

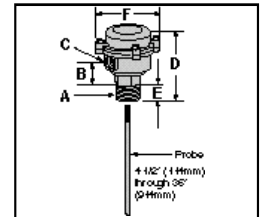
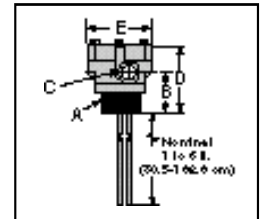
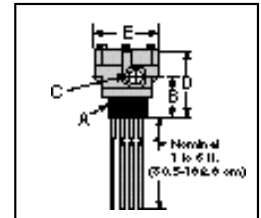
**Series RS – High Pressure Sensors & Probes
For Conductance Actuated Controls****Series RS Sensors****Series-RS-X-BR-1:**

- NEMA 4X Enclosure
- For sophisticated multi-level control in tanks, boilers and hydronic systems
- Remote sensors, which thread into the top of the boiler or tank, are available with 1, 2, 3, 4 or 5 probes of varying lengths that can easily be cut to desired set points
- Probe lengths 12 - 72" (2.5 - 183cm) in 12" (2.5cm) increments (purchased separately)
- Control, remote sensor and probe(s) must be ordered separately. Order Spacer S-4 when 2 or more probes greater than 36" (914mm) will be used
- No blow down required
- Maximum Temperature 406°F (208°C)
- Maximum Pressure 250 psig (17.6 kg/cm)

High Pressure Remote Sensors and Probes

Model Number	Part Number	Description	Weight lbs. (kg)
RS-1-BR-1	179524	Remote Sensor; 1 level	1.7 (.8)
RS-2-BR-1	179525	Remote Sensor; 2 levels	3.3 (1.5)
RS-3-BR-1	179526	Remote Sensor; 3 levels	3.3 (1.5)
RS-4-BR-1	179527	Remote Sensor; 4 levels	4.0 (1.8)
RS-5-BR-1	179528	Remote Sensor; 4 levels for non-metallic tanks	4.3 (1.95)

See page 73 for probe rods.

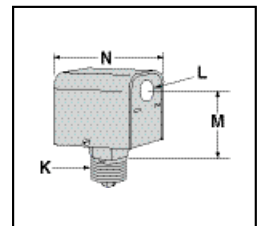
**High Pressure Remote Sensor Model RS-1-BR-1****High Pressure Remote Sensor Model RS-2-BR-1 Model RS-3-BR-1****High Pressure Remote Sensor Model RS-4-BR-1 Model RS-5-BR-1****Dimensions, in. (mm)**

Remote Sensor	A	B	C
1 Probe	1 NPT	1 ¹ / ₁₆ (43)	1/2 NPT
2 or 3 Probes	2 NPT	2 ¹ / ₃₂ (59.5)	1/2 NPT
4 or 5 Probes	2 ¹ / ₂ NPT	2 ¹⁵ / ₃₂ (63)	1/2 NPT

Remote Sensor	D	E	F
1 Probe	4 ⁹ / ₁₆ (116)	1 ¹ / ₄ (32)	3 ¹ / ₄ (83)
2 or 3 Probes	3 ⁷ / ₈ (98)	4 (102)	-
4 or 5 Probes	4 (102)	4 (102)	-

RS-1-HP**Series-RS High Pressure Remote Sensor:**

- NEMA 1 Enclosure
- Maximum Temperature 406°F (208°C)
- Maximum Pressure 250 psig (17.6 kg/cm)
- For single sensor applications with high-pressure environments. Requires additional probe rod. See page 73.

