

ST-565 Series

Inline Azole Sensors

For Industrial Cooling Water Applications

Description

The ST-565 Series inline sensor platform is a proprietary design for the direct measurement of HST (Halogen Stable Triazole) or TTA (TolyTriazole) utilizing LED UV light sources for use in industrial cooling water and process treatment applications. The ST-565 Series offers Pyxis proprietary algorithms to determine the concentrations of HST or TTA while measuring sample turbidity and color in low contamination waters (ie. ≤ 40 NTU) for internal compensation. The ST-565 Series offers a combination of 4-20mA as well as RS-485 Modbus output signals and is Bluetooth Enabled for wireless cleanliness diagnostics and calibration when used with MA-WB or PowerPACK Series Bluetooth Adapters and the uPyxis APP for Mobile or Desktop devices. The ST-565 Series is provided in CPVC with the standard Pyxis ST-001 inline $\frac{3}{4}$ " FNPT Tee assembly, 5-foot bulk-head cable with quick adapter and 1.5ft flying lead cable with quick adapter, enabling rapid wiring to any microprocessor controller, PLC or DCS system.

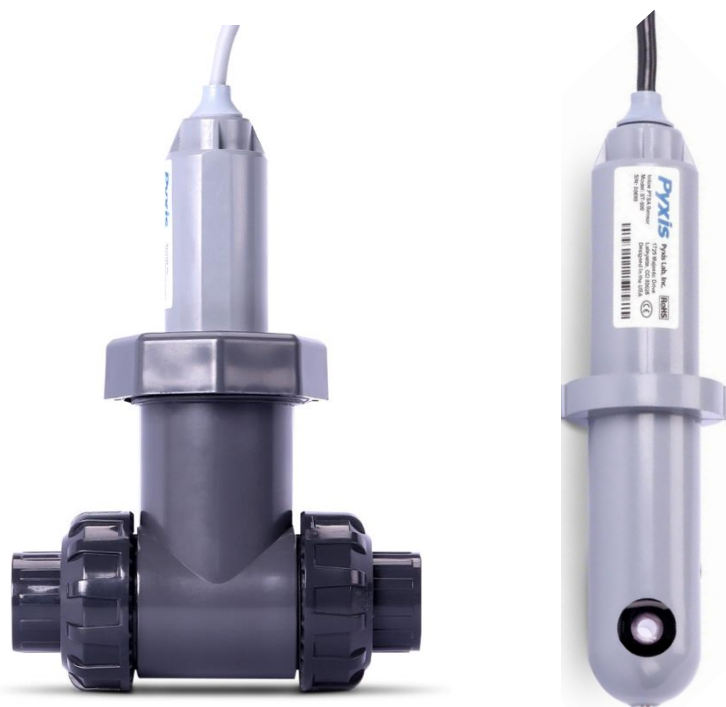


Figure 1 - ST-565 Series Inline Azole Sensors

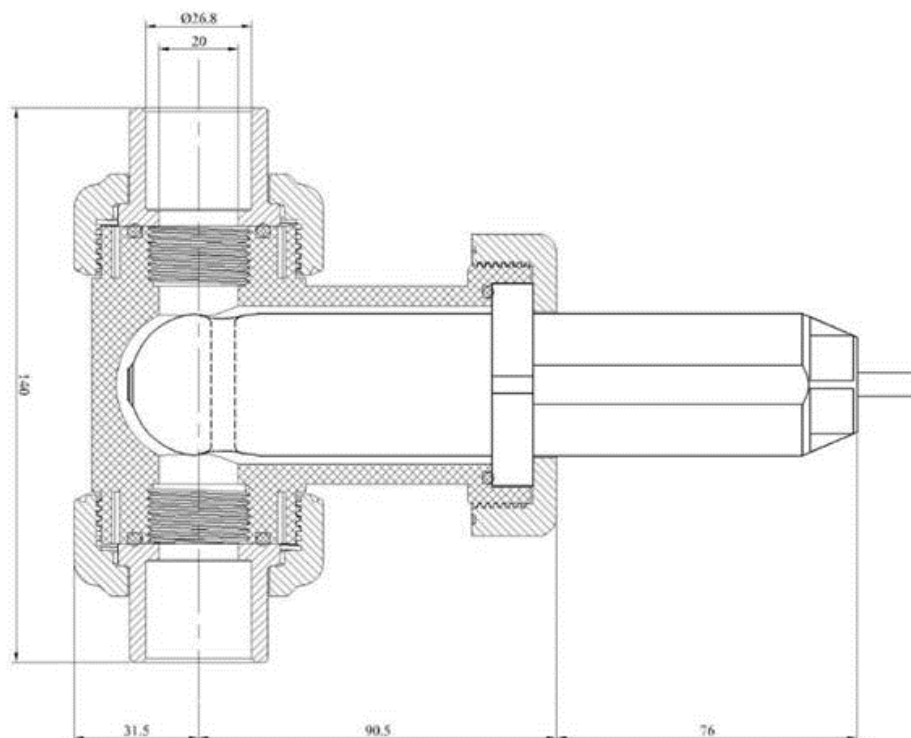
Application Considerations

It is important to note that this technology is not wet chemistry testing for azole content and variations may be observed depending on the quality of the water sample. In certain waters the background of other organic matter may cause a false positive reading of azole due to UV fluorescence or absorbance. In consistent makeup water quality with little organic loading (ie. city water makeup) and systems with no known organic contamination (ie. hydrocarbon etc..) this technology is very accurate in comparison to wet chemistry methods. The ST-565 Series does not differentiate between azole species or reacted versus unreacted azole. The devices measure the total UV fluorescence signature of the azole and offer the final values as ppm Halogen Stable Tolytriazole (HST with ST-565) and Tolytriazole (TTA with ST-565T). It is important for the user to identify the correlation to exact wet chemistry values and potential background interference should be accounted for by identifying untreated makeup for UV fluorescent signal and subtracting that from the final value measured. The ST-565 and ST-565T will not work in waters containing Nitrite treatment as Nitrite absorbs UV light and will result in a false high value. With these application limitations clearly understood, the ST-565 and ST-565T are commonly used for rapid azole validation, dramatically reducing service time enabling water treaters to adjust their programs accordingly. It is important to note however, that there are some applications (surface makeup water systems or high organic loading / contaminated systems) where this technology is not ideal due to a high degree of interference. The user needs to understand the dynamics of their system and evaluate its use accordingly.

Specifications

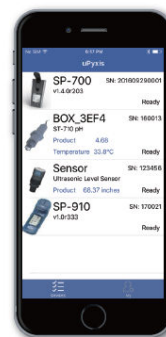
| Item | ST-565 | ST-565T |
|---------------------------------------|--|--------------------|
