

420 Mobile Remote Disconnect*



Bronze PD Mobile Disconnect Meter

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

*Pat. www.mwppat.com

Features

APPLICATIONS: The **Mueller Systems™** mRDM is a nutating disk, positive displacement meter that incorporates a radio controlled valve in a 7-1/2" laying length. The unique meter design allows utilities to retrofit 5/8" mRDM meters in existing services where there is a high incidence of customer service call volume pertaining to transient or delinquent accounts, where employee safety may be a concern, or where it is difficult to gain access to meters. By accessing the account information through the mRDM mobile software installed on a computer equipped with a **Mi.Net** mobile radio device, a radio frequency (RF) command can be initiated to turn on or off any service equipped with an mRDM meter from any password protected computer authorized to access the utility site. An additional cable interface permits the connection of a secondary AMR/AMI transmitter enabling utilities to continue meter reading and data collection with their existing RF based system.

CONFORMANCE TO STANDARDS: All 5/8" X 3/4" **Mueller Systems** Mobile Remote Disconnect Meters meet or exceed the latest revision of the AWWA C-700 Standard for positive displacement meters. Every 420 mRDM no lead meter is compliant with the latest initiatives of NSF, ANSI and EPA standards. All electronic components utilized in the meter and RF transceiver design comply with applicable FCC, Part 15 standards and AWWA Standard C-707 for Encoded Remote Reading Systems.

CONSTRUCTION: **Mueller Systems** 420 Mobile Residential Disconnect Meters consist of five basic parts: maincase; measuring chamber; permanently sealed register with appropriate wire connector and length (see options under Materials and Specifications; pilot valve; and RF transceiver. The maincase is made of no lead bronze for long life. Direction of flow arrows, model, and NSF-61 designation are permanently cast into the body components. The mRDM is available with a plastic bottom cover only. The measuring chambers are designed for reduced wear during operation. The top and bottom of the measuring chamber, strainer, nutating disc and thrust roller are dimensionally stable thermoplastic which will not corrode. The electronic register housing and lid, Mi.Node and pilot valve housing are all made from thermoplastic. The meter is designed so that the register and pilot valve replacement components can be serviced easily without removing the meter from the line and are protected by **Mueller Systems'** unique tamper resistant locking pin and tamper resistant screw.

REGISTER: The permanently sealed electronic register has a unique triple "L" seal and Grilimid lens to eliminate dirt, moisture infiltration and fogging. Registers are available with a variety of register cables and length options to permit interfaces with existing system transmitters and maximize system operating efficiency. The mRDM is available with an integral or a remote mounted RF transceiver for optimal performance. 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.

OPERATION: Water flows through dual strainers in the pilot valve assembly. Differential pressure provides the operating principal for the valve activation. 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



5/8" X 3/4"
Mobile Remote
Disconnect Meter

coupled magnetically to the register to indicate the volume of water that passes through the meter.

The pilot valve can be actuated via the mRDM radio with the appropriate mRDM software installed on a laptop. System screens indicate the position of the valve (open or closed) and record the date and time for all valve activations providing a permanent record of each account's history.

MAINTENANCE: The **Mueller Systems** mRDM meter is designed and manufactured to provide long service life with virtually no maintenance required. Repair components available include complete chamber assemblies and pilot valve repair kits when required. All components can be accessed without removing the meter from the service line for simplified maintenance.

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

Materials and Specifications

MODEL	(mRDM) or Mobile Remote Disconnect Meter	
SIZES	5/8" X 1/2", 5/8" X 3/4"	
STANDARDS	AWWA C-700, Current NSF-61, ANSI, & EPA Initiatives	
SERVICE	Measurement of flow in forward direction only	
INSTALLATION	Horizontal	
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	
CONNECTION OPTIONS	Integral Mi.Node with choice of 18" Nicor Cable connector, 5'Itron Cable Connect or 5' unterminated wire 3' Mi.Node with choice of 18" Nicor Cable connector, 5' Itron Cable Connect or 5' unterminated wire 15' Mi.Node with 15' unterminated wire	
REGISTER TYPE	Straight reading, permanently sealed, magnetic drive with low flow indicator and remote reading capability	
BATTERY LIFE	20 Years	
METER CONNECTIONS	External straight pipe threads (NPSM)	
MATERIALS	Meter case – Bronze Disconnect Valve – Pilot Type Bolts – Stainless Steel	Measuring Element Chamber and Disc - Thermoplastic Disc Pin - SST Strainer - Thermoplastic

