

PAL, PBL, PCL series Non-rotation Vacuum Pad

Product features

CHELIC

Feature

- Suitable for small, light weight handling
- Non-rotating design to avoid accidental suction action
- Multiple specifications, variety of vacuum pad options



Vacuum pad material

| Mark | Vacuum pad material | Hardness (HS) | Ambient and fluid temperature | Color | Electrical resistance(Note) |
|------|-------------------------------------|---------------|-------------------------------|-------|---------------------------------------|
| N | NBR(Rubber) | A55/S | -26~120°C | Black | - |
| U | PU(Uret-hane) | A60/S | -20~75°C | Black | |
| S | Silicon, Silicone rubber | A60/S | -20~180°C | White | |
| SE | Anti-static rubber | A60/S | -20~180°C | Black | 10 ⁴ ~10 ⁶ Ω•cm |
| E | Low resistance & anti-static rubber | A70/S | -20~180°C | Black | 200 Ω•cm |

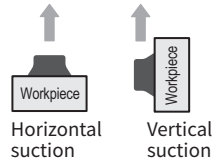
Note: The above value covers only general characteristics of subject rubber materials. Pad materials used by CHELIC pass internal standard.

Vacuum control system

Theoretical suction is calculated from pad size and vacuum value, which is only a number for reference. Theoretical suction is a number under static status. Please reserve enough margin while adding workpieces and movement.

Before confirm the Qty and location of suction pad, please reserve enough margin.

● Suction type



● Calculation formula

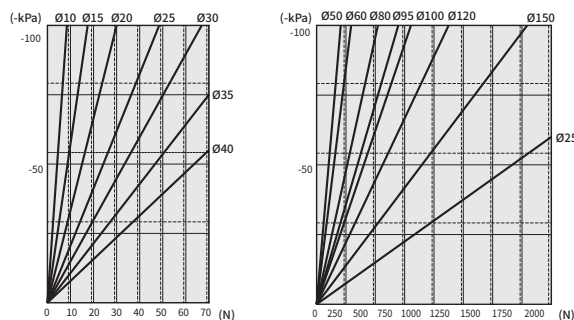
$$W = \frac{P \times A}{-10}$$

W: Force N

P : Vacuum pressure kPa

A : Pad area dimension

Theoretical suction



PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

VP

PAL, PBL, PCL series Non-rotation Vacuum Pad


Code of order

CHELIC

Code of order **PA L 10 x 08 N**

1 2 3 4 5

| 1 | Mark | Pad type |
|---|------|---------------|
| | PA | Single layer |
| | PB | Double layers |
| | PC | Three layers |

| 2 | Mark | Bracket |
|---|------|--|
| | L | Vertical entry with spring  |

| 3 | | PA 1-Stage | |
|---------------|------|------------|--|
| Pad dia. (mm) | Mark | | |
| Ø 5 | 05 | | |
| Ø 6 | 06 | | |
| Ø 8 | 08 | | |
| Ø 10 | 10 | | |
| Ø 15 | 15 | | |
| Ø 20 | 20 | | |
| Ø 25 | 25 | | |
| Ø 30 | 30 | | |
| Ø 35 | 35 | | |
| Ø 40 | 40 | | |
| Ø 50 | 50 | | |

| PB 2-Stage | |
|---------------|------|
| Pad dia. (mm) | Mark |
| Ø 6 | 06 |
| Ø 10 | 10 |
| Ø 15 | 15 |
| Ø 20 | 20 |
| Ø 30 | 30 |
| Ø 40 | 40 |
| Ø 50 | 50 |

| PC 3-Stage | |
|---------------|------|
| Pad dia. (mm) | Mark |
| Ø 5 | 05 |
| Ø 7 | 07 |
| Ø 10 | 10 |
| Ø 15 | 15 |
| Ø 20 | 20 |
| Ø 30 | 30 |
| Ø 40 | 40 |