**Remote Sensor Model RS-1-HP****Ordering Information**

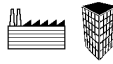
Model Number	Part Number	Description	Weight lbs. (kg)
RS-1-HP	176199	High pressure remote sensor	0.5 (.23)

Dimensions, in. (mm)

Model	K	L	M	N
RS-1-HP Remote Sensor	3/8 NPT	7/8 (22)	3 (80)	3 3/8 (86)

Sensors – High Pressure

Series 750B-C3 Chamber with 3 Probes



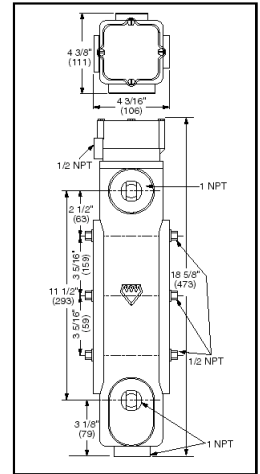
Series 750B-C4 Chamber with 4 Probes

Specifications Chamber

- NEMA 4X chamber enclosure and listed
- Maximum steam pressure 250 psig (17.6 kg/cm²)
- Designed for use with the Series 750B remote mount control module to make a complete system for level control in a boiler or other vessel. See page 78.

Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
750B-C3	176316	Cast iron chamber w/3 probes	26 (11.8)
750B-C4	176317	Cast iron chamber w/4 probes	26 (11.8)

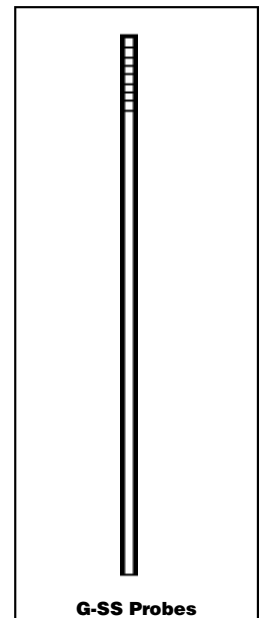
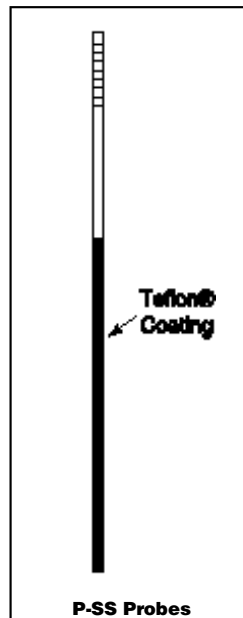


Probe Rods

- Stainless steel - Series 316 material
- Teflon® coated probe ends provide protection from false signals [available on 24-72" (610 - 1829mm) probes]
- For use with RS sensors

Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
G-2-SS	179156	24" (610mm) Ground Probe	1.0 (.5)
G-3-SS	179157	36" (914mm) Ground Probe	1.5 (.7)
G-4-SS	179158	48" (1219mm) Ground Probe	2.0 (.9)
G-5-SS	179159	60" (1524mm) Ground Probe	2.5 (1.1)
G-6-SS	179160	72" (1829mm) Ground Probe	3.0 (1.4)
P-1/3 SS	176208	4 1/2" (114mm) Probe	0.5 (.23)
P-1-SS	179530	12" (305mm) Probe	0.5 (.23)
P-2-SS	179535	24" (610mm) Probe w/Teflon®	1.0 (.5)
P-3-SS	179540	36" (914mm) Probe w/Teflon®	1.5 (.7)
P-4-SS	179545	48" (1219mm) Probe w/Teflon®	2.0 (.9)
P-5-SS	179550	60" (1524mm) Probe w/Teflon®	2.5 (1.1)
P-6-SS	179555	72" (1829mm) Probe w/Teflon®	3.0 (1.4)



Selecting control according to anticipated use, the sensor should be selected according to the number of probes required. The probe rods are ordered separately according to length needed. The control, sensor and each probe rod must be specified separately, using the appropriate model and part numbers.

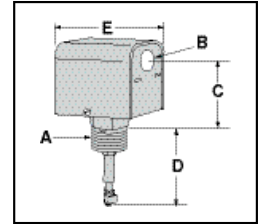
Sensors – Low Pressure

RS-1-LP



- Maximum Water Temperature: 250°F (121°C) Model RS-1-LP
- Maximum Water Pressure: 160 psi (11.2kg/cm²) Model RS-1-LP
- Maximum Steam Pressure: 15 psig (1.0 kg/cm²)
- Can be installed in horizontal orientation

NOW WITH SELF-CLEANING PROBE!



Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
RS-1-LP	176203	Remote Sensor	3.0 (1.4)
RS-1-LP-S	176218	Remote Sensor w/short probe	3.0 (1.4)

Dimensions, in. (mm)

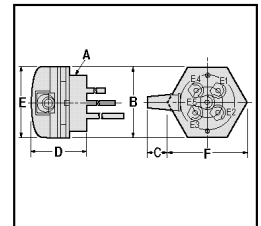
A	B	C	D	E
NPT				
3/4	7/8 (22)	3 (80)	2 3/4 (70)	3 3/8 (86)

AS-5S

- One to five probes available for multiple functions. For use on tanks and vessels vented and at atmospheric pressure only. Up to 3 probe rods can be joined for 10 ft. length. Use separator at each joint.

Series-AS Ambient Remote Sensor:

- NEMA 1 Enclosure
- Maximum Temperature: 120°F (49°C)
- Maximum Pressure: 0 psig

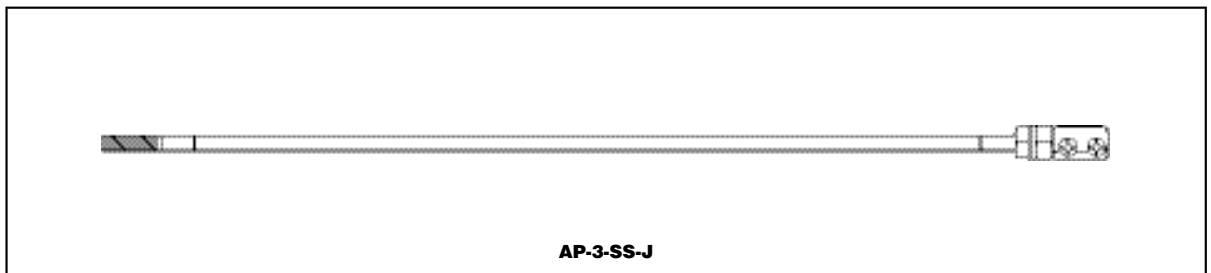


Dimensions, in. (mm)

A	B	C	D	E	F
2" NPT	3 5/8 (92)	1 1/32 (26)	2 3/8 (60)	3 5/32 (80)	3 5/32 (80)

Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
AS-5S	176230	Remote sensor: 4 levels for all tanks	.5 (.23)
AP-3-SS-J	176231	39" (991mm) SS Ambient Probe Rod	1.0 (.5)



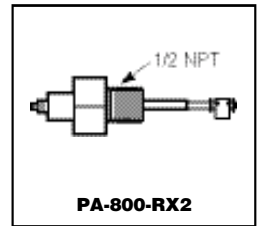
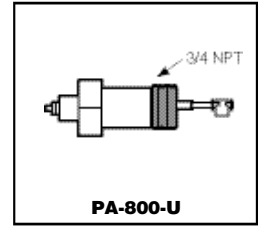
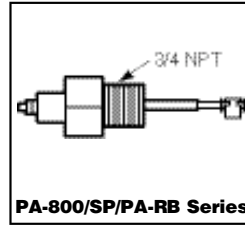
Replacement Electrode Assemblies

PA-800 Series Low Pressure

- Maximum Ambient Temperature: 120°F (49°C)
- Maximum Water Temperature: 250°F (121°C)
- Maximum Water Pressure: 160 psi (11.2 kg/cm²)

Ordering Information

Model Number	Part Number	Control/Sensor Used On	Rod Req.	Weight lbs. (kg)
PA-800	354081	PS-800 Series & RS-1-LP		0.5 (.23)
PA-RB-122	354083	RB-122, RS-1-LP-S & RB-120		0.5 (.23)
PA-800-RX2	354140	PS-800-RX Series		0.5 (.23)
PA-800-U	354141	PS-800-U Series		0.5 (.23)



