Push-In Fitting Type for Clean Environment

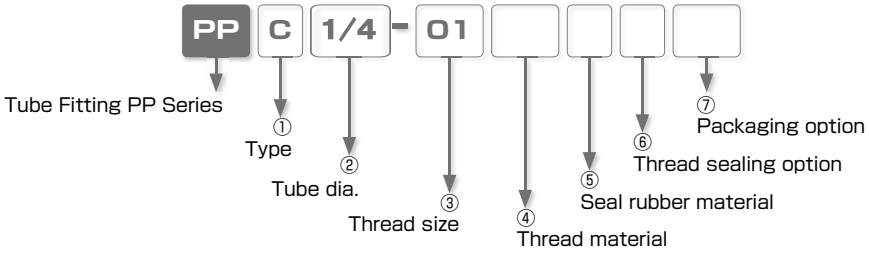
Tube Fitting **PP** Series

Copper alloy free material | Non-grease | Clean-room packaging option

Chemical Industry | Medical Industry | Medicine Industry | Food Industry

- *PP Material for Clean Environment*
- *EPDM for Seal Rubber (Option FKM or NBR)*
- *Two Material Selection PP or SUS304 for Thread*
- *Oil-Free*
- *Visible Fluid by Transparent Body Color.*
- *Clean-Room packaging Option*

Model Designation (Example)



① Type

Code	Type	Code	Type	Code	Type	Code	Type
C	Straight	L	Elbow	B	Branch Tee	D	Run Tee
X	Branch Y	U	Union Straight	G	Unequal Union Straight	V	Union Elbow
E	Union Tee	EG	Unequal Union Tee	Y	Union Y	W	Unequal Union Y
MP	Bulkhead Union	GJ	Plug-in Reducer	P	Plug		

② Tube dia.

		Metric Size					Inch Size		
Code		4	6	8	10	12	1/4	3/8	1/2
Tubing O.D.	mm	ø4	ø6	ø8	ø10	ø12	ø6.35	ø9.53	ø12.7
	inch	ø5/32	–	ø5/16	–	–	ø1/4	ø3/8	ø1/2

※. Tubing O.D. : ø4mm same as ø5/32", ø8mm same as ø5/16"
Specify 4 for ø5/32 and 8 for ø5/16

③ Thread size (※. In case that ③ indicates tube dia., select tube dia. from table ②))

Thread size	Metric thread (mm)	Taper pipe thread			
Code	M5	01	02	03	04
Size	M5 × 0.8	R1/8	R1/4	R3/8	R1/2

※. "R" thread is same as BSPT thread.

④ Thread material

No code : PP
SUS : SUS304

⑤ Seal rubber material

No code : EPDM
F : FKM (option)
N : NBR (option)

⑥ Thread sealing option (taper thread only)

No code : Standard(No Sealock and seal tape)
S : Sealock on thread ※. only for SUS304 thread
TP : Seal tape on thread

⑦ Packaging option

No code : Standard package
C : Clean-room package

Specifications

Fluid medium	Air / Water(※ 1) / Other chemicals (※1)
Max. operating pressure	0.9MPa (at 0～20ºC) ※ 2
Max. vacuum	-100kPa
Operating temp. range	0～80℃ (Seal rubber NBR：0～60℃) (No freezing)

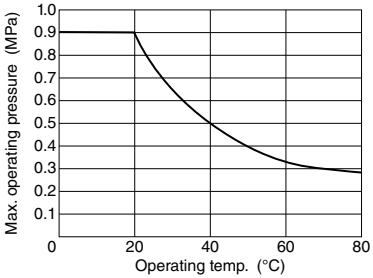
⚠ Warning

※ 1. Make sure to follow the instructions below when the fluid medium is water or other chemicals.

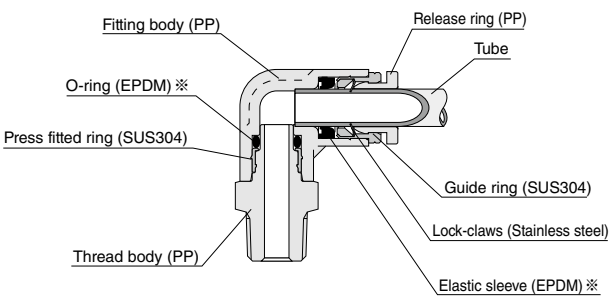
1. Surge pressure must be controlled lower than max. operating pressure when using water or liquid as a fluid.
2. Be sure to place Insert Ring into the tube edge when using water as a fluid medium.
3. The specification above may not be applied, depending on the kind of chemicals, solvent, or mixed gases used as fluid medium. Make sure to use PISCO products after verifying their suitability on the user side.

※ 2. If operating temp. exceeds 20℃ , refer to the following chart "Relation of Operating Temp. & Max. Operating Pressure"

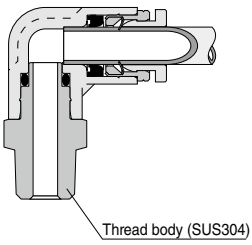
Relation of Operating Temp. & Max. Operating Pressure



Construction (Elbow: PPL)



■ Thread material: SUS304



※ 1. FKM / NBR for option

※ 2. Gasket (SUS316+ EPDM) is used on metric thread as standard equipment.

⚠ Detailed Safety Instructions

Before using PISCO products, be sure to read “Safety Instructions” and “Safety Instruction Manual” and “Common Safety Instructions for Fittings”.

Warning

1. Check chemical resistance before using the products, when the fluid medium is chemicals, solvent or mixed gases. It may cause damage to the products, the escape of tubes, and a fluid leakage.
2. Do not use this series under the condition with vibration or physical impact. These may cause damage to the products, the escape of tubes and a fluid leakage.
3. Resin can be deteriorated by being exposed to direct sunlight or ultraviolet rays.
4. Max operating pressure varies depending on operating temperature range. Be sure to confirm the chart “Relation of Operating Temp. & Max. Operating Pressure” and use the products within the indicated pressure range.

Caution

1. The seal rubber material EPDM is not suitable for general air pipings, due to its inferior durability against mineral oil.
2. When coating the thread with seal tape or sealant, do not coat 1.5 to 2 screw ridges from the tip of the thread.
3. Tighten taper thread by hand until it stops, then use a spanner to tighten it about 2 or 3 more turns. Excessive tightening may break the thread part. Inadequate tightening may cause a loosened thread or a fluid leakage.
4. It may cause a fluid leakage by “creep phenomena” due to a long term use of the resin thread. Check the tightening condition periodically and re-torque the thread in case of leaks. If re-torque of the thread does not solve a leakage problem, change it to a new product.
5. If there is a possibility of fire by a fluid leakage, implement specific countermeasures such as using a protective cover in order to protect machines / facilities from damages or fire.
6. Tube insertion into Tube Fitting PP Series is tighter than that of Tube Fitting Standard Series due to its oil-free specification. Make sure to insert tube up to tube end. When inserting a tube, put a liquid like water on the tube, which does not affect the product and the tube. It will improve the smoothness of tube insertion.

Standard Size List

Connection: Thread ⇔ Tubing)

● Thread material : PP

Type	Thread size	Tubing O.D. 4 (5/32)	6	8 (5/16)	10	12	1/4	3/8	1/2
PPC Straight	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPL Elbow	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPB Tee	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPD Branch Tee	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPX Branch Y	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●

Type	Thread size	Tubing O.D. 4 (5/32)	6	8 (5/16)	10	12	1/4	3/8	1/2
PPC Straight	M3×0.5	●							
	M5×0.8	●	●				●		
	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPL Elbow	M3×0.5	●							
	M5×0.8	●	●				●		
	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPB Tee	M3×0.5	●							
	M5×0.8	●	●				●		
	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPD Branch Tee	M3×0.5	●							
	M5×0.8	●	●				●		
	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●
PPX Branch Y	M3×0.5	●							
	M5×0.8	●	●				●		
	R1/8	●	●	●			●		
	R1/4	●	●	●	●		●	●	
	R3/8		●	●	●	●	●	●	●
	R1/2					●			●

Connection: Tubing ⇔ Tubing

● Equal dia.

Type	Tubing O.D. 4 (5/32)	6	8 (5/16)	10	12	1/4	3/8	1/2
PPU Union Straight	●	●	●	●	●	●	●	●
PPMP Panel Mount Union	●	●	●	●	●	●	●	●
PPV Union Elbow	●	●	●	●	●	●	●	●

Type	Tubing O.D. 4 (5/32)	6	8 (5/16)	10	12	1/4	3/8	1/2
PPE Union Tee	●	●	●	●	●	●	●	●
PPY Union Y	●	●	●	●	●	●	●	●

● Unequal dia.

Type	Tubing O.D. 1	Tubing O.D. 2 4 (5/32)	6	8 (5/16)	10	1/4	3/8
PPG Unequal Union Straight	6	●					
	8 (5/16)		●			●	
	10			●			
	12				●		
	1/4	●					
	3/8			●			
	1/2						●
PPEG Unequal Union Tee	6	●					
	8 (5/16)		●			●	
	10			●			
	12				●		
	1/4	●					
	3/8			●			
	1/2						●

Type	Tubing O.D. 1	Tubing O.D. 2 4 (5/32)	6	8 (5/16)	10	1/4	3/8
PPW Unequal Union Y	6	●					
	8 (5/16)		●			●	
	10			●			
	12				●		
	1/4	●					
	3/8			●			
	1/2						●

Connection: Tubing ⇔ Fitting

Type	Stem Size	Tubing O.D. 4 (5/32)	6	8 (5/16)	10	1/4	3/8
PPGJ Reducer	6	●					
	8 (5/16)	●	●			●	
	10		●	●			
	12			●	●		
	1/4	●					
	3/8			●		●	
	1/2			●		●	●

Plug

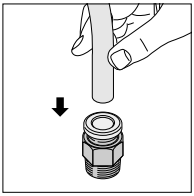
Type	Size 4 (5/32)	6	8 (5/16)	10	12	1/4	3/8	1/2
PPP Plug	●	●	●	●	●	●	●	●

How to insert and disconnect

1. How to insert and disconnect tubes

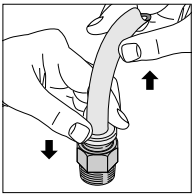
① Tube insertion

Insert a tube into Push-In Fitting PP series up to the tube end. Lock-claws bite the tube and fix it automatically, then the elastic sleeve seals around the tube.
Refer to "2. Instructions for Tube Insertion" under "Common Safety Instructions for Fittings".



