

# HYDRUS BULK

## ULTRASONIC METER

**DIEHL**  
Metering



### APPLICATION

HYDRUS BULK is a static, ultrasonic water meter designed for highly accurate measurement of water. It's unique design ensures no measurement of air, is insensitive to sedimentation, and allows for long-term stability, even under the most difficult conditions.

### FEATURES

- ▶ Sizes 2" - 8"
- ▶ Extreme low-flow accuracy and long term measurement stability
- ▶ Meets or exceeds C715 AWWA/ANSI Standards for type I and type II meters
- ▶ Complies with NSF/ANSI/CAN Standards 61 and 372, Annex F/G as well as FCC part 15 B
- ▶ Battery lifetime of up to 20 years and maintenance-free operation over the entire installation period
- ▶ Cast iron, epoxy coated body
- ▶ IP68
- ▶ Installation in any position, no calming sections required
- ▶ Diehl extended encoder protocol that includes temperature, alarms and error messages, etc.
- ▶ 42 days of hourly data storage

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### GENERAL TECHNICAL DATA

HYDRUS BULK		
Potable water temperature	°F	33 ... 122
Ambient operating temperature	°F	-13 ... 131
Ambient storage temperature	°F	-13 ... 158 (>95°F max. for up to 4 weeks)
Maximum operating pressure	psi	175
Power supply		3.6 VDC lithium battery
Battery lifetime		up to 20 years
Encoder interface		9 digit programmable resolution industry standard encoder protocol, ASCII output for compatibility with all AMR/AMI systems, Diehl extended protocol is available
Data storage		Alarms and consumption values (42 days of hourly data)
Protection class		IP68

### TECHNICAL DATA DISPLAY

HYDRUS BULK	
Display indication	LCD, 9-digit, additional symbols/display counter/unit
Units	Flow and volume (GPM, gal, ft <sup>3</sup> )
Values displayed	Display test - total volume - firmware version / checksum - current flow - errors / alarms (Additional values based on configuration)
Alarms	Hardware flow - leak detection - backflow - air in pipe - low battery - undersized meter - no consumption - high temperature - freezing risk

### APPROVAL

HYDRUS BULK	
NSF	Complies with NSF/ANSI Standard 61, Annex F/G
AWWA	Meets or exceeds applicable sections of the AWWA/ANSI C715 Standards
FCC	Complies with FCC part 15 B

### MATERIAL

HYDRUS BULK	
Body	Cast iron, epoxy coated
Register housing	Engineered polymer
Transducers	Composite

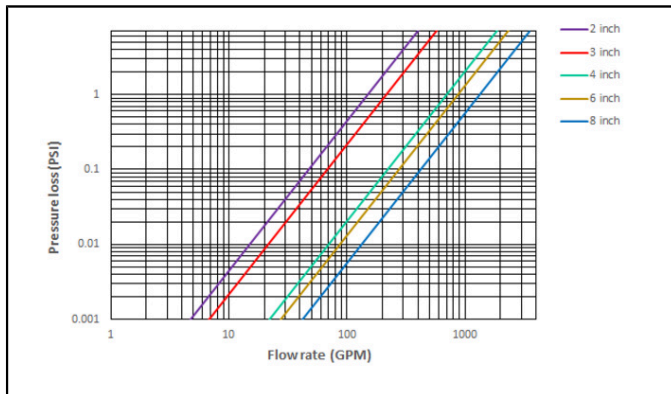
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## ULTRASONIC METER

