

DIEHL
Metering



HYDRUS 2.0 BULK

COMMERCIAL ULTRASONIC WATER METER

**PRECISE ULTRASONIC METROLOGY &
PERFECT CONNECTIVITY:
THE BEST OF TWO WORLDS**

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**EMPOWER A
SUSTAINABLE
FUTURE**

THE BEST OF TWO WORLDS.

The game changer for water utilities. The first HYDRUS commercial water meter with the proven ultrasonic technology and integrated smart functions.

FOR METROLOGY AND ...

Measures. Just better.

Anything that cannot be measured cannot be billed accurately. So do not miss a drop. With HYDRUS 2.0 BULK and its advanced ultrasonic measuring technology, you are assured highly accurate water consumption data for billing, helping optimize water loss management and reduce non-revenue water.

- Precise ultrasonic measuring technology with two measuring paths
- Extreme low-flow accuracy
- Starting flow exceeds AWWA C715 requirements
- Up to 2x Safe Maximum Operating Capacity (SMOC)
- Available in sizes 2" to 8"

Performs. Just longer.

HYDRUS 2.0 BULK is a smart and sustainable investment. Its robust design ensures long-term measurement accuracy, while easy installation and low maintenance keep costs low. With fewer meter replacements needed, you save time and resources over its entire lifetime.

- Resistance to particles
- Ultra-robust and waterproof design (IP 68)
- UL/FM approved for fire service applications
- No upstream or downstream straight-pipe requirements (UOD0)
- Lower pump energy consumption due to an exceptionally low head loss
- Resistant to magnetic tampering
- Designed to avoid measuring air as water consumption
- Field-replaceable battery with a service life of up to 20 years



... CONNECTIVITY.

Delivers information. Just smarter.

HYDRUS 2.0 BULK provides more than just total water volume for billing. Its configuration enables you to detect unwanted events, such as leaks, and take timely action.

- Generates billing and metrological information as well as parameters for water infrastructure monitoring on-site at the meter or for the overall water network
- Easy-to-read display with visual symbols, loops and error & alarm codes
- Data logging functions with hourly, daily, weekly or monthly water consumption values
- Self-check monitoring

Transmits information. Just seamless.

The combination of HYDRUS 2.0 BULK with Diehl Metering's IZAR STELLA AMI or AMR solutions – or with compatible third-party AMI/AMR systems – creates a powerful metering infrastructure that provides easy access to consumption data across your entire water distribution network.

- Integration with IZAR STELLA solution for mobile reading and fixed network
- Encoder output supports multiple remote reading solutions
- High data granularity and timeliness
- Compatible with a wide range of systems

HYDRUS 2.0 BULK

HIGH IMPACT THROUGH ROBUSTNESS.

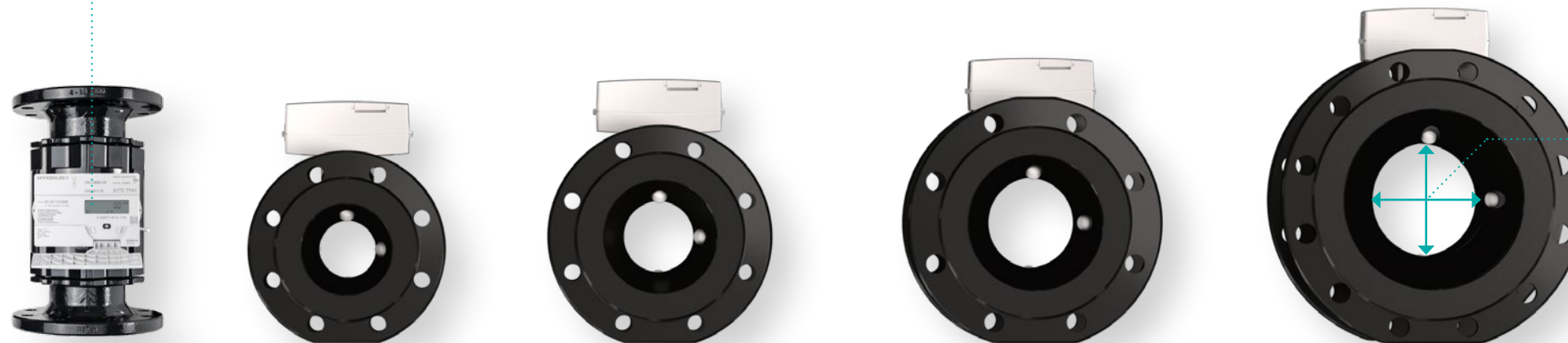
HYDRUS 2.0 BULK combines an ultra-robust build with high measurement accuracy, long-term stability, and easy installation. With its IP68 rating, UV resistance, and M2/E2 certification, it's designed for harsh environments and durable performance. Its free-flow design ensures there are no internal obstructions, while installation is simplified because no grounding or calming sections (UOD0) are required. Backed by our Total Quality Approach and fully in-house manufacturing, HYDRUS 2.0 BULK delivers lasting reliability with every drop.

