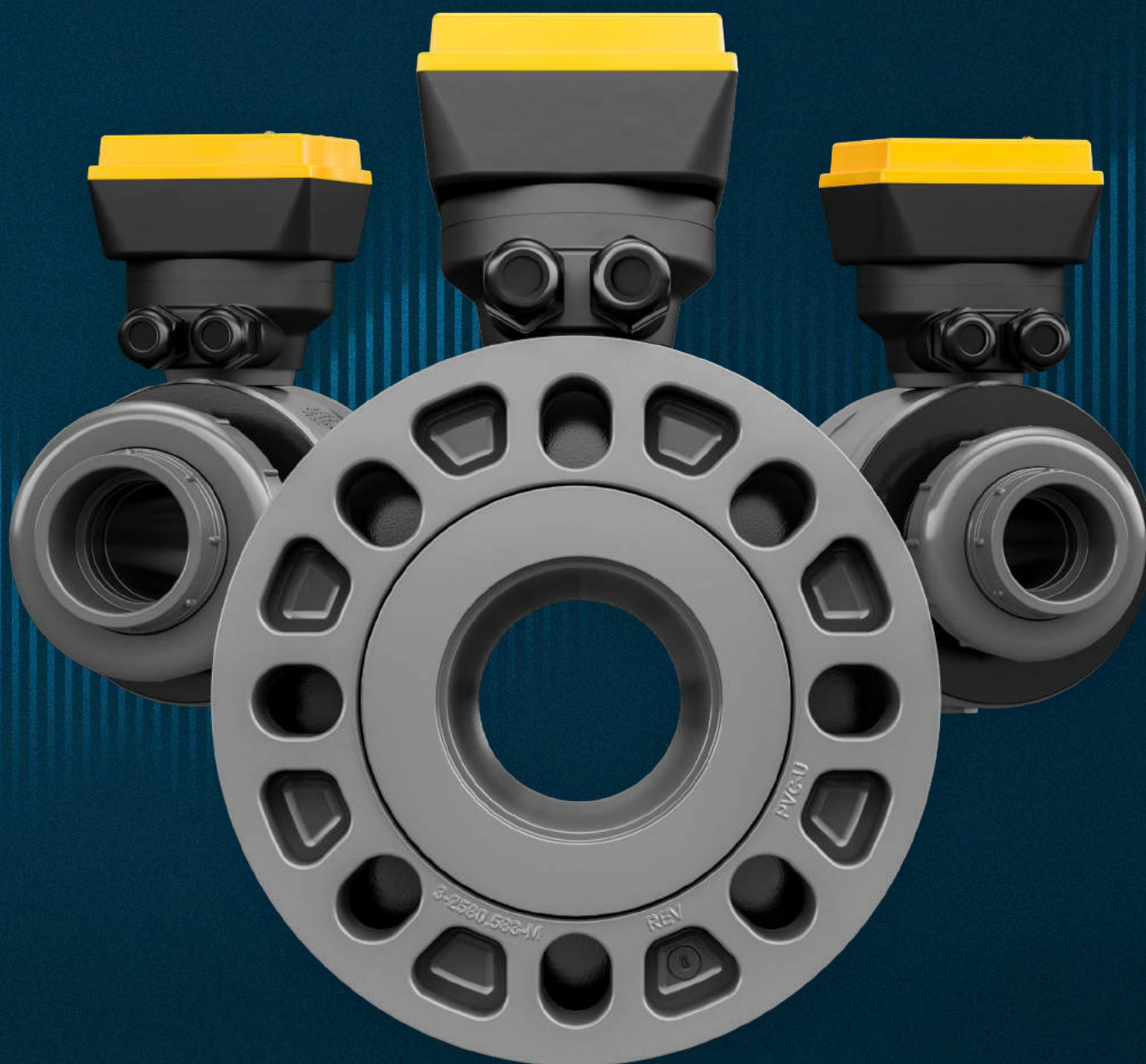


GF Piping Systems



Effortlessly connected

GF 2581 FlowtraMag® Meter



Effortless measurement

Simple, reliable and high accuracy flow measurement in short pipe runs.

About

The GF 2581 FlowtraMag Meter is a full-bore plastic in-line style magnetic flow meter. The PVC body with titanium or *Hastelloy*® C electrodes and EPDM and FKM O-rings has no moving parts, and is two to three times lighter in weight compared to traditional metal magmeters on the market.

It is designed for high accuracy flow measurement in short pipe runs. Users can configure and calibrate the 2581 using the GF Configuration Tool Bluetooth® App.

