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**STANDARD MODEL 140 SENSOR  
SINGLE MOUNT PACKING GLAND THREAD-O-LET  
INSTALLATION**

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Single Mount Packing Gland Thread-o-let Installation. It has a very simple and easy weld fitting with packing gland type of insertion. This basic sensor can be used on pipes from 1/2" to 48", as long as the flowing pressure does not exceed the design limitations. For higher flow conditions and larger pipes see Model 172.

**SPECIFICATIONS:**

Sensor: 316 Stainless Steel is standard. Monel, Hastelloy, C-20, and others are available.

Weld Fitting: 3000# Carbon Steel is standard. 316 Stainless Steel and others are available.

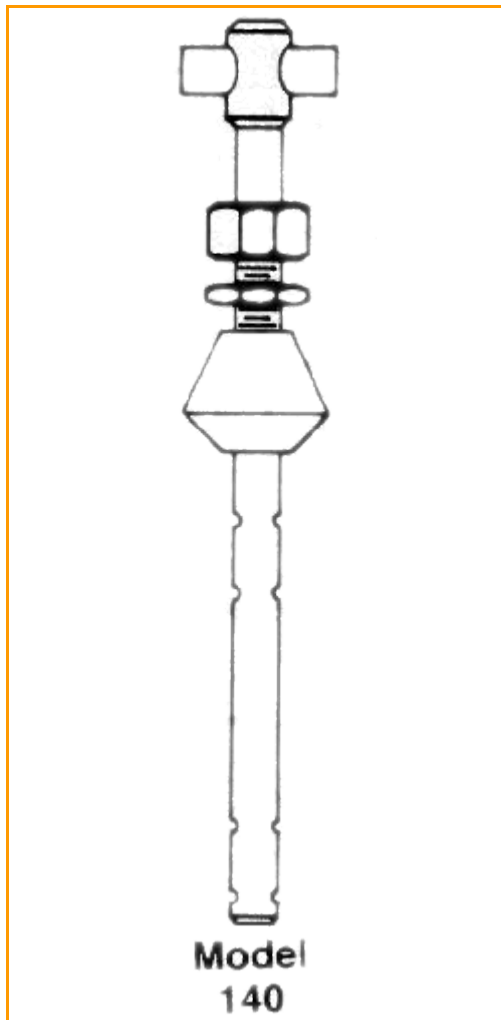
Packing Gland: Carbon Steel is standard. 316 Stainless Steel and others are available.

Pressure Rating: 500 PSIG.

Temperature Rating: 325 Degrees Fahrenheit - Higher temperatures can be used at lower pressure if high temp valves are used.

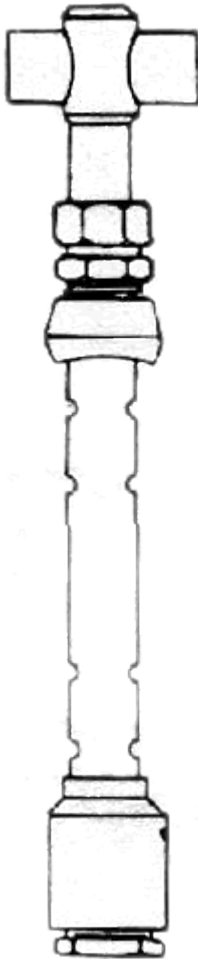
Mounting: Round pipes, round or square ducts, saddle clamps, Carbon Steel, PVC, or Stainless Steel.

Instrument Valves: 1/4" NPT brass standard. Other options available.



**STANDARD MODEL 172 SENSOR  
DOUBLE MOUNT PACKING GLAND THREAD-O-LET  
INSTALLATION**

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**Model  
172**

Installation: This basic sensor can be used on pipes from 4" to 96" as long as the flowing pressure does not exceed the design limitations. It has a very simple and easy weld fitting with packing gland type of insertion with Stainless sleeved double mount.

**SPECIFICATIONS**

Sensor: 316 Stainless Steel is standard. Monel, Hastelloy, C-20, and others are available.

Weld Fitting: 3000# Carbon Steel is standard. 316 Stainless Steel and others are available.

Packing Gland: Carbon Steel is standard. 316 Stainless Steel and others are available.

Pressure Rating: 500 PSIG.

