The Series TBS Insertion Turbine Flow Sensor comes in brass or stainless steel and has an available “hot-tap” model. The TBS has Series SDF fittings available to fit pipe sizes 3 to 40”. Ruby bearings give the turbine a low coefficient of friction and long life. The low friction bearings also allow the Series TBS to handle a wide range for flow rates. Additional options for this meter include adapter fittings and valve assemblies. Series TBS is suitable for clean liquids and large pipe applications.

**PRINCIPLE OF OPERATION**

The Series TBS uses a turbine equipped with miniature magnets in the rotor blades to measure flow. Liquid flow rotates the turbine and a sensor detects the passage of the magnets resulting in a square wave output. The output signal can then be combined with the Series RTI for flow rate and total, and the Series BAT for a 4 to 20 mA signal conversion.

**APPLICATIONS**

- Chilled Water Monitoring in Building Automation Systems
- Water & Wastewater Monitoring
- Aquariums, Water Parks

**ACCESSORIES**

- Series BAT, Blind Analog Transmitter, converts pulse output to 4 to 20 mA analog output. Unit is loop powered, fits on the enclosure of the meter, and is field spannable.
- Series RTI, Rate Total Indicator, converts pulse output to 4 to 20 mA analog output with local flow rate and totalization display. Unit is loop powered, can fit on the enclosure of the meter, and provides a high/low flow alarm.
- Series PWD, Pulse Divider, for use with pacing electronic metering pumps. Unit divides the input frequency to any number from 1 to 9999 with the use of rotary switches to suit a number of metering pump inputs.

**SPECIFICATION**

**Service:** Compatible clean liquids.

**Range:** 0.5 to 30 ft/s (0.15 to 9.14 m/s).

**Wetted Materials:**
- Shaft Body/Fitting: Brass or 316 SS; Rotor: PVFD; Shaft/Bearings: Nickel-bound tungsten carbide/ruby jewel.
- Valve Assembly: TBS-1XX: Bronze (SS optional) with bronze ball valve; O-ring: EPDM.

**Accuracy:** ±1.5% FS.

**Temperature Limit:** 200°F (93°C).

**Pressure Limit:** 200 psi (14 bar).

**Output:** Current sinking square wave pulse, 100 mA max.

**Power Requirements:** 6 to 40 VDC @ 2 mA.

**Process Connection:**
- TBS-0XX: 1-1/2” male NPT; TBS-1XX: 2” male NPT.

**Electrical Connection:**
- #22 AWG, 3 Cond, 18´ (5.5 m), (max 2000´ (650 m)).

**Enclosure Material:**

**Enclosure Rating:** NEMA 4X (IP66).

**Weight:**
- TBS-0SX: 4 lb (1814 g); TBS-0LX: 6 lb (2722 g); TBS-1SX: 13 lb (5897 g); TBS-1LX: 15 lb (6804 g).

---

**Example**

<table>
<thead>
<tr>
<th>Example</th>
<th>TBS</th>
<th>OSS</th>
<th>IMM</th>
<th>TBS-0SS-IMM</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td><strong>Series</strong></td>
<td><strong>TBS</strong></td>
<td><strong>0SS</strong></td>
<td><strong>IMM</strong></td>
<td><strong>TBS-0SS-IMM</strong></td>
<td><strong>Price</strong></td>
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<tr>
<td><strong>Model</strong></td>
<td><strong>0SB</strong></td>
<td>3 to 12”</td>
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<td>Brass</td>
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<td>SS*</td>
<td>+534.00 Ø</td>
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**Options**

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<th>Options</th>
<th>BAF</th>
<th>SAF</th>
<th>SVA</th>
<th>NVA</th>
<th>BPT</th>
<th>SPT</th>
<th>IMM</th>
<th>EXT</th>
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</thead>
<tbody>
<tr>
<td><strong>TBS-0XX</strong> only</td>
<td>+49.00 Ø</td>
<td>+66.00 Ø</td>
<td>+597.00 Ø</td>
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<td>+33.00 Ø</td>
<td>+47.00 Ø</td>
<td>+151.00 Ø</td>
<td>+302.00 Ø</td>
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*SS is stem and fitting. For SS valve order SVA option.

Ø Items are net priced and are not subject to any discount.