female thread | |
| B5 | M5 x 0.8 | | |
| 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 | | |

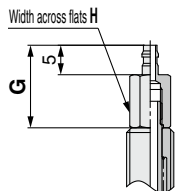


Vacuum inlet: One-touch fitting

Applicable tubing O.D. $\varnothing J$



Vacuum inlet: Barb fitting



| | |
|------------------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 124 |

| | | 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 | 06 08 | B | N S U F GN GS | J K | 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*1 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 | 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*1 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 | 6 | 04 | A8 | 27.7 | 8 | 4 | $\varnothing 2.5$ |
| | | | | | | 10 15 25 | 06 | | | 10 | 6 | |

Dimensions Per Vacuum Inlet: Barb Fitting

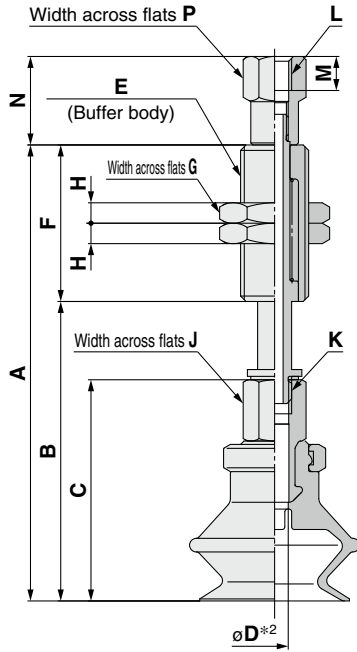
| | | Model | | | | | | G | H | Fitting part min. hole size | |
|------------------------|------------|----------|--------------|------------------------------|-----------------|---------------------|---------------------|----|----|-----------------------------|-------------------|
| Vacuum inlet direction | ① Pad dia. | Form | ②*1 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 | 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 | Buffer spec. | Vacuum inlet (Female thread) | Connection thread (Male thread) | | |
| J Rotating K Non-rotating | B5 M5 x 0.8 B01 Rc1/8 N01 NPT1/8 T01 NPTF1/8 | A10 M10 x 1 A14 M14 x 1 | | | |

| Model | | 1 | 2 | 3 | 4 | 5 | 6 | A | B | C | D*2 | E | F | G | H | J | K |
|------------------------|----------|------|---------------------------------|--------------|---------------|----------------------------|-------------------|-------|------|----|----------------|---------|----|---|---|----------|----|
| Vacuum inlet direction | Pad dia. | Form | Material | Buffer spec. | Buffer stroke | Vacuum inlet | Connection thread | | | | | | | | | | |
| ZP | T | B | N S U F G N S | J K | 10 | B5 04 06 N6 U6 | A10 | 59.5 | 36.5 | 25 | J: 2.5 K: 2 | M10 x 1 | 14 | 3 | 8 | M5 x 0.8 | 23 |
| | | | | | 20 | | | 97.5 | 46.5 | | | | | | | | 51 |
| | | | | | 30 | | | 107.5 | 56.5 | | | | | | | | 77 |
| | | | | | 40 | | | 143.5 | 66.5 | | | | | | | | 23 |
| | | | | | 50 | | | 153.5 | 76.5 | | | | | | | | 77 |
| | | | | | 10 | | | 62 | 39 | | | | | | | | 23 |
| | | | | | 20 | | | 100 | 49 | | | | | | | | 51 |
| | | | | | 30 | | | 110 | 59 | | | | | | | | 77 |
| | | | | | 40 | | | 146 | 69 | | | | | | | | 23 |
| | | | | | 50 | | | 156 | 79 | | | | | | | | 77 |
| | | | | | 10 | | | 63.5 | 40.5 | | | | | | | | 23 |
| | | | | | 20 | | | 101.5 | 50.5 | | | | | | | | 51 |
| | | | | | 30 | | | 111.5 | 60.5 | | | | | | | | 77 |
| | | | | | 40 | | | 147.5 | 70.5 | | | | | | | | 23 |
| | | | | | 50 | | | 157.5 | 80.5 | | | | | | | | 77 |
| | | | | | 10 | | | 67 | 44 | | | | | | | | 23 |
| | | | | | 20 | | | 105 | 54 | | | | | | | | 51 |
| | | | | | 30 | | | 115 | 64 | | | | | | | | 77 |
| | | | | | 40 | | | 151 | 74 | | | | | | | | 23 |
| | | | | | 50 | | | 161 | 84 | | | | | | | | 77 |
| | | | | | 10 | | | 67.5 | 44.5 | | | | | | | | 23 |
| | | | | | 20 | | | 105.5 | 54.5 | | | | | | | | 51 |
| | | | | | 30 | | | 115.5 | 64.5 | | | | | | | | 77 |
| | | | | | 40 | | | 151.5 | 74.5 | | | | | | | | 23 |
| | | | | | 50 | | | 161.5 | 84.5 | | | | | | | | 77 |
| | | | | | 10 | | | 72.5 | 49.5 | | | | | | | | 23 |
| | | | | | 20 | | | 110.5 | 59.5 | | | | | | | | 51 |
| | | | | | 30 | | | 120.5 | 69.5 | | | | | | | | 77 |
| | | | | | 40 | | | 156.5 | 79.5 | | | | | | | | 23 |
| | | | | | 50 | | | 166.5 | 89.5 | | | | | | | | 77 |
| | | | | | 10 | | | 110 | 60 | | | | | | | | 50 |
| | | | | | 20 | | | 120 | 70 | | | | | | | | 75 |
| | | | | | 30 | | | 130 | 80 | | | | | | | | 19 |
| | | | | | 40 | | | 175 | 100 | | | | | | | | 4 |
| | | | | | 50 | | | 114 | 64 | | | | | | | | 50 |
| | | | | | 10 | | | 124 | 74 | | | | | | | | 19 |
| | | | | | 20 | | | 134 | 84 | | | | | | | | 4 |
| | | | | | 30 | | | 179 | 104 | | | | | | | | 12 |
| | | | | | 40 | | | 110 | 60 | | | | | | | | 12 |
| | | | | | 50 | | | 120 | 70 | | | | | | | | 12 |

Dimensions Per Vacuum Inlet: Female Thread

| Model | | 1 | 2 | 3 | 4 | 5 | 6 | L | M | N | P | | | | | | | | | | | | |
|------------------------|----------|------|---------------------------------|--------------|---------------|--------------|-------------------|----------|---|----|---|----|-----|----------|---|---|----|-------------------|-----|----------------------------|---|------|----|
| Vacuum inlet direction | Pad dia. | Form | Material | Buffer spec. | Buffer stroke | Vacuum inlet | Connection thread | | | | | | | | | | | | | | | | |
| ZP | T | B | N S U F G N S | J K | 10 | B5 | A10 | M5 x 0.8 | 5 | 13 | 8 | | | | | | | | | | | | |
| | | | | | 20 | | | | | | | | | | | | | | | | | | |
| | | | | | 30 | | | | | | | | | | | | | | | | | | |
| | | | | | 40 | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | | | | | | | B5 | A10 | M5 x 0.8 | 5 | 9 | 10 | | | | | | |
| | | | | | 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

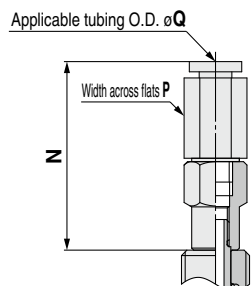
Dimensions/Models

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

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

①
②
③
④
⑤
⑥

Vacuum inlet: One-touch fitting



Buffer specification ③

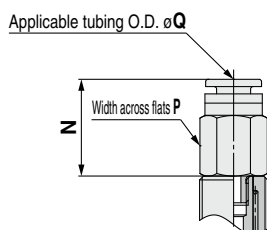
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

⑥ Connection thread (Male thread)

| | |
|------------|---------|
| A10 | M10 x 1 |
| A14 | M14 x 1 |

| | Vacuum inlet | | Pad diameter | |
|-----------|----------------------------------|-------------------|--------------------------------------|---|
| | | | $\varnothing 10$ to $\varnothing 32$ | $\varnothing 40, \varnothing 50$ (10 st only) |
| ⑤ | 04 | One-touch fitting | KQ2H04-M5N | KQ2H06-01NS |
| | 06 | | KQ2H06-M5N | |
| | 08 | | KQ2H08-01NS | |
| N6 | For $\varnothing 6$ nylon tubing | Barb fitting | | |
| U6 | For $\varnothing 6$ soft tubing | | | |

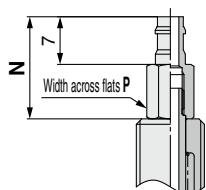
Vacuum inlet: Built-in One-touch fitting Pad diameter: $\varnothing 40, \varnothing 50$ (Buffer stroke: 20 to 50 st)



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 | B | J | K | 10 |
| ZP | T | 10 | B | N S U F GN GS | J K | 10 | 04 | A10 | 27.7 | 8 | 4 | $\varnothing 2.5$ | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 25 | | | | | | | | | | | | | | | | |
| | | 32 | | | | | | | | | | | | | | | | |
| | T | 40 | B | N S U F GN GS | J K | 10 | 06 | A14 | 31.8 | 10 | 6 | $\varnothing 4.5$ | | | | | | |
| | | 50 | | | | 35.9 | | | 14 | 8 | $\varnothing 6$ | | | | | | | |
| | | T | | | | 20 | | | B | N S U F GN GS | J K | 20 | 06 | A14 | 19.9 | 12 | 6 | $\varnothing 3$ |
| | | | | | | 30 | | | | | | 12 | | | 8 | | | |
| | | | | | | 50 | | | | | | | | | | 24.9 | 14 | |

Vacuum inlet: Barb fitting



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 | B | N S U F GN GS | J K | 10 | N6 | A10 | 15 | 6 | $\varnothing 2.5$ | | |
| | | 13 | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | |
| | | 25 | | | | | | | | | | | |
| | | 32 | | | | | | | | | | | |
| | T | 40 | B | N S U F GN GS | J K | 10 | N6 | A14 | 19 | 10 | | | |
| | | 50 | | | | 12 | | | | | | | |
| | | 20 | | | | | | | 12 | | | | |
| | | 30 | | | | 12 | | | | | | | |
| | | 50 | | | | | | | U6 | | 12 | | |

*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 $\phi 8$

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

① ② ④

Buffer specification ③

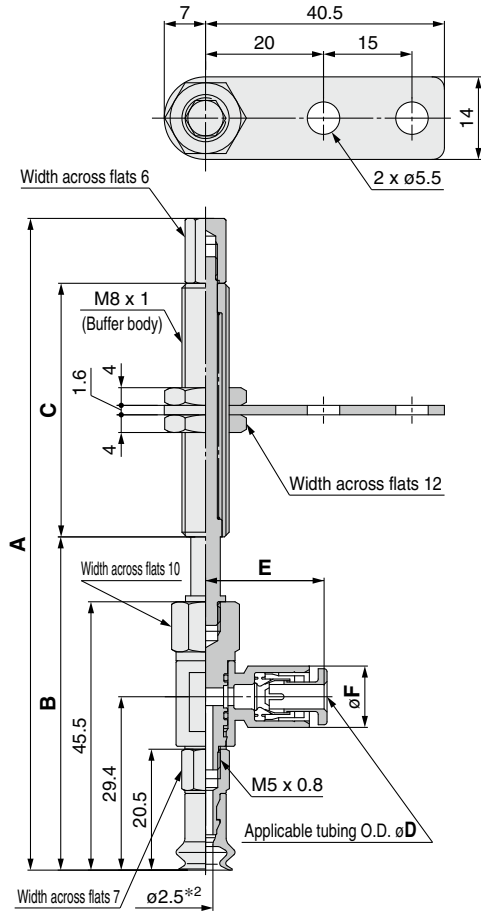
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

⑥ **Connection thread (Male thread)**

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

⑤ **Vacuum inlet (One-touch fitting)**

| | |
|-----------|----------|
| 04 | $\phi 4$ |
| 06 | $\phi 6$ |



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

| | | 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 K | 6 | 04 06 | A8 | 79.5 | 53.5 | 15 |
| | | | | | | 10 | | | 110.5 | 56.5 | 43 |
| | | | | | | 15 | | | 115.5 | 61.5 | |
| | | | | | | 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 K | 6 | 04 06 | A8 | 4 | 20.6 | 10.4 | $\phi 3$ |
| | | | | | | 10 | | | 6 | 21.6 | 12.8 | $\phi 4$ |
| | | | | | | 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 $\varnothing 50$

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

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

Buffer specification ③

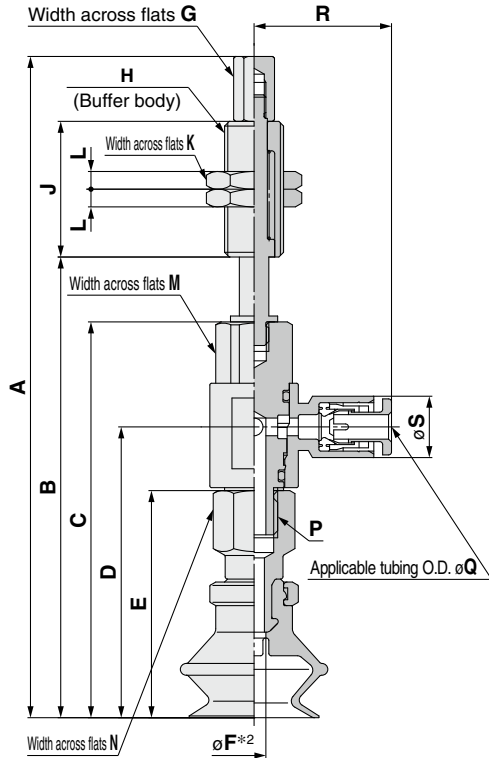
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 | | ① | ② | ③ | ④ | ⑤ | ⑥ | A | B | C | D | E | *2 | F | G | H | J | K | L | M | N | P | | | | | | | | | | |
|------------------------|----------|-------|---------------------------------|--------------|---------------|--------------|-------------------|-------|-------|------|------|------|-----|---|---|---|---|----|---|---|---|----|--|--|--|--|--|--|--|--|--|--|
| Vacuum inlet direction | Pad dia. | Form | Material | Buffer spec. | Buffer stroke | Vacuum inlet | Connection thread | | | | | | | | | | | | | | | | | | | | | | | | | |
| ZP | R | B | N S U F G N S | J K | 10 | 04 | A10 | 95 | 61 | | | | | | | | | 23 | | | | | | | | | | | | | | |
| | | | | | 20 | | | 133 | 71 | | | | | | | | | | | | | 51 | | | | | | | | | | |
| | | | | | 30 | | | 143 | 81 | 50 | 33.9 | 25 | | | | | | | | | | | | | | | | | | | | |
| | | | | | 40 | | | 179 | 91 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | | | 189 | 101 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | | | 97.5 | 63.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 20 | | | 135.5 | 73.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 30 | | | 145.5 | 83.5 | 52.5 | 36.4 | 27.5 | 2.5 | | | | | | | | | | | | | | | | | | | |
| | | | | | 40 | | | 181.5 | 93.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 50 | | | 191.5 | 103.5 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 10 | | | 99 | 65 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 20 | | | 137 | 75 | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 147 | 85 | 54 | 37.9 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 183 | 95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 193 | 105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 112.1 | 78.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 150.1 | 88.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 160.1 | 98.1 | 67.1 | 49.3 | 38.5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 196.1 | 108.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | 206.1 | 118.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | 112.6 | 78.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | 150.6 | 88.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | 160.6 | 98.6 | 67.6 | 49.8 | 39 | 3.5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 196.6 | 108.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 206.6 | 118.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 117.6 | 83.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 155.6 | 93.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 165.6 | 103.6 | 72.6 | 54.8 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 201.6 | 113.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 211.6 | 123.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 156.1 | 88.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 153.1 | 98.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 163.1 | 108.1 | 76.1 | 58.3 | 47.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 208.1 | 128.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 160.1 | 92.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 157.1 | 102.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 167.1 | 112.1 | 80.1 | 62.3 | 51.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 167.1 | 112.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 212.1 | 132.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

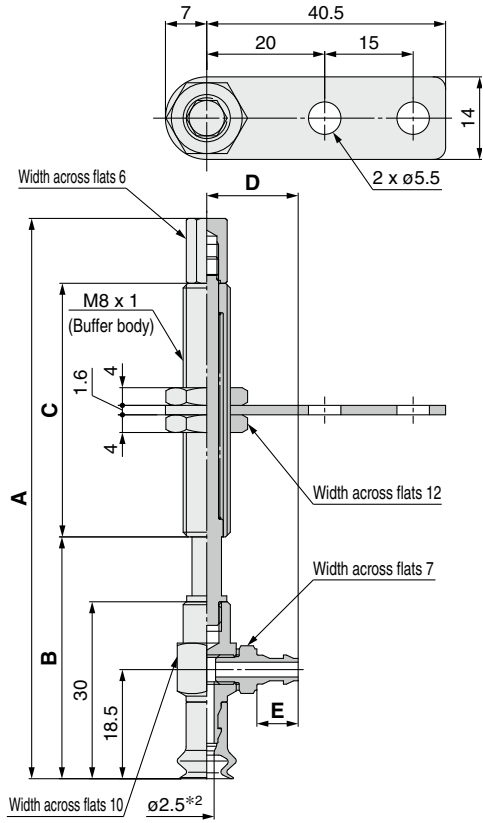
| Model | | ① | ② | ③ | ④ | ⑤ | ⑥ | Q | R | S | Fitting part min. hole size |
|------------------------|----------|------|---------------------------------|--------------|---------------|--------------|-------------------|---|------|------|-----------------------------|
| Vacuum inlet direction | Pad dia. | Form | Material | Buffer spec. | Buffer stroke | Vacuum inlet | Connection thread | | | | |
| ZP | R | B | N S U F G N S | J K | 10 | 04 | A10 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 20 | | | | | | |
| | | | | | 30 | | | | | | |
| | | | | | 40 | | | | | | |
| | | | | | 50 | | | | | | |
| | | | | | 10 | | | | | | |
| | 20 | | | | | | | | | | |
| | 30 | | | | | | | | | | |
| | 40 | | | | | | | | | | |
| | 50 | | | | | | | | | | |
| | 10 | | | | | | | | | | |
| | 20 | | | | | | | | | | |
| 30 | | | | | | | | | | | |
| 50 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 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/barb fitting $\varnothing 6$ to $\varnothing 8$



| | |
|-----------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 126 |

ZPY 06 B N J 6 - N4 - A8

1 2 3 4 5 6

Buffer specification 3

| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 | 06 08 | B | N S U F GN GS | J K | 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 | 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