Temperature Rating: 325 Degrees Fahrenheit - Higher temperatures can be used at lower pressure if high temp valves are used.

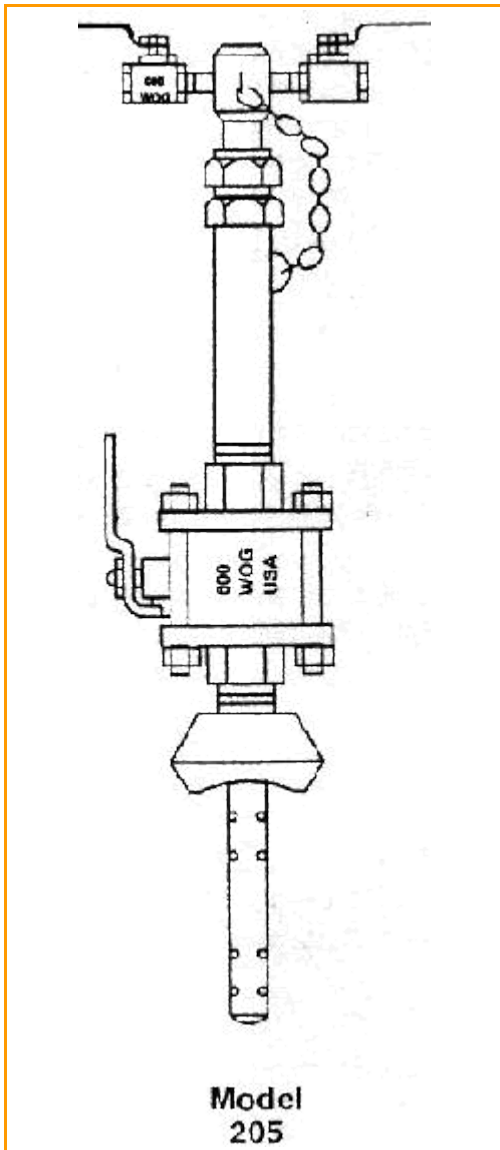
Mounting: Round pipes, round or square ducts, saddle clamps, Carbon Steel, PVC, or Stainless Steel.

Double Mount: Carbon Steel Bosset fitting, with special S.S. liner and C.S plug.

Instrument Valves: 1/4" NPT brass standard. Other options available.

**STANDARD HOT-TAP MODEL 205 SENSOR  
LOW TO MEDIUM PRESSURE HOT-TAP**

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Low to Medium Pressure Hot-Tap. This sensor makes it possible to install and remove without shutting down the system. This model has a safety chain to prevent the pressure from pushing it out of the isolation sections of the hot tap mounting device. Systems for Industry's hot-tap sensors are all 316 Stainless Steel except isolation valve, close nipple, weld fitting, and safety chain. Other options are available.

**SPECIFICATIONS:**

Sensor: 316 Stainless Steel is standard. Monel, Hastelloy, C-20, and others are available.

Weld fitting: 3000# Carbon Steel is standard. 316 Stainless Steel and others are available.

Support nipple: Schedule 160 Carbon Steel is standard. 316 Stainless Steel and others are available.

Isolation valve: Bronze is standard. Carbon Steel or 316 Stainless Steel are available.

Isolation nipple: Carbon Steel seamless pipe sch. 80 is standard. 316 S.S. seamless pipe Sch. 80 is optional.

Packing gland: Must match the type of steel in the isolation nipple. C.S. packing gland has a S.S. nut. Choice of nylon, zytel or teflon compression ring.