High measuring range allows accurate measurement across a wide range of water flows, effectively reducing non-revenue water. Powered by Diehl Metering's proven ultrasonic technology, HYDRUS 2.0 BULK ensures long-lasting accuracy.



HYDRUS 2.0 BULK RANGE

HYDRUS 2.0 BULK
Size range: 2" - 8"

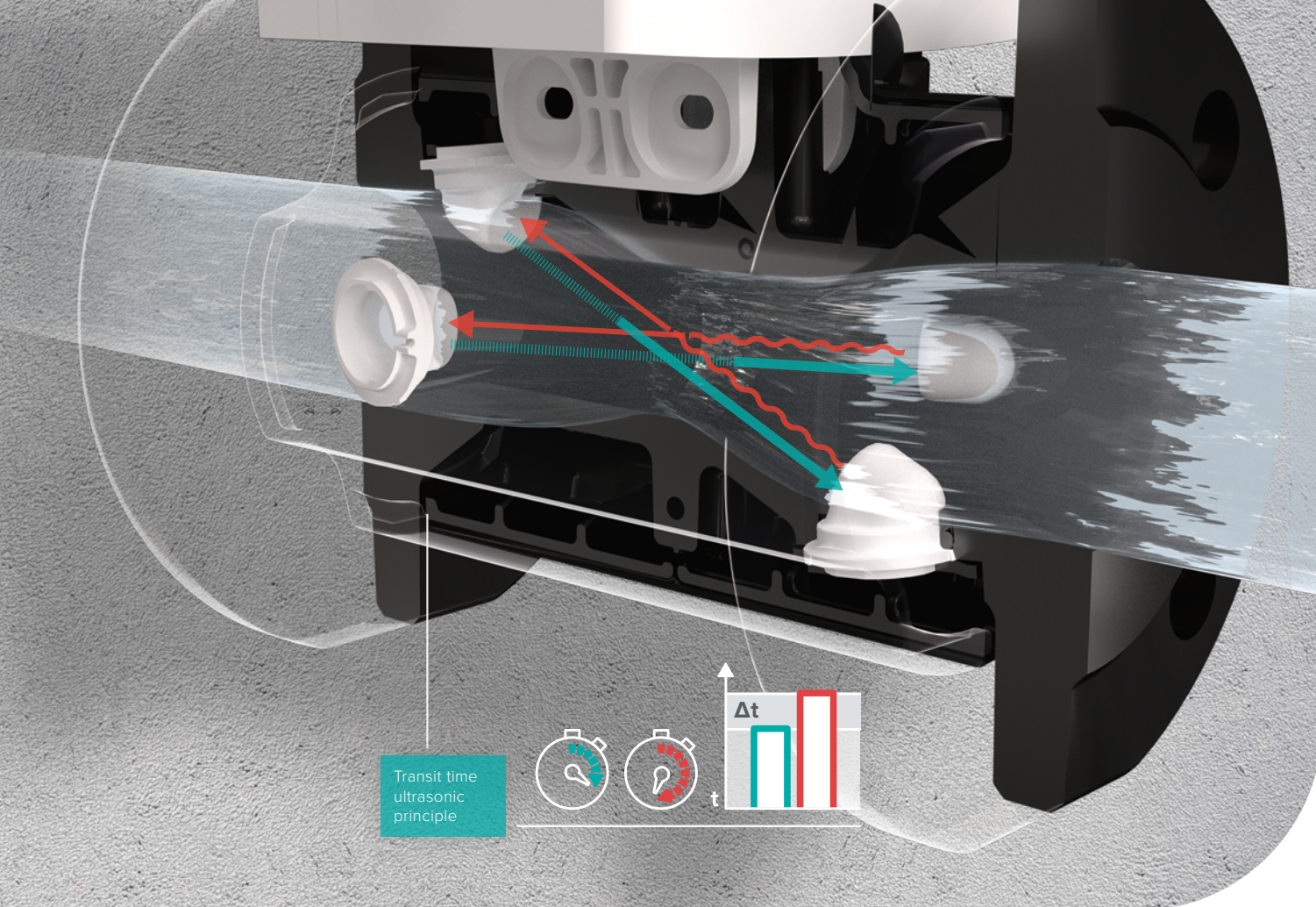


Integrated calculator unit

The meter includes a robust, built-in calculator unit for processing and displaying key metering data.

Free-flow design

The robust design of the HYDRUS 2.0 BULK meter features a free-flow path with no components protruding into the measuring tube.



Transit time ultrasonic principle

Ultrasonic technology for ultra performance

HYDRUS 2.0 BULK applies the proven Diehl Metering measuring technology based on the transit time difference principle. With its four transducers and therefore two measuring paths in a patented orthogonal set-up, high-performance in metrology is assured.

METROLOGY AT ITS BEST

HYDRUS 2.0 BULK – the right bulk meter for extremely low and high water flows with ultrasonic performance and long-term operation.

