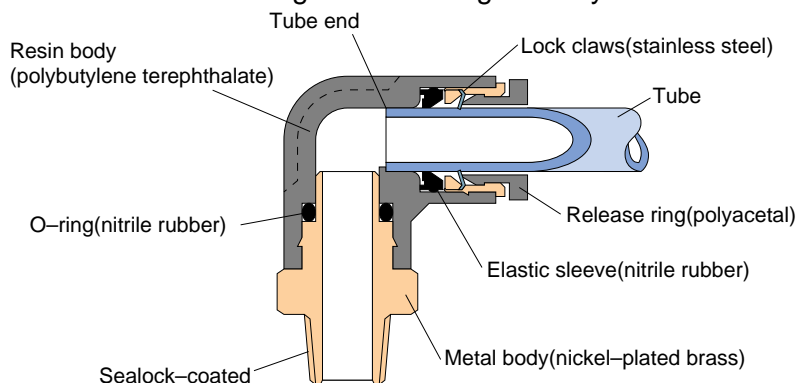


Quick-fitting Joint for Pneumatic Piping Tube Fitting

Features

- This quick-fitting joint is used in pneumatic piping.
(Use with water is possible depending on the conditions.)
- The Tube Fitting comes in a wide variety of models to meet all your needs in pneumatic piping.
- Even after installation, the direction of the tubing can be changed freely.

Construction



Specification

| | |
|---------------------------|--------------------------|
| Fluid admitted | Air, Water (conditional) |
| Service pressure range | 0~150 psi (0~0.9MPa) |
| Working vacuum | -29.5 in.Hg (-100 kPa) |
| Service temperature range | 32~140°F (0~60°C) |

⚠ Warning

Conditions of water (when used)

1. Operating temperature : 0~60°C (32~140°F)
2. Operating pressure : 0~0.3MPa (0~43.5psi)
3. No water hammer is allowed.
4. Be sure to install the insert ring.

Model Designation (Example)

PC
(1)

6
(2)

01
(3)

04
(4)

(1) Type

(2) Tube dia.

| Tube dia. | mm size | | | | | | |
|-----------|-------------|-------------|------------|-------------|------------|------------|------------|
| Code | 4 | 6 | 8 | 10 | 12 | 16 | |
| Size (mm) | φ4 | φ6 | φ8 | φ10 | φ12 | φ16 | |
| Tube dia. | Inch size | | | | | | |
| Code | 5/32 | 3/16 | 1/4 | 5/16 | 3/8 | 1/2 | 5/8 |
| Size | φ5/32 | φ3/16 | φ1/4 | φ5/16 | φ3/8 | φ1/2 | φ5/8 |

When (2) is thread size, choose thread size from (3).

(3) Thread size

| | Metric thread (mm) | | Taper pipe thread | | | |
|------|--------------------|-----------|-------------------------------------|------------|------------|------------|
| Code | M5 | M6 | 01 | 02 | 03 | 04 |
| Size | M5×0.8 | M6×1.0 | R1/8 | R1/4 | R3/8 | R1/2 |
| | United fine thread | | American standard taper pipe thread | | | |
| Code | U10U | | N1U | N2U | N3U | N4U |
| Size | 10-32UNF | | NPT1/8 | NPT1/4 | NPT3/8 | NPT1/2 |

When (3) is tube diameter, choose tube diameter from (2).

(4) Hexagon flat-to-flat specification
 U: Hexagon flat-to-flat inch spec. (NPT)
 No code: Hexagon flat-to-flat mm spec.

⚠ Detailed Safety Instructions

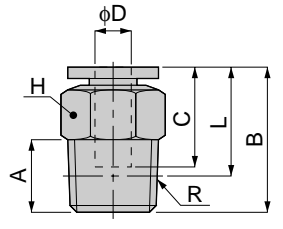
Before using the PISCO device, be sure to read the "Safety Instructions", "Common Safety Instructions for Products Listed in this Manual" on page 23~24 and "Common Safety Instructions for Quick-Fitting Joint" on pages 29~31.

⚠ Warning

1. When the fluid admitted is water, do not use the PISCO device unless the application satisfies all the conditions required in Specifications. Otherwise damage may be caused to the joint body, the tube may come off or leakage may result.



Straight



Metric thread type



unit:mm

| Model | Tube dia. φD | R | A | B | L | C | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|------------|--------------|--------|------|------|------|------|------|----------|---------------|----------------------------|
| PC 4-M5 | 4 | M5×0.8 | 3 | 20.5 | 17.5 | 15 | 10 | 6.5 | 1.8 | 1.9 |
| PC 4-M50 | | | 3 | 23 | 18.5 | | 8 | | | |
| PC 4-M6 | | M6×1 | 4 | 21.5 | 17.5 | | 10 | 8.5 | 3 | 6.2 |
| PC 4-01 | | | R1/8 | | | | 8 | | | |
| PC 4-02 | R1/4 | 11 | 15.5 | 15.5 | 14 | 16 | 16 | 3 | 5.3 | |
| PC 6-M5 | 6 | M5×0.8 | 3 | 22.5 | 19.5 | 17 | 12 | 9.5 | 3 | 6.2 |
| PC 6-M6 | | | 4 | 23.5 | | | 12 | | | |
| PC 6-01 | | R1/8 | 8 | 23 | 19 | | 14 | 17 | 4.6 | 12.5 |
| PC 6-02 | | | 11 | 25 | | | 17 | | | |
| PC 6-03 | R3/8 | 12 | 24 | 17.5 | 17 | 27 | 27 | 4.6 | 12.5 | |
| PC 8-01 | 8 | R1/8 | 8 | 28 | 24 | 18.5 | 14 | 15 | 6 | 20 |
| PC 8-02 | | R1/4 | 11 | 27 | 21 | | 17 | 23 | 7 | |
| PC 8-03 | | R3/8 | 12 | 24 | 17.5 | | 17 | 23 | 7 | |
| PC 10-01 | 10 | R1/8 | 8 | 30.5 | 26.5 | 21 | 17 | 22.5 | 6 | 22.9 |
| PC 10-02 | | R1/4 | 11 | 30 | 24 | | | 20 | 8.5 | 35 |
| PC 10-03 | | R3/8 | 12 | 29.5 | 23 | | 26 | | | |
| PC 10-04 | | R1/2 | 15 | 30.5 | 22.5 | | 21 | 49 | | |
| PC 12-02 | 12 | R1/4 | 11 | 36 | 30 | 23.5 | 21 | 43 | 8.5 | 35 |
| PC 12-03 | | R3/8 | 12 | 32 | 25.5 | | | 35.5 | 11 | 59 |
| PC 12-04 | | R1/2 | 15 | 34 | 26 | | | 49.5 | | |
| PC 16-03 | 16 | R3/8 | 12 | 39.5 | 33 | 25 | 24 | 59.5 | 11 | 83.3 |
| PC 16-04 | | R1/2 | 15 | 41.5 | 33.5 | | | 67 | 13 | 114 |
| PC 1/4-01 | 1/4 | R1/8 | 8 | 22.5 | 19 | 17 | 14 | 9 | 4.6 | 12.5 |
| PC 1/4-02 | | R1/4 | 11 | 24.5 | | | 17 | 17 | | |
| PC 1/4-03 | | R3/8 | 12 | 23.5 | | | 17.5 | 17 | | |
| PC 5/16-01 | 5/16 | R1/8 | 8 | 28 | 24 | 18 | 14 | 15 | 6 | 20 |
| PC 5/16-02 | | R1/4 | 11 | 27 | 20.5 | | 17 | 23 | 7 | |
| PC 5/16-03 | | R3/8 | 12 | 24 | 17.5 | | | | | |
| PC 3/8-01 | 3/8 | R1/8 | 8 | 30.5 | 26.5 | 20 | 17 | 22.5 | 6 | 23 |
| PC 3/8-02 | | R1/4 | 11 | 30 | 24 | | | 20 | 8.5 | 35 |
| PC 3/8-03 | | R3/8 | 12 | 29.5 | 23 | | 26 | | | |
| PC 3/8-04 | | R1/2 | 15 | 30.5 | 22.5 | | 21 | 49 | | |
| PC 1/2-02 | 1/2 | R1/4 | 11 | 36 | 30 | 23.5 | 21 | 43 | 8.5 | 35 |
| PC 1/2-03 | | R3/8 | 12 | 32 | 25.5 | | | 36 | 11 | 59 |
| PC 1/2-04 | | R1/2 | 15 | 34 | 26 | | | 49.5 | | |
| PC 5/8-03 | 5/8 | R3/8 | 12 | 39.5 | 33 | 24 | 24 | 59.5 | 11 | 83.3 |
| PC 5/8-04 | | R1/2 | 15 | 41.5 | 33.5 | | | 68 | 13 | 114 |

※1/2 and 5/8 are order production.

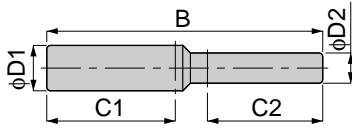
unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | C | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|-----------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PC 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.79 | 0.65 | 0.59 | 7/16 | 6.7 | 1.8 | 1.9 | 0.10 |
| PC 5/32-N1U | 5/32 | 1/8-27NPT | 0.31 | 0.83 | 0.67 | 0.59 | 7/16 | 9.5 | 3.0 | 5.3 | 0.29 |
| PC 5/32-N2U | 5/32 | 1/4-18NPT | 0.43 | 0.83 | 0.59 | 0.59 | 9/16 | 16.4 | 3.0 | 5.3 | 0.29 |
| PC 3/16-U10U | 3/16 | 10-32UNF | 0.14 | 0.87 | 0.73 | 0.67 | 1/2 | 10.2 | 1.8 | 1.9 | 0.10 |
| PC 3/16-N1U | 3/16 | 1/8 | 0.31 | 0.89 | 0.73 | 0.67 | 1/2 | 11.3 | 4.0 | 7.0 | 0.38 |
| PC 3/16-N2U | 3/16 | 1/4 | 0.43 | 0.96 | 0.73 | 0.67 | 9/16 | 18.3 | 4.0 | 7.3 | 0.40 |
| PC 3/16-N3U | 3/16 | 3/8 | 0.47 | 0.93 | 0.52 | 0.67 | 11/16 | 28.3 | 4.6 | 7.0 | 0.38 |
| PC 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.87 | 0.73 | 0.67 | 1/2 | 10.2 | 1.8 | 1.9 | 0.10 |
| PC 1/4-N1U | 1/4 | 1/8 | 0.31 | 0.89 | 0.73 | 0.67 | 1/2 | 10.3 | 4.6 | 12.5 | 0.68 |
| PC 1/4-N2U | 1/4 | 1/4 | 0.43 | 0.96 | 0.73 | 0.67 | 6/16 | 17.7 | 4.6 | 12.5 | 0.68 |
| PC 1/4-N3U | 1/4 | 3/8-18NPT | 0.47 | 0.93 | 0.67 | 0.67 | 11/16 | 28.0 | 4.6 | 12.5 | 0.68 |
| PC 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.10 | 0.94 | 0.71 | 9/16 | 15.6 | 6.0 | 20.0 | 1.08 |
| PC 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.04 | 0.81 | 0.71 | 9/16 | 15.6 | 7.0 | 20.0 | 1.08 |
| PC 5/16-N3U | 5/16 | 3/8 | 0.47 | 0.94 | 0.69 | 0.71 | 11/16 | 22.8 | 7.0 | 20.0 | 1.08 |
| PC 3/8-N1U | 3/8 | 1/8 | 0.31 | 1.20 | 1.04 | 0.79 | 11/16 | 25.1 | 6.0 | 25.4 | 1.38 |
| PC 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.18 | 0.94 | 0.79 | 11/16 | 21.7 | 8.5 | 33.7 | 1.83 |
| PC 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.16 | 0.91 | 0.79 | 11/16 | 28.2 | 8.5 | 37.2 | 2.02 |
| PC 3/8-N4U | 3/8 | 1/2-14NPT | 0.59 | 1.20 | 0.89 | 0.79 | 7/8 | 52.1 | 8.5 | 31.3 | 1.70 |
| PC 1/2-N2U | 1/2 | 1/4 | 0.43 | 1.42 | 1.18 | 0.93 | 7/8 | 47.2 | 8.5 | 43.4 | 2.35 |
| PC 1/2-N3U | 1/2 | 3/8 | 0.47 | 1.26 | 1.00 | 0.93 | 7/8 | 38.2 | 11.0 | 59.0 | 3.20 |
| PC 1/2-N4U | 1/2 | 1/2 | 0.59 | 1.34 | 1.02 | 0.93 | 7/8 | 51.8 | 11.0 | 59.0 | 3.20 |
| PC 5/8-N3U | 5/8 | 3/8 | 0.47 | 1.56 | 1.30 | 0.98 | 1.0 | 69.9 | 11.0 | 83.3 | 4.51 |
| PC 5/8-N4U | 5/8 | 1/2 | 0.59 | 1.63 | 1.32 | 0.98 | 1.0 | 77.0 | 13.0 | 114.0 | 6.18 |

Tube Fitting Series Standard Type

CAD **PIG**

Different Diam. Nipple



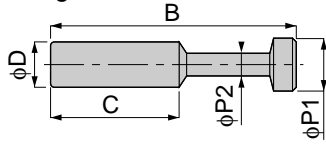
unit:mm

| Model | $\phi D1$ | $\phi D2$ | B | C1 | C2 | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-----------|-----------|-----------|------|------|------|----------|-----------------------|--------------------|
| PIG 6-4 | 6 | 4 | 36.5 | 17 | 15 | 0.5 | 2.5 | 4.2 |
| PIG 8-6 | 8 | 6 | 40.5 | 18 | 17 | 1 | 4 | 11.2 |
| PIG 10-8 | 10 | 8 | 44 | 20 | 18 | 1.5 | 6 | 19 |
| PIG 12-10 | 12 | 10 | 49.5 | 23.5 | 20 | 2 | 7.5 | 39.7 |
| PIG 16-12 | 16 | 12 | 54.5 | 24 | 23.5 | 4.5 | 9 | 47.5 |



CAD **PP**

Plug



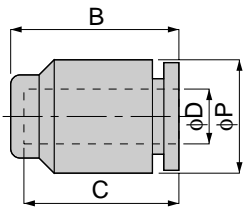
unit:mm

| Model | ϕD | B | $\phi P1$ | $\phi P2$ | C | Mass (g) |
|---------|----------|----|-----------|-----------|------|----------|
| PP 4 | 4 | 28 | 5 | 3 | 15 | 0.5 |
| PP 6 | 6 | 33 | 7 | 3 | 17 | 0.5 |
| PP 8 | 8 | 37 | 9 | 4 | 18 | 1 |
| PP 10 | 10 | 42 | 11 | 5 | 20.5 | 2 |
| PP 12 | 12 | 44 | 13 | 6 | 23 | 2.5 |
| PP 16 | 16 | 46 | 17 | 8 | 24 | 4 |
| PP 1/4 | 1/4 | 33 | 7.5 | 3 | 17 | 0.5 |
| PP 5/16 | 5/16 | 37 | 9 | 4 | 18 | 1 |
| PP 3/8 | 3/8 | 42 | 10.5 | 5 | 20.5 | 1.5 |



CAD **PPF**

Cap



unit:mm

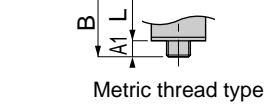
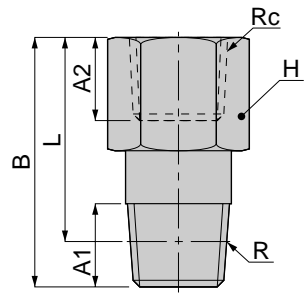
| Model | ϕD | B | ϕP | C | Mass (g) |
|----------|----------|------|----------|------|----------|
| PPF 4 | 4 | 16.5 | 10 | 15 | 2.5 |
| PPF 6 | 6 | 18.5 | 13 | 17 | 3.5 |
| PPF 8 | 8 | 20 | 15 | 18 | 5 |
| PPF 10 | 10 | 22.5 | 18 | 20.5 | 8 |
| PPF 12 | 12 | 25 | 21.5 | 23 | 11.5 |
| PPF 1/4 | 1/4 | 19 | 13 | 17 | 3.5 |
| PPF 5/16 | 5/16 | 20 | 15 | 18 | 5 |
| PPF 3/8 | 3/8 | 22.5 | 18 | 20 | 8 |





PF

Extension Joint Bush



unit:mm

| Model | R | Rc | A1 | A2 | B | L | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|--------|--------|----|----|-------|------|------|----------|---------------|----------------------------|
| PF M5-M5 | M5×0.8 | M5×0.8 | 3 | 5 | 19.5 | 16.5 | 8 | 5 | 1.8 | 2.2 |
| PF M5-M5L | | | | | 23 | 20 | | 6.5 | | |
| PF M5-01 | | Rc1/8 | | 8 | 14.5 | 12 | 14 | 11 | 11 | 2.4 |
| PF 01-M5 | R1/8 | M5×0.8 | 8 | 6 | 12 | 8 | 10 | 6 | 4.2 | 12 |
| PF 01-01 | | | | | Rc1/8 | 8 | 28.5 | 24.5 | | 14 |
| PF 01-02 | | Rc1/4 | | 11 | 21 | 15 | 17 | 19 | 6 | 24.1 |
| PF 01-03 | | Rc3/8 | | 12 | 22 | 15.5 | 21 | 28 | 6 | 23.9 |
| PF 02-M5 | R1/4 | M5×0.8 | 11 | 6 | 16 | 10 | 14 | 16 | 4.2 | 11.9 |
| PF 02-01 | | Rc1/8 | | 8 | 19 | 13 | | 16.5 | 4.6 | 24.1 |
| PF 02-02 | | Rc1/4 | | 11 | 33 | 27 | 17 | 31.5 | 8 | 44.7 |
| PF 02-03 | | Rc3/8 | | 12 | 25 | 18.5 | 21 | | | 46.7 |
| PF 02-04 | | Rc1/2 | | 15 | 30 | 22 | 24 | | | 42.5 |
| PF 03-01 | R3/8 | Rc1/8 | 12 | 8 | 17.5 | 11 | 17 | 25 | 6 | 25.3 |
| PF 03-02 | | Rc1/4 | | 11 | 22.5 | 16.5 | | 26.5 | 8 | 43 |
| PF 03-03 | | Rc3/8 | | 12 | 37 | 30.5 | 21 | 54 | 10 | 68.1 |
| PF 03-04 | | Rc1/2 | | 15 | 31 | 23 | 24 | 47.5 | | 67.5 |
| PF 04-04 | R1/2 | Rc1/2 | 15 | 15 | 43 | 35 | 24 | 85 | 11 | 80.9 |



2

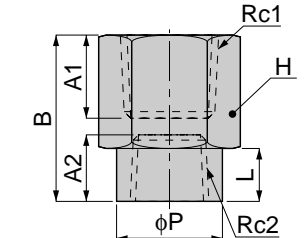
unit:inch

| MODEL | NPT | NPT(f) | A1 | A2 | B | L | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|-------------|----------|----------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PF U10-U10U | 10-32UNF | 10-32UNF | 0.14 | 0.14 | 0.77 | 0.63 | 5/16 | 5.2 | 1.8 | 2.2 | 0.12 |
| PF U10-N1U | 10-32UNF | 1/8 | 0.14 | 0.31 | 0.57 | 0.43 | 9/16 | 10.4 | 1.8 | 2.4 | 0.13 |
| PF N1-U10U | 1/8 | 10-32UNF | 0.31 | 0.14 | 0.47 | 0.31 | 7/16 | 6.5 | 4.2 | 12.0 | 0.65 |
| PF N1-N1U | 1/8 | 1/8 | 0.31 | 0.31 | 1.12 | 0.96 | 9/16 | 17.0 | 6.0 | 22.0 | 1.19 |
| PF N1-N2U | 1/8 | 1/4 | 0.31 | 0.43 | 0.83 | 0.59 | 11/16 | 19.3 | 6.0 | 24.1 | 1.31 |
| PF N1-N3U | 1/8 | 3/8 | 0.31 | 0.47 | 0.87 | 0.71 | 7/8 | 31.2 | 6.0 | 23.9 | 1.30 |
| PF N2-U10U | 1/4 | 10-32UNF | 0.43 | 0.14 | 0.63 | 0.49 | 9/16 | 16.4 | 4.2 | 11.9 | 0.64 |
| PF N2-N1U | 1/4 | 1/8 | 0.43 | 0.31 | 0.75 | 0.51 | 9/16 | 16.5 | 4.6 | 24.1 | 1.31 |
| PF N2-N2U | 1/4 | 1/4 | 0.43 | 0.47 | 1.30 | 1.06 | 11/16 | 32.6 | 8.0 | 44.7 | 2.42 |
| PF N2-N3U | 1/4 | 3/8 | 0.43 | 0.47 | 0.98 | 0.75 | 7/8 | 34.8 | 8.0 | 46.7 | 2.53 |
| PF N2-N4U | 1/4 | 1/2 | 0.43 | 0.59 | 1.18 | 0.94 | 1.00 | 47.1 | 8.0 | 46.5 | 2.52 |
| PF N3-N1U | 3/8 | 1/8 | 0.47 | 0.31 | 0.69 | 0.43 | 11/16 | 24.8 | 6.0 | 25.3 | 1.37 |
| PF N3-N2U | 3/8 | 1/4 | 0.47 | 0.43 | 0.89 | 0.63 | 11/16 | 26.7 | 8.0 | 43.0 | 2.33 |
| PF N3-N3U | 3/8 | 3/8 | 0.47 | 0.47 | 1.46 | 1.20 | 7/8 | 56.4 | 10.0 | 68.1 | 3.69 |
| PF N3-N4U | 3/8 | 1/2 | 0.47 | 0.59 | 1.22 | 0.96 | 1.00 | 51.7 | 10.0 | 67.5 | 3.66 |
| PF N4-N4U | 1/2 | 1/2 | 0.59 | 0.59 | 1.69 | 1.38 | 1.00 | 93.2 | 11.0 | 80.9 | 4.38 |



PFF

Different Diam. Socket



unit:mm

| Model | Rc1 | Rc2 | A1 | A2 | B | L | φP | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|-------|--------|----|----|----|----|----|----|----------|---------------|----------------------------|
| PFF 01-M5 | Rc1/8 | M5×0.8 | 8 | 5 | 17 | 7 | 8 | 14 | 11.5 | 3 | 5.3 |
| PFF 02-01 | Rc1/4 | Rc1/8 | 11 | 8 | 21 | 8 | 14 | 17 | 22.5 | 6.5 | 22.1 |
| PFF 03-01 | Rc3/8 | Rc1/8 | 12 | 8 | 22 | 8 | 14 | 21 | 31.5 | 6.5 | 28.8 |
| PFF 03-02 | | Rc1/4 | | 11 | 25 | 11 | 17 | | 35.5 | 9 | 37.7 |
| PFF 04-02 | Rc1/2 | Rc1/4 | 15 | 11 | 30 | 11 | 17 | 24 | 51.5 | 9 | 50.8 |
| PFF 04-03 | | Rc3/8 | | 12 | 33 | 14 | 21 | | 59 | 12 | 89.8 |



1

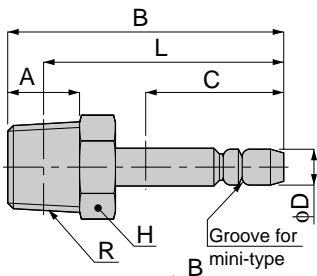
unit:inch

| MODEL | NPT1 | NPT2 | A1 | A2 | B | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|-------------|------|----------|------|------|------|-------|------------|-------------|------------------------|------|
| PFF N1-U10U | 1/8 | 10-32UNF | 0.31 | 0.14 | 0.67 | 9/16 | 11.7 | 3.0 | 5.3 | 0.29 |
| PFF N2-N1U | 1/4 | 1/8 | 0.43 | 0.31 | 0.83 | 11/16 | 22.2 | 6.5 | 22.1 | 1.20 |
| PFF N3-N1U | 3/8 | 1/8 | 0.47 | 0.31 | 0.87 | 7/8 | 34.1 | 6.5 | 28.8 | 1.56 |
| PFF N3-N2U | 1/4 | 1/4 | 0.47 | 0.43 | 0.98 | 7/8 | 38.0 | 9.0 | 37.7 | 2.04 |
| PFF N4-N2U | 1/2 | 1/4 | 0.59 | 0.43 | 1.18 | 1.00 | 58.4 | 9.0 | 50.8 | 2.75 |
| PFF N4-N3U | 1/2 | 3/8 | 0.59 | 0.47 | 1.30 | 1.00 | 66.3 | 12.0 | 89.8 | 4.87 |



