

# Lovibond® Water Testing Tintometer® Group



## PTV 2000 with Modbus

Next Generation of On-line Turbidity Measurement



- Smart Interface - Rethink the Controller
- Simplified and Streamlined Processes
- Innovative, Low Maintenance Design
- Unsurpassed Accuracy for low-level effluent measurement

Part Number: 6145693

### Process Simplified - A New Approach

Details matter. The development of the PTV Series considered every aspect of process turbidity workflow - from installation and setup; daily measurement and control; routine procedures such as calibration, verification and maintenance; to data collection and management.

### Smart User Interface - Rethink the Controller

We've replaced the need for a traditional controller with the familiar interface of a smart device. By utilizing a mobile device app, the user experience is enhanced by allowing quick and easy data viewing, calculation of statistics and access to operator instructions and useful tips.

### Designed to Save

Save time, money and water by using the PTV system. These instruments are optimised for drinking water applications with unsurpassed low range accuracy (below 1 NTU). It has a variety of features that help users save.

### Regulatory Compliant

The PTV Series has instruments that meet EPA and ISO regulatory requirements.

### Fluidics Manager

The Fluidics Manager is an additional accessory that streamlines sample flowing into and out of the instrument. This eliminates the need to install and maintain separate devices to control sample entering and exiting the sensor.

### Panel Mounting System

A Place for Everything. The Panel Mount is an additional accessory that aids in the installation of key instrument components and accessories.

### Two Ways to Interface

**Touchscreen Interface** - All PTV Series instruments are supplied with an integrated touchscreen. All measurement settings and routine functions such as calibration can be managed directly with the touchscreen without the need for additional devices.

**AqualXP™ Interface** - The AqualXP™ app is an enhanced version of the touchscreen. In addition to being able to perform all of the functions as the touchscreen, users have access to animated instructions of all procedures, advanced data analysis and statistics tools, complete maintenance and repair logs as well as the comfort of using a familiar device.

### Wet Standards - for Calibration & Verification

T-CAL Turbidity Standards from Lovibond® Tintometer® are primary standards that are US EPA and ISO compliant.

When you combine our T-CAL Turbidity Standards and our T-CALplus™ packaging, turbidity standards have never been easier to use.

## Industry

Chemical Industry | Food and Beverage Industry | Industries Others | Municipalities | Pharmaceutical Industry | Pool Public | Power and Energy

## Application

Drinking Water Treatment

## PTV 2000 with Modbus

Turbidity is the key measurement parameter for determining drinking water quality.

To develop this instrument, Lovibond® Tintometer® assembled a team of globally recognized turbidity experts. We tasked them with creating a new process instrument that addresses all of the issues customers struggle with while using their current turbidity systems. These advancements, along with the addition of state-of-the-art communications and user interface make the PTV 1000 and PTV 2000 the next generation of process turbidimeters.

## Measuring Range

Test Name	Measuring Range
Turbidity	0.0001 - 100 NTU

## Technical Data

<b>Optics</b>	Red LED
<b>Accuracy</b>	±2 Percent of reading or smaller 0.008 / 8 mNTU
<b>Stray Light</b>	smaller 0.008 / 8 mNTU
<b>Displayed Resolution</b>	up to 0.0001 NTU (range dependent) or 5 digits displayed
<b>Repeatability / Precision</b>	better than 1% at 1 NTU
<b>Initial Response</b>	10 % change: 15 seconds @ max flow
<b>Step Response</b>	(T-90), less than 240 seconds at 200 ml/min. at 1 NTU
<b>Signal Averaging</b>	User Selectable: 1, 3, 6, 10, 30, 60, and 90 seconds, defaulted to 30 seconds
<b>Sample Temperature</b>	0 - 50 °C max sample temperature: 70 °C
<b>Sample Flow</b>	30 to 500 ml/min, optimal flow: 50 to 80 ml/min
<b>Sample Inlet Connection</b>	1/4-inch NPT female, 1/4-inch compression fitting tubing (included)
<b>Sample Outlet (Drain) Connection</b>	3/8-inch NPT female, 3/8-inch hose barb tubing (included)
<b>Power Requirements</b>	90 to 264 VAC, 50/60 Hz. Auto Select
<b>Sample Inlet Tubing</b>	1/4-inch OD or 6 mm OD
<b>Sample Outlet Tubing</b>	3/8-inch OD or 9 mm OD
<b>Turbidimeter Body Drain</b>	Quick connect with integrated check valve
<b>Calibration</b>	One Point Calibration at 5.0 or 20 NTU with any regulatory approved formazin
<b>Analog Output: Measurement Module</b>	1 selectable 0 - 20 mA or 4 - 20 mA; output span programmable over any portion of the measurement range
<b>Analog Output: Junction Box</b>	1 selectable 0 - 20 mA or 4 - 20 mA; output span programmable over any portion of the measurement range
<b>Alarms</b>	Three set-point alarms, each equipped with an SPDT relay with unpowered contacts rated 5 A resistive load at 230 V, AC
<b>Digital protocol</b>	Modbus RS485/RS232
<b>Enclosure Type: Junction Box</b>	Fiber reinforced polyester
<b>Enclosure Rating: Junction Box</b>	IP 66
<b>Safety</b>	Listed by TÜV Rheinland to UL 61010A-1: Certified by TÜV Rheinland to CSAC22.2 No. 1010.1: CE Certified by TÜV Rheinland to EN 61010-1
<b>Immunity</b>	CE certified by TÜV Rheinland to EN 61326 (Industrial Levels)