From supply to consumption – full water network insight

HYDRUS 2.0 BULK is ideal for both accurate billing and monitoring water volumes in main supply lines or specific zones such as district metered areas (DMA). When combined with HYDRUS domestic meters, it enables complete visibility of the water network – from supply to consumption – supporting precise water balancing and efficient water loss detection.

MEASURES. JUST BETTER.

MEASURING DYNAMIC

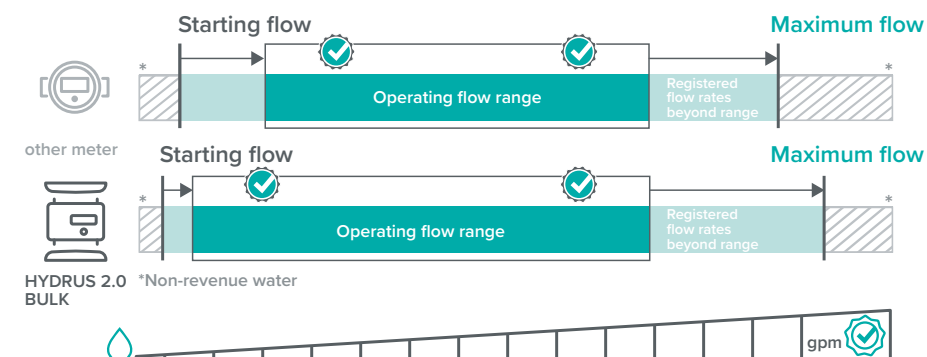
- Extreme low-flow accuracy
- A wide range of water flows used in practice can be covered

STARTING + OVERLOAD FLOW RATE

- Registers very low and high flow rates
- High overload flow rate up to 2x SMOC
- Starting flow is lower than the minimum threshold defined by AWWA standards

MEASURING ACCURACY

- Fewer deviations at all measured water flows
- Accuracy performance compliant with AWWA C715 (±5% at minimum flow and ±1.5% at intermediate and maximum flows)

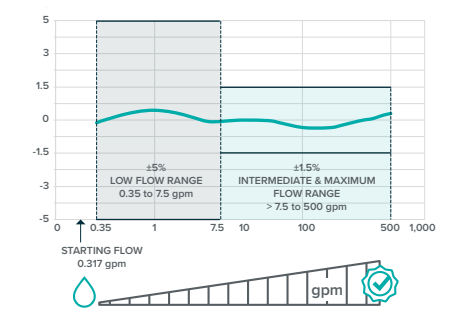


Your benefit

Only what is measured can be billed accurately. The higher the measuring range, the lower the level of non-revenue water.