PTJ

PT Jack

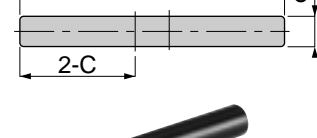


Metric thread type



PIJ

Nipple



unit:mm

| Model | Tube dia. φD | R | A | B | L | C | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|--------------|--------|----|------|------|----|------|----------|---------------|----------------------------|
| PTJ 4-M5 | 4 | M5×0.8 | 3 | 27.5 | 24.5 | 15 | 8 | 4 | 1.8 | 2.2 |
| PTJ 4-01 | | R1/8 | 8 | 30.5 | 26.5 | | 10 | 8 | 2.2 | 3.8 |
| PTJ 6-M5 | 6 | M5×0.8 | 3 | 30.5 | 28 | 17 | 8 | 8 | 1.8 | 2.2 |
| PTJ 6-01 | | R1/8 | 8 | 32.5 | 28.5 | | 10 | 8.5 | 4 | 11.1 |
| PTJ 6-02 | | R1/4 | 11 | 36.5 | 30.5 | 14 | 19 | 4 | 11.1 | |
| PTJ 8-01 | | R1/8 | 8 | 34 | 30 | 18 | 10 | 12 | 6 | 17.8 |
| PTJ 8-02 | R1/4 | 11 | 37 | 31 | 14 | | 18 | 6 | 23.1 | |
| PTJ 8-03 | R3/8 | 12 | 39 | 32.5 | 17 | | 31.5 | 6 | 24.2 | |
| PTJ 10-03 | 10 | R3/8 | 12 | 41.5 | 35 | 20 | 17 | 30.5 | 8 | 43.1 |



1

*Groove for mini-type is not constructed.



unit:mm

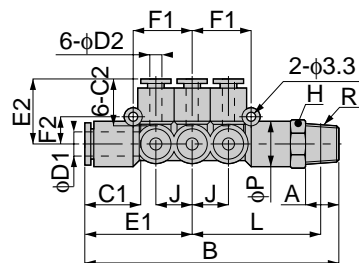
| Model | φD | B | C | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|--------|----|------|------|----------|---------------|----------------------------|
| PIJ 4 | 4 | 35 | 15 | 0.5 | 2.5 | 4.2 |
| PIJ 6 | 6 | 38 | 17 | 0.5 | 4 | 11.2 |
| PIJ 8 | 8 | 41.5 | 18 | 1 | 6 | 24.2 |
| PIJ 10 | 10 | 46 | 20 | 1.5 | 7.5 | 37.1 |
| PIJ 12 | 12 | 53 | 23.5 | 3 | 9 | 56 |
| PIJ 16 | 16 | 55.5 | 24 | 4 | 11 | 113.7 |



1



Branch Triple Double



unit:mm

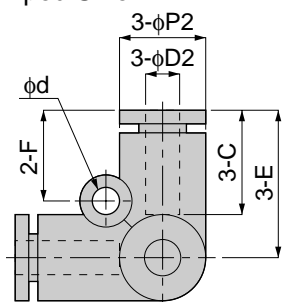
| Model | Tube dia. φD1 | Tube dia. φD2 | R | A | B | L | φP1 | C1 | C2 | J | E1 | E2 | H | F1 | F2 |
|--------------|---------------|---------------|------|----|------|------|------|----|----|----|------|----|----|----|------|
| PKVD 8-4-02 | 8 | 4 | R1/4 | 11 | 81 | 40 | 15 | 18 | 16 | 12 | 35 | 21 | 14 | 20 | 9 |
| PKVD 8-4-03 | | | R3/8 | 12 | 82.5 | 41.5 | | | | | | | 17 | | |
| PKVD 8-6-02 | | 6 | R1/4 | 11 | 81 | 40 | | | 17 | | | 14 | | | |
| PKVD 8-6-03 | | | R3/8 | 12 | 82.5 | 41.5 | | | | | | 17 | | | |
| PKVD 10-6-03 | 10 | 6 | R3/8 | 12 | 93.5 | 46.5 | 17.5 | 20 | 17 | 14 | 40.5 | 24 | 17 | 23 | 10.5 |
| PKVD 10-6-04 | | | R1/2 | 15 | 96.5 | 48 | | | | | | | 21 | | |
| PKVD 10-8-03 | | 8 | R3/8 | 12 | 93.5 | 46.5 | | | 18 | | | 17 | | | |
| PKVD 10-8-04 | | | R1/2 | 15 | 96.5 | 48 | | | | | | 21 | | | |



| Model | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|--------------|----------|---------------|----------------------------|
| PKVD 8-4-02 | 44.5 | 3 | 4.5 |
| PKVD 8-4-03 | 58.5 | | 4.6 |
| PKVD 8-6-02 | 46 | 4.6 | 10.2 |
| PKVD 8-6-03 | 59.5 | | 10.3 |
| PKVD 10-6-03 | 70 | 4.6 | 10.6 |
| PKVD 10-6-04 | 91 | | 11.1 |
| PKVD 10-8-03 | 73 | 7 | 20.6 |
| PKVD 10-8-04 | 94 | | 19.4 |



Tripod Union

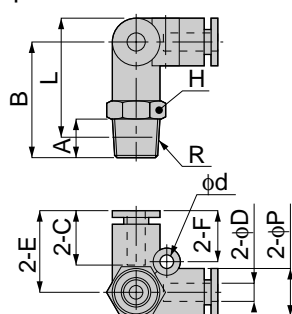


unit:mm

| Model | Tube dia. φD | φP | C | E | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|--------|--------------|------|------|------|-----|------|----------|---------------|----------------------------|
| PVU 4 | 4 | 10 | 15 | 17 | 3.2 | 10.5 | 7.5 | 3 | 3.7 |
| PVU 6 | 6 | 12.5 | 17 | 20.5 | 4.2 | 12.5 | 10.5 | 4.6 | 8.3 |
| PVU 8 | 8 | 14.5 | 18 | 22.5 | 4.2 | 12.5 | 15 | 6 | 16 |
| PVU 10 | 10 | 18 | 20 | 26.5 | 4.2 | 14.5 | 25.5 | 8 | 30.2 |
| PVU 12 | 12 | 21.5 | 23.5 | 29.5 | 4.2 | 15.5 | 36 | 10 | 40.2 |



Tripod Elbow



Metric thread type



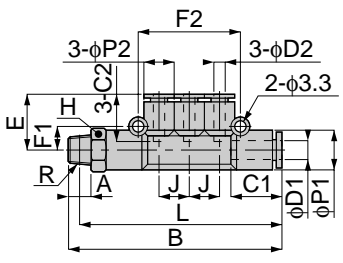
unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | E | H | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|--------------|--------|----|------|------|------|------|------|----|-----|------|----------|---------------|----------------------------|
| PVX 4-M5 | 4 | M5×0.8 | 3 | 21.5 | 24.5 | 10 | 15 | 17 | 10 | 3.2 | 10.5 | 11.5 | 1.8 | 2.3 |
| PVX 4-M6 | | M6×1 | 4 | 22.5 | | | | | | | | 12 | | 3.6 |
| PVX 4-01 | | R1/8 | 8 | 24.5 | 25.5 | | | | | | | 14.5 | 3 | 4 |
| PVX 4-02 | | R1/4 | 11 | 27.5 | 26.5 | | | | | | | 23.5 | | 3.5 |
| PVX 6-M5 | 6 | M5×0.8 | 3 | 25.5 | 29 | 12.5 | 17 | 20.5 | 12 | 4.2 | 12.5 | 16 | 1.8 | 2.3 |
| PVX 6-M6 | | M6×1 | 4 | 26.5 | | | | | | | | 14.5 | | 3 |
| PVX 6-01 | | R1/8 | 8 | 28.5 | 30.5 | | | | | | | 18 | 4 | 8.5 |
| PVX 6-02 | | R1/4 | 11 | 31.5 | 31.5 | | | | | | | 25.5 | | 8 |
| PVX 6-03 | R3/8 | 12 | 33 | 32.5 | 39 | 8.4 | | | | | | | | |
| PVX 8-01 | 8 | R1/8 | 8 | 30.5 | 33.5 | 14.5 | 18 | 22.5 | 14 | 4.2 | 12.5 | 23.5 | 6 | 17.1 |
| PVX 8-02 | | R1/4 | 11 | 33.5 | 34.5 | | | | | | | 29.5 | | 17.5 |
| PVX 8-03 | | R3/8 | 12 | 35 | 35.5 | | | | | | | 42 | | 17.4 |
| PVX 10-02 | 10 | R1/4 | 11 | 38 | 40.5 | 17.5 | 20 | 26.5 | 17 | 4.2 | 14.5 | 43.5 | 8 | 31.5 |
| PVX 10-03 | | R3/8 | 12 | 39 | 41 | | | | | | | 52 | | 28.1 |
| PVX 10-04 | | R1/2 | 15 | 42 | 42.5 | | | | | | | 73 | | 24.3 |
| PVX 12-02 | 12 | R1/4 | 11 | 41 | 45.5 | 21 | 23.5 | 29.5 | 21 | 4.2 | 15.5 | 64 | 8 | 40.9 |
| PVX 12-03 | | R3/8 | 12 | 42 | 46 | | | | | | | 64.5 | | 45 |
| PVX 12-04 | | R1/2 | 15 | 45 | 47.5 | | | | | | | 79.5 | | 44.8 |





Branch Triple



unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | R | A | B | L | φP1 | φP2 | C1 | C2 | J | E | H | F1 | F2 |
|-------------|---------------|---------------|------|----|------|------|-----|-----|------|------|----|------|----|------|----|
| PKD 6-4-01 | 6 | 4 | R1/8 | 8 | 68.5 | 64.5 | 13 | 10 | 17 | 15 | 10 | 18.5 | 12 | 8 | 34 |
| PKD 8-4-02 | 8 | 4 | R1/4 | 11 | 74 | 68 | 15 | 10 | 18.5 | 15 | 10 | 19.5 | 14 | 9 | 34 |
| PKD 8-6-02 | | 6 | | | 81 | 75 | | | | | | | | | |
| PKD 10-8-03 | 10 | 8 | R3/8 | 12 | 93.5 | 87 | 18 | 15 | 20 | 18.5 | 14 | 24 | 31 | 10.5 | 46 |

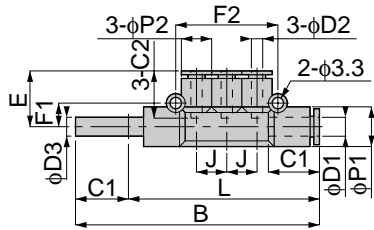
| Model | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|----------|---------------|----------------------------|
| PKD 6-4-01 | 23 | 3 | 5 |
| PKD 8-4-02 | 33.5 | 3 | 5.2 |
| PKD 8-6-02 | 36.5 | 4.6 | 9.6 |
| PKD 10-8-03 | 59.5 | 7 | 19.1 |

unit:inch

| MODEL | Tube dia. φD1 | Tube dia. φD2 | NPT | A | B | L | φP1 | φP2 | C1 | C2 | J | E | H | F1 | F2 | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|-------------------|---------------|---------------|-----|------|------|------|------|------|------|------|------|------|-------|------|------|------------|-------------|------------------------|------|
| PKD 3/16-5/32-N1U | 3/16 | 5/32 | 1/8 | 0.31 | 2.70 | 2.54 | 0.51 | 0.39 | 0.67 | 0.59 | 0.39 | 0.65 | 1/2 | 0.31 | 1.34 | 24.2 | 3.0 | 4.6 | 0.25 |
| PKD 5/16-5/32-N2U | 5/16 | 5/32 | 1/4 | 0.31 | 2.91 | 2.24 | 0.59 | 0.39 | 0.71 | 0.59 | 0.39 | 0.79 | 9/16 | 0.35 | 1.34 | 33.6 | 3.0 | 5.4 | 0.29 |
| PKD 5/16-3/16-N2U | 5/16 | 3/16 | 1/4 | 0.43 | 3.19 | 2.95 | 0.59 | 0.51 | 0.71 | 0.67 | 0.47 | 0.79 | 9/16 | 0.35 | 1.57 | 37.7 | 4.0 | 6.6 | 0.36 |
| PKD 5/16-1/4-N2U | 5/16 | 1/4 | 1/4 | 0.43 | 3.19 | 2.95 | 0.59 | 0.51 | 0.71 | 0.67 | 0.47 | 0.79 | 9/16 | 0.35 | 1.57 | 36.9 | 4.6 | 12.1 | 0.66 |
| PKD 3/8-5/16-N3U | 3/8 | 5/16 | 3/8 | 0.47 | 3.68 | 3.44 | 0.69 | 0.51 | 0.79 | 0.71 | 0.47 | 0.94 | 11/16 | 0.41 | 1.81 | 60.1 | 7.0 | 20.3 | 1.10 |



Branch Union Triple



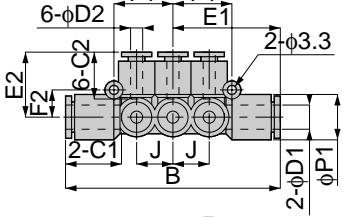
unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | φD3 | B | L | φP1 | φP2 | C1 | C2 | J | E | F1 | F2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|---------------|---------------|-----|------|------|-----|-----|----|----|----|------|------|----|----------|---------------|----------------------------|
| PKJ 6-4 | 6 | 4 | 4 | 78 | 60.5 | 13 | 10 | 17 | 15 | 10 | 18.5 | 8 | 34 | 14.5 | 3 | 4 |
| PKJ 8-4 | 8 | 4 | 8 | 81.5 | 63 | 15 | 10 | 18 | 15 | 10 | 19.5 | 9 | 34 | 17.5 | 3 | 4.4 |
| PKJ 8-6 | | 6 | | 88.5 | 70 | | | | | | | | | | | |
| PKJ 10-8 | 10 | 8 | 10 | 100 | 75.5 | 18 | 15 | 20 | 18 | 14 | 24 | 10.5 | 46 | 30.5 | 7 | 20.3 |

| Model | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|----------|---------------|----------------------------|
| PKJ 6-4 | 14.5 | 3 | 4 |
| PKJ 8-4 | 17.5 | 3 | 4.4 |
| PKJ 8-6 | 21 | 4.6 | 10 |
| PKJ 10-8 | 30.5 | 7 | 20.3 |



Different Diam. Triple Double



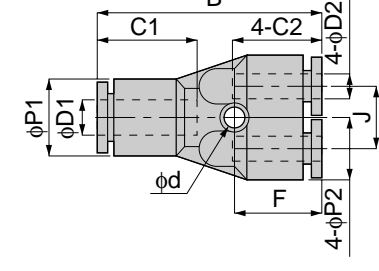
unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | B | φP1 | φP2 | C1 | C2 | J | E1 | E2 | F1 | F2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|---------------|---------------|------|------|-----|----|----|----|------|------|----|------|----------|---------------|----------------------------|
| PKVG 8-4 | 8 | 4 | 70 | 15 | 13 | 18 | 15 | 12 | 35 | 21 | 20 | 9 | 31 | 3 | 4.5 |
| PKVG 8-6 | | 6 | | | | | 17 | | | 21.5 | | | | | |
| PKVG 10-6 | 10 | 6 | 80.5 | 17.5 | 15 | 20 | 17 | 14 | 40.5 | 24 | 23 | 10.5 | 44 | 4.6 | 10.7 |
| PKVG 10-8 | | 8 | | | | | 18 | | | 23 | | | | | |

| Model | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|----------|---------------|----------------------------|
| PKVG 8-4 | 31 | 3 | 4.5 |
| PKVG 8-6 | 32 | 4.6 | 10.3 |
| PKVG 10-6 | 44 | 4.6 | 10.7 |
| PKVG 10-8 | 47.5 | 7 | 19.6 |



Different Diam. Double Y

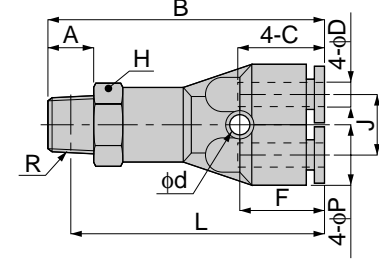


unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | B | φP1 | φP2 | C1 | C2 | J | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|---------------|---------------|------|------|------|----|----|----|-----|------|----------|---------------|----------------------------|
| PRG 6-4 | 6 | 4 | 38 | 13 | 10.5 | 17 | 15 | 10 | 3.2 | 14.5 | 14 | 2.3 | 1.5 |
| PRG 8-6 | 8 | 6 | 42.5 | 14.5 | 13 | 18 | 17 | 13 | 3.5 | 16 | 20.5 | 4 | 8.2 |



Branch Double Y



unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | J | H | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|--------------|------|----|------|------|------|----|----|----|-----|------|----------|---------------|----------------------------|
| PRX 4-01 | 4 | R1/8 | 8 | 46 | 42 | 10.5 | 15 | 10 | 12 | 3.2 | 14.5 | 21.5 | 2.3 | 1.5 |
| PRX 4-02 | | R1/4 | 11 | 49 | 43 | | | | 14 | | | | | 1.4 |
| PRX 6-01 | 6 | R1/8 | 8 | 50.5 | 46.5 | 13 | 17 | 13 | 14 | 3.5 | 16 | 29 | 3.9 | 9 |

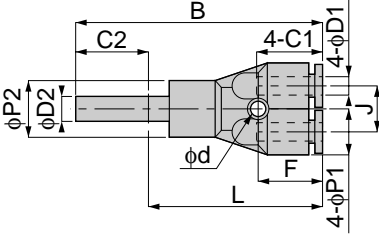


unit:inch

| MODEL | Tube dia. φD1 | NPT | A | B | L | φP | C | J | H | φd | F | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|---------------|-----|------|------|------|------|------|------|------|-----|-----|------------|-------------|------------------------|------|
| PRX 5/32-N1U | 5/32 | 1/8 | 0.31 | 1.81 | 1.65 | 0.41 | 0.59 | 0.39 | 1/2 | 3.2 | 0.6 | 21.7 | 3.0 | 1.5 | 0.08 |
| PRX 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.93 | 1.69 | 0.41 | 0.59 | 0.39 | 9/16 | 3.2 | 0.6 | 29.3 | 3.0 | 1.4 | 0.08 |
| PRX 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.99 | 1.83 | 0.51 | 0.67 | 0.51 | 9/16 | 3.2 | 0.6 | 29.8 | 4.6 | 5.4 | 0.29 |
| PRX 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.99 | 1.83 | 0.51 | 0.67 | 0.51 | 1/2 | 3.2 | 0.6 | 29.0 | 4.6 | 9.0 | 0.49 |



Branch Union Double Y

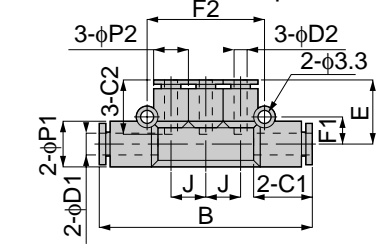


unit:mm

| Model | Tube dia. φD1 | φD2 | B | L | φP1 | φP2 | C1 | C2 | J | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|---------------|-----|----|------|------|-----|----|----|----|-----|------|----------|---------------|----------------------------|
| PRJ 6-4 | 4 | 6 | 55 | 38.5 | 10.5 | 13 | 15 | 17 | 10 | 3.2 | 14.5 | 13 | 4 | 1.5 |
| PRJ 8-6 | 6 | 8 | 61 | 43.5 | 13 | 14 | 17 | 18 | 13 | 3.5 | 16 | 19 | 6 | 7.1 |



Different Diam. Triple



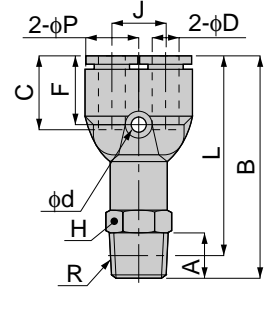
unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | B | φP1 | φP2 | C1 | C2 | J | E | F1 | F2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|---------------|---------------|------|-----|-----|----|----|------|------|------|----|----------|---------------|----------------------------|
| PKG 6-4 | 6 | 4 | 60.5 | 13 | 10 | 17 | 15 | 10 | 18.5 | 8 | 34 | 16 | 3 | 5 |
| PKG 8-4 | 8 | 4 | 63 | 15 | 10 | 18 | 15 | 10 | 19.5 | 9 | 34 | 19 | 3 | 6 |
| PKG 8-6 | | 6 | 70 | | 13 | 17 | 12 | 21.5 | | | 40 | 23 | 4.6 | 10.1 |
| PKG 10-6 | 10 | 6 | 80.5 | 18 | 15 | 20 | 17 | 14 | 24 | 10.5 | 46 | 31 | 4.6 | 11.2 |
| PKG 10-8 | | 8 | | | | | 18 | | | | | 33 | 7 | 19.1 |





Branch Y

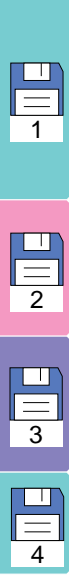


Metric thread type



unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | J | H | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|------------|--------------|--------|------|------|------|------|------|-----|----|------|------|----------|---------------|----------------------------|
| PX 4-M5 | 4 | M5×0.8 | 3 | 38 | 35 | 10 | 15 | 11 | 10 | 3.4 | 14.5 | 12 | 1.8 | 1.5 |
| PX 4-01 | | R1/8 | 8 | 41 | 38 | | | | 14 | 3.2 | | 15 | 3 | 4.2 |
| PX 4-02 | | R1/4 | 11 | 44 | 38 | | | | 14 | 3.2 | | 23 | 3 | 4.2 |
| PX 6-M5 | 6 | M5×0.8 | 3 | 41.5 | 37.5 | 13 | 17 | 12 | 12 | 3.2 | 16 | 16 | 1.8 | 1.5 |
| PX 6-M6 | | M6×1 | 4 | 42.5 | 38.5 | | | | | | | 16 | 3 | 6.5 |
| PX 6-01 | | R1/8 | 8 | 44.5 | 40.5 | | | | | | | 18 | 4.6 | 10 |
| PX 6-02 | R1/4 | 11 | 47.5 | 41.5 | 14 | 25 | 39 | 4.6 | 10 | | | | | |
| PX 6-03 | R3/8 | 12 | 49.5 | 43 | 17 | 39 | 39 | 4.6 | 10 | | | | | |
| PX 8-01 | 8 | R1/8 | 8 | 49 | 45 | 15 | 18.5 | 14 | 14 | 3.2 | 17.5 | 23.5 | 6 | 16.5 |
| PX 8-02 | | R1/4 | 11 | 52 | 46 | | | | 17 | 29.5 | | 42.5 | | |
| PX 8-03 | | R3/8 | 12 | 53.5 | 47 | | | | 17 | 42.5 | | 42.5 | | |
| PX 10-02 | 10 | R1/4 | 11 | 58.5 | 52.5 | 18 | 20.5 | 18 | 17 | 4.5 | 20 | 43 | 7.5 | 30 |
| PX 10-03 | | R3/8 | 12 | 59.5 | 53 | | | | 21 | 51.5 | | 73 | | |
| PX 10-04 | | R1/2 | 15 | 62.5 | 54.5 | | | | 21 | 73 | | 73 | | |
| PX 12-02 | 12 | R1/4 | 11 | 63.5 | 57.5 | 21 | 23.5 | 20 | 21 | 4.5 | 22.5 | 63.5 | 8 | 37 |
| PX 12-03 | | R3/8 | 12 | 64.5 | 58 | | | | | | | 64.5 | 9 | |
| PX 12-04 | | R1/2 | 15 | 67.5 | 59.5 | | | | | | | 79.5 | 9 | |
| PX 16-03 | 16 | R3/8 | 12 | 76.5 | 70 | 24.5 | 24.5 | 24 | 22 | 4.5 | 22.5 | 95.5 | 11 | 54.5 |
| PX 16-04 | | R1/2 | 15 | 80.5 | 72.5 | | | | | | | 99.5 | 13 | 59 |
| PX 1/4-01 | 1/4 | R1/8 | 8 | 44.5 | 40.5 | 13 | 17 | 12 | 12 | 3.2 | 16 | 18 | 4.6 | 10 |
| PX 1/4-02 | | R1/4 | 11 | 47.5 | 41.5 | | | | 14 | 25 | | 39 | | |
| PX 1/4-03 | | R3/8 | 12 | 49.5 | 43 | | | | 17 | 39 | | 39 | | |
| PX 5/16-01 | 5/16 | R1/8 | 8 | 49 | 45 | 15 | 18.5 | 14 | 14 | 3.2 | 17.5 | 23.5 | 6 | 16.5 |
| PX 5/16-02 | | R1/4 | 11 | 52 | 46 | | | | 17 | 29.5 | | 42.5 | | |
| PX 5/16-03 | | R3/8 | 12 | 53.5 | 47 | | | | 17 | 42.5 | | 42.5 | | |
| PX 3/8-02 | 3/8 | R1/4 | 11 | 58.5 | 52.5 | 18 | 20.5 | 18 | 17 | 4.5 | 20 | 43 | 7.5 | 30 |
| PX 3/8-03 | | R3/8 | 12 | 59.5 | 53 | | | | 21 | 51.5 | | 73 | | |
| PX 3/8-04 | | R1/2 | 15 | 62.5 | 54.5 | | | | 21 | 73 | | 73 | | |