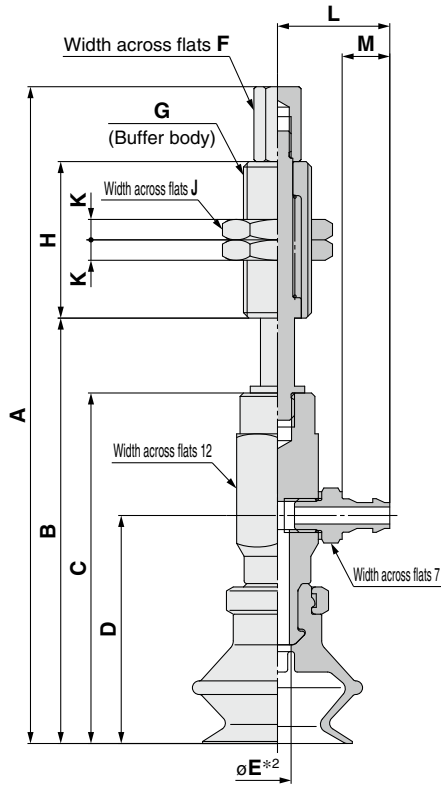
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



| | |
|-----------------|--------|
| Construction | p. 118 |
| Buffer Assembly | p. 126 |

ZPY 10 B N J 10 - N4 - 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 (Barb fitting)

| | | |
|----|---------------------------|---------|
| 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 |

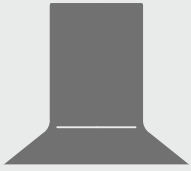
| | | Model | | | | | | | | | | A | B | C | D | *2 E | F | G | H | J | K | | | | | | | | | | | | |
|------------------------|------------|-------|------------------------------|----------------|----------------------------|----------------------|---------------------|--|-----|----|----|----|---|---|---|------|---|---|----|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Vacuum inlet direction | 1 Pad dia. | Form | 2 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 20 30 40 50 | N4 N6 U4 U6 | A10 | | 87 | 53 | | | | | | | | | 23 | | | | | | | | | | | | | | |
| | | | | | | | | | 125 | 63 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 135 | 73 | 42 | 26 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 171 | 83 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 181 | 93 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 20 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 30 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 40 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 50 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | | | | | | | L | M | 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 | Y | B | N S U F GN GS | J K | 10 20 30 40 50 | N4 U4 | A10 | | | | | 14.5 | 5 | $\phi 1.8$ | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | N6 U6 | A14 | | | | | 16.5 | 7 | $\phi 2.5$ |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | N6 U6 | A14 | | | | | 16.5 | 7 | $\phi 2.5$ | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

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

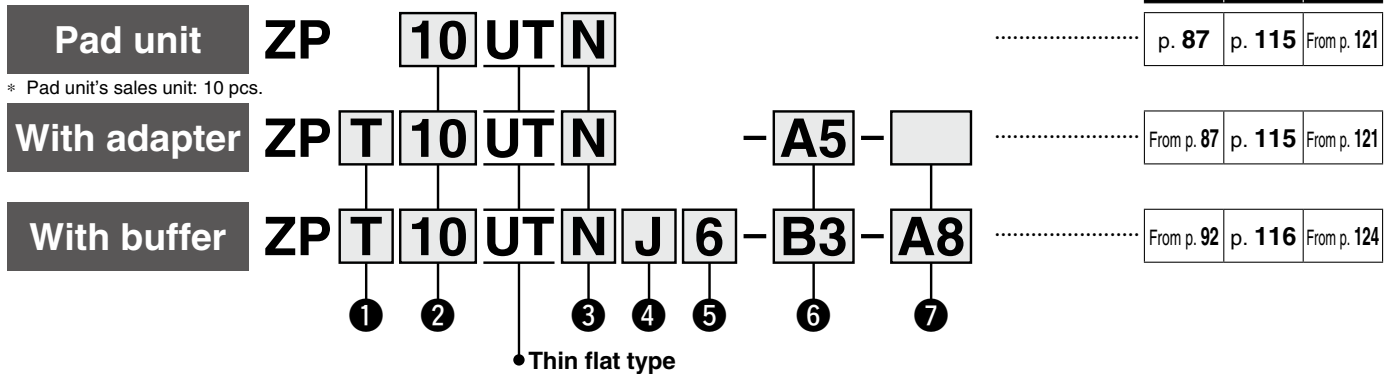
*2 Indicates the minimum hole size of the adapter or vacuum pad



Basic Pad Thin Flat Type ZP Series



How to Order



① Vacuum inlet direction

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

② Pad diameter

| | |
|----|-----|
| 10 | ø10 |
| 13 | ø13 |
| 16 | ø16 |

③ Material

| | |
|----|----------------------------|
| N | NBR |
| S | Silicone rubber*1 |
| 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"

④ Buffer specification

| | |
|---|--------------|
| J | Rotating |
| K | Non-rotating |

⑤ Buffer stroke

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

With adapter

⑥ Vacuum inlet

○: ZPT/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 | △ |

⑦ 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 ○:ZPT/Vertical. Use the vacuum inlet.

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

With buffer

⑥ 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

⑦ Connection thread

○: 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

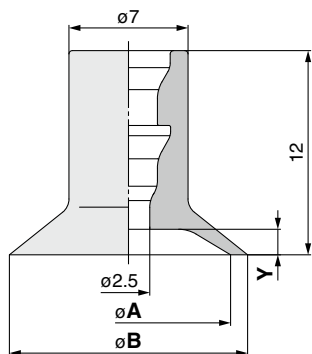
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

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



| | |
|---------------------------|-------------|
| Construction | p. 115 |
| Mounting Bracket Assembly | From p. 121 |

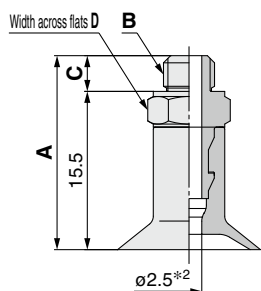
ZP **10** UT **N**

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 |

ZPT **10** UT **N** - **A5**

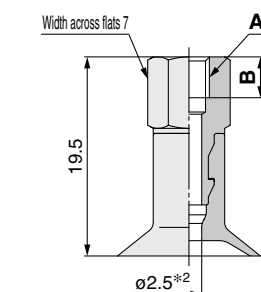
① ② ③ Vacuum inlet (Male thread)

| | |
|----|----------|
| A5 | M5 x 0.8 |
| A6 | M6 x 1 |

| Model | | | | | | A | B | C | D |
|------------------------|---------------|----------------|-----------------------------|------------------------------|----|----|----------|-----|---|
| Vacuum inlet direction | ① Pad dia. | Form | ② Material ^{*1} | ③ Vacuum inlet | | | | | |
| ZP | 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



| | |
|------------------|--------|
| Construction | p. 115 |
| Adapter Assembly | p. 121 |

ZPT **10** UT **N** - **B4**

① ② ③ Vacuum inlet (Female thread)

| | |
|----|----------|
| B4 | M4 x 0.7 |
| B5 | M5 x 0.8 |

| Model | | | | | | A | B |
|------------------------|---------------|----------------|-----------------------------|------------------------------|----|----------|---|
| Vacuum inlet direction | ① Pad dia. | Form | ② Material ^{*1} | ③ Vacuum inlet | | | |
| ZP | 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 $\varnothing 16$

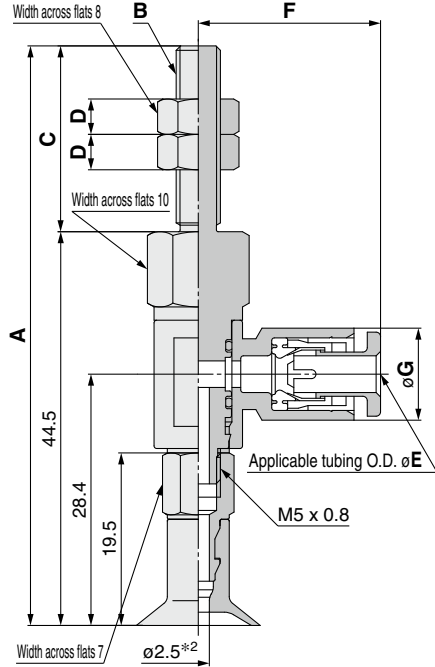
ZPR **10** UT **N** - **04** - **A5**

①
②
③ Vacuum inlet
(One-touch fitting)

| | |
|----|-----------------|
| 04 | $\varnothing 4$ |
| 06 | $\varnothing 6$ |

④ Connection thread
(Male thread)

| | |
|----|----------|
| 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 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 06 | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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

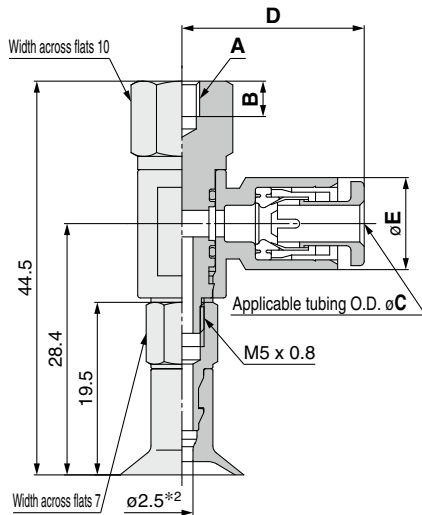
Construction

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

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 |

| | | 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 |
| | | | | | 06 | B5 | M5 x 0.8 | 5 |

Dimensions Per Vacuum Inlet

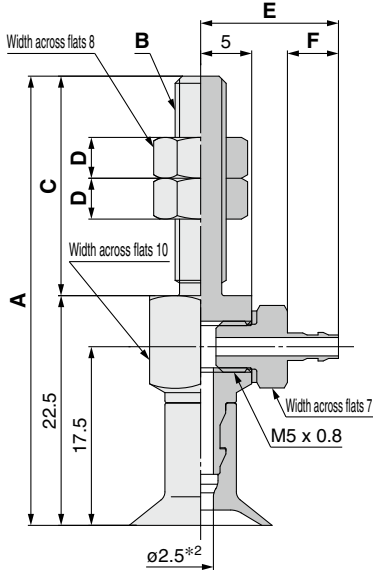
| | | Model | | | | C | D | E | Fitting part min. hole size | |
|------------------------|------------|----------------|--------------|------------------------------|---------------------|----------|---|------|-----------------------------|-----------------|
| Vacuum inlet direction | ① Pad dia. | Form | 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 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 06 | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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 S U F GN GS | N4 N6 U4 U6 | A5 | 44 | M5 x 0.8 | 21.5 | 4 |
| | | | | | | 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 | UT | 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

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

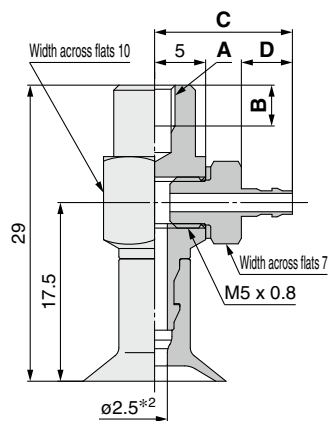
Construction

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

④

Vacuum inlet
(Barb fitting)

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 | UT | 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

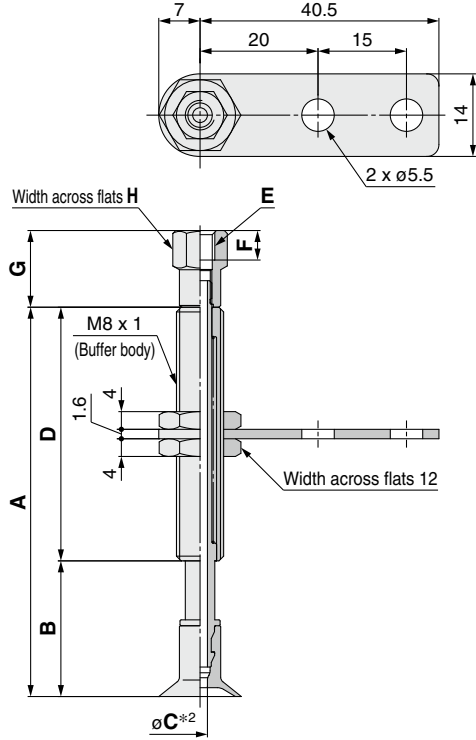
| | | Model | | | | C | D | Fitting part min. hole size | |
|----|------------------------|----------------|------|------------------------------|----------------|----------|------|-----------------------------|---------------------|
| | Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Vacuum inlet | | | | ④ Connection thread |
| ZP | Y | 10 13 16 | 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 $\varnothing 10$ to $\varnothing 16$



ZPT 10 UT N J 6 - B3 - A8

Buffer specification

| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

6 Connection thread (Male thread)

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

5 Vacuum inlet

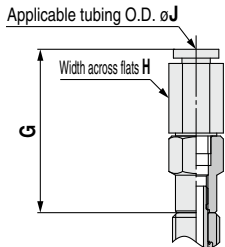
| | | | |
|-----------|----------------------------------|-------------------|------------|
| B3 | M3 x 0.5 | Female thread | |
| B5 | M5 x 0.8 | | |
| 04 | $\varnothing 4$ | One-touch fitting | KQ2H04-M5N |
| 06 | $\varnothing 6$ | | KQ2H06-M5N |
| N4 | For $\varnothing 4$ nylon tubing | Barb fitting | |
| 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 | 10 13 16 | UT | N S U F GN GS | J K | 6 | B3 | A8 | 33 | 18 | J: 2.5 K: 2 | 15 |
| | | | | | | 10 | B5 | | 66 | 23 | | 43 |
| | | | | | | 15 | 04 | | 71 | 28 | | |
| | | | | | | 25 | 06 N4 U4 | | 81 | 38 | | |

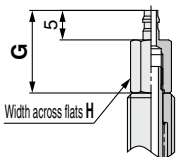
Dimensions Per Vacuum Inlet: Female Thread

| | | 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 | 6 | B3 | A8 | M3 x 0.5 | 3 | 11 | 6 |
| | | | | | | 10 15 25 | B5 | | M5 x 0.8 | 5 | 13 | 8 |

Vacuum inlet: One-touch fitting



Vacuum inlet: Barb fitting



| | |
|------------------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 124 |

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 | 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*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 | 6 | N4 | A8 | 14 | 6 | $\varnothing 1.8$ |
| | | | | | | 10 15 25 | 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

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 $\varnothing 16$

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

① ② ③ ④

Buffer specification ③

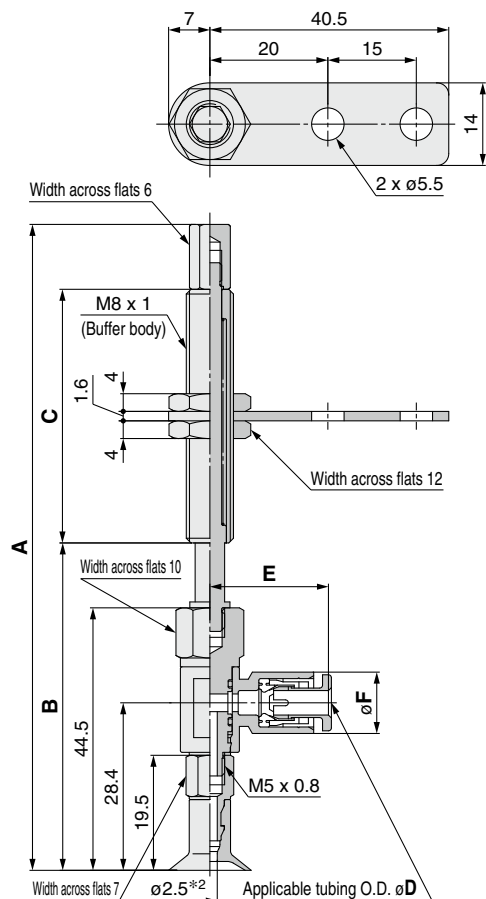
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 | UT | N S U F GN GS | J K | 6 | 04 06 | A8 | 78.5 | 52.5 | 15 |
| | | | | | | 10 | | | 109.5 | 55.5 | 43 |
| | | | | | | 15 | | | 114.5 | 60.5 | |
| | | | | | | 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 | 6 | 04 06 | A8 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | | 10 15 25 | | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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 $\varnothing 16$

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

Buffer specification **3**

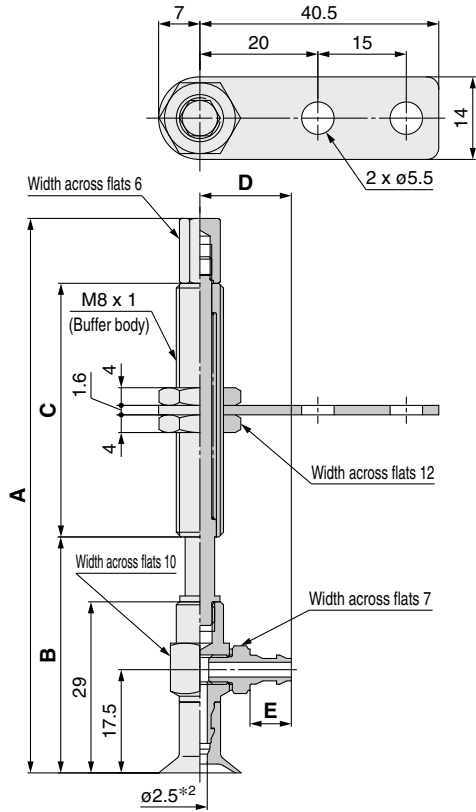
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 |



| | |
|------------------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 126 |

| | | 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 | 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 | 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

| | Dimensions/Models | Construction | Mounting Bracket Assembly |
|---|-------------------|--------------|---------------------------|
| Pad unit ZP 10 CT N | p. 96 | p. 115 | From p. 121 |
| With adapter ZP T 10 CT N - A5 - | From p. 96 | p. 115 | From p. 121 |
| With buffer ZP T 10 CT N J 6 - B3 - A8 | From p. 101 | p. 116 | From p. 124 |

① ② ③ ④ ⑤ ⑥ ⑦
● Thin flat type with ribs

① Vacuum inlet direction

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

② Pad diameter

| 10 | 13 | 16 |
|-----|-----|-----|
| ø10 | ø13 | ø16 |

③ Material

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

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

④ Buffer specification

| J | K |
|----------|--------------|
| Rotating | Non-rotating |

⑤ Buffer stroke

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

With adapter

⑥ Vacuum inlet

○: ZPT/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 | △ |

⑦ 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 ○: ZPT/Vertical. Use the vacuum inlet.