Your benefit

Every flow rate encountered in real-world operation is accurately recorded.



Your benefit

No matter the consumption profile, the meter's accuracy ensures minimal deviations and leads to more precise billing.



Long-term measuring operation and accuracy

HYDRUS 2.0 BULK features a circular, free-flow cross-section with no internal parts or edges where particles carried by the water can cause blockages or wear. Its patented orthogonal arrangement of the measuring path ensures precise averaging of flow velocity, even in distorted or irregular flow profiles.

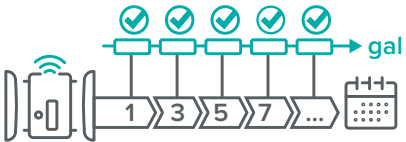


MEASURES. JUST LONGER.

MEASURING STABILITY

The accuracy of traditional mechanical meters can decrease over time due to wear and lead to unreliable measurements.

- HYDRUS 2.0 BULK ensures precise and reliable measuring results throughout its entire lifetime
- Field-replaceable battery with a service life of up to 20 years
- Designed to measure water accurately while avoiding registration of air

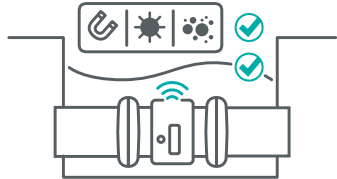


Your benefit
Long-term measurement accuracy ensures reliable consumption data for billing and monitoring, while reducing non-revenue water.

ROBUSTNESS

HYDRUS 2.0 BULK performs even under extreme environmental conditions. It is resistant to:

- Particles such as sand in the pipe
- Pressure surges
- Vibrations
- Magnetic manipulation
- UV radiation
- Flooding

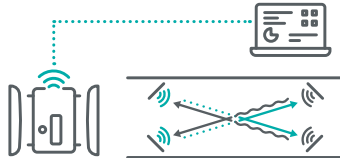


Your benefit
Robust design and long-term smooth operation extends the meter lifetime, saving you costs and effort of replacing meters.

FREE-FLOW DESIGN

Ultrasonic meters use advanced electronic and acoustic technology for precise measurement.

- No moving parts like impellers or turbines
- Self-cleaning transducers prevent buildup and ensure long-term accuracy
- Self-monitoring capabilities can detect and report anomalies through connected AMI/AMR system



Your benefit
A maintenance-free meter with smart, self-sustaining technology that minimizes the need for manual inspections.

OUR SOLUTIONS PERFORM – PROVEN WORLDWIDE SUCCESS

Transforming Water Networks Worldwide with HYDRUS 2.0 BULK

Diehl Metering is supporting water utilities worldwide in modernizing critical water infrastructure with advanced metering solutions, including the HYDRUS 2.0 BULK ultrasonic meter. With more than 75,000+ meters deployed worldwide, utilities are benefiting from automated data collection, improved billing accuracy, and enhanced visibility into network performance - helping reduce non-revenue water and optimize operational efficiency.

Designed to meet stringent U.S. requirements and perform reliably in diverse installation environments, HYDRUS 2.0 BULK delivers long-term measurement stability, outstanding low-flow accuracy, and durable ultrasonic performance with no moving parts. These capabilities enable utilities to confidently transition toward smarter, more sustainable, and data-driven water management.

MILLIONS OF PEOPLE

rely on the water networks managed by our customers.

75,000+ BULK METERS

deployed worldwide



INTERESTED?
READ MORE

CONNECTIVITY AT ITS BEST

Digitized processes and valuable information about your water distribution network, enabled by optimized connectivity functions.

Connectivity for digitized processes

HYDRUS 2.0 BULK meters feature a reliable encoder output, enabling seamless integration with external Metering Interface Units (MIUs), such as the IZAR STELLA MIU or other third-party radios, for wireless communication. This flexible solution supports both AMI and AMR applications and is compatible with a wide range of third-party devices. The IZAR STELLA MIU ensures robust, long-range data transmission and features a durable housing optimized for pit installations. It also stores up to 90 days of hourly data, enabling detailed consumption analysis. Together, the meter and MIU enable efficient data collection and transmission, while our software platform transforms this data into actionable insights – supporting applications such as billing, water network monitoring, and water loss management.

