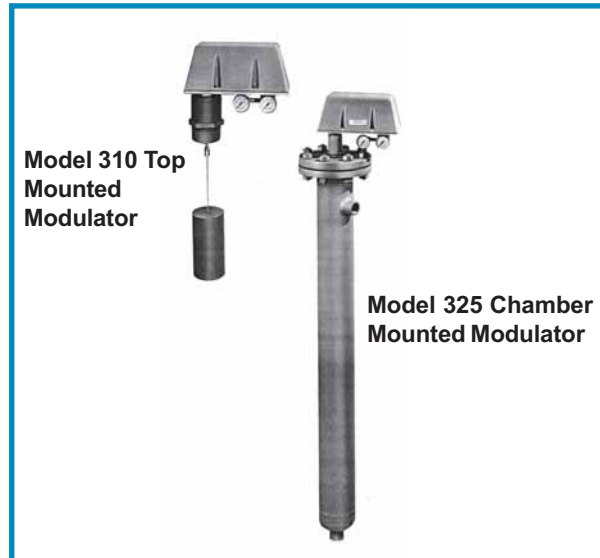




PRODUCT DATA SHEET

Model 300 Series

Pneumatic Modulating Liquid Level Controls



Variable level setting

Direct or reverse acting

Controlled stability

The true force balance principle produces a linear output

The Omnitrol Model 300 Series Pneumatic Modulating Liquid Level Controls

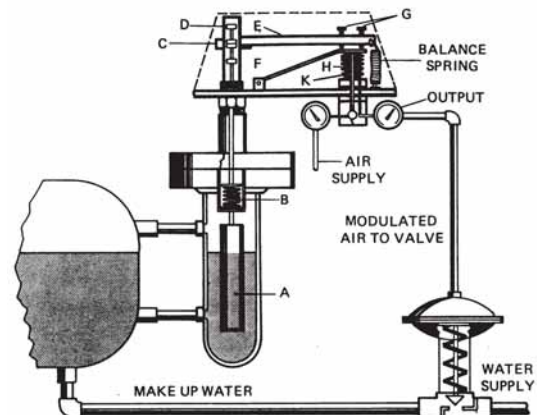
The Omnitrol Series 300 liquid level controls are displacer type units based on a balanced pneumatic modulating system and a constantly engaged magnetic field. This proven magnetic principle transmits force to a balance beam without the use of bellows, packing, or mechanical connection to the displacer assembly.

Direct mechanical actuation of the relay by the force balance beam eliminates nozzles, flappers, orifices and output boosters common to units of other manufacturers, and produces a linear output with absolute repeatability. The proportion band is fixed by the size and configuration of the displacer selected. By simply moving the level setting screw from one side of the pivot to the other, the instrument can be made direct or reverse acting. Level setting can be varied by adjusting the level setting screw.

Controls are available in top mount and chamber mount designs for applications utilizing storage tanks, pressure vessels, boilers and pumps.

As liquid level increases, the upward force on the displacer (A) is increased and partially unloads the displacer spring (B), this upward force is transmitted to the outer magnet (C) by means of the "constantly engaged" inner magnet (D). The "force balance beam" (E) transmits an equivalent force to the actuating arm

(F) by means of the level setting screw (G), and this motion compresses the bellows (H) and causes the exhaust tube (K) to open the inlet port and increase the output pressure to the control valve. The increased output pressure forces the valve plug closer to its seat, thereby restricting the flow to the vessel, and also resets the relay bellows with a feed-back force equal to the weight of the displaced liquid. A decrease in level increases the downward force on the displacer, allowing the exhaust tube to lift from the ball, bleeding off sufficient output pressure to allow the relay bellows to balance the displacer. Thus a linear modulated response to liquid level is attained and controlled. The reset action of the relay bellows allows the displacer to transmit force in a true balance action.





PRODUCT DATA SHEET

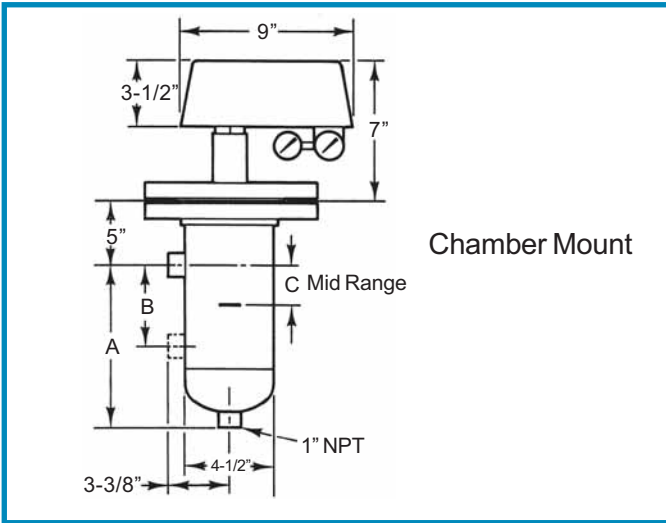
Model 300 Series
Pneumatic Modulating
Liquid Level Controls

MATERIALS OF CONSTRUCTION:

- Ceramic Magnets
- Inconel-X Displacer Spring
- SS Pivot Bearings
- Stainless Steel Spring
- Cast Iron Body Material
- Graphite Displacer

CONNECTIONS:

- Top Mount: 2-1/2" screwed, or 3 inch or larger flanged connections
- Chamber Mount:- 1" NPT or flanged if specified



Top Mount

Proportional Band in Inches	Dimensions in Inches		
	A	B	C
2-1/4, 3-1/2, or 5	19	14	7
8	29	24	12
12	41	36	18

All designs subject to change. Certified dimensions and specifications available upon request.

INFORMATION REQUIRED TO ORDER:

310 or 325 -A -B -C

