

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).

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.

FEATURES

Twist to connect

Free coupling rotation

Quarter turn latch clicks when connected

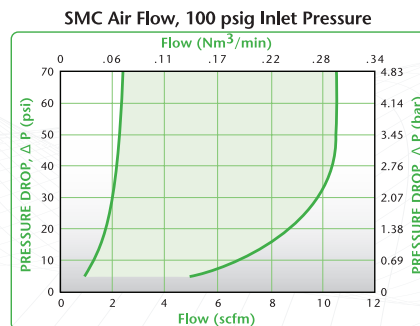
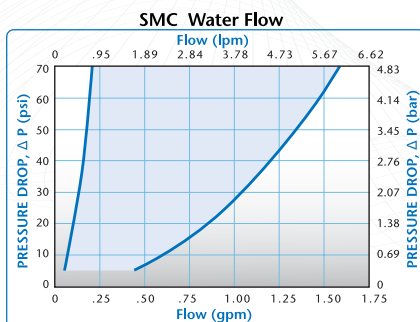
BENEFITS

Prevents accidental disconnects

Eliminates kinked tubing

Prevents damage due to over torquing

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

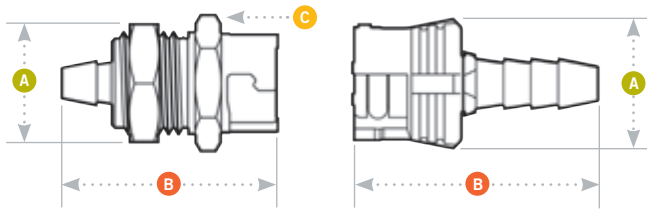
C_v = Average coefficient across various flow rates (see chart)

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

SMPTD02
SMPTD02BLK

SMF01
SMF01MBLK
SMFM3
SMFM3MBLK
SMF02
SMF02MBLK

SMFPM01
SMFPM01BLK
SMFPMM3
SMFPMM3BLK
SMFPM02
SMFPM02BLK

iSMFT0103
iSMFT0203

SHUTOFF

SMFTD02
SMFTD02BLK

SMFD01
SMFD01MBLK
SMFDM3
SMFDM3MBLK
SMFD02
SMFD02MBLK

SMFPM01
SMFPM01BLK
SMFPMDM3
SMFPMDM3BLK
SMFPM02
SMFPM02BLK

iSMFDT0103
iSMFDT0203

A

B

C

.51	.86	7/16
.51	.86	7/16
.48	.75/.90	
.48	.75/.90	
.48	1.00	
.48	1.00	
.48	.90	
.48	.90	
.58	.75/.90	1/2
.58	.75/.90	1/2
.58	1.00	1/2
.58	1.00	1/2
.58	.90	1/2
.58	.90	1/2
.76	.76/.91	
.76	.91/.91	

• 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 1/8" 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

B

C

.51	.86	7/16
.48	.75/.90	
.48	.90	
.58	.75/.90	1/2
.58	.90	1/2
.76	.76	
.76	.91	

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

B

.38	.82
.42	.82
.42	.69
.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.

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

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

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.