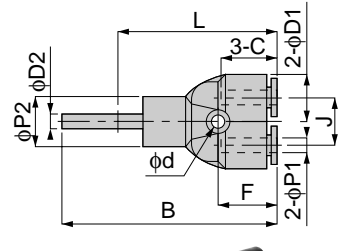


unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | φP | C | J | H | φd | F | Weight (g) | Orifice φMM | Eff. a. mm ² | Cv |
|--------------|--------------|----------|------|------|------|------|------|------|-------|------|------|------------|-------------|-------------------------|------|
| PX 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 1.50 | 1.36 | 0.39 | 0.59 | 0.43 | 7/16 | 0.13 | 0.57 | 11.1 | 1.8 | 1.5 | 0.08 |
| PX 5/32-N1U | 5/32 | 1/8 | 0.31 | 1.61 | 1.50 | 0.39 | 0.59 | 0.43 | 7/16 | 0.13 | 0.57 | 14.5 | 3.0 | 4.2 | 0.23 |
| PX 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.73 | 1.50 | 0.39 | 0.59 | 0.43 | 9/16 | 0.13 | 0.57 | 23.0 | 3.0 | 4.2 | 0.23 |
| PX 3/16-U10U | 3/16 | 10-32UNF | 0.14 | 1.63 | 1.46 | 0.51 | 0.67 | 0.47 | 1/2 | 0.13 | 0.65 | 16.7 | 1.8 | 1.5 | 0.08 |
| PX 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.67 | 1.59 | 0.51 | 0.67 | 0.47 | 1/2 | 0.13 | 0.65 | 18.8 | 4.2 | 5.8 | 0.31 |
| PX 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.87 | 1.63 | 0.51 | 0.67 | 0.47 | 9/16 | 0.13 | 0.65 | 26.4 | 4.2 | 5.4 | 0.29 |
| PX 3/16-N3U | 3/16 | 3/8 | 0.47 | 1.95 | 1.69 | 0.51 | 0.67 | 0.47 | 11/16 | 0.13 | 0.65 | 40.2 | 4.2 | 5.3 | 0.29 |
| PX 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 1.63 | 1.46 | 0.51 | 0.67 | 0.47 | 1/2 | 0.13 | 0.65 | 16.1 | 1.8 | 1.5 | 0.08 |
| PX 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.67 | 1.59 | 0.51 | 0.67 | 0.47 | 1/2 | 0.13 | 0.65 | 18.3 | 4.5 | 10.0 | 0.54 |
| PX 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.87 | 1.63 | 0.51 | 0.67 | 0.47 | 9/16 | 0.13 | 0.65 | 25.8 | 4.5 | 10.0 | 0.54 |
| PX 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.95 | 1.69 | 0.51 | 0.67 | 0.47 | 11/16 | 0.13 | 0.65 | 38.7 | 4.5 | 10.0 | 0.54 |
| PX 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.93 | 1.77 | 0.59 | 0.71 | 0.55 | 9/16 | 0.18 | 0.69 | 23.5 | 6.0 | 16.5 | 0.89 |
| PX 5/16-N2U | 5/16 | 1/4 | 0.43 | 2.05 | 1.81 | 0.59 | 0.71 | 0.55 | 9/16 | 0.18 | 0.69 | 29.3 | 6.0 | 16.5 | 0.89 |
| PX 5/16-N3U | 5/16 | 3/8 | 0.47 | 2.07 | 1.85 | 0.59 | 0.71 | 0.55 | 9/16 | 0.18 | 0.69 | 42.8 | 6.0 | 16.5 | 0.89 |
| PX 3/8-N2U | 3/8 | 1/4 | 0.43 | 2.30 | 2.07 | 0.71 | 0.79 | 0.71 | 11/16 | 0.18 | 0.79 | 44.0 | 6.0 | 25.2 | 1.37 |
| PX 3/8-N3U | 3/8 | 3/8 | 0.47 | 2.34 | 2.09 | 0.71 | 0.79 | 0.71 | 11/16 | 0.18 | 0.79 | 52.0 | 6.5 | 25.9 | 1.40 |
| PX 3/8-N4U | 3/8 | 1/2 | 0.59 | 2.46 | 2.15 | 0.71 | 0.79 | 0.71 | 7/8 | 0.18 | 0.79 | 75.1 | 6.5 | 25.5 | 1.38 |
| PX 1/2-N2U | 1/2 | 1/4 | 0.43 | 2.50 | 2.26 | 0.83 | 0.93 | 0.79 | 7/8 | 0.18 | 0.89 | 64.0 | 8.0 | 37.0 | 2.01 |
| PX 1/2-N3U | 1/2 | 3/8 | 0.47 | 2.54 | 2.28 | 0.83 | 0.93 | 0.79 | 7/8 | 0.18 | 0.89 | 65.4 | 9.6 | 37.0 | 2.01 |
| PX 1/2-N4U | 1/2 | 1/2 | 0.59 | 2.66 | 2.34 | 0.83 | 0.93 | 0.79 | 7/8 | 0.18 | 0.89 | 80.8 | 9.6 | 37.0 | 2.01 |



Branch Union Y

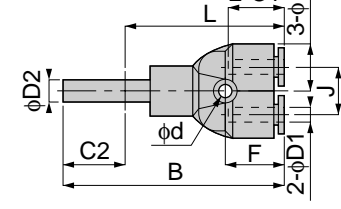


unit:mm

| Model | Tube dia. φD1 | φD2 | B | L | φP1 | φP2 | C | J | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|--------|---------------|-----|------|------|-----|------|------|----|-----|------|----------|---------------|----------------------------|
| PYJ 4 | 4 | 4 | 49 | 34 | 10 | 10 | 15 | 11 | 3.4 | 14.5 | 6.5 | 2.5 | 2 |
| PYJ 6 | 6 | 6 | 56 | 39 | 13 | 12.5 | 17 | 12 | 3.2 | 16 | 9.5 | 4 | 7.5 |
| PYJ 8 | 8 | 8 | 59.5 | 43.5 | 15 | 13 | 18 | 14 | 3.2 | 17.5 | 13.5 | 6 | 16.5 |
| PYJ 10 | 10 | 10 | 68.5 | 52.5 | 18 | 18 | 20.5 | 18 | 4.2 | 19.5 | 23.5 | 7.5 | 27 |
| PYJ 12 | 12 | 12 | 78.5 | 59.5 | 21 | 21 | 23.5 | 20 | 4.2 | 22.5 | 35 | 9 | 42 |



Differend Diam. Branch Union Y



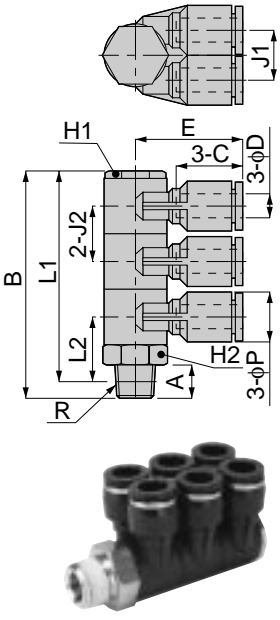
unit:mm

| Model | Tube dia. φD1 | φD2 | B | L | φP | C1 | C2 | J | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|---------------|-----|------|------|----|------|------|----|-----|------|----------|---------------|----------------------------|
| PWJ 6-4 | 4 | 6 | 51 | 36.5 | 10 | 15 | 17 | 11 | 3.4 | 14.5 | 7 | 2 | 4.2 |
| PWJ 8-6 | 6 | 8 | 56.5 | 40 | 13 | 17 | 18 | 12 | 3.2 | 16 | 9.5 | 3.6 | 10 |
| PWJ 10-8 | 8 | 10 | 63 | 44.5 | 15 | 18.5 | 20.5 | 14 | 3.2 | 17.5 | 14.5 | 6 | 16.5 |
| PWJ 12-10 | 10 | 12 | 70 | 54.5 | 18 | 20.5 | 23.5 | 18 | 4.2 | 19.5 | 23 | 7.5 | 27 |



PAT

Triple Branch A



unit:mm

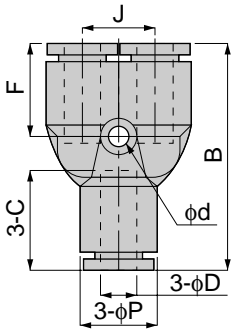
| Model | Tube dia. φD | R | A | B | L1 | L2 | φP | C | J1 | J2 | E | H1 | H2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|--------------|------|----|------|------|------|------|------|----|----|------|----|----|----------|---------------|----------------------------|
| PAT 4-01 | 4 | R1/8 | 8 | 57 | 53 | 16 | 10 | 15 | 10 | 14 | 22.5 | 14 | 14 | 43.5 | 3 | 4.8 |
| PAT 4-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | | | 46.5 | | 4.4 |
| PAT 4-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | | | 56.5 | | 4.2 |
| PAT 6-01 | 6 | R1/8 | 8 | 57 | 53 | 16 | 12.5 | 17 | 12 | 14 | 26.5 | 14 | 14 | 49.5 | 4.6 | 6.7 |
| PAT 6-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | | | 52.5 | | 6.8 |
| PAT 6-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | | | 62.5 | | |
| PAT 8-01 | 8 | R1/8 | 8 | 61 | 57 | 17.5 | 14.5 | 18.5 | 14 | 15 | 29.5 | 17 | 17 | 71 | 5.1 | 13.3 |
| PAT 8-02 | | R1/4 | 11 | 64 | 57.5 | 18.5 | | | | | | | | 74 | | 13.5 |
| PAT 8-03 | | R3/8 | 12 | 65 | 58.5 | 19 | | | | | | | | 79 | | 13.9 |
| PAT 8-04 | | R1/2 | 15 | 70 | 62 | 22.5 | | | | | | | | 102 | | 14 |
| PAT 10-02 | 10 | R1/4 | 11 | 75.5 | 69.5 | 22 | 17.5 | 20.5 | 17 | 18 | 34 | 22 | 22 | 127.5 | 6.5 | 21.3 |
| PAT 10-03 | | R3/8 | 12 | 76.5 | 70 | 22.5 | | | | | | | | 134 | | 22 |
| PAT 10-04 | | R1/2 | 15 | 79.5 | 71.5 | 24 | | | | | | | | 142 | | 22 |
| PAT 12-02 | 12 | R1/4 | 11 | 88 | 82 | 26.5 | 21 | 23.5 | 20 | 21 | 37.5 | 27 | 27 | 207.5 | 7.7 | 43.1 |
| PAT 12-03 | | R3/8 | 12 | 89 | 82.5 | 27 | | | | | | | | 215 | | 44.8 |
| PAT 12-04 | | R1/2 | 15 | 92 | 84 | 28.5 | | | | | | | | 222 | | 45.8 |
| PAT 1/4-01 | 1/4 | R1/8 | 8 | 57 | 53 | 16 | 12.5 | 17 | 12 | 14 | 26.5 | 14 | 14 | 49.5 | 4.6 | 7 |
| PAT 1/4-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | | | 52.5 | | 7.2 |
| PAT 1/4-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | | | 62.5 | | 7.1 |
| PAT 5/16-02 | 5/16 | R1/4 | 11 | 64 | 57 | 18.5 | 14.5 | 18.5 | 14 | 15 | 29.5 | 17 | 17 | 74 | 5.1 | 13.5 |
| PAT 5/16-03 | | R3/8 | 12 | 65 | 57.5 | 19 | | | | | | | | 79 | | 13.9 |
| PAT 5/16-04 | | R1/2 | 15 | 70 | 58.5 | 22.5 | | | | | | | | 102 | | 14 |
| PAT 3/8-02 | 3/8 | R1/4 | 11 | 75.5 | 69.5 | 22 | 17.5 | 20.5 | 17 | 18 | 34 | 22 | 22 | 129 | 6.5 | 20.5 |
| PAT 3/8-03 | | R3/8 | 12 | 76.5 | 70 | 22.5 | | | | | | | | 134 | | 20.8 |
| PAT 3/8-04 | | R1/2 | 15 | 79.5 | 71.5 | 24 | | | | | | | | 142 | | 20.9 |

unit:inch

| MODEL | Tube dia. φ | NPT | A | B | L | φP | C | J1 | J2 | E | H1 | H2 | Weight (G) | Orifice φMM | Eff.a. φmm ² | CV |
|-------------|-------------|--------|------|------|------|------|------|------|------|------|------|-------|------------|-------------|-------------------------|------|
| PAT5/32-N1U | 5/32 | NPT1/8 | 0.31 | 2.24 | 2.09 | 0.39 | 0.59 | 0.39 | 0.55 | 0.87 | 0.55 | 9/16 | 44.0 | 3 | 4.8 | 0.26 |
| PAT5/32-N2U | 5/32 | NPT1/4 | 0.43 | 2.36 | 2.13 | 0.39 | 0.59 | 0.39 | 0.55 | 0.87 | 0.55 | 9/16 | 46.9 | 3 | 4.4 | 0.24 |
| PAT1/4-N1U | 1/4 | NPT1/8 | 0.31 | 2.24 | 2.09 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 9/16 | 49.3 | 5 | 7.0 | 0.38 |
| PAT1/4-N2U | 1/4 | NPT1/4 | 0.43 | 2.36 | 2.13 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 9/16 | 52.3 | 5 | 7.2 | 0.39 |
| PAT1/4-N3U | 1/4 | NPT3/8 | 0.47 | 2.44 | 2.19 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 11/16 | 63.2 | 5 | 7.1 | 0.38 |
| PAT5/16-N2U | 5/16 | NPT1/4 | 0.43 | 2.52 | 2.24 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 11/16 | 74.7 | 6 | 13.5 | 0.73 |
| PAT5/16-N3U | 5/16 | NPT3/8 | 0.47 | 2.56 | 2.26 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 11/16 | 80.7 | 6 | 13.9 | 0.75 |
| PAT5/16-N4U | 5/16 | NPT1/2 | 0.59 | 2.76 | 2.30 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 7/8 | 102.1 | 6 | 14.0 | 0.76 |
| PAT3/8-N2U | 3/8 | NPT1/4 | 0.43 | 2.97 | 2.74 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 128.8 | 8 | 20.5 | 1.11 |
| PAT3/8-N3U | 3/8 | NPT3/8 | 0.47 | 3.01 | 2.76 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 133.7 | 8 | 20.8 | 1.13 |
| PAT3/8-N4U | 3/8 | NPT1/2 | 0.59 | 3.13 | 2.81 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 142.1 | 8 | 20.9 | 1.13 |

PY

Union Y



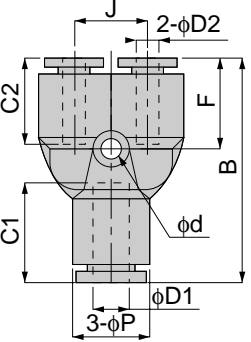
unit:mm

| Model | Tube dia. φD | B | φP | C | J | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|--------------|------|------|------|----|-----|------|----------|---------------|----------------------------|
| PY 4 | 4 | 33.5 | 10 | 15 | 11 | 3.2 | 14.5 | 8 | 3 | 4.2 |
| PY 6 | 6 | 38 | 13 | 17 | 12 | 3.2 | 16 | 10.5 | 4.6 | 10 |
| PY 8 | 8 | 43 | 15 | 18.5 | 14 | 3.2 | 17.5 | 15.5 | 6 | 16.5 |
| PY 10 | 10 | 49 | 18 | 20.5 | 18 | 4.5 | 20 | 25.5 | 7.5 | 27 |
| PY 12 | 12 | 55 | 21.5 | 23.5 | 20 | 4.5 | 22.5 | 37 | 9 | 38 |
| PY 16 | 16 | 63 | 24.5 | 24.5 | 24 | 4.5 | 22.5 | 44 | 13 | 56.5 |
| PY 1/4 | 1/4 | 38 | 13 | 17 | 12 | 3.2 | 16 | 10.5 | 4.6 | 10 |
| PY 5/16 | 5/16 | 43 | 15 | 18.5 | 14 | 3.2 | 17 | 15.5 | 6 | 16.5 |
| PY 3/8 | 3/8 | 49 | 18 | 20.5 | 18 | 4.5 | 19.5 | 25.5 | 7.5 | 27 |



PW

Different Diam. Union Y



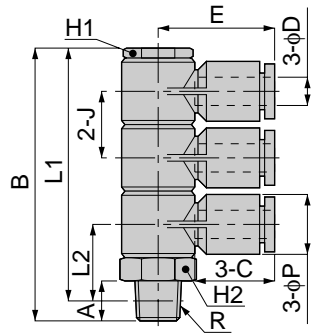
unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | B | φP | C1 | C2 | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|---------------|---------------|------|------|------|------|-----|------|----------|---------------|----------------------------|
| PW 6-4 | 6 | 4 | 37.5 | 13 | 17 | 15 | 3.2 | 15.5 | 10.5 | 3 | 4.2 |
| PW 8-6 | 8 | 6 | 42.5 | 15 | 18.5 | 17 | 3.2 | 17.5 | 14.5 | 4.6 | 10 |
| PW 10-8 | 10 | 8 | 48.5 | 18 | 20.5 | 18.5 | 4.2 | 19.5 | 23 | 6 | 16.5 |
| PW 12-10 | 12 | 10 | 55 | 21.5 | 23.5 | 20.5 | 4.2 | 22.5 | 35.5 | 7.5 | 27 |
| PW 1/4-4 | 1/4 | 4 | 37.5 | 13 | 17 | 15 | 3.2 | 15.5 | 10.5 | 3 | 4.2 |
| PW 5/16-1/4 | 5/16 | 1/4 | 42.5 | 15 | 18.5 | 17 | 3.2 | 17.5 | 14.5 | 4.6 | 10 |
| PW 3/8-5/16 | 3/8 | 5/16 | 48.5 | 18 | 20.5 | 18.5 | 4.2 | 19.5 | 23 | 6 | 16.5 |



PHT

Triple Universal Elbow



| Model | Tube dia. φD | R | A | B | L1 | L2 | φP | C | J | E | H1 | H2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|--------------|------|----|------|------|------|------|------|----|------|----|----|----------|---------------|----------------------------|
| PHT 4-01 | 4 | R1/8 | 8 | 57 | 53 | 16 | 10 | 15 | 14 | 22.5 | 14 | 14 | 36.5 | 3 | 4.7 |
| PHT 4-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | 14 | 39.5 | | 4.3 |
| PHT 4-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | 17 | 49.5 | | 4.2 |
| PHT 6-01 | 6 | R1/8 | 8 | 57 | 53 | 16 | 12.5 | 17 | 14 | 24.5 | 14 | 14 | 39 | 4.6 | 9.6 |
| PHT 6-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | 14 | 42 | | 9.7 |
| PHT 6-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | 17 | 52.5 | | 9.5 |
| PHT 8-01 | 8 | R1/8 | 8 | 61 | 57 | 17.5 | 14.5 | 18.5 | 15 | 28.5 | 17 | 17 | 57.5 | 5.1 | 14.3 |
| PHT 8-02 | | R1/4 | 11 | 64 | 58 | 18.5 | | | | | | 17 | 60.5 | | 15.5 |
| PHT 8-03 | | R3/8 | 12 | 65 | 58.5 | 19 | | | | | | 17 | 65 | | 15.1 |
| PHT 8-04 | | R1/2 | 15 | 70 | 62 | 22.5 | | | | | | 22 | 88.5 | | 15.1 |
| PHT 10-02 | 10 | R1/4 | 11 | 75.5 | 69.5 | 22 | 18 | 20.5 | 18 | 33 | 22 | 22 | 107.5 | 6.5 | 21.9 |
| PHT 10-03 | | R3/8 | 12 | 76.5 | 70 | 22.5 | | | | | | 22 | 114 | | 22.7 |
| PHT 10-04 | | R1/2 | 15 | 79.5 | 71.5 | 24 | | | | | | 22 | 121.5 | | 22.6 |
| PHT 12-02 | 12 | R1/4 | 11 | 88 | 82 | 26.5 | 21 | 23.5 | 21 | 38.5 | 27 | 27 | 181 | 7.7 | 30.3 |
| PHT 12-03 | | R3/8 | 12 | 89 | 82.5 | 27 | | | | | | 27 | 187 | | 30.6 |
| PHT 12-04 | | R1/2 | 15 | 92 | 84 | 28.5 | | | | | | 27 | 195 | | 31.5 |
| PHT 1/4-01 | 1/4 | R1/8 | 8 | 57 | 53 | 16 | 12.5 | 17 | 14 | 24.5 | 14 | 14 | 39 | 4.6 | 9.8 |
| PHT 1/4-02 | | R1/4 | 11 | 60 | 54 | 17 | | | | | | 14 | 42 | | 10 |
| PHT 1/4-03 | | R3/8 | 12 | 62 | 55.5 | 18.5 | | | | | | 17 | 52.5 | | 9.8 |
| PHT 5/16-02 | 5/16 | R1/4 | 11 | 64 | 58 | 18.5 | 14.5 | 18.5 | 15 | 28.5 | 17 | 17 | 60.5 | 5.1 | 15.5 |
| PHT 5/16-03 | | R3/8 | 12 | 65 | 58.5 | 19 | | | | | | 17 | 65 | | 15.1 |
| PHT 5/16-04 | | R1/2 | 15 | 70 | 62 | 22.5 | | | | | | 22 | 88.5 | | 15.1 |
| PHT 3/8-02 | 3/8 | R1/4 | 11 | 75.5 | 69.5 | 22 | 18 | 20.5 | 18 | 33 | 22 | 22 | 108 | 6.5 | 20.9 |
| PHT 3/8-03 | | R3/8 | 12 | 76.5 | 70 | 22.5 | | | | | | 22 | 114 | | 22 |
| PHT 3/8-04 | | R1/2 | 15 | 79.5 | 71.5 | 24 | | | | | | 22 | 121.5 | | 22.3 |