Features & Benefits

- Available in DN25 (1 in.), DN40 (1.5 in.), DN50 (2 in.), DN80 (3 in.) and DN100 (4 in.) PVC
- No moving parts
- Lighter in weight compared to traditional metal magmeters
- EPDM and FKM O-rings for greater flexibility and chemical compatibility
- Reduced straight run requirements, ideal for final effluent lines, wellheads and skids
- Factory calibrated with certificate ($\pm 1\%$ of reading accuracy)
- Partially filled pipe detection status indicator
- Reverse flow direction configurable with 0252 Configuration Tool or GF Config Tool Bluetooth® App
- One device with three different outputs: field selectable Frequency or Digital (S^3L), and analog 4 to 20 mA
- On-the-fly configuration with GF Config Tool Bluetooth® App
- Bluetooth® 4.2 capable, support iOS and Android for simple user configuration with instantaneous flow reading

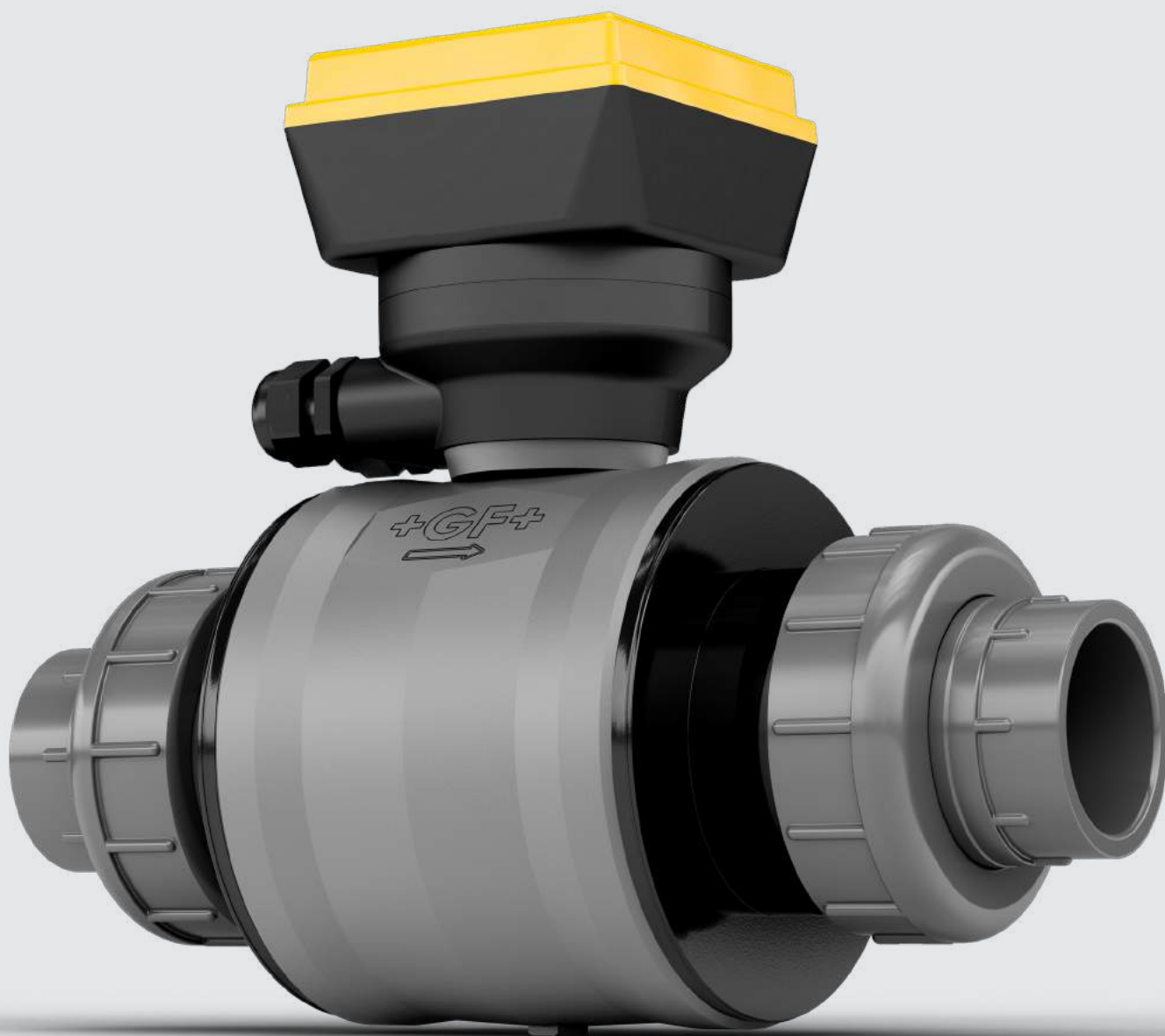
Applications

- Chemical Processing/Production
- Cooling Tower
- Filtration Systems
- Water and Wastewater Treatment
- Municipal and Industrial Water Distribution
- Pool and Aquatics
- Process Control, Water Process Flow
- Reverse Osmosis
- Scrubber Systems
- Metal Recovery and Landfill Leachate
- Mining

Approvals



U.S. and International Patents Pending
Hastelloy® is a registered trademark of Haynes International.



