

# AST-100TSY

## Viscosity Sensor/Transmitter



**The AST-100TSY is a simple solution to viscosity control when special features or elaborate operator interfaces are not required.**

The AST-100TSY — coupled to a simple, remote, loop-powered indicator scaled in engineering units — allows an operator to make better and faster decisions because he/she does not have to rely on unreliable or inconsistent measurement techniques.

Optional  
AST-300SY  
Single-Station  
Controller



The AST-100TSY is also “ideal” for low cost, seamless integration of viscosity measurements into factory floor, automated control systems (PC, PLC, DCS, etc). Our new AST-100TSY includes a powerful, digital communication feature (Modbus RTU) that allows up to 10 viscometers to be networked into a single, reliable, multi-station, viscosity measurement system. It is easily integrated into a process controller using a single twisted pair wire.

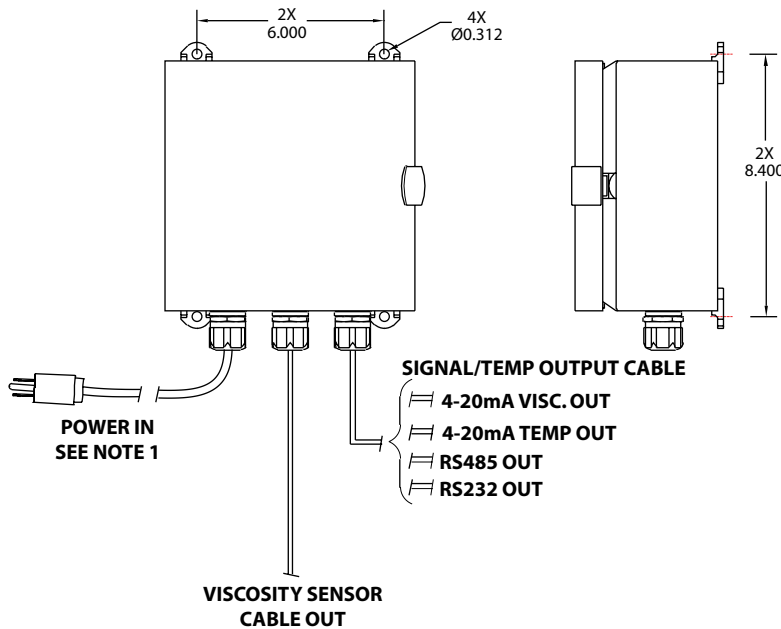


Optional  
AST-400SY  
Multi-Station  
Controller

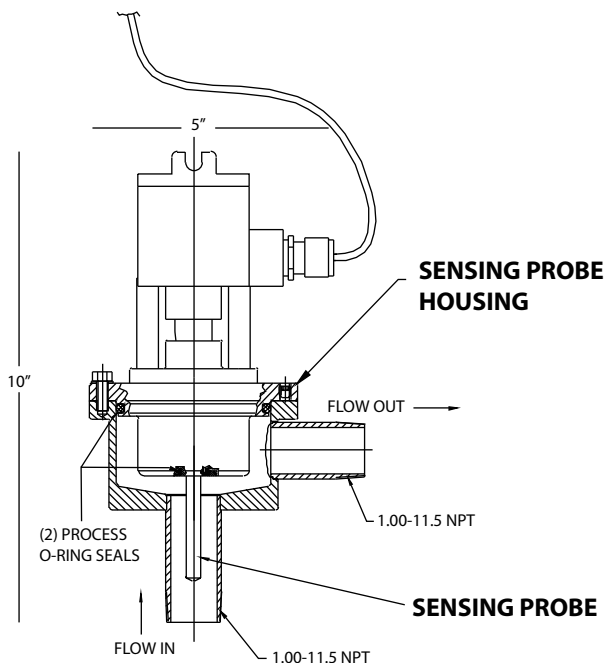


# AST-100TSY

## Viscosity Sensor/Transmitter



**NOTE:**  
1. POWER IN CORD MAY BE REMOVED AND POWER MAY BE BROUGHT DIRECTLY INTO THE TERMINAL BOARD LOCATED INSIDE OF THE CONTROLLER ENCLOSURE.