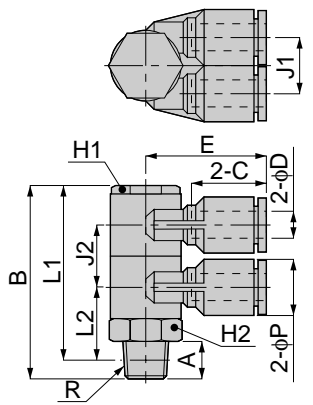
unit:mm

unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | φP | C | J | E | H1 | H2 | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|-----|------|------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PHT 5/32-N1U | 5/32 | 1/8 | 0.31 | 2.24 | 2.09 | 0.39 | 0.59 | 0.55 | 0.89 | 0.55 | 9/16 | 36.6 | 3.0 | 4.7 | 0.25 |
| PHT 5/32-N2U | 5/32 | 1/4 | 0.43 | 2.36 | 2.13 | 0.39 | 0.59 | 0.55 | 0.89 | 0.55 | 9/16 | 39.5 | 3.0 | 4.3 | 0.23 |
| PHT 1/4-N1U | 1/4 | 8/1 | 0.31 | 2.24 | 2.09 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 9/16 | 39.0 | 4.6 | 9.8 | 0.53 |
| PHT 1/4-N2U | 1/4 | 4/1 | 0.43 | 2.36 | 2.13 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 9/16 | 41.7 | 4.6 | 10.0 | 0.54 |
| PHT 1/4-N3U | 1/4 | 3/8 | 0.47 | 2.44 | 2.13 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 11/16 | 52.9 | 4.6 | 9.8 | 0.53 |
| PHT 5/16-N2U | 5/16 | 1/4 | 0.43 | 2.52 | 2.19 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 11/16 | 61.4 | 6.0 | 15.5 | 0.84 |
| PHT 5/16-N3U | 5/16 | 3/8 | 0.47 | 2.56 | 2.24 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 11/16 | 66.9 | 6.0 | 15.1 | 0.82 |
| PHT 5/16-N4U | 5/16 | 1/2 | 0.59 | 2.76 | 2.28 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 7/8 | 88.5 | 6.0 | 15.1 | 0.82 |
| PHT 3/8-N2U | 3/8 | 4/1 | 0.43 | 2.97 | 2.74 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 108.0 | 7.5 | 21.1 | 1.14 |
| PHT 3/8-N3U | 3/8 | 3/8 | 0.47 | 3.01 | 2.76 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 113.4 | 7.5 | 21.6 | 1.17 |
| PHT 3/8-N4U | 3/8 | 1/2 | 0.59 | 3.13 | 2.81 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 121.3 | 7.5 | 21.5 | 1.17 |

PAW

Double Branch A



| Model | Tube dia. φD | R | A | B | L1 | L2 | φP | C | J1 | J2 | E | H1 | H2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|--------------|------|----|------|------|------|------|------|----|----|------|----|----|----------|---------------|----------------------------|
| PAW 4-01 | 4 | R1/8 | 8 | 43 | 39 | 16 | 10 | 15 | 10 | 14 | 22.5 | 14 | 14 | 33 | 3 | 4.3 |
| PAW 4-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | | 14 | 36 | | 4.2 |
| PAW 4-03 | | R3/8 | 12 | 48 | 41.5 | 18.5 | | | | | | | 17 | 46 | | 4.2 |
| PAW 6-01 | 6 | R1/8 | 8 | 43 | 39 | 16 | 12.5 | 17 | 12 | 14 | 26.5 | 14 | 14 | 37.5 | 4.6 | 6.9 |
| PAW 6-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | | 14 | 40 | | 7 |
| PAW 6-03 | | R3/8 | 12 | 48 | 41.5 | 18.5 | | | | | | | 17 | 50.5 | | 6.9 |
| PAW 8-01 | 8 | R1/8 | 8 | 46 | 42 | 17.5 | 14.5 | 18.5 | 14 | 15 | 29.5 | 17 | 17 | 53.5 | 5.1 | 12.4 |
| PAW 8-02 | | R1/4 | 11 | 49 | 43 | 18.5 | | | | | | | 17 | 57 | | 13.9 |
| PAW 8-03 | | R3/8 | 12 | 50 | 43.5 | 19 | | | | | | | 17 | 62 | | 14 |
| PAW 8-04 | | R1/2 | 15 | 55 | 47 | 22.5 | | | | | | | 22 | 84.5 | | 14 |
| PAW 10-02 | 10 | R1/4 | 11 | 57.5 | 51.5 | 22 | 17.5 | 20.5 | 17 | 18 | 34 | 22 | 22 | 98 | 6.5 | 21.6 |
| PAW 10-03 | | R3/8 | 12 | 58.5 | 52 | 22.5 | | | | | | | 22 | 104.5 | | 21.3 |
| PAW 10-04 | | R1/2 | 15 | 61.5 | 53.5 | 24 | | | | | | | 22 | 112.5 | | 22.2 |
| PAW 12-02 | 12 | R1/4 | 11 | 67 | 61 | 26.5 | 21 | 23.5 | 20 | 21 | 37.5 | 27 | 27 | 163.5 | 7.7 | 43.2 |
| PAW 12-03 | | R3/8 | 12 | 68 | 61.5 | 27 | | | | | | | 27 | 169 | | 44.4 |
| PAW 12-04 | | R1/2 | 15 | 71 | 63 | 28.5 | | | | | | | 27 | 177 | | 45.4 |
| PAW 1/4-01 | 1/4 | R1/8 | 8 | 43 | 39 | 16 | 12.5 | 17 | 12 | 14 | 26.5 | 14 | 14 | 37.5 | 4.6 | 7 |
| PAW 1/4-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | | 14 | 40 | | 7.1 |
| PAW 1/4-03 | | R3/8 | 12 | 48 | 41.5 | 18.5 | | | | | | | 17 | 50.5 | | 7.1 |
| PAW 5/16-02 | 5/16 | R1/4 | 11 | 49 | 43 | 18.5 | 14.5 | 18.5 | 14 | 15 | 29.5 | 17 | 17 | 57 | 5.1 | 13.9 |
| PAW 5/16-03 | | R3/8 | 12 | 50 | 43.5 | 19 | | | | | | | 17 | 62 | | 14 |
| PAW 5/16-04 | | R1/2 | 15 | 55 | 47 | 22.5 | | | | | | | 22 | 84.5 | | 14 |
| PAW 3/8-02 | 3/8 | R1/4 | 11 | 57.5 | 51.5 | 22 | 17.5 | 20.5 | 17 | 18 | 34 | 22 | 22 | 99 | 6.5 | 20.4 |
| PAW 3/8-03 | | R3/8 | 12 | 58.5 | 52 | 22.5 | | | | | | | 22 | 104.5 | | 21.1 |
| PAW 3/8-04 | | R1/2 | 15 | 61.5 | 53.5 | 24 | | | | | | | 22 | 112.5 | | 20.7 |

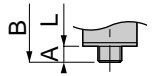
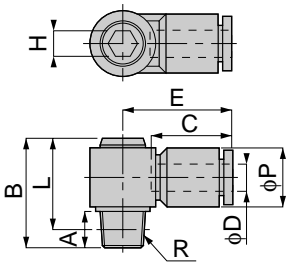
unit:mm

unit:inch

| MODEL | Tube dia. φ | NPT | A | B | L | φP | C | J1 | J2 | E | H1 | H2 | Weight (G) | Orifice φMM | Eff.a. mm ² | CV |
|-------------|-------------|--------|------|------|------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PAW5/32-N1U | 5/32 | NPT1/8 | 0.31 | 1.69 | 1.54 | 0.39 | 0.59 | 0.39 | 0.55 | 0.87 | 0.55 | 9/16 | 33.4 | 3 | 4.3 | 0.23 |
| PAW5/32-N2U | 5/32 | NPT1/4 | 0.43 | 1.81 | 1.57 | 0.39 | 0.59 | 0.39 | 0.55 | 0.87 | 0.55 | 9/16 | 36.3 | 3 | 4.3 | 0.23 |
| PAW1/4-N1U | 1/4 | NPT1/8 | 0.31 | 1.69 | 1.54 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 9/16 | 37.0 | 5 | 7.0 | 0.38 |
| PAW1/4-N2U | 1/4 | NPT1/4 | 0.43 | 1.81 | 1.57 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 9/16 | 39.7 | 5 | 7.0 | 0.38 |
| PAW1/4-N3U | 1/4 | NPT3/8 | 0.47 | 1.89 | 1.63 | 0.49 | 0.67 | 0.47 | 0.55 | 1.04 | 0.55 | 11/16 | 50.6 | 5 | 7.1 | 0.38 |
| PAW5/16-N2U | 5/16 | NPT1/4 | 0.43 | 1.93 | 1.69 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 11/16 | 56.8 | 6 | 13.9 | 0.75 |
| PAW5/16-N3U | 5/16 | NPT3/8 | 0.47 | 1.97 | 1.71 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 11/16 | 62.7 | 6 | 14.0 | 0.76 |
| PAW5/16-N4U | 5/16 | NPT1/2 | 0.59 | 2.17 | 1.83 | 0.57 | 0.73 | 0.55 | 0.59 | 1.16 | 0.67 | 7/8 | 84.6 | 6 | 14.0 | 0.76 |
| PAW3/8-N2U | 3/8 | NPT1/4 | 0.43 | 2.26 | 2.03 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 99.6 | 8 | 20.4 | 1.11 |
| PAW3/8-N3U | 3/8 | NPT3/8 | 0.47 | 2.30 | 2.05 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 104.8 | 8 | 21.1 | 1.14 |
| PAW3/8-N4U | 3/8 | NPT1/2 | 0.59 | 2.42 | 2.11 | 0.69 | 0.81 | 0.67 | 0.71 | 1.34 | 0.87 | 7/8 | 112.4 | 8 | 20.7 | 1.12 |



Hex. Holed Universal Elbow



Metric thread type

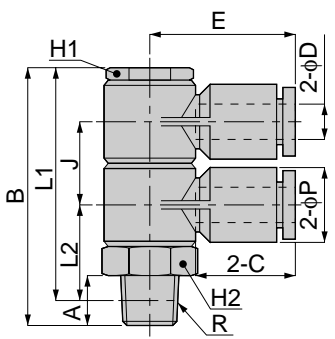
unit:mm

| Model | Tube dia. ϕD | R | A | B | L | ϕP | C | E | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-----------|--------------------|--------|----|------|------|----------|------|------|----|----------|-----------------------|--------------------|
| POL 4-M5 | 4 | M5x0.8 | 3 | 17.5 | 14.5 | 10 | 15 | 20 | 4 | 6.5 | 1.8 | 2.1 |
| POL 6-01 | 6 | R1/8 | 8 | 24 | 20 | 13 | 17 | 24 | 5 | 15 | 4 | 7 |
| POL 6-02 | | R1/4 | 11 | 27 | 21 | | | | | 21.5 | | 7.4 |
| POL 8-01 | 8 | R1/8 | 8 | 27 | 23 | 14 | 18 | 27 | 8 | 22 | 6 | 14 |
| POL 8-02 | | R1/4 | 11 | 30 | 24 | | | | | 28 | | 12.4 |
| POL 8-03 | | R3/8 | 12 | 31 | 24.5 | | | | | 36.5 | | 13.6 |
| POL 10-02 | 10 | R1/4 | 11 | 34 | 28 | 18 | 20 | 31 | 10 | 41 | 7.5 | 22.9 |
| POL 10-03 | | R3/8 | 12 | 35 | 28.5 | | | | | 49.5 | | 22.6 |
| POL 12-03 | 12 | R3/8 | 12 | 39 | 32.5 | 21 | 23.5 | 36.5 | 12 | 68 | 9.5 | 37.3 |
| POL 12-04 | | R1/2 | 15 | 42 | 34 | | | | | 83 | | 32.4 |



PHW

Double Universal Elbow



unit:mm

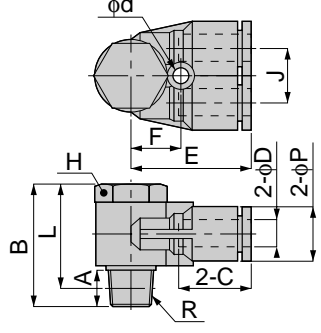
| Model | Tube dia. ϕD | R | A | B | L1 | L2 | ϕP | C | J | E | H1 | H2 | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-------------|--------------------|------|----|------|------|------|----------|------|----|------|----|------|----------|-----------------------|--------------------|
| PHW 4-01 | 4 | R1/8 | 8 | 43 | 39 | 16 | 10 | 15 | 14 | 22.5 | 14 | 14 | 28.5 | 3 | 5.1 |
| PHW 4-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | 31 | 4.4 | | |
| PHW 4-03 | | R3/8 | 12 | 48 | 41.5 | 18.5 | | | | | | 41.5 | 4.5 | | |
| PHW 6-01 | 6 | R1/8 | 8 | 43 | 39 | 16 | 12.5 | 17 | 14 | 24.5 | 14 | 14 | 30.5 | 4.6 | 9.3 |
| PHW 6-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | 33 | 9.5 | | |
| PHW 6-03 | | R1/8 | 12 | 48 | 41.5 | 18.5 | | | | | | 43.5 | 9.5 | | |
| PHW 8-01 | 8 | R1/8 | 8 | 46 | 42 | 17.5 | 14.5 | 18.5 | 15 | 28.5 | 17 | 17 | 44.5 | 5.1 | 14.2 |
| PHW 8-02 | | R1/4 | 11 | 49 | 43 | 18.5 | | | | | | 47.5 | 15.3 | | |
| PHW 8-03 | | R3/8 | 12 | 50 | 43.5 | 19 | | | | | | 52.5 | 15 | | |
| PHW 8-04 | | R1/2 | 15 | 55 | 47 | 22.5 | | | | | | 75.5 | 15.1 | | |
| PHW 10-02 | 10 | R1/4 | 11 | 57.5 | 51.5 | 22 | 18 | 20.5 | 18 | 33 | 22 | 22 | 85 | 6.5 | 21.6 |
| PHW 10-03 | | R3/8 | 12 | 58.5 | 52 | 22.5 | | | | | | 91 | 23.2 | | |
| PHW 10-04 | | R1/2 | 15 | 61.5 | 53.5 | 24 | | | | | | 99 | 23.3 | | |
| PHW 12-02 | 12 | R1/4 | 11 | 67 | 61 | 26.5 | 21 | 23.5 | 21 | 38.5 | 27 | 27 | 146 | 7.7 | 30 |
| PHW 12-03 | | R3/8 | 12 | 68 | 61.5 | 27 | | | | | | 152 | 31.4 | | |
| PHW 12-04 | | R1/2 | 15 | 71 | 63 | 28.5 | | | | | | 159 | 30.8 | | |
| PHW 1/4-01 | 1/4 | R1/8 | 8 | 43 | 39 | 16 | 12.5 | 17 | 14 | 24.5 | 14 | 14 | 30.5 | 4.6 | 15.3 |
| PHW 1/4-02 | | R1/4 | 11 | 46 | 40 | 17 | | | | | | 33 | 15 | | |
| PHW 1/4-03 | | R3/8 | 12 | 48 | 41.5 | 18.5 | | | | | | 43.5 | 15.1 | | |
| PHW 5/16-02 | 5/16 | R1/4 | 11 | 49 | 43 | 18.5 | 14.5 | 18.5 | 15 | 28.5 | 17 | 17 | 47.5 | 5.1 | 10.1 |
| PHW 5/16-03 | | R3/8 | 12 | 50 | 43.5 | 19 | | | | | | 52.5 | 9.9 | | |
| PHW 5/16-04 | | R1/2 | 15 | 55 | 47 | 22.5 | | | | | | 75.5 | 10.2 | | |
| PHW 3/8-02 | 3/8 | R1/4 | 11 | 57.5 | 51.5 | 22 | 18 | 20.5 | 18 | 33 | 22 | 22 | 85.5 | 6.5 | 21.4 |
| PHW 3/8-03 | | R3/8 | 12 | 58.5 | 52 | 22.5 | | | | | | 91 | 21.7 | | |
| PHW 3/8-04 | | R1/2 | 15 | 61.5 | 53.5 | 24 | | | | | | 99 | 22.6 | | |

unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | L | ϕP | C | J | E | H1 | H2 | Weight (g) | Orifice ϕMM | Eff.a. mm^2 | Cv |
|--------------|--------------------|-----|------|------|------|----------|------|------|------|------|-------|------------|-------------------|---------------|------|
| PHW 5/32-N1U | 5/32 | 1/8 | 0.31 | 1.69 | 1.54 | 0.39 | 0.59 | 0.55 | 0.89 | 0.55 | 9/16 | 28.5 | 3.0 | 5.1 | 0.28 |
| PHW 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.81 | 1.57 | 0.39 | 0.59 | 0.55 | 0.89 | 0.55 | 9/16 | 31.4 | 3.0 | 4.4 | 0.24 |
| PHW 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.69 | 1.54 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 9/16 | 30.2 | 4.6 | 10.0 | 0.54 |
| PHW 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.81 | 1.57 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 9/16 | 33.1 | 4.6 | 9.7 | 0.53 |
| PHW 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.89 | 1.63 | 0.49 | 0.67 | 0.55 | 0.96 | 0.55 | 11/16 | 43.7 | 4.6 | 9.9 | 0.54 |
| PHW 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.93 | 1.69 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 11/16 | 48.2 | 6.0 | 14.2 | 0.77 |
| PHW 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.97 | 1.71 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 11/16 | 53.6 | 6.0 | 14.6 | 0.79 |
| PHW 5/16-N4U | 5/16 | 1/2 | 0.59 | 2.17 | 1.85 | 0.57 | 0.71 | 0.59 | 1.12 | 0.67 | 7/8 | 75.4 | 6.0 | 14.3 | 0.78 |
| PHW 3/8-N2U | 3/8 | 1/4 | 0.43 | 2.26 | 2.03 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 84.8 | 7.5 | 21.6 | 1.17 |
| PHW 3/8-N3U | 3/8 | 3/8 | 0.47 | 2.30 | 2.05 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 90.9 | 7.5 | 21.7 | 1.18 |
| PHW 3/8-N4U | 3/8 | 1/2 | 0.59 | 2.42 | 2.11 | 0.71 | 0.79 | 0.71 | 1.30 | 0.87 | 7/8 | 98.1 | 7.5 | 22.6 | 1.22 |

CAD **PA**

Branch A



Metric thread type

unit:mm

| Model | Tube dia. ϕD | R | A | B | L | ϕP | C | J | E | H | ϕd | F | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|----------|--------------------|--------|----|------|------|----------|------|----|------|----|----------|------|----------|-----------------------|--------------------|
| PA 4-M5 | 4 | M5x0.8 | 3 | 17 | 14 | 10 | 15 | 10 | 20.5 | 8 | - | - | 9.5 | 1.8 | 1.9 |
| PA 6-01 | 6 | R1/8 | 8 | 27 | 23 | 12.5 | 16.5 | 12 | 26.5 | 14 | 3.2 | 10.5 | 24.5 | 4.6 | 8.3 |
| PA 8-02 | 8 | R1/4 | 11 | 31.5 | 25.5 | 14.5 | 17.5 | 14 | 29.5 | 17 | 3.2 | 12.5 | 41.5 | 6 | 15.5 |
| PA 10-03 | 10 | R3/8 | 12 | 36 | 29.5 | 17.5 | 20 | 17 | 33.5 | 21 | 4.2 | 15 | 69.5 | 8 | 25.2 |
| PA 12-04 | 12 | R1/2 | 15 | 40 | 32 | 21 | 23.5 | 20 | 37.5 | 24 | 4.2 | 17 | 102 | 10 | 39.7 |

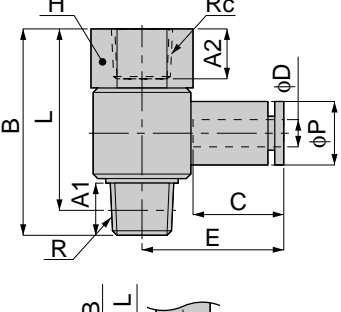


unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | L | ϕP | C | J | E | H | ϕd | F | Weight (g) | Orifice ϕMM | Eff.a. mm^2 | Cv |
|--------------|--------------------|----------|------|------|------|----------|------|------|------|-------|----------|------|------------|-------------------|---------------|------|
| PA 5/32-U10U | 3/32 | 10-32UNF | 0.14 | 0.67 | 0.28 | 0.39 | 0.59 | 0.39 | 0.79 | 7/16 | - | - | 9.5 | 1.8 | 1.9 | 0.10 |
| PA 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.06 | 0.43 | 0.49 | 0.67 | 0.47 | 1.02 | 1/2 | 0.13 | 0.41 | 25.3 | 4.0 | 5.9 | 0.32 |
| PA 1/4-N1U | 1/4 | 1/4 | 0.31 | 1.06 | 0.43 | 0.49 | 0.67 | 0.47 | 1.02 | 1/2 | 0.13 | 0.41 | 24.8 | 4.6 | 8.3 | 0.45 |
| PA 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.24 | 0.49 | 0.57 | 0.71 | 0.55 | 1.14 | 9/16 | 0.13 | 0.49 | 42.4 | 6.0 | 15.5 | 0.84 |
| PA 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.42 | 0.57 | 0.69 | 0.79 | 0.67 | 1.32 | 11/16 | 0.17 | 0.37 | 72.1 | 8.0 | 25.2 | 1.37 |
| PA 1/2-N4U | 1/2 | 1/2 | 0.59 | 1.57 | 0.69 | 0.83 | 0.93 | 0.79 | 1.48 | 7/8 | 0.17 | 0.67 | 106.8 | 10.0 | 39.7 | 2.15 |

CAD **PHF**

Female Universal Elbow



Metric thread type

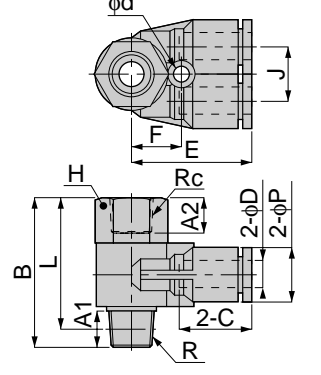


unit:mm

| Model | Tube dia. ϕD | R&Rc | A1 | A2 | B | L | ϕP | C | E | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-------------|--------------------|--------|----|----|------|------|----------|------|------|----|----------|-----------------------|--------------------|
| PHF 4-M5 | 4 | M5x0.8 | 3 | 5 | 20 | 17 | 10 | 15 | 20 | 8 | 8 | 1.8 | 1.7 |
| PHF 4-01 | | R1/8 | 8 | 8 | 32.5 | 28.5 | | 15 | 22.5 | 14 | 23 | 3 | 4.8 |
| PHF 6-M5 | 6 | M5x0.8 | 3 | 5 | 20 | 17 | 12.5 | 17 | 24 | 8 | 9 | 1.8 | 1.6 |
| PHF 6-01 | | R1/8 | 8 | 8 | 32.5 | 28.5 | | 16.5 | 24.5 | 14 | 24 | 4.6 | 8.4 |
| PHF 6-02 | | R1/4 | 11 | 11 | 38.5 | 32.5 | | | 27 | 17 | 39 | | 10.2 |
| PHF 8-01 | 8 | R1/8 | 8 | 8 | 32.5 | 28.5 | 15 | 17.5 | 26.5 | 14 | 25.5 | 5 | 10.3 |
| PHF 8-02 | | R1/4 | 11 | 11 | 38.5 | 32.5 | | | 28.5 | 17 | 40.5 | 6 | 15.5 |
| PHF 8-03 | | R3/8 | 12 | 12 | 44.5 | 38 | | | 30.5 | 21 | 65 | | 18.9 |
| PHF 10-02 | 10 | R1/4 | 11 | 11 | 38.5 | 32.5 | 18.5 | 20 | 30.5 | 17 | 43.5 | 6.5 | 15.4 |
| PHF 10-03 | | R3/8 | 12 | 12 | 44.5 | 38 | | | 32.5 | 21 | 68.5 | 8 | 24.9 |
| PHF 12-03 | 12 | R3/8 | 12 | 12 | 44.5 | 38 | 21 | 23.5 | 35.5 | 21 | 71.5 | 8.5 | 28.3 |
| PHF 12-04 | | R1/2 | 13 | 15 | 52 | 44 | | | 38.5 | 24 | 105 | 10 | 42.6 |
| PHF 1/4-M5 | 1/4 | M5x0.8 | 3 | 5 | 20 | 17 | 12.5 | 17 | 24 | 8 | 9 | 1.8 | 1.6 |
| PHF 1/4-01 | | R1/8 | 8 | 8 | 32.5 | 28.5 | | 16.5 | 24.5 | 14 | 24 | 4.6 | 9.1 |
| PHF 1/4-02 | | R1/4 | 11 | 11 | 38.5 | 32.5 | | | 24 | 17 | 39 | | 11.6 |
| PHF 5/16-01 | 5/16 | R1/8 | 8 | 8 | 32.5 | 28.5 | 15 | 17.5 | 26.5 | 14 | 25.5 | 5 | 10.3 |
| PHF 5/16-02 | | R1/4 | 11 | 11 | 38.5 | 32.5 | | | 28.5 | 17 | 40.5 | 6 | 15.5 |
| PHF 5/16-03 | | R3/8 | 12 | 12 | 44.5 | 38 | | | 30.5 | 21 | 65 | | 18.9 |
| PHF 3/8-02 | 3/8 | R1/4 | 11 | 11 | 38.5 | 32.5 | 18.5 | 20 | 30.5 | 17 | 43.5 | 6.5 | 18.1 |
| PHF 3/8-03 | | R3/8 | 12 | 12 | 44.5 | 38 | | | 32.5 | 21 | 68.5 | 8 | 22.8 |

