

NSF CONNECTIONS for FOOD & BEVERAGE



Smart fluid handling to take you forward, faster • • • •



CPC (Colder Products Company) has been designing and manufacturing quick disconnect couplings, fittings and connectors since 1978. Our broad range of products are found in thousands of applications across many life sciences, specialty industrial and chemical handling markets. Used in a wide range of products, machinery, devices and processes, CPC's innovative coupling and connection technologies allow flexible tubing to be quickly and safely connected and disconnected. The robust and easy-to-use design of CPC's quick disconnect couplings and fittings provides reliable, secure and leak-free connections for fluid and air management. CPC makes people's lives better by developing innovative high quality products that make fluid handling safe and easy.

QUALITY

CPC meets or exceeds our customers' expectations. Everyone is involved, from our suppliers to our distribution network, and most importantly, our employees. CPC measures and continually improves our standards of product quality, support services and overall customer and employee satisfaction. CPC's Quality System conforms to ISO 9001:2008 and ISO 13485 standards. Our cleanroom is ISO Class 7 certified.

OUR CAPABILITIES

CPC's engineered, custom solutions improve the overall functionality and design of the equipment and processes in which they are used. Special product features include precise hose barbs for superior grip, built-in shutoff valves to prevent product spills and an easy-to-use, push-button thumb latch for quick connecting and disconnecting.

NSF / FOOD-GRADE CONNECTIONS

CPC manufactures thousands of connection solutions specifically for the Food and Beverage marketplace. All of these products are listed under NSF/ANSI Standard 169, are made from FDA-approved materials and available with certification. All of our NSF-listed products are available with built-in shutoff valves that automatically shut off the media when you disconnect the coupling.

Applications may include:

- Office coffee service
- Water filtration
- Condiment dispensing
- Dairy processing

VISIT US ONLINE FOR INTERACTIVE WEB TOOLS



TABLE OF CONTENTS

LEGEND



Straight- Single Double Non-Spill Through Shut-Off Shut-Off

Note: Product images may not be to scale

NSF-Grade Couplings



PAGE | DESCRIPTION

6 LC NSF SERIES: Durable and able to withstand higher pressure and temperature; easy one-hand connection and disconnection.

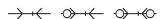
Material: Chrome-plated brass

Tubing ID Sizes: 1/4" to 3/8" (6.4mm to 9.5mm)





Tubing ID Sizes: 1/4" to 3/8" (6.4mm to 9.5mm)





12 MC NSF SERIES: Durable and able to withstand higher pressure and temperature; easy one-hand connection and disconnection.

Material: Chrome-plated brass

Tubing ID Sizes: 1/8" to 1/4" (3.2mm to 6.4mm)





14 PMC NSF SERIES: Features one-hand connection and disconnection and integral terminations; easier to use than ball-and-sleeve designs. Material: Acetal

Tubing ID Sizes: 1/16" to 1/4" (1.6mm to 6.4mm

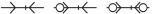




18 PLC NSF SERIES: Widest selection of sizes and configurations offered; resistant to most mild chemical solutions.

Material: Acetal

Tubing ID Sizes: 1/4" to 3/8" (6.4mm to 9.5mm)





22 HFC12 NSF SERIES: Efficient valve design leads to high flow and exceptionally low spillage; shrouded thumb latch is easy to grip and simple to operate.

Material: Polypropylene

Tubing ID Sizes: 3/8" to 3/4" (9.5mm to 19.0mm)





24 HFC35 NSF SERIES: Withstand harsh environments and harmful rays without affecting performance.

Material: Polysulfone (white)

Tubing ID Sizes: 3/8" to 3/4" (9.5mm to 19.0mm)





Tubing ID Sizes: 3/8" to 3/4" (9.5mm to 19.0mm)

→ +

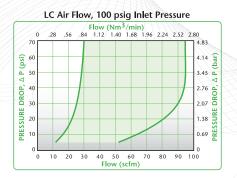


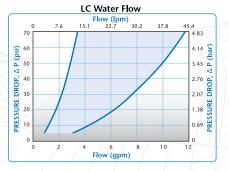
LC SERIES CONNECTOR



CPC's LC Series chrome-plated brass couplings are built tough and made to last in the most demanding applications. Ideal for use with higher temperature or pressure, the LC Series features a one-hand operation for swift and easy connects and disconnects. These couplings offer the flexibility of multiple configurations and terminations to mate with both the PLC acetal and PLC12 polypropylene couplings.

FEATURES	BENEFITS
Brass material	Durable construction withstands higher pressure and temperature
Chrome plating	Attractive appearance
CPC thumb latch	One-hand connection and disconnection
Compatible	LC mates with PLC Series couplings





Specifications • • •







PRESSURE:

Vacuum to 250 psi, 17.3 bar

TEMPERATURE:

-40°F to 180°F (-40°C to 82°C)

MATERIALS:

Main components: Chrome-plated brass

Thumb latch: Stainless steel

Valves: Acetal

Valve springs: 316 stainless steel

External springs and pin: Stainless steel

O-rings: Buna-N

FINISH: Chrome

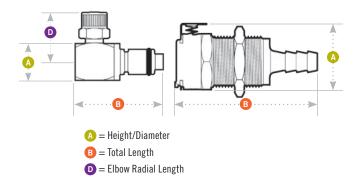
TUBING SIZES:

1/4" to 3/8" ID, 6.4mm to 9.5mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

LC DIMENSIONS

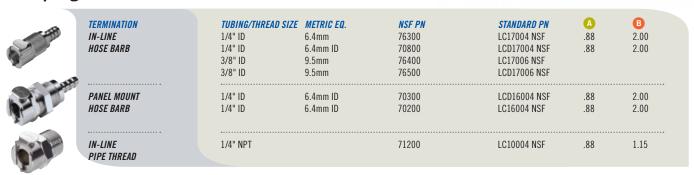


Product Dimensions

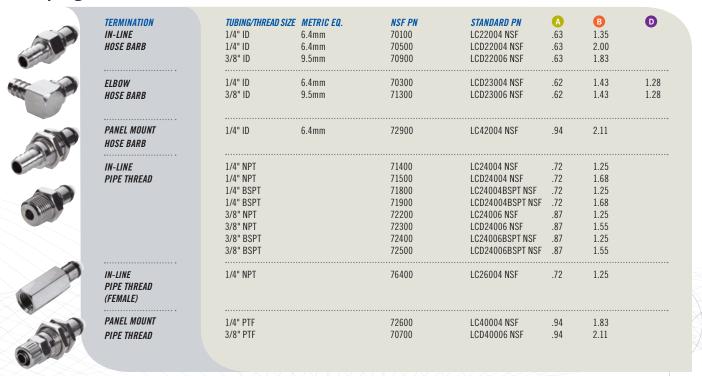
	PANEL OPENING	PANEL THICKNESS MAXMIN.	PANEL NUT HEX	PANEL NUT THREAD
COUPLING BODIES	see drawing	.5005	13/16	11/16-24UNEF
COUPLING INSERTS	see drawing	.090– .300	13/16	11/16-24UNEF