### AST-100 Viscosity Sensor Specifications

Measurement Type:	Torsionally oscillating probe
Measurement Range:	1 to 12,500 cSt using an NIST traceable, Newtonian fluid measured at 25° C
Process Connections:	1" Male NPT standard, (1½" tri-clamp or 3A design, optional)
Repeatability:	± 1.0% of reading
Wetted Surfaces:	316L stainless steel
Sensor O-Ring:	Isolast for probe, Viton for chamber housing (EDPM or Kalrez®, optional)
Temperature (fluid):	-4° to 392° F (-20° to 200° C)
Pressure Range:	Vacuum to 400 psig maximum, 600 psig design option

### AST-100TSY Transmitter Specifications

Viscosity Ranges (cSt) (field selectable):	0 to 10, 0 to 50, 0 to 100, 0 to 250, 0 to 500, 0 to 1000 0 to 1500, 0 to 2000, 0 to 12500
Maximum Resolution:	Analog: ± 0.05% of full scale Digital: ± 0.1 cSt
Analog Output (2):	4–20 mA (non-isolated) CH1 = viscosity CH2 = temperature
Serial Port (2):	Port 1 = RS232, simplex, read only, Port 2 = ½ Duplex RS485, Modbus RTU driver
Electronics Packaging:	Wall mount, NEMA-4 (IP65), 8" x 8" x 6" (203 x 203 x 152mm) 32° to 104° F (0° to 40° C)
Electrical Area Rating:	NEMA-4, NEMA-7 or ATEX are optional
Interconnecting Cable:	25 ft (7.6m) standard: 50 ft (15.2m), 75 ft (22.8m) and 100 ft (30.4m) optional
Supply Voltage:	115V/60 Hz or 230V/50 Hz (± 10% max), power draw <1 amp



# AST-400SY

## Multi Station Viscosity Controller



**The AST-400SY is designed for use with the Brookfield AST-100TSY system to monitor viscosity, display temperature, interlock with other process devices, and accurately control fluid viscosity in a variety of industrial applications.**

The AST-400SY is a precise, 10-station programmable controller with individual station timed dosing intervals. Its intuitive main screen layout allows for quick individual station selection of setup and menu items. At a glance, set point and alarm status are displayed as are viscosity in cP, mPa•s, cSt or cup-seconds, current pH value, and temperature in °C or °F for all stations.

#### **Additional features include:**

- Viscosity and pH data trending
- pH and pump interlock
- Multi-level password protection
- Viscosity high/low alarms
- Main screen job run display
- Standby All/Auto toggle button
- Job Recipe/Auto/Load/Save selection button
- Unit-to-unit toggle button to access specific unit detail screen

### **AST-400SY Specifications**

Operator Interface:	TFT, 256 color, graphical touch screen display, 10-inch (diagonal)
Enclosure:	NEMA-4 (IP65)
Operating Environment:	0°C to 45°C (32°F to 113°F)
Electrical Input:	90-264 VAC, 47-63 Hz, self-sensing
Power*:	5A, 500 Watts
Current*:	1.2A
DC Inputs*:	One discrete for feed pump interlock
Isolation Voltage:	1500 V RMS field side to logic side, 500 V RMS between groups
Analog Input*:	4 to 20 mA for pH input, 8 bits resolution
Relay Outputs*:	Three Form A (SPST), normally open, non-latching: <ul style="list-style-type: none"><li>• One for dosing</li><li>• One for high alarm indication</li><li>• One for low alarm indication</li><li>• Rating: 2 amps at 24 vdc and 240 VAC</li></ul>

\*Per station

Specifications subject to change without notice.



# AST-300SY

## Single Station Viscosity Controller



### AST-300SY Specifications

Operator Interface:	TFT, full color, touch screen, 5.7 inch (diagonal)
Enclosure:	Wall mount, NEMA-4 (IP65)
Mounting Dimensions:	10 3/4" W (273 mm) x 8" (203 mm) H x 5 1/2" (140 mm) D
Operating Environment:	0°C to 45°C (32°F to 113°F)
Electrical Input:	90-264 VAC, 47-63 Hz, self-sensing
Power:	5A, 500 Watts
Current:	1.2A
DC Inputs:	One discrete for feed pump interlock
Input Voltage Range:	0 to 30 volts DC
Input Current:	7.5mA typical
Input Impedance:	2.8K ohms
Input Threshold Voltage:	ON - 15 VDC min OFF - 5 VDC max
Isolation Voltage:	1500 V RMS field side to logic side, 500 V RMS between groups
Analog Input:	4 to 20 mA for pH input, 8 bits resolution
Relay Outputs:	Three Form A (SPST), normally open, non-latching: • One for dosing • One for high alarm indication • One for low alarm indication Rating: 2 amps at 24 vdc and 240 VAC

Specifications subject to change without notice.

**The AST-300SY is designed for use with the Brookfield AST-100TSY system to control viscosity and temperature, interlock with other process devices, and accurately control fluid viscosity in a variety of industrial applications.**

The AST-300SY is a precise, programmable controller with timed dosing intervals. Its intuitive screen layout allows for quick selection of setup and menu items. At a glance, set point and alarm status are displayed as are viscosity in cP, mPa•s, cSt or cup-seconds, current pH value and temperature in °C or °F.

#### Additional features include:

- Viscosity and pH data trending
- pH and pump interlock
- Multi-level password protection
- Viscosity high/low alarms

**BROOKFIELD**  
ISO 9001:2000 CERTIFIED

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