



# Compact Type

## Flat Type

# ZP3 Series

Pad diameter: Ø1.5, Ø2, Ø3.5



### How to Order

**Pad unit** ZP3 - **015 UN** ..... p. 137 p. 160 From p. 162

**With adapter** ZP3 **T** **015 UN** - **A3** ..... From p. 137 p. 160 From p. 162

**With buffer** ZP3 - **T** **015 UN J 3** - **B3** ..... From p. 140 p. 161 p. 164

1 2 3 4 5 6 7 8

• Flat type

#### 1 Adapter material

|            |                                       |
|------------|---------------------------------------|
| <b>N</b>   | Brass                                 |
| <b>S*1</b> | Stainless steel (Stainless steel 304) |

\*1 Only applicable to the pad with adapter

#### 2 Vacuum inlet direction

|          |          |
|----------|----------|
| <b>N</b> | Pad unit |
| <b>T</b> | Vertical |
| <b>Y</b> | Lateral  |

#### 3 Pad diameter

|            |      |
|------------|------|
| <b>015</b> | Ø1.5 |
| <b>02</b>  | Ø2   |
| <b>035</b> | Ø3.5 |

#### 4 Material

|           |                            |
|-----------|----------------------------|
| <b>N</b>  | NBR                        |
| <b>S</b>  | Silicone rubber*1 *2       |
| <b>U</b>  | Urethane rubber            |
| <b>F</b>  | FKM                        |
| <b>GN</b> | Conductive NBR             |
| <b>GS</b> | Conductive silicone rubber |

#### 5 Buffer specification

|          |              |
|----------|--------------|
| <b>J</b> | Rotating     |
| <b>K</b> | Non-rotating |

#### 6 Buffer stroke

| Stroke [mm] | Pad diameter |
|-------------|--------------|
|             | All sizes    |
| <b>3</b>    | ●            |
| <b>6</b>    | ●            |

\*1 Uses a material compliant with a dissolution test of the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use."

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

\*1 Use the connection thread.

\*2 Polyurethane tube piping

\*3 Soft nylon/Polyurethane tube piping

\*4 Not compatible with stainless steel materials

### With adapter

#### 7 Connection thread/ 8 Vacuum inlet ○: ZP3□-T/Vertical ●: ZP3□-Y/Lateral

| 7 Connection thread |           |           | 8 Vacuum inlet      |           | Pad diameter                   |
|---------------------|-----------|-----------|---------------------|-----------|--------------------------------|
| Type                | Symbol    | Size      | Type                | Symbol    | All sizes                      |
| Male thread         | <b>A3</b> | M3 x 0.5  | —                   | <b>N</b>  | —*1 ○                          |
|                     |           |           | Female thread       | <b>B3</b> | M3 x 0.5 ○                     |
|                     | <b>A6</b> | M6 x 0.75 | One-touch fitting*4 | <b>02</b> | Ø2 ○                           |
|                     |           |           | Barb fitting*4      | <b>04</b> | Ø4 ○                           |
| Female thread       | <b>B3</b> | M3 x 0.5  | —                   | <b>N</b>  | —*1 ○                          |
|                     |           |           | Female thread       | <b>B3</b> | M3 x 0.5 ●                     |
|                     |           |           | One-touch fitting*4 | <b>02</b> | Ø2 ●                           |
|                     |           |           | Barb fitting*4      | <b>04</b> | Ø4 ●                           |
|                     |           |           | —                   | <b>U2</b> | For Ø2 polyurethane tubing*2 ● |
|                     |           |           | —                   | <b>U4</b> | For Ø4 soft tubing*3 ●         |

### With buffer

#### 8 Vacuum inlet ○: ZP3-T/Vertical ●: ZP3-Y/Lateral

| Type              | Symbol    | Size                       | Pad diameter |
|-------------------|-----------|----------------------------|--------------|
|                   |           |                            | All sizes    |
| Female thread     | <b>B3</b> | M3 x 0.5                   | ○●           |
| One-touch fitting | <b>02</b> | Ø2                         | ○●           |
|                   | <b>04</b> | Ø4                         | ○●           |
| Barb fitting      | <b>U2</b> | For Ø2 polyurethane tubing | ○●           |
|                   | <b>U4</b> | For Ø4 soft tubing         | ○●           |

\* It is not necessary to select a connection thread.