Pressure rating: 160 PSIG **\*\*DO NOT EXCEED\*\***

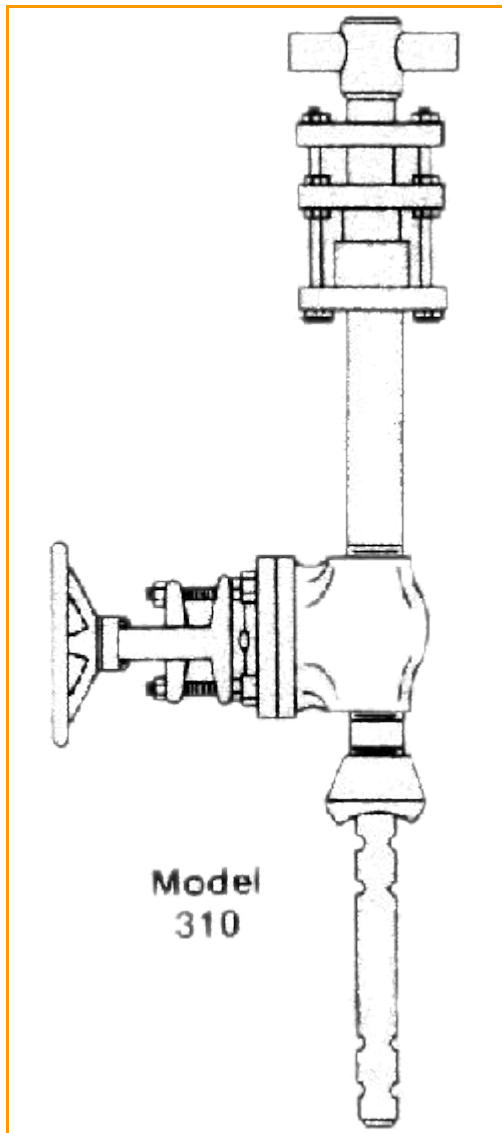
Temperature Rating: 200 Degrees Fahrenheit **\*\*DO NOT EXCEED\*\***

Mounting: Round pipes, round or square ducts (thick wall); saddle clamps of Stainless Steel or Carbon Steel.

Instrument Valves: ?" NPT brass standard. Other options available.

## STANDARD HOT-TAP MODEL 310 SENSOR HIGH PRESSURE HOT-TAP

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This sensor can be installed under high pressure without shutting down the system. Imperial has corrected the common problem of single nut tightening, by using the heavy duty tie rods system of tightening the packing gland. No extra tools are needed. The Stainless Steel tie rods assure easy insertion or retractions. Imperial Hot-Tap Models are all Stainless Steel except isolation valve, close nipple, and weld fitting.

### SPECIFICATIONS:

Sensor: 316 Stainless Steel is standard. Monel, Hastelloy, C-20, and others are available.

Weld fitting: 3000# Carbon Steel is standard. 316 Stainless Steel and others are available.

Support nipple: Schedule 160 Carbon Steel is standard. 316 Stainless Steel and others are available.

Isolation valve: Forged steel OS & Y gate valve. 316 Stainless Steel optional.

Packing gland: H.T. steam valve packing.

Pressure rating: 800 PSIG.

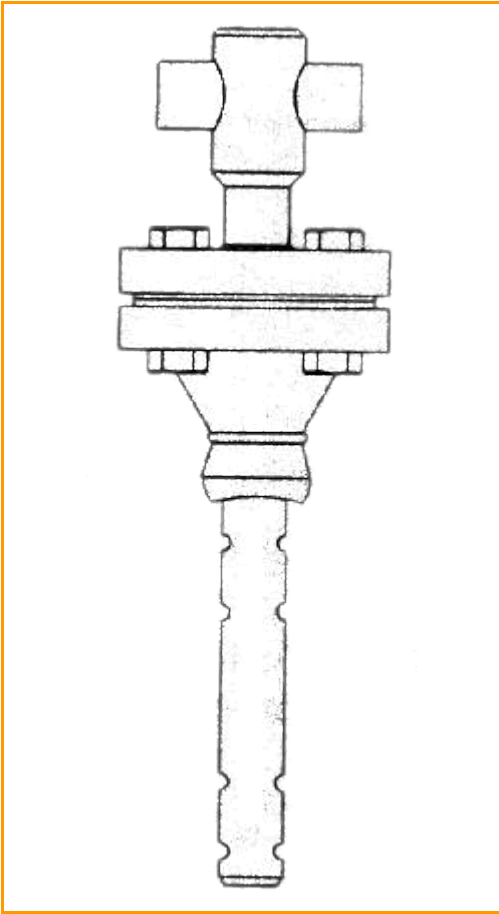
Temperature Rating: 850 Degrees Fahrenheit.

Mounting: Round pipes, round or square ducts (thick wall); saddle clamps of Stainless Steel or Carbon Steel.

Instrument Valves: 1/2" NPT brass standard. Other options available.