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

With buffer

⑥ 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

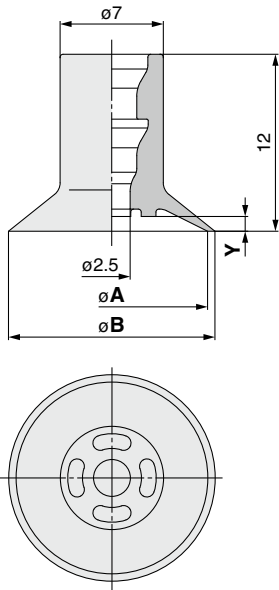
⑦ Connection thread ●: ZPR/Lateral (With One-touch fitting) △: ZPY/Lateral (With barb fitting)

○: 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 $\varnothing 16$



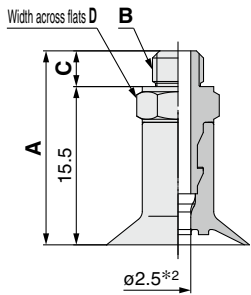
ZP 10 CT N
① ②

| 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 $\varnothing 16$



ZPT 10 CT N - A5
① ② ③

③ Vacuum inlet (Male thread)

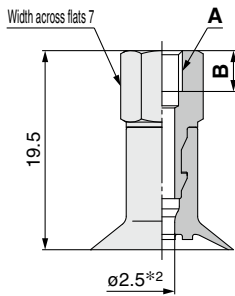
| | |
|-----------|----------|
| A5 | M5 x 0.8 |
| A6 | M6 x 1 |

| Model | | | | | | A | B | C | D |
|------------------------|------------|----------------|--------------------------|------------------------------|----|----|----------|-----|---|
| Vacuum inlet direction | ① Pad dia. | Form | ② Material ^{*1} | ③ Vacuum inlet | | | | | |
| ZP | 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



ZPT 10 CT N - B4
① ② ③

③ Vacuum inlet (Female thread)

| | |
|-----------|----------|
| B4 | M4 x 0.7 |
| B5 | M5 x 0.8 |

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

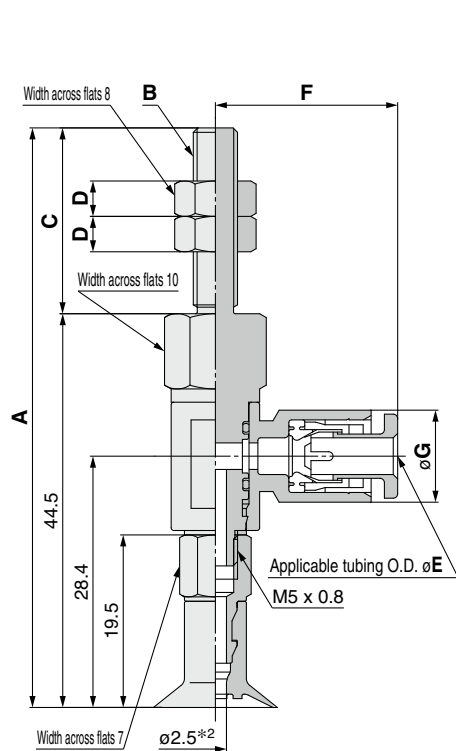
*1 N: NBR, S: Silicone rubber, U: Urethane rubber, F: FKM, GN: Conductive NBR, GS: Conductive silicone rubber

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

Construction p. 115
Adapter Assembly p. 121

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 | |
| Vacuum inlet (One-touch fitting) | | |
| 04 | $\varnothing 4$ | |
| 06 | $\varnothing 6$ | |

| | |
|-----------|---------------------------------|
| 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 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | A6 | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | 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

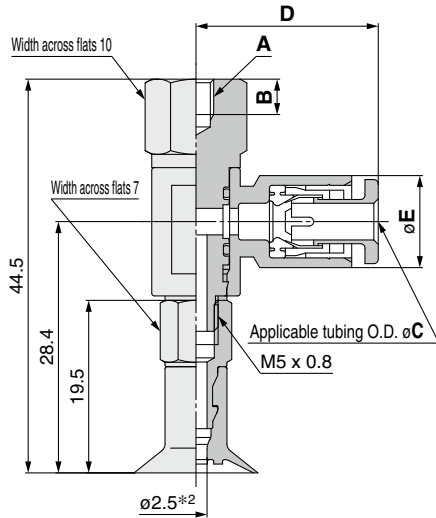
②

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 |



| | |
|------------------|--------|
| 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 |
| | | | | | 06 | B5 | M5 x 0.8 | 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 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 06 | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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

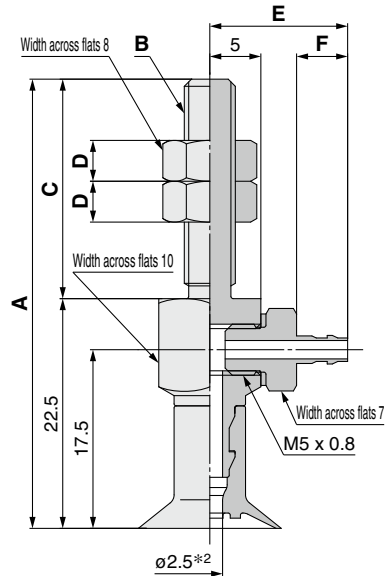
Construction

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

③

④

Vacuum inlet
(Barb fitting)

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 | 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 | 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

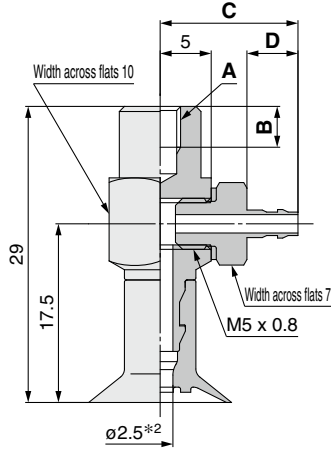
| Model | | | | | | E | F | Fitting part min. hole size |
|------------------------|------------|----------------|--------------------------|----------------|---------------------|------|---|-----------------------------|
| Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Vacuum inlet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

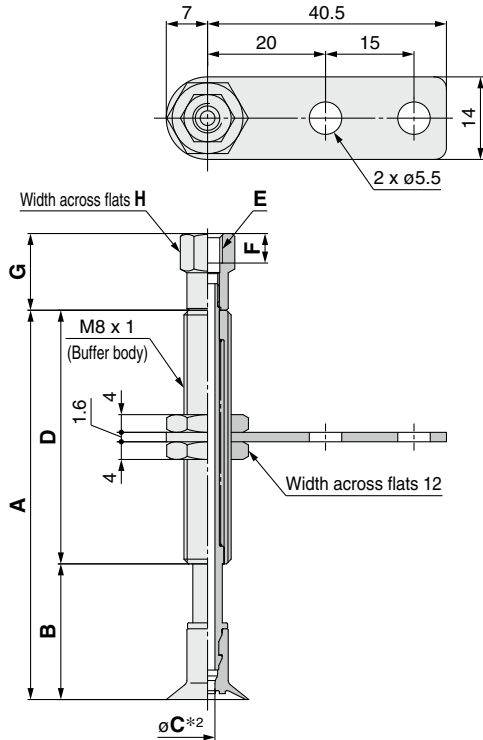
Construction

Mounting Bracket Assembly

Precautions

Dimensions/Models

With buffer $\varnothing 10$ to $\varnothing 16$



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

Buffer specification **3**

| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

6 Connection thread (Male thread)

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

5 Vacuum inlet

| | | | |
|-----------|----------------------------------|-------------------|------------|
| B3 | M3 x 0.5 | Female thread | |
| B5 | M5 x 0.8 | | |
| 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 | | |

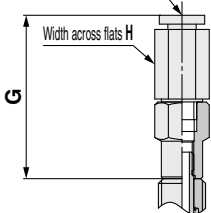
| | | Model | | | | | | A | B | C*2 | D |
|------------------------|------------|--------|------------------------------|----------------|-----------------|----------------|----|----|----|----------------|----|
| Vacuum inlet direction | 1 Pad dia. | 2 Form | 3 Material | 4 Buffer spec. | 5 Buffer stroke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

Dimensions Per Vacuum Inlet: Female Thread

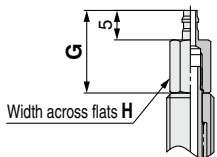
| | | Model | | | | | | E | F | G | H |
|------------------------|------------|--------|------------------------------|----------------|-----------------|----------------|----|----------|---|----|---|
| Vacuum inlet direction | 1 Pad dia. | 2 Form | 3 Material | 4 Buffer spec. | 5 Buffer stroke | 6 Vacuum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

Vacuum inlet: One-touch fitting

Applicable tubing O.D. $\varnothing J$



Vacuum inlet: Barb fitting



| | |
|------------------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 124 |

Dimensions Per Vacuum Inlet: One-touch Fitting

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

Dimensions/Models

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

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

Buffer specification

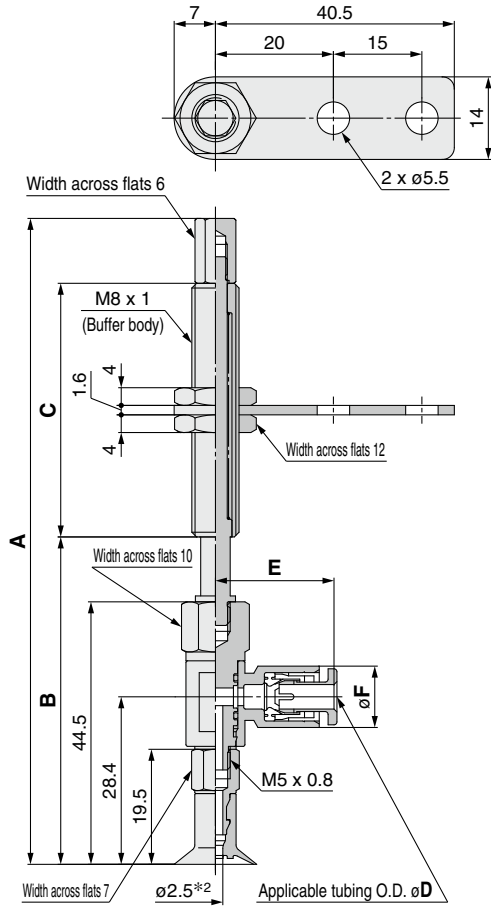
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 K | 6 | 04 06 | A8 | 78.5 | 52.5 | 15 |
| | | | | | | 10 | | | 109.5 | 55.5 | 43 |
| | | | | | | 15 | | | 114.5 | 60.5 | |
| | | | | | | 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 | 6 | 04 06 | A8 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | | 10 15 25 | | | 6 | 21.6 | 12.8 | $\varnothing 4$ |

*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 $\varnothing 16$

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

Buffer specification **3**

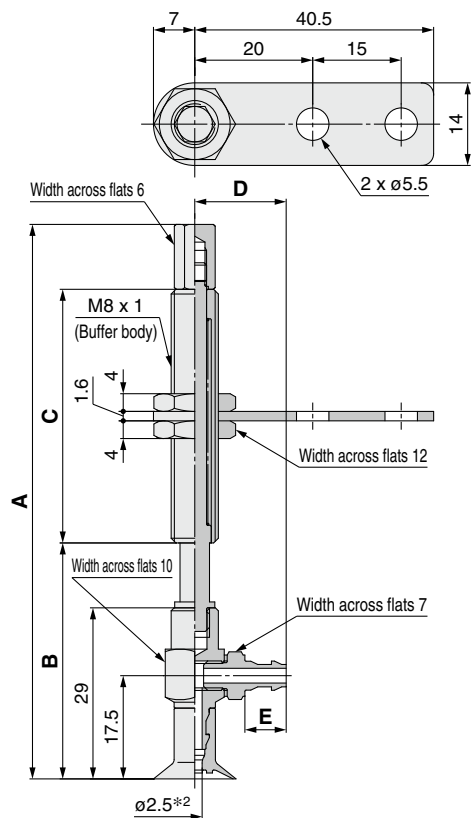
| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

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 |



| | |
|-----------------|--------|
| Construction | p. 116 |
| Buffer Assembly | p. 126 |

| | | 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 | 6 | N4 N6 U4 U6 | 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 | CT | N S U F GN GS | J K | 6 | N4 U4 | A8 | 13.5 | 5 | $\varnothing 1.8$ |
| | | | | | | 10 15 25 | | | N6 U6 | 15.5 | 7 |

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

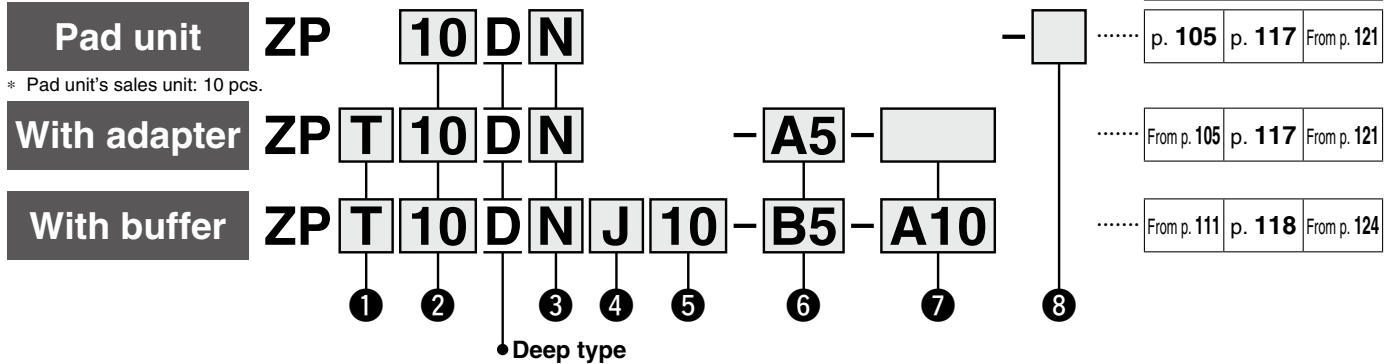
*2 Indicates the minimum hole size of the adapter or vacuum pad



Basic Pad Deep Type ZP Series



How to Order



① Vacuum inlet direction

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

② Pad diameter

| Symbol | Pad diameter [mm] |
|--------|-------------------|
| 10 | ø10 |
| 16 | ø16 |
| 25 | ø25 |
| 40 | ø40 |

⑤ Buffer stroke

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

③ Material

| Symbol | Material |
|--------|----------------------------|
| N | NBR |
| S | Silicone rubber*1 |
| U | Urethane rubber |
| F | FKM |
| GN | Conductive NBR |
| GS | Conductive silicone rubber |

④ Buffer specification

| Symbol | 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

○: 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 | Nil | M3 x 0.5 | ○ | ○ | ○ |
| | | M5 x 0.8 | — | ○ | ○ |
| | B5 | M5 x 0.8 | ○ | ○ | — |
| | B6 | M6 x 1 | ○ | ○ | ○ |
| | B8 | M8 x 1.25 | — | ○ | ○ |
| | 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

⑦ 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 | 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 ○: ZPT/Vertical comes with a vacuum inlet (female thread).