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

Model Selection

ZP3 Compact

Flat Type

Flat Type with Groove

Belows Type

Belows Type with Ribs

Construction

Mounting Bracket Assembly

Precautions



# Compact Type

## Flat Type with Groove

# ZP3 Series

Pad diameter: Ø4, Ø6, Ø8, Ø10, Ø13, Ø16



Model Selection

## How to Order

|  | Pad unit                           | With adapter                                          | With buffer                                                             |
|--|------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|
|  | ZP3 - <b>04</b> <b>UM</b> <b>N</b> | ZP3 <b>T</b> <b>04</b> <b>UM</b> <b>N</b> - <b>A5</b> | ZP3 <b>T</b> <b>04</b> <b>UM</b> <b>N</b> <b>J</b> <b>3</b> - <b>B5</b> |
|  | 1 2 3 4 5 6                        | 1 2 3 4 5 6 7 8                                       | 1 2 3 4 5 6 7 8                                                         |
|  |                                    | • Flat type with groove                               |                                                                         |

| Dimensions/<br>Models | Construction | Mounting Bracket<br>Assembly |
|-----------------------|--------------|------------------------------|
| p. 143                | p. 160       | From p. 162                  |

|             |        |             |
|-------------|--------|-------------|
| From p. 143 | p. 160 | From p. 162 |
|-------------|--------|-------------|

|             |        |        |
|-------------|--------|--------|
| From p. 146 | p. 161 | p. 164 |
|-------------|--------|--------|

### 1 Adapter material

|            |                                       |
|------------|---------------------------------------|
| <b>Nil</b> | Brass                                 |
| <b>S*1</b> | Stainless steel (Stainless steel 304) |

\*1 Only applicable to the pad with adapter

### 2 Vacuum inlet direction

|            |          |
|------------|----------|
| <b>Nil</b> | Pad unit |
| <b>T</b>   | Vertical |
| <b>Y</b>   | Lateral  |

### 3 Pad diameter

|           |     |
|-----------|-----|
| <b>04</b> | Ø4  |
| <b>06</b> | Ø6  |
| <b>08</b> | Ø8  |
| <b>10</b> | Ø10 |
| <b>13</b> | Ø13 |
| <b>16</b> | Ø16 |

### 4 Material

|           |                                |
|-----------|--------------------------------|
| <b>N</b>  | NBR                            |
| <b>S</b>  | Silicone rubber*1*2            |
| <b>U</b>  | Urethane rubber                |
| <b>F</b>  | FKM                            |
| <b>GN</b> | Conductive NBR                 |
| <b>GS</b> | Conductive silicone rubber     |
| <b>HS</b> | Semiconductive silicone rubber |

### 5 Buffer specification

|           |                        |
|-----------|------------------------|
| <b>J</b>  | Rotating               |
| <b>JB</b> | Rotating, With bushing |
| <b>K</b>  | Non-rotating           |

### 6 Buffer stroke

| Stroke<br>[mm] | Buffer specification |           |          |
|----------------|----------------------|-----------|----------|
|                | <b>J</b>             | <b>JB</b> | <b>K</b> |
| <b>3</b>       | ●                    | —         | ●        |
| <b>6</b>       | ●                    | —         | ●        |
| <b>10</b>      | ●                    | —         | ●        |
| <b>15</b>      | —                    | ●         | ●        |
| <b>20</b>      | —                    | ●         | ●        |

\*1 Uses a material compliant with a dissolution test of the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use."

