SMC SERIES CONNECTOR

Specifications

PRESSURE:

Vacuum to 100 psi, 6.9 bar

TEMPERATURE:

Acetal, Chrome-Plated Brass:
-40°F to 180°F (-40°C to 82°C)

Polypropylene:
32°F to 180°F (0°C to 82°C)

ABS:
-40°F to 160°F (-40°C to 71°C)

MATERIALS:

Main Components: ABS, acetal, polypropylene, chrome-plated brass, stainless steel

Locking sleeves: Acetal

Valves: Acetal

Valve spring: 316 stainless steel

O-rings: Buna-N with acetal or chrome-plated brass, EPDM with polypropylene

COLOR:

Main components: Natural white (acetal and ABS), almond (polypropylene), chrome and black

TUBING SIZES:

1/16" to 1/8" ID, 1.6mm to 3.2mm and 5.0mm

***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.*

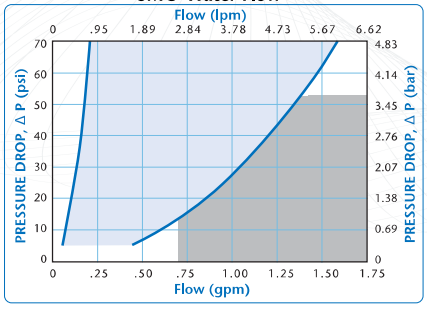
The SMC and SMF1 are among CPC's smallest couplings. These twist-to-connect couplings provide a reliable and more secure alternative to luer-type connections. They also allow for the tubing to rotate freely when connected. This important feature prevents both kinked tubing and accidental disconnection during use.

The SMC Series is also available with optional RFID (Radio Frequency Identification) capability (page 98) and in polycarbonate material (page 102).

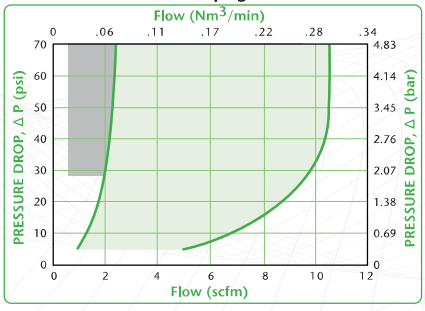
FEATURES	BENEFITS
Twist to connect	Prevents accidental disconnects
Free coupling rotation	Eliminates kinked tubing
Quarter turn latch clicks when connected	Prevents damage due to over torquing

Polycarbonate SMC products manufactured in CPC's cleanroom also available. See page 102.

SMC Water Flow



SMC Air Flow, 100 psig Inlet Pressure



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

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 below.

C_V VALUES FOR SUBMINIATURE COUPLINGS

BODIES / INSERTS	SMM01	SMM02
SMF01	.03	.03
SMFD01	.03	.03
SMF02	.03	.19
SMFD02	.03	.08
SMPT02	.03	.19
SMFD02	.03	.08

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

Q = Flow rate in gallons per minute

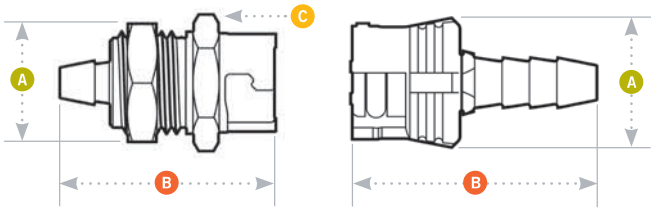
C_V = Average coefficient across various flow rates (see chart)

ΔP = Pressure drop across coupling (psi)

S = Specific gravity of liquid

NOTES:

SMC DIMENSIONS



A = Height/Diameter B = Total Length C = Hex Size on Main Component

Panel Dimensions

	PANEL OPENING	PANEL THICKNESS MAX. – MIN.	PANEL NUT HEX	PANEL NUT THREAD
COUPLING BODIES	7/16	.21 – .03	1/2	7/16-24UNF
COUPLING INSERTS	7/16	.21 – .03	1/2	7/16-24UNF

Coupling Bodies • ACETAL

TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	STRAIGHT THRU	SHUTOFF	A	B	C
IN-LINE PIPE THREAD	1/8" NPT		SMPT02	SMPTD02	.51	.86	7/16
	1/8" NPT		SMPT02BLK	SMPTD02BLK	.51	.86	7/16
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	SMF01	SMFD01	.48	.75/.90	
	1/16" ID	1.6mm ID	SMF01MBLK	SMFD01MBLK	.48	.75/.90	
		3.0mm ID	SMFM3	SMFDM3	.48	1.00	
		3.0mm ID	SMFM3MBLK	SMFDM3MBLK	.48	1.00	
	1/8" ID	3.2mm ID	SMF02	SMFD02	.48	.90	
	1/8" ID	3.2mm ID	SMF02MBLK	SMFD02MBLK	.48	.90	
PANEL MOUNT HOSE BARB	1/16" ID	1.6mm ID	SMFPM01	SMFPMD01	.58	.75/.90	1/2
	1/16" ID	1.6mm ID	SMFPM01BLK	SMFPMD01BLK	.58	.75/.90	1/2
		3.0mm ID	SMFPMM3	SMFPMDM3	.58	1.00	1/2
		3.0mm ID	SMFPMM3BLK	SMFPMDM3BLK	.58	1.00	1/2
	1/8" ID	3.2mm ID	SMFPM02	SMFPMD02	.58	.90	1/2
	1/8" ID	3.2mm ID	SMFPM02BLK	SMFPMD02BLK	.58	.90	1/2
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	iSMFT0103	iSMFDT0103	.76	.76/.91	
	1/8" ID	3.2mm ID	iSMFT0203	iSMFDT0203	.76	.91/.91	