Coupling Bodies • CHROME-PLATED BRASS



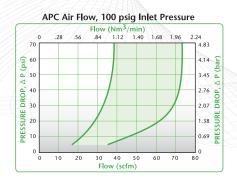
Coupling Inserts • CHROME-PLATED BRASS

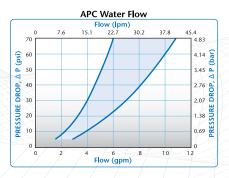




The 1/4" flow APC Series couplings feature a plastic thumb latch, fewer moving parts and a smooth contoured design to deliver ease-of-use and excellent flow in a compact size. The APC Series includes couplings with valves and thumb latch shrouds. A more rugged design on some models adds durability to increase the APC's application range.

FEATURES	BENEFITS
Plastic thumb latch	No exposed metal parts
Shrouded thumb latch	Protects against accidental disconnects
Integral terminations	Fewer leak points, shorter assemblies, faster installations





Specifications • • •







PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

-40°F to 180°F (-40°C to 82°C)

MATERIALS:

Main components and valves: Acetal

Thumb latch: Acetal

Valve springs: 316 stainless steel External springs and pin: Stainless steel

O-rings: Buna-N

COLOR: Natural white with light gray latch

TUBING SIZES:

1/4" to 3/8" ID. 6.4mm to 9.5mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area

DID YOU KNOW?

THE SHELF LIFE OF A CONNECTOR IS DEPENDENT UPON THE CONNECTOR

MATERIALS AND THE STORAGE CONDITIONS. CPC manufactures quick disconnect couplings and connections made from a variety of metal, plastic and elastomeric raw materials. In general, it is best to store any CPC product in an environment shielded from light at a temperature between 50°F and 90°F.

The shelf life of CPC couplings and connections is estimated to be 3 years minimum if the storage conditions comply with those shown above.

Note: For product containing lubricated o-rings, the lubricant will dry out over time. Prior to use, it may be advisable to relubricate external o-rings. For product containing silicone o-rings, if lube is allowable, use of a synthetic lube is recommended.

Liquid Flow Rate Information for Couplings

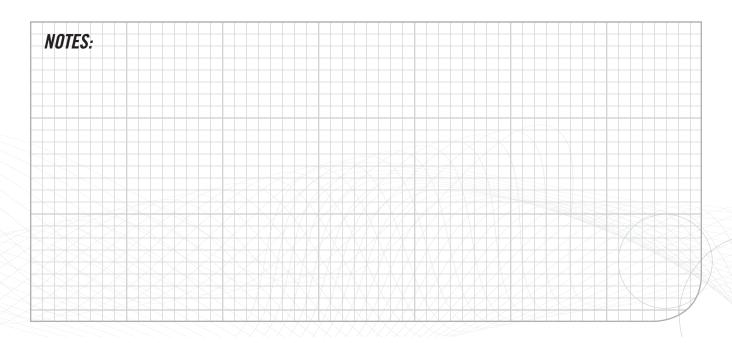
The chart below shows the flow rate for CPC couplings. Each coupling was tested with water at 70°F (21°C). To determine flow rates for specific coupling configurations use the formula at the right.



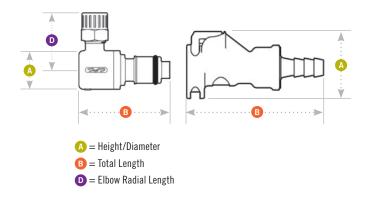
- Q = Flow rate in gallons per minute
- C_v = Average coefficient across various flow rates (see chart)
- ΔP = Pressure drop across coupling (psi)
- S = Specific gravity of liquid

C_v values for apc couplings

BODIES INSERTS	APC 20004	APCD 20004	APC 20006	APCD 20006	APC 22004	APCD 22004	APC 22006	APCD 22006	APC 24004	APCD 24004	APC 24006	APCD 24006
APC10004	0.4	0.4	1.2	0.9	1.0	0.9	2.0	0.9	1.9	0.8	1.7	0.8
APCD10004	0.36	0.4	1.0	0.7	1.0	0.7	0.8	0.7	1.2	0.6	0.8	0.6
APC10006	0.4	0.4	1.2	0.9	1.2	0.7	1.8	0.9	2.0	0.9	1.7	0.8
APCD10006	0.37	0.4	1.3	0.8	0.6	0.5	1.1	0.7	1.3	0.7	1.0	0.7
APC13004SH	0.38	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.4
APCD13004SH	0.38	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
APC13006SH	0.38	0.4	1.0	0.7	0.9	0.6	1.1	0.7	1.1	0.7	1.0	0.7
APCD13006SH	0.37	0.4	0.8	0.6	0.7	0.5	0.8	0.6	0.9	0.6	0.8	0.6
APC17004SH	0.38	0.4	0.8	0.6	1.0	0.7	0.9	0.7	0.8	0.6	0.7	0.6
APCD17004SH	0.38	0.4	0.7	0.5	0.8	0.6	0.7	0.6	0.7	0.5	0.6	0.5
APC17006SH	0.4	0.4	1.2	0.9	1.4	0.9	1.4	0.9	2.0	0.9	1.9	0.8
APCD17006SH	0.4	0.4	1.2	0.8	1.3	0.8	1.2	0.7	1.2	0.7	1.1	0.7

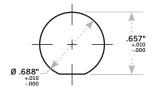


APC DIMENSIONS

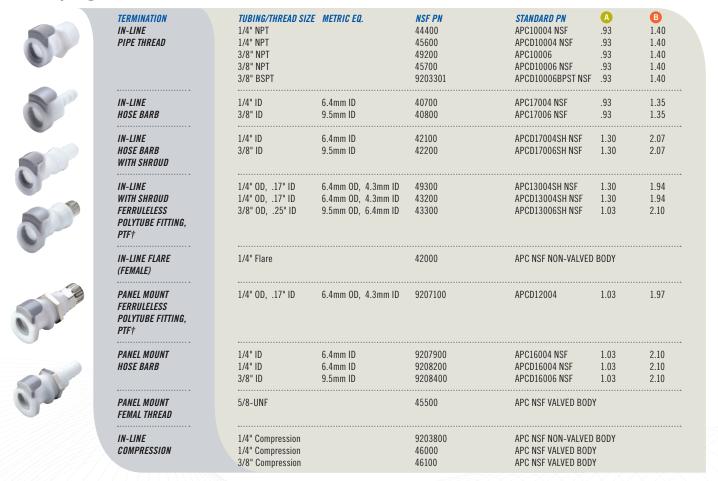


Panel Dimensions

	PANEL	PANEL THICKNESS	PANEL	PANEL NUT
	OPENING	MAXMIN.	NUT HEX	THREAD
COUPLING BODIES	see drawing	.0502	13/16	11/16-24UNF



Coupling Bodies • ACETAL



All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc.