**MODEL 401 SENSOR. STANDARD FLANGED UNIT  
HIGH TEMPERATURE AND PRESSURE**

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This sensor is designed for use in high temperature and high pressure conditions where conventional type of mounting would be unsafe or would not fit the existing pipe code. The "T" design of the sensor head allows for easy connections to the instrument signal lines. Weld fitting and weld neck are position welded to avoid problems for the installer.

**SPECIFICATIONS:**

Sensor: 316 Stainless Steel is standard. Monel, Hastelloy, C-20 and others are available.

Sensor Flange: 316 Stainless Steel, 150# R.F. standard, 300# to 2500# available.

Mounting: Weld Neck 150# Carbon Steel, R.F. sized to fit pipe and sensor. 300# to 2500# available, other alloys also available.

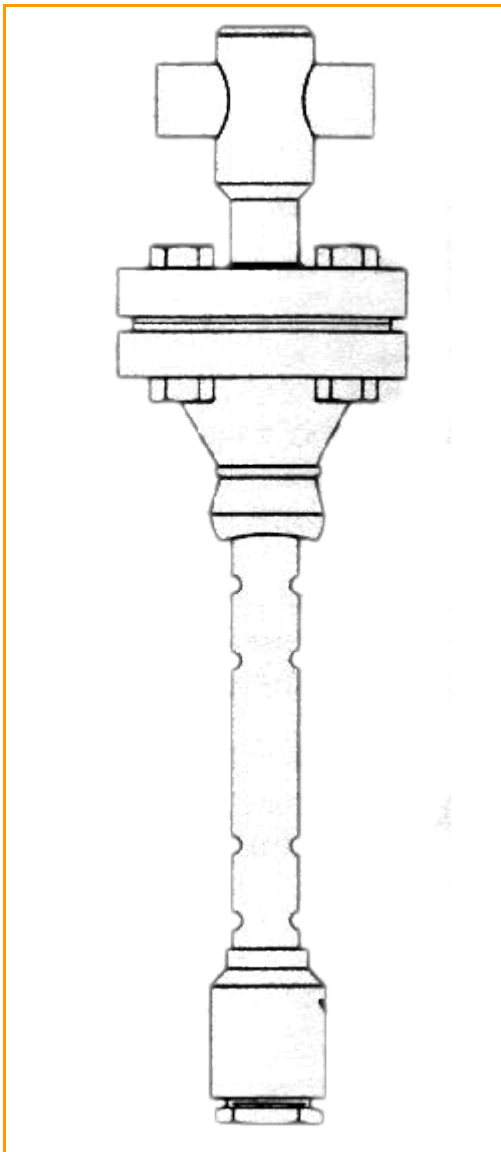
Weld Fitting: 3000# Carbon Steel standard. 316 Stainless Steel and others available.

Gasket: Appropriate to application.

Pressure rating: Limitation of flange.

Temperature rating: Limitation of flange.

Instrument valves: 1/2" brass standard. Others available appropriate to application.



**MODEL 421 SENSOR DOUBLE MOUNT. STANDARD FLANGED UNIT  
HIGH TEMPERATURE AND PRESSURE**

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This sensor is designed for use in high temperature and high pressure conditions where conventional types of mounting would be unsafe or would not fit the existing pipe code. The "T" design of the sensor head allows for easy connections to the instrument signal lines. Weld fitting and weld neck are position welded to avoid problems for the installer. Also has a double mount support for high flowing conditions.

**SPECIFICATIONS:**

316 Stainless Steel is standard. Monel, Hastelloy, C-20, and others are available.

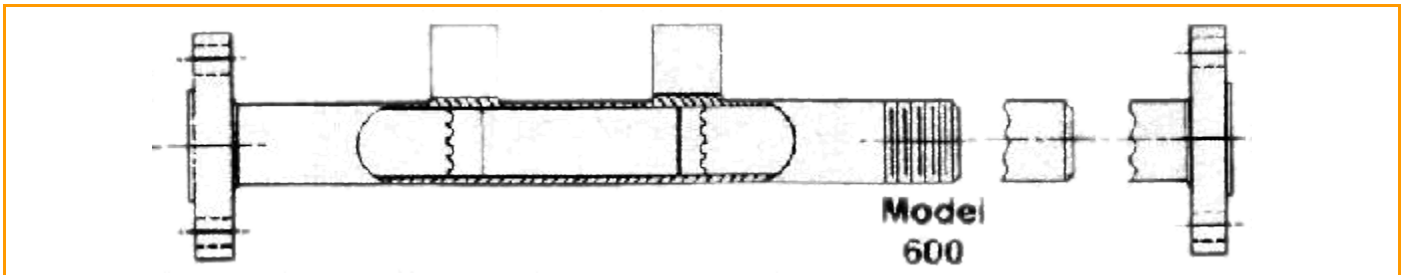
316 Stainless Steel, 150# R.F. standard, 300# to 2500# available.