• POLYPROPYLENE

TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B	C
IN-LINE PIPE THREAD	1/8" NPT		SMPT0212	.51	.86	7/16
IN-LINE HOSE BARB (Acetal Locking Sleeve)	1/16" ID	1.6mm ID	SMF0112	.48	.75/.90	
	1/8" ID	3.2mm ID	SMF0212	.48	.90	
PANEL MOUNT HOSE BARB (Acetal Locking sleeve)	1/16" ID	1.6mm ID	SMFPM0112	.58	.75/.90	1/2
	1/8" ID	3.2mm ID	SMFPM0212	.58	.90	1/2
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	iSMFT0100	.76	.76	
	1/8" ID	3.2mm ID	iSMFT0200	.76	.91	

SMF1 Disposable Bodies • ABS

TERMINATION	TUBING/THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B
IN-LINE HOSE BARB	1/8" ID	3.2mm ID	SMF10297	.38	.82
	1/8" ID	3.2mm ID	SMF10297MBLK	.42	.82
		5mm ID	SMF1M597	.42	.69
		5mm ID	SMF1M597MBLK	.42	.69

CPC has added a proprietary lubrication step to our SMF1 manufacturing process. This revolutionary technique allows the lube to be placed only where you need it, ensuring consistent connection forces throughout the lifetime of the connectors even when aggressive cleaning techniques are used.

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. MBLK = molded black material. BLK = dyed black material.

Coupling Inserts

• ACETAL

TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	SMM01	.48	.75
	1/16" ID	1.6mm ID	SMM01MBLK	.48	.75
		3.0mm ID	SMMM3	.48	.80
		3.0mm ID	SMMM3MBLK	.48	.80
	1/8" ID	3.2mm ID	SMM02	.48	.90
	1/8" ID	3.2mm ID	SMM02MBLK	.48	.90
		4.0mm ID	SMMM4	.48	1.02
		5.0mm ID	SMMM5	.48	1.00
PANEL MOUNT HOSE BARB	1/16" ID	1.6mm ID	SMMPM01	.50	.75
	1/16" ID	1.6mm ID	SMMPM01BLK	.50	.75
		3.0mm ID	SMMPMM3	.50	.80
		3.0mm ID	SMMPMM3BLK	.50	.80
	1/8" ID	3.2mm ID	SMMPM02	.50	.90
	1/8" ID	3.2mm ID	SMMPM02BLK	.50	.90
IN-LINE HOSE BARB *(Acetal Locking Sleeve)*	1/16" ID	1.6mm ID	iSMMT0100	.76	.76
	1/8" ID	3.2mm ID	iSMMT0200	.76	.91

• CHROME-PLATED BRASS

TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B
IN-LINE HOSE BARB	1/8" ID	3.2mm ID	SMM02CBMBLK	.48	.90
PANEL MOUNT HOSE BARB	1/8" ID	3.2mm ID	SMMPM02CBBLK	.50	.90

• POLYPROPYLENE

TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B
IN-LINE HOSE BARB *(Acetal Locking Sleeve)*	1/16" ID	1.6mm ID	SMM0112	.48	.75
	1/8" ID	3.2mm ID	SMM0212	.48	.90
PANEL MOUNT HOSE BARB *(Acetal Locking Sleeve)*	1/16" ID	1.6mm ID	SMMPM0112	.50	.75
	1/8" ID	3.2mm ID	SMMPM0212	.50	.90
IN-LINE HOSE BARB *(Acetal Locking Sleeve)*	1/16" ID	1.6mm ID	iSMMT0103	.76	.76
	1/8" ID	3.2mm ID	iSMMT0203	.76	.91

All measurements are in inches (millimeters) unless otherwise noted. Tubing must meet stated inside and outside diameters. MBLK = molded black material. BLK = dyed black material.

SMC Complete In-Line Couplings

• ACETAL

TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	SHUTOFF	B
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	SMC01	SMCD01	1.32/1.46
	1/16" ID	1.6mm ID	SMC01MBLK	SMCD01MBLK	1.32/1.46
		3.0mm ID	SMCM3	SMCDM3	1.62
		3.0mm ID	SMCM3MBLK	SMCDM3MBLK	1.62
	1/8" ID	3.2mm ID	SMC02	SMCD02	1.61
	1/8" ID	3.2mm ID	SMC02MBLK	SMCD02MBLK	1.61

• POLYPROPYLENE

TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	B
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	SMC0112	1.32
	1/8" ID	3.2mm ID	SMC0212	1.61