| 4 | Mark | Spring compression length | Pad type | Pad dia. (mm) |
|----|------|---------------------------|----------|------------------------------|
| 06 | | 6 mm | PA | Ø5, Ø6, Ø8 |
| | | | PB | Ø6 |
| | | | PC | Ø5, Ø7 |
| 08 | | 8 mm | PA | Ø10, Ø15 |
| | | | PB | Ø10, Ø15 |
| | | | PC | Ø10, Ø15 |
| 13 | | 13 mm | PA | Ø20, Ø25, Ø30, Ø35, Ø40, Ø50 |
| | | | PB | Ø20, Ø30, Ø40, Ø50 |
| | | | PC | Ø20, Ø30, Ø40 |

| 5 | Mark | Vacuum pad material | Hardness (HS) | Ambient and fluid temperature | Color | Electrical resistance(Note) |
|---|------|-------------------------------------|---------------|-------------------------------|-------|---------------------------------------|
| | N | NBR(Rubber) | A55/S | -26~120°C | Black | - |
| | U | PU(Uret-hane) | A60/S | -20~75°C | Black | |
| | S | Silicon, Silicone rubber | A60/S | -20~180°C | White | |
| | SE | Anti-static rubber | A60/S | -20~180°C | Black | 10 ⁴ ~10 ⁶ Ω•cm |
| | E | Low resistance & anti-static rubber | A70/S | -20~180°C | Black | 200 Ω•cm |

Note: The above value covers only general characteristics of subject rubber materials. Pad materials used by CHELIC pass internal standard.

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Optional correspondence table

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■ PAL series selection table:

| 1 Pad type | 2 Bracket | 3 Pad dia. | 4 Spring compression length | 5 Vacuum pad material |
|---------------|--------------|---------------|--------------------------------|--|
| PA | L | 05 | 06 | N • U • S • SE • E |
| | | 06 | | |
| | | 08 | | |
| | | 10 | 08 | |
| | | 15 | | |
| | | 20 | 13 | |
| | | 25 | | |
| | | 30 | | |
| | | 35 | | |
| | | 40 | | |
| 50 | | | | |

PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

VP

■ PBL series selection table:

| 1 Pad type | 2 Bracket | 3 Pad dia. | 4 Spring compression length | 5 Vacuum pad material |
|---------------|--------------|---------------|--------------------------------|----------------------------------|
| PB | L | 06 | 06 | N • S • SE • E |
| | | 10 | 08 | |
| | | 15 | | |
| | | 20 | 13 | |
| | | 30 | | |
| | | 40 | | |
| 50 | | | | |

■ PCL series selection table:

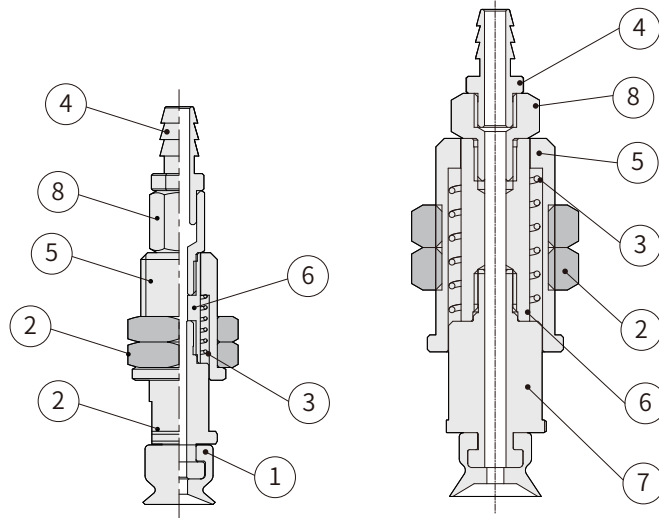
| 1 Pad type | 2 Bracket | 3 Pad dia. | 4 Spring compression length | 5 Vacuum pad material |
|---------------|--------------|---------------|--------------------------------|----------------------------------|
| PC | L | 05 | 06 | N • S • SE • E |
| | | 07 | | |
| | | 10 | 08 | |
| | | 15 | | |
| | | 20 | 13 | |
| | | 30 | | |
| 40 | | | | |

