Pure Precision

4170 Turbidity Sensor

Pioneering precision and performance

The GF 4170 Turbidity Sensor redefines what is possible in turbidity measurement with industry-leading accuracy, compact design, and exceptional reliability. It addresses common pain points in turbidity monitoring like leaks, misalignment and frequent maintenance with premium materials and CNC precision manufacturing.

10x more accurate
GF's turbidity sensor achieves an impressive accuracy of ± 0.1% to ± 0.2% across one of the largest measurement ranges available on the market.

7-point calibration
GF's 7-point factory calibration provides superior accuracy across the entire turbidity range compared to the typical 1-2 point calibrations used by competitors.

Built for global compliance
GF's turbidity sensor complies with international standards and supports global regulatory approval, with documentation ready for audits. It meets ISO 7027 turbidity measurement benchmarks which are widely accepted in both industrial and environmental segments.

Extend sensor lifetime up-to 5X
The GF turbidity sensor is designed without O-rings, utilizes CNC precision and sapphire windows-to-metal sealing to eliminate leak risks and extend its lifetime by 3-5 times compared to conventional designs.

Crafted for flexibility and longevity

Designed for high accuracy and stability

Designed for use by OEMs and plant operators alike, the GF 4170 Turbidity Sensor performs flawlessly whether installed in tight pipework or exposed to harsh process environments. With international certifications, this sensor is ideal for compliance critical water systems. Additionally, its wide measurement range ensures accurate surface and intake water surveillance measurements, even as water color varies.

The GF 4170 Turbidity Sensor is best for

- Municipal drinking water
- Source water receiving and water intake
- Seawater/brackish water/desalination
- Reverse osmosis and filtration
- Industrial wastewater and reclamation
- Cooling tower and process water

Transmitter and mobile unit

Using state-of-the-art touch screen technology with color display, the transmitter allows simple operation using logical menu guidance. The user can select the way results are displayed, either as plain values, graphs or historical data, including the indication of system and alarm status.

Mobile unit uses a rechargeable battery so users can verify their turbidity on demand or use as a backup.

Optional transmitter   Mobile unit accessory

Versatile installation
GF's turbidity sensor delivers accurate results in tight spaces, bends, or pipes that are six times smaller than typical turbidimeters can accommodate. It requires no precise alignment or large straight sections, allowing for confident installation anywhere.

High accuracy
The GF 4170 offers one of the widest measurement ranges on the market which is backed by a 7-point factory calibration. The near-infared LED technology offers stable light intensity which is unaffected by sample color variation. Additionally, the PPSU-Absorber offers uninterrupted measurements in sunlight.

Resilient design
Designed with high-quality materials like SS316Ti and sapphire glass, this sensor is built to last even in the harshest conditions. Furthermore, the absence of an o-ring eliminates many common issues found in competitor designs.

Complete turbidity measurement system

Simplify your system selection

1
Installation fittings

Code	Mfr. Part No	Description
Unions		
159002303	3-4170.391-1	Stainless steel union end for turbidity 4170 (for DN50 / 2")
Flange		
159002305	3-4170.392-15E	Pipe flange DN40 PN10-40, 1.4404 / 316L
159002304	3-4170.392-2E	Pipe flange DN50 PN16, 1.4404/316L
159002306	3-4170.392-2A	Pipe flange ASME B16, 2" Class 150, 1.4404 / 316L

*This is not a complete list of our fittings. Please refer to the datasheet for the complete list.

2
Sensor

Code	Mfr. Part No	Description
159002290	3-4170-1	Turbidimeter GF4170 including device cable, 8-pins; M12, 10m (33ft)
159002291	3-4170-2	Turbidimeter GF4170 submersible version (with 10m fixed cable)

💡 Good to know

Submersion option
We have a submersible option which comes as a fixed cable for IP68 for direct outdoor installation.

PLC integration
We offer an optional transmitter for operators who prefer sensor-transmitter setup. This also supports direct integration to PLC without transmitter.

3
Transmitter

Code	Mfr. Part No	Description
159002293	3-8640-1	Type 8640 Turbidity Transmitter

💡 Good to know

PPSU light absorber
Install in very tight pipe DN50, (2") bend, reducer, etc.

Mobile unit sensor
The mobile unit sensor is fitted with submersible cable that can be used as a portable reference option or back up to installed sensors.
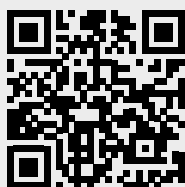
4
Accessories and spare parts

Code	Mfr. Part No	Description
3-4170-20	159002292	Turbidity Mobile Unit with type 4170 Turbidity sensor (5m fix cable), type 8640 Turbidity Transmitter, power bank and wall socket for charging
3-8640-10.401	159002295	Profibus DP interface printed circuit board (only for type 8640)
3-8640-10.402	159002296	Profinet IO interface printed circuit board (only for type 8640)
3-8640-10.403	159002297	Modbus RTU interface printed circuit board (only for type 8640)
4170.260-10	159002308	Device cable, 8-pins, M12, 10m (33ft)
4170.260-20	159002309	Device cable, 8-pins, M12, 20m (66ft)
4170.260-30	159002310	Device cable, 8-pins, M12, 30m (99ft)
3-4170.390	159002298	Checking unit
3-4170.396	159002299	Flowcell for bypass installation
3-4170.397	159002300	Deaeration kit (for bypass installation)
3-4170.398	159002301	Sensor light-absorber (PPSU-cover-absorber - 4 screws included)
3-4170.399	159002302	Turbidimeter GF4170 service set (Include: 1x desiccant bag, and 1x EPDM O-ring)

Excellence in Flow

Visit our webpage to get in touch with your local specialist:
www.gfps.com/our-locations

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