Effortlessly connected

Strong, lightweight and Bluetooth® enabled magmeter for high flow accuracy in compact spaces.



Accuracy

Simple reliability and accuracy for problematic flow with $\pm 1\%$ of reading and repeatability of $\pm 0.5\%$.



Connectivity

Bluetooth enabled - can be configured and calibrated to the parameters required for customers system using the smartphone app.



Corrosion resistant

All thermoplastic body construction provides superior corrosion resistance for long, low maintenance service life and no metal contamination.





Lightweight solution

Up to 3x lighter than metal, meaning it can be placed easily in tight areas making installation easier.



Speedy installation

Savings are made with a significant improvement on installation times, with easy calibration via live reading.



Robust design

Titanium and *Hastelloy*® C electrodes with EPDM and FKM O-rings is ideal for expanding its chemical compatibility and application versatility.

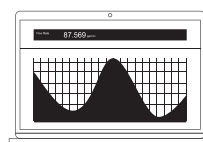
Effortless control

With bluetooth connectivity via our app, all measurements, configuration and calibrations are easily managed in the palm of your hand.



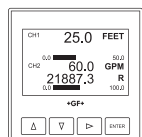
GF Configuration Tool Bluetooth® App

Easy Access to Process Data via Smartphone/ Tablet.

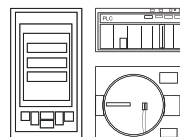


Digital (S³L)

PC Running GF 0252 Configuration Tool



Digital (S³L) or Frequency GF Instrument



4 to 20 mA DCS/PLC/Modbus

Commissioning via App

- Configure
 - Change settings including units, 4 to 20 mA span and flow direction using drop down selections
- Clone settings
 - Save files to your Smart Devices or share via text or email and then upload settings to the sensors

Calibration

- Diagnostics ease
 - Connect to sensor via GF Config Bluetooth® App using Smart Devices and monitor flow rates and temperatures and log data to CSV file
- Maintenance
 - Titanium or *Hastelloy*® C electrodes and plastic body result in maximum chemical compatibility
- Calibrate
 - Perform Rate or Volume Calibrations directly via GF Config Bluetooth® App using Smart Devices



