

## Turbidimeter Model 977-C



This unique turbidimeter utilizes an insertion-type sensor. Since the sensor can be inserted in any size pipe, costly bypass systems are not required. The design eliminates the effects of fluid color. In-situ measurements provide instantaneous, accurate readings. The 977-C comes standard with an isolated linear 4-20mA output. Other outputs are available. A 4-position calibrated range dial allows selection of four NTU ranges.

### 977-C & 978-C SENSORS

	Insertion Probe	Submersible Probe
<b>Application</b>	Pipes greater than 2 inches	Open channel/tanks
<b>Wetted Parts</b>	316 stainless, glass	316 stainless, glass
<b>Process Temp.</b>	15°F to 230°F (-10°C to 110°C)	15°F to 140°F (-10°C to 60°C)
<b>Pressure</b>	0-150 psig	0-50 psig (110 feet of water)
<b>Mounting</b>	1" NPT male	Cable or rigid mount
<b>Dimensions</b>		
<b>Probe</b>	0.875" diameter x 12" long	0.875" diameter x 8" long
<b>Junction Box</b>	2" X 4" X 2"	None

### 977-C TRANSMITTER

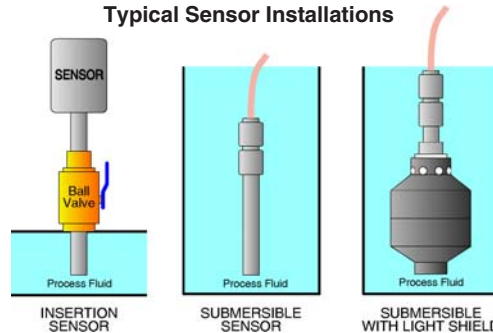
<b>Display</b>	3.5 digit LCD indicator
<b>Range</b>	0-2,000, 0-20,00, 0-200.0, 0-2000 NTU switch-selectable
<b>Input</b>	Model 977-C Sensor
<b>Output</b>	4-20 mA into 600 ohms max. isolated, others available
<b>Resolution</b>	0.05% of full scale
<b>Repeatability</b>	0.1% of full scale
<b>Accuracy</b>	2% of reading
<b>Ambient Temperature</b>	32°F to 120°F (0°C to 50°C)
<b>Alarms</b>	Optional dual alarms
<b>Enclosure</b>	NEMA 1 or NEMA 4X
<b>Dimensions</b>	
<b>NEMA 1</b>	11" wide x 6" high x 4" deep
<b>NEMA 4X</b>	11.875" wide x 7.25" high x 6.75" deep
<b>Mounting</b>	
<b>NEMA 1</b>	Panel or wall mount
<b>NEMA 4X</b>	Wall or pipe mount
<b>Power</b>	115 or 230 VAC @ 50/60 Hz, 10 Watts Optional 12 & 24 VDC, etc.
<b>Shipping Weight</b>	16-24 lb. depending on options

## Suspended Solids Monitor Model 978-C



This innovative suspended solids monitor accurately measures the concentration of solids in clear or colored fluids. The 978-C offers a low range scale of 0-2000ppm and scales up to 0-50% suspended solids. It is available with either an insertion-type or submersible-type sensor. The insertion-type sensor slips through a compression fitting which allows installation into any size pipe, eliminating costly bypass systems. The submersible sensor is used in tanks, ponds or open channel applications.

### Typical Sensor Installations



### 978-C TRANSMITTER

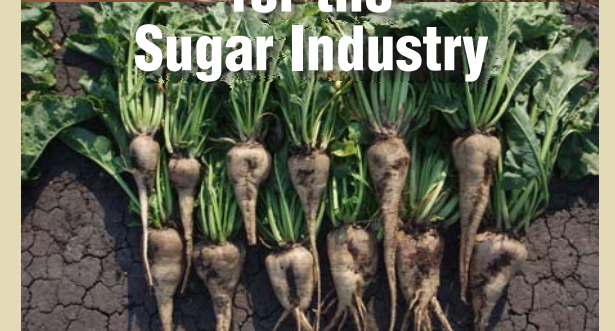
<b>Display</b>	3.5 digit LCD (0-2,000, 0-20,00, 0-200.0 or 0-2000 scales)
<b>Range</b>	0-2000ppm to 0-50.0% full scale
<b>Input</b>	Model 978-C sensor
<b>Output</b>	4-20 mA into 600 ohms max. isolated, others available
<b>Resolution</b>	0.05% of full scale
<b>Repeatability</b>	0.5% of full scale
<b>Ambient Temperature</b>	32°F to 120°F (0 to 50°C)
<b>Alarms</b>	Optional dual alarms
<b>Enclosure</b>	NEMA 1 or NEMA 4X
<b>Dimensions</b>	
<b>NEMA 1</b>	11" wide x 6" high x 4" deep
<b>NEMA 4X</b>	11.875" wide x 7.25" high x 6.75" deep
<b>Mounting</b>	
<b>NEMA 1</b>	Panel or wall mount
<b>NEMA 4X</b>	Wall or pipe mount
<b>Power</b>	115 or 230 VAC @ 50/60 Hz, 10 Watts Optional 12 & 24 VDC, etc.
<b>Shipping Weight</b>	16-24 lb. depending on options