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

## With adapter

### 7 Connection thread/ 8 Vacuum inlet ○: ZP3□-T/Vertical ●: ZP3□-Y/Lateral

| 7 Connection thread |            | 8 Vacuum inlet |                     | Pad diameter [mm] |                              |
|---------------------|------------|----------------|---------------------|-------------------|------------------------------|
| Type                | Symbol     | Type           | Symbol              | Size              | Ø4 to Ø8                     |
| Male thread         | <b>A5</b>  | M5 x 0.8       | —                   | <b>Nil</b>        | Use the connection thread.   |
|                     |            |                | Female thread       | <b>B5</b>         | M5 x 0.8                     |
|                     |            |                | One-touch fitting   | <b>02*3</b>       | Ø2                           |
|                     |            |                | Barb fitting*3      | <b>04</b>         | Ø4                           |
|                     | <b>A10</b> | M10 x 1        | Female thread       | <b>U2</b>         | For Ø2 polyurethane tubing*1 |
|                     |            |                | One-touch fitting   | <b>U4</b>         | For Ø4 soft tubing*2         |
|                     |            |                | Barb fitting*3      | <b>B5</b>         | M5 x 0.8                     |
|                     |            |                | Female thread       | <b>02*3</b>       | Ø2                           |
|                     |            |                | One-touch fitting   | <b>04</b>         | Ø4                           |
|                     |            |                | Barb fitting*3      | <b>06</b>         | Ø6                           |
|                     | <b>A12</b> | M12 x 1        | Female thread       | <b>U2</b>         | For Ø2 polyurethane tubing*1 |
|                     |            |                | One-touch fitting   | <b>U4</b>         | For Ø4 soft tubing*2         |
|                     |            |                | Barb fitting*3      | <b>U6</b>         | For Ø6 soft tubing*2         |
|                     |            |                | Female thread       | <b>U2</b>         | For Ø2 polyurethane tubing*1 |
| Female thread       | <b>B5</b>  | M5 x 0.8       | —                   | <b>Nil</b>        | Use the connection thread.   |
|                     |            |                | Female thread       | <b>B5</b>         | M5 x 0.8                     |
|                     |            |                | One-touch fitting*3 | <b>02</b>         | Ø2                           |
|                     |            |                | Barb fitting*3      | <b>04</b>         | Ø4                           |
|                     |            |                | Female thread       | <b>06</b>         | Ø6                           |
|                     |            |                | One-touch fitting*3 | <b>U2</b>         | For Ø2 polyurethane tubing*1 |
|                     |            |                | Barb fitting*3      | <b>U4</b>         | For Ø4 soft tubing*2         |
|                     |            |                | Female thread       | <b>U6</b>         | For Ø6 soft tubing*2         |

## With buffer

### 8 Vacuum inlet ○: ZP3-T/Vertical ●: ZP3-Y/Lateral

| Type              | Symbol    | Size                         | Pad diameter [mm] |            |
|-------------------|-----------|------------------------------|-------------------|------------|
|                   |           |                              | Ø4 to Ø8          | Ø10 to Ø16 |
| Female thread     | <b>B5</b> | M5 x 0.8                     | ○●                | ○●         |
| One-touch fitting | <b>02</b> | Ø2                           | ○●                | ○●         |
|                   | <b>04</b> | Ø4                           | ○●                | ○●         |
|                   | <b>06</b> | Ø6                           | —                 | ○●         |
| Barb fitting      | <b>U2</b> | For Ø2 polyurethane tubing*1 | ○●                | ○●         |
|                   | <b>U4</b> | For Ø4 soft tubing*2         | ○●                | ○●         |
|                   | <b>U6</b> | For Ø6 soft tubing*2         | —                 | ○●         |

\*1 Polyurethane tube piping

\*2 Soft nylon/Polyurethane tube piping

\*3 Not compatible with stainless steel materials

\* It is not necessary to select a connection thread.

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

ZP3 Compact

Flat Type

Flat Type with Groove

Belows Type

Belows Type with Ribs

Construction

Mounting Bracket Assembly

Precautions

## Compact Type

## Bellows Type

# ZP3 Series

**Pad diameter: Ø4, Ø6, Ø8**



## Model Selection

## How to Order

|                                                                     | Dimensions/<br>Models | Construction | Mounting Bracket/<br>Assembly |
|---------------------------------------------------------------------|-----------------------|--------------|-------------------------------|
| <b>Pad unit</b><br>ZP3 — 04 B N<br>* Pad unit's sales unit: 10 pcs. | p. 149                | p. 160       | From p. 162                   |
| <b>With adapter</b><br>ZP3 — T 04 B N — A5 —                        | From p. 149           | p. 160       | From p. 162                   |
| <b>With buffer</b><br>ZP3 — T 04 B N J 3 — B5                       | From p. 152           | p. 161       | p. 164                        |

1 2 3 4 5 6 7 8  
 • Bellows type

## 1 Adapter material

|            |                                       |
|------------|---------------------------------------|
| <b>Nil</b> | Brass                                 |
| <b>S*1</b> | Stainless steel (Stainless steel 304) |

\*1 Only applicable to the pad with adapter

## 2 Vacuum inlet direction

|            |          |
|------------|----------|
| <b>Nil</b> | Pad unit |
| <b>T</b>   | Vertical |
| <b>Y</b>   | Lateral  |

### 3 Pad diameter

|           |    |
|-----------|----|
| <b>04</b> | ø4 |
| <b>06</b> | ø6 |
| <b>08</b> | ø8 |

#### ④ Material

|           |                            |
|-----------|----------------------------|
| <b>N</b>  | NBR                        |
| <b>S</b>  | Silicone rubber*1 *2       |
| <b>U</b>  | Urethane rubber            |
| <b>F</b>  | FKM                        |
| <b>GN</b> | Conductive NBR             |
| <b>GS</b> | Conductive silicone rubber |