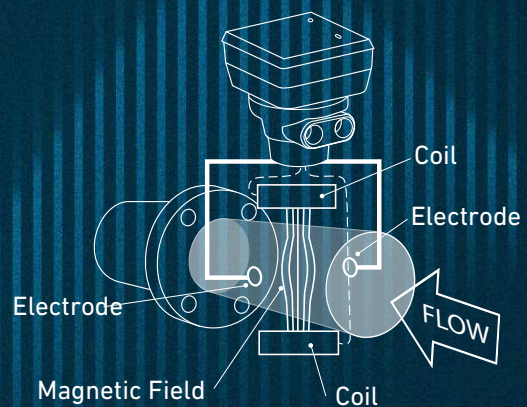


FlowtraMag® Meter

Effortless installation

**Lightweight robust construction
allows both vertical and horizontal
compact installs without supports.**



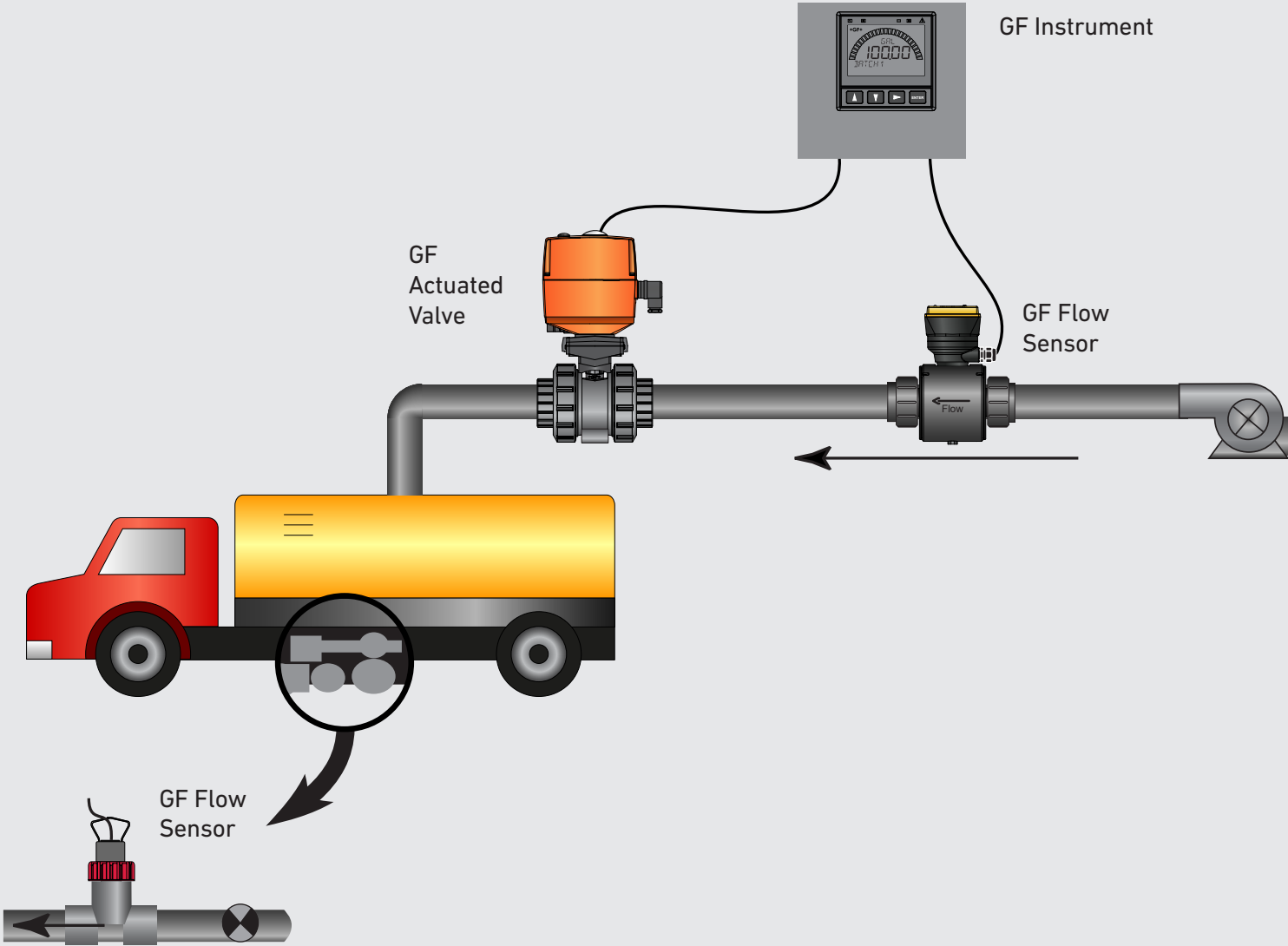


Theory of Operation

Magnetic flowmeters operate under the principles of Faraday's Law/Lorentz Force of electromagnetic induction to determine the flow of liquid in a pipe.

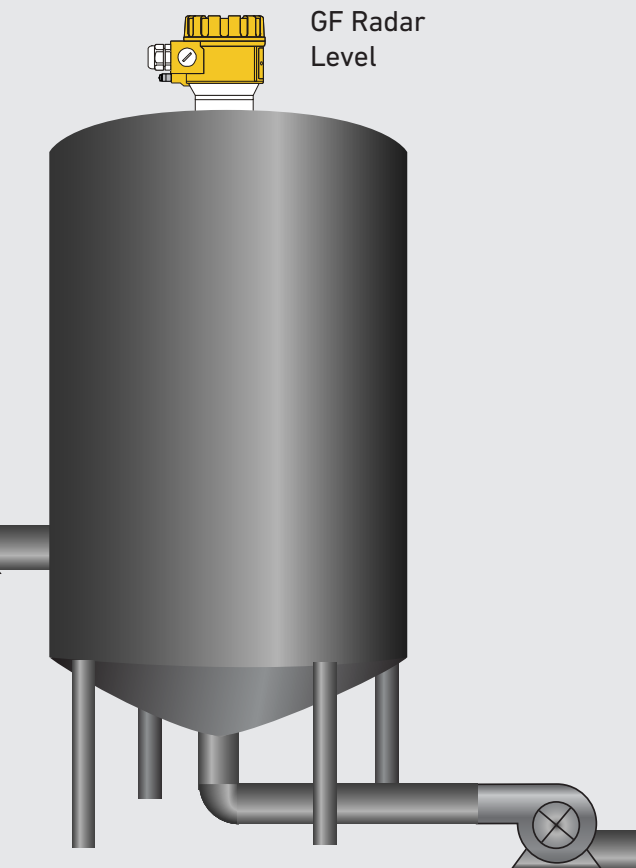
Flow of a conductive liquid through the magnetic field will cause a voltage signal to be sensed by electrodes located on the flow tube walls. When the fluid moves faster, more voltage is generated. The voltage generated is proportional to the movement of the flowing liquid, the electronic transmitter processes the voltage signal to determine liquid flow.