150# Carbon Steel, R.F. sized to fit pipe and sensor. 300# to 2500# available.

3000# Carbon Steel standard. Stainless Steel and others available.

Carbon Steel Bosset fitting with special S.S. liner C.S plug

1/2" brass standard. Others available appropriate to application.



**INLINE MODEL 600**

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This type of sensor is especially useful in the small pipe size of 1/2" to 3" where Imperial uses two small independent sensor tubes placed so that pressure loss will be at a minimum, and will withstand extremely high flow rates. This type of sensor application is used when you want the accuracy and convenience of a read to install meter section of high quality seamless pipe with the sensor installed to Imperial's high quality standards. Meter runs are provided in Carbon Steel, Stainless Steel, copper, aluminum, CPVC or others.

**SPECIFICATIONS:**

Pipe size ?" to 6", schedule 40 or 80.

Pipe length 8". Other lengths available. 10 times pipe diameter minimum recommended

Pipe material: Carbon Steel, Stainless Steel, copper, aluminum, CPVC, or others.

Sensor: 316 Stainless, choice of permanent installation or removable.

Instrument Valves: ?" Brass standard. Others available appropriate to application.

Ends: Threaded, flanged, or weld cut.

### **MODEL 737 SUPER DUTY FLANGED MODEL. SINGLE MOUNT.**

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This sensor is used in large line sizes where additional strength is needed due to high flow conditions or the inside of the pipe is too large for the smaller diameter sensors. Imperial builds these sensors out of 2 3/8" O.D. Stainless Steel to assure strength, long life, and trouble free operations.

#### **SPECIFICATIONS:**

Sensor: 316 Stainless Steel, 2 3/8" O.D. is standard. Monel, Hastelloy, C-20, and others are available.

Sensor flange: 316 Stainless Steel R.F. 150# 3" is standard. Other material and ratings available. 300# to 2500#.

Weld Neck: 150# R.F. 3" Carbon Steel is standard. Other material and ratings available, 300# to 2500#.

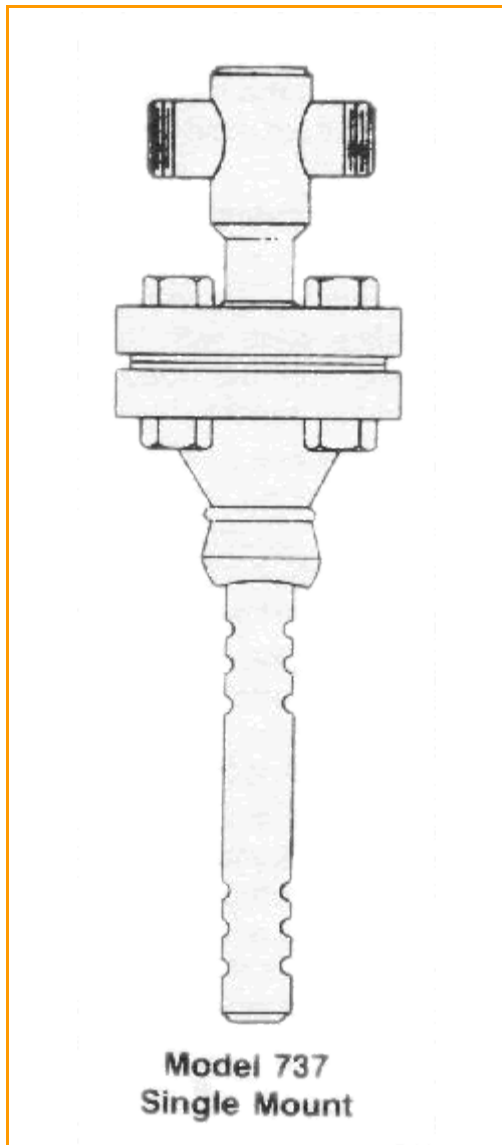
Weld Fitting: 3000# 3" carbon Steel is standard. Other material available.