Unlock diverse use cases

- **Water distribution network monitoring** – Reliably record metering data and receive alerts for events like reverse flow, leaks, bursts, and zero usage.
- **Water consumption billing** – Automatically collect highly granular consumption data. A single meter type covers all applications, from detecting very low-start flows to measuring high-volume usage, including firefighting applications.
- **Water loss management & NRW reduction** – Identify and locate water losses by comparing data from HYDRUS 2.0 BULK meters installed at District Metered Areas (DMAs) and HYDRUS 2.0 Domestic meters at the household level.



IZAR STELLA PROVIDES YOU WITH ...



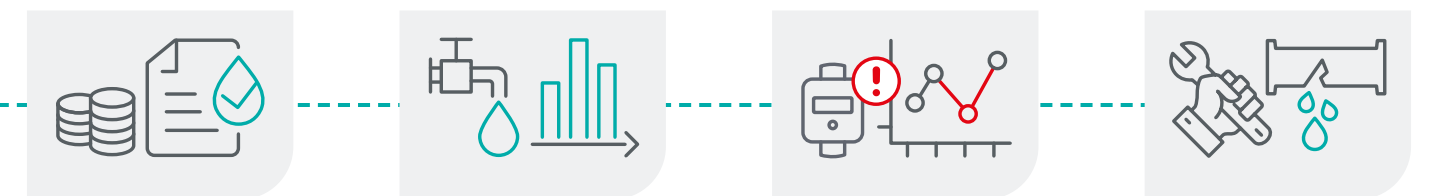
HYDRUS 2.0 BULK
Commercial ultrasonic water meter

IZAR STELLA MIU
For wireless communication

IZAR STELLA MOTION / GATEWAYS
For mobile reading and fixed network

IZAR STELLA SOFTWARE
For meter data management

VALUABLE INFORMATION FOR YOUR USE CASES

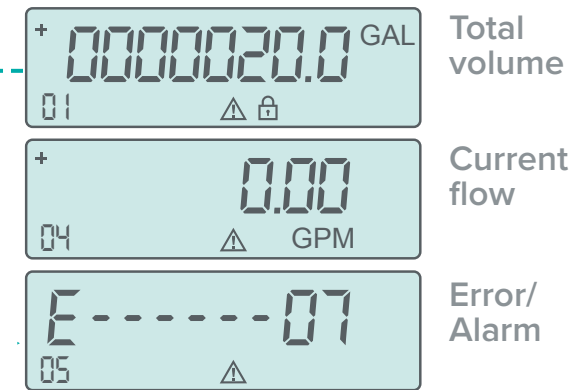
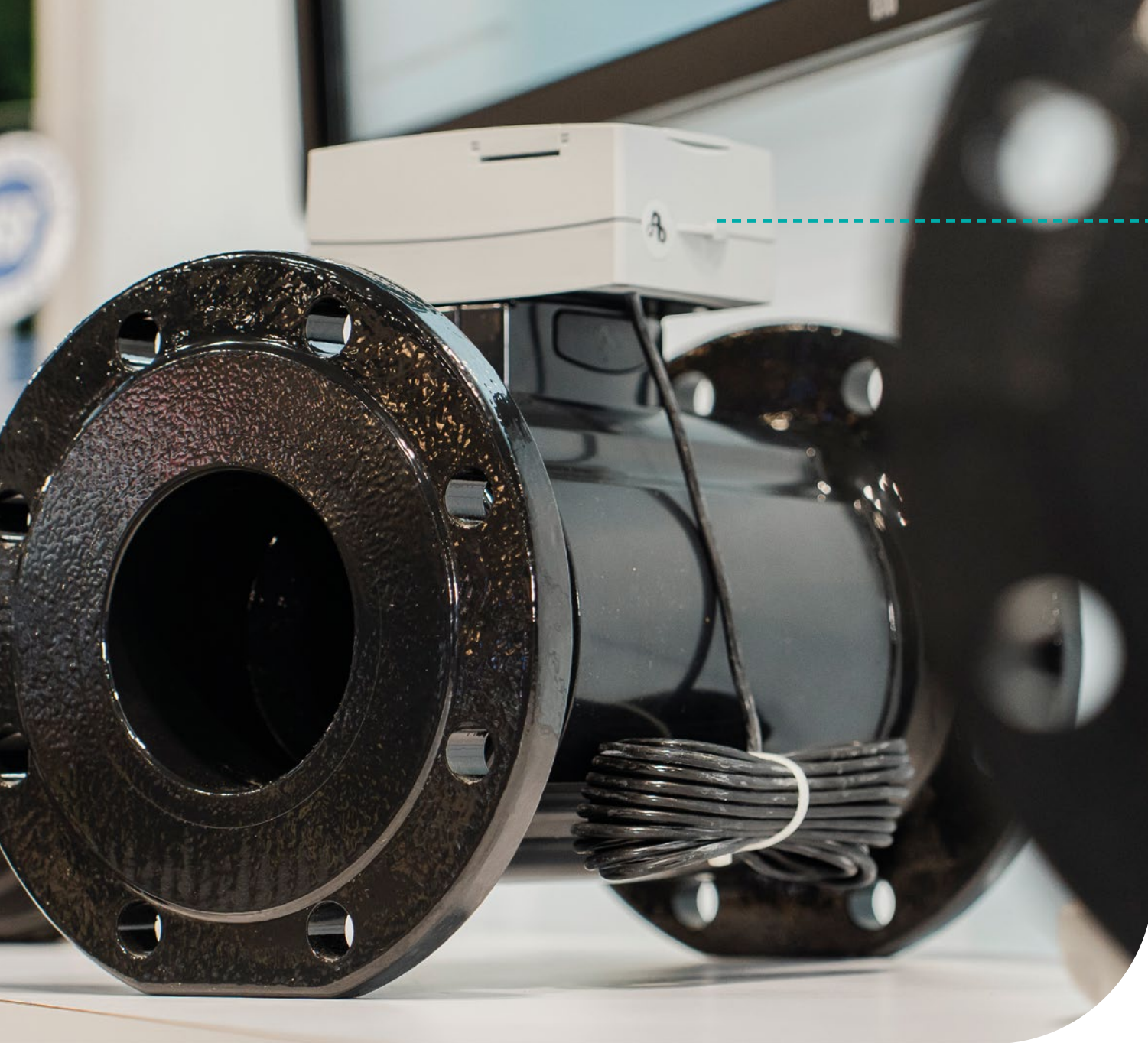