② Tube disconnection

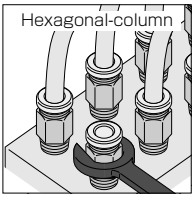
The tube is disconnected by pushing release-ring to release Lock-claws.
Make sure to stop air supply before the tube disconnection.



2. How to tighten thread

① Tightening thread

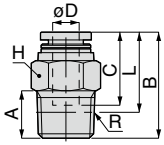
Use a spanner to tighten a hexagonal-column.
Refer to "Table 2: Recommended tightening torque / Sealock color / Gasket materials" under "4.
Instructions for Installing a fitting" in "Common Safety Instructions for Fittings", for the products with thread body material SUS304.
Refer to caution 3 on page 181 for the thread material PP.



Thread ⇔ Tubing connection (Material of threaded portion : PP)

PPC Straight

RoHS compliant



Unit : mm

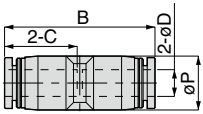
Model code	Tube O.D. øD	R	A	B	L	Tube end C	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPC4-01⑤⑥⑦	4 (5/32")	R1/8	8	21.1	17.1	15	12	2.5	3.4	PPC4-01_
PPC4-02⑤⑥⑦		R1/4	11	22.3	16.3		14	3.5		PPC4-02_
PPC6-01⑤⑥⑦	6	R1/8	8	22.8	18.8	17.1	14	3	9.1	PPC6-01_
PPC6-02⑤⑥⑦		R1/4	11	24.8				3.5		PPC6-02_
PPC6-03⑤⑥⑦		R3/8	12	24.9	18.6		17	5		PPC6-03_
PPC8-01⑤⑥⑦	8 (5/16")	R1/8	8	27.9	23.9	18.2	17	4.5	22.1	PPC8-01_
PPC8-02⑤⑥⑦		R1/4	11	26.6	20.6					PPC8-02_
PPC8-03⑤⑥⑦		R3/8	12	27.5	21.2			6		PPC8-03_
PPC10-02⑤⑥⑦	10	R1/4	11	32.6	26.6	20.4	19	7	30.5	PPC10-02_
PPC10-03⑤⑥⑦		R3/8	12	33.6	27.3			8		PPC10-03_
PPC12-03⑤⑥⑦	12	R3/8	12	37.6	31.3	23.6	22	12	40.7	PPC12-03_
PPC12-04⑤⑥⑦		R1/2	15	34.1	25.9					PPC12-04_
PPC1/4-01⑤⑥⑦	1/4"	R1/8	8	22.8	18.8	17.1	14	3.5	9.1	PPC1_4-01_
PPC1/4-02⑤⑥⑦		R1/4	11	24.8				4		PPC1_4-02_
PPC1/4-03⑤⑥⑦		R3/8	12	24.9	18.6		17	5		PPC1_4-03_
PPC3/8-02⑤⑥⑦	3/8"	R1/4	11	32.6	26.6	20.4	19	8.5	30.5	PPC3_8-02_
PPC3/8-03⑤⑥⑦		R3/8	12	33.6	27.3			9.5		PPC3_8-03_
PPC1/2-03⑤⑥⑦	1/2"	R3/8	12	37.9	31.6	23.9	22	12	40.7	PPC1_2-03_
PPC1/2-04⑤⑥⑦		R1/2	15	34.4	26.2					PPC1_2-04_

※ 1. "L" is a reference value for height dimension after tightening thread.
※ 2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 3. ⑥ in Model code / Replaced with "TP" for Seal tape
※ 4. ⑦ in Model code / Replaced with "C" for Clean-room package

Tubing ⇔ Tubing connection

PPU Union Straight

RoHS compliant



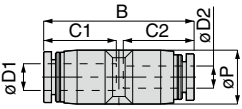
Unit : mm

Model code	Tube O.D. øD	Tube end C	B	øP	Weight (g)	Effective area (mm^2)	CAD file name
PPU4⑤⑦	4 (5/32")	15	31	10	4	5.3	PPU4_
PPU6⑤⑦	6	17.1	35.2	12.5	5.5	12.5	PPU6_
PPU8⑤⑦	8 (5/16")	18.1	37.8	14.5	8	20	PPU8_
PPU10⑤⑦	10	20.4	41.8	17.5	13	35	PPU10_
PPU12⑤⑦	12	23.6	48.2	21	19	59	PPU12_
PPU1/4⑤⑦	1/4"	17.1	35.2	12.5	5.5	12.5	PPU1_4_
PPU3/8⑤⑦	3/8"	20.4	41.8	17.5	14	35	PPU3_8_
PPU1/2⑤⑦	1/2"	23.9	48.8	21	18	59	PPU1_2_

※ 1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPG Unequal Union Straight

RoHS compliant



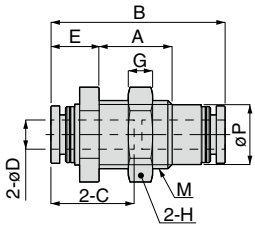
Unit : mm

Model code	Tube O.D. øD1	Tube O.D. øD2	Tube end C1	Tube end C2	B	øP	Weight (g)	Effective area (mm^2)	CAD file name
PPG6-4 ⑤⑦	6	4 (5/32")	17.1	15	34.6	12.5	5.5	5.3	PPG6-4_
PPG8-6 ⑤⑦	8 (5/16")	6	18.1	17.1	38	14.5	7	12.5	PPG8-6_
PPG8-1/4 ⑤⑦		1/4"							PPG8-1_4_
PPG10-8 ⑤⑦	10	8 (5/16")	20.4	18.1	41.3	17.5	12	20	PPG10-8_
PPG12-10 ⑤⑦	12	10	23.6	20.4	48	21	18	35	PPG12-10_
PPG1/4-4 ⑤⑦	1/4"	4 (5/32")	17.1	15	34.6	12.5	7	5.3	PPG1_4-4_
PPG3/8-8 ⑤⑦	3/8"	8 (5/16")	20.4	18.1	41.3	17.5	12	20	PPG3_8-8_
PPG1/2-3/8 ⑤⑦	1/2"	3/8"	23.9	20.4	48.3	21	17	35	PPG1_2-3_8_

※1. ⑦ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑥ in Model code / Replaced with "C" for Clean-room package

PPMP Bulkhead Union P

RoHS compliant



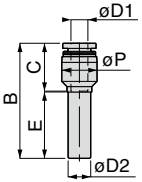
Unit : mm

Model code	Tube O.D. øD	M	B	E	A	øP	Tube end C	Hex. H	G	Weight (g)	Effective area (mm^2)	CAD file name
PPMP4 ⑤⑦	4 (5/32")	M12×1.5	31.6	9.3	12	10	15	14	5	7.2	4.2	PPMP4_
PPMP6 ⑤⑦	6	M14×1.5	35.8	9.9	15	12.3	17.1	17	5	11	10.7	PPMP6_
PPMP8 ⑤⑦	8 (5/16")	M16×1.5	38.4	10.7	15.5	14.2	18.1	19	6	15	19.1	PPMP8_
PPMP10 ⑤⑦	10	M20×2	43.4	13.2	18.5	17.5	20.9	24	6	25	39.6	PPMP10_
PPMP12 ⑤⑦	12	M24×2	48.8	13.4	20.5	21	23.6	27	6	31	47.6	PPMP12_
PPMP1/4 ⑤⑦	1/4"	M14×1.5	35.8	9.9	15	12.3	17.1	17	5	10	10.7	PPMP1_4_
PPMP3/8 ⑤⑦	3/8"	M20×2	43.4	13.2	18.5	17.5	20.9	24	6	25	39.6	PPMP3_8_
PPMP1/2 ⑤⑦	1/2"	M24×2	49.4	13.7	20.5	21	23.9	27	6	29	47.6	PPMP1_2_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPGJ Plug-in Reducer

RoHS compliant



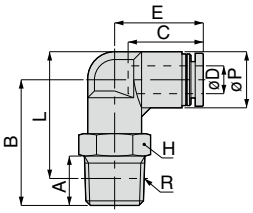
Unit : mm

Model code	Tube O.D. øD1	Tube dia. øD2	B	E	øP	Tube end C	Weight (g)	Effective area (mm^2)	CAD file name
PPGJ6-4⑤⑦	4 (5/32")	6	37.8	22.3	10	15	2.4	5	PPGJ6-4_
PPGJ8-4⑤⑦	4 (5/32")	8 (5/16")	40.3	23.3	12.5	15	3	4.5	PPGJ8-4_
PPGJ8-6⑤⑦	6		40.9			17.1	3.2	11.5	PPGJ8-6_
PPGJ8-1/4⑤⑦	1/4"		40.9				3.5		PPGJ8-1_4_
PPGJ10-6⑤⑦	6	10	43.9	28.3	12.5	17.1	3.6	11.5	PPGJ10-6_
PPGJ10-8⑤⑦	8 (5/16")		43.7	24.8	14.5	18.1	4.7	22.5	PPGJ10-8_
PPGJ12-8⑤⑦	8 (5/16")	12	49.7	33.5	14.5	18.1	5.4	23	PPGJ12-8_
PPGJ12-10⑤⑦	10		50.2	28.8	17.5	20.4	7.9	31.5	PPGJ12-10_
PPGJ1/4-4⑤⑦	4 (5/32")	1/4"	37.8	22.3	10	15	2.5	5	PPGJ1_4-4_
PPGJ3/8-1/4⑤⑦	1/4"	3/8"	43.9	28.3	12.5	17.1	3.5	11.5	PPGJ3_8-1_4_
PPGJ3/8-8⑤⑦	8 (5/16")		43.7	24.8	14.5	18.1	5	22.5	PPGJ3_8-8_
PPGJ1/2-1/4⑤⑦	1/4	1/2"	48.9	33.5	14.5	17.1	5	14	PPGJ1_2-1_4_
PPGJ1/2-8⑤⑦	8 (5/16")		49.7			18.1	6	23	PPGJ1_2-8_
PPGJ1/2-3/8⑤⑦	3/8"		50.2	28.8	17.5	20.4	8.5	31.5	PPGJ1_2-3_8_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPL Elbow

