RECORDALL® NUTATING DISC METERS

RCDL NUTATING DISC

DESCRIPTION

The **Badger Meter Recordall Model Nutating Disc Series** meters meet or exceed the most recent revision of AWWA Standard C700 and are available in a lead-free bronze alloy. The meters comply with the lead-free provisions of the Safe Drinking Water Act, are certified to NSF/ANSI Standards 61 and 372 (Trade Designation: M25-LL) and carry the NSF-61 mark on the housing. All components of the lead-free bronze alloy meter (housing, measuring element, seals, and so on) comprise the certified system.

Operation: Water flows through the meter's strainer and into the measuring chamber where it causes the disc to nutate. The disc, which moves freely, nutates on its own ball, guided by a thrust roller. A drive magnet transmits the motion of the disc to a follower magnet located within the permanently sealed register. The follower magnet is connected to the register gear train. The gear train reduces the disc nutations into volume totalization units displayed on the register or encoder face.

Operating Performance: The **Recordall Nutating Disc Series** meters meet or exceed registration accuracy for the low flow rates (95%), normal operating flow rates (100 ± 1.5%), and maximum continuous operation flow rates as specifically stated in AWWA Standard C700.

Construction: Recordall Nutating Disc Series meter construction, which complies with ANSI/AWWA standard C700, consists of three basic components: meter housing, measuring chamber, and permanently sealed register. The water meter is available in a lead-free bronze alloy with externally-threaded spuds. A corrosion-resistant engineered polymer material is used for the measuring chamber.

Connections: Tailpieces/Unions for installations of meters on various pipe types and sizes, including misaligned pipes, are available as an option.

RCDL Disc Meters w/ HR Pulse Register

APPLICATION

Used in submetering and billing residential, commercial and industrial services where flow is in one direction only.
Potable cold & hot water

- ***HVAC***
- *Boilers*
- ***NSF/ANSI Standards 61 and 372 Certified***
- ***One year warranty***
- ***Submetering & billing***

SPECIFICATIONS

	MODEL				
	M25 (1/2")	**M35 (3/4")**	**M 70 (1")**	**M120 (1.5")**	**M170 (2")**
Typical Operating Range (100% ± 1.5%)	0.5-25 gpm (0.11-5.7 m^3/hr)	0.75-35 gpm (0.17-7.9 m^3/hr)	1.25-70 gpm (0.28-16 m^3/hr)	2.5-120 gpm (0.57-27 m^3/hr)	2.5-170 gpm (0.57-39 m^3/hr)
Maximum Continuous Operation	15 gpm (3.4 m^3/hr)	25 gpm (5.7 m^3/hr)	50 gpm (11.3 m^3/hr)	80 gpm (18 m^3/hr)	100 gpm (23 m^3/hr)
Pressure Loss at Maximum Continuous Operation	3.5 psi at 15 gpm (0.24 bar at 3.4 m^3/hr)	5.0 psi at 25 gpm (0.37 bar at 5.7 m^3/hr)	6.5 psi at 50 gpm (0.45 bar at 11.3 m^3/hr)	4.8 psi at 80 gpm (0.33 bar at 18 m^3/hr)	3.3 psi at 100 gpm (0.23 bar at 23 m^3/hr)
Operating Temperature	-40 to120°F (-40 to 49°C)				
Maximum Operating Pressure	150 psi (10 bar)				
Measuring Element	Nutating disc, positive displacement				
Meter Connections	1/2 MPT with Connectors	3/4 MPT with Connectors	1" MPT with Connectors	1 1/2" MPT with Connectors	2" MPT with Connectors
Transmitter / Register	Straight reading, permanently sealed, magnetic drive				
Power Source	External				
Maximum Switching	≤30V DC @ 1 mA @ 77°F (25°C)				
Operating Temperature Range	-40° to 120° F (-40° to 49° C) Noryl / -40° to 250° F (-40° to 121° C) LCP				
Unit of Measure	1 GPP	1 GPP	1 GPP	10 GPP	10 GPP
Gallons Per Pulse Liiters Per Pulse	3.79 LPP	3.79 LPP	3.79 LPP	3.79 LPP	3.79 LPP