Effortless applications



Application example

Bulk chemical batching



The GF 2581 FlowtraMag magnetic flow meter when being used with the GF 9900-1BC batch controller combines for a highly accurate yet economical solution for bulk chemical delivery to chemical trucks. The 2581 FlowtraMag's ability to measure accurately with minimal straight runs of pipe, means the user can fit these flow sensors in more confined areas. Add in a Georg Fischer Actuated valve and you have a complete batch control system.

Manufacturing companies use several different chemicals in the processes for their production. The chemicals can be aggressive and are normally stored in tanks at their facility.

When those tanks become depleted, they need to be filled by tanker trucks that deliver replenishment chemicals. Those trucks come from chemical distribution / manufacturing centers where the material is kept in much greater volumes.

In this Georg Fischer Automation scenario, chemical materials are stored in a large storage tank. A tanker truck pulls into the depot where an operator attaches a hose to the truck's tank. A GF 9900-1BC Batch Controller is set with a predetermined batch. It is being fed a flow signal from the GF 2581 FlowtraMag.

The controller is also tied in to a Georg Fischer automated valve. When the start button is pushed on the 9900-1BC, the valve opens and the chemical pump starts.

The batch is now under way. With the 2581's high accuracy ($\pm 1\%$ of reading) even when placed within 3 pipe diameters away from an obstruction, the system will provide an accurate batch of the desired chemical to the tanker truck. At the end of batch the 9900-1BC signals the valve to close and the pump to stop. An accurate batch of chemical has now been delivered and the tanker is on its way.

A 2290 Radar Level sensor is placed in the main supply tank to monitor proper level of the chemical in that tank.