RoHS compliant



Unit : mm

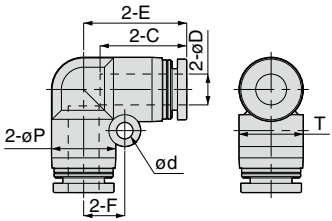
Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPL4-01⑤⑥⑦	4 (5/32")	R1/8	8	23.3	24.3	10	15	18.1	10	4	3.4	PPL4-01_
PPL4-02⑤⑥⑦		R1/4	11	26.3	25.3				14	4.5		PPL4-02_
PPL6-01⑤⑥⑦	6	R1/8	8	25	27.3	12.5	16.9	19.9	12	5	8.7	PPL6-01_
PPL6-02⑤⑥⑦		R1/4	11	28	28.2				14	5.5		PPL6-02_
PPL6-03⑤⑥⑦		R3/8	12	29.8	29.7				17	6.5		PPL6-03_
PPL8-01⑤⑥⑦	8 (5/16")	R1/8	8	28	31.3	14.5	18.1	22.7	14	7	17.2	PPL8-01_
PPL8-02⑤⑥⑦		R1/4	11	31	32.2					7.5		PPL8-02_
PPL8-03⑤⑥⑦		R3/8	12	32.8	33.7				17	8.5		PPL8-03_
PPL10-02⑤⑥⑦	10	R1/4	11	36	38.7	17.5	20.4	26.4	17	12	25.9	PPL10-02_
PPL10-03⑤⑥⑦		R3/8	12	37	39.4					13		PPL10-03_
PPL12-03⑤⑥⑦	12	R3/8	12	39	43.2	21	23.6	29.6	22	18	37.6	PPL12-03_
PPL12-04⑤⑥⑦		R1/2	15	42	44.3					19		PPL12-04_
PPL1/4-01⑤⑥⑦	1/4"	R1/8	8	25	27.3	12.5	16.9	19.9	12	5	8.7	PPL1_4-01_
PPL1/4-02⑤⑥⑦		R1/4	11	28	28.2				14	5.5		PPL1_4-02_
PPL1/4-03⑤⑥⑦		R3/8	12	29.8	29.7				17	6.5		PPL1_4-03_
PPL3/8-02⑤⑥⑦	3/8"	R1/4	11	36	38.7	17.5	20.4	26.4	17	12	25.9	PPL3_8-02_
PPL3/8-03⑤⑥⑦		R3/8	12	37	39.4					13		PPL3_8-03_
PPL1/2-03⑤⑥⑦	1/2"	R3/8	12	39	43.2	21	23.9	29.9	22	17	37.6	PPL1_2-03_
PPL1/2-04⑤⑥⑦		R1/2	15	42	44.3					19		PPL1_2-04_

※1. "L" is a reference value for height dimension after tightening thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "TP" for Seal tape
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

■ Tubing ⇔ Tubing connection

PPV Union Elbow

RoHS compliant



Unit : mm

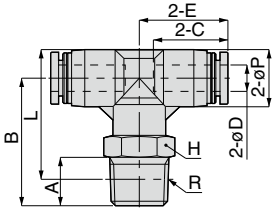
Model code	Tube O.D. øD	øP	Tube end C	E	ød	F	T	Weight (g)	Effective area (mm^2)	CAD file name
PPV4⑤⑦	4 (5/32")	10	15	17	3.2	10.4	6.5	4.5	4.2	PPV4_
PPV6⑤⑦	6	12.5	17.1	20.2	3.2	13.5	8	6	10	PPV6_
PPV8⑤⑦	8 (5/16")	15	18.1	22.4	4.2	15.6	10	9	16.5	PPV8_
PPV10⑤⑦	10	17.5	20.4	26.4	4.2	18.2	12	14	30	PPV10_
PPV12⑤⑦	12	21	23.6	29.6	4.2	21.7	14	20	47	PPV12_
PPV1/4⑤⑦	1/4"	12.5	17.1	20.2	3.2	13.5	8	6	10	PPV1_4_
PPV3/8⑤⑦	3/8"	17.5	20.4	26.4	4.2	18.2	12	15	30	PPV3_8_
PPV1/2⑤⑦	1/2"	21	23.9	29.9	4.2	21.7	14	18.5	47	PPV1_2_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

■ Thread ⇔ Tubing connection (Material of threaded portion : PP)

PPB Branch Tee

RoHS compliant



Unit : mm

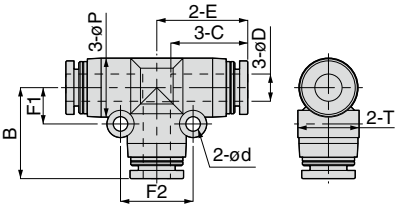
Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPB4-01⑤⑥⑦	4 (5/32")	R1/8	8	23.2	24.2	10	15	17	10	6	3.3	PPB4-01_
PPB4-02⑤⑥⑦		R1/4	11	26.2	25.2				14	6.5		PPB4-02_
PPB6-01⑤⑥⑦	6	R1/8	8	26	28.5	13	17.1	20.3	12	8	8	PPB6-01_
PPB6-02⑤⑥⑦		R1/4	11	29	29.5				14	8.5		PPB6-02_
PPB6-03⑤⑥⑦		R3/8	12	30.8	31				17	9.5		PPB6-03_
PPB8-01⑤⑥⑦	8 (5/16")	R1/8	8	26.3	29.8	15	18.1	22.4	14	11	17.3	PPB8-01_
PPB8-02⑤⑥⑦		R1/4	11	29.3	30.8					12		PPB8-02_
PPB8-03⑤⑥⑦		R3/8	12	31.1	32.3				17			PPB8-03_
PPB10-02⑤⑥⑦	10	R1/4	11	36	38.7	17.5	20.4	25.4	17	18	26.3	PPB10-02_
PPB10-03⑤⑥⑦		R3/8	12	37	39.4					19		PPB10-03_
PPB12-03⑤⑥⑦	12	R3/8	12	39	43.2	21	23.1	28.6	22	26	37.2	PPB12-03_
PPB12-04⑤⑥⑦		R1/2	15	42	44.3					28		PPB12-04_
PPB1/4-01⑤⑥⑦	1/4"	R1/8	8	26	28.5	13	17.1	20.3	12	8	8	PPB1_4-01_
PPB1/4-02⑤⑥⑦		R1/4	11	29	29.5				14	8.5		PPB1_4-02_
PPB1/4-03⑤⑥⑦		R3/8	12	30.8	31				17	9		PPB1_4-03_
PPB3/8-02⑤⑥⑦	3/8"	R1/4	11	36	38.7	17.5	20.4	25.4	17	19	26.3	PPB3_8-02_
PPB3/8-03⑤⑥⑦		R3/8	12	37	39.4					20		PPB3_8-03_
PPB1/2-03⑤⑥⑦	1/2"	R3/8	12	39	43.2	21	23.4	28.9	22	25	37.2	PPB1_2-03_
PPB1/2-04⑤⑥⑦		R1/2	15	42	44.3					27		PPB1_2-04_

※1. "L" is a reference value for height dimension after tightening thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "TP" for Seal tape
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

Tubing ⇔ Tubing connection

PPE Union Tee

RoHS compliant



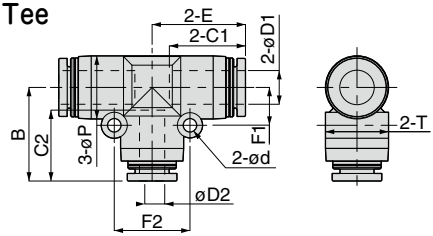
Unit : mm

Model code	Tube O.D. øD	øP	Tube end C	E	B	ød	F1	F2	T	Weight (g)	Effective area (mm^2)	CAD file name
PPE4⑤⑦	4 (5/32")	10	15	17.3	17.3	3.2	10.4	6.5	13	6.5	5.3	PPE4_
PPE6⑤⑦	6	13	17.1	20.2	20.2	3.2	13.5	8	16	9	12.5	PPE6_
PPE8⑤⑦	8 (5/16")	15	18.1	22.2	22.2	3.2	15.6	9	18	13	20	PPE8_
PPE10⑤⑦	10	17.5	20.4	25.4	25.4	4.2	18.2	12	24	21	35	PPE10_
PPE12⑤⑦	12	21	23.1	28.6	28.4	4.2	21.7	14	28	30	59	PPE12_
PPE1/4⑤⑦	1/4"	13	17.1	20.2	20.2	3.2	13.5	8	16	8.5	12.5	PPE1_4_
PPE3/8⑤⑦	3/8"	17.5	20.4	25.4	25.4	4.2	18.2	12	24	21	35	PPE3_8_
PPE1/2⑤⑦	1/2"	21	23.4	28.9	28.7	4.2	21.7	14	28	28	59	PPE1_2_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPEG Unequal Union Tee

