



The Signet 4150 Turbidimeter system provides accurate and reliable compliant water quality monitoring for municipal and industrial applications.

The 4150 measures turbidity via a 90 degree light which reflects particles as they flow through a small volume, low flow glass cuvette. Air bubbles are eliminated from the cuvette by adjusting the backpressure valve on the outlet tube. The cuvette is located in a watertight dark chamber for continuously accurate on-line measurement. A replaceable desiccant pack provides a dry-stable environment to ensure reliable measurements.

Simple and fast calibration can be accomplished in under five minutes by placing the in-line glass cuvette from the measuring chamber into the cuvette holder while still in service and the inlet and outlet tubing remains connected. The inexpensive calibration standard allows for dry and multiple system calibrations without mixing chemicals. After calibration, the unit is up and running with simple re-insertion of the glass cuvette back into the measuring chamber.

Additional features include a message indicator when the desiccant needs replacing and as an option, auto/ultrasonic cleaning of the glass in-line cuvette for longer runs between maintenance.

The 4150 is available in two measuring ranges. The 0 to 100 NTU/FNU version is for low range applications such as drinking water. The 0 to 1000 NTU/FNU range can be used for various applications including raw water and wastewater reclamation.

Features

- Simple and easy single unit installation with built-in pressure regulator
- Versions compliant with either U.S. EPA 180.1 for North and South America and Asia or ISO 7027 for Europe
- Time saving and efficiencies of cuvette technology simplifies calibration
- Spannable 4 to 20 mA output or RS 485 output
- Two adjustable alarm relays
- Bright backlit display
- Easy access for wiring and maintenance
- Ultrasonic cleaning option ensures long and steady on-line measurement
- Inexpensive standards allow for multiple system calibrations



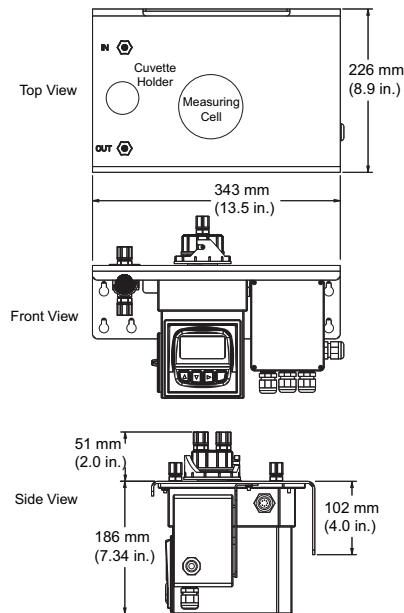
Applications

- Monitor Filter Performance
- Raw or Filtered Water
- Municipal Water Distribution
- Wastewater Reclamation and Tertiary Effluent
- Aquatic Life Support

Specifications

| | | |
|---|--|-----------------|
| General | | |
| Flow Rate Range | 0.1 L/min to 1 L/min (0.026 GPM to 0.26 GPM) | |
| Measurement Range | 0 to 100.0 NTU/FNU or 0 to 1000.0 NTU/FNU | |
| Accuracy | ±2% of reading or ±0.02 NTU/FNU below 40 NTU/FNU whichever is greater | |
| | ±5% of reading above 40 NTU/FNU | |
| | NTU = FNU = FTU | |
| Mounting | | |
| | Horizontal plane, integral mounting bracket (with standard hole pattern) | |
| | Use 8 mm (5/16") OD, 5 mm (3/16") ID flexible tubing for the water supply/outlet (customer supplied) | |
| Resolution | | |
| | up to 0.0001 NTU/FNU (below 10 NTU/FNU) | |
| Display | | |
| | Two-Line LCD w/backlight | |
| Alarm Relays | | |
| | 120-240 VAC, 2A Form C Relay | |
| Analog Signal w/Field Selectable Range | | |
| | Active 4-20 mA, 600 Ω or RS485 | |
| Wetted Materials | | |
| Tubing | Vinyl | |
| Measuring Cuvette | Borosilicate Glass | |
| Glass Washer Seal | Silicone | |
| Pressure Regulator | Polypropylene 316 stainless steel Delrin® by Dupont™ | |
| Inlet Tube | 316 stainless steel | |
| Maximum Inlet Pressure | | |
| | 345 kPa (50 psi) based on tubing connection provided | |
| | Pressure regulator rated up to 200 psi | |
| | 50 PSI limit for tubing connector | |
| Power Supply | | |
| | 100 – 240 VAC, 47 – 63 Hz, 80 VA | |
| Insulation Rating | | |
| | Double Insulated | |
| | Pollution Degree 2 | |
| | Overvoltage Category II | |
| Altitude | | |
| | 2000 meters (6,561 ft) maximum | |
| Relative Humidity | | |
| | Maximum 95% RH non-condensing | |
| Enclosure Rating | | |
| | IP 66 /NEMA 4X | |
| Operating Temperature/Pressure | | |
| | 1 °C to 50 °C | 34 °F to 122 °F |
| | [5 to 15 psig] 35 to 104 kPa | |
| Environmental Conditions | | |
| | Not recommended for outdoor use | |
| Shipping Weight | | |
| | 2.5 kg | 5.5 lb |
| Standards and Approvals | | |
| | CE | |
| | China RoHS | |
| | Compliant to U.S. EPA 180.1 for white light | |
| | Compliant to PN EN ISO 7027 for infrared light | |
| | ETL Listed UL 61010-1, cETL and CSA C22.2 No. 61010-1 | |