CAD **PAF**

Female Branch A



Metric thread type



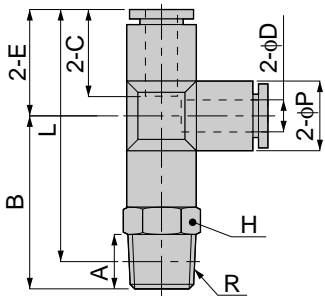
unit:mm

| Model | Tube dia. ϕD | R&Rc | A1 | A2 | B | L | ϕP | C | J | E | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-----------|--------------------|--------|----|----|------|------|----------|------|----|------|----|----------|-----------------------|--------------------|
| PAF 4-M5 | 4 | M5x0.8 | 3 | 4 | 20 | 17 | 10 | 15 | - | 20.5 | 8 | 10 | 1.8 | 1.7 |
| PAF 6-01 | 6 | R1/8 | 8 | 8 | 32.5 | 28.5 | 12.5 | 16.5 | 12 | 26.5 | 14 | 27 | 4.6 | 7 |
| PAF 8-02 | 8 | R1/4 | 11 | 11 | 38.5 | 32.5 | 14.5 | 17.5 | 14 | 29.5 | 17 | 45 | 6 | 13.8 |
| PAF 10-03 | 10 | R3/8 | 12 | 12 | 44.5 | 38 | 18 | 20 | 17 | 33.5 | 21 | 74.5 | 8 | 21.9 |
| PAF 12-03 | 12 | R3/8 | 12 | 12 | 51 | 44.5 | 21 | 23.5 | 20 | 37.5 | 24 | 122 | 9.3 | 38.7 |
| PAF 12-04 | | R1/2 | 13 | 13 | 52 | 44 | 21.5 | | | | | 106 | 10 | 39.2 |



PD

Branch Tee



Metric thread type



unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | E | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) | |
|------------|--------------|--------|----|------|------|------|------|------|----|----------|---------------|----------------------------|------|
| PD 4-M5 | 4 | M5×0.8 | 3 | 20.5 | 34 | 10 | 15 | 17 | 10 | 11.5 | 1.8 | 1.9 | |
| PD 4-M6 | | M6×1 | 4 | 21.5 | 35 | | | | | 16 | 3 | 5.3 | |
| PD 4-01 | | R1/8 | 8 | 23.5 | 36.5 | | | | | 14.5 | | | |
| PD 4-02 | | R1/4 | 11 | 26.5 | 37.5 | | | | | 23.5 | | | |
| PD 6-M5 | 6 | M5×0.8 | 3 | 23 | 40.5 | 13 | 17 | 20 | 12 | 15.5 | 1.8 | 1.9 | |
| PD 6-M6 | | M6×1 | 4 | 24 | | | | | | 16 | 3 | 6.4 | |
| PD 6-01 | | R1/8 | 8 | 26 | 42 | | | | | 17 | 4.6 | 12.5 | |
| PD 6-02 | | R1/4 | 11 | 29 | 43 | | | | | 14 | | | 26 |
| PD 6-03 | R3/8 | 12 | 31 | 44.5 | 17 | 38.5 | | | | | | | |
| PD 8-01 | 8 | R1/8 | 8 | 28.5 | 46 | 15 | 18 | 22 | 14 | 22.5 | 6 | 20 | |
| PD 8-02 | | R1/4 | 11 | 31.5 | 47 | | | | | 28.5 | | | |
| PD 8-03 | | R3/8 | 12 | 33 | 48.5 | | | | | 17 | | | 41 |
| PD 10-02 | 10 | R1/4 | 11 | 36 | 56.5 | 17.5 | 20 | 25.5 | 17 | 41.5 | 8 | 35 | |
| PD 10-03 | | R3/8 | 12 | 37 | 56 | | | | | 50.5 | | | |
| PD 10-04 | | R1/2 | 15 | 40 | 57.5 | | | | | 72 | | | |
| PD 12-02 | 12 | R1/4 | 11 | 38 | 60 | 21 | 23.5 | 28 | 21 | 61 | 8 | 35 | |
| PD 12-03 | | R3/8 | 12 | 39 | 60.5 | | | | | 62.5 | 10 | 59 | |
| PD 12-04 | | R1/2 | 15 | 42 | 62 | | | | | 77.5 | | | |
| PD 16-03 | 16 | R3/8 | 12 | 47 | 74.5 | 25 | 24 | 33.5 | 22 | 89.5 | 11 | 79.5 | |
| PD 16-04 | | R1/2 | 15 | 51 | 76.5 | | | | | 99 | 13 | 92.8 | |
| PD 1/4-01 | 1/4 | R1/8 | 8 | 26 | 42 | 13 | 17 | 20 | 12 | 17.5 | 4.6 | 12.5 | |
| PD 1/4-02 | | R1/4 | 11 | 29 | 43 | | | | | 14 | | | 25.5 |
| PD 1/4-03 | | R3/8 | 12 | 31 | 44.5 | | | | | 17 | | | 39 |
| PD 5/16-01 | 5/16 | R1/8 | 8 | 28.5 | 46 | 15 | 18 | 22 | 14 | 22.5 | 6 | 20 | |
| PD 5/16-02 | | R1/4 | 11 | 31.5 | 47 | | | | | 28.5 | | | |
| PD 5/16-03 | | R3/8 | 12 | 33 | 48.5 | | | | | 17 | | | 41 |
| PD 3/8-02 | 3/8 | R1/4 | 11 | 36 | 56.5 | 17.5 | 20 | 25.5 | 17 | 42.5 | 8 | 35 | |
| PD 3/8-03 | | R3/8 | 12 | 37 | 56 | | | | | 51 | | | |
| PD 3/8-04 | | R1/2 | 15 | 40 | 57.5 | | | | | 72 | | | |



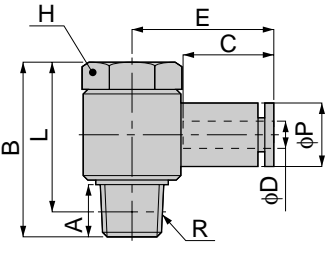
unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | φP | C | E | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|----------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PD 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.81 | 0.69 | 0.39 | 0.59 | 0.67 | 7/16 | 10.5 | 1.8 | 1.9 | 0.10 |
| PD 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.93 | 0.77 | 0.39 | 0.59 | 0.67 | 7/16 | 14.0 | 3.0 | 5.3 | 0.29 |
| PD 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.04 | 0.85 | 0.39 | 0.59 | 0.67 | 9/16 | 22.4 | 3.0 | 5.3 | 0.29 |
| PD 3/16-U10U | 3/16 | 10-32UNF | 0.14 | 0.91 | 0.79 | 0.45 | 0.67 | 0.81 | 1/2 | 16.3 | 1.8 | 1.9 | 0.10 |
| PD 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.02 | 0.87 | 0.45 | 0.67 | 0.81 | 1/2 | 18.5 | 4.0 | 6.0 | 0.33 |
| PD 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.14 | 0.91 | 0.45 | 0.67 | 0.81 | 9/16 | 26.1 | 4.0 | 5.6 | 0.30 |
| PD 3/16-N3U | 3/16 | 3/8 | 0.47 | 1.22 | 0.96 | 0.45 | 0.67 | 0.81 | 11/16 | 39.9 | 4.0 | 5.8 | 0.31 |
| PD 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.91 | 0.79 | 0.45 | 0.67 | 0.81 | 1/2 | 16.0 | 1.8 | 1.9 | 0.10 |
| PD 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.02 | 0.87 | 0.45 | 0.67 | 0.81 | 1/2 | 18.1 | 4.6 | 12.5 | 0.68 |
| PD 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.14 | 0.91 | 0.45 | 0.67 | 0.81 | 9/16 | 25.7 | 4.6 | 12.5 | 0.68 |
| PD 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.22 | 0.96 | 0.45 | 0.67 | 0.81 | 11/16 | 38.6 | 4.6 | 12.5 | 0.68 |
| PD 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.04 | 0.89 | 0.57 | 0.71 | 0.89 | 9/16 | 23.2 | 6.0 | 20.0 | 1.08 |
| PD 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.46 | 0.93 | 0.57 | 0.71 | 0.89 | 9/16 | 29.0 | 6.0 | 20.0 | 1.08 |
| PD 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.57 | 0.98 | 0.57 | 0.71 | 0.89 | 11/16 | 42.3 | 6.0 | 20.0 | 1.08 |
| PD 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.42 | 1.18 | 0.69 | 0.79 | 1.00 | 11/16 | 42.2 | 6.0 | 28.9 | 1.57 |
| PD 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.46 | 1.20 | 0.69 | 0.79 | 1.00 | 11/16 | 50.6 | 8.0 | 29.7 | 1.61 |
| PD 3/8-N4U | 3/8 | 1/2 | 0.59 | 1.57 | 1.26 | 0.69 | 0.79 | 1.00 | 7/8 | 73.5 | 8.0 | 28.5 | 1.54 |
| PD 1/2-N2U | 1/2 | 1/4 | 0.43 | 1.50 | 1.26 | 0.83 | 0.93 | 1.10 | 7/8 | 61.8 | 8.0 | 35.0 | 1.90 |
| PD 1/2-N3U | 1/2 | 3/8 | 0.47 | 1.54 | 1.28 | 0.83 | 0.93 | 1.10 | 7/8 | 62.7 | 10.0 | 59.0 | 3.20 |
| PD 1/2-N4U | 1/2 | 1/2 | 0.59 | 1.65 | 1.34 | 0.83 | 0.93 | 1.10 | 7/8 | 76.6 | 10.0 | 59.0 | 3.20 |



PH

Universal Elbow



Metric thread type



unit:mm

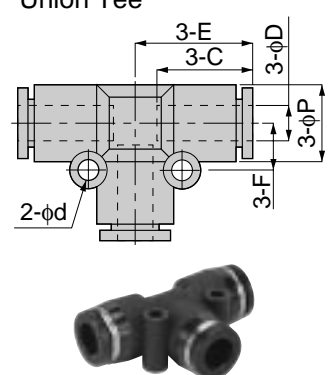
| Model | Tube dia. φD | R | A | B | L | φP | C | E | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) | | |
|------------|--------------|--------|----|------|------|------|------|------|-----|----------|---------------|----------------------------|-----|------|
| PH 4-M5 | 4 | M5×0.8 | 3 | 17 | 14 | 10 | 15 | 21.5 | 8 | 7.5 | 1.8 | 2 | | |
| PH 4-M6 | | M6×1 | 4 | 18 | 15 | | | 3 | 3.4 | | | | | |
| PH 4-01 | | R1/8 | 8 | 27 | 23 | | | 4 | 4.6 | | | | | |
| PH 6-M5 | 6 | M5×0.8 | 4 | 17 | 13 | 12.5 | 17 | 23.5 | 8 | 8.5 | 1.8 | 1.9 | | |
| PH 6-M6 | | M6×1 | 4 | 18 | 14 | | | | | 21 | 3 | 3.3 | | |
| PH 6-01 | | R1/8 | 8 | 27 | 23 | | | | | 24.5 | 14 | 35.5 | 4 | 10.9 |
| PH 6-02 | | R1/4 | 11 | 31.5 | 25.5 | | | | | 27 | 17 | 32.5 | 4.6 | 11.6 |
| PH 8-01 | 8 | R1/8 | 8 | 27 | 23 | 14.5 | 18 | 26.5 | 14 | 37 | 4 | 14.9 | | |
| PH 8-02 | | R1/4 | 11 | 31.5 | 25.5 | | | | | 28.5 | 17 | 59.5 | 5.1 | 19.7 |
| PH 8-03 | | R3/8 | 12 | 36 | 29.5 | | | | | 30.5 | 21 | 54.5 | 6 | 21.4 |
| PH 10-02 | 10 | R1/4 | 11 | 31.5 | 25.5 | 17.5 | 20 | 30.5 | 17 | 62.5 | 5.1 | 23.1 | | |
| PH 10-03 | | R3/8 | 12 | 36 | 29.5 | | | | | 32.5 | 21 | 66 | 6.6 | 31.5 |
| PH 12-03 | 12 | R3/8 | 12 | 36 | 29.5 | 21 | 23.5 | 35.5 | 21 | 97.5 | 6.6 | 39.7 | | |
| PH 12-04 | | R1/2 | 15 | 40 | 32 | | | | | 38.5 | 24 | 100 | 8 | 49.8 |
| PH 16-03 | 16 | R3/8 | 12 | 46 | 39.5 | 25 | 24 | 37 | 24 | 106 | 6.6 | 64.2 | | |
| PH 16-04 | | R1/2 | 15 | 48.5 | 40.5 | | | | | 21 | 8 | 62.1 | | |
| PH 1/4-01 | 1/4 | R1/8 | 8 | 27 | 23 | 12.5 | 17 | 24.5 | 14 | 35.5 | 4 | 10.9 | | |
| PH 1/4-02 | | R1/4 | 11 | 31.5 | 25.5 | | | | | 27 | 17 | 32.5 | 4.6 | 11.6 |
| PH 5/16-01 | 5/16 | R1/8 | 8 | 27 | 23 | 14.5 | 18 | 26 | 14 | 37 | 4 | 14.9 | | |
| PH 5/16-02 | | R1/4 | 11 | 31.5 | 25.5 | | | | | 28.5 | 17 | 59.5 | 5.1 | 19.7 |
| PH 5/16-03 | | R3/8 | 12 | 36 | 29.5 | | | | | 30 | 21 | 54.5 | 6 | 21.4 |
| PH 3/8-02 | 3/8 | R1/4 | 11 | 31.5 | 25.5 | 17.5 | 20 | 30.5 | 17 | 62.5 | 5.1 | 23.1 | | |
| PH 3/8-03 | | R3/8 | 12 | 36 | 29.5 | | | | | 32.5 | 21 | 66 | 6.6 | 31.5 |



unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | φP | C | E | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|----------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PH 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.67 | 0.22 | 0.39 | 0.59 | 0.85 | 5/16 | 7.3 | 1.8 | 2.0 | 0.11 |
| PH 5/32-N1U | 5/32 | 1/8 | 0.31 | 1.06 | 0.47 | 0.39 | 0.59 | 0.89 | 6/16 | 20.6 | 3.0 | 4.6 | 0.25 |
| PH 3/16-U10U | 3/16 | 10-32UNF | 0.18 | 0.67 | 0.22 | 0.49 | 0.67 | 0.93 | 5/16 | 8.3 | 1.8 | 1.9 | 0.10 |
| PH 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.06 | 0.47 | 0.49 | 0.67 | 0.94 | 9/16 | 21.6 | 4.0 | 5.9 | 0.32 |
| PH 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.24 | 0.53 | 0.49 | 0.67 | 1.06 | 11/16 | 36.5 | 4.0 | 6.7 | 0.36 |
| PH 1/4-U10U | 1/4 | 10-32UNF | 0.18 | 0.67 | 0.22 | 0.49 | 0.67 | 0.93 | 5/16 | 8.1 | 1.8 | 1.9 | 0.10 |
| PH 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.06 | 0.47 | 0.49 | 0.67 | 0.94 | 9/16 | 21.3 | 4.0 | 10.5 | 0.57 |
| PH 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.24 | 0.53 | 0.49 | 0.67 | 1.06 | 11/16 | 36.2 | 4.0 | 12.4 | 0.67 |
| PH 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.06 | 0.47 | 0.57 | 0.71 | 1.02 | 9/16 | 22.6 | 5.5 | 14.9 | 0.81 |
| PH 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.24 | 0.53 | 0.57 | 0.71 | 1.12 | 11/16 | 37.5 | 6.0 | 19.7 | 1.07 |
| PH 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.42 | 0.61 | 0.57 | 0.71 | 1.20 | 7/8 | 61.6 | 6.0 | 21.4 | 1.16 |
| PH 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.24 | 0.57 | 0.69 | 0.79 | 1.20 | 9/16 | 42.0 | 6.8 | 19.5 | 1.06 |
| PH 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.42 | 0.61 | 0.69 | 0.79 | 1.30 | 7/8 | 67.9 | 8.0 | 25.5 | 1.38 |
| PH 1/2-N3U | 1/2 | 3/8 | 0.47 | 1.42 | 0.61 | 0.83 | 0.93 | 1.38 | 7/8 | 67.0 | 9.2 | 39.7 | 2.15 |
| PH 1/2-N4U | 1/2 | 1/2 | 0.59 | 1.59 | 0.65 | 0.83 | 0.93 | 1.50 | 1 | 99.0 | 10.0 | 49.8 | 2.70 |

PE
Union Tee

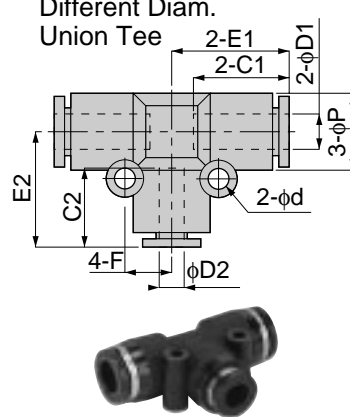


unit:mm

| Model | Tube dia. φD | φP | C | E | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|--------------|------|------|------|-----|----|----------|---------------|----------------------------|
| PE 4 | 4 | 10 | 15 | 17 | - | - | 7 | 3 | 5.3 |
| PE 6 | 6 | 13 | 17 | 20.5 | 3.2 | 8 | 10.5 | 5 | 12.5 |
| PE 8 | 8 | 15 | 18 | 22.5 | 3.2 | 9 | 15.5 | 7 | 20 |
| PE 10 | 10 | 18 | 20 | 25.5 | 4.2 | 12 | 25.5 | 9 | 35 |
| PE 12 | 12 | 21.5 | 23.5 | 28.5 | 4.2 | 14 | 36 | 10.7 | 59 |
| PE 16 | 16 | 25.5 | 24 | 33.5 | 4.2 | 12 | 43.5 | 13 | 89.8 |
| PE 1/4 | 1/4 | 13 | 17 | 20.5 | 3.2 | 8 | 10.5 | 4.6 | 12.5 |
| PE 5/16 | 5/16 | 15 | 18 | 22.5 | 3.2 | 9 | 15 | 6 | 20 |
| PE 3/8 | 3/8 | 18 | 20 | 25.5 | 4.2 | 12 | 25.5 | 8 | 35 |



PEG
Different Diam. Union Tee

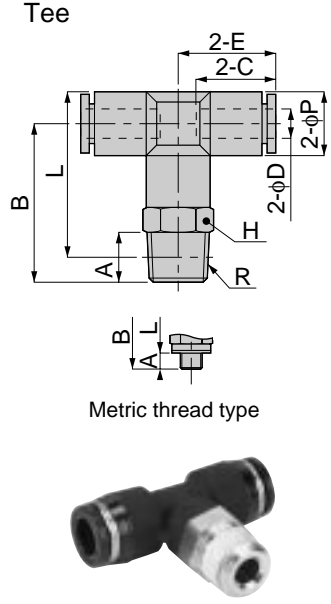


unit:mm

| Model | Tube dia. φD1 | Tube dia. φD2 | φP | C1 | C2 | E1 | E2 | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|---------------|---------------|------|------|------|------|------|-----|----|----------|---------------|----------------------------|
| PEG 6-4 | 6 | 4 | 13 | 17 | 15 | 20.5 | 19.5 | 3.2 | 8 | 11 | 3 | 4.1 |
| PEG 8-6 | 8 | 6 | 15 | 18.5 | 18.5 | 22.5 | 22.5 | 3.2 | 9 | 15 | 5 | 10.3 |
| PEG 10-8 | 10 | 8 | 17.5 | 20.5 | 20.5 | 25.5 | 25 | 4.2 | 12 | 24 | 7 | 19.6 |
| PEG 12-10 | 12 | 10 | 21 | 23.5 | 23.5 | 29.5 | 29.5 | 4.2 | 14 | 35 | 9 | 32.5 |

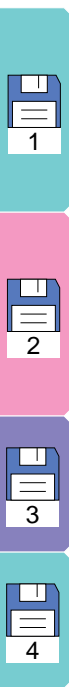


PB
Tee



unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | E | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) | | | |
|------------|--------------|--------|----|------|------|------|------|------|----|----------|---------------|----------------------------|------|----|--|
| PB 4-M5 | 4 | M5×0.8 | 3 | 20.5 | 22.5 | 10 | 15 | 17 | 10 | 11.5 | 1.8 | 1.5 | | | |
| PB 4-M6 | | M6×1 | 4 | 21.5 | | | | | | 14 | 3 | 4.1 | | | |
| PB 4-01 | | R1/8 | 8 | 23.5 | 24.5 | | | | | 14 | 24 | | | | |
| PB 4-02 | | R1/4 | 11 | 26.5 | 25.5 | | | | | | | | | | |
| PB 6-M5 | 6 | M5×0.8 | 3 | 22 | 25 | 13 | 17 | 20.5 | 12 | 15.5 | 1.8 | 1.5 | | | |
| PB 6-M6 | | M6×1 | 4 | 23 | | | | | | 16 | 3 | 6.8 | | | |
| PB 6-01 | | R1/8 | 8 | 26 | 28.5 | | | | | 14 | 25.5 | 4.6 | 10 | | |
| PB 6-02 | | R1/4 | 11 | 29 | 29.5 | | | | | 17 | 38.5 | | | | |
| PB 6-03 | R3/8 | 12 | 31 | 31 | | | | | | | | | | | |
| PB 8-01 | 8 | R1/8 | 8 | 26.5 | 30 | 15 | 18 | 22.5 | 14 | 22.5 | 6 | 16.5 | | | |
| PB 8-02 | | R1/4 | 11 | 29.5 | 31 | | | | | 17 | | | 41 | | |
| PB 8-03 | | R3/8 | 12 | 31.5 | 32.5 | | | | | | | | | | |
| PB 10-02 | 10 | R1/4 | 11 | 36 | 38.5 | 17.5 | 20 | 25.5 | 17 | 41.5 | 8 | 30 | | | |
| PB 10-03 | | R3/8 | 12 | 37 | 39 | | | | | 50.5 | | | | | |
| PB 10-04 | | R1/2 | 15 | 40 | 40.5 | | | | | 72.5 | | | | | |
| PB 12-02 | 12 | R1/4 | 11 | 38 | 42.5 | 21 | 23.5 | 28.5 | 21 | 61.5 | 8 | 30 | | | |
| PB 12-03 | | R3/8 | 12 | 39 | 43 | | | | | 61.5 | | | 10 | 47 | |
| PB 12-04 | | R1/2 | 15 | 42 | 44.5 | | | | | 77 | | | | | |
| PB 16-03 | 16 | R3/8 | 11 | 47 | 53 | 25 | 25 | 33.5 | 22 | 95 | 11 | 80.1 | | | |
| PB 16-04 | | R1/2 | 15 | 51 | 55.5 | | | | | 99 | 13 | 90.8 | | | |
| PB 1/4-01 | 1/4 | R1/8 | 8 | 26 | 28.5 | 13 | 17 | 20.5 | 12 | 17.5 | 4.6 | 10 | | | |
| PB 1/4-02 | | R1/4 | 11 | 29 | 29.5 | | | | | 14 | | | 25.5 | | |
| PB 1/4-03 | | R3/8 | 12 | 31 | 31 | | | | | 17 | | | 38.5 | | |
| PB 5/16-01 | 5/16 | R1/8 | 8 | 26.5 | 30 | 15 | 18 | 22.5 | 14 | 22.5 | 6 | 16.5 | | | |
| PB 5/16-02 | | R1/4 | 11 | 29.5 | 31 | | | | | 17 | | | 28 | | |
| PB 5/16-03 | | R3/8 | 12 | 31.5 | 32.5 | | | | | 17 | | | 41 | | |
| PB 3/8-02 | 3/8 | R1/4 | 11 | 36 | 38.5 | 17.5 | 20 | 25.5 | 17 | 41.5 | 8 | 30 | | | |
| PB 3/8-03 | | R3/8 | 12 | 37 | 39 | | | | | 51 | | | | | |
| PB 3/8-04 | | R1/2 | 15 | 40 | 40.5 | | | | | 72.5 | | | | | |