RoHS compliant



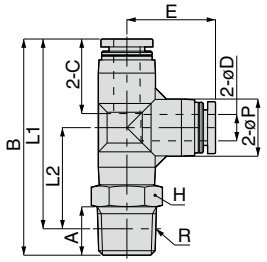
Unit : mm

Model code	Tube O.D. øD1	Tube O.D. øD2	øP	Tube end C1	Tube end C2	E	B	ød	F1	F2	T	Weight (g)	Effective area (mm^2)	CAD file name
PPEG6-4⑤⑦	6	4 (5/32")	13	17.1	15	20.2	19.6	3.2	8	16	13.5	9	4.1	PPEG6-4_
PPEG8-6⑤⑦	8 (5/16")	6	15	18.1	17.1	22.2	22.4	3.2	9	18	15.6	12	10.3	PPEG8-6_
PPEG8-1/4⑤⑦		1/4"			17						15			PPEG8-1_4_
PPEG10-8⑤⑦	10	8 (5/16")	17.5	20.4	18.1	25.4	24.9	4.2	12	24	18.2	20	19.6	PPEG10-8_
PPEG12-10⑤⑦	12	10	21	23.1	20.9	28.6	28.2	4.2	14	28	21.7	28	32.5	PPEG12-10_
PPEG1/4-4⑤⑦	1/4"	4 (5/32")	13	17.1	15	20.2	19.6	3.2	8	16	13.5	8.5	4.1	PPEG1_4-4_
PPEG3/8-8⑤⑦	3/8"	8 (5/16")	17.5	20.4	18.1	25.4	24.9	4.2	12	24	17.5	20	19.6	PPEG3_8-8_
PPEG1/2-3/8⑤⑦	1/2"	3/8"	21	23.4	20.9	28.9	28.2	4.2	14	28	21.7	27	32.5	PPEG1_2-3_8_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPD Run Tee

RoHS compliant



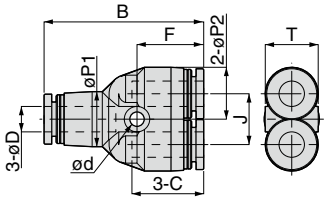
Unit : mm

Model code	Tube O.D. øD	R	A	B	L1	L2	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPD4-01⑤⑥⑦	4 (5/32")	R1/8	8	40.2	36.2	19.2	10	15	17	10	6	3.3	PPD4-01_
PPD4-02⑤⑥⑦		R1/4	11	43.2	37.2	20.2				14	6.5		PPD4-02_
PPD6-01⑤⑥⑦	6	R1/8	8	46.3	42.3	22	13	17.1	20.2	12	8	8.8	PPD6-01_
PPD6-02⑤⑥⑦		R1/4	11	49.3	43.3	23				14	8.5		PPD6-02_
PPD6-03⑤⑥⑦		R3/8	12	51.1	44.8	24.5				17	9.5		PPD6-03_
PPD8-01⑤⑥⑦	8 (5/16")	R1/8	8	50.4	46.4	24.2	15	18.1	22.2	14	11	18	PPD8-01_
PPD8-02⑤⑥⑦		R1/4	11	53.4	47.4	25.2					12		PPD8-02_
PPD8-03⑤⑥⑦		R3/8	12	55.2	48.9	26.7				17	13		PPD8-03_
PPD10-02⑤⑥⑦	10	R1/4	11	61.4	55.4	30	17.5	20.4	25.4	17	18	26.2	PPD10-02_
PPD10-03⑤⑥⑦		R3/8	12	62.4	56.1	30.7					19		PPD10-03_
PPD12-03⑤⑥⑦	12	R3/8	12	67.8	61.5	32.9	21	23.1	28.4	22	26	37.4	PPD12-03_
PPD12-04⑤⑥⑦		R1/2	15	70.8	62.6	34					28		PPD12-04_
PPD1/4-01⑤⑥⑦	1/4"	R1/8	8	46.3	42.3	22	13	17.1	20.2	12	7.5	8.8	PPD1_4-01_
PPD1/4-02⑤⑥⑦		R1/4	11	49.3	43.3	23				14	8.5		PPD1_4-02_
PPD1/4-03⑤⑥⑦		R3/8	12	51.1	44.8	24.5				17	9		PPD1_4-03_
PPD3/8-02⑤⑥⑦	3/8"	R1/4	11	61.4	55.4	30	17.5	20.4	25.4	17	19	26.2	PPD3_8-02_
PPD3/8-03⑤⑥⑦		R3/8	12	62.4	56.1	30.7					20		PPD3_8-03_
PPD1/2-03⑤⑥⑦	1/2"	R3/8	12	68.1	61.8	32.9	21	23.4	28.7	22	26	37.4	PPD1_2-03_
PPD1/2-04⑤⑥⑦		R1/2	15	71.1	62.9	34					27		PPD1_2-04_

※1. "L1" and "L2" are reference values for height dimensions after tightening thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "TP" for Seal tape
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

PPY Union Y

RoHS compliant



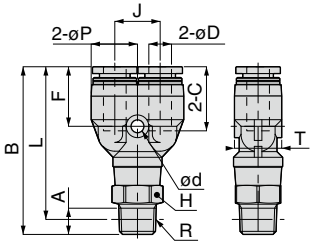
Unit : mm

Model code	Tube O.D. øD	B	øP1	øP2	Tube end C	J	ød	F	T	Weight (g)	Effective area (mm^2)	CAD file name
PPY4⑤⑦	4 (5/32")	33	10	10	15	11	3.2	14.2	10.4	6.5	4.2	PPY4_
PPY6⑤⑦	6	38	13	12.5	17.1	12	3.4	15.9	13.5	9	10	PPY6_
PPY8⑤⑦	8 (5/16")	42.4	15	14.5	18.1	14	3.4	17.2	15.1	13	16.5	PPY8_
PPY10⑤⑦	10	48.8	17.5	17.5	20.9	18	4.2	19.7	18.2	22	27	PPY10_
PPY12⑤⑦	12	55.2	21	21	23.6	20	4.2	22.4	21.7	31	38	PPY12_
PPY1/4⑤⑦	1/4"	38	13	12.5	17.1	12	3.4	15.9	13.5	8.5	10	PPY1_4_
PPY3/8⑤⑦	3/8"	48.8	17.5	17.5	20.9	18	4.2	19.7	18.2	22	27	PPY3_8_
PPY1/2⑤⑦	1/2"	55.8	21	21	23.9	20	4.2	22.7	21.7	29	38	PPY1_2_

※1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※2. ⑦ in Model code / Replaced with "C" for Clean-room package

PPX Branch Y

RoHS compliant



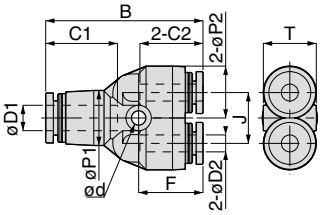
Unit : mm

Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	J	ød	F	T	Hex. H	Weight (g)	Effective area (mm²)	CAD file name
PPX4-01⑤⑥⑦	4 (5/32")	R1/8	8	40.7	36.7	10	15	11	3.2	14.2	10	10.4	6.5	3	PPX4-01_
PPX4-02⑤⑥⑦		R1/4	11	43.7	37.7						14		7		PPX4-02_
PPX6-01⑤⑥⑦	6	R1/8	8	44.5	40.5	12.5	17.1	12	3.4	15.9	12	13.5	8	6.2	PPX6-01_
PPX6-02⑤⑥⑦		R1/4	11	47.5	41.5						14		8.5		PPX6-02_
PPX6-03⑤⑥⑦		R3/8	12	49.3	43						17		9.5		PPX6-03_
PPX8-01⑤⑥⑦	8 (5/16")	R1/8	8	48.7	44.7	14.5	18.1	14	3.4	17.2	14	15.1	12	15.7	PPX8-01_
PPX8-02⑤⑥⑦		R1/4	11	51.7	45.7										PPX8-02_
PPX8-03⑤⑥⑦		R3/8	12	53.5	47.2						17		13		PPX8-03_
PPX10-02⑤⑥⑦	10	R1/4	11	58.5	52.5	18	20.9	18	4.5	19.7	17	18	20	22.2	PPX10-02_
PPX10-03⑤⑥⑦		R3/8	12	59.5	53.2								21		PPX10-03_
PPX12-03⑤⑥⑦	12	R3/8	12	64.7	58.4	21	23.6	20	4.2	22.4	22	21	28	29.8	PPX12-03_
PPX12-04⑤⑥⑦		R1/2	15	67.7	59.5								30		PPX12-04_
PPX1/4-01⑤⑥⑦	1/4"	R1/8	8	44.5	40.5	12.5	17.1	12	3.4	15.9	12	13.5	8	6.2	PPX1_4-01_
PPX1/4-02⑤⑥⑦		R1/4	11	47.5	41.5						14		8.5		PPX1_4-02_
PPX1/4-03⑤⑥⑦		R3/8	12	49.3	43						17		9.5		PPX1_4-03_
PPX3/8-02⑤⑥⑦	3/8"	R1/4	11	58.5	52.5	18	20.9	18	4.5	19.7	17	18	20	22.2	PPX3_8-02_
PPX3/8-03⑤⑥⑦		R3/8	12	59.5	53.2								21		PPX3_8-03_
PPX1/2-03⑤⑥⑦	1/2"	R3/8	12	65	58.7	21	23.9	20	4.2	22.7	22	21	27	29.8	PPX1_2-03_
PPX1/2-04⑤⑥⑦		R1/2	15	68	59.8								29		PPX1_2-04_

※ 1. "L" is a reference value for height dimension after tightening thread.
※ 2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 3. ⑥ in Model code / Replaced with "TP" for Seal tape
※ 4. ⑦ in Model code / Replaced with "C" for Clean-room package