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DIMENSIONS

Meter Size	Meter Model (GPM)	A Laying Length	B Height Reg.	C Centerline Base	Width	Approx. Shipping Weight
1/2" (15 mm)	25	7-1/2" (190 mm)	4-15/16" (125 mm)	1-11/16" (42 mm)	4-1/4" (108 mm)	4-1/2 lb (2 kg)
3/4" (20 mm)	35	7-1/2" (190 mm)	5-1/4" (133 mm)	1-5/8" (41 mm)	5" (127 mm)	5-1/2 lb (2.5 kg)
1" (25 mm)	70	10-3/4" (273 mm)	6-1/2" (165 mm)	2-5/16" (59 mm)	7-3/4" (197 mm)	11-1/2 lb (5.2 kg)
1-1/2" (40 mm)	120 Hex	12-5/8" (321 mm)	7" (178 mm)	2-3/8" (60 mm)	8-3/4" (222 mm)	19 lb (8.6 kg)
2" (50 mm)	170 Hex	15-1/4" (387 mm)	8" (203 mm)	2-7/8" (73 mm)	9-1/2" (241 mm)	30 lb (13.6 kg)

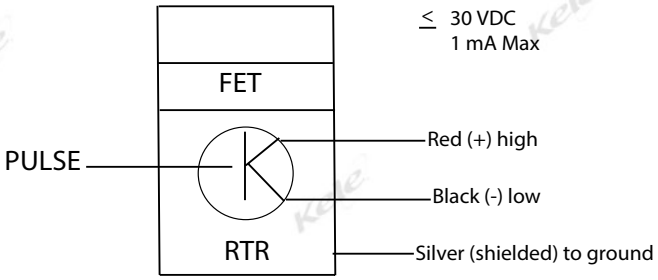
MEASUREMENT RESOLUTION: The minimum electronic resolution of the HR Pulse is noted below. To verify the correct resolution for your application, contact your Badger Meter regional sales office.

RECORDALL Disc Series	Size	Resolution Gallons Per Pulse	Resolution Cubic Feet (ft^3)	Resolution Cubic Meters (m^3)
M25	5/8″	1	0.1	0.01
M35	3/4″	1	0.1	0.01
M70	1″	1	0.1	0.01
M120	1-1/2″	10	1	0.1
M170	2″	10	1	0.1

HR-LCD 4-20 mA

Pulse and Analog Output Resister

Polarity MUST be observed when connecting the RTR to the remote module. Badger Meter wiring standards use the black conductor as the negative (-) conductor, and the red as the positive (+) conductor.



ORDERING INFORMATION

MODEL	DESCRIPTION (Size Housing)		
M25	625	1/2" pipe	Note: Choose "A" or "X" for connection option below
M35	751	3/4" pipe	Note: Choose "B" or "X" for connection option below
M70	100	1" pipe	Note: Choose "C" or "X" for connection option below
M120	150	1 1/2" pipe	Note: Choose "D" or "X" for connection option below
M170	200	2" pipe	Note: Choose "E" or "X" for connection option below

HOUSING	
L	Lead free bronze

CHAMBER	
N	Noryl (120F max)
L	LCP (250F max, corrosion resistant) -- only available in M25 and M70

THRUST ROLLER	
S	Stainless steel

CONNECTIONS (UNION FLANGE MNPT)	
A	Bronze 1/2" pipe mnpt
B	Bronze 3/4" pipe mnpt
C	Bronze 1" pipe mnpt
D	Bronze 1 1/2" pipe mnpt
E	Bronze 2" pipe mnpt
X	None

TRANSMITTERS (Select Only One)	
RA	Local read-only register
HS	4-20 mA + pulse output register
E6	Pulse-only register

UNIT OF MEASURE	
GA	Gallons
LT	Litres

M25 | 625 | L | N | S | A | RA | GA

Example: **M25625LNSARJGA** 625 1/2" pipe, lead free bronze, noryl (120F max), stainless steel, bronze 1/2" pipe mnpt, local read-only register, gallons.