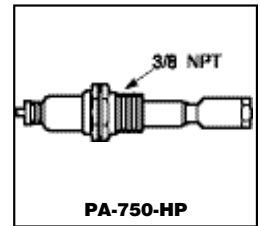
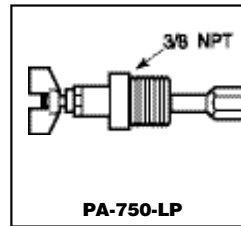
PA-750 Series High Pressure

Operating Range:

- Maximum System Pressure: 250 psi
- Maximum Temperature at Electrode: 406°F (121°C)

Ordering Information

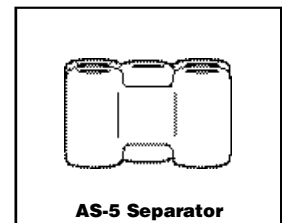
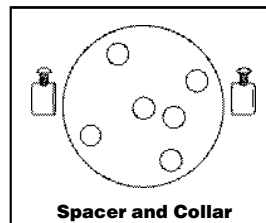
Model Number	Part Number	Control/Sensor Used On	Rod Req.	Weight lbs. (kg)
PA-750-LP	176318	750P Series	X	0.5 (.23)
PA-750-HP	176319	750B-C & RS-BR Series	X	0.5 (.23)



Accessories

Ordering Information

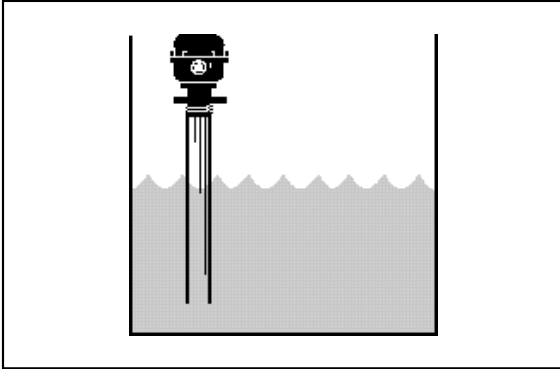
Model Number	Part Number	Description	Weight lbs. (kg)
S-4	179529	Spacer use with RS sensors and P&G probes	3.0 (1.4)
AS-5	176232	Separator (use only with AS-5S sensor & AP probes)	1.0 (.4)



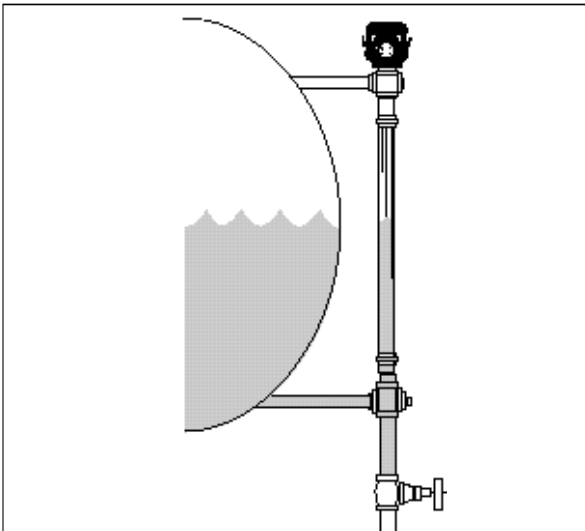


Remote Sensor Location

The location of the remote sensor is not limited to mounting on top of a tank. Depending on the application, it may be decided to mount the remote sensor in a stillwell or equalizing line. The following diagrams show typical locations for several applications.



Open tanks or vessels will probably require mounting the remote sensor on a stillwell to dampen the liquids' wave action. Use 3" or 4" perforated plastic drain pipe with a flange to thread connection at the top. The stillwell can rest on the bottom of the tank or be suspended and secured with brackets.