PPW Unequal Union Y

RoHS compliant



Unit : mm

Model code	Tube O.D. øD1	Tube O.D. øD2	B	øP1	øP2	Tube end C1	Tube end C2	J	ød	F	T	Weight (g)	Effective area (mm²)	CAD file name
PPW6-4⑤⑦	6	4 (5/32")	37.4	13	12.5	17.1	15	12	3.4	13.5	15.3	8.5	4.2	PPW6-4_
PPW8-6⑤⑦	8 (5/16")	6	42.6	14.5	12.5	18.1	17.1	14	3.4	15.1	17.4	11	10	PPW8-6_
PPW8-1/4⑤⑦		1/4"												PPW8-1_4_
PPW10-8⑤⑦	10	8 (5/16")	48.3	17.5	14.5	20.4	18.1	18	4.5	18.2	19.2	16	17	PPW10-8_
PPW12-10⑤⑦	12	10	55	21	17.5	23.6	20.4	20	4.5	21.7	22.2	25	27	PPW12-10_
PPW1/4-4⑤⑦	1/4"	4 (5/32")	37.4	13	12.5	17.1	15	12	3.4	13.5	15.3	8.5	4.2	PPW1_4-4_
PPW3/8-8⑤⑦	3/8"	8 (5/16")	48.3	17.5	14.5	20.4	18.1	18	4.5	18.2	19.2	16	17	PPW3_8-8_
PPW1/2-3/8⑤⑦	1/2"	3/8"	55.3	21	17.5	23.9	20.4	20	4.5	21.7	22.2	25	27	PPW1_2-3_8_

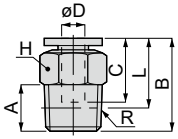
※ 1. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 2. ⑦ in Model code / Replaced with "C" for Clean-room package

Thread ⇔ Tubing connection（threaded portion：SUS304）

PPC-SUS

Straight
Thread material : SUS304

RoHS compliant



Metric thread type

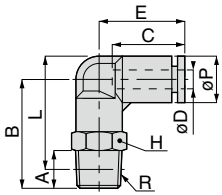
Unit：mm

Model code	Tube O.D. øD	R	A	B	L	Tube end C	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPC4-M3SUS⑤⑦	4 (5/32")	M3×0.5	2.5	20.2	17.7	15	10	5.5	0.9	PPC4-M3SUS_
PPC4-M5SUS⑤⑦		M5×0.8	3	20.1	17.1			6	1.9	PPC4-M5SUS_
PPC4-01SUS⑤⑥⑦		R1/8	8	21.1				8	5.3	PPC4-01SUS_
PPC4-02SUS⑤⑥⑦		R1/4	11		15.1		14	15		PPC4-02SUS_
PPC6-M5SUS⑤⑦	6	M5×0.8	3	22.2	19.2	17.1	12	8.5	1.9	PPC6-M5SUS_
PPC6-01SUS⑤⑥⑦		R1/8	8	22.7	18.7				12.5	PPC6-01SUS_
PPC6-02SUS⑤⑥⑦		R1/4	11	24.7			14	16		PPC6-02SUS_
PPC6-03SUS⑤⑥⑦		R3/8	12	23.7	17.4		17	25		PPC6-03SUS_
PPC8-01SUS⑤⑥⑦	8 (5/16")	R1/8	8	27.9	23.9	18.2	14	15	20	PPC8-01SUS_
PPC8-02SUS⑤⑥⑦		R1/4	11	26.6	20.6					PPC8-02SUS_
PPC8-03SUS⑤⑥⑦		R3/8	12	23.9	17.6		17	22		PPC8-03SUS_
PPC10-02SUS⑤⑥⑦	10	R1/4	11	30	24	20.9	17	19	35	PPC10-02SUS_
PPC10-03SUS⑤⑥⑦		R3/8	12	29.5	23.2			24		PPC10-03SUS_
PPC12-03SUS⑤⑥⑦	12	R3/8	12	32.1	25.8	23.5	21	33	59	PPC12-03SUS_
PPC12-04SUS⑤⑥⑦		R1/2	15	34.1	25.9			46		PPC12-04SUS_
PPC1/4-M5SUS⑤⑦	1/4"	M5×0.8	3	22.2	19.2	17.1	12	8.5	1.9	PPC1_4-M5SUS_
PPC1/4-01SUS⑤⑥⑦		R1/8	8	22.7	18.7			8	12.5	PPC1_4-01SUS_
PPC1/4-02SUS⑤⑥⑦		R1/4	11	24.7			14	16		PPC1_4-02SUS_
PPC1/4-03SUS⑤⑥⑦		R3/8	12	23.7	17.4		17	25		PPC1_4-03SUS_
PPC3/8-02SUS⑤⑥⑦	3/8"	R1/4	11	30	24	20.9	17	19	35	PPC3_8-02SUS_
PPC3/8-03SUS⑤⑥⑦		R3/8	12	29.5	23.2			25		PPC3_8-03SUS_
PPC1/2-03SUS⑤⑥⑦	1/2"	R3/8	12	31.9	25.6	23.3	21	32	59	PPC1_2-03SUS_
PPC1/2-04SUS⑤⑥⑦		R1/2	15	33.9	25.7			45		PPC1_2-04SUS_

※1. "L" is a reference value for height dimension after tightening taper thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "S" for Sealock, or "TP" for Seal tape on thread.
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

PPL-SUS Elbow
Thread material : SUS304

RoHS compliant



Metric thread type

Unit：mm

Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPL4-M3SUS⑤⑦	4 (5/32")	M3×0.5	2.5	19.8	22.3	10	15	18.1	10	6.5	0.9	PPL4-M3SUS_
PPL4-M5SUS⑤⑦		M5×0.8	3	20.3						7	1.5	PPL4-M5SUS_
PPL4-01SUS⑤⑥⑦		R1/8	8	23.3	24.3					10	4.2	PPL4-01SUS_
PPL4-02SUS⑤⑥⑦		R1/4	11	26.3	25.3				14	19		PPL4-02SUS_
PPL6-M5SUS⑤⑦	6	M5×0.8	3	22	25.3	12.5	16.9	19.9	12	11	1.5	PPL6-M5SUS_
PPL6-01SUS⑤⑥⑦		R1/8	8	25	27.3					13	10	PPL6-01SUS_
PPL6-02SUS⑤⑥⑦		R1/4	11	28	28.2				14	20		PPL6-02SUS_
PPL6-03SUS⑤⑥⑦		R3/8	12	29.8	29.7				17	33		PPL6-03SUS_
PPL8-01SUS⑤⑥⑦	8 (5/16")	R1/8	8	28	31.3	14.5	18.1	22.7	14	16	16.5	PPL8-01SUS_
PPL8-02SUS⑤⑥⑦		R1/4	11	31	32.2					22		PPL8-02SUS_
PPL8-03SUS⑤⑥⑦		R3/8	12	32.8	33.7				17	35		PPL8-03SUS_
PPL10-02SUS⑤⑥⑦	10	R1/4	11	36	38.7	17.5	20.4	26.4	17	31	30	PPL10-02SUS_
PPL10-03SUS⑤⑥⑦		R3/8	12	37	39.4					38		PPL10-03SUS_
PPL12-03SUS⑤⑥⑦	12	R3/8	12	39	43.2	21	23.6	29.6	21	46	47	PPL12-03SUS_
PPL12-04SUS⑤⑥⑦		R1/2	15	42	44.3					60		PPL12-04SUS_
PPL1/4-M5SUS⑤⑦	1/4"	M5×0.8	3	22	25.3	12.5	16.9	19.9	12	11	1.5	PPL1_4-M5SUS_
PPL1/4-01SUS⑤⑥⑦		R1/8	8	25	27.3					13	10	PPL1_4-01SUS_
PPL1/4-02SUS⑤⑥⑦		R1/4	11	28	28.2				14	20		PPL1_4-02SUS_
PPL1/4-03SUS⑤⑥⑦		R3/8	12	29.8	29.7				17	32		PPL1_4-03SUS_
PPL3/8-02SUS⑤⑥⑦	3/8"	R1/4	11	36	38.7	17.5	20.4	26.4	17	31	30	PPL3_8-02SUS_
PPL3/8-03SUS⑤⑥⑦		R3/8	12	37	39.4					39		PPL3_8-03SUS_
PPL1/2-03SUS⑤⑥⑦	1/2"	R3/8	12	39	43.2	21	23.9	29.9	21	46	47	PPL1_2-03SUS_
PPL1/2-04SUS⑤⑥⑦		R1/2	15	42	44.3					60		PPL1_2-04SUS_

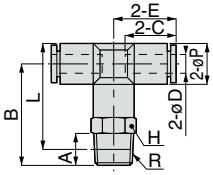
※ 1. "L" is a reference value for height dimension after tightening taper thread.
※ 2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 3. ⑥ in Model code / Replaced with "S" for Sealock, or "TP" for Seal tape on thread.
※ 4. ⑦ in Model code / Replaced with "C" for Clean-room package