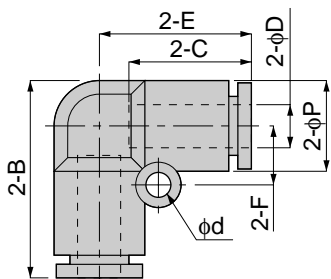


unit:inch

| MODEL | Tube dia. φD | NPT | A | B | L | C | E | φP | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|----------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PB 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.81 | 0.69 | 0.59 | 0.67 | 0.39 | 7/16 | 10.5 | 1.8 | 1.5 | 0.08 |
| PB 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.93 | 0.77 | 0.59 | 0.67 | 0.39 | 7/16 | 13.9 | 3.0 | 4.1 | 0.22 |
| PB 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.04 | 0.85 | 0.59 | 0.67 | 0.39 | 9/16 | 22.4 | 3.0 | 4.1 | 0.22 |
| PB 3/16-U10U | 3/16 | 10-32UNF | 0.14 | 0.91 | 0.79 | 0.67 | 0.81 | 0.45 | 1/2 | 16.1 | 1.8 | 1.5 | 0.08 |
| PB 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.02 | 0.87 | 0.67 | 0.81 | 0.45 | 1/2 | 18.2 | 4.0 | 6.2 | 0.34 |
| PB 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.14 | 0.91 | 0.67 | 0.81 | 0.45 | 9/16 | 25.8 | 4.0 | 6.0 | 0.33 |
| PB 3/16-N3U | 3/16 | 3/8 | 0.47 | 1.22 | 0.96 | 0.67 | 0.81 | 0.45 | 11/16 | 39.8 | 4.0 | 5.7 | 0.31 |
| PB 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.91 | 0.79 | 0.67 | 0.81 | 0.45 | 1/2 | 15.9 | 1.8 | 1.5 | 0.08 |
| PB 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.02 | 0.87 | 0.67 | 0.81 | 0.45 | 1/2 | 18.1 | 4.6 | 10.0 | 0.54 |
| PB 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.14 | 0.91 | 0.67 | 0.81 | 0.45 | 9/16 | 25.7 | 4.6 | 10.0 | 0.54 |
| PB 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.22 | 0.96 | 0.67 | 0.81 | 0.45 | 11/16 | 38.6 | 4.6 | 10.0 | 0.54 |
| PB 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.04 | 0.89 | 0.71 | 0.89 | 0.57 | 9/16 | 22.5 | 6.0 | 16.5 | 0.89 |
| PB 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.46 | 0.93 | 0.71 | 0.89 | 0.57 | 9/16 | 28.5 | 6.0 | 16.5 | 0.89 |
| PB 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.57 | 0.98 | 0.71 | 0.89 | 0.57 | 11/16 | 42.0 | 6.0 | 16.5 | 0.89 |
| PB 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.42 | 1.18 | 0.79 | 1.00 | 0.69 | 11/16 | 42.3 | 8.0 | 31.2 | 1.69 |
| PB 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.46 | 1.20 | 0.79 | 1.00 | 0.69 | 11/16 | 50.2 | 8.0 | 31.9 | 1.73 |
| PB 3/8-N4U | 3/8 | 1/2 | 0.59 | 1.57 | 1.26 | 0.79 | 1.00 | 0.69 | 7/8 | 73.5 | 8.0 | 28.8 | 1.56 |
| PB 1/2 N2U | 1/2 | 1/4 | 0.43 | 1.50 | 1.26 | 0.93 | 1.10 | 0.83 | 7/8 | 61.4 | 8.0 | 30.0 | 1.63 |
| PB 1/2 N3U | 1/2 | 3/8 | 0.47 | 1.54 | 1.28 | 0.93 | 1.10 | 0.83 | 7/8 | 62.1 | 10.0 | 47.0 | 2.55 |
| PB 1/2 N4U | 1/2 | 1/2 | 0.59 | 1.65 | 1.34 | 0.93 | 1.10 | 0.83 | 7/8 | 77.9 | 10.0 | 47.0 | 2.55 |

Tube Fitting Series Standard Type

PV
Union Elbow

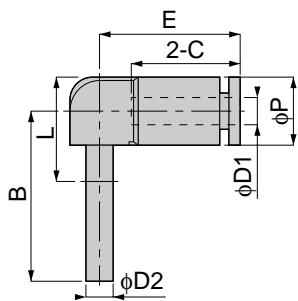


unit:mm

| Model | Tube dia. ϕD | B | ϕP | C | E | ϕd | F | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|---------|--------------------|------|----------|------|------|----------|----|----------|-----------------------|--------------------|
| PV 4 | 4 | 22 | 10 | 15 | 17 | - | - | 5 | 2.8 | 4.2 |
| PV 6 | 6 | 26.5 | 12.5 | 17 | 20.5 | 3.2 | 8 | 7.5 | 5 | 10 |
| PV 8 | 8 | 30 | 15 | 18 | 22.5 | 4.2 | 10 | 10 | 7 | 16.5 |
| PV 10 | 10 | 35 | 17.5 | 20 | 26.5 | 4.2 | 12 | 17 | 9 | 30 |
| PV 12 | 12 | 40 | 21 | 23.5 | 29.5 | 4.2 | 14 | 24.5 | 11 | 47 |
| PV 16 | 16 | 46 | 25 | 24 | 33.5 | 4.2 | 12 | 30 | 13 | 91.6 |
| PV 1/4 | 1/4 | 26.5 | 12.5 | 17 | 20.5 | 3.2 | 8 | 7.5 | 5 | 10 |
| PV 5/16 | 5/16 | 30 | 14.5 | 18 | 22.5 | 4.2 | 10 | 10.5 | 7 | 16.5 |
| PV 3/8 | 3/8 | 35 | 17.5 | 20 | 26.5 | 4.2 | 12 | 18 | 8 | 30 |



PLJ
Socket Elbow

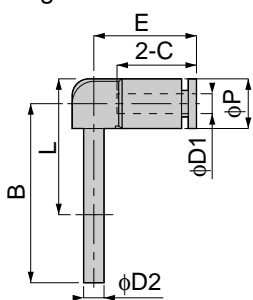


unit:mm

| Model | Tube dia. $\phi D1$ | $\phi D2$ | B | L | ϕP | C | E | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|----------|---------------------|-----------|------|------|----------|------|------|----------|-----------------------|--------------------|
| PLJ 4 | 4 | 4 | 25 | 15 | 10 | 15 | 20 | 3.5 | 2.5 | 2 |
| PLJ 6 | 6 | 6 | 28.5 | 17.5 | 12.5 | 17 | 23 | 5.5 | 4 | 7.5 |
| PLJ 8 | 8 | 8 | 30.5 | 19.5 | 14.5 | 18 | 26 | 8 | 6 | 16.5 |
| PLJ 10 | 10 | 10 | 33.5 | 22 | 17.5 | 20 | 30 | 12.5 | 7.5 | 30 |
| PLJ 12 | 12 | 12 | 39 | 25.5 | 21 | 23.5 | 32.5 | 17.5 | 9.5 | 42.5 |
| PLJ 1/4 | 1/4 | 1/4 | 28.5 | 17.5 | 12.5 | 17 | 23 | 5.5 | 4 | 7.5 |
| PLJ 5/16 | 5/16 | 5/16 | 30.5 | 19.5 | 14.5 | 18 | 26 | 8 | 6 | 16.5 |
| PLJ 3/8 | 3/8 | 3/8 | 33.5 | 22 | 17.5 | 20 | 30 | 12.5 | 7.5 | 30 |



PLLJ
Long Socket Elbow

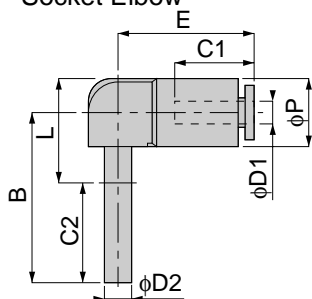


unit:mm

| Model | Tube dia. $\phi D1$ | $\phi D2$ | B | L | ϕP | C | E | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|-----------|---------------------|-----------|------|------|----------|------|------|----------|-----------------------|--------------------|
| PLLJ 4 | 4 | 4 | 36 | 26 | 10 | 15 | 20 | 4 | 4 | 2.5 |
| PLLJ 6 | 6 | 6 | 42 | 31 | 12.5 | 17 | 23 | 5.5 | 5.5 | 4 |
| PLLJ 8 | 8 | 8 | 46.5 | 35.5 | 15 | 18 | 25.5 | 8.5 | 6 | 6 |
| PLLJ 10 | 10 | 10 | 51.5 | 40 | 17.5 | 20 | 29.5 | 13.5 | 13.5 | 7.5 |
| PLLJ 12 | 12 | 12 | 59.5 | 40 | 21 | 23.5 | 32.5 | 19.5 | 19.5 | 9 |
| PLLJ 1/4 | 1/4 | 1/4 | 42 | 31 | 12.5 | 17 | 23 | 5.5 | 5.5 | 4 |
| PLLJ 5/16 | 5/16 | 5/16 | 46.5 | 35.5 | 14.5 | 18 | 25.5 | 8.5 | 8.5 | 6 |
| PLLJ 3/8 | 3/8 | 3/8 | 51.5 | 40 | 17.5 | 20 | 29.5 | 13.5 | 13.5 | 7.5 |



PLGJ
Differen Diam. Socket Elbow



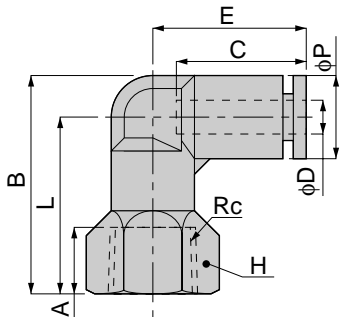
unit:mm

| Model | Tube dia. $\phi D1$ | $\phi D2$ | B | L | ϕP | C1 | C2 | E | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|---------------|---------------------|-----------|------|------|----------|----|------|------|----------|-----------------------|--------------------|
| PLGJ 6-4 | 4 | 6 | 28.5 | 17.5 | 12.5 | 15 | 17 | 22 | 5.5 | 2.5 | 4.6 |
| PLGJ 8-6 | 6 | 8 | 30.5 | 19.5 | 14.5 | 17 | 18 | 26 | 7 | 4 | 10.4 |
| PLGJ 10-8 | 8 | 10 | 33.5 | 22 | 17.5 | 18 | 20 | 29 | 11 | 6 | 17.4 |
| PLGJ 12-10 | 10 | 12 | 39 | 26 | 21 | 20 | 23.5 | 32.5 | 17 | 7.5 | 28 |
| PLGJ 5/16-1/4 | 1/4 | 5/16 | 30.5 | 19.5 | 14.5 | 17 | 18 | 26 | 7.5 | 4 | 12.8 |
| PLGJ 3/8-5/16 | 5/16 | 3/8 | 33.5 | 22 | 17.5 | 18 | 20 | 29 | 11 | 6 | 17.6 |



PLF

Female Elbow



unit:mm

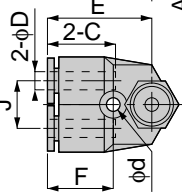
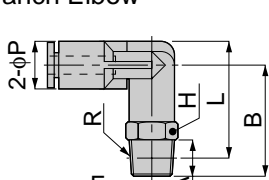
| Model | Tube dia. φD | Rc | A | B | L | φP | C | E | H | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) | | | |
|-----------|--------------|--------|------|------|------|------|------|----|------|----------|---------------|----------------------------|------|------|------|
| PLF 4-M5 | 4 | M5×0.8 | 5 | 23 | 18 | 10 | 15 | 18 | 10 | 9.5 | 3 | 3.7 | | | |
| PLF 4-M6 | | M6×1 | 6 | | 18.5 | | | | | | | | | | |
| PLF 4-01 | | Rc1/8 | 8 | 27.5 | 21.5 | | | | 14 | 14.5 | | 3.5 | | | |
| PLF 4-02 | | Rc1/4 | 11 | 30.5 | 24.5 | | | | | | | | | | |
| PLF 6-M5 | 6 | M5×0.8 | 5 | 24.5 | 18.5 | 12.5 | 16.5 | 20 | 12 | 12.5 | 4 | 5.5 | | | |
| PLF 6-M6 | | M6×1 | 6 | 25 | 19 | | | | | | | 14 | 15.5 | 4.6 | 6.4 |
| PLF 6-01 | | Rc1/8 | 8 | 28 | 22 | | | | 17 | 22 | | | | | 10.1 |
| PLF 6-02 | | Rc1/4 | 11 | 31 | 25 | | | | | | | | | | |
| PLF 6-03 | | Rc3/8 | 12 | 32 | 26 | | | | 14 | 19 | | | | | 6 |
| PLF 8-01 | | Rc1/8 | 8 | 32 | 25 | | | | | | | 17 | 25 | 17.7 | |
| PLF 8-02 | Rc1/4 | 11 | 35 | 28 | 21 | 30.5 | 18.1 | | | | | | | | |
| PLF 8-03 | Rc3/8 | 12 | 36 | 29 | | | | 19 | 38.5 | 8 | 22.7 | | | | |
| PLF 10-02 | Rc1/4 | 11 | 40.5 | 32 | 21 | 41 | 30 | | | | | | | | |
| PLF 10-03 | Rc3/8 | 12 | 41.5 | 33 | | | | | | | 24 | 51.5 | 30.6 | | |
| PLF 10-04 | Rc1/2 | 15 | 45.5 | 37 | | | | | | | | | | | |

unit:inch

| MODEL | Tube dia. φD | NPT(F) | A | B | φP | C | E | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|---------------|--------------|----------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PLF 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.75 | 0.39 | 0.59 | 0.67 | 7/16 | 9.0 | 1.8 | 3.7 | 0.20 |
| PLF 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.89 | 0.39 | 0.59 | 0.73 | 9/16 | 13.8 | 2.8 | 3.5 | 0.19 |
| PLF 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.00 | 0.39 | 0.59 | 0.73 | 11/16 | 20.7 | 2.8 | 3.5 | 0.19 |
| PLF 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.73 | 0.49 | 0.67 | 0.77 | 1/2 | 12.8 | 1.8 | 5.5 | 0.30 |
| PLF 1/4-N1U | 1/4 | 1/8 | 0.31 | 0.87 | 0.49 | 0.67 | 0.79 | 9/16 | 15.2 | 4.6 | 10.1 | 0.55 |
| PLF 1/4-N2U | 1/4 | 1/4 | 0.43 | 0.98 | 0.49 | 0.67 | 0.79 | 11/16 | 22.7 | 4.6 | 10.1 | 0.55 |
| PLF 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.20 | 0.49 | 0.67 | 0.79 | 7/8 | 34.0 | 4.6 | 10.0 | 0.54 |
| PLF 5/16-N1U | 5/16 | 1/8 | 0.31 | 0.98 | 0.57 | 0.71 | 0.91 | 9/16 | 18.7 | 6.0 | 17.6 | 0.95 |
| PLF 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.01 | 0.57 | 0.71 | 0.91 | 11/16 | 26.1 | 6.0 | 17.7 | 0.96 |
| PLF 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.14 | 0.57 | 0.71 | 0.91 | 7/8 | 36.1 | 6.0 | 18.1 | 0.98 |
| PLF 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.26 | 0.69 | 0.79 | 1.04 | 3/4 | 39.1 | 8.0 | 28.0 | 1.52 |
| PLF 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.30 | 0.69 | 0.79 | 1.04 | 7/8 | 44.7 | 8.0 | 29.0 | 1.57 |
| PLF 3/8-N4U | 3/8 | 1/2 | 0.59 | 1.46 | 0.69 | 0.79 | 1.04 | 1 | 60.9 | 8.0 | 27.2 | 1.47 |

PAX

Branch Elbow



Metric thread type

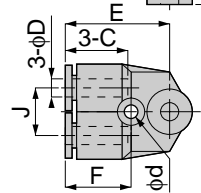
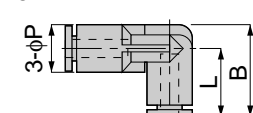


unit:mm

| Model | Tube dia. φD | R | A | B | L | φP | C | J | E | H | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|--------------|--------|----|------|------|------|------|------|------|------|-----|------|----------|---------------|----------------------------|
| PAX 4-M5 | 4 | M5×0.8 | 3 | 21.5 | 23.5 | 10 | 15 | 11 | 23 | 10 | 3.2 | 14.5 | 12.5 | 3 | 2.2 |
| PAX 4-M6 | | M6×1 | 4 | 22.5 | | | | | | | | | | | |
| PAX 4-01 | | R1/8 | 8 | 24.5 | 25.5 | | | | | 14 | | 15.5 | 2.7 | | |
| PAX 4-02 | | R1/4 | 11 | 27.5 | 26.5 | | | | | | | | | | 2.5 |
| PAX 6-M5 | 6 | M5×0.8 | 3 | 25 | 28 | 12.5 | 17 | 12 | 26.5 | 12 | 4.2 | 15.5 | 17 | 4.6 | 2.2 |
| PAX 6-M6 | | M6×1 | 4 | 26 | | | | | | | | | | | |
| PAX 6-01 | | R1/8 | 8 | 28 | 30 | | | | | 14 | | 18.5 | 6.9 | | |
| PAX 6-02 | | R1/4 | 11 | 31 | 31 | | | | | | | | | | 17 |
| PAX 6-03 | | R3/8 | 12 | 33 | 32.5 | | | | | 17 | | 39.5 | 6.8 | | |
| PAX 8-01 | | R1/8 | 8 | 31 | 34 | | | | | | | | | | 14 |
| PAX 8-02 | R1/4 | 11 | 34 | 35 | 17 | 30.5 | 6 | 14.5 | | | | | | | |
| PAX 8-03 | R3/8 | 12 | 36 | 36.5 | | | | 17 | 44 | 15 | | | | | |
| PAX 10-02 | R1/4 | 11 | 37 | 40 | 17 | 45 | 26.1 | | | | | | | | |
| PAX 10-03 | R3/8 | 12 | 38 | 40.5 | | | | | | | 21 | 53.5 | 8 | 27.2 | |
| PAX 10-04 | R1/2 | 15 | 41 | 42 | 21 | 75.5 | 29.9 | | | | | | | | |
| PAX 12-02 | R1/4 | 11 | 41 | 45.5 | | | | 17 | 66 | 38.2 | | | | | |
| PAX 12-03 | R3/8 | 12 | 42 | 46 | | | | | | | 21 | 67 | 10 | 43.1 | |
| PAX 12-04 | R1/2 | 15 | 45 | 47.5 | 21 | 83 | 42.1 | | | | | | | | |

PAU

Union A



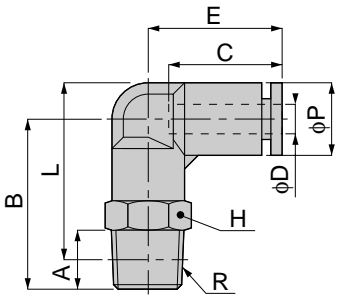
unit:mm

| Model | Tube dia. φD | B | L | φP | C | J | E | φd | F | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|--------|--------------|------|------|------|------|----|------|-----|------|----------|---------------|----------------------------|
| PAU 4 | 4 | 22 | 17 | 10 | 15 | 11 | 23 | 3.2 | 14.5 | 8 | 3 | 2.5 |
| PAU 6 | 6 | 26 | 20 | 12.5 | 17 | 12 | 26.5 | 4.2 | 15.5 | 11.5 | 4.6 | 7.2 |
| PAU 8 | 8 | 30 | 23 | 14.5 | 18 | 14 | 29.5 | 4.2 | 17 | 16.5 | 6 | 16.3 |
| PAU 10 | 10 | 34.5 | 25.5 | 18 | 20 | 18 | 33.5 | 4.2 | 19 | 27 | 8 | 27.9 |
| PAU 12 | 12 | 40 | 29.5 | 21.5 | 23.5 | 20 | 35.5 | 4.2 | 20.5 | 39 | 10 | 40 |