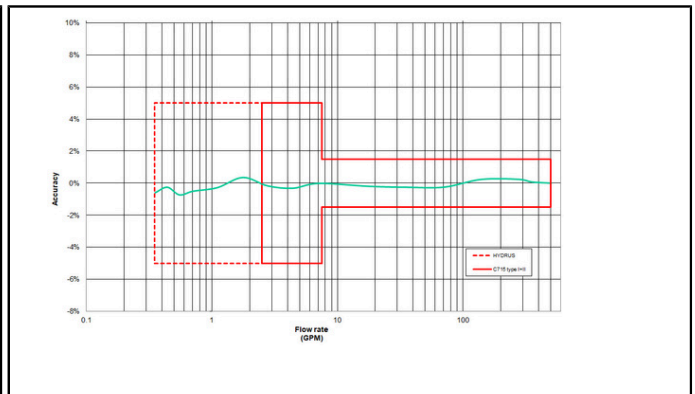
### TECHNICAL DATA

Size		2"	3"	4"	6"	8"
Lay length	inch	10"	7.87	9.84	11.81	13.78
Operating flow range	gpm	2.5 - 250	7.5 - 500	10 - 1000	20 - 1900	40 - 2800
Low flow range	gpm	0.2 - 2.5	0.35 - 7.5	0.65 - 10	1.37 - 20	2.75 - 40
Starting flow	gpm	0.141	0.317	0.484	0.660	0.969
Operating range accuracy	%	±1.5	±1.5	±1.5	±1.5	±1.5
Low flow range accuracy	%	±5	±5	±5	±5	±5
Pressure loss	psi	2.8@250 gpm	5.5@500 gpm	2.1@1000 gpm	4.8@1900 gpm	4.5@2800 gpm

### PRESSURE LOSS GRAPH / ACCURACY CURVE

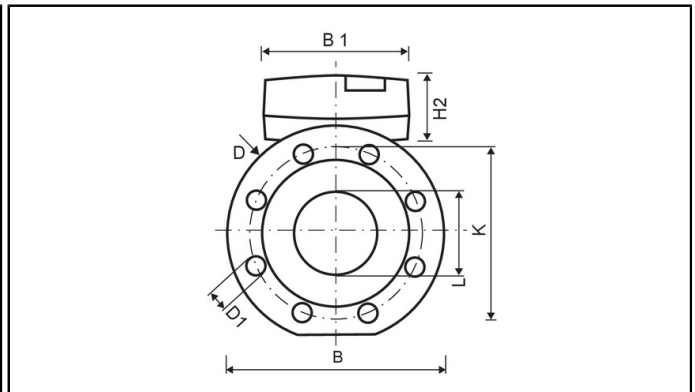
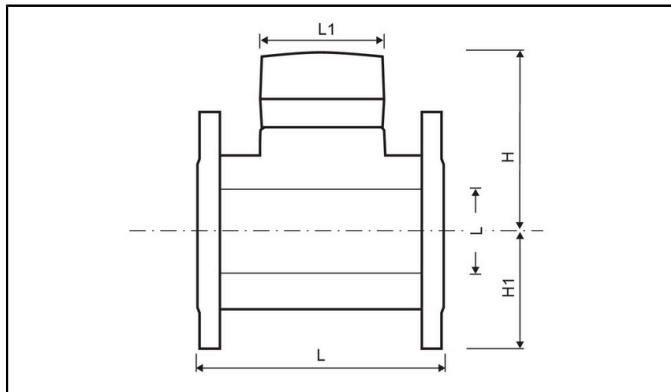


Pressure loss graph



Accuracy curve (3")

### DIMENSIONS



Size		2"	3"	4"	6"	8"
Lay length	inch	10"	7.87	9.84	11.81	13.78
Height	H	inch	5.6	6.5	7	8.4
Height	H1	inch	2.7	3.5	4.3	6.3
Register length	L1	inch	3.9	3.9	3.9	3.9
Register width	B1	inch	5.5	5.5	5.5	5.5
Register height	H2	inch	2.4	2.4	2.4	2.4
Flange diameter	D	inch	6.25	7.5	9	13.5
Hole circle diameter	K	inch	4.5	6	7.5	11.75
Number of screw holes		pcs	2	4	8	8
Screw hole diameter	D1	inch	3/4	3/4	3/4	7/8
Net weight		lbs.	22	28	38	75

\*2" has oval flanges.