



Mite Series 70/71/73 74/85

Snap-acting, Pneumatic Relays

Compact, rugged and precise "decision-making" switches

The Dahl Mite Series of pneumatic relays offer precise control of air or gas service. Their snap-acting design automatically trips on either an increasing or decreasing signal. Mites are rugged, compact units engineered for high density applications. They are constructed to last and "make decisions" with crisp precision, cycle after cycle.

Mite 70

Snap-acting control relay with manual reset

Trips to vent one control signal while simultaneously locking up another

Super Mite 71L/71H

High pass or low pass pneumatic selecting relay

Automatically selects the higher or lower of two input signals

Mite 73

Snap-acting air signal monitor

Accepts up to four inputs and can be reset automatically

Mite 74

Snap-acting control relay with integral 3-way or 2-way valve

Combines a Mite 70 with a precision 3-way or 2-way valve

Mite 85

Snap-acting 3-way valve with two trip points

Our most versatile circuitry for sophisticated applications





Mite Series 70/71/73/74/85

Built to “make decisions” with crisp precision cycle after cycle.

The Dahl Mite series of pneumatic relays are engineered to switch, lock or vent various ports based on either an increasing or decreasing pneumatic signal. Their passive design, as well as precise, unerring and immediate decision making abilities make them the ideal solution to critical safety and emergency process controls found in the petroleum, chemical, gas-field or pharmaceutical industries. Their rugged, simple construction provides uncompromising reliability and long term performance with either air or gas service.

SPECIFICATIONS MITE 70, 71, 73, 74, 85

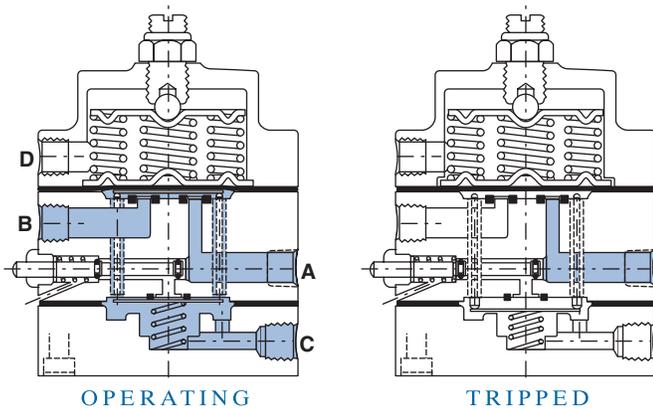
	Mite 70	Mite 71L/71H	Mite 73	Mite 74	Mite 85
Pressure Rating	100 psig max.				120 psig max.
Temp. Limits	-40°F to +180°F				
Port Sizes	Tapped for 1/4" NPT with 1/8" internal ports				
Dimensions	2.5" Dia. x 3.5"	3.375" Dia. x 2.5"	2.5" Dia. x 4.25"	2.5" Dia. x 5"	See Drawing
Materials	Aluminum, Plated Steel, Neoprene, Brass and Stainless Steel				

Mite 70

Description

Set to trip on either an increasing or decreasing control signal, the Mite 70 will vent one port to atmosphere while it locks up the pressure in a second line. The tripped position is then held indefinitely until the control signal is restored and a manual reset button is pushed. The trip point is adjustable from 1 to 100 psi with a simple screw stem. The Mite 70 can also be tripped on demand from a separate remote signal. Use the Mite 70 to open safety valves in emergency situations, trigger an alarm while locking up a valve or actuate diaphragm motor valves, air cylinders or other pneumatic actuators.

MITE 70 OPERATION



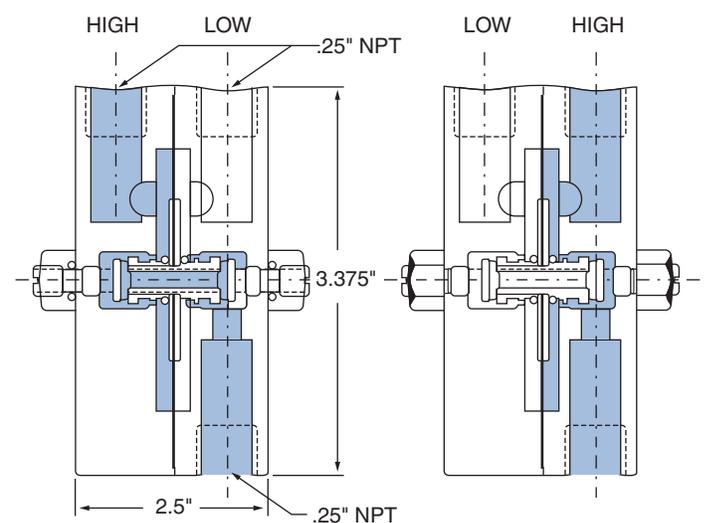
- A** Variable Instrument Air Signal
- B** Signal Output (Locks up when tripped)
- C** Signal Output (Vents when tripped)
- D** Remote Pneumatic Trip

Super Mite 71L/71H

Description

The Super Mite 71 will automatically select the higher or lower of two pneumatic inputs and pass it downstream while blocking the other. Capable of almost instantaneous selection, the Super Mite 71 can separate pressure differentials as low as a tenth of a psi. Although ordered as either high or low pass, the Super Mite 71 can easily be converted in the field from one to the other. The Super Mite 71 can be relied on to open or close valves when a signal pressure drops or rises past a determined value. They can also be used to prevent a valve from opening or closing beyond a critical point.

