

HYDRUS

ULTRASONIC METER

DIEHL
Metering



APPLICATION

Highly accurate, lead-free brass ultrasonic smart water meter for all residential, commercial and industrial installations

FEATURES

- ▶ Extreme low-flow accuracy and long term measurement stability
- ▶ Integrated leak detection
- ▶ Mountable in any installation position
- ▶ Lead-free copper alloy "CUPHIN®" body
- ▶ UV resistant housing with IP 68 rating
- ▶ Over 40 days of hourly data storage
- ▶ Diehl Extended Encoder protocol that includes, temperature, alarms and error messages, etc.
- ▶ Meets or exceeds C715 AWWA/ANSI Standards
- ▶ Complies with NSF/ANSI Standards 61, Annex F/G as well as FCC part 15 B

HYDRUS

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GENERAL TECHNICAL DATA

HYDRUS		
Potable water temperature range	°F	34 ... 122
Ambient operating temperature	°F	34 ... 158
Ambient storage temperature	°F	-4 ... +140(> 90° F max. for one hour)
Maximum pressure	psi	300
Power supply	Two 3.6 VDC lithium batteries	
Battery lifetime	Up to 20 years	
Interfaces	Optical, 6 or 8 digit industry standard Encoder protocol, ASCII output for compatibility with all AMR/AMI systems, Diehl Extended protocol is available	
Data storage	Alarms and consumption values (50 days memory)	
Protection class	IP 68	
Operating performance	In the temperature range of 45 to 85° F, meter consumption measurement is accurate to ±1.5% over the normal flow range (reference: approved Diehl Metering test bench, ISO9001 certified) Measurement capacity: starting flow up to 2x max. operating flow range	

TECHNICAL DATA DISPLAY

HYDRUS	
Display indication	LCD, 9-digit, additional symbols/display counter/unit
Units	Flow and volume (gpm, gal, ft ³ , m ³)
Values displayed (depending on configurations)	Volume - high resolution volume - flow - reverse flow - medium temperature - display test - current /continuous / historic error and alarm status - leak - metrology log access - display counter - units - accounting day, date and volume - software checksum
Alarms	Checksum error; Reverse flow; Hardware temperature; Over flow; No flow; Tampering; Air in pipe; Water temperature; Low battery; Leak; Metrology log access; Optical communication error; System reset

APPROVAL

HYDRUS	
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	
Measuring pipe	Lead-free copper alloy "CUPHIN®" (Stainless steel 1.5")
Register housing	Engineered Polymer
Transducers	Composite
Reflectors	Stainless steel

HYDRUS

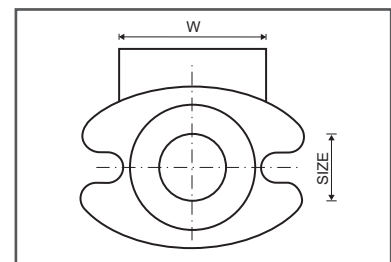
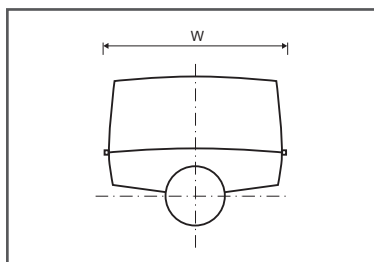
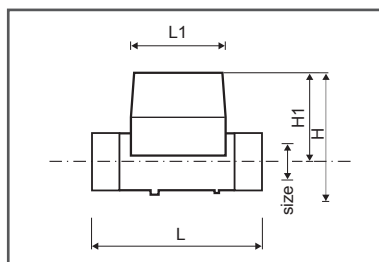
ULTRASONIC METER

TECHNICAL DATA

Size			5/8" x 1/2"	5/8" x 3/4"	3/4" S	3/4"
Lay length	L	Inch	7 1/2	7 1/2	7 1/2	9.0
Operating flow range		gpm	0.08 - 22	0.1 - 22	0.1 - 32	0.1 - 32
Low flow range		gpm	0.025 - 0.08	0.025 - 0.08	0.04 - 0.1	0.04 - 0.1
Starting flow		gpm	0.011	0.011	0.017	0.017
Operating range accuracy		%	±1.5	±1.5	±1.5	±1.5
Low flow range accuracy		%	±5	±5	±5	±5
Pressure loss			4.3 psi at 15 gpm	4.3 psi at 15 gpm	2.0 psi at 15 gpm	2.0 psi at 15 gpm
Operating performance	In the temperature range of 45 to 85 °F, meter consumption measurement is accurate to +/- 1.5% over the normal operating flow range (reference: Approved Diehl Metering test bench, ISO 9001 certified). Range accuracy: Meets AWWA C715 standards for minimum flow and normal flow test limits					

Size			1"	1 1/2"
Lay length	L	Inch	10 3/4	13
Operating flow range		gpm	0.1 - 55	0.16 - 100
Low flow range		gpm	0.055 - 0.1	0.1 - 0.16
Starting flow		gpm	0.025	0.038
Operating range accuracy		%	±1.5	±1.5
Low flow range accuracy		%	±5	±5
Pressure loss			1.5 psi at 25 gpm	3.5 psi at 70 gpm
Operating performance	In the temperature range of 45 to 85 °F, meter consumption measurement is accurate to +/- 1.5% over the normal operating flow range (reference: Approved Diehl Metering test bench, ISO 9001 certified). Range accuracy: Meets AWWA C715 standards for minimum flow and normal flow test limits			

DIMENSIONS



Size			5/8" x 1/2"	5/8" x 3/4"	3/4" S	3/4"
Lay length	L	Inch	7 1/2	7 1/2	7 1/2	9.0
Register length	L1	Inch	3.5	3.5	3.5	3.5
Register width	W	Inch	3.7	3.7	3.7	3.7
Overall height	H	Inch	4.0	4.0	4.0	4.0
Height from center of pipe to top	H1	Inch	2.7	2.7	2.7	2.7
Nominal thread size			3/4" - 14 NPSM	1" - 11 1/2 NPSM	1" - 11 1/2 NPSM	1" - 11 1/2 NPSM
Net weight		lbs.	2.8	2.8	2.8	3.1

Size			1"	1 1/2"
Lay length	L	Inch	10 3/4	13
Register length	L1	Inch	3.5	3.5
Register width	W	Inch	3.7	3.7
Overall height	H	Inch	4.2	5.3
Height from center of pipe to top	H1	Inch	2.8	3.3
Nominal thread size			1 1/4" - 11 1/2 NPSM	flanges
Net weight		lbs.	3.5	14.1

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<https://www.diehl.com/metering/us/en/>