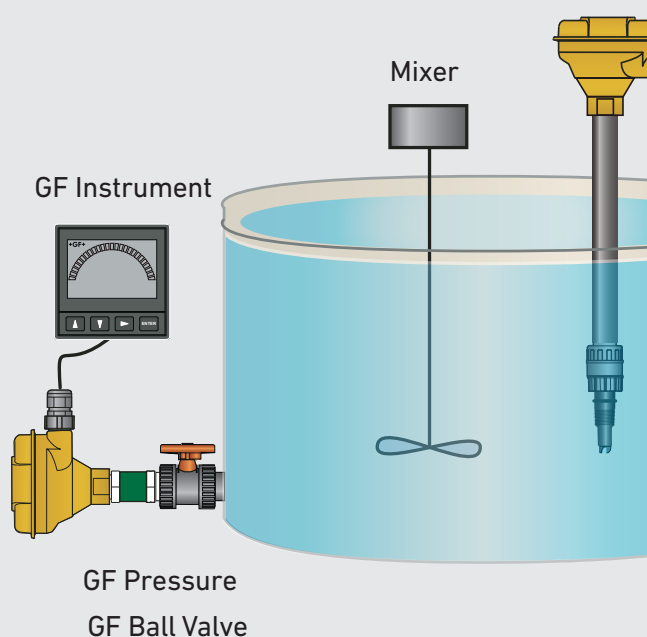
Application example

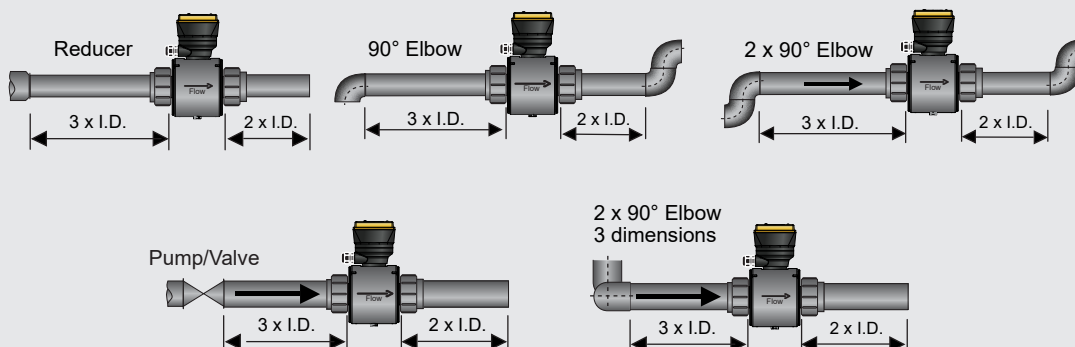
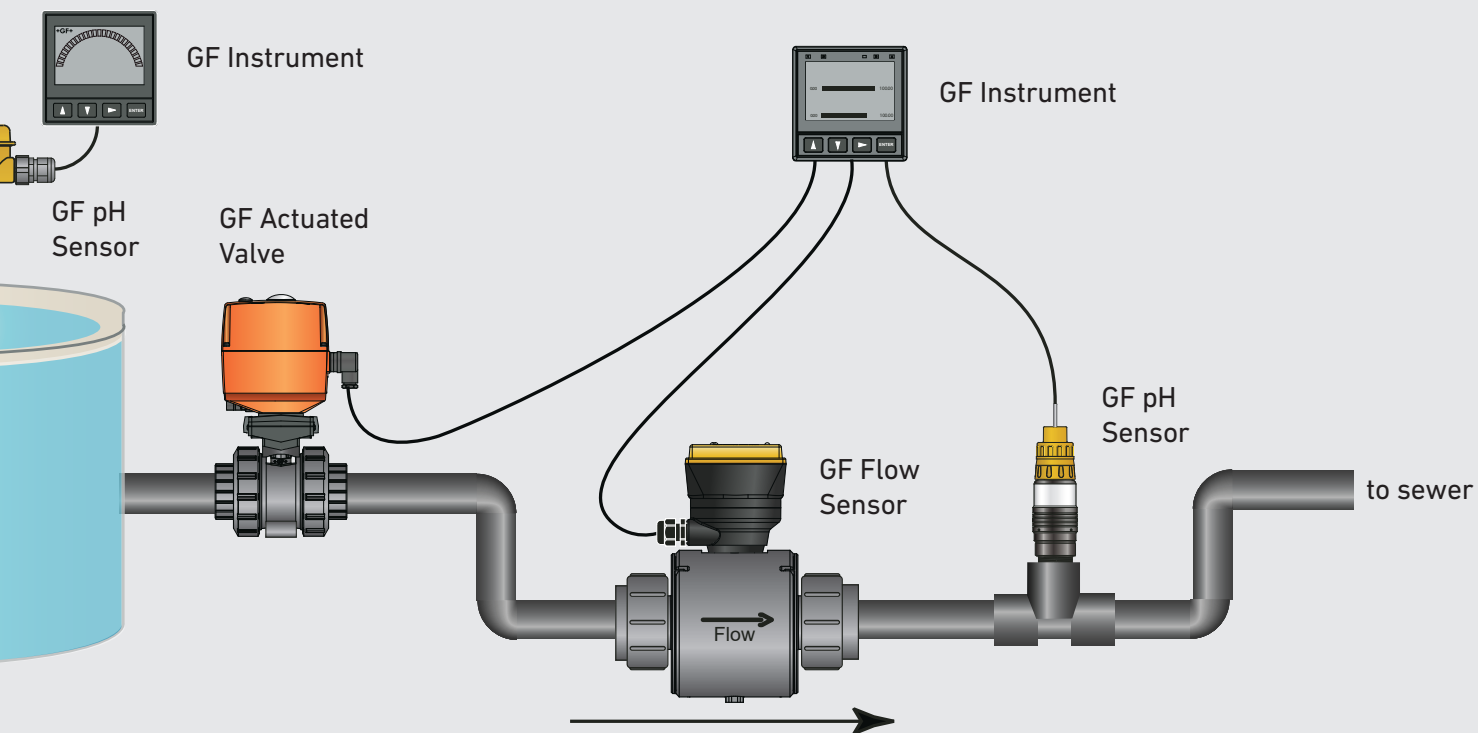
Industrial Effluent Monitoring

Georg Fischer Automation is being used to ensure the operations in the final treatment area of this facility are working properly and any effluent is safe and accounted for. The 2581 FlowtraMag Meter is plumbed into a trap to help maintain a full pipe. The effluent is monitored and with the 2581 FlowtraMag's $\pm 1\%$ of reading accuracy, the customer can report the gallons dumped for billing purposes to the city.

Typically, without an effluent flow device, the city would look at the incoming water to the facility and assume the same amount is being dumped in to the city sewer. The reality may be that the user in fact consumes the water as part of their production and therefore dispenses considerably less wastewater into the sewer system. The use of the 2581 FlowtraMag proves the reduced effluent, resulting in a savings for the customer that over time more than pays for the measurement device.

