

### FEATURES

- Wide flow range
- One moving part
- Hot tap available
- Modular electronics compatible
- Easily depth adjustable for 3-40" 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 steel models to fit 3" to 40" pipe. Adapters mate with standard 1-1/2" (101/201) or 2" (115/215) FNPT threaded fittings such as saddles and weld-onlets which 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 A055 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

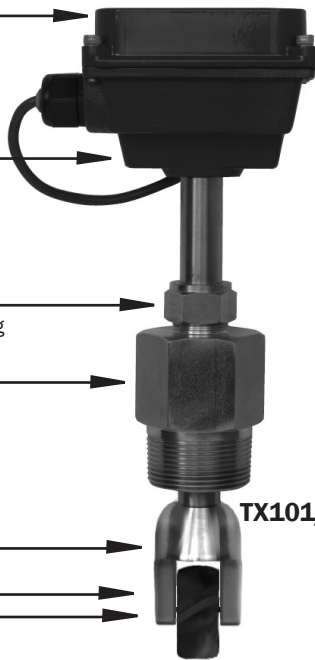
Compression nut  
for easy adjustment, secure locking

Adapter mates  
with 1-1/2" FNPT threaded fitting

Rotor housing

Removable jewel bearings

Rotor



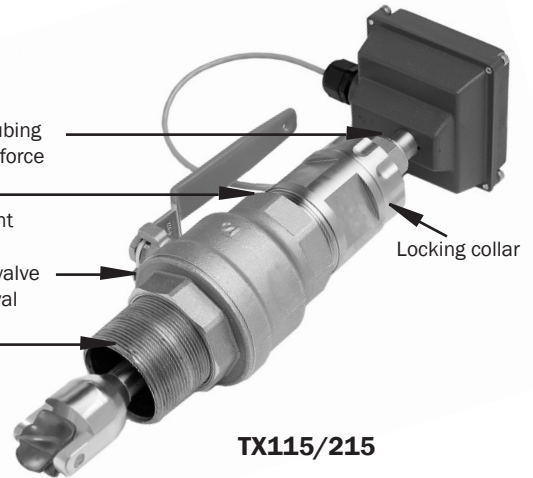
**TX101/201**

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 mates  
with 2" FNPT  
threaded fitting



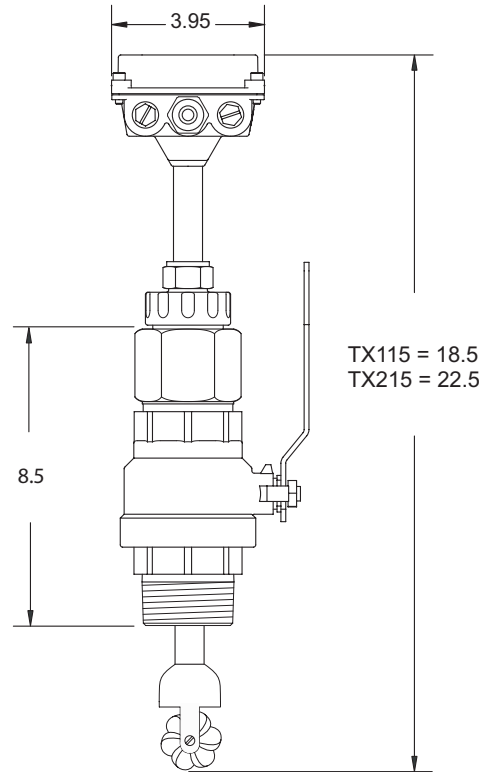
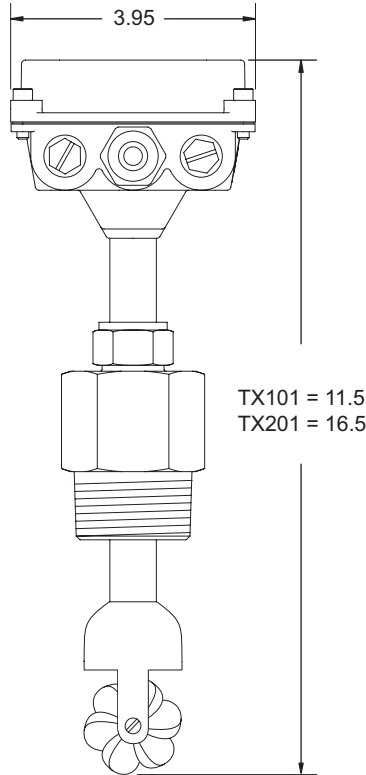
**TX115/215**

### 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	Magnetoresistive	Magnetoresistive
	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> 3" - 12" (50 - 300mm)	<b>TX201/215</b> 12" - 40" (300 - 1000mm)
Materials	Housing	Cast aluminum	
	Sensor Body	Brass or 316 SS	
	Rotor	PVDF standard	
	Shaft/Bearings	Nickel-bound tungsten carbide/Ruby	
	Isolation Valve	<b>TX101/201</b> None	<b>TX115/215</b> Bronze (316SS optional)
Fitting Size Required		1-1/2" FNPT	2" FNPT
Flow Range		0.5 - 30 feet/sec (0.15 - 9.14 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	

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

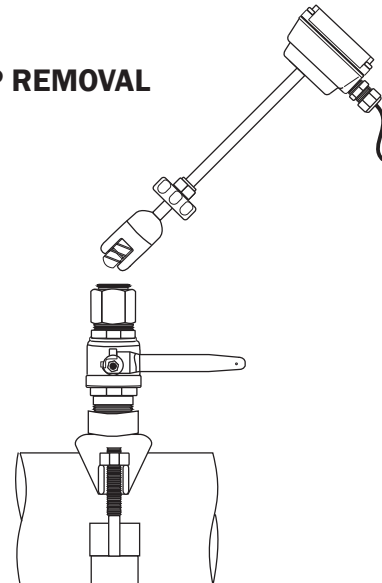
## DIMENSIONS



## 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"	40"
<b>Min.</b>	11.5	19.8	45	78	123	176	313	396	704	1,100	1,585	1,960
<b>Max.</b>	691	1,190	2,700	4,680	7,370	10,470	16,520	20,900	37,600	62,505	87,410	117,500

Approximations based on Schedule 40 pipe.



# TX100/200-SERIES Insertion Turbine Flow Sensor

## HOW TO ORDER

### MODEL

3" - 12" = **TX101**  
3" - 12" Hot tap = **TX115**  
12" - 40" = **TX201**  
12" - 40" Hot tap = **TX215**

### MATERIAL

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

### OPTIONS

Adapter Fitting, 2" Threads = **-02**  
\*Bi-Directional = **-03**  
Micropower Pickup (FT415 & DL76 Only) = **-04**  
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**

\*Not available with -04 or -07 options

\*\*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