## 5 Buffer specification

|           |                        |
|-----------|------------------------|
| <b>J</b>  | Rotating               |
| <b>JB</b> | Rotating, With bushing |
| <b>K</b>  | Non-rotating           |

## 6 Buffer stroke

| Stroke<br>[mm] | Buffer specification |    |   |
|----------------|----------------------|----|---|
|                | J                    | JB | K |
| 3              | ●                    | —  | ● |
| 6              | ●                    | —  | ● |
| 10             | ●                    | —  | ● |
| 15             | —                    | ●  | ● |
| 20             | —                    | ●  | ● |

\*1 Uses a material compliant with a dissolution test of the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.2600 for “Rubber articles intended for repeated use.”

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

### With adapter

**7** Connection thread/ **8** Vacuum inlet

○: ZP3□-T/Vertical ●: ZP3□-Y/Lateral

| 7 Connection thread |        |          | 8 Vacuum inlet      |        |                              | Pad diameter |
|---------------------|--------|----------|---------------------|--------|------------------------------|--------------|
| Type                | Symbol | Size     | Type                | Symbol | Size                         | All sizes    |
| Male thread         | A5     | M5 x 0.8 | —                   | Nil    | Use the connection thread.   | ○            |
|                     |        |          | Female thread       | B5     | M5 x 0.8                     | ○            |
|                     | A10    | M10 x 1  | One-touch fitting   | 02*3   | ø2                           | ○            |
|                     |        |          |                     | 04     | ø4                           | ○            |
|                     |        |          | Barb fitting*3      | U2     | For ø2 polyurethane tubing   | ○            |
| Female thread       | B5     | M5 x 0.8 | —                   | Nil    | Use the connection thread.   | ○            |
|                     |        |          | Female thread       | B5     | M5 x 0.8                     | ●            |
|                     |        |          | One-touch fitting*3 | 02     | ø2                           | ●            |
|                     |        |          |                     | 04     | ø4                           | ●            |
|                     |        |          | Barb fitting*3      | U2     | For ø2 polyurethane tubing*1 | ●            |
|                     |        |          |                     | U4     | For ø4 soft tubing*2         | ●            |

\*1 Polyurethane tube piping

\*2 Soft nylon/Polyurethane tube piping

\*3 Not compatible with stainless steel materials

### With buffer

**8 Vacuum inlet**

○: ZP3-T/Vertical ●: ZP3-Y/Lateral

| Type              | Symbol    | Size                         | Pad diameter |
|-------------------|-----------|------------------------------|--------------|
|                   |           |                              | All sizes    |
| Female thread     | <b>B5</b> | M5 x 0.8                     | ○●           |
| One-touch fitting | <b>02</b> | ø2                           | ○●           |
|                   | <b>04</b> | ø4                           | ○●           |
| Barb fitting      | <b>U2</b> | For ø2 polyurethane tubing*1 | ○●           |
|                   | <b>U4</b> | For ø4 soft tubing*2         | ○●           |

- \* It is not necessary to select a connection thread.

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

**ZP3**  
**Compact**

Flat Type

### Flat Type with Groove

## Bellows Type

## BelloWS Type with Ribs

## Construction

### Mounting Bracket Assembly

## Precautions

## Compact Type

### Bellows Type with Ribs

# ZP3 Series

**Pad diameter: Ø10, Ø13, Ø16**



## How to Order

| Dimensions/<br>Models | Construction | Mounting Bracket<br>Assembly |
|-----------------------|--------------|------------------------------|
| p. 155                | p. 160       | From p. 162                  |

**Pad unit** ZP3 – 10 B N ..... p. 155 p. 160 From p. 162

\* Pad unit's sales unit: 5 pcs.

**With adapter** ZP3 [ ] – T 10 B N – A5 – [ ] ..... From p. 155 p. 160 From p. 162

**With buffer** ZP3 – T 10 B N J 3 – B5 ..... From p. 158 p. 161 p. 164

1 2 3 4 5 6 7 8

• Bellows type with ribs

## 1 Adapter material

|            |                                       |
|------------|---------------------------------------|
| <b>Nil</b> | Brass                                 |
| <b>S*1</b> | Stainless steel (Stainless steel 304) |

\*1 Only applicable to the pad with adapter

## 2 Vacuum inlet direction

|            |          |
|------------|----------|
| <b>Nil</b> | Pad unit |
| <b>T</b>   | Vertical |
| <b>Y</b>   | Lateral  |