With buffer

⑥ 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 | — | — | ○ |
| | 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

⑦ 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 | — | — | ○●△ |

⑧ Lock ring

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

Lock ring unit

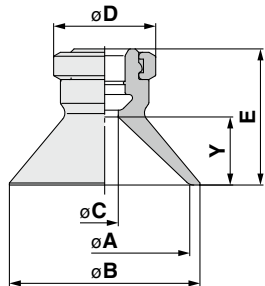
| Part no. | Pad diameter [mm] |
|----------|-------------------|
| ZPL1 | ø10, ø16 |
| ZPL2 | ø25 |
| ZPL3 | ø40 |

* 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 $\varnothing 40$

ZP 10 D N
① ②



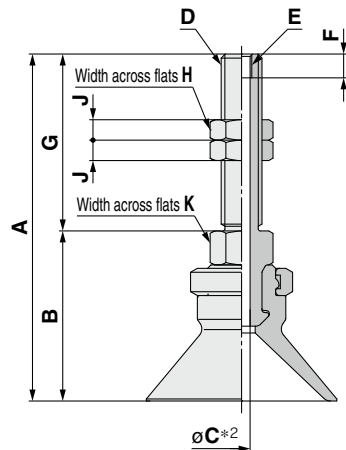
| Model | ① Pad dia. | Form | ② ^{*1} Material | A | B | C | D | E | Y |
|-------|------------|------|--------------------------|----|----|---|------------------------------|----|----|
| | | | | ZP | 10 | D | N S U F GN GS | 10 | 12 |
| | 16 | 16 | 18 | 16 | 7 | | | | |
| | 25 | 25 | 28 | 15 | 10 | | | | |
| | 40 | 40 | 43 | 7 | 18 | | | 29 | 17 |

*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 |

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

ZPT 10 D N - A5
① ② ③



③ 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) |

| | |
|------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

| Model | Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Connection thread | A | B | C*2 | D | E | F | G | H | J | K | |
|-------|------------------------|------------|------------------------------|--------------------------|---------------------|------|--------|----------|---|------------------------------|----------|-----|----|-----|----------|----------|
| | | | | | | ZP | T | 10 | D | N S U F GN GS | A5 | 41 | 20 | 2.5 | M5 x 0.8 | M3 x 0.5 |
| | 16 | 42 | 21 | | | | | | | | | | | | | |
| | 10 | D | N S U F GN GS | A6 | 46 | 20 | 2.5 | M6 x 1 | | | M3 x 0.5 | 3.5 | 26 | 8 | 4 | 8 |
| | 16 | | | | 47 | 21 | | | | | | | | | | |
| | 25 | | | 51 | 25 | 4 | M8 x 1 | M5 x 0.8 | | | 3 | 16 | 12 | 4 | 12 | |
| | 40 | | | 61 | 35.5 | | | | | | | | | | | |
| | 25 | D | N S U F GN GS | A8 | 46 | 30 | 4.2 | M8 x 1 | | | M5 x 0.8 | 3 | 16 | 12 | 4 | 12 |
| | 40 | | | | 51 | 35.5 | | | | | | | | | | |

*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

Recommended Gasket Part Nos.

| Part no. | D vacuum inlet (Male thread) |
|-----------------|------------------------------|
| WCS5X0.8 | M5 x 0.8 |
| WCS6X1 | M6 x 1 |
| WCS8X1 | M8 x 1 |

Dimensions/Models

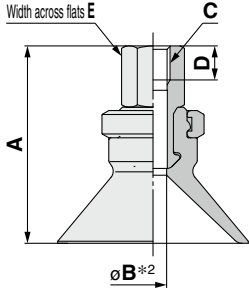
With adapter $\varnothing 10$ to $\varnothing 40$

ZPT **10** D **N** - **B5**

①

②

③ Vacuum inlet
(Female thread)



| | |
|------------|-----------|
| B5 | M5 x 0.8 |
| B6 | M6 x 1 |
| B8 | M8 x 1.25 |
| B01 | Rc1/8 |
| N01 | NPT1/8 |
| T01 | NPTF1/8 |

| | |
|-------------------------|--------|
| Construction | p. 117 |
| Adapter Assembly | p. 121 |

| | | Model | | | | A | B*2 | C | D | E |
|------------------------|------------|-------|------------------------------|----------------|----|-----|-----------|---|----|---|
| Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Vacuum inlet | | | | | | |
| ZP | T | D | N S U F GN GS | B5 | 24 | 2.5 | M5 x 0.8 | 5 | 8 | |
| | | | | | 25 | | | | | |
| | | | | | 29 | | | | | |
| | | | | B6 | 24 | 2.5 | M6 x 1 | 6 | 8 | |
| | | | | | 25 | | | | | |
| | | | | | 29 | | | | | |
| | | | | B8 | 40 | 4.9 | M8 x 1.25 | 8 | 12 | |
| | | | | | 25 | | | | | |
| | | | | B01 | 10 | 2.5 | Rc1/8 | — | 12 | |
| | | | | | 16 | | | | | |
| | | | | N01 | 25 | 3.5 | NPT1/8 | — | 12 | |
| | | | | | 40 | | | | | |
| | | | | T01 | 10 | 7 | 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

Model Selection

ZP Basic

Flat Type

Flat Type with Ribs

Flat, Ball Joint Type

Ball 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**

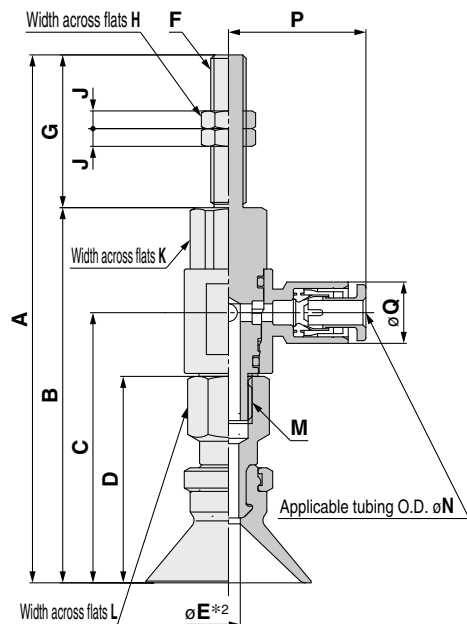
① ②

④ Connection thread
(Male thread)

Vacuum inlet ③
(One-touch fitting)

| | |
|----|-----------------|
| 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 | E ^{*2} | F | G | H | J | K | L | M |
|------------------------|------------|-------|------------------------------|----------------|---------------------|------|------|------|------|-----------------|-----------|----|----|-----------|----|---|----------|
| Vacuum inlet direction | ① Pad dia. | Form | ② ^{*1} Material | ③ Vacuum inlet | ④ Connection thread | | | | | | | | | | | | |
| ZP | R | D | N S U F GN GS | 04 06 08 | A5 | 70 | 49 | 32.9 | 24 | 2.5 | M5 x 0.8 | 21 | 8 | 4 | 10 | 8 | M5 x 0.8 |
| | | | | | | 71 | 50 | 33.9 | 25 | | | | | | | | |
| | | | | | A6 | 75 | 49 | 32.9 | 24 | 2.5 | M6 x 1 | 26 | 8 | 4 | 10 | 8 | M5 x 0.8 |
| | | | | | | 76 | 50 | 33.9 | 25 | | | | | | | | |
| | | | | | A8 | 89.5 | 63.6 | 45.8 | 35 | 3.5 | M8 x 1.25 | 12 | 12 | M8 x 1.25 | | | |
| | | | | | | 97 | 71.1 | 53.3 | 42.5 | | | | | | 4 | | |
| | 79.5 | 63.6 | | 45.8 | | 35 | 3.5 | | | | | | | | | | |
| | 87 | 71.1 | | 53.3 | | 42.5 | | 4 | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | 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 | D | N S U F GN GS | 04 | A5 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | | 06 | A6 | 6 | 21.6 |
| | | | | 06 | A6 | | | 4 | 23.3 |
| | | | | | | 08 | A6 | 6 | 24.3 |
| | | | | 08 | A8 | | | 8 | 26.2 |
| | | | | | | 08 | A8 | 6 | 24.3 |
| | 08 | A8 | | 8 | 26.2 | | | 15.2 | $\varnothing 6$ |

*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 $\varnothing 10$ to $\varnothing 40$

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

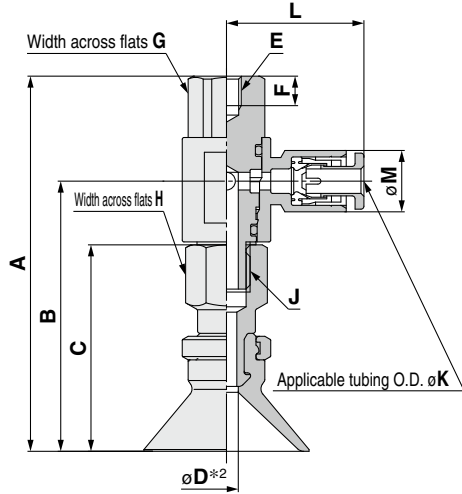
① ②

④ Connection thread
(Female thread)

Vacuum inlet
(One-touch fitting)

| | |
|----|-----------------|
| 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 | | | | A | B | C | *2 D | E | F | G | H | J | | | | |
|----|------------------------|------------|------------------------------|------------------------------|----------------|---------------------|------------------------------|----------------|------|------|----------|----|-----------|--------|-----------|-----|-----------|-----------|
| | 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 | 2.5 | M5 x 0.8 | 5 | 10 | 8 | M5 x 0.8 | | | |
| | | 16 | | | | | 50 | 33.9 | 25 | | | | 12 | 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 | 2.5 | M6 x 1 | 6 | 10 | 8 | M5 x 0.8 |
| | | 16 | | | | | | | | 50 | 33.9 | 25 | | | | 12 | 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 | 4 | M8 x 1.25 | 8 | 12 | 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 | | | | 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 | 4 | 20.6 | 10.4 | $\varnothing 3$ |
| | | | | | 06 | B6 | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | 16 | | | 04 | B5 | 4 | 23.3 | 10.4 | $\varnothing 3$ |
| | | | | | 06 | B6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | 25 | | | 08 | B8 | 8 | 26.2 | 15.2 | $\varnothing 6$ |
| | | | | | 06 | B6 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ |
| | | 40 | | | 08 | B8 | 8 | 26.2 | 15.2 | $\varnothing 6$ |

*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 $\phi 10$ to $\phi 40$

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

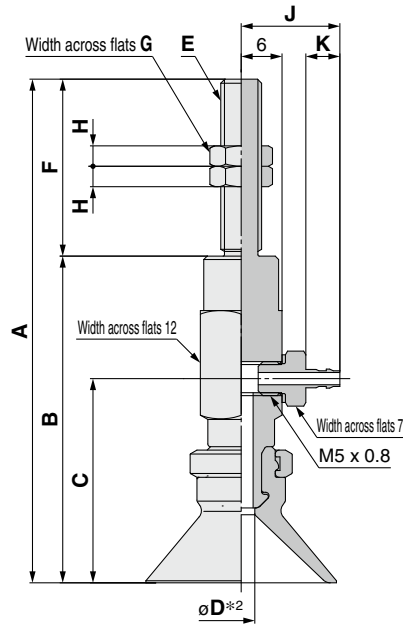
① ②

**Vacuum inlet ③
(Barb fitting)**

**④ Connection thread
(Male thread)**

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

| | | |
|-----------|---------------------------|---------|
| 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 |



| | |
|-------------------------|--------|
| 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 | D | N S U F GN GS | N4 N6 U4 U6 | A5 | 62 | 41 | 25 | 2.5 | M5 x 0.8 | 21 | 8 | 4 | |
| | | | | | | 63 | 42 | 26 | | | | | | |
| | | | | | A6 | 67 | 41 | 25 | 2.5 | | M6 x 1 | 26 | 8 | 4 |
| | | | | | | 68 | 42 | 26 | | | | | | |
| | | | | | A8 | 74 | 48 | 30 | 3.5 | | M8 x 1 | 16 | 12 | 4 |
| | | | | | | 83 | 57 | 39 | 6 | | | | | |
| | 64 | 48 | | 30 | | 3.5 | | | | | | | | |
| | 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 | D | N S U F GN GS | N4 U4 | A5 A6 | 14.5 | 5 | $\phi 1.8$ |
| | | | | N6 U6 | | 16.5 | 7 | $\phi 2.5$ |
| | | | | N6 U6 | A6 A8 | 16.5 | 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 $\varnothing 40$

ZPY 10 D N - N4 - B5

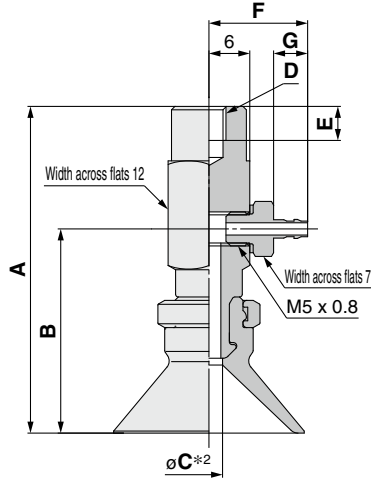
① ②

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

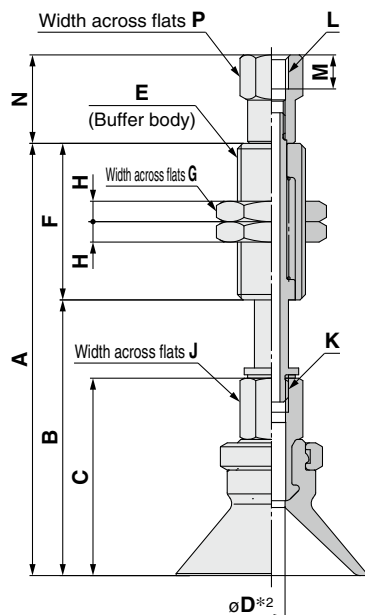
Construction

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 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 | | | | | | | | | 23 |
| | | | | | | 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 | | | | | | | | | | | | |
| | | 30 | | | | 107.5 | 56.5 | 25 | M14 x 1 | 51 | | | | | | | | | |
| | | 40 | | | | 143.5 | 66.5 | | | | | | | | | | | | |
| | | 50 | | | | 153.5 | 76.5 | | | | | | | | | | | | |
| | | 10 | | | | 63.5 | 40.5 | | | | | | | | | | | | |
| | | 20 | | | | 101.5 | 50.5 | | | | | | | | | | | | |
| | 30 | 111.5 | 60.5 | 29 | M14 x 1 | 23 | | | | | | | | | | | | | |
| | 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 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

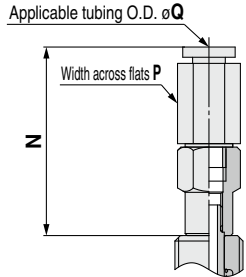
Dimensions/Models

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

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

① ② ③ ④ ⑤ ⑥

Vacuum inlet: One-touch fitting



Buffer specification ③

| | |
|----------|--------------|
| J | Rotating |
| K | Non-rotating |

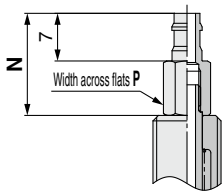
⑥ Connection thread (Male thread)

| | |
|------------|---------|
| 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 | A14 | | 31.8 | 10 | | | 6 | $\varnothing 4.5$ |
| | | | | | | | | | 35.9 | 14 | | | 8 | $\varnothing 6$ |
| | | | | | | 20 | 06 | | A14 | 19.9 | | | 12 | 6 |
| | | | | | | | | | | 24.9 | | 14 | 8 | $\varnothing 3$ |

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 | $\varnothing 2.5$ | |
| | | | | | | | | | | | U6 |
| | | | | | | 40 | 10 | | | | |
| | 20 | | | | N6 | | | | A14 | | 12 |
| | | | | | | | 30 | | | | |
| | 50 | | | | | | | | | | |

*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 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)

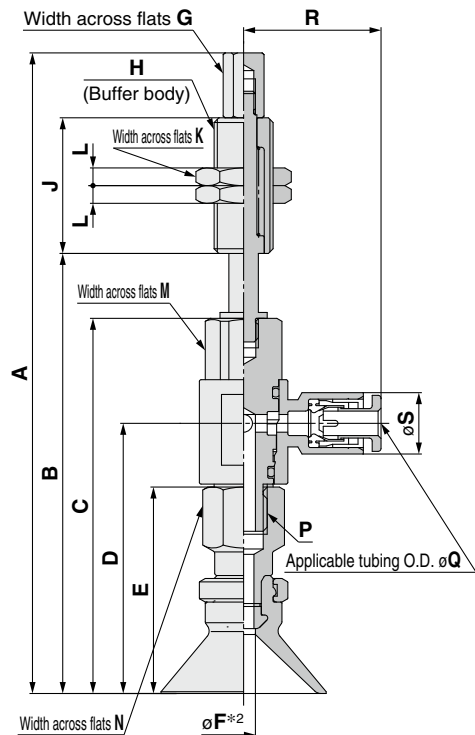
Buffer specification ③

| | |
|---|--------------|
| 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 | ^{*2} F | G | H | J | K | 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 | R | D | N S U F G N S | J K | 10 | 04 | A10 | 94 | 60 | | | | | | | | | | 23 | | | | | | | | | | | | | | | | | |
| | | | | | | | | 132 | 70 | | | | | | | | | | | | | | | | 51 | | | | | | | | | | | |
| | | | | | | | | 142 | 80 | 49 | 32.9 | 24 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 178 | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 188 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 195 | 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | R | D | | | D | N S U F G N S | J K | 16 | 06 | A10 | 133 | 71 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 143 | 81 | 50 | 33.9 | 25 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 179 | 91 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 189 | 101 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 108.6 | 74.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 146.6 | 84.6 | | | | | | | | | | | | | | | | | | | | | | | | |
| R | D | D | N S U F G N S | J K | 25 | | | 08 | A10 | 156.6 | 94.6 | 63.6 | 45.8 | 35 | 3.5 | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 192.6 | 104.6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 202.6 | 114.6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 151.1 | 83.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 148.1 | 93.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 158.1 | 103.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | D | D | | | N S U F G N S | J K | 40 | 08 | A14 | 203.1 | 123.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 151.1 | 83.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 148.1 | 93.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 158.1 | 103.1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | D | D | | | | | N S U F G N S | J K | 40 | 08 | A14 | 203.1 | 123.1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 151.1 | 83.1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 148.1 | 93.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 158.1 | 103.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Dimensions Per Vacuum Inlet

| | | Model | | | | | | | 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 G N S | J K | 10 | 04 | A10 | 4 | 20.6 | 10.4 | $\varnothing 3$ | | | |
| | | | | | | | | 20 | | | | | | |
| | | | | | | | | 30 | | | | | | |
| | | | | | | | | 40 | | | | | | |
| | | | | | | | | 50 | | | | | | |
| | | | | | | | | 06 | | | | | | |
| | R | D | | | D | N S U F G N S | J K | 16 | 06 | A10 | 6 | 21.6 | 12.8 | $\varnothing 4$ |
| | | | | | | | | | | | 20 | | | |
| | | | | | | | | | | | 30 | | | |
| | | | | | | | | | | | 40 | | | |
| | | | | | | | | | | | 50 | | | |
| | | | | | | | | | | | 08 | | | |
| R | D | D | N S U F G N S | J K | 25 | | | 08 | A10 | 4 | 23.3 | 10.4 | $\varnothing 3$ | |
| | | | | | | | | | | 20 | | | | |
| | | | | | | | | | | 30 | | | | |
| | | | | | | | | | | 40 | | | | |
| | | | | | | | | | | 50 | | | | |
| | | | | | | | | | | 06 | | | | |
| R | D | D | | | N S U F G N S | J K | 40 | 08 | A14 | 6 | 24.3 | 12.8 | $\varnothing 4.5$ | |
| | | | | | | | | | | 20 | | | | |
| | | | | | | | | | | 30 | | | | |
| | | | | | | | | | | 40 | | | | |
| | | | | | | | | | | 50 | | | | |
| | | | | | | | | | | 06 | | | | |
| R | D | D | N S U F G N S | J K | | | 40 | 08 | A14 | 8 | 26.2 | 15.2 | $\varnothing 6$ | |
| | | | | | | | | | | 20 | | | | |
| | | | | | | | | | | 30 | | | | |
| | | | | | | | | | | 40 | | | | |
| | | | | | | | | | | 50 | | | | |
| | | | | | | | | | | 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 buffer/barb fitting $\varnothing 10$ to $\varnothing 40$