MITE 71H OPERATION - Selecting High Signal

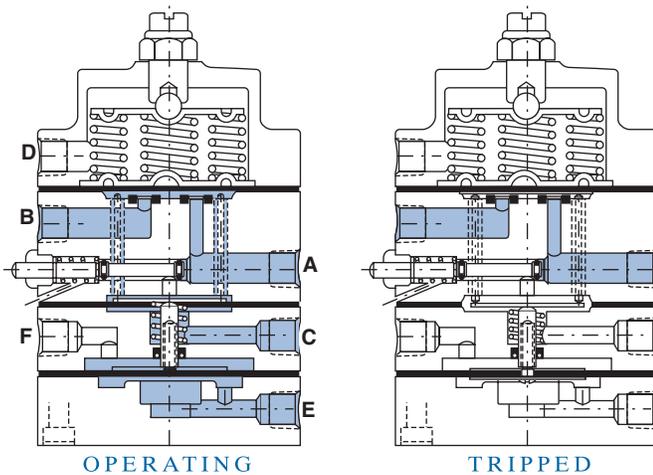


Mite 73

Description

The Mite 73 is similar in design and function to the Mite 70. A sensitive line monitoring diaphragm and up to four inputs allow even more versatility. When tripped by either an increasing or decreasing signal, one input is vented to atmosphere while the other is locked up. The Mite 73 can be tripped by remote and is also capable of being reset pneumatically for fully automated control.

MITE 73 OPERATION



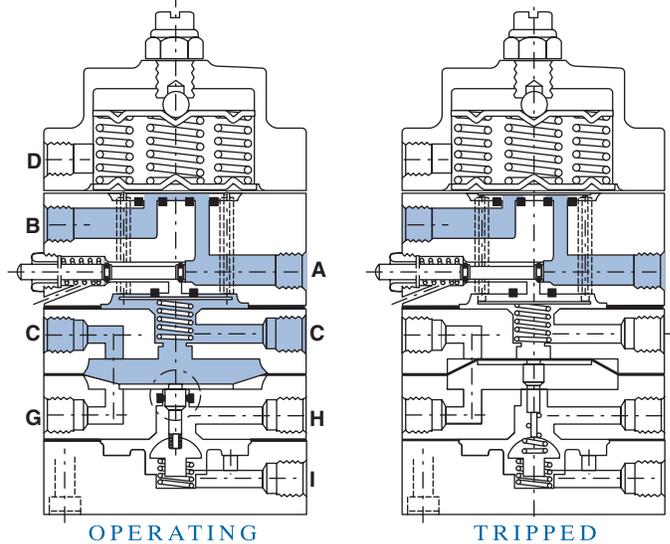
A	Variable Instrument Air Signal
B	Signal Output (Locks up when tripped)
C	Signal Output (Vents when tripped)
D	Remote Pneumatic Trip
E	Remote Pneumatic Reset
F	Pneumatically Nullifies E

Mite 74

Description

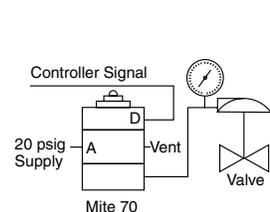
The Mite 74 combines the Mite 70 control relay with a precision 2-way or 3-way valve in a single compact package. Either an increasing, decreasing or remote signal can be used to channel air as needed. The Mite 74 can also be used in combination with either of the Super Mite 71's so that it will trip when either of two signals drops or rises beyond a set pressure. Once tripped, the Mite 74 will hold its settings until the proper control signal is reestablished and the reset button is pushed.

MITE 74 OPERATION

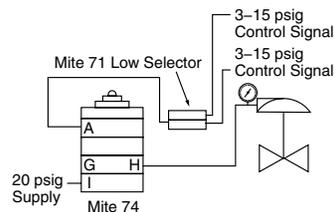


A	Variable Instrument Air Signal
B	Signal Output (Locks up when tripped)
C	Signal Output (Vents when tripped)
D	Remote Pneumatic Trip
G	Trip to Open
H	Common
I	Trip to Close

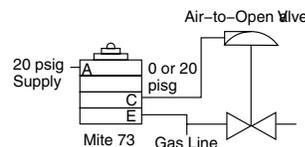
TYPICAL APPLICATIONS



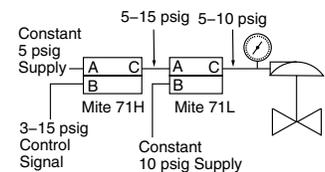
Actuate an on-off valve when controller signal increases to set point. Supply pressure at "A" is transmitted to valve from "C" when Mite is operating. When trip occurs, valve is vented to atmosphere.



Close an on-off valve when either of 2 signals drops to a set point. Lower of 2 control signals is constantly fed to "A". Supply pressure at "I" is transmitted to valve "H" when Mite is operating. When trip occurs, valve is vented to atmosphere from "G".