Gasket and Bolts: Flexitallic gasket is standard. Bolts and other material available appropriate to application.

Pressure: Flange limitation. Temperature: Flange limitation.

Instrument Valves: ?" brass valve standard. Others available appropriate to application.

Note: Water Cooled or Heated Options available on Model 737 & 747.



**MODEL 747 SUPER DUTY FLANGED UNITS. DOUBLE MOUNT.**

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This sensor is used in large lines where the need for a double mount is necessary due to severe conditions or large diameter pipes, ducts, smoke stacks, sewer lines, or waste water plants. This Imperial sensor will accept very high differential pressures.

**SPECIFICATIONS:**

Sensor: 316 Stainless Steel, 2 3/8" O.D. is standard. Monel, Hastelloy, C-20, and others are available.

Sensor flange: 316 Stainless Steel R.F. 150# 3" is standard. Other material and ratings available. 300# to 2500#.

Weld Neck: 150# 3" R.F. Carbon Steel is standard. Other material and ratings available, 300# to 2500#.

Weld Fitting: 3000# 3" Carbon Steel is standard, 300# to 2500# also available. Other material available.

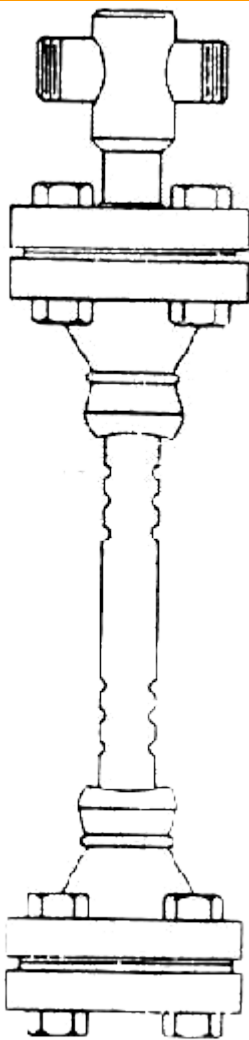
Double Mount: 3000# weld fitting with a 150# weld neck and a special Stainless Steel liner. Gasket and 150# blind R.F. flange.

Gasket and Bolts: Flexitallic gasket is standard. Bolts and other material available appropriate to application.

Pressure: Flange limitation. Temperature: Flange limitation.

Instrument Valves: 1/2" brass valve standard. Others available appropriate to application.

Note: Water Cooled or Heated Options available on Model 737 & 747.