PAL, PBL, PCL series Non-rotation Vacuum Pad

Product features

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Internal structure



Components and material list

| No. | Item | Material |
|-----|-----------------|--------------|
| 01 | Vacuum pad | NBR Rubber |
| 02 | Nut | Copper |
| 03 | Return spring | Spring steel |
| 04 | Adapter | Copper |
| 05 | Bushing | Copper |
| 06 | Piston rod | Copper |
| 07 | Bracket | Copper |
| 08 | Bracket bushing | Copper |

Product weight

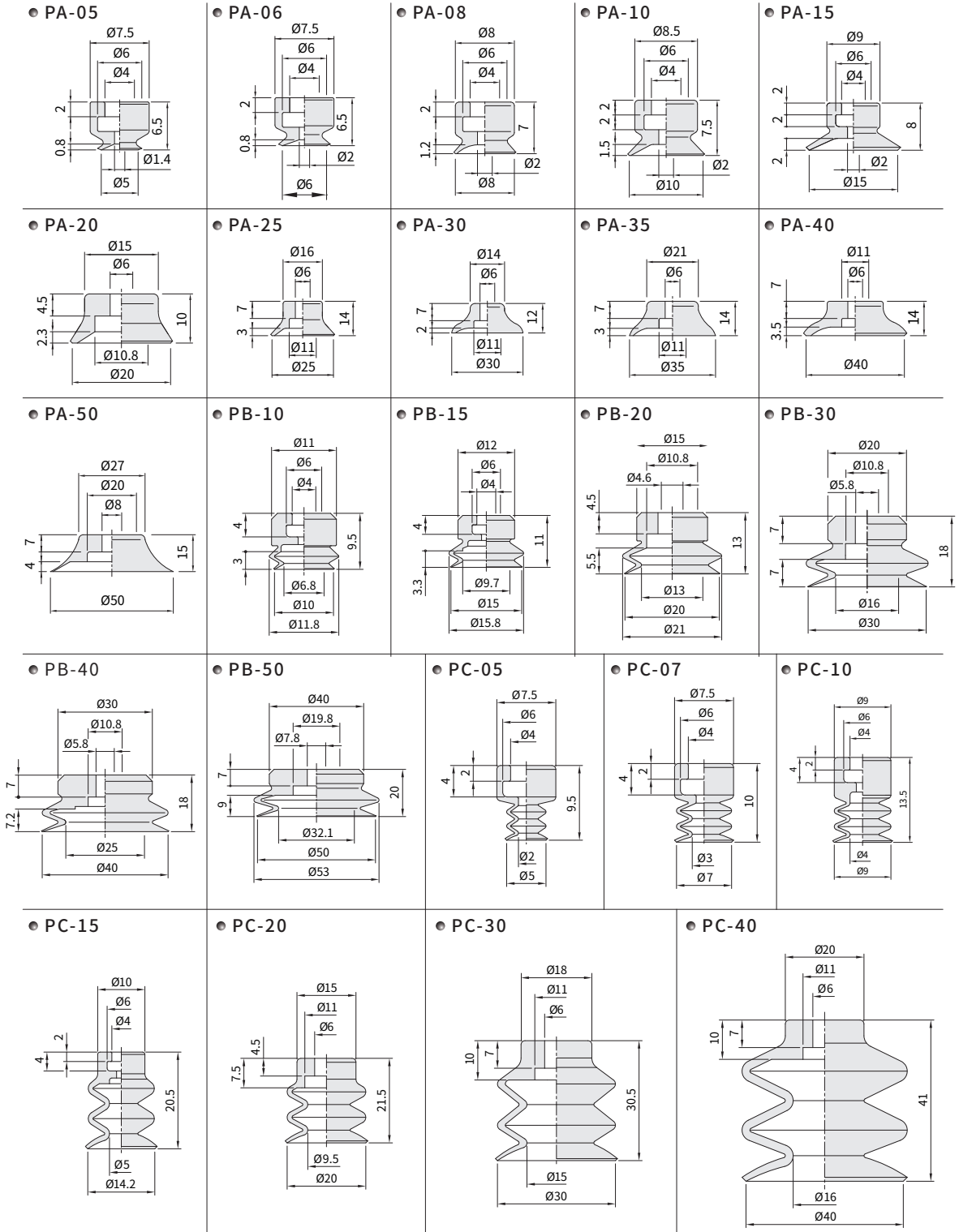
| Item | PAL | | | | |
|-----------|-------|-------|-------|-------|-------|
| | 05*06 | 10*08 | 20*13 | 25*13 | 50*13 |
| Weight(g) | 16.57 | 39.43 | 43.85 | 44.25 | 52.45 |