Close an on-off valve in a gas line when line pressure drops below a set point. Supply pressure at "A" is transmitted to valve from "C" when Mite is operating. When gas line pressure—monitored at "E"—drops below set point, trip occurs, and valve operator is vented to atmosphere.

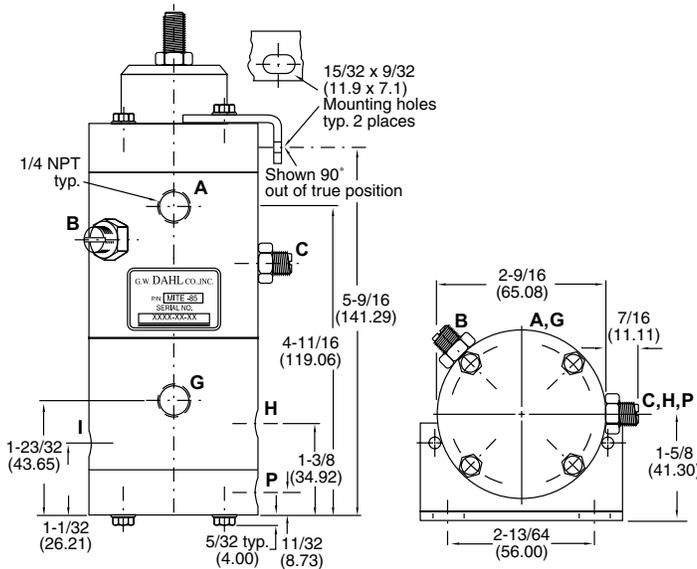


Set 2 pneumatic pressure limits (high and low) within the range of a control signal, i.e., a double pneumatic stop. Output from Mite 71H must stay within 5 to 15 psig when connected as shown. Output from Mite 71L to valve must stay within 5 to 10 psig.

Mite 85

Description

The Mite 85 allows you to establish two adjustable trip points that control flow through a 3-way valve. An increasing signal that exceeds the high trip point will open "I" port to "H". A decreasing signal pressure that drops below the low trip point will vent port "H". This switching action is reversible and repeatable without having to manually reset. Use the Mite 85 to passively switch to a secondary controller in case the primary system fails.



A	Operating Signal
B	Supply Adjustment
C	Vent Adjustment
G	Vent
H	Common Outlet
I	Supply

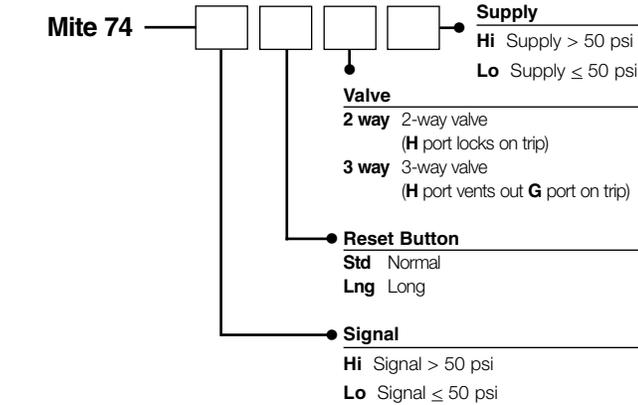
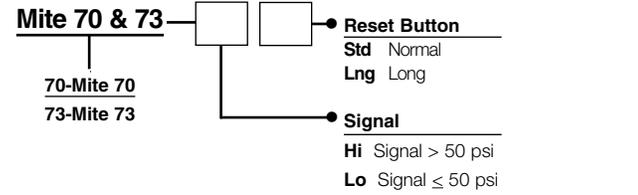
Warranty

ControlAir, Inc. products are warranted to be free from defects in materials and workmanship for a period of eighteen months from the date of sale, provided said products are used according to ControlAir, Inc. recommended usages. ControlAir, Inc.'s liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir, Inc.'s sole option, of any products proved defective. ControlAir, Inc. reserves the right to discontinue manufacture of any products or change products materials, designs or specifications without notice.

Mite Series 70/71/73/74/85

Ordering Information

Use this coding system to order

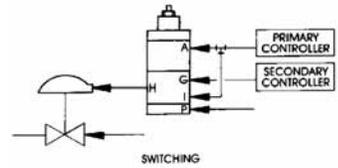


Mite 85

TYPICAL APPLICATIONS

Switching

On failure of primary controller signal "A" port, valve will switch to secondary controller signal until primary signal is regained.



3-way valve flow paths

There are two flow paths in the 3-way valve; "I to H" (G blocked) and "G to H" (I blocked). Flow can be in either direction (e.g. I to H or H to I).

As the operator signal increases from the low to the high end of the span, the flow path is "G to H" (I blocked). When the high trip setting is reached, the flow path switches to "I to H" (G blocked).

As the operator signal decreases from the high to the low end of the span, the flow path is "I to H" (G blocked). When the low trip setting is reached, the flow path switches to "G to H" (I blocked).

In the dead band (between high and low trip settings), the flow path can be either, depending on the direction of the operator signal.



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