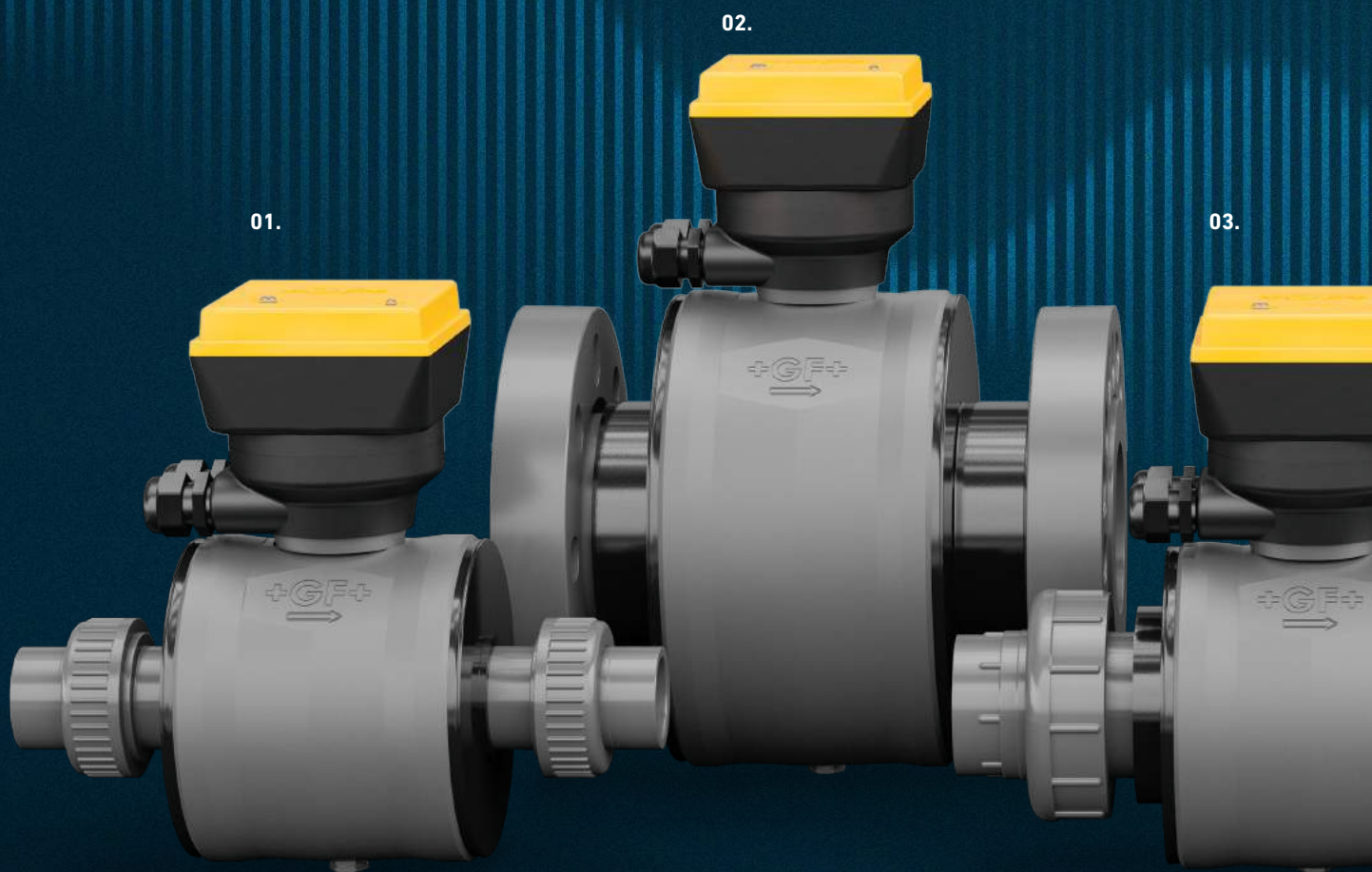
1. Effluent flow is measured and a digital signal is sent to a GF 9950 Transmitter that provides totalization. For long term reporting a 4 to 20 mA signal from the 9950 or 2581 can be sent to the building automation system for reporting purposes.
2. Batch pH treatment of the effluent in a tank prior to leaving the facility can be adjusted with a submersible 3-2751-3 / 2724-00 pH sensor electronics and pH probe connected to a 9900 can send a signal out to chemical dosing pumps for set point control.
3. A GF 2450 tied to the external part of the tank (2250 for submersion) connected to a 9900 for level measurement.
4. In-line pH sensor electronics (3-2751-1) hooked up to a 3719 Wet-Tap pH Assembly with 3-2756-WTP pH electrode, monitors final effluent pH for proper compliance. If the pH goes above or below the window settings in the 9950, a relay will activate, closing the Georg Fischer Actuated valve, thus preventing the customer from dumping effluent that potentially would put them in violation with the city.