Coupling Inserts • ACETAL











TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SIZE 1/4" NPT 1/4" NPT 3/8" NPT 3/8" NPT	METRIC EQ.	NSF PN 42300 42400 42500 48600	STANDARD PN APC24004 NSF APCD24004 NSF APC24006 NSF APCD24006 NSF	.72 .72 .72 .72	B 1.43 1.77 1.50 1.64	0
N-LINE FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 3/8" OD, .25" ID	6.4mm OD, 4.3mm ID 9.5mm OD, 6.4mm ID	43400 43500	APCD20004 NSF APCD20006 NSF	.72 .72	1.99 1.91	•••••
N-LINE IOSE BARB	1/4" ID 1/4" ID 3/8" ID 3/8" ID	6.4mm ID 6.4mm ID 9.5mm ID 9.5mm ID	40900 42600 41000 42700	APC22004 NSF APCD22004 NSF APC22006 NSF APCD22006 NSF	.60 .72 .63	1.40 2.10 1.40 1.92	
ELBOW FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 1/4" OD, .17" ID 3/8" OD, .25" ID	6.4mm OD, 4.3mm ID 6.4mm OD, 4.3mm ID 9.5mm OD, 6.4mm ID	49500 43000 43100	APC21004 NSF APCD21004 NSF APCD21006 NSF	1.22 1.22 1.27	1.32 1.45 1.46	.91 .91 .96
ELBOW HOSE BARB	1/4" ID 1/4" ID 3/8" ID 3/8" ID	6.4mm ID 6.4mm ID 9.5mm ID 9.5mm ID	46200 42800 44700 42900	APC23004 NSF APCD23004 NSF APC23006 NSF APCD23006 NSF	.63 .63 .63	1.20 1.45 1.20 1.50	.96 .96 .96
N-LINE COMPRESSION	1/4" Compression 3/8" Compression		44900 45000	APC NSF VALVED IN			

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc.

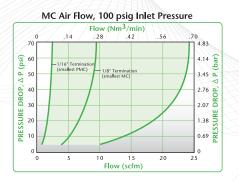
MC SERIES CONNECTOR

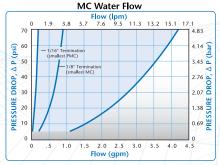


CPC's MC Series chrome-plated brass couplings are

built tough and made to last in the most demanding applications. Ideal for use with higher temperatures or pressures, MC Series couplings feature one-hand operation for swift and easy connects and disconnects. These couplings offer the flexibility of multiple configurations and terminations and mate with both PMC acetal and PMC12 polypropylene couplings.

BENEFITS
Durable and able to withstand higher pressure and temperature
One-hand connection and disconnection
MC mates with PMC and PMC12 Series couplings





Specifications • • •







PRESSURE:

Vacuum to 250 psi, 17.3 bar

TEMPERATURE:

-40°F to 180°F (-40°C to 82°C) (High temperature versions available with ratings to 400°F)

MATERIALS:

Main components: Chrome-plated brass

Thumb latch: Stainless steel

Valves: Acetal

Valve spring: 316 stainless steel

External springs and pin: Stainless steel

O-rings: Buna-N

FINISH: Chrome

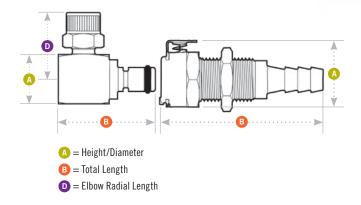
TUBING SIZES:

1/8" to 1/4" ID, 3.2mm to 6.4mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC products in their own application conditions. Use the graph to the right as a guide.

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.

MC DIMENSIONS

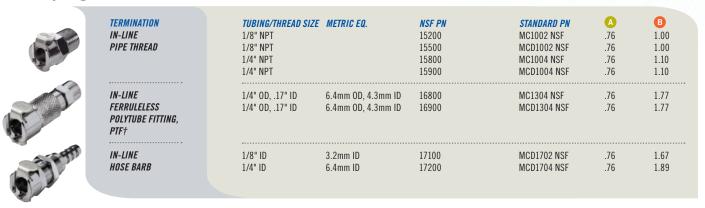


Panel Dimensions

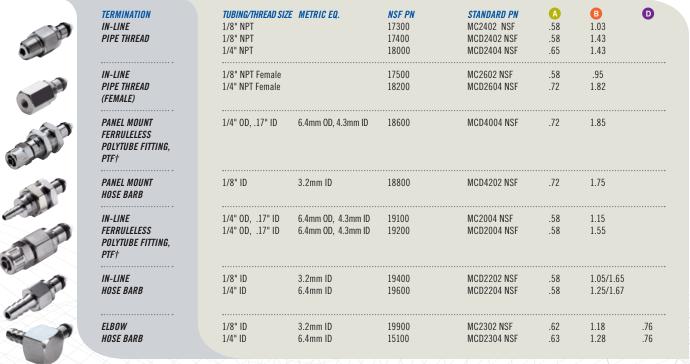
	PANEL OPENING	PANEL THICKNESS MAXMIN.	PANEL NUT HEX	PANEL NUT THREAD
COUPLING BODIES (except male thread)	see drawing	.50 – .05	5/8	1/2-24UNS
MALE THREAD	see drawing	.21 — .06	5/8	1/2-24UNS
COUPLING INSERTS	see drawing	.30 – .06	5/8	1/2-24UNS



Coupling Bodies • CHROME-PLATED BRASS



Coupling Inserts • CHROME-PLATED BRASS

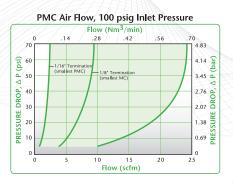


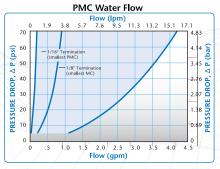
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †Note: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc.