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

① ② ④

Buffer specification ③

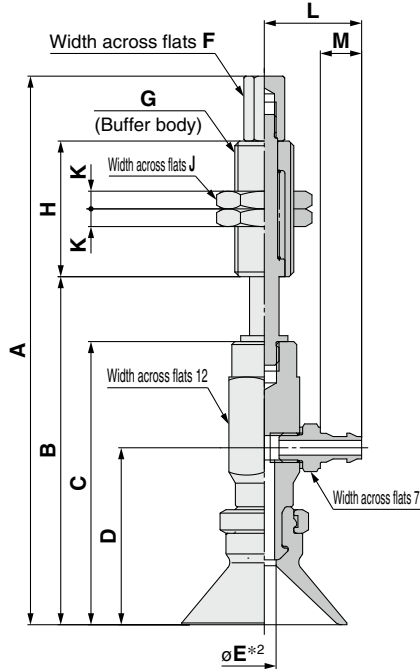
| | |
|---|--------------|
| J | Rotating |
| K | Non-rotating |

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 | Y | 10 | D | N S U F G N S | J K | N4 U4 | A10 | 86 | 52 | 41 | 25 | 2.5 | 6 | M10 x 1 | 23 | 14 | 3 | |
| | | | | | | | | 124 | 62 | | | | | | | | | |
| | | | | | | | | 134 | 72 | | | | | | | | | |
| | | | | | | | | 170 | 82 | | | | | | | | | |
| | | | | | | | | 180 | 92 | | | | | | | | | |
| | | | | | | | | 87 | 53 | | | | | | | | | |
| | | 125 | | | | 63 | | | | | | | | | | | | |
| | | 135 | | | | 73 | | | | | | | | | | | | |
| | | 171 | | | | 83 | | | | | | | | | | | | |
| | | 181 | | | | 93 | | | | | | | | | | | | |
| | | 93 | | | | 59 | | | | | | | | | | | | |
| | | 131 | | | | 69 | | | | | | | | | | | | |
| | 141 | 79 | | | | | | | | | | | | | | | | |
| | 177 | 89 | | | | | | | | | | | | | | | | |
| | 187 | 99 | | | | | | | | | | | | | | | | |
| | 10 | 40 | D | N S U F G N S | J K | N6 U6 | A14 | 137 | 69 | 48 | 30 | 3.5 | 6 | M10 x 1 | 23 | 14 | 3 | |
| | 134 | | | | | | | 79 | | | | | | | | | | |
| | 144 | | | | | | | 89 | | | | | | | | | | |
| | 189 | | | | | | | 109 | | | | | | | | | | |
| | 57 | | | | | | | 39 | | | | | | | | | | |
| | 6 | | | | | | | 10 | | | | | | | | | | |
| | 10 | 40 | D | N S U F G N S | J K | N6 U6 | A14 | 137 | 69 | 57 | 39 | 6 | 10 | M14 x 1 | 50 | 19 | 4 | |
| | 134 | | | | | | | 79 | | | | | | | | | | |
| | 144 | | | | | | | 89 | | | | | | | | | | |
| 189 | 109 | | | | | | | | | | | | | | | | | |
| 57 | 39 | | | | | | | | | | | | | | | | | |
| 6 | 10 | | | | | | | | | | | | | | | | | |

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 | A10 | 14.5 | 5 | $\varnothing 1.8$ | |
| | | | | | 20 | U4 | | | | | |
| | | | | | 30 | N6 U6 | | | | | |
| | | | | | 40 | | | | | | |
| | | | | | 50 | | | | | | |
| | | | | | 10 | | | | | | N6 |
| 20 | U6 | | | | | | | | | | |
| 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

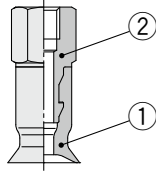
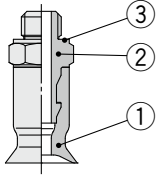
Basic Pad *ZP Series* Construction

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/ZPT

ZPT□-(A5/A6)

ZPT□-(B4/B5)



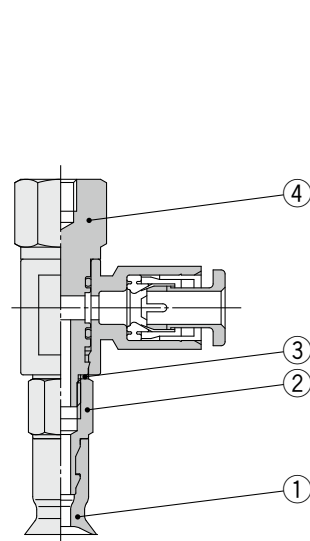
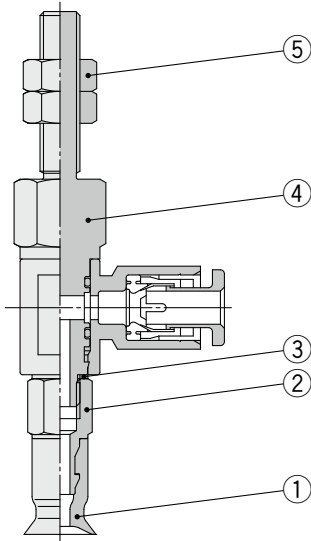
Component Parts

| 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 | |

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

ZPR□-(04/06)-(A5/A6)

ZPR□-(04/06)-(B4/B5)



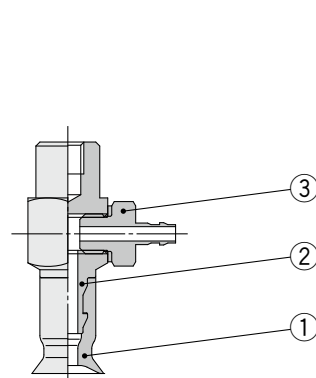
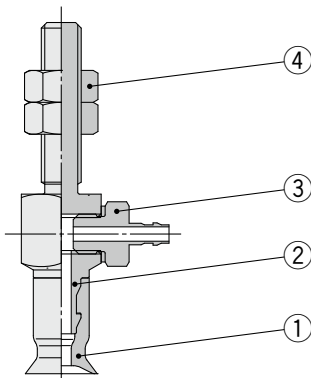
Component Parts

| 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: $\phi 2$ to $\phi 8$

Bellows type: $\phi 6$ to $\phi 8$

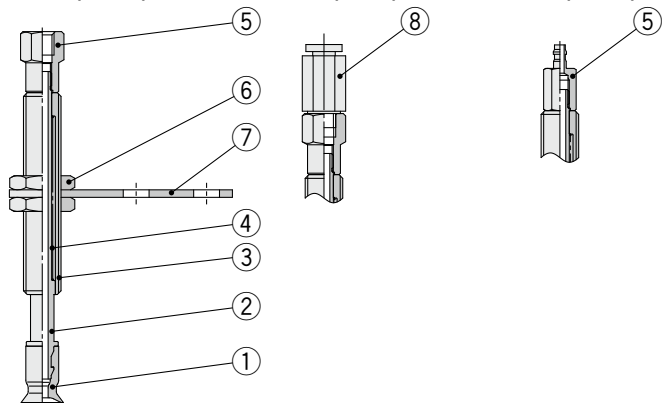
Thin flat type/Thin flat type with ribs: $\phi 10$ to $\phi 16$

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

ZPT□-(B3/B5)-A8

ZPT□-(04/06)-A8

ZPT□-(N4/U4)-A8

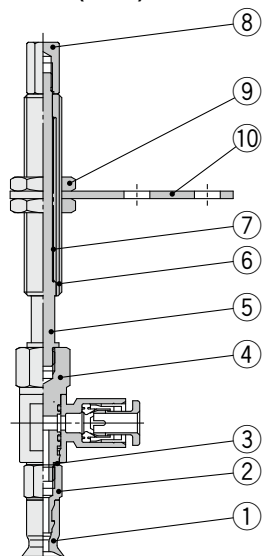


Component Parts

| 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

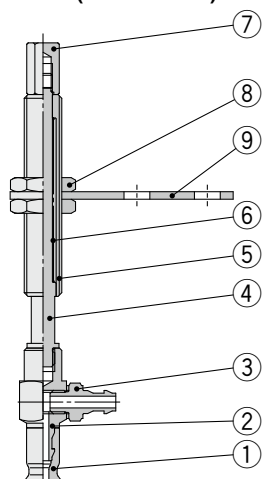


Component Parts

| 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

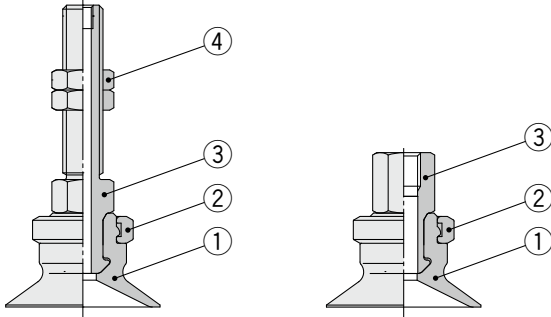
| No. | Description | Material | Note |
|-----|----------------|--|---|
| 1 | Pad | NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber | Flat type Bellows type Thin flat type Thin flat type with ribs |
| 2 | Adapter | Brass (Electroless nickel plating) | |
| 3 | Barb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

ZPT□-(A5/A6/A8)

ZPT□-(B5/B6/B8/B01/N01/T01)



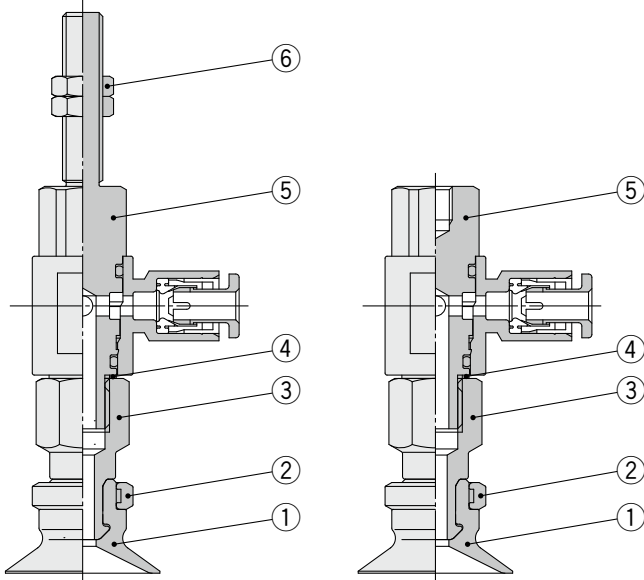
Component Parts

| 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) | |
| 3 | Adapter | Brass (Electroless nickel plating) | |
| 4 | Nut | Roller steel (Zinc chromated) | M5 x 0.8 M6 x 1 |
| | | Carbon steel (Zinc chromated) | M8 x 1 |

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

ZPR□-(04/06/08)-(A5/A6/A8)

ZPR□-(04/06/08)-(B5/B6/B8)



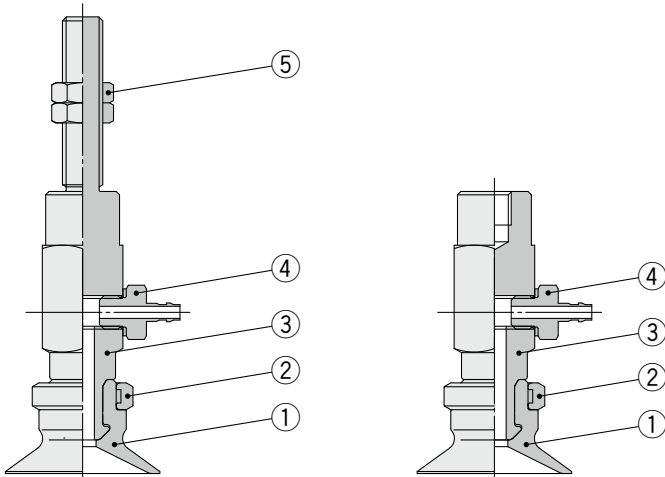
Component Parts

| 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 | Roller 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 | Roller 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 $\varnothing 50$

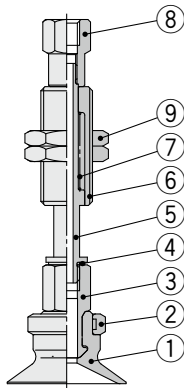
Bellows type: $\varnothing 10$ to $\varnothing 50$

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

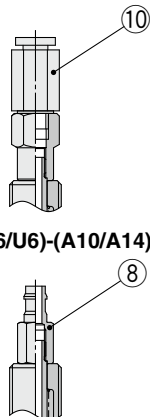
Vacuum inlet direction **Vertical** T Type/ZPT

ZPT□-(B5/B01/N01/T01)-(A10/A14)

ZPT□-(04/06/08)-(A10/A14)



ZPT□-(N6/U6)-(A10/A14)

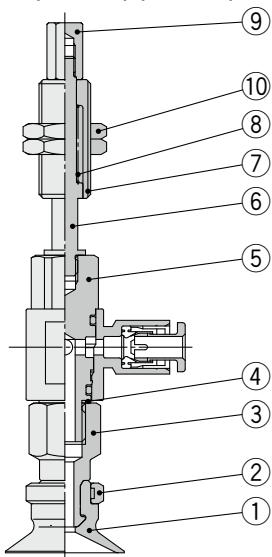


Component Parts

| 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)

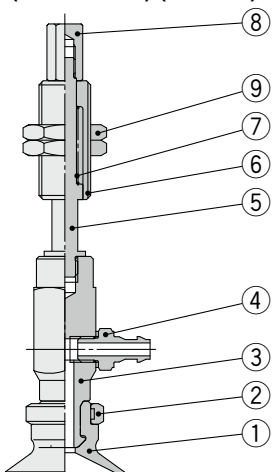


Component Parts

| 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 |

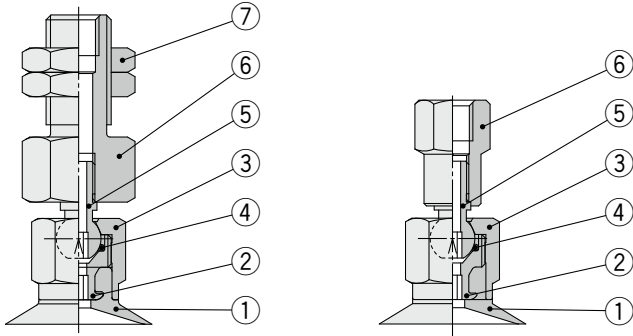
Ball Joint Type Basic Pad **ZP Series** Construction

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

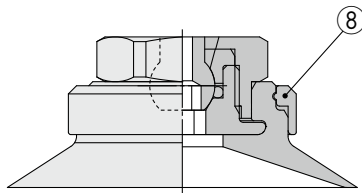
Vacuum inlet direction **Vertical** T Type/ZPT□F

ZPT□F□-(B5/A8/A10/A14)

ZPT□F□-(B5/B8/B01/N01/T01)



$\phi 10$ to $\phi 32$



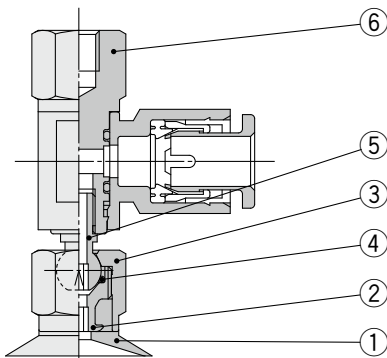
$\phi 40, \phi 50$

Component Parts

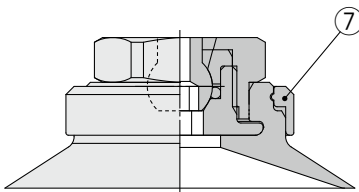
| No. | Description | Material | Note |
|-----|---------------|--|----------------------------------|
| 1 | Pad | NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber | Flat type |
| 2 | Adapter | Brass (Electroless nickel plating) | |
| 3 | Shaft cover | Stainless steel | |
| 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 (Black 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

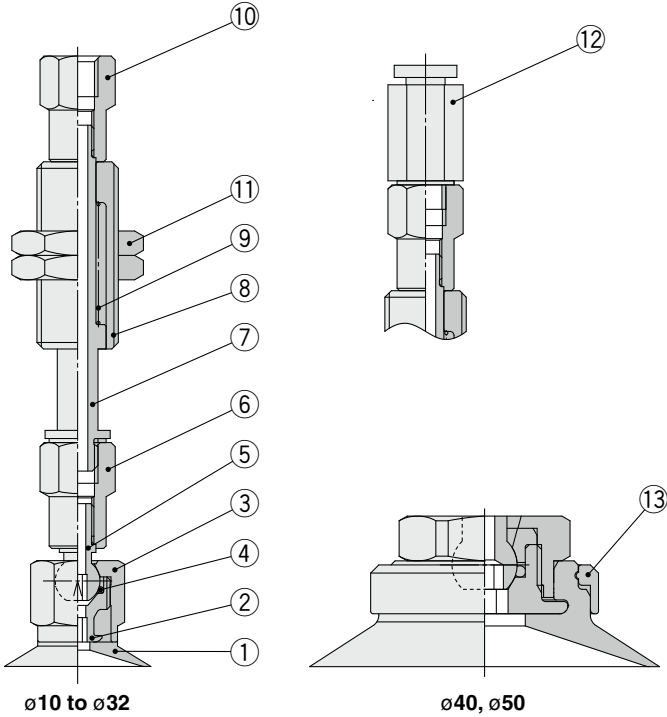
| No. | Description | Material | Note |
|-----|--|--|----------------------------------|
| 1 | Pad | NBR, Silicone rubber, Urethane rubber, FKM, Conductive NBR, Conductive silicone rubber | Flat type |
| 2 | Adapter | Brass (Electroless nickel plating) | |
| 3 | Shaft cover | Stainless steel | |
| 4 | 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 (Black 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)