Stainless Steel SUS304 thread

PPB-SUS

Branch Tee
Thread material : SUS304

RoHS compliant



Metric thread type

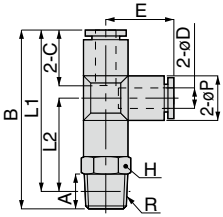
Unit : mm

Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPB4-M3SUS⑤⑦	4 (5/32")	M3×0.5	2.5	19.7	22.2	10	15	17	10	8.4	0.9	PPB4-M3SUS_
PPB4-M5SUS⑤⑦		M5×0.8	3	20.2						9	1.5	PPB4-M5SUS_
PPB4-01SUS⑤⑥⑦		R1/8	8	23.2	24.2					12	4.1	PPB4-01SUS_
PPB4-02SUS⑤⑥⑦		R1/4	11	26.2	25.2				14	21		PPB4-02SUS_
PPB6-M5SUS⑤⑦	6	M5×0.8	3	23	26.5	13	17.1	20.3	12	14	1.5	PPB6-M5SUS_
PPB6-01SUS⑤⑥⑦		R1/8	8	26	28.5					16	10	PPB6-01SUS_
PPB6-02SUS⑤⑥⑦		R1/4	11	29	29.5				14	23		PPB6-02SUS_
PPB6-03SUS⑤⑥⑦		R3/8	12	30.8	31				17	36		PPB6-03SUS_
PPB8-01SUS⑤⑥⑦	8 (5/16")	R1/8	8	26.3	29.8	15	18.1	22.4	14	20	16.5	PPB8-01SUS_
PPB8-02SUS⑤⑥⑦		R1/4	11	29.3	30.8					25		PPB8-02SUS_
PPB8-03SUS⑤⑥⑦		R3/8	12	31.1	32.3				17	38		PPB8-03SUS_
PPB10-02SUS⑤⑥⑦	10	R1/4	11	36	38.7	17.5	20.4	25.4	17	37	30	PPB10-02SUS_
PPB10-03SUS⑤⑥⑦		R3/8	12	37	39.4					44		PPB10-03SUS_
PPB12-03SUS⑤⑥⑦	12	R3/8	12	39	43.2	21	23.1	28.6	21	55	47	PPB12-03SUS_
PPB12-04SUS⑤⑥⑦		R1/2	15	42	44.3					69		PPB12-04SUS_
PPB1/4-M5SUS⑤⑦	1/4"	M5×0.8	3	23	26.5	13	17.1	20.3	12	14	1.5	PPB1_4-M5SUS_
PPB1/4-01SUS⑤⑥⑦		R1/8	8	26	28.5					15	10	PPB1_4-01SUS_
PPB1/4-02SUS⑤⑥⑦		R1/4	11	29	29.5				14	23		PPB1_4-02SUS_
PPB1/4-03SUS⑤⑥⑦		R3/8	12	30.8	31				17	35		PPB1_4-03SUS_
PPB3/8-02SUS⑤⑥⑦	3/8"	R1/4	11	36	38.7	17.5	20.4	25.4	17	37	30	PPB3_8-02SUS_
PPB3/8-03SUS⑤⑥⑦		R3/8	12	37	39.4					45		PPB3_8-03SUS_
PPB1/2-03SUS⑤⑥⑦	1/2"	R3/8	12	39	43.2	21	23.4	28.9	21	54	47	PPB1_2-03SUS_
PPB1/2-04SUS⑤⑥⑦		R1/2	15	42	44.3					68		PPB1_2-04SUS_

※1. "L" is a reference value for height dimension after tightening taper thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "S" for Sealock, or "TP" for Seal tape on thread.
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

Run Tee
Thread material : SUS304

RoHS compliant



Metric thread type

Unit：mm

Model code	Tube O.D. øD	R	A	B	L1	L2	øP	Tube end C	E	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPD4-M3SUS⑤⑦	4 (5/32")	M3×0.5	2.5	36.7	34.2	17.2	10	15	17	10	8.3	0.9	PPD4-M3SUS_
PPD4-M5SUS⑤⑦		M5×0.8	3	37.2		17.2					9	1.9	PPD4-M5SUS_
PPD4-01SUS⑤⑥⑦		R1/8	8	40.2	36.2	19.2					12	5.3	PPD4-01SUS_
PPD4-02SUS⑤⑥⑦		R1/4	11	43.2	37.2	20.2				14	21		PPD4-02SUS_
PPD6-M5SUS⑤⑦	6	M5×0.8	3	43.3	40.3	20	13	17.1	20.2	12	14	1.9	PPD6-M5SUS_
PPD6-01SUS⑤⑥⑦		R1/8	8	46.3	42.3	22					16	12.5	PPD6-01SUS_
PPD6-02SUS⑤⑥⑦		R1/4	11	49.3	43.3	23				14	23		PPD6-02SUS_
PPD6-03SUS⑤⑥⑦		R3/8	12	51.1	44.8	24.5				17	36		PPD6-03SUS_
PPD8-01SUS⑤⑥⑦	8 (5/16")	R1/8	8	50.4	46.4	24.2	15	18.1	22.2	14	20	20	PPD8-01SUS_
PPD8-02SUS⑤⑥⑦		R1/4	11	53.4	47.4	25.2					26		PPD8-02SUS_
PPD8-03SUS⑤⑥⑦		R3/8	12	55.2	48.9	26.7				17	38		PPD8-03SUS_
PPD10-02SUS⑤⑥⑦	10	R1/4	11	61.4	55.4	30	17.5	20.4	25.4	17	37	35	PPD10-02SUS_
PPD10-03SUS⑤⑥⑦		R3/8	12	62.4	56.1	30.7					44		PPD10-03SUS_
PPD12-03SUS⑤⑥⑦	12	R3/8	12	67.8	61.5	32.9	21	23.1	28.4	21	55	59	PPD12-03SUS_
PPD12-04SUS⑤⑥⑦		R1/2	15	70.8	62.6	34					69		PPD12-04SUS_
PPD1/4-M5SUS⑤⑦	1/4"	M5×0.8	3	43.3	40.3	20	13	17.1	20.2	12	14	1.9	PPD1_4-M5SUS_
PPD1/4-01SUS⑤⑥⑦		R1/8	8	46.3	42.3	22					15	12.5	PPD1_4-01SUS_
PPD1/4-02SUS⑤⑥⑦		R1/4	11	49.3	43.3	23				14	23		PPD1_4-02SUS_
PPD1/4-03SUS⑤⑥⑦		R3/8	12	51.1	44.8	24.5				17	35		PPD1_4-03SUS_
PPD3/8-02SUS⑤⑥⑦	3/8"	R1/4	11	61.4	55.4	30	17.5	20.4	25.4	17	37	35	PPD3_8-02SUS_
PPD3/8-03SUS⑤⑥⑦		R3/8	12	62.4	56.1	30.7					45		PPD3_8-03SUS_
PPD1/2-03SUS⑤⑥⑦	1/2"	R3/8	12	68.1	61.8	32.9	21	23.4	28.7	21	54	59	PPD1_2-03SUS_
PPD1/2-04SUS⑤⑥⑦		R1/2	15	71.1	62.9	34					68		PPD1_2-04SUS_

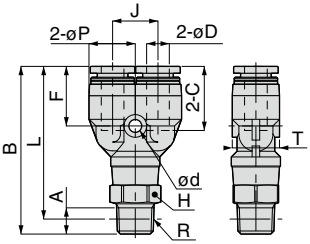
※ 1. "L1" and "L2" are reference values for height dimensions after tightening taper thread.
※ 2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※ 3. ⑥ in Model code / Replaced with "S" for Sealock, or "TP" for Seal tape on thread.
※ 4. ⑦ in Model code / Replaced with "C" for Clean-room package

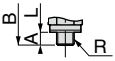
Stainless Steel SUS304 thread

PPX-SUS

Branch Y
Thread material : SUS304

RoHS compliant





Metric thread type

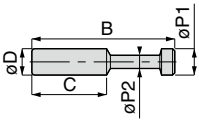
Unit : mm

Model code	Tube O.D. øD	R	A	B	L	øP	Tube end C	J	ød	F	T	Hex. H	Weight (g)	Effective area (mm^2)	CAD file name
PPX4-M3SUS⑤⑦	4 (5/32")	M3×0.5	2.5	37.2	34.7	10	15	11	3.2	14.2	10	10.4	8.7	0.9	PPX4-M3SUS_
PPX4-M5SUS⑤⑦		M5×0.8	3	37.7									9.2	1.5	PPX4-M5SUS_
PPX4-01SUS⑤⑥⑦		R1/8	8	40.7	36.7								12	4.2	PPX4-01SUS_
PPX4-02SUS⑤⑥⑦		R1/4	11	43.7	37.7						14		21		PPX4-02SUS_
PPX6-M5SUS⑤⑦	6	M5×0.8	3	41.5	38.5	12.5	17.1	12	3.4	15.9	12	13.5	14	1.5	PPX6-M5SUS_
PPX6-01SUS⑤⑥⑦		R1/8	8	44.5	40.5								16	10	PPX6-01SUS_
PPX6-02SUS⑤⑥⑦		R1/4	11	47.5	41.5						14		23		PPX6-02SUS_
PPX6-03SUS⑤⑥⑦		R3/8	12	49.3	43						17		35		PPX6-03SUS_
PPX8-01SUS⑤⑥⑦	8 (5/16")	R1/8	8	48.7	44.7	14.5	18.1	14	3.4	17.2	14	15.1	21	16.5	PPX8-01SUS_
PPX8-02SUS⑤⑥⑦		R1/4	11	51.7	45.7								26		PPX8-02SUS_
PPX8-03SUS⑤⑥⑦		R3/8	12	53.5	47.2						17		38		PPX8-03SUS_
PPX10-02SUS⑤⑥⑦	10	R1/4	11	58.5	52.5	18	20.9	18	4.5	19.7	17	18	39	30	PPX10-02SUS_
PPX10-03SUS⑤⑥⑦		R3/8	12	59.5	53.2								46		PPX10-03SUS_
PPX12-03SUS⑤⑥⑦	12	R3/8	12	64.7	58.4	21	23.6	20	4.2	22.4	21	21	57	37	PPX12-03SUS_
PPX12-04SUS⑤⑥⑦		R1/2	15	67.7	59.5								71		PPX12-04SUS_
PPX1/4-M5SUS⑤⑦	1/4"	M5×0.8	3	41.5	38.5	12.5	17.1	12	3.4	15.9	12	13.5	14	1.5	PPX1_4-M5SUS_
PPX1/4-01SUS⑤⑥⑦		R1/8	8	44.5	40.5								16	10	PPX1_4-01SUS_
PPX1/4-02SUS⑤⑥⑦		R1/4	11	47.5	41.5						14		23		PPX1_4-02SUS_
PPX1/4-03SUS⑤⑥⑦		R3/8	12	49.3	43						17		35		PPX1_4-03SUS_
PPX3/8-02SUS⑤⑥⑦	3/8"	R1/4	11	58.5	52.5	18	20.9	18	4.5	19.7	17	18	39	30	PPX3_8-02SUS_
PPX3/8-03SUS⑤⑥⑦		R3/8	12	59.5	53.2								47		PPX3_8-03SUS_
PPX1/2-03SUS⑤⑥⑦	1/2"	R3/8	12	65	58.7	21	23.9	20	4.2	22.7	21	21	56	37	PPX1_2-03SUS_
PPX1/2-04SUS⑤⑥⑦		R1/2	15	68	59.8								70		PPX1_2-04SUS_

