



**RUELCO "ESD" MANUAL VALVE
MODEL 1103
OPERATIONS MANUAL
MANUAL #OMP – 1103 – 08/01
(SEE SPEC. SHEET 1103)**

I. PRINCIPLE OF OPERATION

The Ruelco "ESD" manual valve has a simple compact design. Its high flow rate and three way pull-to-open action makes it ideal for use in manual ESD systems and other control applications that require fast response time. The supply pressure acting on the unbalanced stem maintains the valve in the closed position. This prevents vibration or small pulling forces from accidentally opening the valve. Once pulled, the valve will stay in the open position until manually closed.

II. INSTALLATION

The "ESD" can be mounted either vertically, horizontally, panel mounted (with optional panel mount nut), mounted on an ESD plate or supported by piping from any of its ports. If it is supported by piping, care should be taken that the strength of the pipe fittings used is adequate to prevent the fitting from breaking off in the valve body should the valve be inadvertently struck.

Proper pipe thread sealant should be used on any pipe fittings threaded into the valve ports. If stainless steel fittings are used, a sealant that will prevent galling is required. Supply gas or hydraulic fluid flowing through the relay should be free of large dirt particles. If compressed air is used, it does not have to be lubricated. If natural gas is used, it should contain as little condensate as possible. This will extend the life of the seals.

III. DISASSEMBLY (REFER TO SPEC SHEET 1103)

Tools required are as follows:

- 5/16" open end wrench or suitable adjustable wrench.

- 1) Place the 5/16" wrench on the flat washer and rotate it clockwise while holding the knob (Item 1) until the knob is loose. Rotate the knob

counterclockwise and remove it from the stem (item 6). Then rotate the flat washer counterclockwise and remove it from the stem.

- 2) Remove the vent screen (Item 8) from the vent port. (Optional)
- 3) Push the stem through the valve body.
- 4) The seal on the stem may now be replaced as per instructions given in the repair section of this manual.
- 5) If the valve is panel mounted or mounted on an ESD plate, it is not necessary to remove the valve from the panel or the ESD plate respectively, but is recommended, so that adequate inspection and cleaning of all parts may be performed.
- 6) The valve is now ready to be cleaned and repaired.

IV. REPAIR AND ASSEMBLY

- 1) Remove the two stem seals (Item 4) from the stem (Item 6) and the body seal (Item 7) from the valve body (Item 5).
- 2) Using an appropriate safety solvent, clean all parts.
- 3) Inspect the stem for any major damage such as burrs or nicks. Also inspect the stem for straightness. Replace the stem if damaged.
- 4) Examine the valve body (Item 5) for any damage such as burrs, nicks, etc. Replace if damaged.
- 5) Replacement seals from a Ruelco product repair kit are required for proper valve performance. It is recommended

that all seals are lubricated, before and after installation, with a high quality silicon base grease.

- 6) Lubricate the body o-ring (Item 7) and install into the valve body.
- 7) Lubricate the stem o-rings and install on the stem (Item 6)
- 8) Lightly lubricate the large bore in the valve body.
- 9) Slide the stem into the valve body.

V. RECOMMENDED MAINTENANCE

PROCEDURE

Operate manually.
Disassembly, inspect and lubricate.
Replace all seals.

- 10) Thread the flat washer over the stem until it reaches the last thread. Do not tighten. Rotate the knob over the shaft thread until it touches the flat washer. Hold the knob and turn the flat washer counterclockwise with the 5/16" wrench until firmly tightened.
- 11) Install the vent screen on the vent port of the valve body.

INTERVAL

Every 30 days.
Yearly or as required.
Every 2 years or as required.