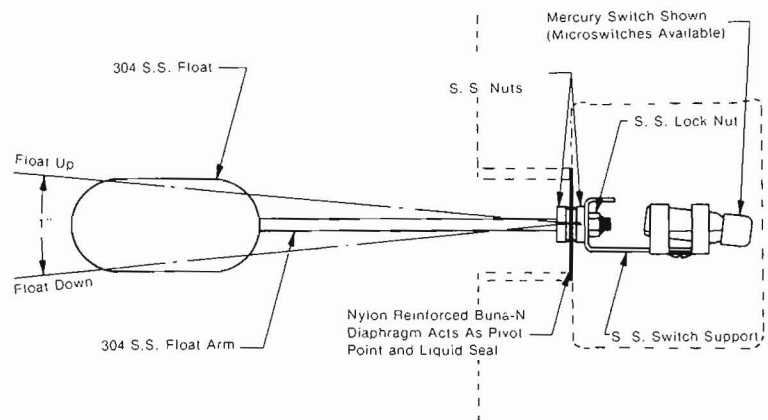
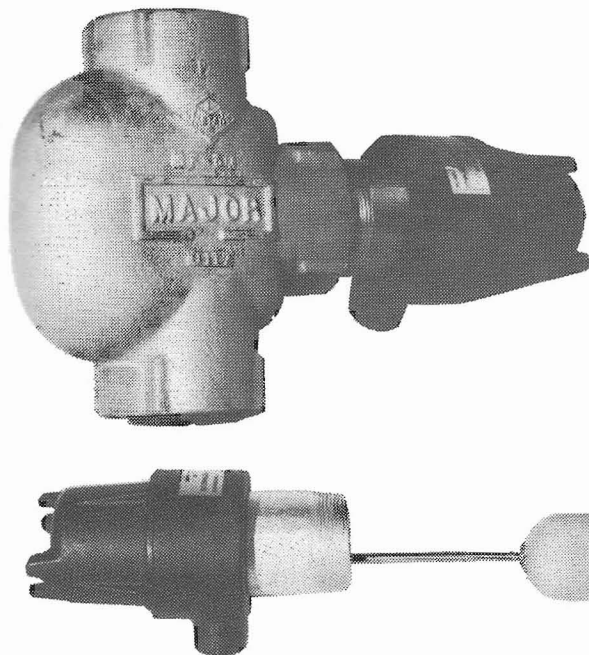


MAJOR CONTROLS, INC.

LIQUID LEVEL INDICATION & CONTROL

683S FLOATSWITCH FOR ATMOSPHERIC VESSELS



OPERATIONAL DRAWING

U. S. Patent 3,168,625

FUNCTION:

The Model 683S Floatswitch is a float type liquid level control which completes an electrical circuit to a pump, valve, alarm or

other device, when the liquid level in a vessel rises (or lowers) to a predetermined point.

FEATURES:

Corrosion Proof: All 304 SS float and arm. Cad plated steel vessel connection. Other materials available for more corrosive liquids.

No Wearing Parts: Due to the pivoting of the float arm on a diaphragm, sticking does not occur in thick or corrosive liquids.

Longer Life: Since there are no wearing parts, the replacement of stuffing boxes, etc. is eliminated.

Variety of Switch Outputs: The 683S Floatswitch can be obtained with mercury or microswitch outputs and in various combinations, ie.; SPST, SPDT, DPST, etc.

Adjustments: Nothing to adjust or get out of calibration on mercury switches. Microswitches can be adjusted from the outside when the floatswitch is installed on the vessel.

Lower Prices: Half the price of XP and 304 SS floatswitches in common use today.

Simple Installation: Float passes through a 2" nipple.

OPERATION:

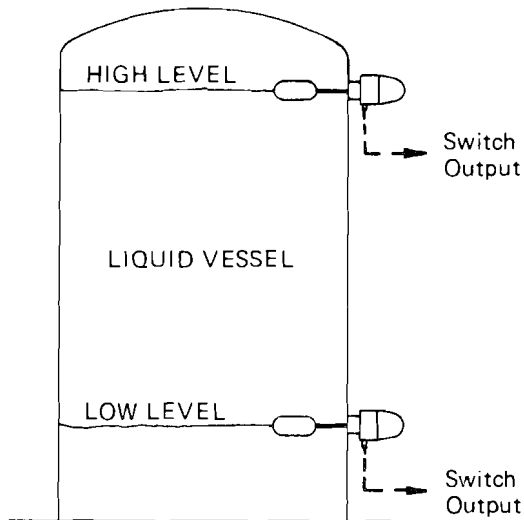
The float arm passes through a nylon reinforced diaphragm with a special nut on each side of the diaphragm (epoxy sealed threads). The switches are rigidly attached to the float arm by means of stainless steel supports. The diaphragm acts as a pivot

point for the float arm, and also as a seal between the vessel liquid and the switch housing. The maximum travel of the float between switch "make" and "break" is 1" for mercury switches and 1/4" for microswitches.

INSTALLATION:

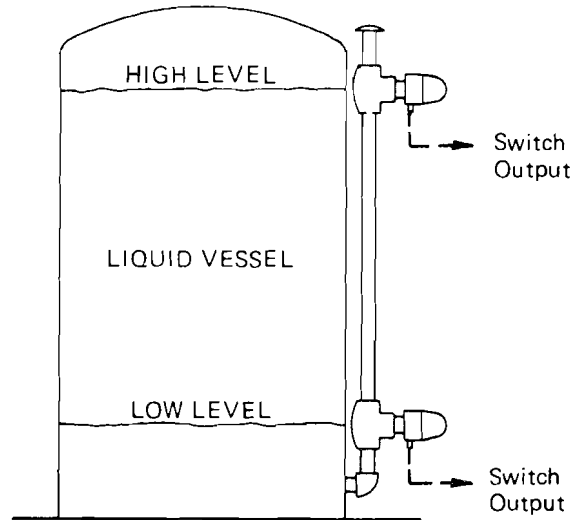
There are two methods of installing the floatswitch: one by mounting it directly on the vessel (Internal Type) and the second

by mounting the unit in an external float housing (External Type). Both methods are illustrated below.



INTERNAL TYPE

Install in 2" flange or half coupling. Float will pass through standard line pipe nipple only - do not use XH or XXH nipple. Special float available for XH or XXH nipple (consult factory).



EXTERNAL TYPE

Install on 2" riser connected to the tank below the level control point. If tank is under 2-4 ounces pressure, connect top of riser to tank or tank vent piping, if accurate level control is required.

SPECIFICATIONS:

MECHANICAL:

- Vessel Inlet Connection: 2" NPT, 2" - 150# ASA R.F. FLANGED or 2" GROOVED, Cad Plated Carbon Steel Standard. (See price sheet for variations of material).
- Diaphragm: Buna-N Standard (See price sheet for variations of materials).
- Float and Float Arm: 304 S.S. Standard (See price sheet for variations of material).
- External Float Housing: Cast Meehanite (Ductile)
- Operating Pressure: Atmospheric to 2 PSIG (at higher pressures the float is forced to the horizontal position).
- Operating Temperature: -20°F to +225°F (For higher or lower temperatures see Diaphragm Specifications in the Engineering Section)

ELECTRICAL:

- Switch Ratings: See Engineering Section for Switch Types and Ratings.
- Contacts: Normally Open on SPST Switches unless Normally Closed is specified.
- Electrical Connection: 1/2" Female Pipe Thread.

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DIMENSIONAL DRAWING