The 1/8" flow PMC coupling covers a wide variety of general-purpose applications. Featuring the CPC thumb latch, the PMC is easier to use than ball-andsleeve designs. One-hand connection/disconnection and integral terminations make the PMC the choice for ease of use and manufacture.

FEATURES BENEFITS Hose barb shroud Extra protection for the 1/16" hose barb Fewer leak points, shorter assemblies, Integral terminations faster installations Compatible Mates with PMC12 and MC Series couplings Clicks when connected Assurance of a reliable connection





Specifications • • •





PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

-40°F to 180°F (-40°C to 82°C)

MATERIALS:

Main components and valves: Acetal

Thumb latch: Stainless steel Valve spring: 316 stainless steel

External springs and pin: Stainless steel

O-rings: Buna-N

COLOR:

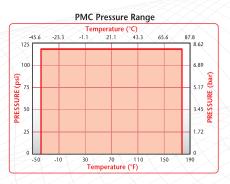
Natural white, others available

TUBING SIZES:

1/16" to 1/4" ID, 1.6mm to 6.4mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC products in their own application conditions.

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Liquid Flow Rate Information for Couplings

C_v Values for 1/8" flow PMC couplings

The chart below shows the flow rate for CPC couplings. Each coupling was tested with water at 70°F (21°C). To determine flow rates for specific coupling configurations use the formula at the right.



PMC

PMCD

PMCD

PMC

PMCD

PMC

- Q = Flow rate in gallons per minute
- $\mathbf{C}_{\mathbf{v}} = \text{Average coefficient across various}$ flow rates (see chart)
- ΔP = Pressure drop across coupling (psi)

PMCD

PMC

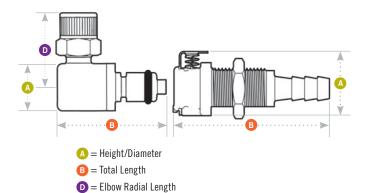
PMCD

S = Specific gravity of liquid

PMC

PMCD **PMC PMCD PMC PMCD PMC PMCD PMC** PMC **PMCD** INSERTS 2004 2004 2006 2006 2202 *2202* 2204 2204 2402 BODIES .50 PMC1002 .40 .18 .50 .19 .25 .16 .50 .19 PMCD1002 .27 .18 .31 .18 .24 .16 .28 .20 .26 PMC1004 .40 .21 .50 .24 .26 .18 .50 .50

PMC DIMENSIONS



Panel Dimensions

	PANEL OPENING	PANEL THICKNESS MAX. – MIN.	PANEL NUT HEX	PANEL NUT THREAD
COUPLING BODIES	see drawing	.50 — .05	5/8	1/2-24UNS
COUPLING INSERTS	1/2	.30 — .05	5/8	1/2-24UNS

Coupling Bodies • ACETAL

6	TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SIZE 1/8" NPT 1/8" NPT 1/8" BSPT 1/4" NPT 1/4" NPT		NSF PN 11700 11800 12000 10700 12100	STANDARD PN PMC1002 NSF PMCD1002 NSF PMCD1002BSPT NSF PMC1004 NSF PMCD1004 NSF	.79 .79 .79 .79 .79	1.00 1.00 1.00 1.10 1.10
ON THE	PANEL MOUNT FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 1/4" OD, .17" ID	6.4mm OD, 4.3mm ID 6.4mm OD, 4.3mm ID	12400 12500	PMC1204 NSF PMCD1204 NSF	.77 .77	1.72 1.72
	PANEL MOUNT Hose Barb	1/8" ID 1/8" ID 3/16" ID 1/4" ID	3.2mm ID 3.2mm ID 4.8mm ID 6.4mm ID	12600 12700 9001800 12900	PMC1602 NSF PMCD1602 NSF PMCD1603 NSF PMCD1604 NSF	.77 .77 .77 .77	1.65 1.65 1.85 1.85
	PANEL MOUNT FEMALE THREAD	10-32 UNF		9007200	PMC181032 NSF	.77	1.25
	IN-LINE HOSE BARB	1/8" ID 1/8" ID 3/16" ID 1/4" ID 1/4" ID	3.2mm ID 3.2mm ID 4.8mm ID 6.4mm ID 6.4mm ID	13200 13300 9001900 10900 11400	PMC1702 NSF PMCD1702 NSF PMC1703 NSF PMC1704 NSF PMCD1704 NSF	.81 .81 .81 .81 .81	1.45 1.65 1.65 1.65 1.85

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †NOTE: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc.

Coupling Inserts • ACETAL

TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SIZE 1/8" NPT 1/8" BSPT 1/4" NPT	METRIC EQ.	NSF PN 13400 13500 13700	STANDARD PN PMC2402 NSF PMC2402BSPT NSF PMCD2404 NSF	.58 .58 .65	1.03 1.03 1.42	D
PANEL MOUNT FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID	6.4mm OD, 4.3mm ID	14100	PMCD4004 NSF	.72	1.82	
PANEL MOUNT HOSE BARB	1/8" ID 1/8" ID 1/4" ID	3.2mm ID 3.2mm ID 6.4mm ID	14200 14300 11000	PMC4202 NSF PMCD4202 NSF PMCD4204 NSF	.72 .72 .72	1.63 1.75 1.95	
IN-LINE FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 1/4" OD, .17" ID	6.4mm OD, 4.3mm ID 6.4mm OD, 4.3mm ID	14500 14600	PMC2004 NSF PMCD2004 NSF	.58 .58	1.15 1.57	
IN-LINE Hose Barb	1/8" ID 1/8" ID 3/16" ID 1/4" ID 1/4" ID	3.2mm ID 3.2mm ID 4.8mm ID 6.4mm ID 6.4mm ID	14700 10400 90019003 11600 10800	PMC2202 NSF PMCD2202 NSF PMC2203 NSF PMC2204 NSF PMCD2204 NSF	.50 .50 .50 .50 .50	1.00 1.67 1.20 1.22 1.70	
ELBOW FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID	6.4mm OD, 4.3mm ID	10600	PMC2104 NSF	.50	1.17	.77
ELBOW HOSE BARB	1/8" ID 1/8" ID 1/4" ID 1/4" ID	3.2mm ID 3.2mm ID 6.4mm ID 6.4mm ID	14900 15000 9000100 9000200	PMC2302 NSF PMCD2302 NSF PMC2304 NSF PMCD2304 NSF	.50 .50 .50 .50	.85 1.21 1.00 1.21	.75 69 .95 .90

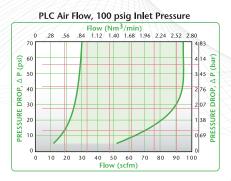
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted. †NOTE: CPC's Ferruleless PTF (polytube fitting) terminations do not require ferrules to achieve a secure connection and are therefore easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc.

