

## For Balancing and Flow Measurement Applications

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series CSM-61

## Flow Measurement Valves

### Sizes: 1/2" – 3" (15 – 80mm)

Series CSM-61 Flow Measurement Valves are designed for application on low or medium flow rate HVAC units. Their compact size allows for easy installation and use in crowded piping compartments. The CSM-61's ball-type design, extended throttling range, and large indicator plate, make for highly accurate flow measurement, even in very low flow ranges.

The CSM-61's positive memory feature is easy to see, access, and operate, facilitating system balancing and flow measurement. These valves are also bi-directional, so there is no chance of installing the valve in the incorrect flow direction.

Series CSM-61 valves provide positive shutoff, eliminating the need for a separate service valve. The solder style CSM's may be installed without disassembly, saving costly installation time. These valves are also provided with blowout proof stems. Use, misuse, corrosion, or wear will not allow the stem to "blowout," releasing pressurized hot or chilled water.

### Features

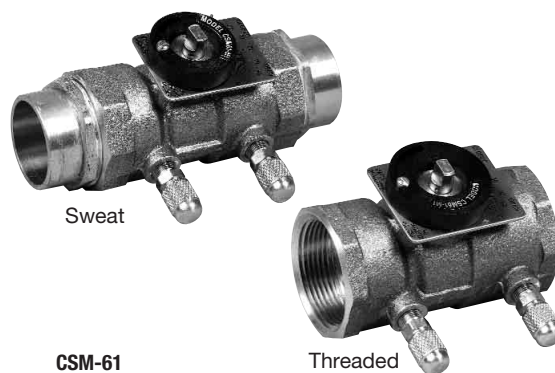
- Accurate flow measurement
- Easy to use memory
- Bi-directional flow
- Positive shutoff
- Safe "blowout" proof design
- Available with threaded and solder end connections
- Integral drain port

### Applications

- Fan coil units
- Water source heat pumps
- Reheat coils
- Panel coils
- Small branch lines
- Unit heaters
- Unit ventilators
- Finned radiation
- Small domestic hot water lines
- Convectors
- Small pumps

### Specifications

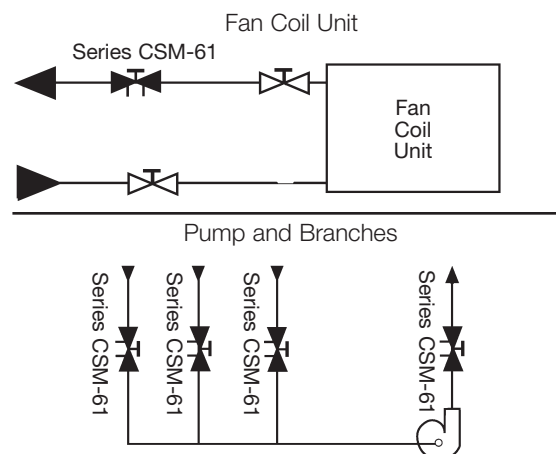
A flow measurement valve shall be installed on each hot/chilled water unit or as otherwise shown on plans. The valve shall be of the bi-directional, blow-out resistant, tight shutoff, ball design, with position indicator, memory device, checked metering ports with drip caps and integral drain ports opposite the metering ports. The valve shall be a Watts Regulator Company Series CSM-61.



### BAA/ARRA Compliant\*

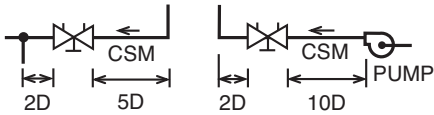
\*This product complies with the Buy American Act and The American Recovery and Reinvestment Act. For more information, visit [watts.com](http://watts.com).

### Typical Installation



## Installation

Generally locate the valve five pipe diameters downstream from a fitting with two diameters downstream from the balancing valve free from fittings. If a balancing valve is located downstream from a circulation pump, allow a distance of ten (10) diameters between the pump and balancing valves.



## Pressure - Temperature

Pattern	Size	Working Temp		Max. Working Pres.	
		°F	°C	psi	bars
Solder	½"-1" (15-25mm)	200*	93	100	7
		250**	121	200	14
	1¼"-2" (32-50mm)	200*	93	90	6
		250**	121	175	12
Thread	½"-3" (15-80mm)	250	121	300	21

\*Note 1: Solder used in joints: 50-50 Tin Lead (ASTM B32 Alloy Grade 50A)

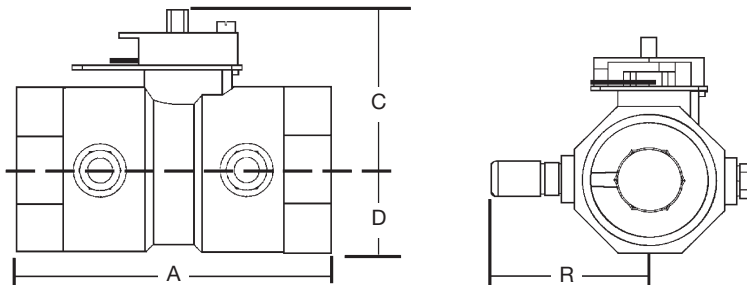
\*\*Note 2: Solder used in joints: 95-5 Tin Antimony