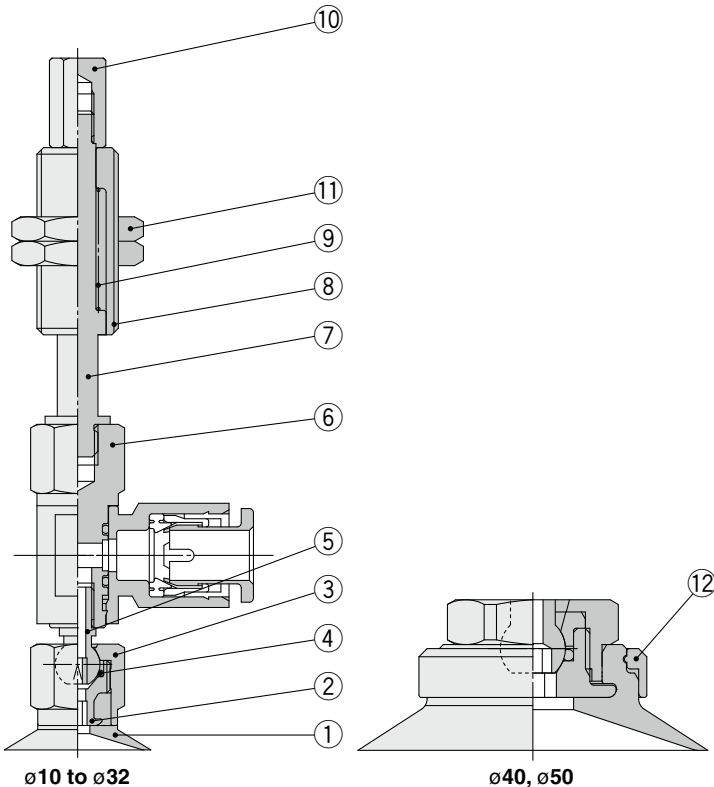


Component Parts

| 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 (Black anodized) | Pad diameter: $\phi 40, \phi 50$ |

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

ZPR□F□-(04/06/08)-(A10/A14)



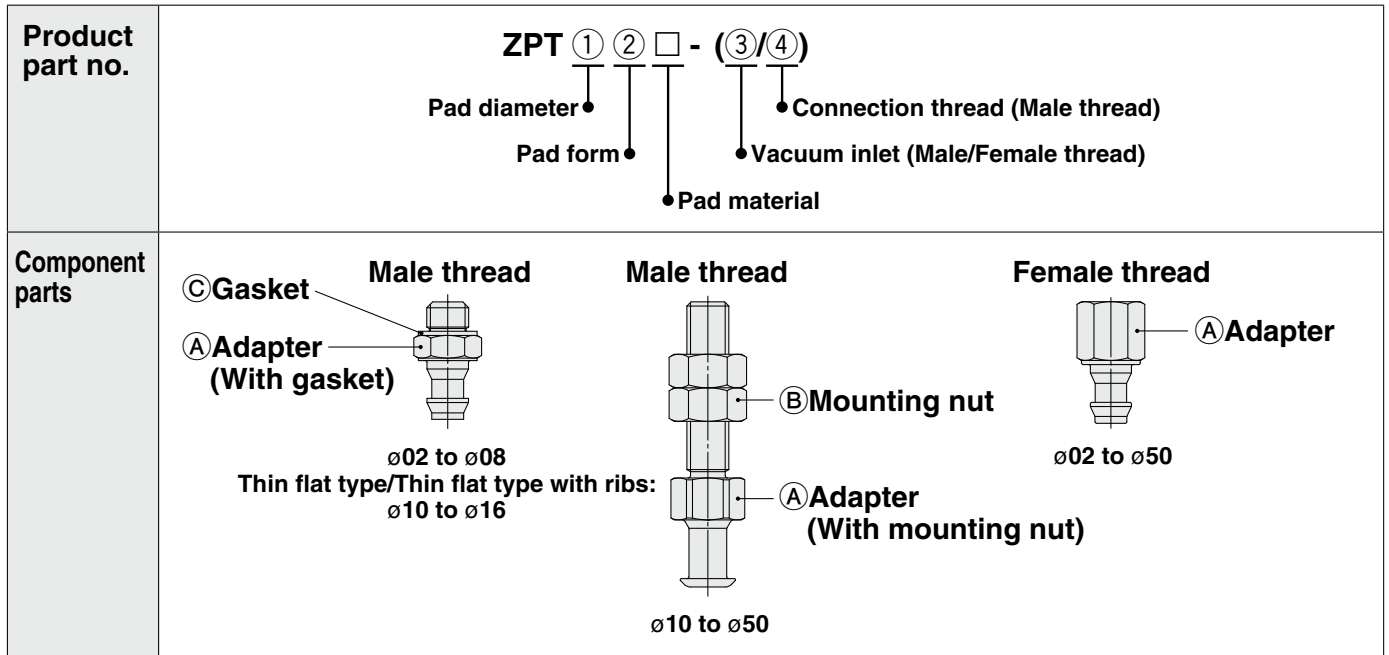
Component Parts

| 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 (Black anodized) | Pad diameter: $\phi 40, \phi 50$ |

Basic Pad *ZP Series*

Mounting Bracket Assembly

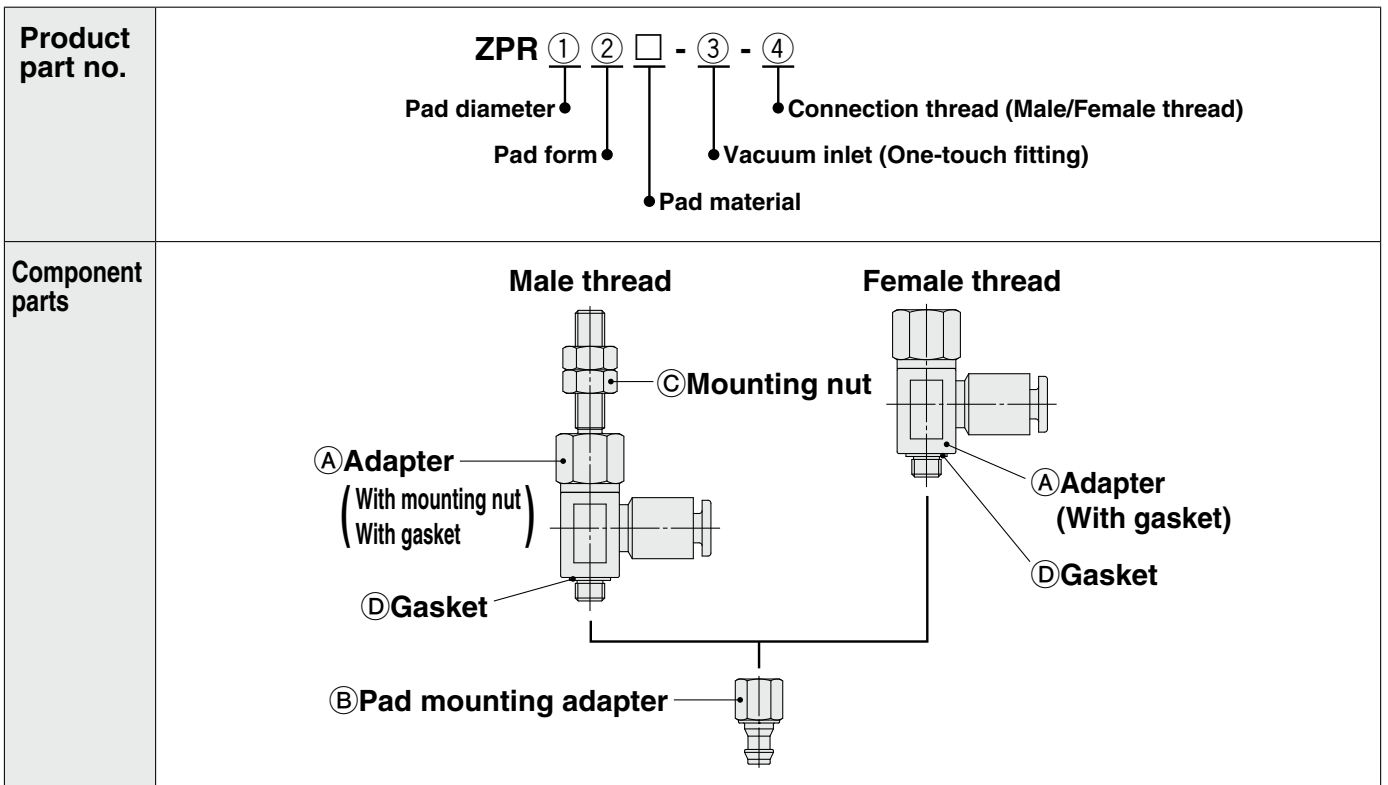
Adapter Assembly: Vacuum Inlet Direction **Vertical** T Type/ZPT



| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | | |
|------------------------------|--------------------------|------------|-----------------------|---------|----|----|----|----------|----------|--------------|----------|----------|----------|----------|----------|----|----|---|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Deep type | D | — | — | — | — | — | — | — | ● | — | ● | — | ● | — | ● | — | |
| ④ Connection thread | Male thread | M5 x 0.8 | A5 | — | — | — | — | — | — | ● | ● | ● | — | — | — | — | — | |
| | | M6 x 1 | A6 | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | M8 x 1 | A8 | — | — | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● |
| ③ Vacuum inlet | Male thread | M5 x 0.8 | A5 | ZPT1-A5 | | | | | | — | | | | | | | | |
| | | M6 x 1 | A6 | ZPT1-A6 | | | | | | — | | | | | | | | |
| | Female thread | M3 x 0.5 | Nil | — | | | | | | ZPT2-(A5/A6) | | | ZPT3-A6 | | ZPT4-A6 | | | |
| | | M5 x 0.8 | Nil | — | | | | | | — | | | ZPT3-A8 | | ZPT4-A8 | | | |
| | | M4 x 0.7 | B4 | ZPT1-B4 | | | | | | — | | | | | | | | |
| | | M5 x 0.8 | B5 | ZPT1-B5 | | | | | | ZPT2-B5 | | | ZPT3-B5 | | — | | | |
| | | M6 x 1 | B6 | — | | | | | | ZPT2-B6 | | | ZPT3-B6 | | ZPT4-B6 | | | |
| | | M8 x 1.25 | B8 | — | | | | | | — | | | ZPT3-B8 | | ZPT4-B8 | | | |
| | | Rc1/8 | B01 | — | | | | | | ZPT2-B01 | | | ZPT3-B01 | | ZPT4-B01 | | | |
| | | NPT1/8 | N01 | — | | | | | | ZPT2-N01 | | | ZPT3-N01 | | ZPT4-N01 | | | |
| NPTF1/8 | T01 | — | | | | | | ZPT2-T01 | | | ZPT3-T01 | | ZPT4-T01 | | | | | |
| ⑤ Mounting nut (Single unit) | M5 x 0.8 | | — | | | | | | NTJ-015A | | | — | | — | | | | |
| | M6 x 1 | | — | | | | | | SNJ-006C | | | SNJ-006C | | SNJ-006C | | | | |
| | M8 x 1 | | — | | | | | | — | | | RB08J | | RB08J | | | | |
| ⑥ Gasket (Single unit) | For M5 x 0.8 | 10 pcs.*1 | ZP-5G2 | | | | | | — | | | — | | — | | | | |
| | | 100 pcs.*1 | M-5G2 | | | | | | — | | | — | | — | | | | |
| | For M6 x 1 | 10 pcs.*1 | ZP-6G2 | | | | | | — | | | — | | — | | | | |
| | | 100 pcs.*1 | M-6G | | | | | | — | | | — | | — | | | | |

*1 The gasket (single unit) sales unit is shown.

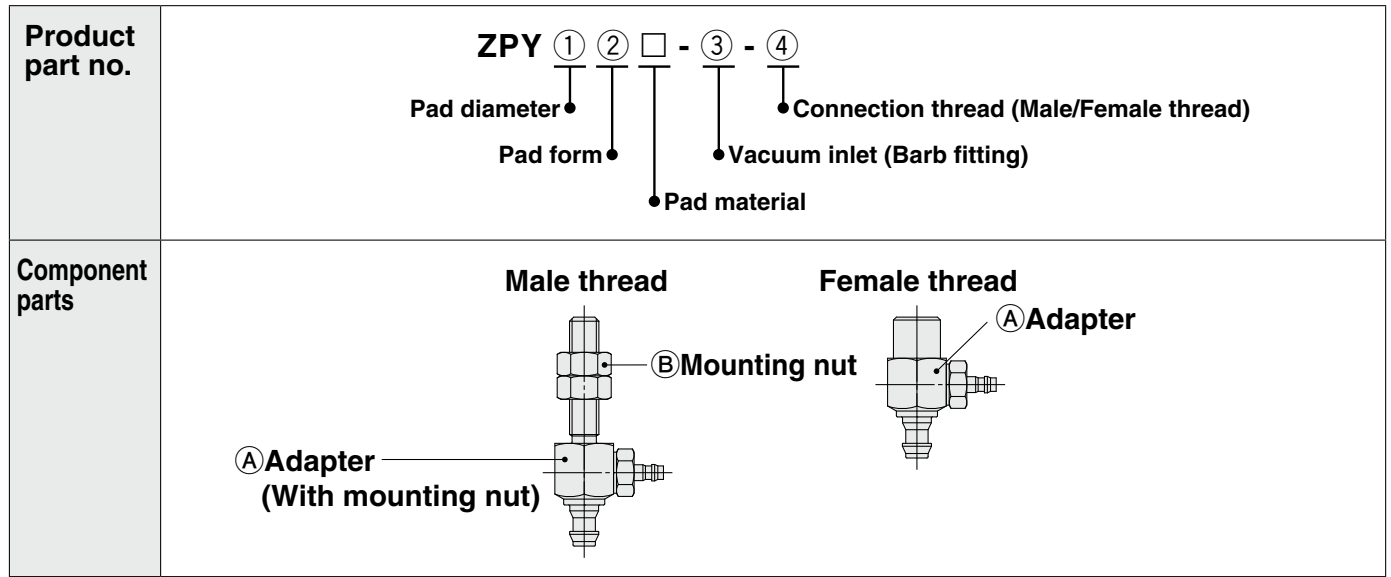
Adapter Assembly: With One-touch Fitting, Vacuum Inlet Direction Lateral R Type/ZPR



| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | | |
|------------------------------------|--------------------------|---------------|-----------------------|---------------|------------|------------|------------|----|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Deep type | D | — | — | — | — | — | — | — | ● | — | ● | — | ● | — | ● | — | |
| ③ Vacuum inlet (One-touch fitting) | ④ Connection thread | Male thread | M5 x 0.8 | A5 | ZPRS-04-A5 | | | | ZPRS-04-A5 | | | — | | | — | | | |
| | | | M6 x 1 | A6 | ZPRS-04-A6 | | | | ZPRS-04-A6 | | | ZPRL-04-A6 | | | — | | | |
| | | | M8 x 1 | A8 | — | | | | — | | | ZPRL-04-A8 | | | — | | | |
| | | Female thread | M4 x 0.7 | B4 | ZPRS-04-B4 | | | | — | | | — | | | — | | | |
| | | | M5 x 0.8 | B5 | ZPRS-04-B5 | | | | ZPRS-04-B5 | | | ZPRL-04-B5 | | | — | | | |
| | | | M6 x 1 | B6 | — | | | | ZPRS-04-B6 | | | ZPRL-04-B6 | | | — | | | |
| | Male thread | Female thread | Male thread | M5 x 0.8 | A5 | ZPRS-06-A5 | | | | ZPRS-06-A5 | | | — | | | — | | |
| | | | | M6 x 1 | A6 | ZPRS-06-A6 | | | | ZPRS-06-A6 | | | ZPRL-06-A6 | | | ZPRL-06-A6 | | |
| | | | | M8 x 1 | A8 | — | | | | — | | | ZPRL-06-A8 | | | ZPRL-06-A8 | | |
| | | Female thread | Male thread | Female thread | M4 x 0.7 | B4 | ZPRS-06-B4 | | | | — | | | — | | | — | |
| | | | | | M5 x 0.8 | B5 | ZPRS-06-B5 | | | | ZPRS-06-B5 | | | ZPRL-06-B5 | | | — | |
| | | | | | M6 x 1 | B6 | — | | | | ZPRS-06-B6 | | | ZPRL-06-B6 | | | ZPRL-06-B6 | |
| Male thread | Female thread | Male thread | M6 x 1 | A6 | — | | | | — | | | ZPRL-08-A6 | | | ZPRL-08-A6 | | | |
| | | | M8 x 1 | A8 | — | | | | — | | | ZPRL-08-A8 | | | ZPRL-08-A8 | | | |
| | | | M5 x 0.8 | B5 | — | | | | — | | | ZPRL-08-B5 | | | — | | | |
| | Female thread | Male thread | Female thread | M6 x 1 | B6 | — | | | | — | | | ZPRL-08-B6 | | | ZPRL-08-B6 | | |
| | | | | M8 x 1.25 | B8 | — | | | | — | | | ZPRL-08-B8 | | | ZPRL-08-B8 | | |
| | | | | M8 x 1.25 | B8 | — | | | | — | | | ZPRL-08-B8 | | | ZPRL-08-B8 | | |
| ⑤ Pad mounting adapter | | | | | ZPT1-B5 | | | | ZPT2-B5 | | | ZPT3-B8 | | | ZPT4-B8 | | | |
| ⑥ Mounting nut (Single unit) | | M5 x 0.8 | | | NTJ-015A | | | | NTJ-015A | | | — | | | — | | | |
| | | M6 x 1 | | | SNJ-006C | | | | SNJ-006C | | | SNJ-006C | | | SNJ-006C | | | |
| | | M8 x 1 | | | — | | | | — | | | RB08J | | | RB08J | | | |
| ⑦ Gasket (Single unit) | | 10 pcs.*1 | | | ZP-5G2 | | | | ZP-5G2 | | | ZP-8G2 | | | ZP-8G2 | | | |
| | | 100 pcs.*1 | | | M-5G2 | | | | M-5G2 | | | — | | | — | | | |

