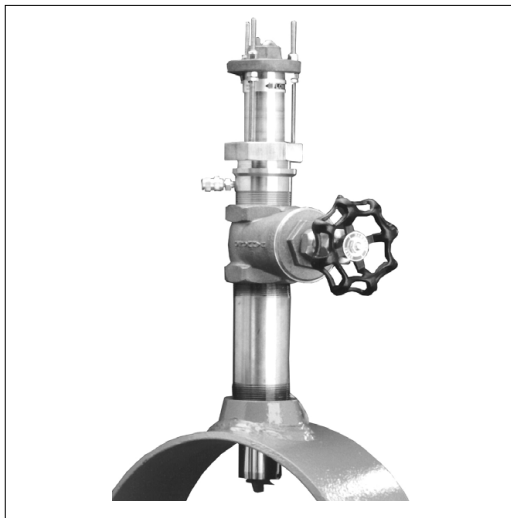




Hot tap flow sensors

Models 225BR/226BR/226SS



Features

- Easy flow measurement
- For pipe diameters from 3" to 40" (DN80 – DN1000)
- Special version up to 120"
- Hot tap model for quick installation or dismantling during the process

Description

The series 200 flow sensors feature a six bladed impeller design with a proprietary non-magnetic sensing mechanism. The forward swept impeller shape provides higher, more consistent torque and is less prone to be fouled by water borne debris. The forward curved shape coupled with the absence of magnetic drag provides improved operation and repeatability even at lower flow rates. This is especially true where the impeller is exposed to metallic or rust particles found in steel or iron pipes. As the liquid flow turns the impeller, a low impedance square wave signal is transmitted with a frequency proportional to the flow rate. The signal can travel up to 600 m between the flow sensor and the display unit without the need for amplification. All sensors except irrigation versions are supplied with 6 m of 2-conductor 20 AWG shielded U.L. type PTLC 105°C cable.

Model 225BR and 226BR/226SS sensors

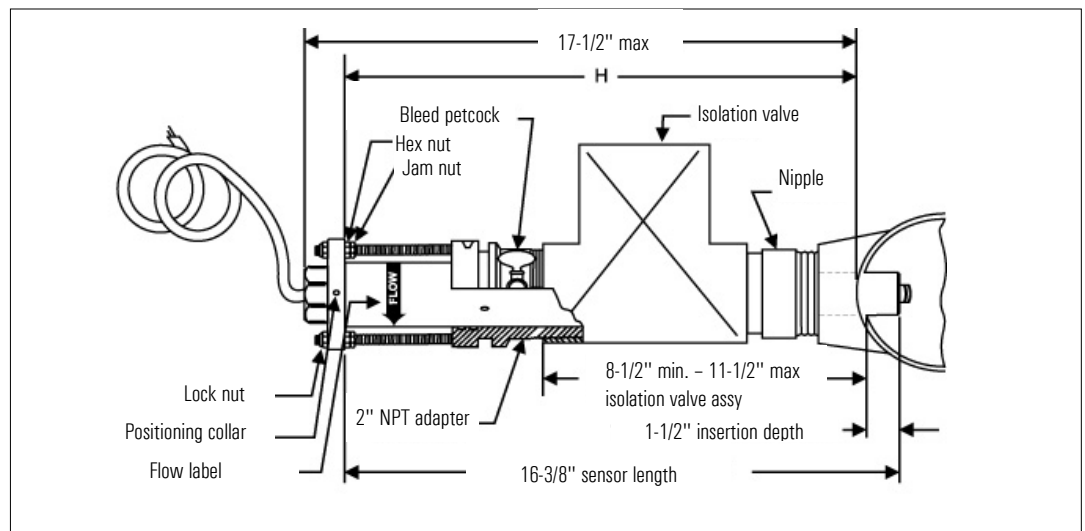
The model 225BR and 226BR/226SS sensors are used for flow measuring applications in most metallic or non-metallic pipes where it would be difficult to shut down or drain the line for installation or service. The model 225 features a gate valve for isolation and the model 226 a ball valve. If the pipe is too hot tapped, the ball valve is recommended. The sensor mounts in a 2" NPT pipe saddle or Threadolet® for installation in pipe sizes from 3" to over 40". Positioning nuts on the three threaded retaining rods allow the sensor to be accurately positioned to a standard insertion depth of 1 ½" into the pipe. When this insertion depth is maintained and there are at least 10 upstream and 5 downstream diameters of straight uninterrupted flow, an accuracy of ±1% of full scale can be obtained between flow velocities of 0,1 to 9 m/s. Each sensor is equipped with an isolation valve and pipe nipple to allow the sensor to be installed in a pressurized pipe. This is accomplished by first attaching a saddle or Threadolet® to the pipe and screwing the nipple and isolation valve into the saddle or threadolet fitting. A hole is then drilled through the pipe using a commercial tapping machine. When completed, the tapping apparatus is removed, the isolation valve is closed and the sensor is installed using a model HTT hot tap tool.