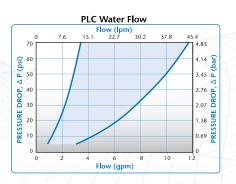
PLC SERIES CONNECTOR



The 1/4" flow PLC Series is proven worldwide in thousands of applications and offers the widest selection of sizes and configurations. PLC couplings are injection molded from acetal thermoplastic and are resistant to most mild chemical solutions. One-hand connection/disconnection, plus integral terminations make the PLC Series the choice for ease of use and manufacture.

FEATURES	BENEFITS
CPC thumb latch	One-hand connection and disconnection
Integral terminations	Fewer leak points, shorter assemblies, faster installations
Clicks when connected	Assurance of a reliable connection
Compatible	Mates with LC and PLC12 Series couplings





Specifications • • •







PRESSURE:

Vacuum to 120 psi, 8.3 bar

TEMPERATURE:

-40°F to 180° F (-40°C to 82°C)

MATERIALS:

Main components and valves: Acetal

Thumb latch: Stainless steel Valve spring: 316 stainless steel

External springs and pin: Stainless steel

0-rings: Buna-N

COLOR: Natural white, others available

TUBING SIZES:

1/4" to 3/8" ID. 6.4mm to 9.5mm ID

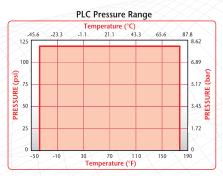
JG® TUBING SPECIFICATIONS:

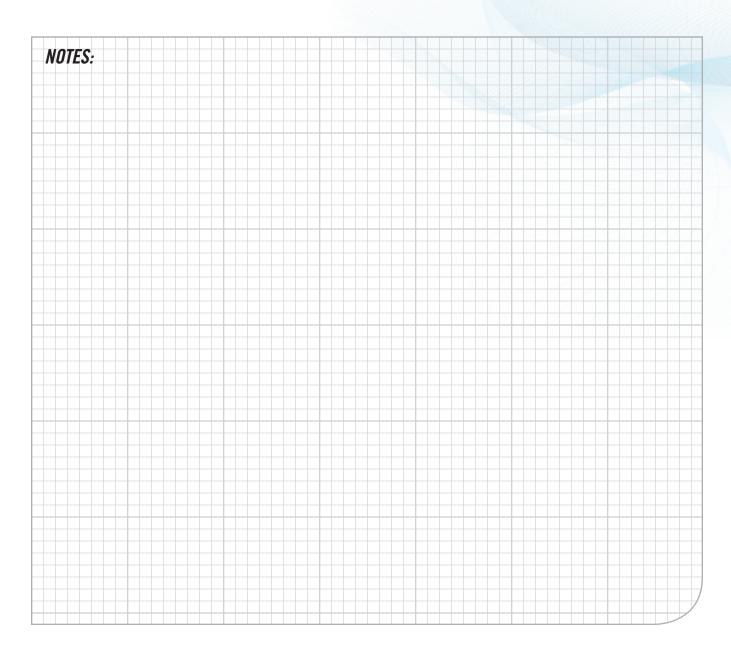
Tube tolerances: 1/4" OD, +0.001/-0.004 | 3/8" OD, +0.001/-0.004

Tube Types: Plastic tube: Polyethylene, nylon, polyurethane. For soft or thin wall tubing with JG® terminations, tube supports are recommended.

Metal tube: Brass, copper and mild steel

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.





Liquid Flow Rate Information for Couplings

 C_{ν} values for 1/4" flow PLC couplings

The chart below shows the flow rate for CPC couplings. Each coupling was tested with water at 70°F (21°C). To determine flow rates for specific coupling configurations use the formula at the right.

 $Q = C_v \sqrt{\frac{\Delta P}{S}}$

Q = Flow rate in gallons per minute

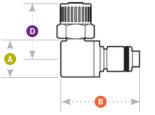
Cv = Average coefficient across various flow rates (see chart)

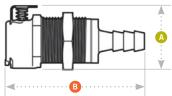
 $\Delta P = \,$ Pressure drop across coupling (psi)

S = Specific gravity of liquid

BODIES INSERTS	PLC 20004	PLCD 20004	PLC 20006	PLCD 20006	PLC 22004	PLCD 22004	PLC 22006	PLCD 22006	PLC 24004	PLCD 24004	PLC 24006	PLCD 24006	PLC 26004
PLC10004	.40	.36	1.05	.58	.83	.56	1.40	.82	1.40	.75	1.40	.77	.83
PLCD10004	.36	.31	.73	.48	.66	.41	.82	.50	.80	.45	.77	.45	.81
PLC10006	.40	.36	1.05	.60	.83	.56	1.40	.81	1.40	.76	1.40	.76	.83
PLCD10006	.37	.31	.81	.47	.70	.43	1.02	.51	.98	.46	.99	.48	.98
PLC12006	.38	.36	.84	.63	.74	.56	1.14	.75	1.14	.70	1.14	.72	.74
PLCD12006	.38	.33	.78	.49	.68	.44	.84	.49	.81	.43	.82	.44	.81
PLC16004	.38	.37	.87	.54	.95	.51	1.00	.70	.95	.64	1.00	.66	.95
PLCD16004	.37	.31	.61	.44	.57	.41	.78	.44	.78	.43	.75	.46	.78
PLC16006	.38	.37	1.00	.57	.95	.53	1.40	.80	1.40	.71	1.40	.73	1.40
PLCD16006	.38	.32	.71	.49	.63	.42	.89	.51	.96	.45	.92	.49	.97

PLC DIMENSIONS



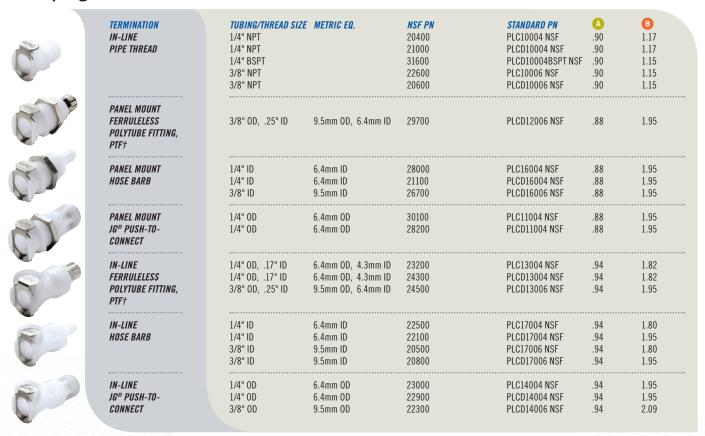


Panel Dimensions

	PANEL OPENING	PANEL THICKNESS MAXMIN.	PANEL NUT HEX	PANEL NUT THREAD
COUPLING BODIES	see drawing	.50 — .05	13/16	11/16-24UNEF
COUPLING INSERTS	see drawing	.30 – .05	13/16	11/16-24UNEF



Coupling Bodies • ACETAL



All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: JG is a registered trademark of John Guest USA, Inc.