<b>Emissions</b>	Class A: EN 61326, CISPR 11, FCC Part 15, Canadian Interference-Causing Equipment Regulation ICES-003
<b>Mounting Hardware</b>	Turbidimeter Sensor - Slotted Mounting Bracket that can be affixed to any vertical surface or panel (Optional). Junction Box - Direct mounting to any vertical surface or panel (Optional)
<b>Method of Verification</b>	Wet Standards or dry verification device
<b>Limit of Determination</b>	0.0001 NTU
<b>Limit of Detection</b>	0.001 NTU
<b>Flow Indicator</b>	no
<b>Portability</b>	Process
<b>Environmental Conditions</b>	5 - 50 °C, rel. humidity 5 - 95 % (Non-condensing)
<b>Protection Class</b>	IP 65
<b>Compliance</b>	EPA
<b>Dimensions</b>	158.5 x 340.4 x 334.5 mm
<b>Weight</b>	5 kg

Title	Part Number
Assembly, Float	19806-054
Assembly, Fluidics Manifold	19806-056
Constant Head Height Regulator	19806-058
Kit, Fittings & Tubing	19806-059
T-CALplus Calibration Tube Assembly (Blue Tube)-	19806-062
Cleaning Tube Assembly (Black Tube)	19806-072
Kit, Bubble trap cover Replacement (comes with O-ring)	19806-077
Kit, Beam dump Replacement (comes with O-ring), for PTV 1000, PTV 2000	19806-078
Kit, Knob for bubble trap	19806-079
Kit, Drain fitting	19806-080
Kit, Drain cover	19806-081
Mounting Cleat, for PTV 1000, PTV 2000	19806-082
Kit, Flow body assembly, with Flow Meter	19806-083
Kit, Flow body assembly, without Flow Meter	19806-084
Kit, Illuminator Lens Sub Assembly	19806-085
Kit, Installation Connectors	19806-086
Rotometer, 25 to 100 mL/min	19806-087
Panel, Instrument and Sample Management	19806-088
Brass mounting cup assembly	19806-106
Dry Verification STD, High Range (> 10 NTU)	19806-110
Dry Verification STD, Low Range (< 10 NTU)	19806-111
Fuse, 1.6A, 250VAC	19806-206
Illuminator O-ring	19806-407
O-ring, for Beam Dump	19806-416
Tubing, 1/4" OD, black, Polyethylene	19806-429
O-ring, Rear Drain cover	19806-434
Fitting, Quick Connect, Male	19806-436
Lanyard Strap	19806-448
Fitting, Quick Connect, Female	19806-449
Plug for Conduit holes	19806-487
Valve; 1/4" Tubing Quick Connect	19806-494
Tablet Wall Mount	19806-521
Strain Relief, 3/8" NPT	19806-527
Tubing, 3/8" ID x 1/2" OD x 1/16" Wall, Clear PVC	19806-531
Seal, Bubble trap cover, -241 -	19806-554
Insert, Measurement Module Holder, Instrument Panel	19806-570
Measurement Module, PTV 2000 RL	19806-704
Measurement Module, PTV 2000 RL, with Bluetooth®	19806-705
Pad, Application, Microfiber, w/pocket	19806-803
Rinse bottle, 500 ml	420056

Title	Part Number
T-CAL <sup>plus</sup> ® -Standard, 0.30 NTU, Standard for Verification	48010035
T-CAL <sup>plus</sup> ® -Standard, 1.00 NTU, Standard for Verification	48010135
T-CAL <sup>plus</sup> ® -Standard, 5.00 NTU, Standard for Calibration	48010235
T-CAL <sup>plus</sup> ® -Standard, 20 NTU, Standard for Calibration	48010335
T-CAL®-Standard, 0,30 NTU, 500 ml	48011050
T-CAL®-Standard, 1,00 NTU, 500 ml	48011150
T-CAL®-Standard, 5,00 NTU, 500 ml	48012250
T-CAL®-Standard, 20,00 NTU, 500 ml	48012350
Cleaning Solution	54010435
Detergent Solution	54011010
Scale Remover	54013003

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