

# 420 Series Composite

## 420 Composite PD Meter

Sizes 5/8" x 1/2" and 5/8" x 3/4"

**Mueller** SYSTEMS

### Features

**APPLICATIONS:** The Hersey® 420 composite is a nutating disc style, positive displacement meter designed for residential and small commercial applications where water volumes are low and low flow sensitivity is important.

**CONFORMANCE TO STANDARDS:** All Hersey 420 composite meters meet or exceed the latest revision of the AWWA C-710 Standard for positive displacement meters. Every 420 composite no lead meter is compliant with the latest initiatives of NSF, ANSI and EPA standards.

**CONSTRUCTION:** Hersey 420 water meters consist of three basic parts: maincase; measuring chamber; and permanently sealed register. The maincase is an advanced composite material designed for reduced weight and minimal environmental impact. Stainless steel metal threads provide corrosion resistant connections to standard bronze couplings.

Direction of flow arrows, model and size are molded into each maincase for easy identification. The bottom cover is an advanced composite material designed with a unique internal thread that enhances the structural integrity of the meter and is sealed with an o-ring. The measuring chamber is molded from materials specifically designed to provide reduced wear during operation. The measuring chamber, integral strainer, nutating disc and thrust roller are thermoplastic, which is dimensionally stable and will not corrode. The thrust roller moves smoothly along the chamber diaphragm to reduce friction and maintain accuracy. The register box and lid are molded thermoplastic. The meter is designed so that the register can be replaced without removing the meter from the service line.

**REGISTER:** The permanently sealed visual read register has a unique triple "L" seal and heat treated, glass lens to eliminate dirt, moisture infiltration and fogging. An integral tamper-proof locking feature is provided to resist tampering with the register. The totalizing register has a straight-reading odometer type display, a 360° test circle with center sweep hand and a low flow (leak) detector. Standard gearing is used, making registers interchangeable by size. The 420 composite meter is available with all AMR and AMI options for increased reading efficiency.

**OPERATION:** Water flows through the meter's strainer where debris is screened out. The incoming water fills a known volume of the measuring chamber on one or the other side of a movable disc that separates the chamber into two sections. As water enters, it moves the disc (nutates), forcing a known volume of water out of the meter from the opposite side of the disc. The process repeats as the sections refill and empty in turn. The nutating action of the disc is coupled magnetically to the register to indicate the volume of water that passes through the meter.

**MAINTENANCE:** The Hersey 420 positive displacement meter is designed and manufactured to provide long service life with virtually no maintenance required. Repair components available include complete chamber assemblies and bottom plate o-rings. All components can be accessed without removing the meter body from the service line for simplified maintenance.

**CONNECTIONS:** Supplied with external straight pipe threads (NPSM) per ANSI B1.20.1



5/8" x 3/4" 420 Composite PD Meter

420 Composite

### Materials and Specifications

MODEL	420 Composite Meter
SIZES	5/8" X 1/2", 5/8" X 3/4"
STANDARDS	AWWA C-710, Most current NSF-61, ANSI, & EPA Initiatives
SERVICE	Measurement of flow in forward direction only
INSTALLATION	Horizontal or Vertical
OPERATING FLOW RANGE	See Charts on the following pages
ACCURACY	See Charts on the following pages
MAXIMUM WORKING PRESSURE	150 PSI
TEMPERATURE RANGE	33° F to 100° F water temperature
MEASURING ELEMENT	Nutating Disc PD Chamber
REGISTER TYPE	Straight reading, permanently sealed, magnetic drive with low flow indicator and remote reading capability
METER CONNECTIONS	External straight pipe threads (NPSM)
MATERIALS	Meter case – Composite Measuring Element Chamber and Disc - Thermoplastic Strainer - Thermoplastic
OPTIONS	AMR/AMI Reading Systems

## Meter Registration

Meter Size	Initial Dial*	Capacity	Initial Dial*	Capacity
5/8"	10 Gallons	10 Million	1 Cubic Ft.	1 Million

\*Registration equal to one full revolution of the sweep hand.

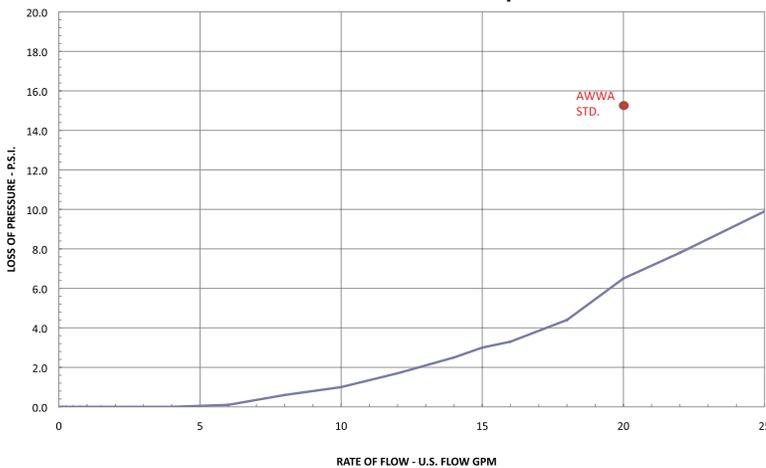
## Flow Characteristics

Meter Size	Typical Low Flow (95% Minimum)	Typical Operating Range (100% ± 1.5%)	Maximum Continuous Operation
5/8"	1/8 GPM	1/2 to 20 GPM	15 GPM