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## Instrumentation for the Sugar Industry

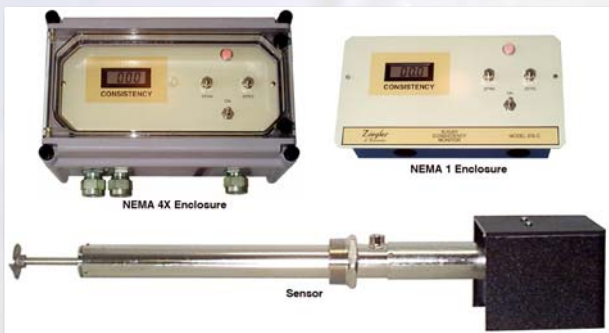


For over 60 years, our instruments have been helping sugar operators optimize production.

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## Sugar Consistency Monitor Model 970-C



Designed to measure massecuite consistency in sugar vacuum pans, the 970-C provides a continuous, reliable consistency indication over all ranges encountered in high or low grade sugar boiling. Adjustable narrow viscosity ranges also make it useful in measuring concentration in sugar melters, evaporator syrups and molasses dilution tanks.

The 970-C is a convenient guide for experienced operators and an invaluable tool for training new sugar boilers. The zero and span adjustments expand readability in critical viscosity or consistency ranges. The monitor has a standard electrical output signal of 4-20 mA.

### SENSOR

<b>Type</b>	Insertion probe
<b>Rotor Size</b>	1.75"
<b>Wetted Parts</b>	316 stainless, high temperature plastic
<b>Process Temp.</b>	32°F to 250°F (0°C to 125°C)
<b>Pressure</b>	0 to 30 psia
<b>Water Supply</b>	Less than 0.5 gallons/hour at 10 psi above process
<b>Mounting</b>	2" NPT male
<b>Wiring</b>	#22 AWG or larger 2-conductor
<b>Dimensions</b>	1.75" Diameter x 24" Length (Probe) 6" x 6" x 6" (Junction Box)

### TRANSMITTER

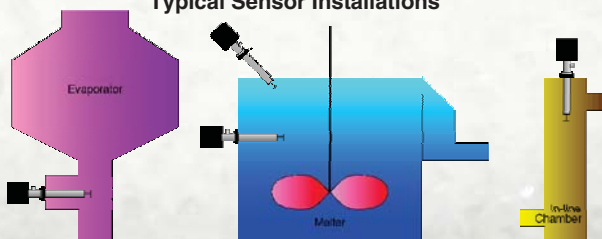
<b>Display</b>	3.5 digit LCD (0 to 199.9 scale)
<b>Range</b>	2 to 200,000 cP
<b>Input</b>	Model 970-C sensor
<b>Output</b>	4 to 20 mA into 600 ohms max., other outputs available
<b>Resolution</b>	0.05% of full scale
<b>Repeatability</b>	0.5% of full scale
<b>Ambient Temperature</b>	32°F to 120°F (0°C to 50°C)
<b>Enclosure</b>	NEMA 1 or NEMA 4X
<b>Dimensions</b>	
<b>NEMA 1</b>	11" wide x 6" high x 4" deep
<b>NEMA 4X</b>	11.875" wide x 7.25" high x 6.75" deep
<b>Mounting</b>	
<b>NEMA 1</b>	Panel or wall mount
<b>NEMA 4X</b>	Wall or pipe mount
<b>Power</b>	115 or 230 VAC @ 50/60 Hz, 25 Watts
<b>Shipping Weight</b>	20 to 25 lb. depending on options

## Syrup Concentration Monitor Model 971-C



The 971-C is designed to measure syrup viscosity in tanks or pipelines and convert it to a linear reading of percent dry substance. It operates under pressure or vacuum, and is not affected by syrup flow direction or velocity. The probe can be installed directly in equipment at a favorable point to minimize measurement lag, improve control of concentration, and eliminate troublesome sample withdrawal problems.