※1. "L" is a reference value for height dimension after tightening taper thread.
※2. ⑤ in Model code / Replaced with "F" (FKM), or "N" (NBR) for Seal rubber material change (No code: EPDM)
※3. ⑥ in Model code / Replaced with "S" for Sealock, or "TP" for Seal tape on thread.
※4. ⑦ in Model code / Replaced with "C" for Clean-room package

PPP Plug

RoHS compliant



Unit：mm

Model code	Tube dia. øD	B	øP1	øP2	C	Weight (g)	CAD file name
PPP4⑦	4 (5/32")	27.5	5	3	15	0.5	PPP4_
PPP6⑦	6	32.5	7	3	17	0.5	PPP6_
PPP8⑦	8 (5/16")	36.5	9	4	18.1	1	PPP8_
PPP10⑦	10	42	11	5	20.2	2	PPP10_
PPP12⑦	12	44	13	6	23.4	2.5	PPP12_
PPP1/4⑦	1/4"	33	7.5	3	17	1	PPP1_4_
PPP3/8⑦	3/8"	42	10.5	5	20.2	1.5	PPP3_8_
PPP1/2⑦	1/2"	44	13	6	23.4	2.5	PPP1_2_

※ 1. ⑦ in Model code / Replaced with "C" for Clean-room package

⚠ SAFETY Instructions

This safety instructions aim to prevent personal injury and damage to properties by requiring proper use of PISCO products.

Be certain to follow ISO 4414 and JIS B 8370

ISO 4414 : Pneumatic fluid power···Recomendations for the application of equipment to transmission and control systems.

JIS B 8370 : General rules and safety requirements for systems and their components.

This safety instructions is classified into “Danger”, “Warning” and “Caution” depending on the degree of danger or damages caused by improper use of PISCO products.

⚠ Danger	Hazardous conditions. It can cause death or serious personal injury.
⚠ Warning	Hazardous conditions depending on usages. Improper use of PISCO products can cause death or serious personal injury.
⚠ Caution	Hazardous conditions depending on usages. Improper use of PISCO products can cause personal injury or damages to properties.

⚠ Warning

1. Selection of pneumatic products
   ① A user who is a pneumatic system designer or has sufficient experience and technical expertise should select PISCO products.
   ② Due to wide variety of operating conditions and applications for PISCO products, carry out the analysis and evaluation on PISCO products. The pneumatic system designer is solely responsible for assuring that the user's requirements are met and that the application presents no health or safety hazards. All designers are required to fully understand the specifications of PISCO products and constitute all systems based on the latest catalog or information, considering any malfunctions.

2. Handle the pneumatic equipment with enough knowledge and experience
   ① Improper use of compressed air is dangerous. Assembly, operation and maintenance of machines using pneumatic equipment should be conducted by a person with enough knowledge and experience.

3. Do not operate machine / equipment or remove pneumatic equipment until safety is confirmed.
   ① Make sure that preventive measures against falling work-pieces or sudden movements of machine are completed before inspection or maintenance of these machine.
   ② Make sure the above preventive measures are completed. A compressed air supply and the power supply to the machine must be off, and also the compressed air in the systems must be exhausted.
   ③ Restart the machines with care after ensuring to take all preventive measures against sudden movements.

Disclaimer

1. PISCO does not take any responsibility for any incidental or indirect loss, such as production line stop, interruption of business, loss of benefits, personal injury, etc., caused by any failure on use or application of PISCO products.

2. PISCO does not take any responsibility for any loss caused by natural disasters, fires not related to PISCO products, acts by third parties, and intentional or accidental damages of PISCO products due to incorrect usage.

3. PISCO does not take any responsibility for any loss caused by improper usage of PISCO products such as exceeding the specification limit or not following the usage the published instructions and catalog allow.

4. PISCO does not take any responsibility for any loss caused by remodeling of PISCO products, or by combinational use with non-PISCO products and other software systems.

5. The damages caused by the defect of Pisco products shall be covered but limited to the full amount of the PISCO products paid by the customer.

⚠ SAFETY INSTRUCTION MANUAL

PISCO products are designed and manufactured for use in general industrial machines. Be sure to read and follow the instructions below.

⚠ Danger

1. Do not use PISCO products for the following applications.
   ① Equipment used for maintaining / handling human life and body.
   ② Equipment used for moving / transporting human.
   ③ Equipment specifically used for safety purposes.

⚠ Warning

1. Do not use PISCO products under the following conditions.
   ① Beyond the specifications or conditions stated in the catalog, or the instructions.
   ② Under the direct sunlight or outdoors.
   ③ Excessive vibrations and impacts.
   ④ Exposure / adhere to corrosive gas, inflammable gas, chemicals, seawater, water and vapor. *
   * Some products can be used under the condition above(④), refer to the details of specification and condition of each product.
2. Do not disassemble or modify PISCO products, which affect the performance, function, and basic structure of the product.
3. Turn off the power supply, stop the air supply to PISCO products, and make sure there is no residual air pressure in the pipes before maintenance and inspection.
4. Do not touch the release-ring of push-in fitting when there is a working pressure. The lock may be released by the physical contact, and tube may fly out or slip out.
5. Frequent switchover of compressed air may generate heat, and there is a risk of causing burn injury.
6. Avoid any load on PISCO products, such as a tensile strength, twisting and bending. Otherwise, there is a risk of causing damage to the products.
7. As for applications where threads or tubes swing / rotate, use Rotary Joints, High Rotary Joints or Multi-Circuit Rotary Block only. The other PISCO products can be damaged in these applications.
8. Use only Die Temperature Control Fitting Series, Tube Fitting Stainless SUS316 Series, Tube Fitting Stainless SUS316 Compression Fitting Series or Tube Fitting Brass Series under the condition of over 60℃ (140° F) water or thermal oil. Other PISCO products can be damaged by heat and hydrolysis under the condition above.
9. As for the condition required to dissipate static electricity or provide an antistatic performance, use EG series fitting and antistatic products only, and do not use other PISCO products. There is a risk that static electricity can cause system defects or failures.
10. Use only Fittings with a characteristic of spatter-proof such as Anti-spatter or Brass series in a place where flame and weld spatter is produced. There is a risk of causing fire by sparks.
11. Turn off the power supply to PISCO products, and make sure there is no residual air pressure in the pipes and equipment before maintenance. Follow the instructions below in order to ensure safety.
    ① Make sure the safety of all systems related to PISCO products before maintenance.
    ② Restart of operation after maintenance shall be proceeded with care after ensuring safety of the system by preventive measures against unexpected movements of machines and devices where pneumatic equipment is used.
    ③ Keep enough space for maintenance when designing a circuit.
12. Take safety measures such as providing a protection cover if there is a risk of causing damages or fires on machine / facilities by a fluid leakage.

⚠ Caution

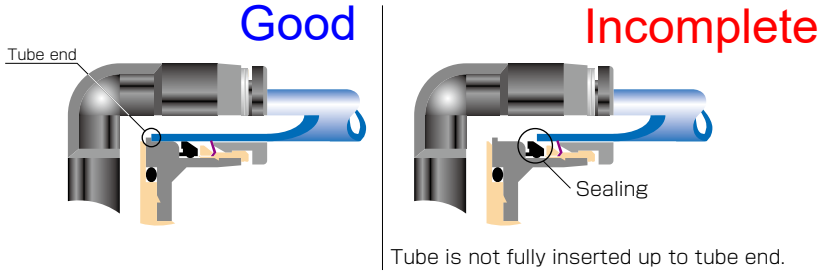
1. Remove dusts or drain before piping. They may get into the peripheral machine / facilities and cause malfunction.
2. When inserting an ultra-soft tube into push-in fitting, make sure to place an Insert Ring into the tube edge. There is a risk of causing the escape of tube and a fluid leakage without using an Insert Ring.
3. The product incorporating NBR as seal rubber material has a risk of malfunction caused by ozone crack. Ozone exists in high concentrations in static elimination air, clean-room, and near the high-voltage motors, etc. As a countermeasure, material change from NBR to HNBR or FKM is necessary. Consult with PISCO for more information.
4. Special option "Oil-free" products may cause a very small amount of a fluid leakage. When a fluid medium is liquid or the products are required to be used in harsh environments, contact us for further information.
5. In case of using non-PISCO brand tubes, make sure the tolerance of the outer tube diameter is within the limits of Table 1.

● Table 1. Tube O.D. Tolerance

mm size	Nylon tube	Polyurethane tube
ø1.8mm	—	±0.05mm
ø3mm	—	±0.15mm
ø4mm	±0.1mm	±0.15mm
ø6mm	±0.1mm	±0.15mm
ø8mm	±0.1mm	±0.15mm
ø10mm	±0.1mm	±0.15mm
ø12mm	±0.1mm	±0.15mm
ø16mm	±0.1mm	±0.15mm

inch size	Nylon tube	Polyurethane tube
ø1/8	±0.1mm	±0.15mm
ø5/32	±0.1mm	±0.15mm
ø3/16	±0.1mm	±0.15mm
ø1/4	±0.1mm	±0.15mm
ø5/16	±0.1mm	±0.15mm
ø3/8	±0.1mm	±0.15mm
ø1/2	±0.1mm	±0.15mm
ø5/8	±0.1mm	±0.15mm

6. Instructions for Tube Insertion
   ① Make sure that the cut end surface of the tube is at right angle without a scratch on the surface and deformations.
   ② When inserting a tube, the tube needs to be inserted fully into the push-in fitting until the tubing edge touches the tube end of the fitting as shown in the figure below. Otherwise, there is a risk of leakage.



