

# HYDRUS BULK USA

## 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 Standards 61, Annex F/G as well as FCC part 15 B
- ▶ Certified compliance to UL 327B and FM 1044 for fire service applications
- ▶ Battery life of up to 20 years; field replaceable battery
- ▶ 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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### TECHNICAL DATA

HYDRUS BULK USA	
Water temperature	°F 33 ... 122
Ambient operating temperature	°F 14 ... 131
Ambient storage temperature	°F 14 ... 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

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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 USA	
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
FM	Approved to FM1044 for fire service meters
UL	Listed to UL327B for fire service applications

### MATERIAL

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

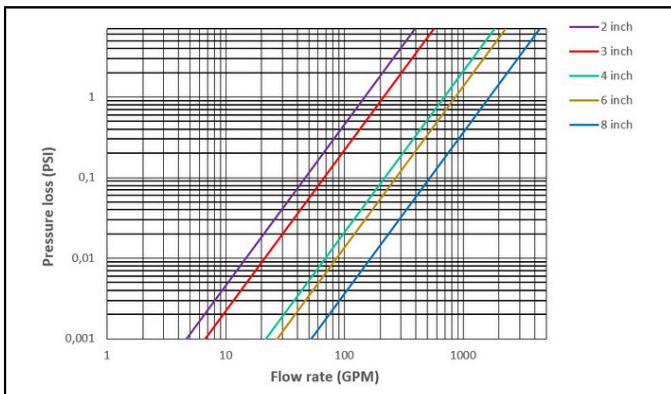
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## ULTRASONIC METER

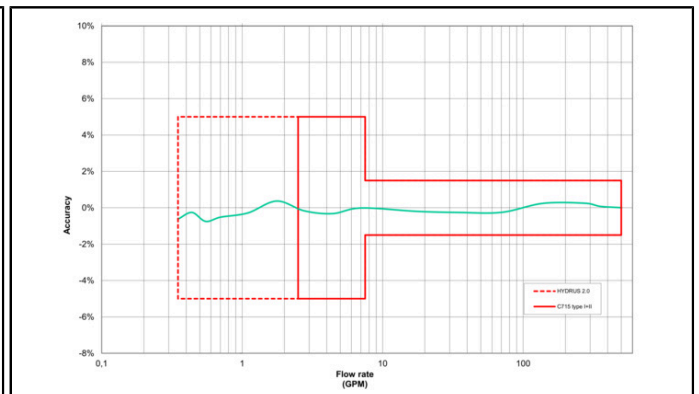
### PERFORMANCE DATA

Size		2"	3"	4"	6"	8"
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

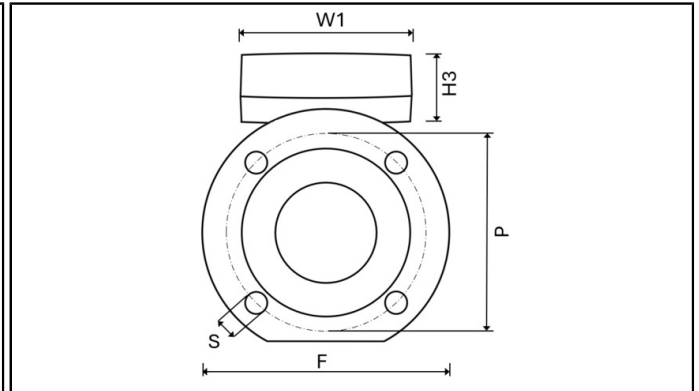
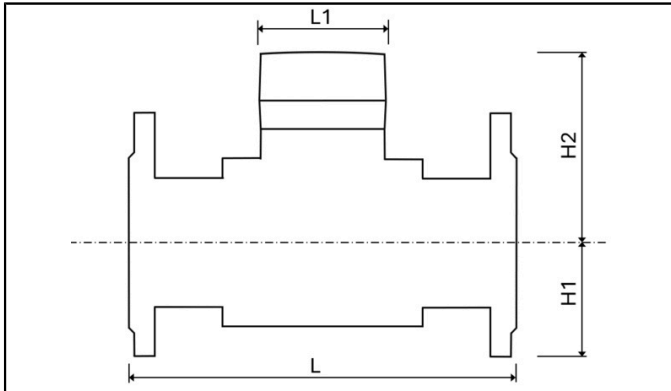


Pressure loss graph



Typical accuracy curve (3")

### DIMENSIONS



Size		2"	3"	4"	6"	8"	
Lay length	L	inch	10"	12"	14"	18"	20"
Height to pipe axis	H1	inch	5.6	6.5	7	7.3	8.4
Height above pipe axis	H2	inch	2.7	3.5	4.3	5.3	6.3
Register length	L1	inch	3.9	3.9	3.9	3.9	3.9
Register width	W1	inch	5.5	5.5	5.5	5.5	5.5
Register height	H3	inch	2.4	2.4	2.4	2.4	2.4
Flange diameter	F	inch	6.25*	7.5	9	11	13.5
Pitch circle diameter	P	inch	4.5	6	7.5	9.5	11.75
Number of screw holes		pcs	2	4	8	8	8
Screw hole diameter	S	inch	3/4	3/4	3/4	7/8	7/8
Net weight		lbs.	22	36	64	64	132

\*horizontal (2" has oval flanges)