Coupling Inserts • ACETAL

TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SIZE 1/4" NPT 1/4" NPT 1/4" BSPT 3/8" NPT 3/8" NPT	METRIC EQ.	NSF PN 20400 21000 26100 30400 22200	STANDARD PN PLC24004 NSF PLCD24004 NSF PLCD24004BSPT PLC24006 NSF PLCD24006 NSF	.72 .72 .72 .72 .87 .87	1.25 1.66 1.66 1.25 1.63	0
PANEL MOUNT FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 1/4" OD, .17" ID 3/8" OD, .25" ID	6.4mm OD, 4.3mm ID 6.4mm OD, 4.3mm ID 9.5mm OD, 6.4mm ID	30700 26000 30900	PLC40004 NSF PLCD40004 NSF PLCD40006 NSF	.94 .94 .94	1.78 1.91 2.05	
PANEL MOUNT Hose Barb	1/4" ID 1/4" ID 3/8" ID	6.4mm ID 6.4mm ID 9.5mm ID	22400 26600 31200	PLC42004 NSF PLCD42004 NSF PLC42006 NSF	.94 .94 .94	1.91 2.05 1.91	
IN-LINE FERRULELESS POLYTUBE FITTING, PTF†	1/4" OD, .17" ID 1/4" OD, .17" ID 3/8" OD, .25" ID	6.4mm OD, 4.3mm ID 6.4mm OD, 4.3mm ID 9.5mm OD, 6.4mm ID	23300 25000 25200	PLC20004 NSF PLCD20004 NSF PLCD20006 NSF	.72 .72 .72	1.25 1.88 1.82	
IN-LINE HOSE BARB	1/4" ID 1/4" ID 3/8" ID 3/8" ID	6.4mm ID 6.4mm ID 9.5mm ID 9.5mm ID	22400 21500 20100 21400	PLC22004 NSF PLCD22004 NSF PLC22006 NSF PLCD22006 NSF	.62 .62 .62 .62	1.35 1.99 1.36 1.81	
IN-LINE JG® PUSH-TO- CONNECT	1/4" OD 3/8" OD 3/8" OD	6.4mm OD 9.5mm OD 9.5mm OD	24700 24800 24900	PLCD29004 NSF PLC29006 NSF PLCD29006 NSF	.63 .78 .78	1.95 1.51 2.11	
ELBOW HOSE BARB	3/8" ID	9.5mm ID	20200	PLC23006 NSF	.67	1.25	.90

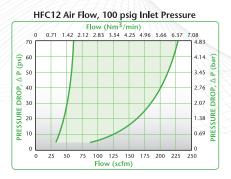
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. †NOTE: CPC's Ferruleless Polytube Fitting terminations do not require ferrules to achieve a secure connection, which makes them easier to use and reuse. PTF fittings are designed for semi-rigid tubing, i.e., polyethylene, nylon, polyurethane, etc. NOTE: JG is a registered trademark of John Guest USA, Inc.

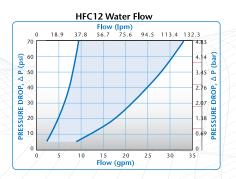
HFC12 SERIES CONNECTOR



HFC12 Series couplings have flow comparable to many 1/2" flow couplings in a 3/8" body size. Compact and lightweight, HFC couplings replace bulky and heavy brass ball-and-sleeve couplings in a wide range of applications. An ergonomic design and a large, shrouded thumb latch pad produce a coupling that is easy to grip and simple to operate. An efficient valve design leads to high flow and low spillage.

FEATURES	BENEFITS
High efficiency valve	More flow in a compact size
Ergonomic design	Easy to grip, simple to operate
Polypropylene material	Chemically resistant and gamma sterilizable
Compatible	Mates with CPC HFC35 Series couplings





Specifications • • •







PRESSURE:

Vacuum to 60 psi, 4.2 bar

TEMPERATURE:

32°F to 160°F (0°C to 71°C)

MATERIALS:

Main components and valves: Polypropylene

Thumb latch: Polypropylene

Valve spring (wetted): 316 stainless steel External springs: 316 stainless steel

0-rings: EPDM

Panel mount gasket: EPDM Compression nut, gripper, ferrule:

Polypropylene

COLOR: Gray with dark gray latch

TUBING SIZES:

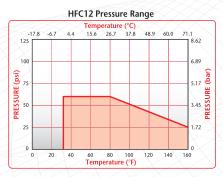
3/8" to 3/4" ID, 9.5mm to 19.0mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC's products in their own application conditions.

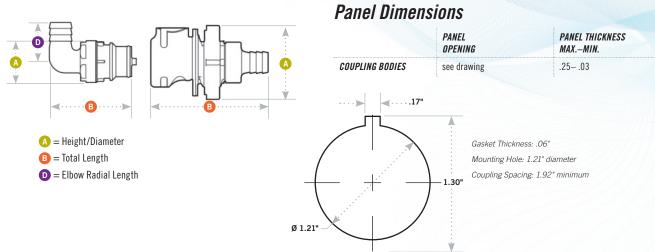
For compression termination specifications: 3/8" OD or 1/2" OD, +0.010/-0.000