Dimensions



System Overview

Signet 4150 Turbidimeter



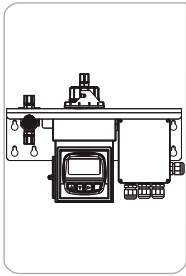
- 1 - Mounting Bracket
- 2 - Power Supply and Wiring Terminals
- 3 - Operator Interface with Display
- 4 - Desiccant Access (not shown)
- 5 - In-line Glass Cuvette (with Ultrasonic option)
- 6 - Backpressure Valve
- 7 - Cuvette Holder
- 8 - Shutoff Clamp
- 9 - Tubing and Fittings
- 10 - Measuring Cell Chamber



4150-0004
Glass cuvette with ultrasonic transducer

4150-0007
Glass cuvette without ultrasonic transducer (not shown)

Ordering Information



| Mfr. Part No. | Code | Measurement Range and Self Cleaning Options |
|---------------|--------------------|--|
| 3-4150-1 | 159 001 596 | White Light, 0 to 1000 NTU/FNU, no self cleaning U.S. EPA 180.1 |
| 3-4150-2 | 159 001 597 | Infrared, 0 to 1000 NTU/FNU, no self cleaning ISO 7027 |
| 3-4150-3 | 159 001 598 | White Light, 0 to 100 NTU/FNU, w/ultrasonic auto self cleaning U.S. EPA 180.1 |
| 3-4150-4 | 159 001 599 | Infrared, 0 to 100 NTU/FNU with ultrasonic auto self cleaning ISO 7027 |
| 3-4150-5 | 159 001 600 | White Light, 0 to 1000 NTU/FNU, w/ultrasonic auto self cleaning U.S. EPA 180.1 |
| 3-4150-6 | 159 001 601 | Infrared, 0 to 1000 NTU/FNU with ultrasonic auto self cleaning ISO 7027 |

Accessories and Replacement Parts

| Mfr. Part No. | Code | Description |
|---------------|--------------------|---|
| 3822-4001 | 159 001 585 | Calibration kit, turbidity, 100, 10 & 0.02 NTU/FNU |
| 3822-4003 | 159 001 586 | Calibration kit, turbidity, 1000, 10 & 0.02 NTU/FNU |
| 3-4150.380 | 159 001 588 | Replacement desiccant |
| 3822-4002 | 159 001 591 | Formazin stock kit |
| 3822-4000 | 159 001 592 | Formazin stock solution, 4000 NTU/FNU, 500 ml |
| 4150-0007 | 159 001 602 | Replacement cuvette set (3 glass cuvettes) |
| 4150-0004 | 159 001 589 | Replacement cuvette with ultrasonic transducer |
| 3-4150-24V | 159 001 723 | 24 volt power supply |
| 3-4150.386 | 159 001 652 | O-ring kit for cuvette |

3-4150.099 Rev D (10/11)

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