Tube is not fully inserted up to tube end.

   ③ After inserting the tube, make sure it is inserted properly and not to be disconnected by pulling it moderately.
   ※. When inserting tubes, Lock-claws may be hardly visible in the hole, observed from the front face of the release-ring. But it does not mean the tube will surely escape. Major causes of the tube escape are the followings;
   ①Shear drop of the lock-claws edge
   ②The problem of tube diameter (usually small)
   Therefore, follow the above instructions from ① to ③, even lock-claws is hardly visible.

7. Instructions for Tube Disconnection
   ① Make sure there is no air pressure inside of the tube, before disconnecting it.
   ② Push the release-ring of the push-in fitting evenly and deeply enough to pull out the tube toward oneself. By insufficient pushing of the release-ring, the tube may not be pulled out or damaged by scratch, and tube shavings may remain inside of the fitting, which may cause the leakage later.
8. Instructions for Installing a fitting
   ① When installing a fitting, use proper tools to tighten a hexagonal-column or an inner hexagonal socket. When inserting a hex key into the inner hexagonal socket of the fitting, be careful so that the tool does not touch lock-claws. The deformation of lock-claws may result in a poor performance of systems or an escape of the tube.
   ② Refer to Table 2 which shows the recommended tightening torque. Do not exceed these limits to tighten a thread. Excessive tightening may break the thread part or deform the gasket and cause a fluid leakage. Tightening thread with tightening torque lower than these limits may cause a loosened thread or a fluid leakage.
   ③ Adjust the tube direction while tightening thread within these limits, since some PISCO products are not rotatable after the installation.

● Table 2: Recommended tightening torque / Sealock color / Gasket materials

Thread type	Thread size	Tightening torque	Sealock color	Gasket materials
Metric thread	M3 × 0.5	0.7N·m	—	SUS304 NBR
	M5 × 0.8	1.0 ~ 1.5N·m		
	M6 × 1	2 ~ 2.7N·m		
	M3 × 0.5	0.7N·m		POM
	M5 × 0.8	1 ~ 1.5N·m		
	M6 × 0.75	0.8 ~ 1N·m		
	M8 × 0.75	1 ~ 2N·m		
Taper pipe thread	R1/8	4.5 ~ 6.5N·m	White	—
	R1/4	7 ~ 9N·m		
	R3/8	12.5 ~ 14.5N·m		
	R1/2	20 ~22N·m		
Unified thread	No.10-32UNF	1.0 ~ 1.5N·m	—	SUS304、NBR
National pipe thread taper	1/16-27NPT	4.5 ~ 6.5N·m	White	—
	1/8-27NPT	4.5 ~ 6.5N·m		
	1/4-18NPT	7 ~ 9N·m		
	3/8-18NPT	12.5 ~ 14.5N·m		
	1/2-14NPT	20 ~ 22N·m		

※ These values may differ for some products. Refer to each specification as well.

9. Instructions for removing a fitting
   ① When removing a fitting, use proper tools to loosen a hexagonal-column or an inner hex bolt.
   ② Remove the sealant stuck on the mating equipment. The remained sealant may get into the peripheral equipment and cause malfunctions.
10. Arrange piping avoiding any load on fittings and tubes such as twist, tensile, moment load, shaking and physical impact. These may cause damages to fittings, tube deformations, bursting and the escape of tubes.

⚠ Common Safety Instructions for Fittings

Before selecting or using PISCO products, read the following instructions. Read the detailed instructions for individual series as well as the instructions below.

⚠ Warning

1. Do not use fittings with fluid medium other than air or water. (Water can be used with some series.) Contact us for using other kind of fluid medium except air and water.

2. Do not use fittings except Anti-spatter, Brass and Brass Compression Fitting series in a place where the flame and weld spatter is produced. There is a risk of causing fire by sparks.

3. As for applications where threads or tubes swing / rotate, use Rotary Joints, High Rotary Joints or Multi-Circuit Rotary Block only. The other PISCO products can be damaged in these applications.

4. Use only Die Temperature Control Fitting Series, Tube Fitting Stainless SUS316 Series, Tube Fitting Stainless SUS316 Compression Fitting Series or Tube Fitting Brass Series under the condition of over 60℃ (140° F) water or thermal oil. Other PISCO products can be damaged by heat and hydrolysis under the condition above.

5. As for the condition required to dissipate static electricity or provide an antistatic performance, use EG Series fitting and antistatic products only, and do not use other PISCO products. There is a risk that static electricity can cause system defects or failures.

6. Avoid any load on PISCO products, such as a tensile strength, twisting and bending. Otherwise, there is a risk of causing damage to the products.

⚠ Caution

1.In case of using non-PISCO brand tubes, make sure the tolerance of the outer tube diameter is within the following limits of Table 1.

●Table 1. Tube O.D. Tolerance

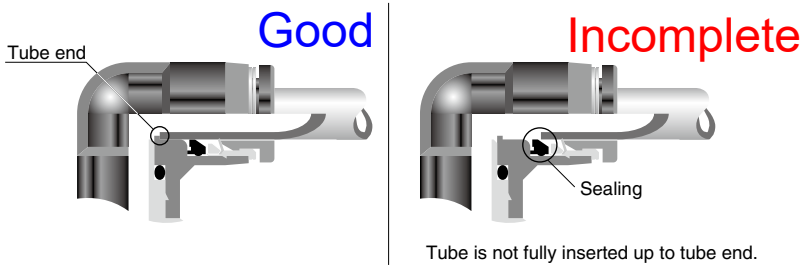
mm size	Nylon tube	Urethane tube
ø1.8mm	—	±0.05mm
ø3mm	—	±0.15mm
ø4mm	±0.1mm	±0.15mm
ø6mm	±0.1mm	±0.15mm
ø8mm	±0.1mm	±0.15mm
ø10mm	±0.1mm	±0.15mm
ø12mm	±0.1mm	±0.15mm
ø16mm	±0.1mm	±0.15mm

inch size	Nylon tube	Urethane tube
ø1/8	±0.1mm	±0.15mm
ø5/32	±0.1mm	±0.15mm
ø3/16	±0.1mm	±0.15mm
ø1/4	±0.1mm	±0.15mm
ø5/16	±0.1mm	±0.15mm
ø3/8	±0.1mm	±0.15mm
ø1/2	±0.1mm	±0.15mm
ø5/8	±0.1mm	±0.15mm

2. Instructions for Tube Insertion

① Make sure that the cut end surface of the tube is at right angle without a scratch on the tube surface and deformations.

② When inserting a tube, the tube needs to be inserted fully into the push-in fitting until the tubing edge touches the tube end of the fitting as shown in the figure below. Otherwise, there is a risk of leakage.



③ After inserting the tube, make sure it is inserted properly and not to be disconnected by pulling it moderately.

3. Instructions for Tube Disconnection

① Make sure there is no air pressure inside of the tube, before disconnecting it.

② Push the release-ring of the push-in fitting evenly and deeply enough to pull out the tube toward oneself. By insufficient pushing of the release-ring, the tube may not be pulled out or damaged by scratch, and tube shavings may remain inside of the fitting, which may cause the leakage later.

4. Instructions for Installing a fitting

① When installing a fitting, use proper tools to tighten a hexagonal-column or an inner hexagonal socket. When inserting a hex key into the inner hexagonal socket of the fitting, be careful so that the tool does not touch lock-claws. The deformation of lock-claws may result in a poor performance of systems or an escape of the tube.

② Refer to Table 2 which shows the recommended tightening torque. Do not exceed these limits to tighten a thread. Excessive tightening may break the thread part or deform the gasket and cause a fluid leakage. Tightening thread with tightening torque lower than these limits may cause a loosened thread or a fluid leakage.

③ Adjust the tube direction while tightening thread within these limits, since some PISCO products are not rotatable the installation.

● Table 2: Recommended tightening torque / Sealock color / Gasket materials

Thread type	Thread size	Tightening torque	Sealock color	Gasket materials
Metric thread	M3 × 0.5	0.7N·m	—	SUS304 NBR
	M5 × 0.8	1.0 ~ 1.5N·m		
	M6 × 1	2 ~ 2.7N·m		
	M3 × 0.5	0.5 ~0.6N·m		POM
	M5 × 0.8	1 ~1.5N·m		
	M6 × 0.75	0.8 ~ 1N·m		
	M8 × 0.75	1 ~ 2N·m		
Taper pipe thread	R1/8	7 ~ 9N·m	White	—
	R1/4	12 ~ 14N·m		
	R3/8	22 ~ 24N·m		
	R1/2	28 ~ 30N·m		
Unified thread	No.10-32UNF	1.0 ~ 1.5N·m	—	SUS304、NBR
National pipe thread taper	1/16-28NPT	7 ~ 9N·m	White	—
	1/8-27NPT	7 ~ 9N·m		
	1/4-18NPT	12 ~ 14N·m		
	3/8-18NPT	22 ~ 24N·m		
	1/2-14NPT	28 ~ 30N·m		

※.These values may differ for some products. Refer to each specification as well

5.Instructions for removng a fitting

① When removing a fitting, use proper tools to loosen a hexagonal-column or an inner hexagonal socket.

② Remove the sealant stuck on the mating equipment. The remained sealant may get into the peripheral equipment and cause malfunctions.

6.Arrange piping avoiding any load on fittings and tubes such as twist, tensile, moment load, shaking and physical impact. These may cause damages to fittings, tube deformations, bursting and the escape of tubes.