Vitor® is a registered trademark of Dupont Dow Elastomers

## Materials

Housing/Body	Bronze
Packing Material	Viton® ½" - 2" (15 - 50mm) Neoprene 2½" - 3" (65 - 80mm)
Pressure Taps	Brass ¼" SAE 45° Flare
Seats	Carbon/Glass filled PTFE - ½" - 1", 3" (15 - 25, 80mm) Virgin PTFE 1¼" - 2" (32 - 50mm)
Drain Plug	Brass

## Dimensions - Weights



Model	Size (DN)		Dimensions								Weight	
	in.	mm	A		C		D		R		lbs.	kgs.
CSM-61-M1-S	½	15	2 <sup>1</sup> / <sub>16</sub>	68	1 <sup>5</sup> / <sub>8</sub>	41	½	13	1 <sup>3</sup> / <sub>4</sub>	45	1.0	0.45
CSM-61-M1-S	¾	20	3 <sup>1</sup> / <sub>8</sub>	79	1 <sup>11</sup> / <sub>16</sub>	43	9 <sup>1</sup> / <sub>16</sub>	15	1 <sup>7</sup> / <sub>8</sub>	47	1.3	0.59
CSM-61-M1-S	1	25	3 <sup>13</sup> / <sub>16</sub>	97	1 <sup>7</sup> / <sub>8</sub>	47	1 <sup>3</sup> / <sub>16</sub>	20	2 <sup>1</sup> / <sub>16</sub>	52	1.8	0.82
CSM-61-M2-S	1¼	32	4 <sup>9</sup> / <sub>16</sub>	116	1 <sup>7</sup> / <sub>8</sub>	47	1 <sup>1</sup> / <sub>8</sub>	29	2 <sup>3</sup> / <sub>16</sub>	56	1.5	0.68
CSM-61-M2-S	1½	40	4 <sup>7</sup> / <sub>8</sub>	123	2	50	1 <sup>5</sup> / <sub>16</sub>	33	2 <sup>5</sup> / <sub>16</sub>	59	1.9	0.86
CSM-61-M2-S	2	50	6	153	2 <sup>9</sup> / <sub>16</sub>	66	1 <sup>9</sup> / <sub>16</sub>	40	2 <sup>5</sup> / <sub>16</sub>	67	3.4	1.54
CSM-61-M1-T	½	15	2 <sup>5</sup> / <sub>8</sub>	60	1 <sup>5</sup> / <sub>8</sub>	41	½	13	1 <sup>3</sup> / <sub>4</sub>	45	1.0	0.45
CSM-61-M1-T	¾	20	2 <sup>5</sup> / <sub>8</sub>	67	1 <sup>11</sup> / <sub>16</sub>	43	9 <sup>1</sup> / <sub>16</sub>	15	1 <sup>7</sup> / <sub>8</sub>	47	1.3	0.59
CSM-61-M1-T	1	25	3 <sup>1</sup> / <sub>8</sub>	80	1 <sup>7</sup> / <sub>8</sub>	47	1 <sup>3</sup> / <sub>16</sub>	20	2 <sup>1</sup> / <sub>16</sub>	52	1.9	0.86
CSM-61-M1-T	1¼	32	3 <sup>3</sup> / <sub>4</sub>	94	1 <sup>7</sup> / <sub>8</sub>	47	1	25	2 <sup>3</sup> / <sub>16</sub>	56	1.9	0.86
CSM-61-M1-T	1½	40	3 <sup>15</sup> / <sub>16</sub>	100	2	50	1 <sup>1</sup> / <sub>16</sub>	27	2 <sup>5</sup> / <sub>16</sub>	59	2.3	1.04
CSM-61-M1-T	2	50	4 <sup>1</sup> / <sub>2</sub>	114	2 <sup>9</sup> / <sub>16</sub>	66	1 <sup>5</sup> / <sub>16</sub>	33	2 <sup>9</sup> / <sub>16</sub>	66	4.0	1.81
CSM-61-M1-T	2½	65	6 <sup>1</sup> / <sub>2</sub>	165	4 <sup>1</sup> / <sub>8</sub>	104	2 <sup>3</sup> / <sub>16</sub>	55	3 <sup>1</sup> / <sub>8</sub>	80	13.0	5.90
CSM-61-M1-T	3	80	6 <sup>13</sup> / <sub>16</sub>	173	4 <sup>3</sup> / <sub>8</sub>	112	2 <sup>7</sup> / <sub>8</sub>	73	3 <sup>3</sup> / <sub>8</sub>	92	17.0	7.71

Suffix: S = Solder Ends, T = Threaded Ends

# WATTS®

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