PAL, PBL, PCL series Non-rotation Vacuum Pad

Dimensions-Standard type PA, PB, PC series

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Vacuum pad size



PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

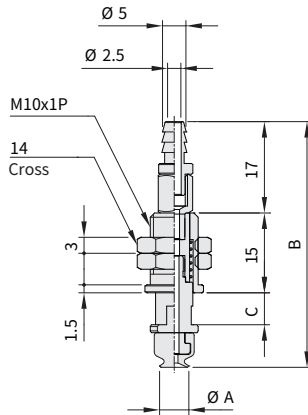
VP

PAL, PBL, PCL series Non-rotation Vacuum Pad

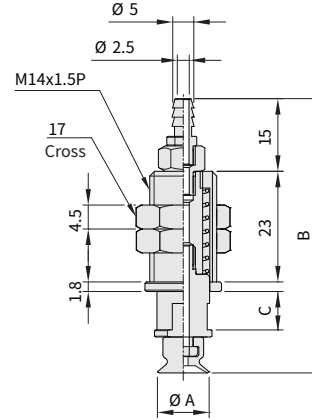
Dimensions-PAL series/ Vertical entry

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■ Ø5, Ø6, Ø8



■ Ø10, Ø15



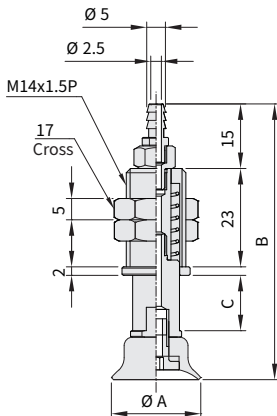
Unit: mm

| Pad type | Model | Pad dia. A | Stroke 6 | | Size of PU tube Ø6 |
|------------|--------|---------------|----------|---|--------------------------|
| | | | B | C | |
| Circle pad | PAL-05 | Ø5 | 46 | 6 | PU tube Ø6 |
| | PAL-06 | Ø6 | 46 | 6 | |
| | PAL-08 | Ø8 | 47 | 6 | |

Unit: mm

| Pad type | Model | Pad dia. A | Stroke 6 | | Size of PU tube Ø6 |
|------------|--------|---------------|----------|---|--------------------------|
| | | | B | C | |
| Circle pad | PAL-10 | Ø10 | 57 | 8 | PU tube Ø6 |
| | PAL-15 | Ø15 | 58 | 8 | |

■ Ø20 ~ Ø50



Unit: mm

| Pad type | Model | Pad dia. A | Stroke 13 | | Size of PU tube Ø6 |
|------------|--------|---------------|-----------|----|--------------------------|
| | | | B | C | |
| Circle pad | PAL-20 | Ø20 | 65 | 13 | PU tube Ø6 |
| | PAL-25 | Ø25 | 69 | 13 | |
| | PAL-30 | Ø30 | 68 | 13 | |
| | PAL-35 | Ø35 | 69 | 13 | |
| | PAL-40 | Ø40 | 69 | 13 | |
| | PAL-50 | Ø50 | 71 | 13 | |

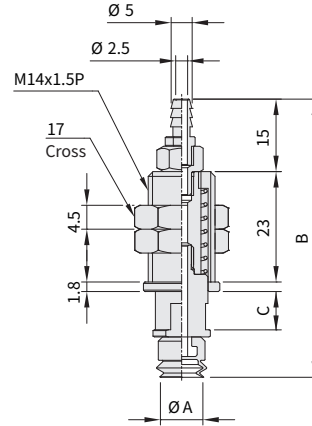
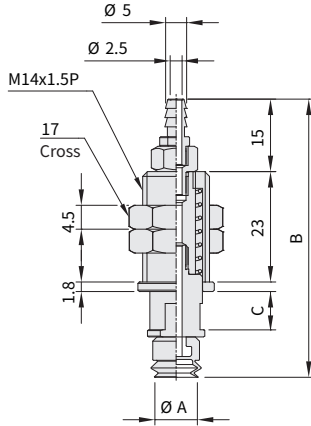
PAL, PBL, PCL series Non-rotation Vacuum Pad