Elbow



Metric thread type



unit:mm

| Model | Tube dia. ϕD | R | A | B | L | ϕP | C | E | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm ²) | | |
|------------|--------------|--------|------|------|------|------|------|------|------|----------|---------------|----------------------------|------|------|
| PL 4-M5 | 4 | M5×0.8 | 3 | 20.5 | 22.5 | 10 | 15 | 18 | 10 | 9 | 1.8 | 1.5 | | |
| PL 4-M6 | | M6×1 | 4 | 21.5 | | | | | | 9.5 | 3 | 4.2 | | |
| PL 4-01 | | R1/8 | 8 | 23.5 | | | | | | 12 | | | | |
| PL 4-02 | | R1/4 | 11 | 26.5 | | | | | | 24.5 | 14 | 21 | | |
| PL 6-M5 | 6 | M5×0.8 | 3 | 22 | 25 | 12.5 | 17 | 20 | 12 | 12 | 1.8 | 1.5 | | |
| PL 6-M6 | | M6×1 | 4 | 23 | | | | | | 12.5 | 3 | 6.1 | | |
| PL 6-01 | | R1/8 | 8 | 25 | | | | | | 27 | 14 | 22 | 4.6 | 10 |
| PL 6-02 | | R1/4 | 11 | 28 | | | | | | 28 | 17 | 35 | | |
| PL 6-03 | R3/8 | 12 | 30 | 29.5 | 17 | 35 | | | | | | | | |
| PL 8-01 | 8 | R1/8 | 8 | 28 | 31 | 14.5 | 18 | 23 | 14 | 18 | 6 | 16.5 | | |
| PL 8-02 | | R1/4 | 11 | 31 | 32 | | | | | 24 | | | | |
| PL 8-03 | | R3/8 | 12 | 38 | 38.5 | | | | | 17 | 37 | | | |
| PL 10-01 | | R1/8 | 8 | 33 | 37.5 | | | | | 17.5 | 20.5 | 26.5 | 17 | 31 |
| PL 10-02 | R1/4 | 11 | 36 | 38.5 | 34 | 8 | 30 | | | | | | | |
| PL 10-03 | R3/8 | 12 | 37 | 39 | 42 | | | | | | | | | |
| PL 10-04 | R1/2 | 15 | 40 | 40.5 | 21 | 64 | | | | | | | | |
| PL 12-02 | 12 | R1/4 | 11 | 38 | 42.5 | 21 | 23.5 | 29.5 | 21 | 50.5 | 8 | 30 | | |
| PL 12-03 | | R3/8 | 12 | 39 | 43 | | | | | 51.5 | 10 | 47 | | |
| PL 12-04 | | R1/2 | 15 | 42 | 44.5 | | | | | 66 | | | | |
| PL 16-03 | | R3/8 | 11 | 47 | 53 | | | | | 25 | 24 | 33 | 22 | 80.5 |
| PL 16-04 | R1/2 | 15 | 51 | 55.5 | 84.5 | 13 | 93.3 | | | | | | | |
| PL 1/4-01 | 1/4 | R1/8 | 8 | 25 | 27 | 12.5 | 17 | 20 | 12 | 14 | 4.6 | 10 | | |
| PL 1/4-02 | | R1/4 | 11 | 28 | 28 | | | | 14 | 22 | | | | |
| PL 1/4-03 | | R3/8 | 12 | 30 | 29.5 | | | | 17 | 35 | | | | |
| PL 5/16-01 | 5/16 | R1/8 | 8 | 28 | 31 | 14.5 | 18 | 23 | 14 | 18 | 6 | 16.5 | | |
| PL 5/16-02 | | R1/4 | 11 | 31 | 32 | | | | | 24 | | | | |
| PL 5/16-03 | | R3/8 | 12 | 33 | 33.5 | | | | | 17 | 37 | | | |
| PL 3/8-02 | | 3/8 | R1/4 | 11 | 36 | | | | | 39 | 17.5 | 20 | 26.5 | 17 |
| PL 3/8-03 | R3/8 | | 12 | 37 | 40.5 | 42 | | | | | | | | |
| PL 3/8-04 | R1/2 | | 15 | 40 | 40.5 | 21 | 64 | | | | | | | |
| PL 1/2-02 | 1/2 | | R1/4 | 11 | 38 | 42.5 | 21 | 23.5 | 29.5 | 21 | | | | |
| PL 1/2-03 | | R3/8 | 12 | 39 | 43 | 52 | | | | | 10 | 47 | | |
| PL 1/2-04 | | R1/2 | 15 | 42 | 44.5 | 67.5 | | | | | | | | |
| PL 5/8-03 | 5/8 | R3/8 | 12 | 47 | 53 | 25 | 24 | 33.5 | 22 | 82 | 13 | 80.2 | | |
| PL 5/8-04 | | R1/2 | 15 | 51 | 55.5 | | | | | 85.5 | | | 93.3 | |

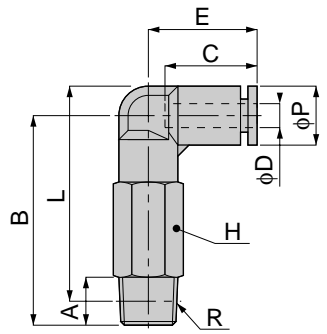
※1/2 and 5/8 are order production.

unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | L | ϕP | C | E | H | Weight (g) | Orifice ϕMM | Eff.a. mm ² | Cv |
|--------------|--------------|-----------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PL 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.85 | 0.75 | 0.39 | 0.59 | 0.67 | 7/16 | 8.3 | 1.8 | 1.5 | 0.08 |
| PL 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.93 | 0.77 | 0.39 | 0.59 | 0.73 | 7/16 | 11.7 | 2.8 | 4.2 | 0.23 |
| PL 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.04 | 0.81 | 0.39 | 0.59 | 0.73 | 9/16 | 20.2 | 2.8 | 4.2 | 0.23 |
| PL 3/16-U10U | 3/16 | 10-32UNF | 0.14 | 0.87 | 0.75 | 0.45 | 0.67 | 0.77 | 1/2 | 12.7 | 1.8 | 1.5 | 0.08 |
| PL 3/16-N1U | 3/16 | 1/8 | 0.31 | 0.98 | 0.83 | 0.45 | 0.67 | 0.79 | 1/2 | 14.8 | 3.5 | 5.8 | 0.31 |
| PL 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.10 | 0.87 | 0.45 | 0.67 | 0.79 | 9/16 | 22.6 | 3.5 | 5.8 | 0.31 |
| PL 3/16-N3U | 3/16 | 3/8 | 0.47 | 1.18 | 0.93 | 0.45 | 0.67 | 0.79 | 11/16 | 36.3 | 3.5 | 5.8 | 0.31 |
| PL 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.87 | 0.75 | 0.45 | 0.67 | 0.77 | 1/2 | 12.5 | 1.8 | 1.5 | 0.08 |
| PL 1/4-N1U | 1/4 | 1/8 | 0.31 | 0.98 | 0.83 | 0.45 | 0.67 | 0.79 | 1/2 | 14.6 | 4.6 | 10.0 | 0.54 |
| PL 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.10 | 0.87 | 0.45 | 0.67 | 0.79 | 9/16 | 22.4 | 4.6 | 10.0 | 0.54 |
| PL 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.18 | 0.93 | 0.45 | 0.67 | 0.79 | 11/16 | 35.9 | 4.6 | 10.0 | 0.54 |
| PL 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.10 | 0.94 | 0.57 | 0.71 | 0.91 | 9/16 | 18.4 | 6.0 | 16.5 | 0.89 |
| PL 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.22 | 0.98 | 0.57 | 0.71 | 0.91 | 9/16 | 24.2 | 6.0 | 16.5 | 0.89 |
| PL 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.30 | 1.04 | 0.57 | 0.71 | 0.91 | 11/16 | 37.8 | 6.0 | 16.5 | 0.89 |
| PL 3/8-N1U | 3/8 | 1/8 | 0.31 | 1.42 | 1.18 | 0.69 | 0.79 | 1.04 | 9/16 | 31.7 | 6.0 | 22.4 | 1.21 |
| PL 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.46 | 1.20 | 0.69 | 0.79 | 1.04 | 11/16 | 34.5 | 8.0 | 30.0 | 1.63 |
| PL 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.57 | 1.26 | 0.69 | 0.79 | 1.04 | 11/16 | 42.9 | 8.0 | 30.0 | 1.63 |
| PL 3/8-N4U | 3/8 | 1/2 | 0.59 | 1.48 | 1.26 | 0.69 | 0.79 | 1.04 | 7/8 | 65.6 | 8.0 | 30.0 | 1.63 |
| PL 1/2-N2U | 1/2 | 1/4 | 0.43 | 1.54 | 1.30 | 0.83 | 0.93 | 1.16 | 7/8 | 51.1 | 8.0 | 30.0 | 1.63 |
| PL 1/2-N3U | 1/2 | 3/8 | 0.47 | 1.54 | 1.28 | 0.83 | 0.93 | 1.16 | 7/8 | 52.6 | 10.0 | 47.0 | 2.55 |
| PL 1/2-N4U | 1/2 | 1/2 | 0.59 | 1.65 | 1.34 | 0.83 | 0.93 | 1.16 | 7/8 | 67.9 | 10.0 | 47.0 | 2.55 |
| PL 5/8-N3U | 5/8 | 3/8-18NPT | 0.43 | 1.85 | 1.59 | 0.98 | 0.95 | 1.31 | 1.0 | 90.0 | 11.0 | 80.2 | 4.35 |
| PL 5/8-N4U | 5/8 | 1/2-14NPT | 0.59 | 2.01 | 1.69 | 0.98 | 0.95 | 1.31 | 1.0 | 93.3 | 13.0 | 93.3 | 5.06 |



Long Elbow



Metric thread type



unit:mm

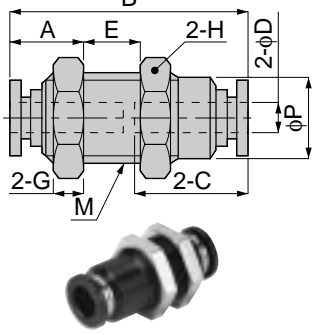
| Model | Tube dia. ϕD | R | A | B | L | ϕP | C | E | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm ²) |
|-------------|--------------|--------|------|------|------|------|-----|------|------|----------|---------------|----------------------------|
| PLL 4-M5 | 4 | M5×0.8 | 3 | 32.5 | 35 | 10 | 15 | 18 | 10 | 17.5 | 1.8 | 1.5 |
| PLL 4-01 | | R1/8 | 8 | 35.5 | 36.5 | | | | | 18 | 3 | 4.2 |
| PLL 6-01 | 6 | R1/8 | 8 | 38 | 40 | 12.5 | 17 | 20 | 12 | 26 | 4.6 | 10 |
| PLL 6-02 | | R1/4 | 11 | 41 | 41 | | | | | 14 | | |
| PLL 6-03 | | R3/8 | 12 | 43.5 | 43 | | | | | 17 | 61 | 9.5 |
| PLL 8-01 | 8 | R1/8 | 8 | 43.5 | 46.5 | 14.5 | 18 | 23 | 14 | 36.5 | 6 | 16.5 |
| PLL 8-02 | | R1/4 | 11 | 46.5 | 47.5 | | | | | 42.5 | | |
| PLL 8-03 | | R3/8 | 12 | 48.5 | 49 | | | | | 17 | 65.5 | 17.8 |
| PLL 10-02 | | 10 | R1/4 | 11 | 54.5 | | | | | 57 | 17.5 | 20 |
| PLL 10-03 | R3/8 | | 12 | 55.5 | 57.5 | 73 | | | | | | |
| PLL 10-04 | R1/2 | | 15 | 60 | 60.5 | 21 | 120 | 32.1 | | | | |
| PLL 12-02 | 12 | | R1/4 | 11 | 60 | 64.5 | 21 | 23.5 | 29.5 | 21 | | |
| PLL 12-03 | | R3/8 | 12 | 61 | 65 | 107 | | | | | 10 | 44 |
| PLL 12-04 | | R1/2 | 15 | 64 | 66.5 | 122 | | | | | 54.2 | |
| PLL 1/4-01 | 1/4 | R1/8 | 8 | 38 | 40 | 12.5 | 17 | 20 | 12 | 26 | 4.6 | 10 |
| PLL 1/4-02 | | R1/4 | 11 | 41 | 41 | | | | 14 | 39 | | |
| PLL 5/16-01 | 5/16 | R1/8 | 8 | 43.5 | 46.5 | 14.5 | 18 | 23 | 14 | 36.5 | 6 | 16.5 |
| PLL 5/16-02 | | R1/4 | 11 | 46.5 | 47.5 | | | | | 42.5 | | |
| PLL 3/8-02 | 3/8 | R1/4 | 11 | 54.5 | 57 | 17.5 | 20 | 26.5 | 17 | 65.5 | 8 | 30 |
| PLL 3/8-03 | | R3/8 | 12 | 55.5 | 57.5 | | | | | 73.5 | | |

unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | L | ϕP | C | E | H | Weight (g) | Orifice ϕMM | Eff.a. mm ² | Cv |
|---------------|--------------|----------|------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PLL 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 1.28 | 1.16 | 0.39 | 0.59 | 0.67 | 7/16 | 18.2 | 1.8 | 1.5 | 0.08 |
| PLL 5/32-N1U | 5/32 | 1/8 | 0.31 | 1.46 | 1.28 | 0.39 | 0.59 | 0.73 | 7/16 | 19.2 | 2.8 | 4.2 | 0.23 |
| PLL 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.50 | 1.34 | 0.45 | 0.67 | 0.79 | 1/2 | 28.4 | 3.5 | 5.6 | 0.30 |
| PLL 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.61 | 1.38 | 0.45 | 0.67 | 0.79 | 9/16 | 39.3 | 3.5 | 5.5 | 0.30 |
| PLL 3/16-N3U | 3/16 | 3/8 | 0.47 | 1.71 | 1.46 | 0.45 | 0.67 | 0.79 | 11/16 | 64.2 | 3.5 | 5.4 | 0.29 |
| PLL 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.50 | 1.34 | 0.45 | 0.67 | 0.79 | 1/2 | 28.1 | 4.6 | 10.0 | 0.54 |
| PLL 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.61 | 1.38 | 0.45 | 0.67 | 0.79 | 9/16 | 39.1 | 4.6 | 10.0 | 0.54 |
| PLL 1/4-N3U | 1/4 | 3/8 | 0.47 | 1.71 | 1.46 | 0.45 | 0.67 | 0.79 | 11/16 | 64.0 | 4.6 | 9.5 | 0.51 |
| PLL 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.71 | 1.56 | 0.57 | 0.71 | 0.91 | 9/16 | 36.6 | 6.0 | 16.5 | 0.89 |
| PLL 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.81 | 1.59 | 0.57 | 0.71 | 0.91 | 9/16 | 42.5 | 6.0 | 16.5 | 0.89 |
| PLL 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.91 | 1.65 | 0.57 | 0.71 | 0.91 | 11/16 | 68.4 | 6.0 | 17.8 | 0.96 |
| PLL 3/8-N2U | 3/8 | 1/4 | 0.43 | 2.15 | 1.91 | 0.69 | 0.79 | 1.04 | 11/16 | 67.5 | 8.0 | 30.0 | 1.63 |
| PLL 3/8-N3U | 3/8 | 3/8 | 0.47 | 2.19 | 1.93 | 0.69 | 0.79 | 1.04 | 11/16 | 76.1 | 8.0 | 30.0 | 1.63 |
| PLL 3/8-N4U | 3/8 | 1/2 | 0.59 | 2.36 | 2.05 | 0.69 | 0.79 | 1.04 | 7/8 | 128.7 | 8.0 | 32.1 | 1.74 |
| PLL 1/2-N2U | 1/2 | 1/4 | 0.43 | 2.36 | 2.13 | 0.83 | 0.93 | 1.16 | 7/8 | 119.2 | 8.0 | 39.1 | 2.12 |
| PLL 1/2-N3U | 1/2 | 3/8 | 0.47 | 2.40 | 2.15 | 0.83 | 0.93 | 1.16 | 7/8 | 115.8 | 10.0 | 44.0 | 2.38 |
| PLL 1/2-N4U | 1/2 | 1/2 | 0.59 | 2.52 | 2.20 | 0.83 | 0.93 | 1.16 | 7/8 | 130.3 | 10.0 | 54.2 | 2.94 |

PM

Bulkhead Union



unit:mm

| Model | Tube dia. φD | M | A | B | φP | C | E | H | G | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|--------------|-------|------|------|------|------|----|----|---|----------|---------------|----------------------------|
| PM 4 | 4 | M12×1 | 9.5 | 31.5 | 11 | 15 | 7 | 14 | 4 | 10.5 | 3 | 5.3 |
| PM 6 | 6 | M14×1 | 10 | 35.5 | 12.5 | 17 | 10 | 17 | 4 | 16 | 4.6 | 12.5 |
| PM 8 | 8 | M16×1 | 10.5 | 38 | 14.5 | 18 | 9 | 19 | 4 | 19.5 | 6 | 20 |
| PM 10 | 10 | M20×1 | 11.5 | 43 | 18.5 | 20 | 13 | 24 | 5 | 37.5 | 8 | 35 |
| PM 12 | 12 | M22×1 | 12.5 | 48 | 20.5 | 23.5 | 18 | 27 | 6 | 56 | 11 | 71 |
| PM 1/4 | 1/4 | M14×1 | 9.5 | 35 | 12.5 | 17 | 10 | 17 | 4 | 15.5 | 4.6 | 12.5 |
| PM 5/16 | 5/16 | M16×1 | 10 | 37.5 | 14.5 | 18 | 9 | 19 | 4 | 19.5 | 6 | 20 |
| PM 3/8 | 3/8 | M20×1 | 11 | 43 | 18.5 | 20 | 13 | 24 | 5 | 38 | 8 | 35 |



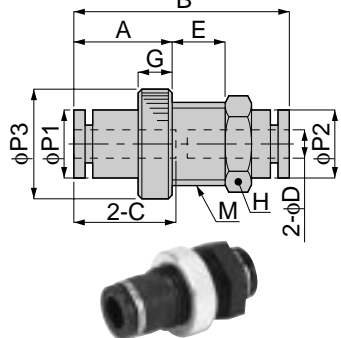
1

unit:inch

| MODEL | Tube dia. φD | M(UNF) | A | B | φP | C | E | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|----------|--------------|---------|------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PM 5/32U | 5/32 | 1/2-20 | 0.37 | 1.22 | 0.43 | 0.59 | 0.28 | 9/16 | 11.3 | 3.0 | 5.3 | 0.29 |
| PM 3/16U | 3/16 | 9/16-18 | 0.39 | 1.38 | 0.49 | 0.67 | 0.39 | 11/16 | 19.7 | 4.0 | 6.1 | 0.33 |
| PM 1/4U | 1/4 | 9/16-18 | 0.39 | 1.38 | 0.49 | 0.67 | 0.39 | 11/16 | 19.3 | 4.6 | 12.5 | 0.68 |
| PM 5/16U | 5/16 | 5/8-18 | 0.41 | 1.48 | 0.56 | 0.71 | 0.35 | 3/4 | 22.9 | 6.0 | 20.0 | 1.08 |
| PM 3/8U | 3/8 | 7/8-14 | 0.45 | 1.69 | 0.73 | 0.79 | 0.51 | 1 | 48.5 | 8.0 | 29.4 | 1.59 |
| PM 1/2U | 1/2 | 7/8-14 | 0.49 | 1.85 | 0.80 | 0.93 | 0.71 | 1 | 50.1 | 11.0 | 71.0 | 3.85 |

PMP

Bulkhead Union P



unit:mm

| Model | Tube dia. φD | M | A | B | φP1 | φP2 | φP3 | C | E | H | G | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|--------------|---------|------|------|------|------|------|------|----|----|---|----------|---------------|----------------------------|
| PMP 4 | 4 | M12×1.5 | 14 | 32 | 10.5 | 10 | 16 | 15 | 8 | 14 | 5 | 7 | 3 | 4.2 |
| PMP 6 | 6 | M14×1.5 | 15 | 36 | 13 | 12.5 | 19 | 17 | 11 | 17 | 5 | 9.5 | 5 | 10.7 |
| PMP 8 | 8 | M16×1.5 | 17 | 39 | 15 | 14.5 | 22 | 18 | 11 | 19 | 6 | 13.5 | 7 | 19.1 |
| PMP 10 | 10 | M20×2 | 17.5 | 43.5 | 18 | 17.5 | 27.5 | 20 | 13 | 24 | 6 | 23 | 8 | 39.6 |
| PMP 12 | 12 | M24×2 | 20 | 49 | 21.5 | 21 | 31 | 23.5 | 16 | 27 | 6 | 31 | 11 | 47.6 |
| PMP 1/4 | 1/4 | M14×1.5 | 15 | 36 | 12.5 | 12.5 | 19 | 17 | 11 | 17 | 5 | 9.5 | 5 | 13.2 |
| PMP 5/16 | 5/16 | M16×1.5 | 17 | 39 | 14.5 | 14.5 | 22 | 18 | 11 | 19 | 6 | 13.5 | 7 | 19.2 |
| PMP 3/8 | 3/8 | M20×2 | 17.5 | 43.5 | 17.5 | 17.5 | 27.5 | 20 | 13 | 24 | 6 | 23 | 8 | 32.5 |

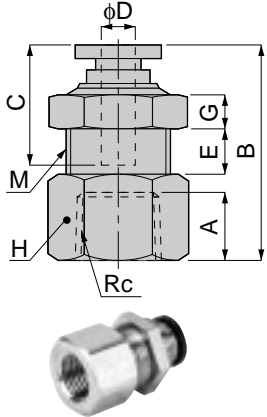


1

unit:mm

PMF

Bulkhead Female Straight



unit:mm

| Model | Tube dia. φD | Rc | M | A | B | C | E | H | G | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-----------|--------------|-------|-------|----|------|------|------|----|---|----------|---------------|----------------------------|
| PMF 4-01 | 4 | Rc1/8 | M12×1 | 8 | 24.5 | 15 | 5.5 | 14 | 4 | 18.5 | 3 | 5.8 |
| PMF 6-01 | 6 | Rc1/8 | M14×1 | 8 | 27.5 | 17 | 7.5 | 17 | 4 | 29.5 | 6 | 13.8 |
| PMF 6-02 | | Rc1/4 | | 11 | 30.5 | | | | | | | 12.7 |
| PMF 8-01 | 8 | Rc1/8 | M16×1 | 8 | 29 | 18 | 11 | 19 | 4 | 40.5 | 8 | 22.5 |
| PMF 8-02 | | Rc1/4 | | 11 | 32 | | | | | | | 23.4 |
| PMF 8-03 | | Rc3/8 | | 12 | 33 | | | | | | | 22.3 |
| PMF 10-02 | 10 | Rc1/4 | M20×1 | 11 | 35 | 20 | 9.5 | 24 | 5 | 77.5 | 10 | 41.1 |
| PMF 10-03 | | Rc3/8 | | 12 | 36 | | | | | | | 40 |
| PMF 12-03 | 12 | Rc3/8 | M22×1 | 12 | 39 | 23.5 | 11.5 | 24 | 6 | 85 | 12 | 70.3 |
| PMF 12-04 | | Rc1/2 | | 15 | 42 | | | | | | | 70.1 |



1



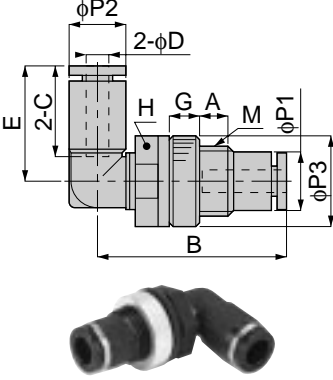
2

unit:inch

| MODEL | Tube dia. φD | NPT | M(UNF) | A | B | C | E | H | Weight (g) | Orifice φMM | Eff.a. mm ² | Cv |
|--------------|--------------|-----|---------|------|------|------|------|-------|------------|-------------|------------------------|------|
| PMF 5/32-N1U | 5/32 | 1/8 | 1/2-20 | 0.31 | 0.98 | 0.59 | 0.22 | 9/16 | 18.8 | 3.0 | 5.8 | 0.31 |
| PMF 3/16-N1U | 3/16 | 1/8 | 9/16-18 | 0.31 | 1.08 | 0.67 | 0.30 | 11/16 | 32.3 | 4.6 | 6.4 | 0.35 |
| PMF 3/16-N2U | 3/16 | 1/4 | 9/16-18 | 0.43 | 1.20 | 0.67 | 0.30 | 11/16 | 32.7 | 4.6 | 6.0 | 0.33 |
| PMF 1/4-N1U | 1/4 | 1/8 | 9/16-18 | 0.31 | 1.08 | 0.67 | 0.30 | 11/16 | 31.0 | 4.6 | 13.8 | 0.75 |
| PMF 1/4-N2U | 1/4 | 1/4 | 9/16-18 | 0.43 | 1.20 | 0.67 | 0.30 | 11/16 | 30.2 | 4.6 | 12.7 | 0.69 |
| PMF 5/16-N1U | 5/16 | 1/8 | 5/8-18 | 0.31 | 1.14 | 0.71 | 0.43 | 3/4 | 39.3 | 6.0 | 22.5 | 1.22 |
| PMF 5/16-N2U | 5/16 | 1/4 | 5/8-18 | 0.43 | 1.26 | 0.71 | 0.43 | 3/4 | 40.2 | 6.0 | 23.4 | 1.27 |
| PMF 5/16-N3U | 5/16 | 3/8 | 5/8-18 | 0.47 | 1.30 | 0.71 | 0.43 | 3/4 | 34.9 | 6.0 | 22.3 | 1.21 |
| PMF 3/8-N2U | 3/8 | 1/4 | 7/8-14 | 0.43 | 1.38 | 0.79 | 0.37 | 1 | 92.4 | 8.5 | 32.0 | 1.73 |
| PMF 3/8-N3U | 3/8 | 3/8 | 7/8-14 | 0.47 | 1.42 | 0.79 | 0.37 | 1 | 89.3 | 8.5 | 32.7 | 1.77 |
| PMF 1/2-N3U | 1/2 | 3/8 | 7/8-14 | 0.47 | 1.54 | 0.93 | 0.45 | 1 | 86.3 | 11.0 | 70.3 | 3.81 |
| PMF 1/2-N4U | 1/2 | 1/2 | 7/8-14 | 0.59 | 1.65 | 0.93 | 0.45 | 1 | 82.3 | 11.0 | 70.1 | 3.80 |

