

Pneumatic Level Instruments For Oil Industries



Automat

... the level & gas people

Interface L.C Pg-1 Flex Tube L.C Pg-1,2 Micro Value L.C Pg-2 Internal Ball Float L.C Pg-3 Shut off Rellife Angle Valve Pg-4 Temperature Controller Pg-5 Thermometers P-6

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Interface Level Controller

(With Proportional Pneumatic Output) Model 400-4
(Similar to W/s. Invalco/Natco Model No. CTMF402/CTQ-402)

Introduction

The Interface Controller has amplifying relay, nozzle and flapper which operates with filtered air supply or gas. Automat liquid interface Controller consist of displacer mounted to the flex tube. This flex tube is attached to a standard flange. Mounted on the reverse side of the flange is the carrier assembly with adjusting screw, nozzle and relay with the orifice with cleaning device which has been provided to clean clogged orifice. The flex tube is tube which permits vertical motion only. The Automat flex tube shaft extension rod transmits the displacer motion from within the shaft to the nozzle. The displacer has been specially designed to sense liquid interface even for **specific gravity difference of 0.05**. The interface Controller can also be fitted in tanks & similar vessels for controlling the desired level of the liquid.

Principle of Operation

Liquid interface controller operates on the change in buoyant force on the displacer. This force is proportional to the volume of liquid that is displaced. Any change in the liquid level will produce the change in the position of flex tube end. This causes movement of the flex tube shaft to which flapper is connected.

A booster relay has been added to the control to speed the response time which helps to remove heavier liquid (water) at faster speed. The relay is enclosed in a pressure tight housing allowing for the remote release of vented gases and protecting the pilot and pressure gauges from the elements and hose spray cleaning operations.

Technical Specifications

Operating Mode	Pneumatic, On-off Direct or Reverse. (Reverse action obtained by rotating Nozzle assembly by 180°)
Process Connection	Carbon Steel ASA flange. Process flanges min. 4" std is recommended because of limitation of displacer diameter for interface applications.
Working Pressure	upto 60 kg / cm ²
Temperature Limits	a) 150° with S.S. Float b) 100° with Phenolic float



Enclosures	Weather proof IP65
Supply Pressure	1.4 kg/cm ²
Output	0.2 - 1 kg/cm ²
Supply Connection	1.4" NPT
Output Connection	1/4" NPT
Exhaust	Screened Vent Connection
Gas consumption	15 CFH (Minimum) 35 CFH Throttle (Average)
Displacers	A) HORIZONTAL (Stainless Steel) 76mmØ x 440mm long C) VERTICAL (Stainless Steel) 76mmØ x 356mm long D) VERTICAL (Phenolic) 90mmØ x 115mm long
Differential*	A) 7 ± 3mm for S.G. difference of 0.1 C) 25 ± 5mm for S.G. difference of 0.1 D) 20 ± 5mm for S.G. difference of 0.1
S.G. difference	0.05 (min.)

* Differential increases proportionally with decrease in S.G.