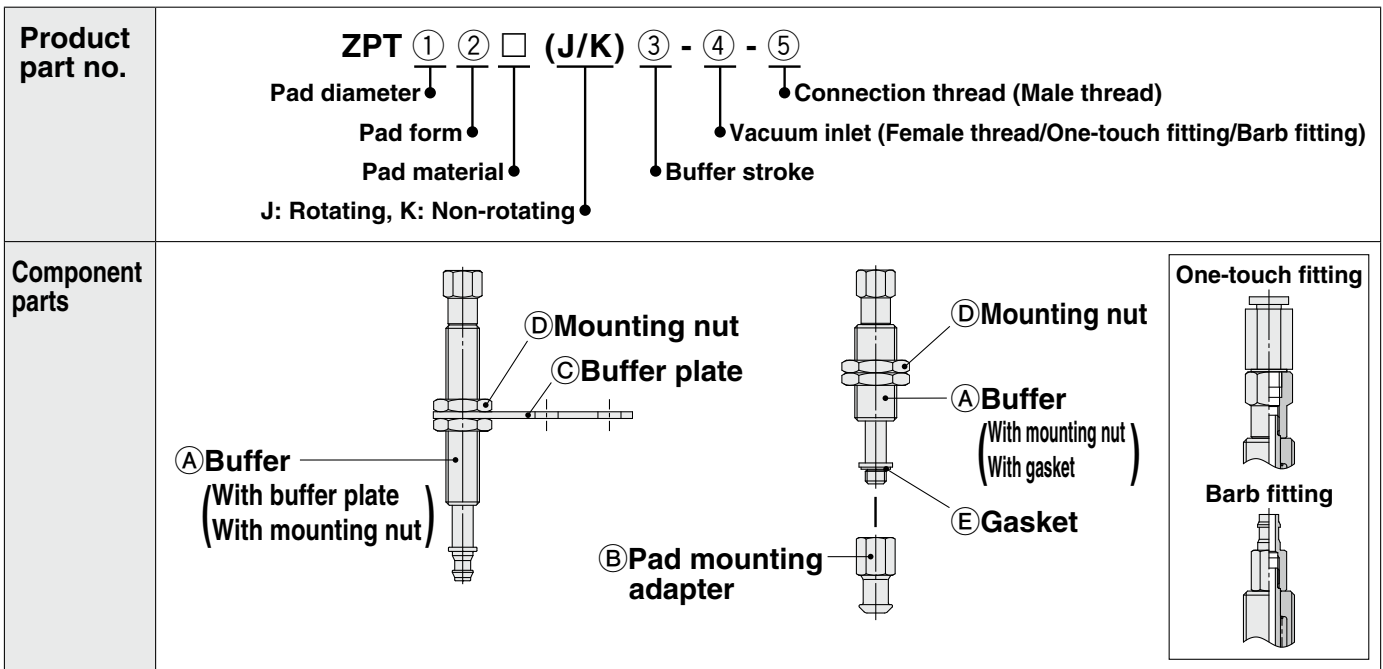
*1 The gasket (single unit) sales unit is shown.

Adapter Assembly: With Barb Fitting, Vacuum Inlet Direction Lateral Y Type/ZPY



| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | |
|--------------------------------------|--------------------------|-----------|----------------------------|---------------|----------|-----------|------------|----|----------|----|------------|----------|----|------------|----|------------|----|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — |
| | Deep type | D | — | — | — | — | — | — | — | ● | — | ● | — | ● | — | ● | — |
| ③ Vacuum inlet (Barb fitting) | For nylon tubing | N4 | ④ Connection thread | Male thread | M5 x 0.8 | A5 | ZPY1-N4-A5 | | | | ZPY2-N4-A5 | | | — | | — | |
| | | | | Male thread | M6 x 1 | A6 | ZPY1-N4-A6 | | | | ZPY2-N4-A6 | | | ZPY3-N4-A6 | | — | |
| | | | | Male thread | M8 x 1 | A8 | — | | | | — | | | ZPY3-N4-A8 | | — | |
| | | | | Female thread | M4 x 0.7 | B4 | ZPY1-N4-B4 | | | | — | | | — | | — | |
| | | | | Female thread | M5 x 0.8 | B5 | ZPY1-N4-B5 | | | | ZPY2-N4-B5 | | | ZPY3-N4-B5 | | — | |
| | | | | Female thread | M6 x 1 | B6 | — | | | | ZPY2-N4-B6 | | | ZPY3-N4-B6 | | — | |
| | For nylon tubing | N6 | ④ Connection thread | Male thread | M5 x 0.8 | A5 | ZPY1-N6-A5 | | | | ZPY2-N6-A5 | | | — | | — | |
| | | | | Male thread | M6 x 1 | A6 | ZPY1-N6-A6 | | | | ZPY2-N6-A6 | | | ZPY3-N6-A6 | | ZPY4-N6-A6 | |
| | | | | Male thread | M8 x 1 | A8 | — | | | | — | | | ZPY3-N6-A8 | | ZPY4-N6-A8 | |
| | | | | Female thread | M4 x 0.7 | B4 | ZPY1-N6-B4 | | | | — | | | — | | — | |
| | | | | Female thread | M5 x 0.8 | B5 | ZPY1-N6-B5 | | | | ZPY2-N6-B5 | | | ZPY3-N6-B5 | | — | |
| | | | | Female thread | M6 x 1 | B6 | — | | | | ZPY2-N6-B6 | | | ZPY3-N6-B6 | | ZPY4-N6-B6 | |
| | For soft tubing | U4 | ④ Connection thread | Male thread | M5 x 0.8 | A5 | ZPY1-U4-A5 | | | | ZPY2-U4-A5 | | | — | | — | |
| | | | | Male thread | M6 x 1 | A6 | ZPY1-U4-A6 | | | | ZPY2-U4-A6 | | | ZPY3-U4-A6 | | — | |
| | | | | Male thread | M8 x 1 | A8 | — | | | | — | | | ZPY3-U4-A8 | | — | |
| | | | | Female thread | M4 x 0.7 | B4 | ZPY1-U4-B4 | | | | — | | | — | | — | |
| | | | | Female thread | M5 x 0.8 | B5 | ZPY1-U4-B5 | | | | ZPY2-U4-B5 | | | ZPY3-U4-B5 | | — | |
| | | | | Female thread | M6 x 1 | B6 | — | | | | ZPY2-U4-B6 | | | ZPY3-U4-B6 | | — | |
| | For soft tubing | U6 | ④ Connection thread | Male thread | M5 x 0.8 | A5 | ZPY1-U6-A5 | | | | ZPY2-U6-A5 | | | — | | — | |
| | | | | Male thread | M6 x 1 | A6 | ZPY1-U6-A6 | | | | ZPY2-U6-A6 | | | ZPY3-U6-A6 | | ZPY4-U6-A6 | |
| | | | | Male thread | M8 x 1 | A8 | — | | | | — | | | ZPY3-U6-A8 | | ZPY4-U6-A8 | |
| | | | | Female thread | M4 x 0.7 | B4 | ZPY1-U6-B4 | | | | — | | | — | | — | |
| | | | | Female thread | M5 x 0.8 | B5 | ZPY1-U6-B5 | | | | ZPY2-U6-B5 | | | ZPY3-U6-B5 | | — | |
| | | | | Female thread | M6 x 1 | B6 | — | | | | ZPY2-U6-B6 | | | ZPY3-U6-B6 | | ZPY4-U6-B6 | |
| ⑤ Mounting nut (Single unit) | | | | M5 x 0.8 | NTJ-015A | | | | — | | | — | | — | | | |
| | | | | M6 x 1 | SNJ-006C | | | | SNJ-006C | | | SNJ-006C | | SNJ-006C | | | |
| | | | | M8 x 1 | — | | | | — | | | RB08J | | RB08J | | | |

Buffer Assembly: Vacuum Inlet Direction Vertical T Type/ZPT



| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | | |
|------------------------------|--------------------------|---------------------|-----------------------|----|---------------|---------------|----|----|---------------|---------------|---------------|---------------|---------------|----|----|----|---------------|----------------|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | — | — | — | |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| ③ Buffer stroke | Stroke | D | — | — | — | — | — | — | — | ● | ● | — | — | — | — | — | — | |
| | | 6 | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | — | |
| | | 10 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | 15 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | — |
| | | 20 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | | 25 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | — |
| | | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| ⑤ Connection thread | Male thread | M8 x 1 | A8 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | | M10 x 1 | A10 | — | — | — | — | — | — | — | ● | — | — | — | — | — | — | |
| | | M14 x 1 | A14 | — | — | — | — | — | — | — | — | — | — | — | — | — | ● | — |
| ④ Vacuum inlet | Female thread | M3 x 0.5 | B3 | — | — | ZPB1(J/K)③-B3 | — | — | — | — | — | — | — | — | — | — | — | |
| | | M5 x 0.8 | B5 | — | — | ZPB1(J/K)③-B5 | — | — | — | ZPB2(J/K)③-B5 | ZPB2(J/K)③-B5 | — | — | — | — | — | — | |
| | | Rc1/8 | B01 | — | — | — | — | — | — | — | — | ZPB2(J/K)③-B5 | ZPB2(J/K)③-B5 | — | — | — | — | — |
| | | NPT1/8 | N01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | ZPB3(J/K)③-B01 |
| | | NPTF1/8 | T01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | ZPB3(J/K)③-N01 |
| | One-touch fitting | ø4 | 04 | — | — | ZPB1(J/K)③-04 | — | — | — | ZPB2(J/K)③-04 | ZPB2(J/K)③-04 | ZPB2(J/K)③-04 | — | — | — | — | — | — |
| | | ø6 | 06 | — | — | ZPB1(J/K)③-06 | — | — | — | ZPB2(J/K)③-06 | ZPB2(J/K)③-06 | ZPB2(J/K)③-06 | — | — | — | — | — | ZPB3(J/K)③-06 |
| | | ø8 | 08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | ZPB3(J/K)③-08 |
| | | For ø4 nylon tubing | N4 | — | — | ZPB1(J/K)③-N4 | — | — | — | — | — | — | — | — | — | — | — | — |
| | | For ø6 nylon tubing | N6 | — | — | — | — | — | — | ZPB2(J/K)③-N6 | ZPB2(J/K)③-N6 | ZPB2(J/K)③-N6 | — | — | — | — | — | ZPB3(J/K)③-N6 |
| Barb fitting | For ø4 soft tubing | U4 | — | — | ZPB1(J/K)③-U4 | — | — | — | — | — | — | — | — | — | — | — | — | |
| | For ø6 soft tubing | U6 | — | — | — | — | — | — | ZPB2(J/K)③-U6 | ZPB2(J/K)③-U6 | ZPB2(J/K)③-U6 | — | — | — | — | — | ZPB3(J/K)③-U6 | |
| ⑥ Pad mounting adapter | | | — | — | — | — | — | — | ZPT2-B5 | ZPT3-B5 | — | — | — | — | — | — | ZPT4-B8 | |
| ⑦ Buffer plate (Single unit) | | | — | — | ZPB1 | — | — | — | — | — | — | — | — | — | — | — | — | |
| ⑧ Mounting nut (Single unit) | | | — | — | RB08J | — | — | — | ZPNA-M10 | ZPNA-M10 | ZPNA-M10 | — | — | — | — | — | ZPNA-M14 | |
| ⑨ Gasket (Single unit) | | 10 pcs.*1 | — | — | — | — | — | — | ZP-5G2 | ZP-5G2 | ZP-5G2 | — | — | — | — | — | ZP-8G2 | |
| | | 100 pcs.*1 | — | — | — | — | — | — | M-5G2 | M-5G2 | M-5G2 | — | — | — | — | — | — | |

*1 The gasket (single unit) sales unit is shown.

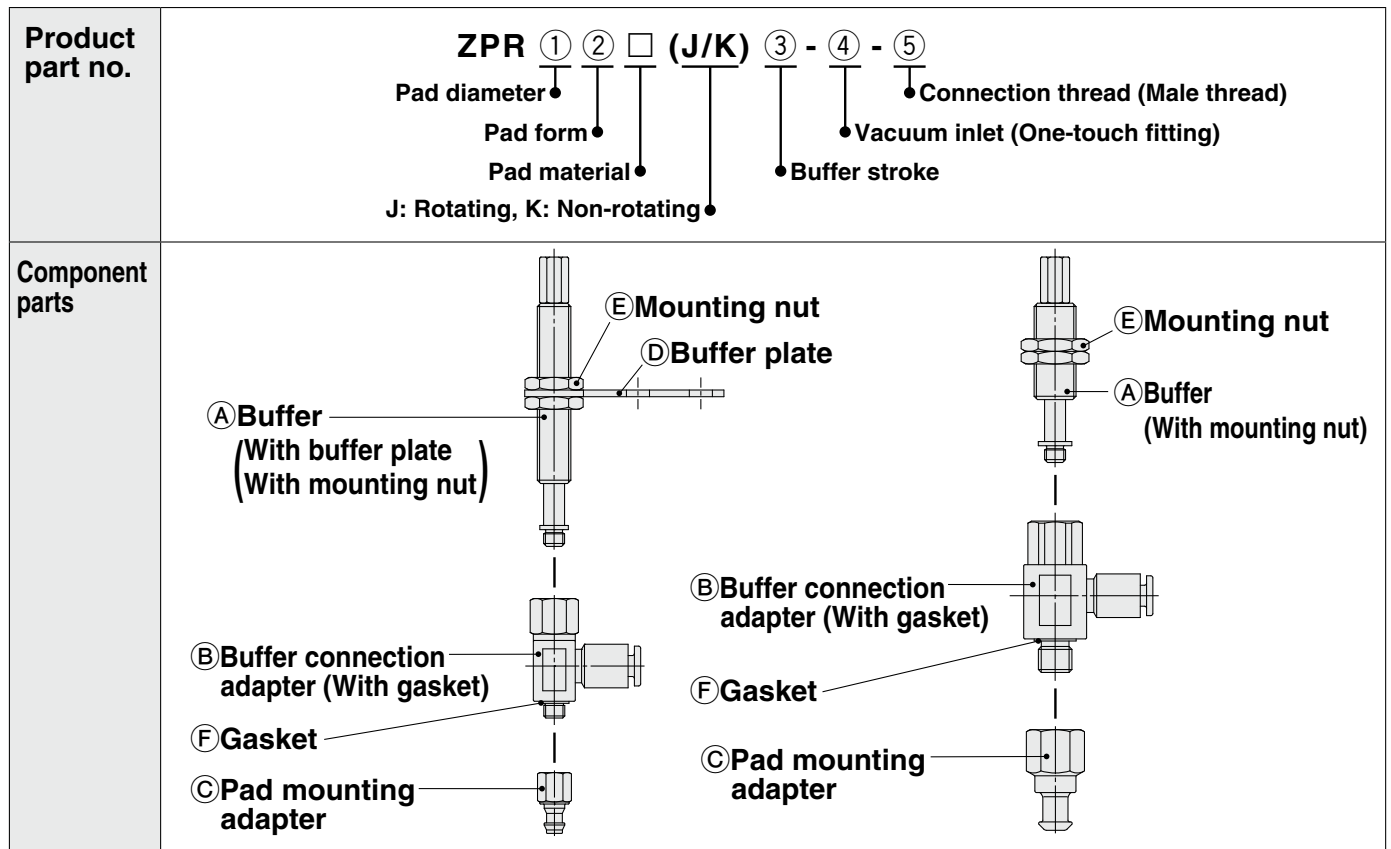
[Buffer assembly part number example]

Product part no. ZPT08UN J 10 - 04 - A8

Buffer assembly ZPB1 J 10 - 04

③ Buffer stroke

Buffer Assembly: With One-touch Fitting, Vacuum Inlet Direction Lateral R Type/ZPR



| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | | | | | | |
|------------------------------|--------------------------|-------------------|-----------------------|----|------------|----|------------|----|------------|----|------------|----|------------|----|------------|----|------------|---|--------|--|--|--|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | | | | | |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | | | | | |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | | | | | |
| | Deep type | D | — | — | — | — | — | — | — | ● | — | ● | — | ● | — | ● | — | | | | | |
| ③ Buffer stroke | Stroke | 6 | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | — | | | | | |
| | | 10 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | | 15 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | | | | | |
| | | 20 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | | 25 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | | | | | |
| | | 30 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | | 40 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | — | | | | | |
| | | 50 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | |
| ⑤ Connection thread | Male thread | M8 x 1 | A8 | ● | | | | — | | | | — | | | | | | | | | | |
| | | M10 x 1 | A10 | — | | | | ● | | | | ● | | | | | | | | | | |
| | | M14 x 1 | A14 | — | | | | — | | | | ● | | | | | | | | | | |
| ④ Buffer | | | ZPB1(J/K)③ | | | | ZPB2(J/K)③ | | | | ZPB2(J/K)③ | | | | ZPB3(J/K)③ | | | | | | | |
| ⑥ Buffer connection adapter | ④ Vacuum inlet | One-touch fitting | ø4 | 04 | ZPRS-04-B5 | | | | ZPRS-04-B5 | | | | ZPRL-04-B5 | | | | — | | | | | |
| | | | ø6 | 06 | ZPRS-06-B5 | | | | ZPRS-06-B5 | | | | ZPRL-06-B5 | | | | ZPRL-06-B8 | | | | | |
| | | | ø8 | 08 | — | | | | — | | | | ZPRL-08-B5 | | | | ZPRL-08-B8 | | | | | |
| ⑦ Pad mounting adapter | | | ZPT1-B5 | | | | ZPT2-B5 | | | | ZPT3-B8 | | | | ZPT4-B8 | | | | | | | |
| ⑧ Buffer plate (Single unit) | | | ZPB1 | | | | — | | | | — | | | | — | | | | | | | |
| ⑨ Mounting nut (Single unit) | | | RB08J | | | | ZPNA-M10 | | | | ZPNA-M10 | | | | ZPNA-M14 | | | | | | | |
| ⑩ Gasket (Single unit) | | | 10 pcs.*1 | | | | ZP-5G2 | | | | ZP-5G2 | | | | ZP-8G2 | | | | ZP-8G2 | | | |
| | | | 100 pcs.*1 | | | | M-5G2 | | | | M-5G2 | | | | — | | | | — | | | |

*1 The gasket (single unit) sales unit is shown.