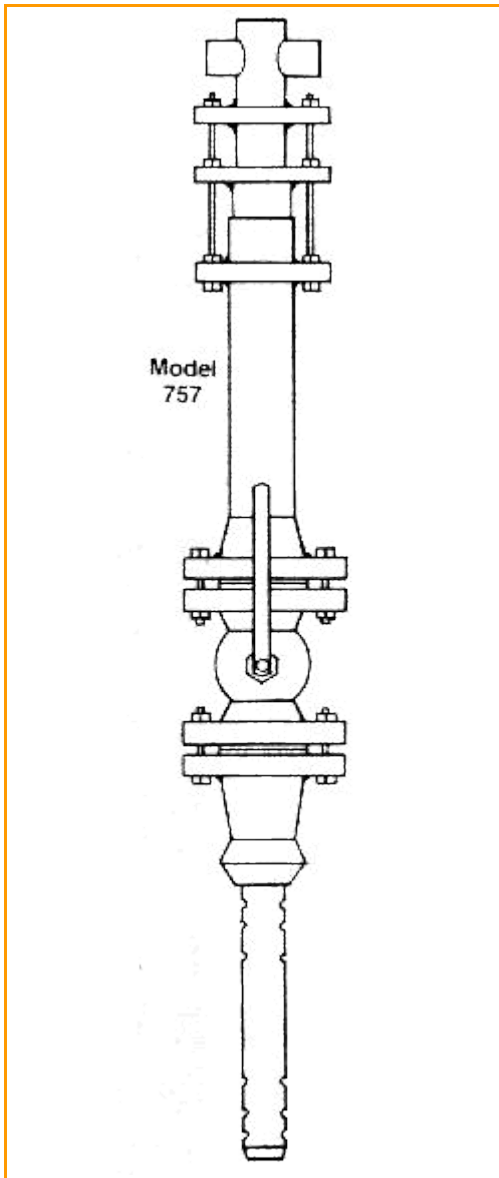


**Model 747  
Double Mount**



## MODEL 757 SUPER DUTY HOT-TAP

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This sensor is ideally suited for line sizes from 16" to 60" when very high differentials are present, or large line sizes which require more strength than can be provided by the standard sensor. This sensor can be installed or retracted under pressure or without shutting down the system. The 5/8" diameter tie rod made of stainless steel will give service without rusting.

### SPECIFICATIONS:

Sensor: 316 Stainless Steel, 2 3/8" O.D. is standard. Monel, Hastelloy, C-20, and others are available.

Sensor flanges: 316 Stainless Steel standard. Others available.

Mounting: 3" 3000# Carbon Steel welding fitting with 150# weld neck standard. Others available to match isolation valve.

Packing seal: H.T. steam valve packing.

Isolation valve: 3" 105# Carbon Steel ball valve R.F. flanged or others.

Isolation nipple: 3" 316 Stainless Steel. Schedule 40.

Gasket and Bolts: Flexitallic gasket is standard. Bolts and other material available appropriate to application.

Pressure Rating of isolation valve is ANSI 150# standard. 300# available.

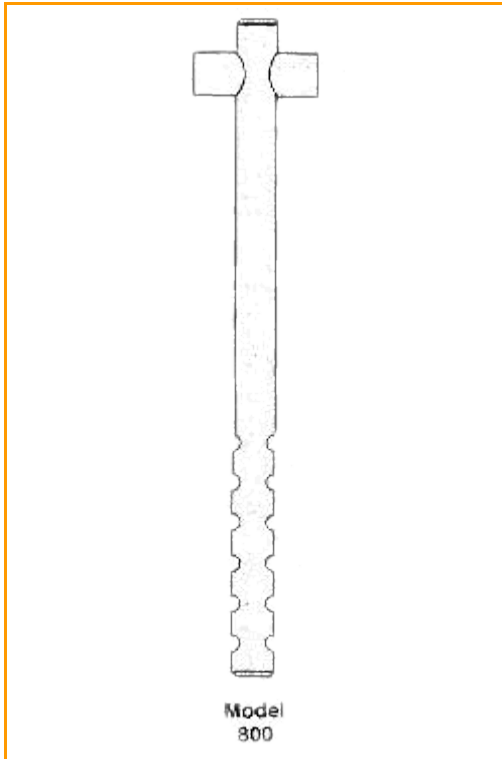
Temperature Rating of isolation valve is ANSI typical at 400 Degrees Fahrenheit.

Instrument Valves: ?" brass valve standard. Others available appropriate to application.

Note: Water Cooled or Heated Options available on Model 737 & 747.

<--- MODEL 800 MULTI-PORT

MODEL 900 SINGLE PORT --->



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These sensors are a very useful and economical way of flow testing when you do not want a permanent installation. The multi-port is used on the same size pipe or duct. The single point is used when you are traversing many different pipe or duct sizes. The multi-port will give you test signal +/-1% of total flow. The single point will give you +/-2% of total flow.

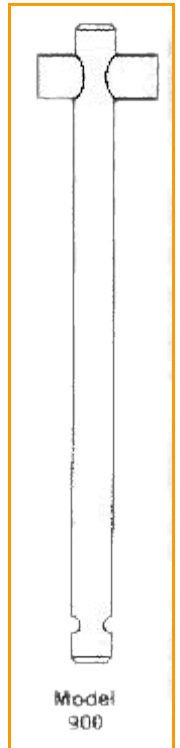
SPECIFICATIONS:

Sensor: 316 Stainless Steel or 6063 aluminum.

Sensor Diameter: Depends on length of the test sensor.

Instrument Connection: 1/4" Brass male hose barbs standard.

1/4" Brass Ball valves available.



Mounting: Weld fitting and plug Carbon Steel or other (usually hand held) Model 140 mounting available.

Pressure: N/A Temperature: N/A