## Performance

### Head loss

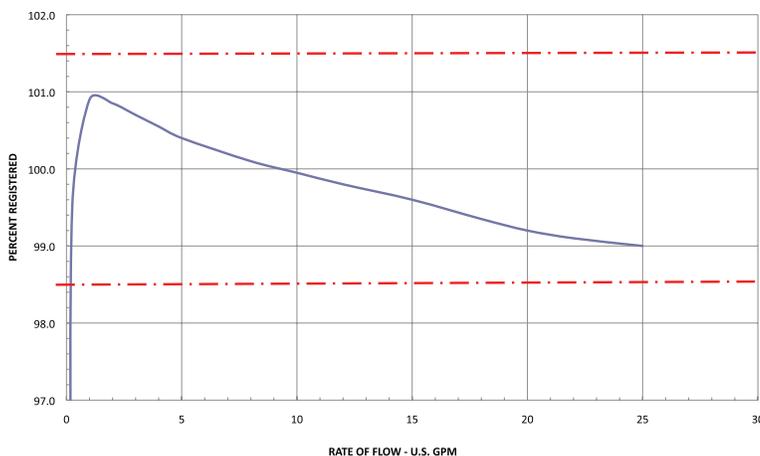
Head Loss on 5/8" 420 Composite



NOTE: Performance curves are typical only and NOT a guarantee of performance.

### Accuracy

Accuracy on 5/8" 420 Composite



NOTE: Performance curves are typical only and NOT a guarantee of performance.

# 420 Series Composite

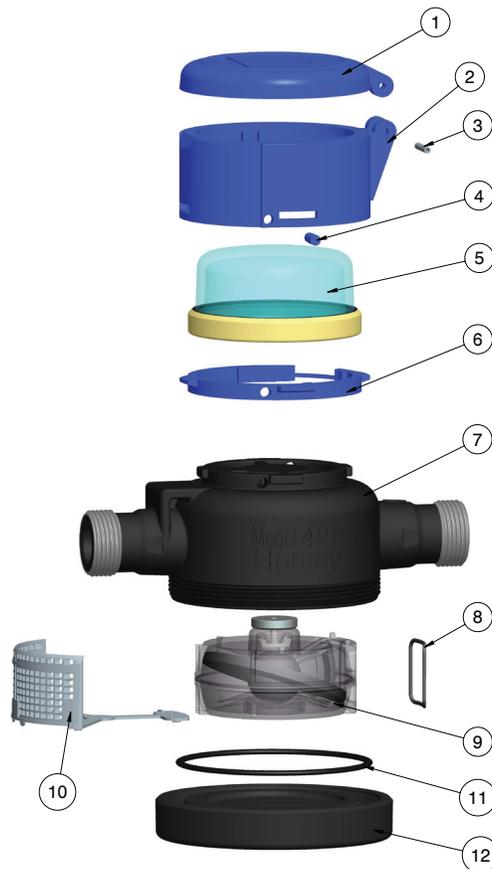
420 Composite PD Meter

Sizes 5/8" x 1/2" and 5/8" x 3/4"



420 Composite

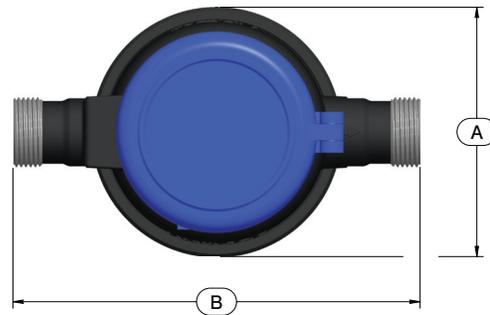
MODEL 420 COMPOSITE METER ASSEMBLY COMPONENTS			
ITEM	PART #	DESCRIPTION	QTY
1	C5768	PLASTIC REGISTER COVER	1
2	C5769	PLASTIC REGISTER HOUSING BASE	1
3	AS41122	PLASTIC LID SPIROL PIN SS	1
4	AS12658	BLUE COLOR REGISTER LOCKING PIN	1
5	D36981	MODEL 420 VISUAL REGISTER SG	1
	D36982	MODEL 420 VISUAL REGISTER CF	
	D36983	MODEL 420 VISUAL REGISTER CM	
	D36991XX	MODEL 420 TRANSLATOR REGISTER SG	
	D36992XX	MODEL 420 TRANSLATOR REGISTER CF	
	D36993XX	MODEL 420 TRANSLATOR REGISTER CM	
6	C5770	REGISTER HOUSING INSERT	1
7	B8644	5/8" X 3/4" COMPOSITE MAIN CASE	1
	B8651	5/8" X 1/2" COMPOSITE MAIN CASE	
8	A13120	MODEL 420 CHAMBER O-RING	1
9	D3635PO	MODEL 420 CHAMBER ASSEMBLY	1
10	C6625	MODEL 420 COMPOSITE STRAINER RETAINER	1
11	A13060	MODEL 420 COMPOSITE BOTTOM PLATE O-RING	1
12	C6627	MODEL 420 COMPOSITE BOTTOM PLATE	1



## Dimensions, Weights and Parts

### 420 Composite Meter

Meter Size	5/8"	
Model	420 Composite Standard Register	420 Composite Translator Register
Dimension		
A	4.625"	4.625"
B	7.5"	7.5"
C	3.125"	4.25"
D	1.5"	1.5"
Weight	2.2	2.2



Weights are in pounds and are approximate.  
 Inlet and outlet 1/2" or 3/4"

### 420 Composite Meter