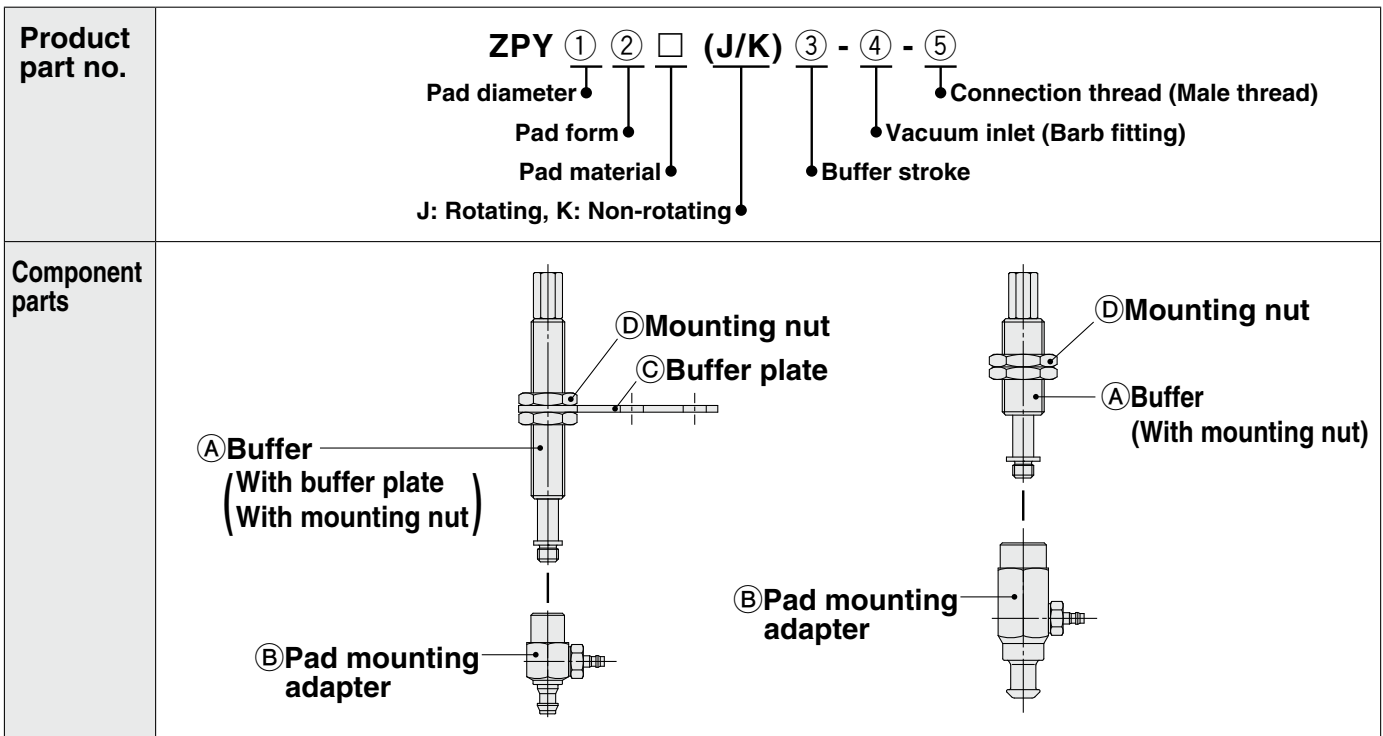
[Buffer assembly part number example]

Product part no. ZPR10BN K 20 - 04 - A10

Buffer assembly ZPB2 K 20

③ Buffer stroke

Buffer Assembly: With Barb Fitting, Vacuum Inlet Direction Lateral Y Type/ZPY



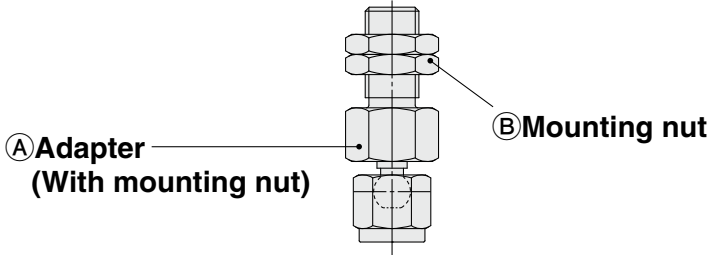
| | | Symbol | ① Pad diameter symbol | | | | | | | | | | | | | | | |
|------------------------------|-----------------------------|---------------------|-----------------------|------------|----|----|----|----|------------|------------|----|------------|------------|----|------------|------------|----|---|
| | | | 02 | 04 | 06 | 08 | 10 | 13 | 16 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ② Pad form | Flat type | U | ● | ● | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Flat type with ribs | C | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Bellows type | B | — | — | ● | ● | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | Thin flat type | UT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Thin flat type with ribs | CT | — | — | — | — | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | Deep type | D | — | — | — | — | — | — | — | ● | — | ● | — | ● | — | ● | — | |
| ③ Buffer stroke | Stroke | 6 | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | — | |
| | | 10 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | | 15 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | | 20 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | 25 | ● | ● | ● | ● | ● | ● | ● | — | — | — | — | — | — | — | — | |
| | | 30 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | 40 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | — | |
| | | 50 | — | — | — | — | — | — | — | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ⑤ Connection thread | Male thread | M8 x 1 | A8 | ● | | | | | | — | | | | | | — | | |
| | | M10 x 1 | A10 | — | | | | | | ● | | | | | | ● | | |
| | | M14 x 1 | A14 | — | | | | | | — | | | | | | ● | | |
| ④ Buffer | | | ZPB1(J/K)③ | | | | | | ZPB2(J/K)③ | | | ZPB2(J/K)③ | | | ZPB3(J/K)③ | | | |
| ⑥ Pad mounting adapter | ④ Vacuum inlet Barb fitting | For ø4 nylon tubing | N4 | ZPY1-N4-B5 | | | | | | ZPY2-N4-B5 | | | ZPY3-N4-B5 | | | — | | |
| | | For ø6 nylon tubing | N6 | ZPY1-N6-B5 | | | | | | ZPY2-N6-B5 | | | ZPY3-N6-B5 | | | ZPY4-N6-B8 | | |
| | | For ø4 soft tubing | U4 | ZPY1-U4-B5 | | | | | | ZPY2-U4-B5 | | | ZPY3-U4-B5 | | | — | | |
| | | For ø6 soft tubing | U6 | ZPY1-U6-B5 | | | | | | ZPY2-U6-B5 | | | ZPY3-U6-B5 | | | ZPY4-U6-B8 | | |
| ⑦ Buffer plate (Single unit) | | | ZPB1 | | | | | | — | | | | | | — | | | |
| ⑧ Mounting nut (Single unit) | | | RB08J | | | | | | ZPNA-M10 | | | ZPNA-M10 | | | ZPNA-M14 | | | |

[Buffer assembly part number example]

Product part no. ZPY50CN J 50 - N6 - A14
 Buffer assembly ZPB3 J 50
 ③ Buffer stroke

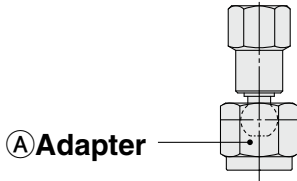
Ball Joint Type Basic Pad **ZP Series** Mounting Bracket Assembly

Adapter Assembly: Vacuum Inlet Direction **Vertical** T Type/ZPT□F

| | |
|-------------------------|---|
| Product part no. | <p>ZPT ① F □ - ② - ③</p> <p>Pad diameter ● Pad material ● Vacuum inlet (Female thread) ● Connection thread (Male thread) ●</p> |
| Component parts |  <p>① Adapter (With mounting nut) ② Mounting nut</p> |

| | | Symbol | | Symbol | ① Pad diameter symbol | | | | | | | | | | | |
|-----------|------------------------------|------------------------------|----|---------------------------------|-----------------------|---------|-------|----|-------------|----------|----|--------------|----------|--|--------------|--|
| | | | | | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | | | | |
| ① Adapter | ② Vacuum inlet Female thread | M5 x 0.8 | B5 | ③ Connection thread Male thread | M8 x 1 | A8 | | | ZPTF1-B5-A8 | | | — | | | | |
| | | | | | M10 x 1 | A10 | | | — | | | ZPTF2-B5-A10 | | | — | |
| | | | | | M14 x 1 | A14 | | | — | | | — | | | ZPTF3-B5-A14 | |
| | | ② Mounting nut (Single unit) | | | | M8 x 1 | RB08J | | | — | | | — | | | |
| | | | | | | M10 x 1 | — | | | ZPNA-M10 | | | — | | | |
| | | | | | | M14 x 1 | — | | | — | | | ZPNA-M14 | | | |

Adapter Assembly: Vacuum Inlet Direction **Vertical** T Type/ZPT□F

| | |
|-------------------------|--|
| Product part no. | <p>ZPT ① F □ - ②</p> <p>Pad diameter ● Pad material ● Vacuum inlet (Female thread) ●</p> |
| Component parts |  <p>① Adapter</p> |

| | | Symbol | ① Pad diameter symbol | | | | | | | | |
|-----------|------------------------------|-----------|-----------------------|----------|----|----|-----------|----|----|-----------|--|
| | | | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ① Adapter | ② Vacuum inlet Female thread | M5 x 0.8 | B5 | ZPTF1-B5 | | | ZPTF2-B5 | | | — | |
| | | M8 x 1.25 | B8 | — | | | ZPTF2-B8 | | | ZPTF3-B8 | |
| | | Rc1/8 | B01 | — | | | ZPTF2-B01 | | | ZPTF3-B01 | |
| | | NPT1/8 | N01 | — | | | ZPTF2-N01 | | | ZPTF3-N01 | |
| | | NPTF1/8 | T01 | — | | | ZPTF2-T01 | | | ZPTF3-T01 | |

■ Adapter Assembly: With One-touch Fitting, Vacuum Inlet Direction **Lateral** R Type/ZPR□F

| | |
|-------------------------|---|
| Product part no. | <p style="text-align: center;">ZPR ① F □ - ② - ③</p> <p style="text-align: center;"> Pad diameter ● Pad material ● Connection thread (Female thread) ● Vacuum inlet (One-touch fitting) ● </p> |
| Component parts | <p>Ⓐ Adapter</p> |

| | | Symbol | | Symbol | ① Pad diameter symbol | | | | | | | |
|-----------|----------------------------------|-----------|-----------|-----------------------------------|-----------------------|-----------|-------------|----|-------------|----|-------------|----|
| | | | | | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 |
| Ⓐ Adapter | ② Vacuum inlet One-touch fitting | ø4 | 04 | ③ Connection thread Female thread | M5 x 0.8 | B5 | ZPRF1-04-B5 | | — | | — | |
| | | ø6 | 06 | | M5 x 0.8 | B5 | ZPRF1-06-B5 | | ZPRF2-06-B5 | | ZPRF3-06-B5 | |
| | ø8 | 08 | M8 x 1.25 | B8 | — | | ZPRF2-06-B8 | | ZPRF3-06-B8 | | | |
| | | | M5 x 0.8 | B5 | — | | ZPRF2-08-B5 | | ZPRF3-08-B5 | | | |
| | M8 x 1.25 | B8 | — | | ZPRF2-08-B8 | | ZPRF3-08-B8 | | | | | |

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

Buffer Assembly: Vacuum Inlet Direction Vertical T Type/ZPT□F

| | |
|-------------------------|--|
| Product part no. | <p>ZPT ① F □ (J/K) ② - ③ - ④</p> <p>● Pad diameter</p> <p>● Pad material</p> <p>● Connection thread (Male thread)</p> <p>● Vacuum inlet (Female thread/One-touch fitting)</p> <p>J: Rotating, K: Non-rotating</p> <p>● Buffer stroke</p> |
| Component parts | <p>① Buffer (With mounting nut / With gasket)</p> <p>② Mounting nut</p> <p>③ Gasket</p> <p>④ Pad mounting adapter</p> <p>One-touch fitting</p> |

| | | Symbol | ① Pad diameter symbol | | | | | | | | |
|------------------------------|-------------------|----------|-----------------------|----------|----|----------------|----------|----------------|----------|---------------|--|
| | | | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | |
| ② Buffer stroke | Stroke | 10 | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | 20 | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | 30 | ● | ● | ● | ● | ● | ● | ● | ● | |
| | | 40 | ● | ● | ● | — | — | — | — | — | |
| | | 50 | ● | ● | ● | ● | ● | ● | ● | ● | |
| ④ Connection thread | Male thread | M10 x 1 | A10 | | | — | | — | | | |
| | | M14 x 1 | A14 | | | ● | | ● | | | |
| ③ Buffer | Female thread | M5 x 0.8 | B5 | | | ZPB2(J/K)③-B5 | | — | | | |
| | | Rc1/8 | B01 | | | ZPB3(J/K)②-B01 | | ZPB3(J/K)②-B01 | | | |
| | | NPT1/8 | N01 | | | ZPB3(J/K)②-N01 | | ZPB3(J/K)②-N01 | | | |
| | | NPTF1/8 | T01 | | | ZPB3(J/K)②-T01 | | ZPB3(J/K)②-T01 | | | |
| | One-touch fitting | ø4 | 04 | | | ZPB2(J/K)③-04 | | — | | | |
| | | ø6 | 06 | | | ZPB2(J/K)③-06 | | ZPB3(J/K)②-06 | | ZPB3(J/K)②-06 | |
| | | ø8 | 08 | | | — | | ZPB3(J/K)②-08 | | ZPB3(J/K)②-08 | |
| ⑤ Pad mounting adapter | | | | ZPTF1-B5 | | | ZPTF2-B8 | | ZPTF3-B8 | | |
| ⑥ Mounting nut (Single unit) | M10 x 1 | | ZPNA-M10 | | | — | | — | | | |
| | M14 x 1 | | — | | | ZPNA-M14 | | ZPNA-M14 | | | |
| ⑦ Gasket (Single unit) | 10 pcs.*1 | | ZP-5G2 | | | ZP-8G2 | | ZP-8G2 | | | |
| | 100 pcs.*1 | | M-5G2 | | | — | | — | | | |

*1 The gasket (single unit) sales unit is shown.

[Buffer assembly part number example]

Product part no. ZPT20FN J 10 - 06 - A14

Buffer assembly ZPB3 J 10

② Buffer stroke

Buffer Assembly: With One-touch Fitting, Vacuum Inlet Direction Lateral R Type/ZPR□F

| | |
|-------------------------|--|
| Product part no. | <p>ZPR ① F □ (J/K) ② - ③ - ④</p> <p>● Pad diameter</p> <p>● Pad material</p> <p>J: Rotating, K: Non-rotating</p> <p>● Connection thread (Male thread)</p> <p>● Vacuum inlet (One-touch fitting)</p> <p>● Buffer stroke</p> |
| Component parts | <p>③ Mounting nut</p> <p>① Buffer (With mounting nut)</p> <p>② Pad mounting adapter</p> |

| | | Symbol | ① Pad diameter symbol | | | | | | | |
|------------------------------|----------------------------------|---------|-----------------------|----|----|-------------|----|----|-------------|----|
| | | | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 |
| ② Buffer stroke | Stroke | 10 | ● | ● | ● | ● | ● | ● | ● | ● |
| | | 20 | ● | ● | ● | ● | ● | ● | ● | ● |
| | | 30 | ● | ● | ● | ● | ● | ● | ● | ● |
| | | 40 | ● | ● | ● | — | — | — | — | — |
| | | 50 | ● | ● | ● | ● | ● | ● | ● | ● |
| ④ Connection thread | Male thread | M10 x 1 | A10 | | | — | | | — | |
| | | M14 x 1 | A14 | | | ● | | | ● | |
| ① Buffer | | | ZPB2(J/K)② | | | ZPB3(J/K)② | | | ZPB3(J/K)② | |
| ② Pad mounting adapter | ③ Vacuum inlet One-touch fitting | ø4 | 04 | | | ZPRF1-04-B5 | | | — | |
| | | ø6 | 06 | | | ZPRF1-06-B5 | | | ZPRF2-06-B5 | |
| | | ø8 | 08 | | | — | | | ZPRF2-08-B5 | |
| ③ Mounting nut (Single unit) | | M10 x 1 | ZPNA-M10 | | | — | | | — | |
| | | M14 x 1 | — | | | ZPNA-M14 | | | ZPNA-M14 | |

[Buffer assembly part number example]

Product part no. ZPR10FN K 30 - 06 - A10

Buffer assembly ZPB2 K 30

② Buffer stroke



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

| Model | 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)□-□-A12 | M14 x 1 | 6.5 to 7.5 |

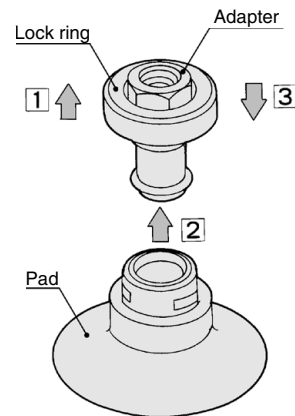
Compact Type ZP3 Series

| Model | 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)□-□ | | |

How to Replace the Pad

1. How to replace the pad of the basic type ZP series

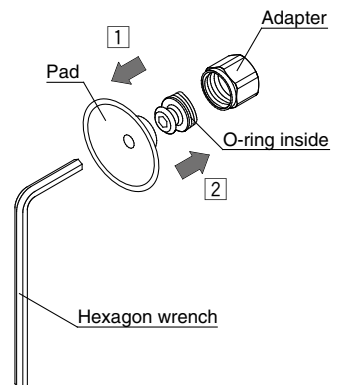
- 1 Pull the lock ring upward, and, after lifting it up to the adapter, remove the old pad by pulling it downward.
- 2 While holding the lock ring in the raised position, place a new pad onto the adapter.
- 3 Confirm that the pad is securely in place, and then return the lock ring to its original position.



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.

