

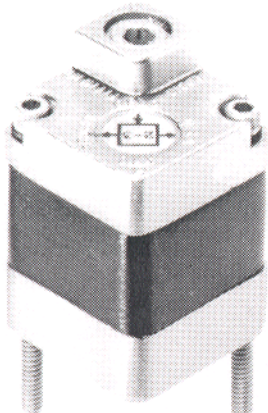
PARTS LIST

ARO PNEUMATIC LOGIC CONTROL LOGIC FUNCTION ASSEMBLY

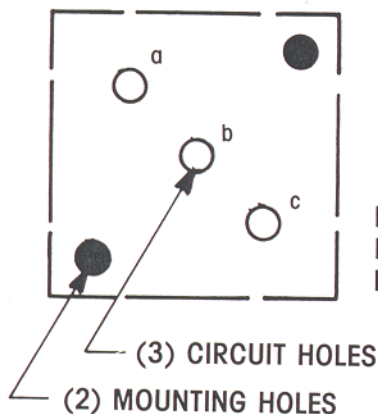
MODEL 59089

FORM 1417-2
REV. 6/88

CONVERTER LOGIC ELEMENT



LOGIC SYMBOL	LOGIC FUNCTION	PORT DESIGNATION
	Output c is on if output a is not blocked and visa versa	a = output b = input c = output
VALVE SYMBOL	VALVE FUNCTION	PORT DESIGNATION
	3-way passing	a = output b = input c = output



NOTE: THIS ELEMENT CAN BE
ROTATED 180° SO POSITION a,
b,c becomes c,b,a

See Technical Manual For Detailed Description

DESCRIPTION

This element performs the logic function "CONVERTER" with one input and two outputs. The output c is on if the output a is not blocked and visa versa. The element has three bottom ports which are designated a,b,c and are marked on the cover to correspond to their position on the base. These ports connect to the circuit board or function bases, and through circuit passages in the circuit module allow the required circuitry to be performed.

OPERATING PRESSURE RANGE

30 to 150 P.S.I.G.

TEMPERATURE RANGE

+32°F to +160°F

RESPONSE TIME (with 6 inches of 5/32 O.D. tubing connected to the a port.)

"a" Blocked → "c" On = 14 ms. plus 5.5 ms. per ft. additional tubing.

"a" Open → "c" OFF = 70 ms. plus 32.5 ms. per ft. additional tubing.

Startup "b" → "c" pulse ("a" blocked) = 90 ms. plus 33.5 ms. per ft. additional tubing.

*When input b is initially pressurized, an output pulse will occur. Times shown are maximum. Slowly applied pressure at port b will minimize the pulse.

FLOW CHARACTERISTICS

Flow b → c at 100 P.S.I.G. = 16.2 C.F.M. free air.

Capacity factor $C_v = 0.28$

Flow b → a at 100 P.S.I.G. = 0.9 C.F.M. free air.

INSTALLATION

Pressure regulation is recommended for applications where optimum repeatability is required.

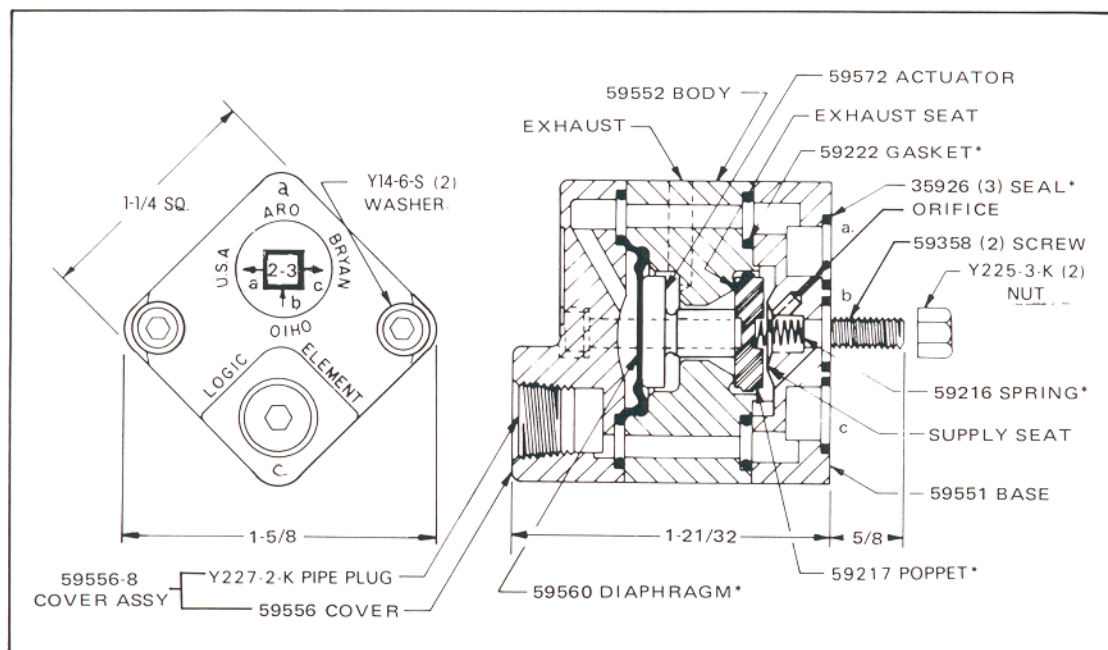
Lubrication is not required.

Filtration is recommended to assure a clean, dry air supply for optimum repeatability.

OPERATING DESCRIPTION

A pressure signal applied to input b pressurizes output c immediately. At the same time air is metered through the orifice into output a. When output a is blocked, pressure builds up and diaphragm 59560 forces actuator 59572 and poppet 59217 downward, which opens output c to exhaust and closes the supply seat. Therefore output c is off (discharged). Screws 59358 thread into base to assemble element, but also extend beyond the base for insertion into mounting holes in the circuit board assembly (or function bases). Y225-3-K nuts are used to attach the assembly to the circuit board. 35926 seals provide sealing between the circuit base plate and the element ports.

PARTS LIST



*Parts included in repair kit

SERVICE (Use Repair Kit No. 59574)

In the event of a malfunction;

Check diaphragm 59560 for rupture or defects.

Check poppet 59217 for excessive wear or defects.

Check input and exhaust seats for damage.

Check orifice for possible plugging.

Check 59222 gasket and 35926 seals for imperfections if external leakage occurs.

Testing (element mounted on function base).

Block port a, apply pressure at port b, output pressure should appear at port c, but should remain on for a short pulse only, then disappear.

Unblock port a, output pressure appears at port c.