please contact CPC for

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area



HFC12 DIMENSIONS



Coupling Bodies • POLYPROPYLENE

Pil	TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SIZE 3/8" NPT 3/8" NPT 1/2" NPT 1/2" NPT 1/2" NPT 3/4" NPT	METRIC EQ.	NSF PN 63400 63300 61200 62800 63500	STANDARD PN HFC10612 NSF HFCD10612 NSF HFC10812 NSF HFCD10812 NSF HFCD10812 NSF	1.44 1.44 1.44 1.44 1.44	2.69 2.69 2.88 2.88 3.07
	BULKHEAD PANEL MOUNT HOSE BARB	3/4" NPT		61800	HFCD101212 NSF	1.44	3.07
	BULKHEAD PANEL MOUNT COMPRESSION	3/8" ID 3/8" ID 1/2" ID 1/2" ID 3/4" ID	9.5mm ID 9.5mm ID 12.7mm ID 12.7mm ID 19.0mm ID	63800 62600 63900 60300 62000	HFC16612 NSF HFCD16612 NSF HFC16812 NSF HFCD16812 NSF HFCD161212 NSF	1.82 1.82 1.82 1.82 1.82	2.82 2.82 2.82 2.82 2.94
PEM	IN-LINE HOSE BARB	3/8" ID 3/8" ID 1/2" ID 1/2" ID 5/8" ID 3/4" ID 3/4" ID	9.5mm ID 9.5mm ID 12.7mm ID 12.7mm ID 15.9mm ID 19.0mm ID 19.0mm ID	63600 60600 61500 60700 64900 63700 61900	HFC17612 NSF HFCD17612 NSF HFC17812 NSF HFCD17812 NSF HFCD171012 NSF HFCD171012 NSF HFCD171212 NSF	1.44 1.44 1.44 1.44 1.44 1.44	2.79 2.79 2.79 2.79 2.94 2.94 2.94

Coupling Inserts • POLYPROPYLENE

	TERMINATION IN-LINE PIPE THREAD	TUBING/THREAD SI2 3/8" NPT 3/8" NPT 1/2" NPT 1/2" NPT 3/4" NPT		NSF PN 62500 60500 64000 64000 62100	STANDARD PN HFC24612 NSF HFCD24612 NSF HFC24812 NSF HFCD24812 NSF HFCD241212 NSF	1.16 1.16 1.16 1.16 1.16 1.23	1.77 1.89 1.95 2.07 2.26	0
100	IN-LINE HOSE BARB	3/8" ID 3/8" ID 1/2" ID 1/2" ID 5/8" ID 3/4" ID	9.5mm ID 9.5mm ID 12.7mm ID 12.7mm ID 15.9mm ID 19.0mm ID	65500 62700 61300 61400 65100 62200	HFC22612 NSF HFCD22612 NSF HFC22812 NSF HFCD22812 NSF HFCD221012 NSF HFCD221212 NSF	1.00 1.00 1.00 1.00 1.00 1.00	1.97 2.09 1.97 2.09 2.13 2.26	
600	ELBOW HOSE BARB	3/8" ID 3/8" ID 1/2" ID 1/2" ID 3/4" ID 3/4" ID	9.5mm ID 9.5mm ID 12.7mm ID 12.7mm ID 19.0mm ID	65200 61100 64400 61000 65400 65300	HFC23612 NSF HFCD23612 NSF HFC23812 NSF HFCD23812 NSF HFC231212 NSF HFC231212 NSF	1.00 1.00 1.00 1.00 1.00 1.00	1.93 2.05 1.97 2.09 1.95 2.07	.93 .93 .93 .93 .93

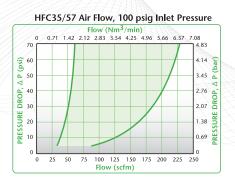
All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.

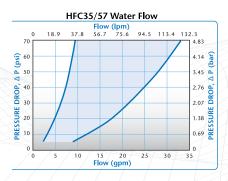
HFC35 SERIES CONNECTOR



HFC35 Series polysulfone couplings are able to withstand demanding applications and feature physical strength, chemical resistance and autoclavability. An ergonomic design and a large, shrouded thumb latch pad produce a coupling that is easy to grip and simple to operate. An efficient valve design leads to high flow and exceptionally low spillage. HFC35 Series couplings are also offered with bulkhead panel mount, garden hose thread and Hastelloy® C spring options.

FEATURES	BENEFITS
Polysulfone	Physically strong and autoclavable
High efficiency valve	More flow and less spillage in a compact size
Ergonomic design	Easy to grip, simple to operate
Compatible	Mates with HFC12 couplings





Specifications • • •





PRESSURE:

Vacuum to 125 psi, 8.6 bar

TEMPERATURE:

-40°F to 280°F (-40°C to 138°C)

MATERIALS:

Main components and valves: Polysulfone

Thumb latch: Polysulfone Valve spring: 316 stainless steel External springs: 316 stainless steel

O-rings: EPDM

Panel mount gasket: EPDM Female GHT gasket: FDA EPDM

COLORS:

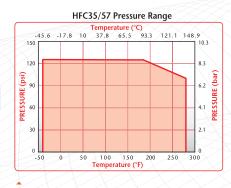
Natural white, dark gray latch

TUBING SIZES:

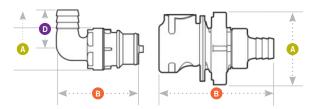
3/8" to 3/4" ID, 9.5mm to 19.0mm ID

WARNING: Pressure, temperature, chemicals, and operating environment can affect the performance of couplings. It is the customer's responsibility to test the suitability of CPC products in their own application conditions. Use the graphs on the following page as a guide.

These graphs are intended to give you a general idea of the performance capabilities of each product line. The shaded area of each graph represents the operating range of the product family, i.e., upper and lower values are shown. Therefore, depending on the exact coupling configurations selected, you can reasonably expect values to fall within the shaded area.



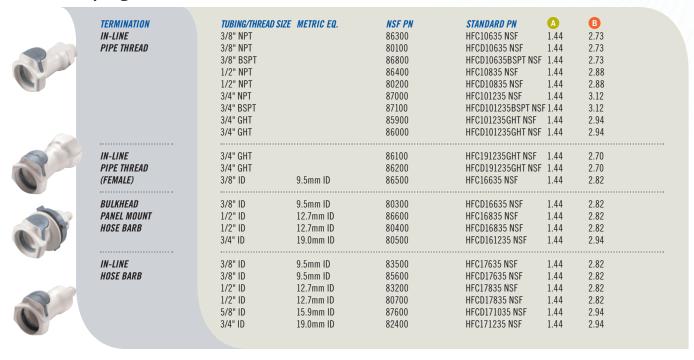
HFC35 DIMENSIONS



A = Height/Diameter B = Total Length

Elbow Radial Length

HFC35 Coupling Bodies • POLYSULFONE



HFC35 Coupling Inserts • POLYSULFONE



All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters.



