

### FEATURES

- Wide flow range
- One moving part
- Hot tap available
- Modular electronics compatible
- Easily depth adjustable for 3-48" pipe

### APPLICATIONS

- Clean water
- Large pipes
- Aquariums, water parks
- Water & wastewater monitoring

### GENERAL INFORMATION

The TX100/200-Series are adjustable depth insertion turbines that come in brass or 316 stainless models to fit 3" to 48" pipe. Installation fittings are standard 1-1/2" (101/201) or 2" (115/215) FNPT. Fittings such as saddles and weldo-lets may be purchased either locally or from Seametrics.

Ruby bearings and a non-drag pickoff give these adjustable insertion turbine flow sensors a wide flow range and long life. A sensor detects the passage of miniature magnets in the rotor blades. The resulting square-wave signal can be sent for hundreds of feet without a transmitter, over unshielded cable. This signal can be connected directly to many PLC's and other controls without any additional electronics.

If desired, a modular system of electronics can be installed directly on the flow sensor or mounted remotely. The FT415 (battery powered) or FT420 (loop powered) provides digital rate and total display, as well as programmable pulse; the FT420 also provides a 4-20 mA analog output. The AO55 is a blind analog (4-20 mA) transmitter. Programmable pulse for pump pacing is available with the PD10.

The "hot-tap" models (TX115/215) can be installed or serviced without shutting down the line by means of a 2" full-port isolation valve that comes with a nipple for installation on the pipe fitting. In most circumstances, no special tool is required.

## FEATURES

- Modular electronics (optional)
- rate/total/pulse/4-20 mA
  - blind 4-20 transmitter
  - pulse divider

18 Foot Cable

Rugged cast aluminum housing

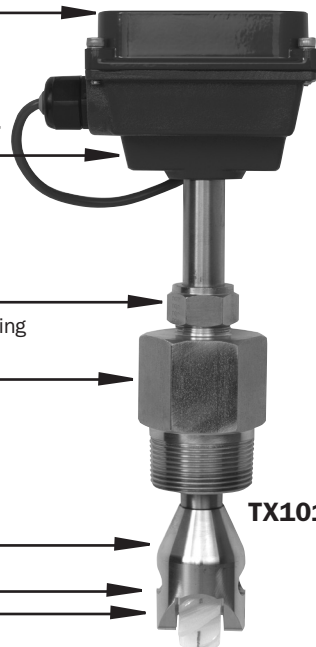
Compression nut  
for easy adjustment, secure locking

Adapter fitting  
with 1-1/2" NPT threads

Rotor housing

Removable jewel bearings

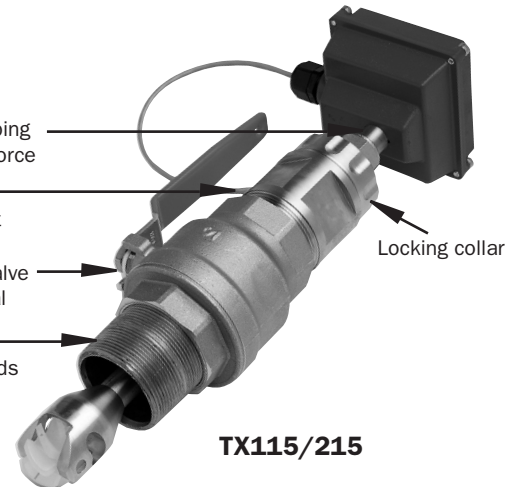
Rotor



3/4" diameter tubing  
for low insertion force

2" Adapter  
removes to mount  
hot-tap machine  
Full-port 2" ball valve  
for sensor removal

Adapter fitting  
with 2" NPT threads



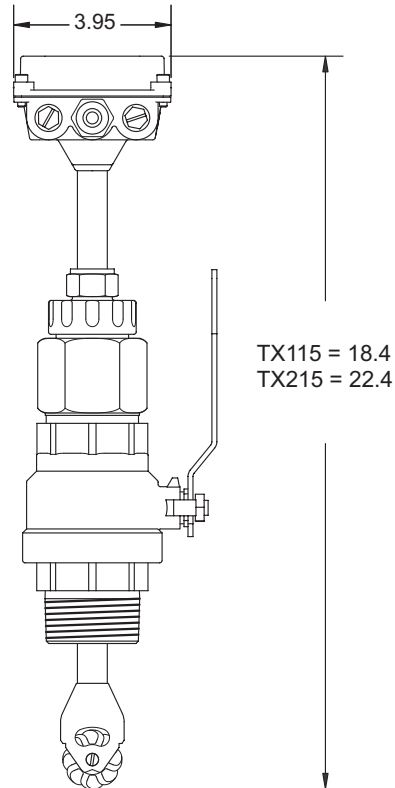
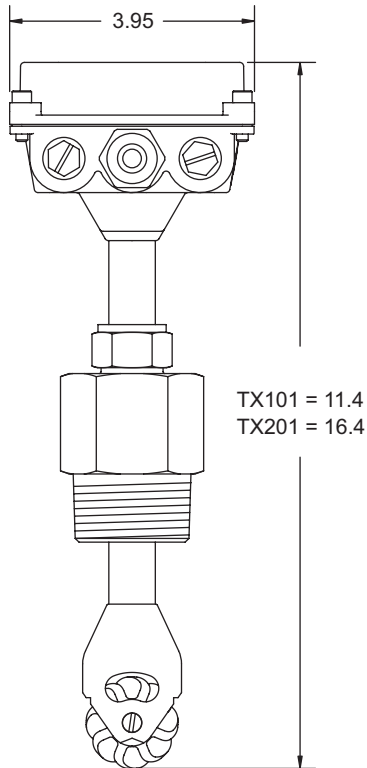
Locking collar