420 mRDM

Meter Registration

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

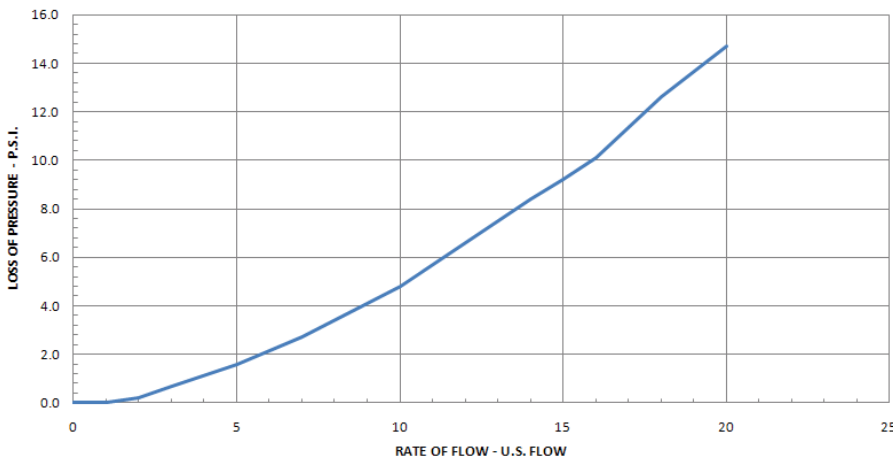
*Registration equal to one full revolution of the sweep hand.

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

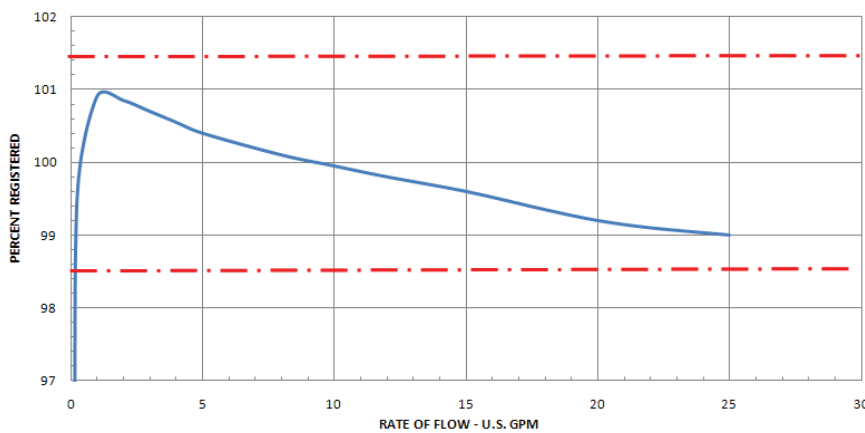
Performance

Head loss



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

Accuracy



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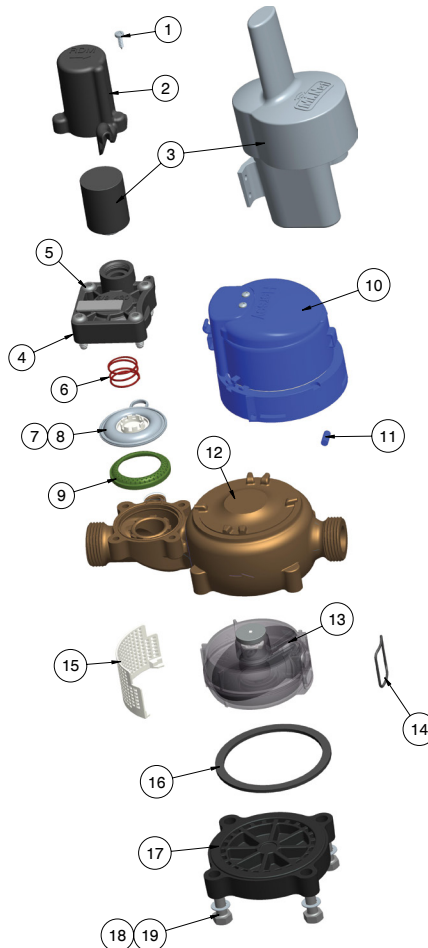
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420 mRDM