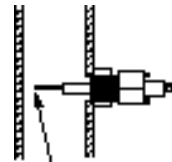
Mounting the remote sensor in an equalizing pipe is an alternative to top mounting. The equalizing pipe should be at least a 2" pipe and have a drain valve at the bottom for flushing.

Probe Installation

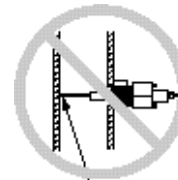
All boiler manufacturers designate the preferred (and sometimes secondary) location for installation of the probe on their boiler. They have determined that this location is above the minimum safe water level and provides the 1/4" clearance needed to ensure the probe is not grounded. Always install the probe in these locations, especially on a hot water boiler. If installed in other locations on a hot water boiler, this area could be prone to develop an air pocket.

Installation in piping external to the boiler on hot water systems has its own pitfalls. The first problem is if the probe is too long. If the probe touches the wall of the pipe, the circuit is completed and the LWCO "thinks" there is water in the system. If the water level drops below the level of the probe in this situation, the burner circuit will never be interrupted and a dry-fire could occur.

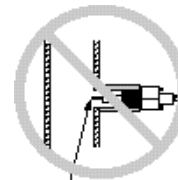
The most common problem with installation on hot water systems occurs when installing the probe in copper pipe. The sweat to thread adapters installed could result in the probe not being inserted in the pipe. An air pocket could develop or scale bridging could occur. While an air pocket causes nuisance shutdown of the boiler, scale bridging can result in a dry-fire if the water drops below the level of the probe. Always make sure at least 1/2 the length of the probe is in the run of the pipe to ensure proper operation.



Make sure tip of probe is in pipe with 1/4" clearance from wall of pipe.



If probe is installed too close to boiler wall, an electrical short could occur.

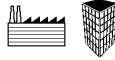


If probe is installed with extensions, an air pocket could develop shutting down the boiler. Debris could develop which can cause an electric short, rendering the low water cut-off ineffective.



Valves

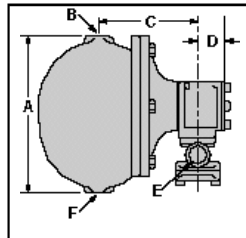
Series 3155 Liquid Level Control



- For medium and large solvent still applications that require a regulator
- High capacity feed
- Not a positive shut-off valve
- Monel bellows
- Stainless steel valve disc and silicon bronze seat
- Maximum supply pressure 25 psi (1.8 kg/cm²)
- Maximum vessel pressure 15 psi (1 kg/cm²)
- Maximum inlet water temperature 120°F (49°C)



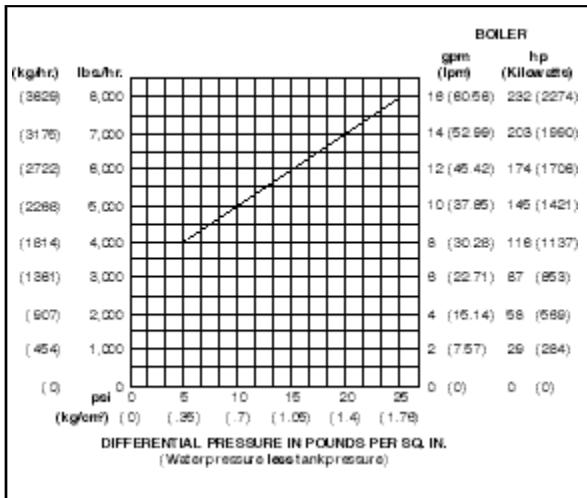
Series 3155



Dimensions, in. (mm)

A	B	C	D	E	F
10½ (267)	1 NPT	6¼ (170)	2 (51)	1 NPT	1 NPT

Capacities



Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
3155	137700	Regulator	37 (16.8)