BILLING
Easy export to your billing software

CONSUMPTION MONITORING
Clear visualization of water consumption history per meter

DEVICE & ANOMALIES MONITORING
Error & alarm codes to act quickly

WATER LOSS MANAGEMENT
Detection of losses in zones of your water distribution network



DELIVERS INFORMATION. JUST SMARTER.

SMART INFORMATION

Billing & metrological information

- Total volume
- Current & reverse flow volume
- Temperature (ambient/medium)

Error & alarm codes

For grid anomalies on-site, e.g.

- Leaks
- Air in the pipe
- Reverse flow

For device status, e.g.

- Low battery
- Measurement interferences



Your benefit

Obtain the consumption volume for billing and information about water grid or meter anomalies to reduce or avoid severe damages.

DISPLAY

Easy to read on-site with the electronic display.

- Customizable display
- Switching loops for more information
- Helpful symbols, e.g. leak or low battery



Your benefit

See smart information on-site for taking actions immediately when anomalies occur.

DATA LOGGING

- Data logging memory capability with hourly, daily, weekly or monthly values
- Stores measuring values, errors and alarms
- Logging can be read-out with an optical head on-site



Your benefit

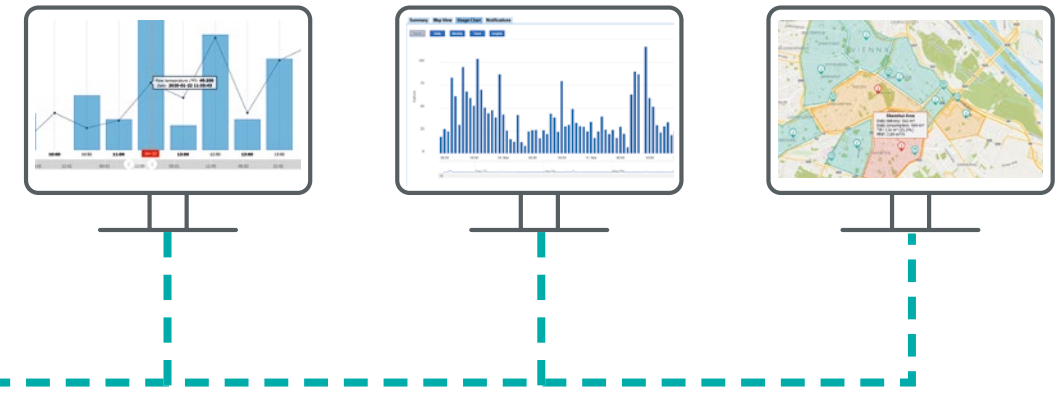
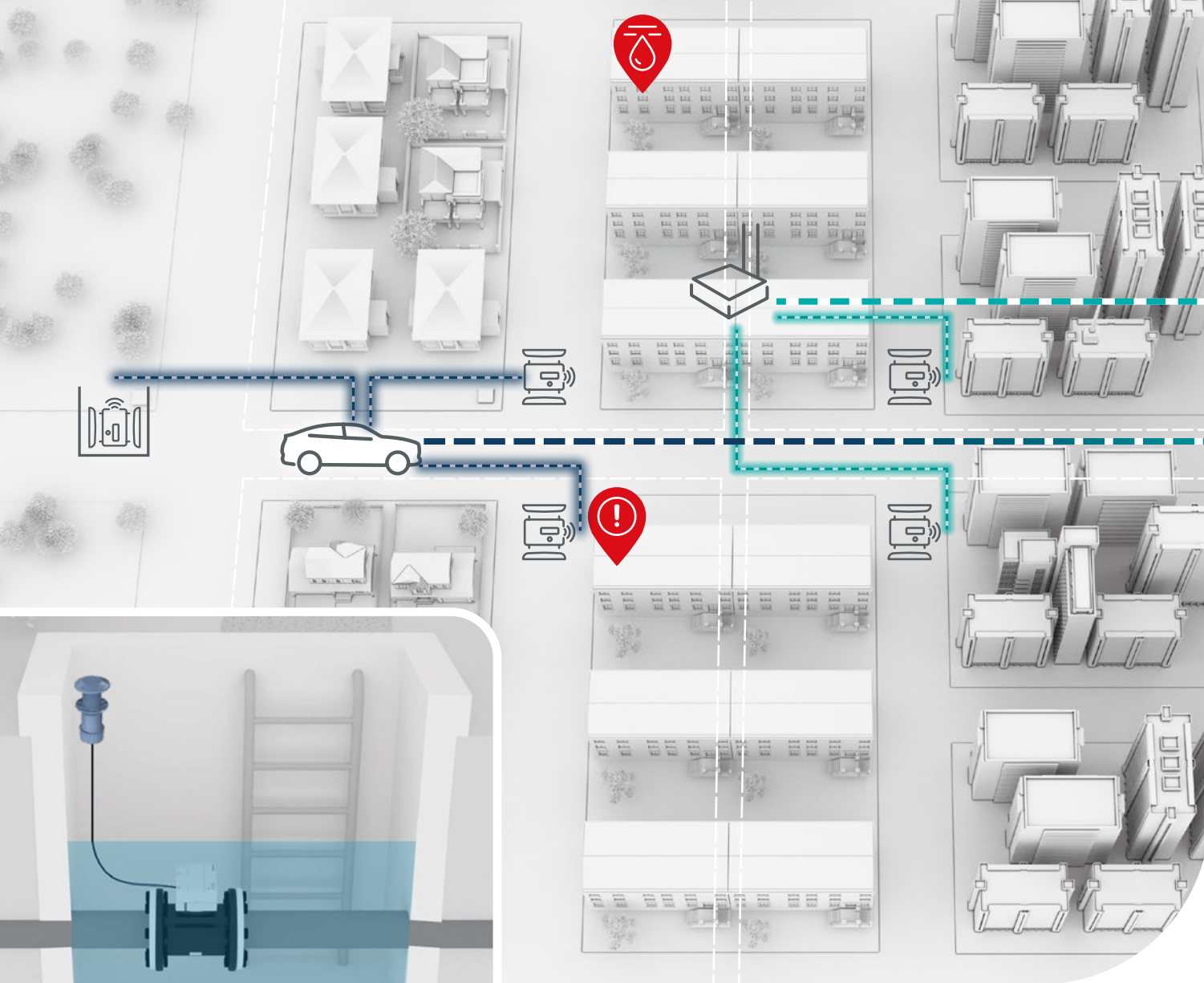
In case of anomalies, you will get more transparency about what happened by tracking down past information to rectify the problem on-site.