| P/N | 50664 | 50671 |
| Azole Detected | HST (Halogen Stable Triazole) | TTA (Tolytriazole) |
| Output Scale <i>Set At Factory</i> | 0.0 – 7.5 ppm | 0.0 – 10.0 ppm |
| Precision/Accuracy | +/- 0.2ppm | |
| Power Supply | 22 – 26V DC, Power Consumption – 1W | |
| Outputs | Isolated 4 – 20 mA Analog Outputs & Isolated RS-485 Digital Output -7Pin | |
| Installation | ST-001 Inline Tee (provided) ¾" FNPT Socket & Thread | |
| Weight | 170 g (0.37lbs) | |
| Operational Pressure | 100 psi (6.9 Bar) | |
| Operating Temperature | 4 °C – 49 °C (40 – 120 °F) | |
| Storage Temperature | -20 °C – 60 °C (-4 – 140 °F) | |
| Material | CPVC | |
| Rating | IP67, Fully Dustproof & Waterproof | |
| Regulation | CE Marked + RoHS | |
| Dimension (L x W x H) | Length 6.8 inch (172.7 mm), body diameter 1.44 Inch (36.6 mm) | |
| Cable Length | 5 feet, terminated w/IP67 adapter + 1.5 feet flying lead w/IP67 adapters | |

ST-565 Series and Inline Tee Assembly Diagram (mm)



Cleaning and Calibration

Pyxis Lab recommends cleaning and calibrating the ST-565 Series inline sensors at a minimum frequency of once per month. For clean water applications this period may be adjusted. For contaminated applications, diagnosis, cleaning and calibration may be considered more frequently. When powered by and connected to the MA-WB (7Pin) or PowerPACK Series Bluetooth Adapter accessories, the ST-565 Series sensor can both be wirelessly accessed via Bluetooth from any mobile or desktop device using the **uPyxis APP**. The APP features a live graphical display of the sensors value outputs for Azole as well as a sensor cleanliness check and calibration function. The cleanliness check can be conducted rapidly to determine if a cleaning is required prior to sensor calibration. Once the sensor is properly cleaned it can be re-diagnosed to confirm the cleaning was effective and then calibrated with its appropriate Pyxis Calibration Standard (*ie. HST-01*). Contact service@pyxis-lab.com for support.



Optional Accessories Information

P/N

| | |
|--|----------|
| ST-001 Inline Tee Assembly Spare (3/4" FNPT Inline Tee For ST Probes) | 50704 |
| HST-01 (HST Calibration Standard 1ppm for ST-565 / 500mL) | 20131 |
| HST-02 (HST Calibration Standard 2ppm for ST-565 / 500mL) | 20132 |
| TTA-01 (TTA Calibration Standard 1ppm for ST-565T / 500mL) | 57015 |
| TTA-02 (TTA Calibration Standard 2ppm for ST-565T / 500mL) | 57016 |
| Probe Cleaning Kit (Contains Probe Cleaner Solution 100mL + Qtips + Pipe Cleaners) | SER-01 |
| MA-WB Bluetooth Adapter (Pyxis Bluetooth Adapter for 7Pin Pyxis Sensors) | MA-WB |
| PowerPACK-1 (Single Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors) | MA-BLE-1 |
| PowerPACK-4 (Four Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors) | MA-BLE-4 |
| MA-NEB Bluetooth/USB Adapter (Enables Bluetooth for Desktop and uPyxis APP) | MA-NEB |
| SP-395 Handheld HST Fluorometer (HST 0-7.5ppm) | 50209 |
| SP-395T Handheld TTA Fluorometer (TTA 0-10.0ppm) | 50221 |
| MA-C10 (10' Extension Cable for 7Pin Pyxis Sensors) | 50738 |
| MA-C50 (50' Extension Cable for 7Pin Pyxis Sensors) | 50705 |

W A L C H E M

IWAKI America Inc.