

# HYDRUS 2.0

## ULTRASONIC METER



### APPLICATION

Highly accurate, lead-free brass ultrasonic smart water meter for 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 body
- IP68 rated
- 42 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/CAN Standards 61 and 372, Annex F/G as well as FCC part 15 B

## GENERAL TECHNICAL DATA

| HYDRUS 2.0                    |                                                                                                                                                                    |                                     |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Potable water temperature     | °F                                                                                                                                                                 | 33 ... 122                          |
| Ambient operating temperature | °F                                                                                                                                                                 | -13 ... 131                         |
| Ambient storage temperature   | °F                                                                                                                                                                 | -13 ... 158 (95°F max. for 4 weeks) |
| Maximum operating pressure    | psi                                                                                                                                                                | 300                                 |
| Power supply                  | Two 3.6 VDC lithium batteries                                                                                                                                      |                                     |
| Battery lifetime              | Up to 20 years                                                                                                                                                     |                                     |
| Encoder interface             | 9 digit programmable resolution industry standard encoder protocol, ASCII output for compatibility with most AMR/AMI systems, Diehl extended protocol is available |                                     |
| Data storage                  | Alarms and consumption values (42 days of hourly data storage)                                                                                                     |                                     |
| Protection class              | IP68                                                                                                                                                               |                                     |

## TECHNICAL DATA DISPLAY

| HYDRUS 2.0         |                                                                                                                                              |  |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--|
| Display indication | LCD, 9-digit, additional symbols/display counter/unit                                                                                        |  |
| Units              | Flow and volume (gpm, gal, ft <sup>3</sup> , m <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 2.0 |                                                                      |  |
|------------|----------------------------------------------------------------------|--|
| 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

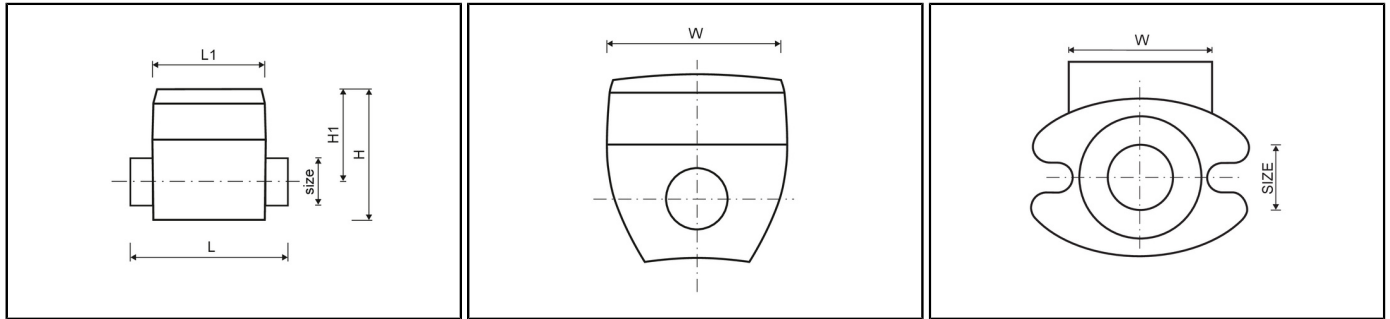
| HYDRUS 2.0       |                                                   |  |
|------------------|---------------------------------------------------|--|
| Measuring pipe   | Lead-free copper alloy (stainless steel 1½" & 2") |  |
| Register housing | Engineered polymer                                |  |
| Transducers      | Composite                                         |  |
| Reflectors       | Stainless steel                                   |  |

## TECHNICAL DATA

| Size                     |      | 5/8" x 1/2"  | 5/8" x 3/4"  | 3/4" S     | 3/4"       |
|--------------------------|------|--------------|--------------|------------|------------|
| Lay length               | inch | 7 1/2        | 7 1/2        | 7 1/2      | 9          |
| Operating flow range     | gpm  | 0.08 - 22    | 0.08 - 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         |

| Size                     |      | 1"          | 1 1/2"     | 2"         |
|--------------------------|------|-------------|------------|------------|
| Lay length               | inch | 10 3/4      | 13         | 17         |
| Operating flow range     | gpm  | 0.1 - 55    | 0.16 - 100 | 0.8 - 170  |
| Low flow range           | gpm  | 0.055 - 0.1 | 0.1 - 0.16 | 0.55 - 0.8 |
| Starting flow            | gpm  | 0.025       | 0.038      | 0.11       |
| Operating range accuracy | %    | ±1.5        | ±1.5       | ±1.5       |
| Low flow range accuracy  | %    | ±5          | ±5         | ±5         |

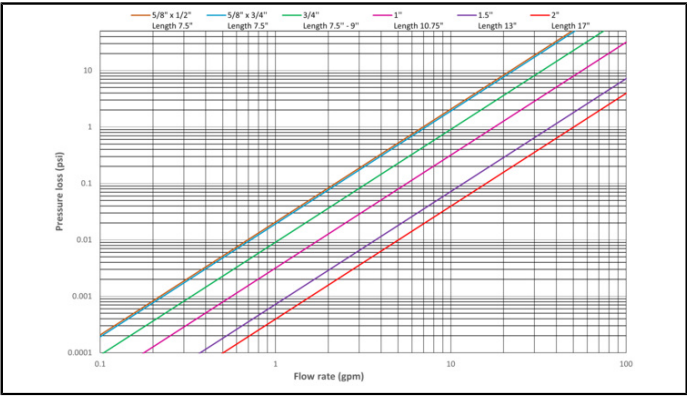
## DIMENSIONS



| Size                              |      |      | 5/8" x 1/2"    | 5/8" x 3/4"      | 3/4" S           | 3/4"             |
|-----------------------------------|------|------|----------------|------------------|------------------|------------------|
| Lay length                        | inch |      | 7 1/2          | 7 1/2            | 7 1/2            | 9                |
| 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"       | 2"           |
|-----------------------------------|------|------|----------------------|--------------|--------------|
| Lay length                        | inch |      | 10 3/4               | 13           | 17           |
| Register length                   | L1   | inch | 3.5                  | 3.5          | 3.5          |
| Register width                    | W    | inch | 3.7                  | 3.7          | 3.7          |
| Overall height                    | H    | inch | 4.2                  | 5.3          | 5.8          |
| Height from center of pipe to top | H1   | inch | 2.8                  | 3.3          | 3.3          |
| Nominal thread size               |      |      | 1 1/4" - 11 1/2 NPSM | oval flanges | oval flanges |
| Net weight                        | lbs. |      | 3.5                  | 14.1         | 19.2         |

PRESSURE LOSS GRAPH



## **Economic Actor Information**

Applicable regulation and legal obligations for products may change.

DIEHL METERING monitors applicable regulation to ensure their products comply at the date of placing on the market.

Each economic actor making products available on the market thereafter must independently keep informed about the current applicable regulation.

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