Note that the overall length of the sensor tube is 457 mm (18"), however, a clearance height of 127 mm (35") should be allowed for the fully extended length of the sensor tube outside the isolation valve.

Technical data

Wetted materials for all sensors	See ordering matrix	
Sensor sleeve and hex adapter for 225BR and 226BR	Sleeve: Admiralty brass, UNS C44300 Hex Adapter: Valve bronze, UNS C83600	
Sensor sleeve and hex adapter for 226SS	316 series stainless steel	
Temperature ratings	Standard version: 105°C (221°F) continuous service Irrigation electronics: 66°C (150°F) High temperature version: 140.6°C (285°F) continuous service, 150°C (305°F) peak temperature (limited duration)	
Pressure ratings		At 24°C
	225B	300 psi
	226B	400 psi
		At 135°C
	226SS	400 psi
		210 psi
		250 psi
		300 psi
Recommended design flow range	0,1 to 9 m/s Initial detection below 0,09 m/s	
Accuracy	± 1.0% of full scale over recommended design flow range ±4.0% of reading within calibration range	
Repeatability	±0.3% of full scale over recommended design flow range	
Linearity	±0.2% of full scale over recommended design flow range	
Transducer excitation	Quiescent current 600uA@8 VDC to 35 VDC max. Quiescent voltage (Vhigh) supply voltage-(600uA*supply impedance) ON state (Vlow) max. 1.2 VDC@40 mA current limit (15 Ω + 0.7 VDC)	
Output frequency	3.2 Hz to 200 Hz	
Output pulse width	5 msec ±25%	
Electrical cable for standard sensor electronics	6 m of 2-conductor 20 AWG shielded U.L. type PTLC wire provided for connection to display or analog transmitter unit. Rated to 105°C. May be extended to a maximum of 600 m with similar cable and insulation appropriate for application.	
Electrical cable for IR sensor electronics	1,2 m of U.L. style 116666 copper solid AWG 18 wire with direct burial insulation. Rated to 105°C.	

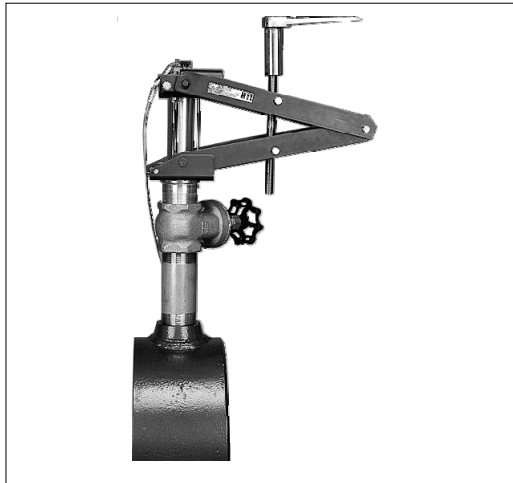
Dimensions of model 225 & 226



Note: All dimensions are for reference only. To remove the flow sensor there must be 35" of clearance above the outside

wall of the pipe. A cutting tool may require additional clearance.

Model HTT (hot tap tool)



Model 226 SS



200 series hot tap matrix (sizes 3" and up)

	Example:	2	25	BR	00	0	5	--	1	2	1	1
Style												
	Hot tap insert gate valve		25									
	Hot tap insert ball valve		26									
Material												
	Brass			BR								
	Stainless steel			SS								
Size												
	Insert style				00							
Electronics housing												
	PPS					0						
Electronics												
	Magnetic						2					
	FM/CSA approved						4					
	Standard						5					
	IR-irrigation						6					
O-ring												
	Viton®							0				
	EPDM							1				
	Kalrez®							2				
	Food grade silicone							3				
	Neoprene							4				
	Chemraz®							5				
	Teflon encapsulated Viton®							6				
	Teflon encapsulated Silicone							7				
	Buna N							8				
Shaft												
	Zirconia ceramic								0			
	Hastelloy C								1			
	Tungsten carbide								2			
	Titanium								3			
	Monel								5			
	316 stainless steel								6			
	Tantalum								7			
Impeller												
	Nylon										1	
	Tefzel®										2	
Bearing												
	Pennlon											1
	Tefzel®											2
	Teflon®											3