MODEL 420 mRDM BRONZE METER ASSEMBLY COMPONENTS			
ITEM	PART #	DESCRIPTION	QTY
1	BKPLTSCREW	#6 X 1/2" SELF TAPPING TRI-WING HEAD SS	1
2	C6680	SOLENOID TAMPER COVER	1
3	MSW-RDM-XX	Mi.NODE RADIO WITH SOLENOID	1
4	C6679A	MODEL 420 RDM VALVE COVER WITH ORIFICE	1
5	98411	1/4-20 X 1" BHCS SS	4
6	A13099	MODEL 420 RDM VALVE SPRING SS	1
7	B8676	MODEL 420 RDM DIAPHRAGM ASSEMBLY	1
8	B8676KIT	DIAPHRAGM REPLACEMENT KIT (PARTS 6,7,&9)	-
9	B8684	MODEL 420 RDM SUPPORT RING	1
10	D36991XX	MODEL 420 TRANSLATOR REGISTER SG	1
	D36992XX	MODEL 420 TRANSLATOR REGISTER CF	
	D36993XX	MODEL 420 TRANSLATOR REGISTER CM	
11	A12658	REGISTER LOCKING PIN	1
12	D3688SI	5/8" X 3/4" MODEL 420 RDM MAIN CASE	1
	D2688-1SI	5/8" X 1/2" MODEL 420 RDM MAIN CASE	
13	D3635PO	MODEL 420 CHAMBER ASSEMBLY	1
14	A13059	MODEL 420 CHAMBER O-RING	1
15	C6681	MODEL 420 BRONZE STRAINER RETAINER	1
16	B8664	MODEL 420 BRONZE GASKET	1
17	C6682	MODEL 420 PLASTIC BOTTOM PLATE	1
18	90010	5/16-18 x 1-1/8" HEX BOLT SS	4
19	90018	5/16 FLAT WASHER SS	4



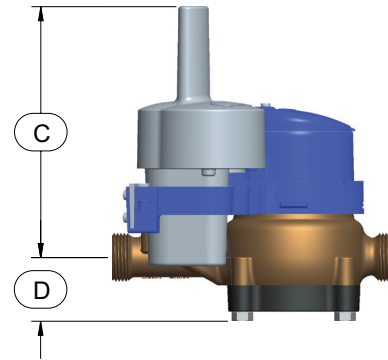
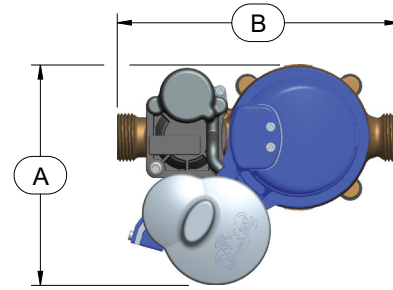
Dimensions, Weights and Parts

Meter Size	5/8"	
Model	mRDM INTEGRAL	mRDM REMOTE
Dimension		
A	5.875"	3.875"
B	7.5"	7.5"
C	6.6875"	4.1875"
D	1.6875"	1.6875"
Weight	5.0	5.0

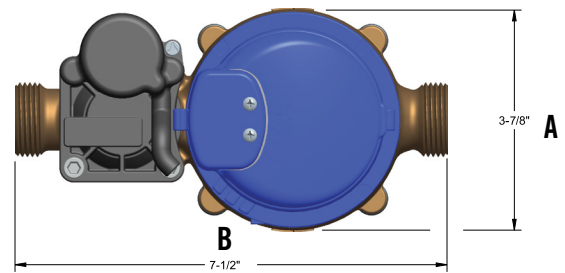
Weights are in pounds and are approximate.
 Inlet and outlet 1/2" or 3/4"

420 mRDM

420 mRDM with Integral Mi.Node



420 mRDM with Remote Mi.Node



APPROXIMATE WEIGHT: 5 LBS.