## SPECIFICATIONS\*

Power Source		Standard	Micropowered (-04 Option)
Supply Voltage/Current		6-40 Vdc / < 2 mA	3.5-16 Vdc / 60 µA @ 3.5 Vdc
Sensor	Type	Magneto-resistive	Magneto-resistive
	Output	Current Sinking Pulse	Current Sinking Pulse
	Sinking Current	100 mA max	2 mA max
	External Pull-up Resistor	3-40 Vdc	≤ Supply Voltage
Pipe Size		<b>TX101/115</b>	<b>TX201/215</b>
		3" - 10" (50 - 250mm)	10" - 48" (250 - 1200mm)
Materials	Housing	Cast aluminum	
	Sensor Body	Brass or 316 SS	
	Rotor	Polypro standard (PVDF optional)	
	Shaft/Bearings	Nickel-bound tungsten carbide/Ruby	
	Isolation Valve	<b>TX101/201</b>	<b>TX115/215</b>
		None	Bronze (316SS optional)
Fitting Size		1-1/2" NPT	2" NPT
Flow Range		0.2 - 30 feet/sec (0.006 - 9 meter/sec)	
Accuracy		+/-1.5% of full scale	
Maximum Temperature		200° F (93° C)	
Maximum Pressure		200 psi (14 bar)	
Insertion Force		0.44 x pressure in pipe	
Cable		#22 AWG 3-con, 18' (6m); 2,000' (650m) maximum cable run	
Regulatory		CE Mark (Standard Power Only)	

\*Specifications subject to change. Please consult our website for the most current data ([www.seametrics.com](http://www.seametrics.com)).

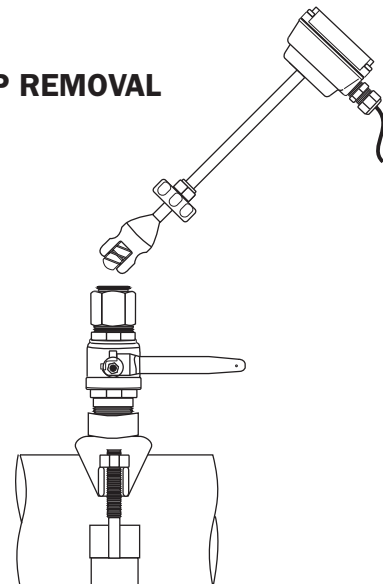
## DIMENSIONS



## HOT TAP INSTALLATION

Insertion and removal under pressure is possible due to the 2" full-port isolation valve, which comes with a nipple for installation on the pipe fitting. If it is necessary to do the initial installation under pressure, any standard hot tap drilling machine with 2" NPT adapter, such as a Transmate or a Mueller, can be used. Ordinarily, it is not necessary to use an installation tool, since the small-diameter tube can be controlled by hand at all but the highest pressures.

## HOT TAP REMOVAL



## FLOW RANGE (Gallons Per Minute)

Pipe Size	3"	4"	6"	8"	10"	12"	16"	18"	24"	30"	36"	48"
Min.	4.6	7.9	18	31	49	69	125	141	259	411	600	1,090
Max.	691	1,190	2,700	4,680	7,370	10,470	16,520	20,900	37,600	62,505	87,410	169,000

Approximations based on Schedule 40 pipe.



# TX100/200-SERIES Insertion Turbine Flow Sensor

## HOW TO ORDER

### MODEL

3" - 10" = **TX101**  
3" - 10" Hot tap = **TX115**  
10" - 48" = **TX201**  
10" - 48" Hot tap = **TX215**

### MATERIAL

Brass = **B**  
316 Stainless = **S**

### OPTIONS

Adapter Fitting, 2" Threads = **-02**  
Micropower Pickup (FT415 & DL76 Only) = **-04**  
Rotor/Ceramic Shaft, PVDF (Kynar) = **-05**  
LMI Pump Connector = **-06**  
Seametrics Control Connector = **-07**  
Stainless Valve Assembly (115/215 only) = **-08**  
No Valve Assembly (115/215 only) = **-09**  
\*Immersibility = **-40**  
12" Extension (200-Series only) = **-72**

\*Consult factory for suitable applications

### ACCESSORIES

Rate & Total Indicator w/4-20 mA Output = **FT420**  
Battery Operated Rate/Totalizer = **FT415**  
Blind 4-20 mA Transmitter = **AO55**  
Power Supply = **PC3**

Data Logger = **DL76**  
Pulse Divider = **PD10**  
Saddle Fittings = **Consult Factory**

## CONTACT YOUR SUPPLIER