PML

Bulkhead Union Elbow



unit:mm

| Model | Tube dia. φD | M | A | B | φP1 | φP2 | φP3 | C | E | H | G | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|----------|--------------|---------|----|----|------|------|------|------|------|----|---|----------|---------------|----------------------------|
| PML 4 | 4 | M12×1.5 | 6 | 33 | 10 | 10 | 16 | 15 | 20 | 14 | 5 | 9.5 | 2.9 | 3.4 |
| PML 6 | 6 | M14×1.5 | 9 | 38 | 12.5 | 12.5 | 19 | 17 | 23 | 17 | 5 | 14 | 3.5 | 9.4 |
| PML 8 | 8 | M16×1.5 | 9 | 42 | 14.5 | 14.5 | 22 | 18 | 24 | 19 | 6 | 20.5 | 6.2 | 19.3 |
| PML 10 | 10 | M20×2 | 11 | 48 | 17.5 | 17.5 | 27.5 | 20 | 29.5 | 24 | 6 | 36 | 8 | 28.1 |
| PML 12 | 12 | M24×2 | 14 | 55 | 21 | 21 | 31 | 23.5 | 33 | 27 | 6 | 52 | 9.2 | 37.2 |
| PML 1/4 | 1/4 | M14×1.5 | 9 | 38 | 12.5 | 12.5 | 19 | 17 | 23 | 17 | 5 | 14 | 3.5 | 10.8 |
| PML 5/16 | 5/16 | M16×1.5 | 9 | 42 | 14.5 | 14.5 | 22 | 18 | 24 | 19 | 6 | 20.5 | 6.2 | 19.3 |
| PML 3/8 | 3/8 | M20×2 | 11 | 48 | 17.5 | 17.5 | 27.5 | 20 | 29.5 | 24 | 6 | 36 | 8 | 22.8 |

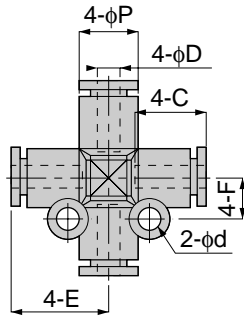


1

Tube Fitting Series Standard Type

PZA

Cross A



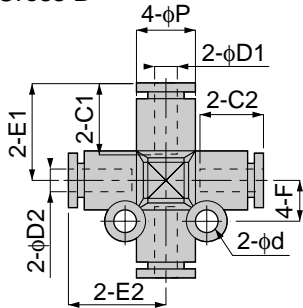
| Model | Tube dia. ϕD | ϕP | C | E | ϕd | F | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|----------|--------------------|----------|------|------|----------|----|----------|-----------------------|--------------------|
| PZA 8 | 8 | 15 | 18.5 | 18.5 | 3.5 | 9 | 20 | 7 | 17.5 |
| PZA 10 | 10 | 17.5 | 20.5 | 22 | 4.2 | 11 | 32 | 9 | 29.3 |
| PZA 12 | 12 | 21 | 23.5 | 25.5 | 4.2 | 12 | 46 | 11 | 43.6 |
| PZA 5/16 | 5/16 | 15 | 18.5 | 18.5 | 3.5 | 9 | 20 | 7 | 17.5 |
| PZA 3/8 | 3/8 | 17.5 | 20.5 | 22 | 4.2 | 11 | 32.5 | 9 | 22.8 |
| PZA 1/2 | 1/2 | 21 | 23.5 | 23.5 | 4.2 | 12 | 44 | 11 | 46.3 |

unit:mm



PZB

Cross B



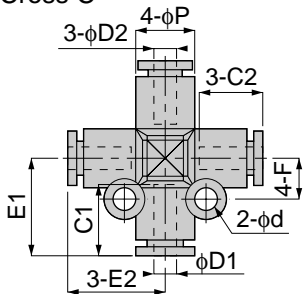
| Model | Tube dia. $\phi D1$ | Tube dia. $\phi D2$ | ϕP | C1 | C2 | E1 | E2 | ϕd | F | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|--------------|---------------------|---------------------|----------|------|------|------|------|----------|----|----------|-----------------------|--------------------|
| PZB 8-6 | 8 | 6 | 15 | 18.5 | 17 | 23.5 | 23.5 | 3.5 | 9 | 19 | 5 | 10.6 |
| PZB 10-8 | 10 | 8 | 17.5 | 20.5 | 18.5 | 27.5 | 27 | 4.2 | 11 | 29 | 7 | 19.3 |
| PZB 12-10 | 12 | 10 | 21 | 23.5 | 20.5 | 31 | 31 | 4.2 | 12 | 44.5 | 9 | 30.8 |
| PZB 5/16-1/4 | 5/16 | 1/4 | 15 | 18.5 | 17 | 23.5 | 23.5 | 3.5 | 9 | 19 | 5 | 13.5 |
| PZB 3/8-5/16 | 3/8 | 5/16 | 17.5 | 20.5 | 18.5 | 27.5 | 27 | 4.2 | 11 | 29.5 | 7 | 19 |
| PZB 1/2-3/8 | 1/2 | 3/8 | 21 | 23.5 | 20.5 | 31 | 31 | 4.2 | 12 | 44 | 9 | 27.1 |

unit:mm



PZC

Cross C



| Model | Tube dia. $\phi D1$ | Tube dia. $\phi D2$ | ϕP | C1 | C2 | E1 | E2 | ϕd | F | Mass (g) | Orifice (ϕmm) | Eff. a. (mm^2) |
|--------------|---------------------|---------------------|----------|------|------|------|------|----------|----|----------|-----------------------|--------------------|
| PZC 8-6 | 8 | 6 | 15 | 18.5 | 17 | 23.5 | 23.5 | 3.5 | 9 | 18.5 | 5 | 9 |
| PZC 10-8 | 10 | 8 | 17.5 | 20.5 | 18.5 | 27.5 | 27 | 4.2 | 11 | 27.5 | 7 | 17.4 |
| PZC 12-10 | 12 | 10 | 21 | 23.5 | 20.5 | 31 | 31 | 4.2 | 12 | 44 | 9 | 29.3 |
| PZC 5/16-1/4 | 5/16 | 1/4 | 15 | 18.5 | 17 | 23.5 | 23.5 | 3.5 | 9 | 18.5 | 5 | 12 |
| PZC 3/8-5/16 | 3/8 | 5/16 | 17.5 | 20.5 | 18.5 | 27.5 | 27 | 4.2 | 11 | 28 | 7 | 18.2 |
| PZC 1/2-3/8 | 1/2 | 3/8 | 21 | 23.5 | 20.5 | 31 | 31 | 4.2 | 12 | 44 | 9 | 17.4 |

unit:mm

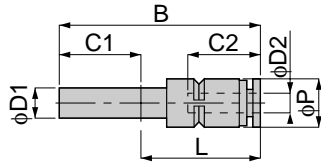


Tube Fitting Series Standard Type

unit:mm



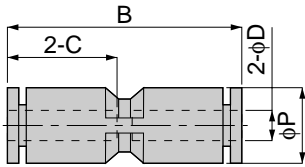
Reducer



| Model | Tube dia. φD1 | Tube dia. φD2 | B | L | φP | C1 | C2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) | | |
|-------------|---------------|---------------|------|------|------|------|----|----------|---------------|----------------------------|----|----|
| PGJ 6-4 | 6 | 4 | 41.5 | 24.5 | 10 | 17 | 15 | 3.5 | 4 | 5.3 | | |
| PGJ 8-4 | 8 | 4 | 44.5 | 26.5 | 12.5 | 18 | 15 | 5 | 6 | 5.3 | | |
| PGJ 8-6 | | 6 | 45 | 27 | | | 17 | | 5 | 9 | | |
| PGJ 10-6 | 10 | 6 | 47 | 27 | 14.5 | 20 | 17 | 7 | 5 | 9 | | |
| PGJ 10-8 | | 8 | | | | | 18 | | 7.5 | 7.5 | 20 | |
| PGJ 12-6 | 12 | 6 | 54 | 30.5 | 17.5 | 23.5 | 17 | 9.5 | 9 | 9 | | |
| PGJ 12-8 | | 8 | 54 | 30.5 | | | 18 | | | 10.5 | 9 | 20 |
| PGJ 12-10 | | 10 | 54.5 | 31 | | | 20 | | | 11.5 | 35 | |
| PGJ 8-1/4 | 8 | 1/4 | 45 | 27 | 12.5 | 18 | 17 | 5 | 5 | 9 | | |
| PGJ 10-1/4 | 10 | 1/4 | 47 | 27 | 14.5 | 20 | 17 | 7 | 4 | 9 | | |
| PGJ 10-5/16 | | 5/16 | | | | | 18 | | 7.5 | 6 | 20 | |
| PGJ 12-1/4 | 12 | 1/4 | 54 | 30.5 | 17.5 | 23.5 | 17 | 9.5 | 4 | 9 | | |
| PGJ 12-5/16 | | 5/16 | 54 | 30.5 | | | 18 | | 10.5 | 6 | 20 | |
| PGJ 12-3/8 | | 3/8 | 54.5 | 31 | | | 20 | | 11.5 | 8 | 35 | |



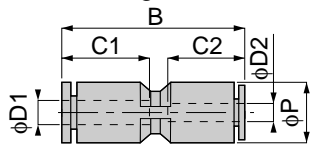
Union Straight



| Model | Tube dia. φD | B | φP | C | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|---------|--------------|------|------|------|----------|---------------|----------------------------|
| PU 4 | 4 | 31.5 | 10 | 15 | 5 | 3.8 | 5.3 |
| PU 6 | 6 | 35.5 | 12.5 | 17 | 6.5 | 5.5 | 12.5 |
| PU 8 | 8 | 38 | 14.5 | 18 | 9.5 | 7 | 20 |
| PU 10 | 10 | 44 | 17.5 | 20 | 16 | 9 | 35 |
| PU 12 | 12 | 48 | 21 | 23.5 | 22 | 11 | 59 |
| PU 16 | 16 | 50 | 25 | 24.5 | 25 | 13 | 147.6 |
| PU 1/4 | 1/4 | 35.5 | 12.5 | 17 | 6.5 | 5.5 | 12.5 |
| PU 5/16 | 5/16 | 38.5 | 14.5 | 18 | 10 | 7 | 20 |
| PU 3/8 | 3/8 | 44 | 17.5 | 20 | 16 | 9 | 35 |
| PU 1/2 | 1/2 | 48 | 21 | 23.5 | 21 | 11 | 69.6 |
| PU 5/8 | 5/8 | 50 | 25 | 24.5 | 25 | 13 | 147.6 |



Different Diam. Union Straight

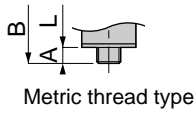
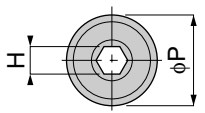
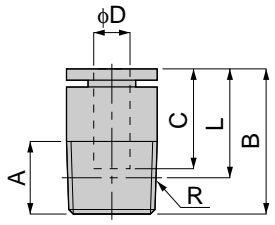


| Model | Tube dia. φD1 | Tube dia. φD2 | B | φP | C1 | C2 | Mass (g) | Orifice (φmm) | Eff. a. (mm ²) |
|-------------|---------------|---------------|------|------|------|------|----------|---------------|----------------------------|
| PG 6-4 | 6 | 4 | 34.5 | 12.5 | 17 | 15 | 6.5 | 3 | 5.3 |
| PG 8-6 | 8 | 6 | 38.5 | 14.5 | 18 | 17 | 9 | 5.5 | 12.5 |
| PG 10-8 | 10 | 8 | 43.5 | 17.5 | 20 | 18 | 14.5 | 7 | 20 |
| PG 12-10 | 12 | 10 | 48 | 21 | 23.5 | 20 | 22.5 | 9 | 35 |
| PG 12-3/8 | | 3/8 | | | | | | | |
| PG 16-12 | 16 | 12 | 50 | 25 | 24.5 | 23.5 | 26.5 | 10 | 88.6 |
| PG 1/4-4 | 1/4 | 4 | 34.5 | 12.5 | 17 | 15 | 6.5 | 3 | 5.3 |
| PG 5/16-1/4 | 5/16 | 1/4 | 38.5 | 14.5 | 18 | 17 | 9 | 3 | 12.5 |
| PG 3/8-5/16 | 3/8 | 5/16 | 43.5 | 17.5 | 20 | 18 | 15 | 5.5 | 20 |
| PG 1/2-3/8 | 1/2 | 3/8 | 48 | 21.5 | 23.5 | 21.5 | 20.5 | 9 | 50.8 |
| PG 5/8-1/2 | 5/8 | 1/2 | 50 | 25 | 24.5 | 23.5 | 26 | 10 | 90.6 |





Hex. -Holed Straight



Metric thread type



unit:mm

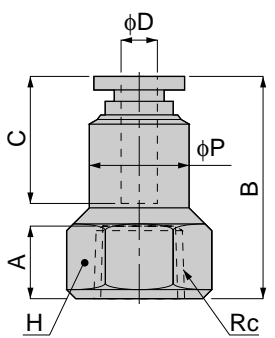
| Model | Tube dia. ϕD | R | A | B | L | ϕP | C | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm ²) |
|-------------|--------------|--------|----|------|------|-----|------|-----|----------|---------------|----------------------------|
| POC 4-M5 | 4 | M5×0.8 | 3 | 20 | 17 | 10 | 15 | 2 | 5.5 | 2.1 | 2 |
| POC 4-M6 | | M6×1 | 4 | 21.5 | 17.5 | | | 3 | | 5.2 | |
| POC 4-01 | | R1/8 | 8 | 21 | 17 | | | 2.5 | | 8 | 2.6 |
| POC 6-M5 | 6 | M5×0.8 | 3 | 23 | 20 | 12 | 17 | 2 | 8 | 2.1 | 3.2 |
| POC 6-M6 | | M6×1 | 4 | 22.5 | 18.5 | | | 3 | | 6.5 | 7.4 |
| POC 6-01 | | R1/8 | 8 | 22.5 | 16.5 | | | 14 | | 4 | 8 |
| POC 6-02 | R1/4 | 11 | 14 | 14 | | 4.2 | 11 | | | | |
| POC 8-01 | 8 | R1/8 | 8 | 28 | 24 | 14 | 18 | 5 | 14 | 5.3 | 17 |
| POC 8-02 | | R1/4 | 11 | 27 | 21 | | | 6 | 14.5 | 6.3 | 20 |
| POC 8-03 | | R3/8 | 12 | 24 | 17.5 | | | 17 | 22 | | |
| POC 10-02 | 10 | R1/4 | 11 | 30 | 24 | 18 | 20.5 | 6 | 22 | 6.3 | 20 |
| POC 10-03 | | R3/8 | 12 | 29.5 | 23 | | | 6 | 27 | | |
| POC 10-04 | | R1/2 | 15 | 30.5 | 22.5 | | | 21 | 48 | | |
| POC 12-03 | 12 | R3/8 | 12 | 32 | 25.5 | 21 | 23.5 | 8 | 33.5 | 8.5 | 40 |
| POC 12-04 | | R1/2 | 15 | 34 | 26 | | | 48 | | | |
| POC 1/4-01 | 1/4 | R1/8 | 8 | 22.5 | 18.5 | 12 | 17 | 4 | 8 | 4.2 | 11 |
| POC 1/4-02 | | R1/4 | 11 | | 16.5 | 14 | | 4 | 14 | | |
| POC 5/16-01 | 5/16 | R1/8 | 8 | 28 | 24 | 14 | 18 | 5 | 14 | 5.3 | 17 |
| POC 5/16-02 | | R1/4 | 11 | 27 | 21 | | | 6 | 14.5 | 6.3 | 20 |
| POC 5/16-03 | | R3/8 | 12 | 24 | 17.5 | | | 17 | 22 | | |
| POC 3/8-02 | 3/8 | R1/4 | 11 | 30 | 24 | 18 | 20 | 6 | 22 | 6.3 | 20 |
| POC 3/8-03 | | R3/8 | 12 | 29.5 | 23 | | | 6 | 27 | | |
| POC 3/8-04 | | R1/2 | 15 | 30.5 | 22.5 | | | 21 | 48 | | |

unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | L | ϕP | C | H | Weight (g) | Orifice ϕMM | Eff.a. mm ² | Cv |
|---------------|--------------|----------|------|------|------|------|------|------|------------|-------------|------------------------|------|
| POC 5/32-U10U | 5/32 | 10-32UNF | 0.14 | 0.79 | 0.65 | 0.37 | 0.59 | 3/32 | 5.4 | 2.5 | 4.7 | 0.25 |
| POC 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.83 | 0.67 | 0.37 | 0.59 | 3/32 | 7.8 | 2.5 | 4.9 | 0.27 |
| POC 1/4-U10U | 1/4 | 10-32UNF | 0.14 | 0.91 | 0.77 | 0.47 | 0.67 | 3/32 | 8.0 | 2.5 | 4.7 | 0.25 |
| POC 1/4-N1U | 1/4 | 1/8 | 0.31 | 0.87 | 0.73 | 0.47 | 0.67 | 5/32 | 8.3 | 4.0 | 12.8 | 0.69 |
| POC 1/4-N2U | 1/4 | 1/4 | 0.43 | 0.87 | 0.65 | 0.47 | 0.67 | 5/32 | 14.1 | 4.0 | 12.9 | 0.70 |
| POC 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.10 | 0.94 | 0.55 | 0.71 | 3/16 | 14.4 | 5.0 | 18.3 | 0.99 |
| POC 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.04 | 0.81 | 0.55 | 0.71 | 7/32 | 15.3 | 5.8 | 22.4 | 1.21 |
| POC 5/16-N3U | 5/16 | 3/8 | 0.47 | 0.94 | 0.69 | 0.55 | 0.71 | 7/32 | 22.8 | 5.8 | 22.8 | 1.24 |
| POC 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.18 | 0.94 | 0.71 | 0.79 | 7/32 | 22.7 | 5.8 | 23.0 | 1.25 |
| POC 3/8-N3U | 3/8 | 8/3 | 0.47 | 1.16 | 0.91 | 0.71 | 0.79 | 7/32 | 29.1 | 5.8 | 23.1 | 1.25 |
| POC 3/8-N4U | 3/8 | 1/2 | 0.59 | 1.20 | 0.89 | 0.71 | 0.79 | 7/32 | 49.1 | 5.8 | 22.8 | 1.24 |



Female Straight



unit:mm

| Model | Tube dia. ϕD | Rc | A | B | ϕP | C | H | Mass (g) | Orifice (ϕmm) | Eff. a. (mm ²) |
|-------------|--------------|-------|----|------|------|------|----|----------|---------------|----------------------------|
| PCF 4-01 | 4 | Rc1/8 | 8 | 24.5 | 11 | 15 | 14 | 15.5 | 3 | 5.3 |
| PCF 4-02 | | Rc1/4 | 11 | 27.5 | | | 17 | 22 | 4.1 | 6.1 |
| PCF 6-01 | 6 | Rc1/8 | 8 | 26.5 | 13 | 17 | 14 | 18 | 4.6 | 12.5 |
| PCF 6-02 | | Rc1/4 | 11 | 29.5 | | | 17 | 25 | | |
| PCF 8-01 | 8 | Rc1/8 | 8 | 28 | 14.5 | 18 | 14 | 19.5 | 6 | 26 |
| PCF 8-02 | | Rc1/4 | 11 | 31 | 15 | | 17 | 27 | | |
| PCF 8-03 | | Rc3/8 | 12 | 32 | 21 | | 36 | | | |
| PCF 10-02 | 10 | Rc1/4 | 11 | 34 | 17.5 | 20 | 17 | 32 | 8.5 | 43 |
| PCF 10-03 | | Rc3/8 | 12 | 35 | | | 21 | 41 | | |
| PCF 12-02 | 12 | Rc1/4 | 11 | 36 | 21 | 23.5 | 21 | 56 | 11 | 40.7 |
| PCF 12-03 | | Rc3/8 | 12 | 37 | | | 21 | 51.5 | | 71 |
| PCF 1/4-01 | 1/4 | Rc1/8 | 8 | 26.5 | 13 | 17 | | 18 | 4.6 | 12.5 |
| PCF 1/4-02 | | Rc1/4 | 11 | 29 | | | 25 | | | |
| PCF 5/16-01 | 5/16 | Rc1/8 | 8 | 28 | 14.5 | 18 | 14 | 19.5 | 6 | 20 |
| PCF 5/16-02 | | Rc1/4 | 11 | 31 | 15 | | 17 | 27 | | |
| PCF 5/16-03 | | Rc3/8 | 12 | 34 | 21 | | 36 | | | |
| PCF 3/8-02 | 3/8 | Rc1/4 | 11 | 34 | 17.5 | 20 | 17 | 33 | 8.5 | 43 |
| PCF 3/8-03 | | Rc3/8 | 12 | 35 | | | 21 | 41 | | |

unit:inch

| MODEL | Tube dia. ϕD | NPT | A | B | ϕP | C | H | Weight (g) | Orifice ϕMM | Eff.a. mm ² | Cv |
|--------------|--------------|-----|------|------|------|------|-------|------------|-------------|------------------------|------|
| PCF 5/32-N1U | 5/32 | 1/8 | 0.31 | 0.96 | 0.43 | 0.59 | 9/16 | 14.9 | 3.0 | 5.3 | 0.29 |
| PCF 5/32-N2U | 5/32 | 1/4 | 0.43 | 1.08 | 0.43 | 0.59 | 11/16 | 22.1 | 3.0 | 6.1 | 0.33 |
| PCF 3/16-N1U | 3/16 | 1/8 | 0.31 | 1.04 | 0.51 | 0.69 | 9/16 | 18.2 | 4.0 | 5.9 | 0.32 |
| PCF 3/16-N2U | 3/16 | 1/4 | 0.43 | 1.14 | 0.51 | 0.69 | 11/16 | 25.3 | 4.0 | 6.9 | 0.37 |
| PCF 1/4-N1U | 1/4 | 1/8 | 0.31 | 1.04 | 0.51 | 0.69 | 9/16 | 17.6 | 4.6 | 12.5 | 0.68 |
| PCF 1/4-N2U | 1/4 | 1/4 | 0.43 | 1.14 | 0.51 | 0.69 | 11/16 | 25.0 | 4.6 | 12.5 | 0.68 |
| PCF 5/16-N1U | 5/16 | 1/8 | 0.31 | 1.10 | 0.55 | 0.71 | 9/16 | 18.2 | 6.0 | 20.0 | 1.08 |
| PCF 5/16-N2U | 5/16 | 1/4 | 0.43 | 1.22 | 0.59 | 0.71 | 11/16 | 27.8 | 6.0 | 20.0 | 1.08 |
| PCF 5/16-N3U | 5/16 | 3/8 | 0.47 | 1.26 | 0.59 | 0.71 | 7/8 | 37.9 | 6.0 | 20.0 | 1.08 |
| PCF 3/8-N2U | 3/8 | 1/4 | 0.43 | 1.34 | 0.69 | 0.79 | 11/16 | 34.1 | 8.5 | 31.9 | 1.73 |
| PCF 3/8-N3U | 3/8 | 3/8 | 0.47 | 1.26 | 0.69 | 0.79 | 7/8 | 44.6 | 8.5 | 33.5 | 1.82 |
| PCF 1/2-N2U | 1/2 | 1/4 | 0.43 | 1.34 | 0.82 | 0.89 | 7/8 | 57.9 | 11.0 | 40.7 | 2.21 |
| PCF 1/2-N3U | 1/2 | 3/8 | 0.47 | 1.38 | 0.82 | 0.89 | 7/8 | 52.4 | 11.0 | 71.0 | 3.85 |