### 3 Pad diameter

|           |     |
|-----------|-----|
| <b>10</b> | ø10 |
| <b>13</b> | ø13 |
| <b>16</b> | ø16 |

## 4 Material

|           |                            |
|-----------|----------------------------|
| <b>N</b>  | NBR                        |
| <b>S</b>  | Silicone rubber*1 *2       |
| <b>U</b>  | Urethane rubber            |
| <b>F</b>  | FKM                        |
| <b>GN</b> | Conductive NBR             |
| <b>GS</b> | Conductive silicone rubber |

\*1 Uses a material compliant with a dissolution test of the FDA (U.S. Food and Drug Administration) regulation 21CFR§177.2600 for "Rubber articles intended for repeated use."

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

## 5 Buffer specification

|           |                        |
|-----------|------------------------|
| <b>J</b>  | Rotating               |
| <b>JB</b> | Rotating, With bushing |
| <b>K</b>  | Non-rotating           |

## 6 Buffer stroke

| Stroke<br>[mm] | Buffer specification |    |   |
|----------------|----------------------|----|---|
|                | J                    | JB | K |
| 3              | ●                    | —  | ● |
| 6              | ●                    | —  | ● |
| 10             | ●                    | —  | ● |
| 15             | —                    | ●  | ● |
| 20             | —                    | ●  | ● |

### With adapter

**7 Connection thread/8 Vacuum inlet** ○: ZP3□-T/Vertical ●: ZP3□-Y/Lateral

| ⑦ Connection thread |           |          | ⑧ Vacuum inlet      |             |                              |              |
|---------------------|-----------|----------|---------------------|-------------|------------------------------|--------------|
| Type                | Symbol    | Size     | Type                | Symbol      | Size                         | Pad diameter |
| Male thread         | <b>A5</b> | M5 x 0.8 | —                   | <b>Nil</b>  | Use the connection thread.   | ○            |
|                     |           |          | Female thread       | <b>B5</b>   | M5 x 0.8                     | ○            |
|                     |           |          | One-touch fitting   | <b>02*3</b> | ø2                           | ○            |
|                     |           |          |                     | <b>04</b>   | ø4                           | ○            |
|                     |           |          |                     | <b>06</b>   | ø6                           | ○            |
|                     |           |          | Barb fitting*3      | <b>U2</b>   | For ø2 polyurethane tubing   | ○            |
|                     |           |          |                     | <b>U4</b>   | For ø4 soft tubing           | ○            |
|                     |           |          |                     | <b>U6</b>   | For ø6 soft tubing           | ○            |
| Female thread       | <b>B5</b> | M5 x 0.8 | —                   | <b>Nil</b>  | Use the connection thread.   | ○            |
|                     |           |          | Female thread       | <b>B5</b>   | M5 x 0.8                     | ●            |
|                     |           |          | One-touch fitting*3 | <b>02</b>   | ø2                           | ●            |
|                     |           |          |                     | <b>04</b>   | ø4                           | ●            |
|                     |           |          |                     | <b>06</b>   | ø6                           | ●            |
|                     |           |          | Barb fitting*3      | <b>U2</b>   | For ø2 polyurethane tubing*1 | ●            |
|                     |           |          |                     | <b>U4</b>   | For ø4 soft tubing*2         | ●            |
|                     |           |          |                     | <b>U6</b>   | For ø6 soft tubing*2         | ●            |

\*1 Polyurethane tube piping

\*2 Soft nylon/Polyurethane tube piping

\*3 Not compatible with stainless steel materials

### With buffer

**8 Vacuum inlet** ○: ZP3-T/Vertical ●: ZP3-Y/Lateral

| Type              | Symbol    | Size                       | Pad diameter |
|-------------------|-----------|----------------------------|--------------|
|                   |           |                            | All sizes    |
| Female thread     | <b>B5</b> | M5 x 0.8                   | ○●           |
| One-touch fitting | <b>02</b> | ø2                         | ○●           |
|                   | <b>04</b> | ø4                         | ○●           |
|                   | <b>06</b> | ø6                         | ○●           |
| Barb fitting      | <b>U2</b> | For ø2 polyurethane tubing | ○●           |
|                   | <b>U4</b> | For ø4 soft tubing         | ○●           |
|                   | <b>U6</b> | For ø6 soft tubing         | ○●           |

- \* It is not necessary to select a connection thread.

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

## Model Selection

**ZP3**  
**Compact**

Flat Type

### Flat Type with Groove

### Bellows Type

## Bellows Type with Ribs

## Construction

### Mounting Bracket Assembly

## Precautions