Dimensions-PBL series/ Vertical entry with spring

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■ Ø10, Ø15

■ Ø20, Ø30, Ø40, Ø50



Unit: mm

| Pad type | Model | Pad dia. A | Stroke 6 | | Size of PU tube |
|------------|--------|---------------|----------|---|--------------------|
| | | | B | C | |
| Circle pad | PBL-10 | Ø10 | 59 | 8 | PU tube Ø6 |
| | PBL-15 | Ø15 | 61 | 8 | |

Unit: mm

| Pad type | Model | Pad dia. A | Stroke 13 | | Size of PU tube |
|------------|--------|---------------|-----------|----|--------------------|
| | | | B | C | |
| Circle pad | PBL-20 | Ø20 | 65 | 13 | PU tube Ø6 |
| | PBL-30 | Ø30 | 68 | 13 | |
| | PBL-40 | Ø40 | 69 | 13 | |
| | PBL-50 | Ø50 | 71 | 13 | |

PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

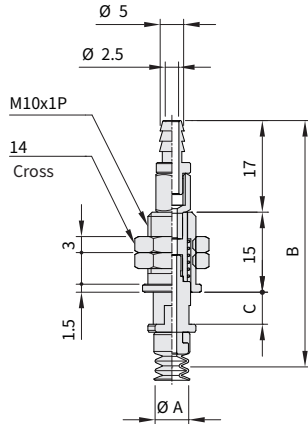
VP

PAL, PBL, PCL series Non-rotation Vacuum Pad

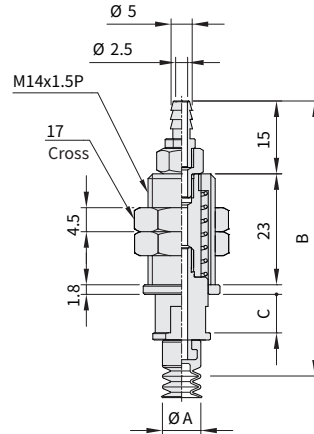
Dimensions-PCL series/ Vertical entry

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■ Ø5, Ø7



■ Ø10, Ø15



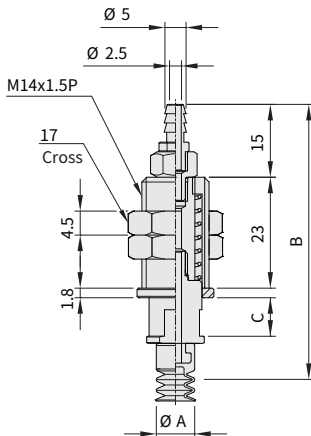
Unit: mm

| Pad type | Model | Pad dia. A | Stroke 6 | | Size of PU tube |
|------------|--------|---------------|----------|---|--------------------|
| | | | B | C | |
| Circle pad | PCL-05 | Ø5 | 49 | 6 | PU tube Ø6 |
| | PCL-07 | Ø7 | 49 | 6 | |

Unit: mm

| Pad type | Model | Pad dia. A | Stroke 13 | | Size of PU tube |
|------------|--------|---------------|-----------|---|--------------------|
| | | | B | C | |
| Circle pad | PCL-10 | Ø10 | 63 | 8 | PU tube Ø6 |
| | PCL-15 | Ø15 | 71 | 8 | |

■ Ø20, Ø30, Ø40



Unit: mm

| Pad type | Model | Pad dia. A | Stroke 13 | | Size of PU tube |
|------------|--------|---------------|-----------|----|--------------------|
| | | | B | C | |
| Circle pad | PCL-20 | Ø20 | 65 | 13 | PU tube Ø6 |
| | PCL-30 | Ø30 | 68 | 13 | |
| | PCL-40 | Ø40 | 69 | 13 | |