

### 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 **IP100/200-Series** are adjustable depth insertion paddlewheels that come in brass, PVC or 316 stainless models to fit 3" to 40" pipe. Adapters mate with standard 1-1/2" (101/201) or 2" (115/215 or PVC101/201) NPT threaded fittings such as saddles and weldolets which may be purchased either locally or from Seametrics.

Ruby bearings and a non-drag Hall-effect sensor give these meters the widest flow range of any of the paddlewheel types. A sensor detects the passage of miniature magnets in the six rotor blades. The resulting square-wave signal can be sent for hundreds of feet over unshielded cable without a transmitter and 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) flow indicator provides digital rate and total display, as well as programmable pulse output; the FT420 also provides a 4-20 mA analog output. If a display is not required, the A055 provides 4-20 mA analog output, and the PD10 provides a programmable pulse for pump pacing.

The "hot-tap" models (IP115/215) 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

**IP101/201**

3/4" diameter tubing  
for low insertion force

2" Adapter  
removes to mount  
hot-tap machine

Full-port 2" ball valve  
for sensor removal  
(2" gate valve for PVC)

Adapter mates  
with 2" FNPT  
threaded fitting

Locking collar

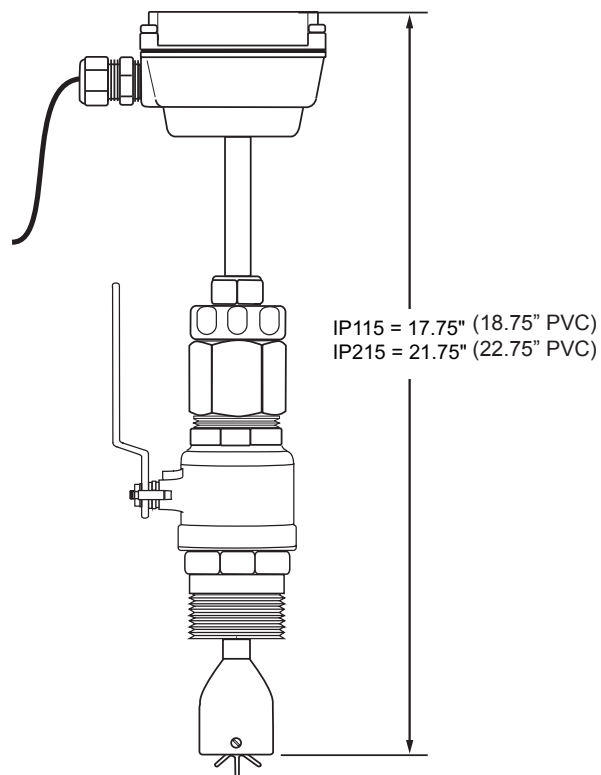
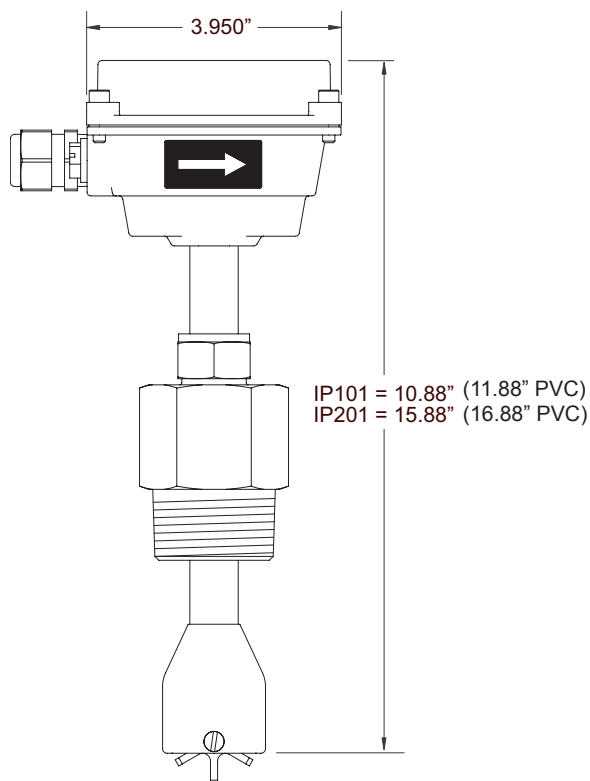
**IP115/215**

## SPECIFICATIONS\*

Pipe Size		IP101/115	IP201/215	
		3" to 12" (50 - 300mm)	12" to 40" (300 - 1000mm)	
Sensor		Hall Effect sensor, 12 Vdc current sinking pulse		
Materials	Housing	Cast aluminum		
	Sensor Body	Brass, PVC or 316 SS		
	Rotor	PVDF (Kynar)		
	Shaft	Nickel-bound tungsten carbide (zirconia ceramic optional)		
	Bearings	Ruby jewel		
	Isolation Ball Valve	IP101/201 (Brass/SS)	IP115/215 (Brass/SS)	PVC 101/201/115/215
		None	Bronze (316SS optional)	(PVC uses gate valve)
Fitting Size Required		1.5" FNPT	2" FNPT	2" FNPT
Flow Range		0.3 - 30 feet/sec (0.1 - 9 meter/sec)		
Accuracy		+/- 1.5% of full scale		
Maximum Temperature				
		Brass/SS	200 ° F (93 ° C)	
		PVC	130 ° F (55 ° C)	
Maximum Pressure				
		Brass/SS	200 psi (14 bar)	
		PVC	150 psi (10 bar)	
Insertion Force		0.44 x pressure in pipe		
Power		5-24 Vdc, 1.5 mA (3.5 - 16 Vdc with -04 option)		
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)).

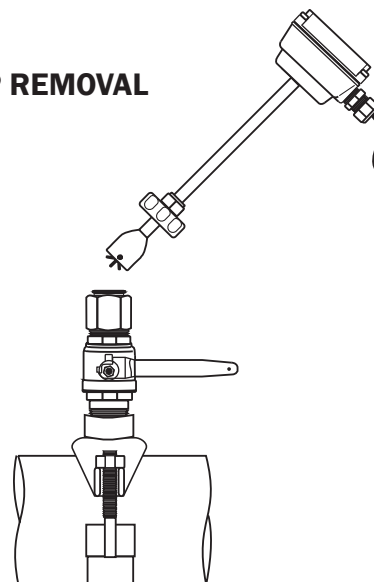
### DIMENSIONS



### 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"
Min. (.3 ft/sec)	6.6	12	27	47	73	106	188	238	422	660	951	1,174
Max. (30 ft/sec)	660	1,200	2,700	4,700	7,370	10,600	18,800	23,800	42,200	66,000	95,100	117,400

Approximations based on Schedule 40 pipe.



# IP100/200-SERIES Insertion Paddlewheel Flow Sensor

## HOW TO ORDER

### MODEL

3-12" = **IP101**  
3-12" hot tap = **IP115**  
12-40" = **IP201**  
12-40" hot tap = **IP215**

### MATERIAL

Brass = **B**  
PVC = **P**  
316 Stainless = **S**

### OPTIONS

Ceramic Shaft = **-01**  
Adapter Fitting, 2" Threads = **-02**  
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 Brass & SS 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