Specifications • • •







PRESSURE:

20" Hg vacuum to 15 psi, 1.0 bar (body only)

TEMPERATURE:

32°F to 160°F (0°C to 71°C)

MATERIALS:

Main body components and valves:

Polypropylene

Springs:

Body: 316 stainless steel Cap: 302 stainless steel

UDC caps: Acetal, polypropylene

O-rings (food grade): UDC: EPDM, silicone, Buna-N

iUDC: EPDM, silicone CIP adapter: Acetal

COLOR: Light gray with dark gray latch

CLOSURE SIZE: SP-400 thread/38mm

snap-in

TUBING SIZES:

3/8" to 3/4" ID, 9.5mm to 19.0mm ID

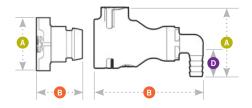
The patented 3/8" flow Universal Dispensing Coupler

(UDC) provides a universal connection to a 38mm threaded or snap-in fitment neck. Make instant connections to bulk packaging systems including bag-in-box (BIB), flexible and rigid packaging styles. Automatic flush face valves minimize costly or dangerous spillage. An ergonomic design and a large, shrouded thumb latch pad produce a coupling that is easy to grip and simple to operate.

FEATURES	BENEFITS
Universal 38mm cap	Fits industry standard fitment necks
Flush face/non-spill valves	Minimize spillage
Integral terminations	Fewer leak points, shorter assemblies, faster installations
Shrouded thumb latch	Protects against accidental disconnects



UDC SERIES DIMENSIONS



- A = Height/Diameter
- B = Total Length
- D = Elbow Radial Length

Coupling Bodies • POLYPROPYLENE



Caps • ACETAL



POLYPROPYLENE



Clean-in-Place (CIP) Adapter • ACETAL



All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. Couplings are pictured with valves unless otherwise noted.

PUNCTURE SEAL SERIES CONNECTOR

The 1/4" flow Puncture Seal dispensing system provides clean and safe liquid dispensing from bag-in-box (BIB) or other types of flexible packaging. The system consists of a Puncture Seal closure cap and a specially designed quick disconnect coupling body. The closure makes a positive thread or snap-in seal with a 38mm fitment neck. The Puncture Seal coupling body automatically breaks the membrane seal on the closure cap when connected. To switch to a new container, simply depress the CPC thumb latch to disconnect the system and then connect the Puncture Seal coupling body to a fresh container.

FEATURES	BENEFITS			
Puncture Seal coupling	Easily breaks the Puncture Seal membrane			
Polypropylene and polyethylene materials	Greater chemical resistance			
Puncture Seal membrane	Eliminates shipping caps and o-rings			
CPC thumb latch	One-hand connection and disconnection			

Specifications • • •



PRESSURE:

120 psi, 8.3 bar (coupling body)

TEMPERATURE:

32°F to 160°F (0°C to 71°C)

MATERIALS:

Main components and valves: Polypropylene 38mm closure: Polyethylene (LDPE) Thumb latch: Stainless steel Valve spring: 316 stainless steel External spring and pin: Stainless steel

O-rings: EPDM

CLOSURE SIZE: SP-400 38mm

TUBING SIZES:

1/4" and 3/8" ID, 6.4mm and 9.5mm ID

Coupling Bodies • POLYPROPYLENE



TERMINATION IN-LINE HOSE BARB

TUBING SIZE 1/4" ID 3/8" ID

METRIC EQ. 6.4mm ID 9.5 mm ID

STRAIGHT THRU PS1700412 PS1700612

PSD1700412 PSD1700612

LENGTH 1.95 1.95

Closure • POLYETHYLENE

Note: Snap-in closure designed to fit Scholle 900 bag necks.



TERMINATION THREAD-ON 38MM VALVED SNAP-IN 38MM VAIVED

PART NO. PSC38MM

496200

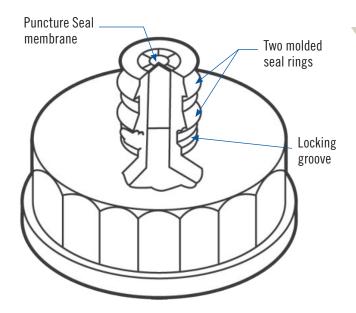
LENGTH

1.88

1.12

1.62

Closure Detail



DID YOU KNOW?

CPC'S PUNCTURE SEAL CLOSURES CAN BE USED TO DISPENSE VIRTUALLY ANY LIQUID FROM FLEXIBLE PACKAGES?

The Puncture Seal makes transporting and dispensing cleaning concentrates, dry cleaning chemicals and soaps cleaner and safer. Printing inks, photo developers and dying agents can also be dispensed quickly and easily, without messy drips or spills. The Puncture Seal can also be used with beverage and condiment dispensing systems, just look for the NSF-listed part numbers.



REGULATORY AND COMPLIANCE



ISO 13485:2003 Certification

ISO 13485:2003 is recognized by regulators around the world as a good basis for addressing medical device design and manufacturing regulatory requirements. It allows us to enhance product safety by proactively identifying and managing product and project risks. Becoming ISO 13485:2003 certified has allowed us to better control the consistency of manufactured products.

ISO 9001:2008 Certification

ISO 9001:2008 is a standard which assures consistency of a product ordered by customers. Organizations having ISO 9001:2008 certification have demonstrated compliance to the ISO 9001:2008 requirements by an independent registration authority. CPC's Quality Management System has been approved and certified under the ISO 9001:2008 standard.

Cleanroom Manufacturing

CPC manufactures certain Life Sciences and Chemical Management product lines in a cleanroom certified by an external testing service to meet or exceed ISO Class 7 (10,000) at 0.5 mm per ISO 14644 and the former Federal Standard 209E. Certification data is available upon request.

FDA and USDA

The U.S. Food and Drug Administration publishes, through the Code of Federal Regulations, standardized criteria which govern the acceptability of materials used in food contact. The U.S. Department of Agriculture publishes similar standards that mirror FDA criteria. Neither agency approves or disapproves products for particular applications. Most of CPC's products are made using resins that comply with applicable FDA or USDA standards. When necessary, the standard o-ring seals are replaced with specific, recognized materials.

REACH

REACH is the Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals. It entered into force on 1st June 2007 to streamline and improve the former legislative framework on chemicals of the European Union (EU). REACH places greater responsibility on industry to manage the risks that chemicals may pose to the health and the environment. CPC publishes a list of CPC products that are compliant with the EU regulation 1907/2006.

Regulation of Hazardous Substances

The RoHS Directive stands for "the restriction of the use of certain hazardous substances in electrical and electronic equipment." This Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

NSF

NSF International, based in Ann Arbor, Michigan, develops and publishes consensual criteria that govern the acceptability of materials and equipment used in food and beverage processing. They also do testing to verify the performance of materials or devices to their published criteria. CPC lists many of its product lines under the criteria of NSF/ANSI Standard 169 (formerly C-2), which governs components used in food and beverage contact applications.