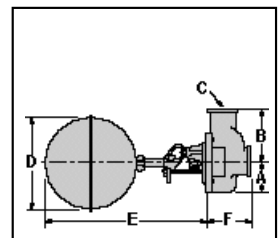
Series 27-W Liquid Level Controls



- For commercial and industrial liquid level open tank applications
- Materials of construction
 - Brass
 - Monel valve seat, EPDM disc
- Maximum pressure 35 psi (2.5 kg/cm²)
- Maximum supply pressure 100 psi (7 kg/cm²)
- Minimum liquid temperature 40°F (4.4°C)
- Maximum liquid temperature 212°F (100°C)



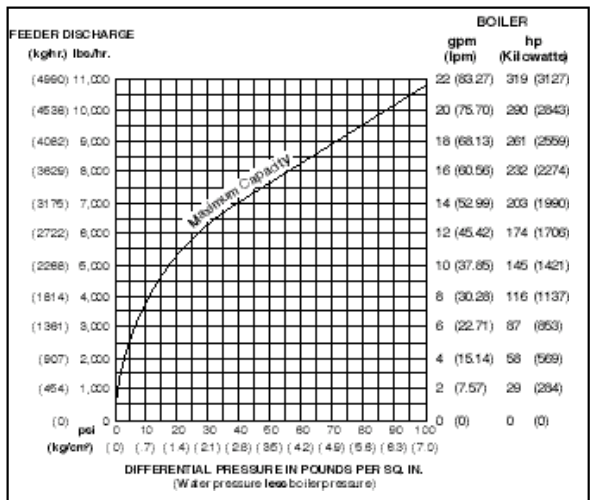
Series 27-W



Dimensions, in. (mm)

A	B	C	D	E	F
1⅞ (40)	2⅞ (73)	¾ NPT	5 (127)	8⅝ (219)	2⅞ (72)

Capacities

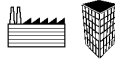


Ordering Information

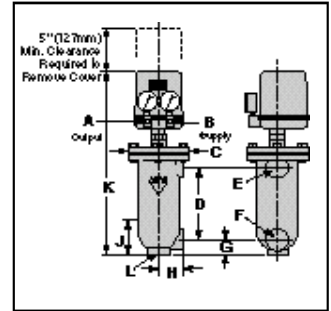
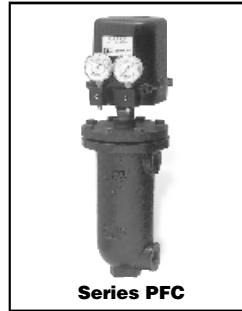
Model Number	Part Number	Description	Weight lbs. (kg)
27-W	127200	Liquid level control	5 (2.3)

Float Actuated Pneumatic

Series PFC Liquid Level Controls



- For the actuation of pneumatic valves or relays in heating, air conditioning and process systems in hazardous or non-hazardous locations
- Provides an air pressure signal proportional to the liquid level
- Available as Direct Acting or Reverse Acting
- A float operated armature senses the liquid level
- Switch mechanism is completely sealed from the liquid
- Two gauges are provided to display the supply and output pressures
- Alternate air connection tapings are provided for greater flexibility in piping
- Operating range: 1 - 2" (25 - 51mm)
- Air pressure
 - Supply 20 psi (1.4 kg/cm²)
 - Output 3 - 15 psi (.2 - 1 kg/cm²)
- Maximum water temperature 406°F (208°C)
- Maximum pressure 250 psig (17.6 kg/cm²)



Dimensions, in. (mm)

A NPT	B NPT	C	D	E NPT	F NPT	G	H	J	K	L NPT
1/8	1/8	7 (178)	8 (203)	1	1	1 3/4 (45)	2 5/8 (67)	4 (102)	20 3/4 (527)	1

Water Level Adjustment

Model	Type	Level Adjustment Range in. (mm)
PFC-1-G	Direct Acting	1 - 2 (25 - 51)
PFC-1-GR	Reverse Acting	1 - 2 (25 - 51)

Ordering Information

Model Number	Part Number	Description	Weight lbs. (kg)
PFC-1-G	180800	Direct acting pneumatic liquid level control	38.5 (17.5)
PFC-1-GR	180801	Reverse acting pneumatic liquid level control	38.5 (17.5)

Output Air