Smart functions for a complete view

HYDRUS 2.0 BULK provides you with a considerable amount and variety of valuable information you would miss without this smart device installed. With the metrological information and other parameters generated continuously throughout operation, it creates a water consumption history and informs about possible anomalies of the water network on-site.

Leaks or reverse flow alerts could give an indication about possible issues in the water supply network.

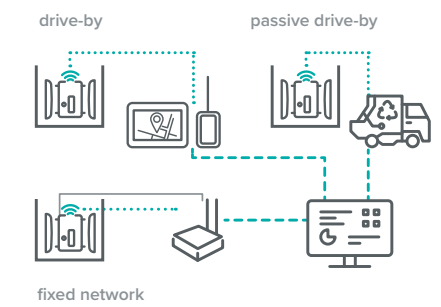
Network losses can be easily determined by aligning the recorded volumes from the District Metering Area (DMA) meters with those from individual billing meters. This comparison helps quickly pinpoint discrepancies -such as leaks or unauthorized usage – so that corrective actions can be taken promptly



TRANSMITS INFORMATION. JUST SEAMLESS.

MOBILE READING AND FIXED NETWORK

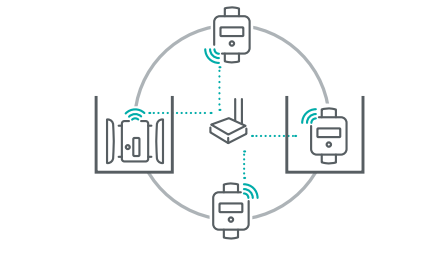
- MIU enables wireless data transmission from the meter
- IZAR STELLA Motion for drive-by AMR data collection
- LoRaWAN® for fixed network



Your benefit
Gain efficiencies in how you collect and access meter data to take actions in your water distribution networks. Choose the best communication technology for your needs.

RADIO PERFORMANCE

- IZAR STELLA fixed network solution uses LoRaWAN® as a fixed network solution for smart metering and smart city applications.
- Seamlessly migrate from AMR to AMI – no MIU configuration or site visit needed.
- High data granularity and timeliness
- Configurable encoder



Your benefit
Reliable coverage for large areas with less receivers to lower the total cost of ownership for your system infrastructure.

DATA SECURITY & PRIVACY

- High level data security with individual keys for each MIU



Your benefit
Your customers appreciate a safe data flow and their privacy.

Connectivity for analysis

Unlock the full potential of your HYDRUS 2.0 BULK meters by integrating them with MIUs such as the IZAR STELLA MIU in a scalable AMR or AMI infrastructure. This approach enables efficient data collection from across your network while providing visibility into system performance. High-resolution consumption data, including hourly interval data, along with key metrological information, is made available through Diehl Metering's software platform. The system supports utilities in analyzing water usage and distribution conditions with greater accuracy. With timely data access, utilities can receive alerts on device status, leaks, or unusual consumption patterns at both zone and customer levels. This enables faster response, improved operational efficiency, and more informed decision-making.

Secured investment

HYDRUS 2.0 BULK meters connect to external MIUs such as the IZAR STELLA MIU via a robust signal cable. The MIU is designed to mount through the lid, ensuring reliable radio performance in flood-prone installations. This setup enables long-range wireless communication for AMR and AMI applications. IZAR STELLA MIU's high-resolution data logging supports up to 90 days of hourly consumption data, allowing utilities to fully leverage the HYDRUS 2.0 BULK's performance throughout its service life.

HYDRUS 2.0 BULK features a field-replaceable battery with a service life of up to 20 years



INTERESTED?
LET'S TALK ABOUT YOUR CHALLENGES!