Product portfolio

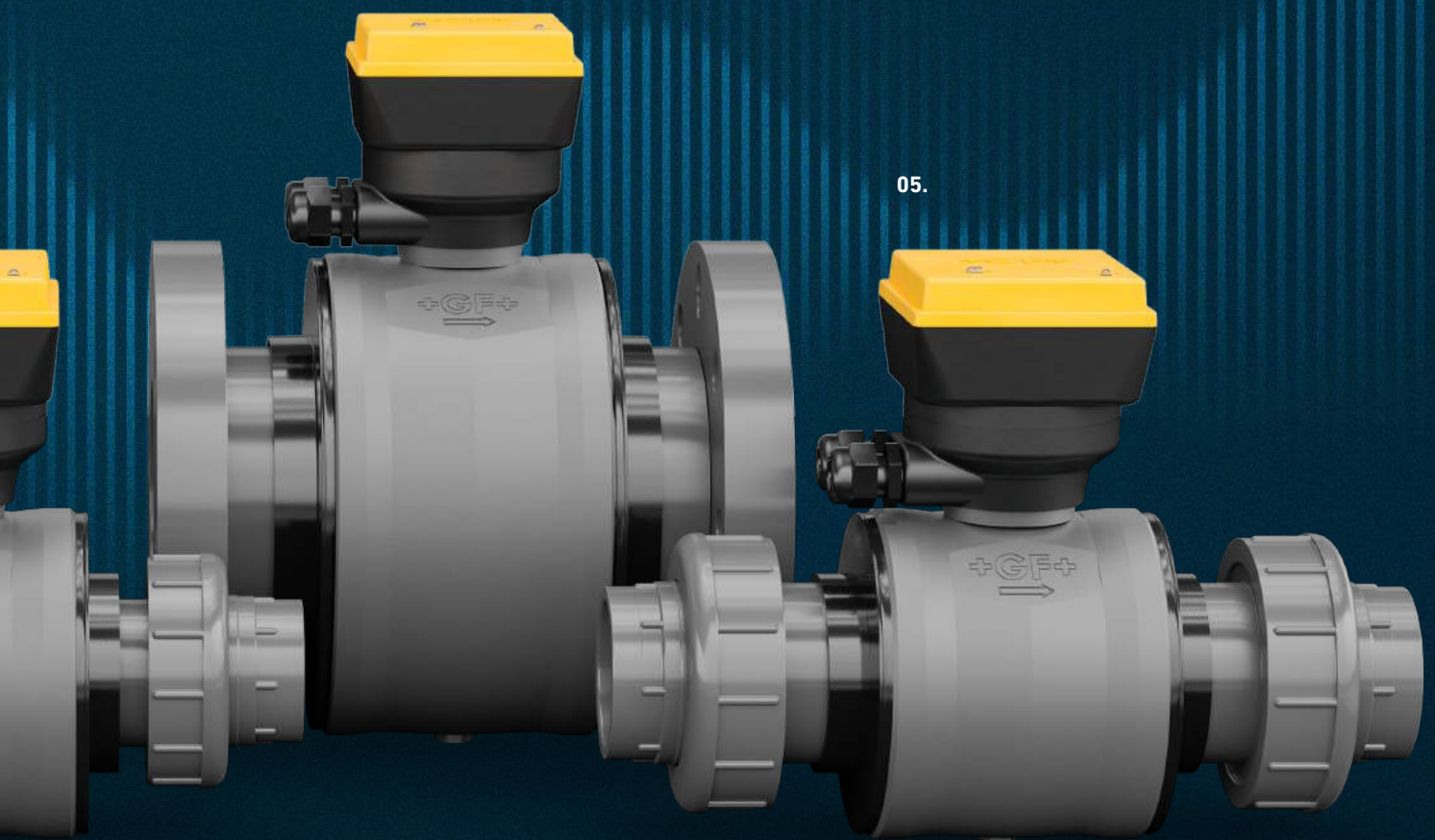
Small and large diameters specifically focused on application needs. Up to 3x lighter than metal, meaning it can be placed easily in tight areas making installation easier.



- 01. DN25 (1 in.)
- 02. DN80 (3 in.)
- 03. DN40 (1.5 in.)
- 04. DN100 (4 in.)
- 05. DN50 (2 in.)

04.

05.



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