

# SMC SERIES CONNECTOR



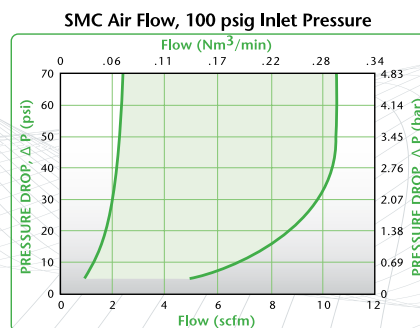
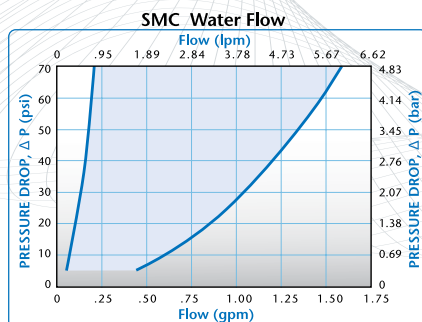
**The SMC and SMF1** are among CPC's smallest couplings. These twist-to-connect couplings provide a reliable and more secure alternative to luer-type connections. They also allow for the tubing to rotate freely when connected. This important feature prevents both kinked tubing and accidental disconnection during use. The SMC Series is also available with optional RFID (Radio Frequency Identification) capability (page 98) and in polycarbonate material (page 102).

## FEATURES

- Twist to connect
- Free coupling rotation
- Quarter turn latch clicks when connected

## BENEFITS

- Prevents accidental disconnects
- Eliminates kinked tubing
- Prevents damage due to over torquing



## 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

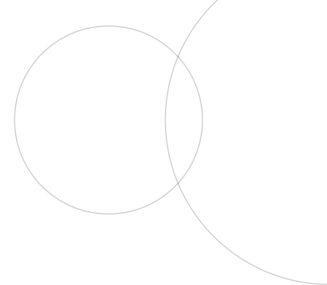
### TUBING SIZES:

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.

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

« 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<sub>v</sub> VALUES FOR SUBMINIATURE COUPLINGS

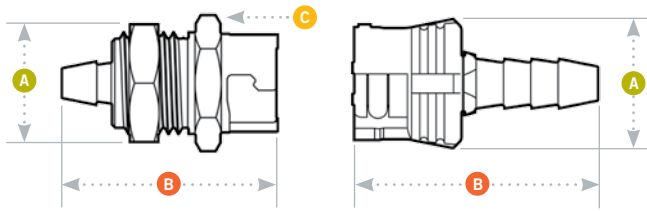
BODIES	INSERTS	SMM01	SMM02
	SMF01	.03	.03
	SMFD01	.03	.03
	SMF02	.03	.19
	SMFD02	.03	.08
	SMPT02	.03	.19
	SMFD02	.03	.08

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

- Q = Flow rate in gallons per minute
- C<sub>v</sub> = 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 IN-LINE PIPE THREAD

### IN-LINE HOSE BARB

### PANEL MOUNT HOSE BARB

### IN-LINE HOSE BARB



### TUBING/THREAD SIZE    METRIC EQ.

1/8" NPT						
1/8" NPT						
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	
1/16" ID	1.6mm ID	SMFPM01	SMFPM01	.58	.75/.90	1/2
1/16" ID	1.6mm ID	SMFPM01BLK	SMFPM01BLK	.58	.75/.90	1/2
	3.0mm ID	SMFPM03	SMFPM03	.58	1.00	1/2
	3.0mm ID	SMFPM03BLK	SMFPM03BLK	.58	1.00	1/2
1/8" ID	3.2mm ID	SMFPM02	SMFPM02	.58	.90	1/2
1/8" ID	3.2mm ID	SMFPM02BLK	SMFPM02BLK	.58	.90	1/2
1/16" ID	1.6mm ID	iSMFT0103	iSMFDT0103	.76	.76/.91	
1/8" ID	3.2mm ID	iSMFT0203	iSMFDT0203	.76	.91/.91	

### STRAIGHT THRU

### SHUTOFF

### A

### B

### C

## • POLYPROPYLENE



### TERMINATION IN-LINE PIPE THREAD

### IN-LINE HOSE BARB

(Acetal Locking Sleeve)

### PANEL MOUNT HOSE BARB

(Acetal Locking sleeve)

### IN-LINE HOSE BARB



### TUBING/THREAD SIZE    METRIC EQ.

1/8" NPT						
1/16" ID	1.6mm ID	SMF0112		.48	.75/.90	
1/8" ID	3.2mm ID	SMF0212		.48	.90	
1/16" ID	1.6mm ID	SMFPM0112		.58	.75/.90	1/2
1/8" ID	3.2mm ID	SMFPM0212		.58	.90	1/2
1/16" ID	1.6mm ID	iSMFT0100		.76	.76	
1/8" ID	3.2mm ID	iSMFT0200		.76	.91	

### STRAIGHT THRU

### A

### B

### C

## SMF1 Disposable Bodies • ABS



### TERMINATION IN-LINE HOSE BARB

### TUBING/THREAD SIZE    METRIC EQ.

1/8" ID	3.2mm ID	SMF10297		.38	.82	
1/8" ID	3.2mm ID	SMF10297MBLK		.42	.82	
5mm ID	5mm ID	SMF1M597		.42	.69	
5mm ID	5mm ID	SMF1M597MBLK		.42	.69	

### STRAIGHT THRU

### A

### B

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.

## Coupling Inserts

### • ACETAL

	<b>TERMINATION IN-LINE HOSE BARB</b>	<b>TUBING/ THREAD SIZE</b>	<b>METRIC EQ.</b>	<b>STRAIGHT THRU</b>	<b>A</b>	<b>B</b>
		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	SMM04	.48	1.02
			5.0mm ID	SMMM5	.48	1.00
	<b>PANEL MOUNT HOSE BARB</b>	1/16" ID	1.6mm ID	SMMPM01	.50	.75
		1/16" ID	1.6mm ID	SMMPM01BLK	.50	.75
			3.0mm ID	SMMPM03	.50	.80
			3.0mm ID	SMMPM03BLK	.50	.80
		1/8" ID	3.2mm ID	SMMPM02	.50	.90
		1/8" ID	3.2mm ID	SMMPM02BLK	.50	.90
	<b>IN-LINE HOSE BARB (Acetal Locking Sleeve)</b>	1/16" ID	1.6mm ID	iSMMT0100	.76	.76
		1/8" ID	3.2mm ID	iSMMT0200	.76	.91

### • CHROME-PLATED BRASS

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

### • POLYPROPYLENE

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

	<b>TERMINATION IN-LINE HOSE BARB</b>	<b>TUBING/ THREAD SIZE</b>	<b>METRIC EQ.</b>	<b>STRAIGHT THRU</b>	<b>SHUTOFF</b>	<b>B</b>
		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

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