

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.

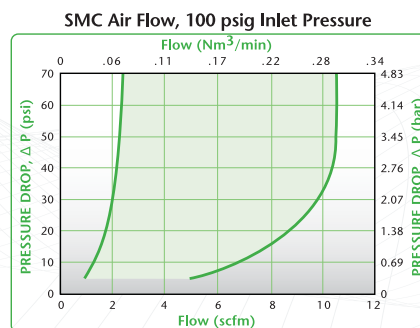
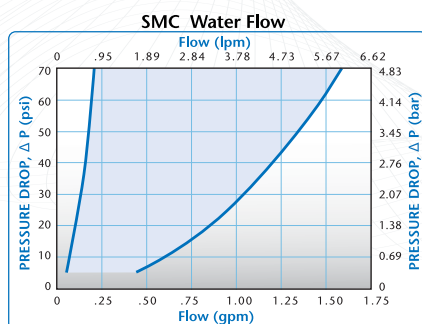
The SMC Series is also available with optional RFID (Radio Frequency Identification) capability (page 98) and in polycarbonate material (page 102).

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:

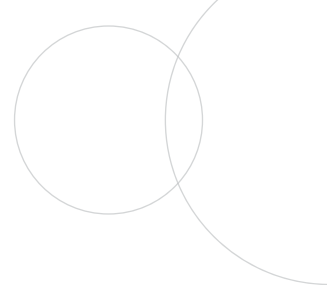
1/16" to 1/8" ID, 1.6mm to 3.2mm and 5.0mm

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_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

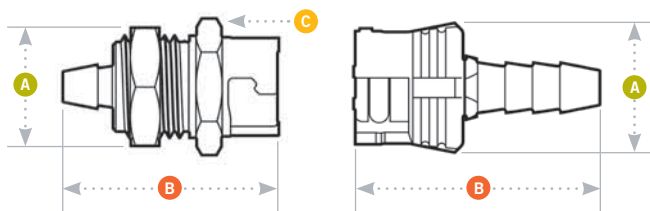
C_v = Average coefficient across various flow rates (see chart)

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 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
1/16" ID	1.6mm ID
	3.0mm ID
	3.0mm ID
1/8" ID	3.2mm ID
1/8" ID	3.2mm ID
1/16" ID	1.6mm ID
1/16" ID	1.6mm ID
	3.0mm ID
	3.0mm ID
1/8" ID	3.2mm ID
1/8" ID	3.2mm ID
1/16" ID	1.6mm ID
1/8" ID	3.2mm ID

STRAIGHT THRU

SMPT02
SMPT02BLK
SMF01
SMF01MBLK
SMFM3
SMFM3MBLK
SMF02
SMF02MBLK
SMFPM01
SMFPM01BLK
SMFPM03
SMFPM03BLK
SMFPM02
SMFPM02BLK
iSMFT0103
iSMFT0203

SHUTOFF

SMPTD02
SMPTD02BLK
SMFD01
SMFD01MBLK
SMFDM3
SMFDM3MBLK
SMFD02
SMFD02MBLK
SMFPM01
SMFPM01BLK
SMFPM03
SMFPM03BLK
SMFPM02
SMFPM02BLK
iSMFDT0103
iSMFDT0203

A

.51
.51
.48
.48
.48
.48
.48
.48
.48
.58
.58
.58
.58
.58
.58
.76
.76

B

.86
.86
.75/.90
.75/.90
1.00
1.00
.90
.90
.75/.90
.75/.90
1.00
1.00
.90
.90
.76/.91
.91/.91

C

7/16
7/16
1/2
1/2
1/2
1/2
1/2
1/2

• 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
1/8" ID	3.2mm ID
1/16" ID	1.6mm ID
1/8" ID	3.2mm ID
1/16" ID	1.6mm ID
1/8" ID	3.2mm ID

STRAIGHT THRU

SMPT0212
SMF0112
SMF0212
SMFPM0112
SMFPM0212
iSMFT0100
iSMFT0200

A

.51
.48
.48
.58
.58
.76
.76

B

.86
.75/.90
.90
.75/.90
.90
.76
.76

C

7/16
1/2
1/2

SMF1 Disposable Bodies • ABS



TERMINATION IN-LINE HOSE BARB

TUBING/THREAD SIZE METRIC EQ.

1/8" ID	3.2mm ID
1/8" ID	3.2mm ID
	5mm ID
	5mm ID

STRAIGHT THRU

SMF10297
SMF10297MBLK
SMF1M597
SMF1M597MBLK

A

.38
.42
.42
.42

B

.82
.82
.69
.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.

- 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
	1/8" ID	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 IN-LINE HOSE BARB	TUBING/ THREAD SIZE 1/8" ID	METRIC EQ. 3.2mm ID	STRAIGHT THRU SMM02CBMBLK	A .48	B .90
PANEL MOUNT HOSE BARB	1/8" ID	3.2mm ID	SMPMP02CBBLK	.50	.90

- **POLYPROPYLENE**



TERMINATION	TUBING/ THREAD SIZE	METRIC EQ.	STRAIGHT THRU	A	B
IN-LINE	1/16" ID	1.6mm ID	SMM0112	.48	.75
HOSE BARB (Acetal Locking Sleeve)	1/8" ID	3.2mm ID	SMM0212	.48	.90
PANEL MOUNT	1/16" ID	1.6mm ID	SMMPM0112	.50	.75
HOSE BARB (Acetal Locking Sleeve)	1/8" ID	3.2mm ID	SMMPM0212	.50	.90
IN-LINE HOSE BARB	1/16" ID	1.6mm ID	iSMMT0103	.76	.76
(Acetal Locking Sleeve)	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	1/16" ID	1.6mm ID	SMC01	SMCD01	1.32/1.46
HOSE BARB	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
<i>IN-LINE</i>	1/16" ID	1.6mm ID	SMC0112	1.32
<i>HOSE BARB</i>	1/8" ID	3.2mm ID	SMC0212	1.61