### Typical Sensor Installations



### SENSOR

<b>Type</b>	Insertion probe
<b>Rotor Size</b>	3"
<b>Wetted Parts</b>	316 stainless, high temperature plastic
<b>Process Temp.</b>	32°F to 250°F (0°C to 125°C)
<b>Pressure</b>	0 to 30 psia
<b>Water Supply</b>	Less than 0.5 gallons/hour at 10 psi above process
<b>Mounting</b>	2" NPT male
<b>Wiring</b>	#22 AWG or larger 2-conductor
<b>Dimensions</b>	1.75" Diameter x 24" Length (Probe) 6" x 6" x 6" (Junction Box)

### TRANSMITTER

<b>Display</b>	3.5 digit LCD (45.0 to 95.0 scale)
<b>Range</b>	45-95% Sugar by Weight (Brix)
<b>Input</b>	Model 971-C sensor
<b>Output</b>	4 to 20 mA into 600 ohms max., other outputs available
<b>Resolution</b>	0.2% of full scale
<b>Repeatability</b>	1.0% of full scale
<b>Accuracy</b>	2.0% of full scale
<b>Ambient Temperature</b>	32°F to 120°F (0°C to 50°C)
<b>Enclosure</b>	NEMA 1 or NEMA 4X
<b>Dimensions</b>	
<b>NEMA 1</b>	11" wide x 6" high x 4" deep
<b>NEMA 4X</b>	11.875" wide x 7.25" high x 6.75" deep
<b>Mounting</b>	
<b>NEMA 1</b>	Panel or wall mount
<b>NEMA 4X</b>	Wall or pipe mount
<b>Power</b>	115 or 230 VAC @ 50/60 Hz, 25 Watts
<b>Shipping Weight</b>	20 to 29 lb. depending on options

## Sugar Oversaturation Monitor Model 970-M



The 970-M gives a simple, inexpensive, reliable and direct measure of the most important variable in pan operation: syrup oversaturation. It enables operators with minimal experience to produce consistent high-yield strikes of clean, more uniform sugar, by eliminating the need for precise vacuum control and complex calculations. It improves centrifugal operation on all grades, giving better grain characteristics which upgrade color and drying quality of finished sugars.

### SENSOR

<b>Type</b>	Insertion probe
<b>Wetted Parts</b>	Stainless steel, rubber
<b>Process Temp.</b>	32°F to 300°F (0°C to 150°C)
<b>Pressure</b>	0 to 25 psia
<b>Water Supply</b>	0.25" NPT female
<b>Mounting</b>	1.25" NPT male
<b>Wiring</b>	#22 AWG or larger 3-conductor
<b>Dimensions</b>	1.75" Diameter x 21" Length (Probe) 3" x 2" x 4" (Junction Box)

### TRANSMITTER

<b>Display</b>	3.5 digit LCD indicator
<b>Range</b>	0 to 100% oversaturation (1.0 to 2.0 supersaturation)
<b>Input</b>	Model 970-M sensor
<b>Output</b>	4 to 20 mA into 600 ohms max., other outputs available
<b>Resolution</b>	0.5% of full scale
<b>Repeatability</b>	1.0 % of full scale
<b>Accuracy</b>	2% of full scale
<b>Ambient Temperature</b>	32°F to 120°F (0°C to 50°C)
<b>Pressure Range</b>	10 to 25 cm.Hg. (4" to 10" Hg. Abs.)
<b>Syrup Purity</b>	70 to 100 purity (beet); 50 to 100 purity (cane)
<b>Enclosure</b>	NEMA 1 or NEMA 4X
<b>Dimensions</b>	
<b>NEMA 1</b>	11" wide x 6" high x 4" deep
<b>NEMA 4X</b>	11.875" wide x 7.25" high x 6.75" deep
<b>Mounting</b>	
<b>NEMA 1</b>	Panel or wall mount
<b>NEMA 4X</b>	Wall or pipe mount
<b>Power</b>	115 or 230 VAC @ 50/60 Hz, 5 Watts Optional 12VDC or 24VDC
<b>Shipping Weight</b>	10 to 14 lb. depending on options