

# Diaphragm Replacement Procedure for ELDV/MDVG-Series with Relief Pins.

*The diaphragm replacement procedure is the same for the six and ten ports valve.*



**Note:** A visual inspection is necessary and recommended while the valve head and the diaphragm are removed from the valve body. If there is any trace of contaminant on the valve head wetted surface it must be cleaned using solvent that are suitable for your application.

## WARNING

Shut off carrier and sample gas before proceeding. If hydrogen, oxygen or other hazardous gases are flowing into the valve, evacuate them by allowing inert gas to flow through the valve. Make sure that no toxic or hazardous gas leak into your working area.

### STEP 1

Actuate the valve by pressurizing the actuator (ON position). When the actuator is pressurized, insert the relief pins into their respective holes as shown in figure 5. You may need to slightly increase the actuation pressure to ease the pins in. When the pins are properly inserted, depressurize the actuator (OFF position). This step is to assure that all the plungers are down, making it easier to install the diaphragm and properly align it.

### STEP 2

Unscrew first the three screws mounted on the outer edge of the valve head and then unscrew the middle screw.

**Note:** The screw mounted in the middle of the valve head is longer than the other ones. It must be re-installed at the same place.

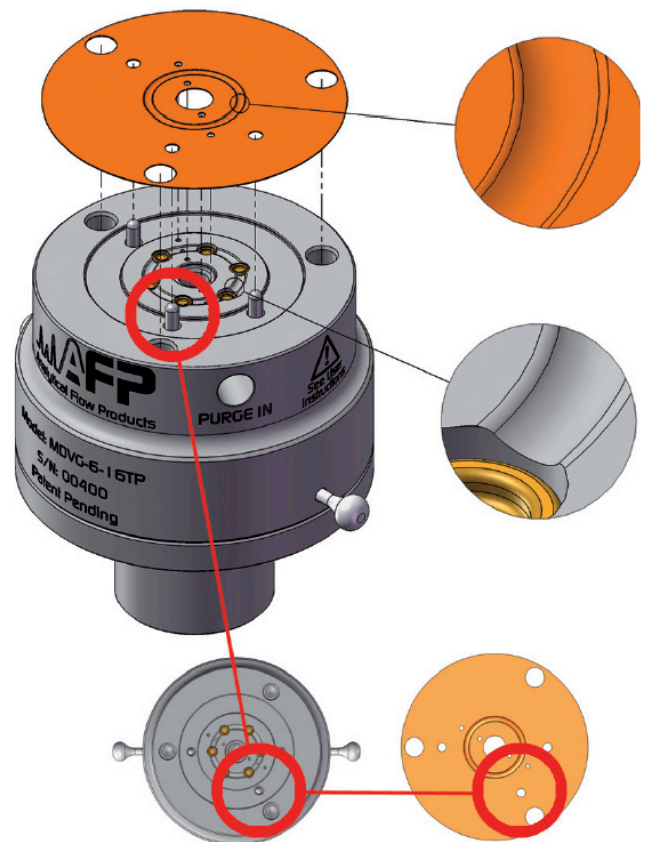
### STEP 3

Carefully lift up the valve head.

**Note:** Don't touch the valve head surface with your fingers.

### STEP 4

With the help of a small and clean plastic tweezers remove the used diaphragm.



## STEP 5

Remove the new diaphragm from the lint free bag. With the help of a small and clean plastic tweezer install the diaphragm in place. Make sure that the diaphragm groove is aligned with the recess in the cylinder body. The diaphragm could be placed only in one position due to the special position of the dowel pins.

**Note:** Manipulate the diaphragm only by its edge. Don't touch the process area with your fingers or dirty tools. This will affect the detector baseline and/or contaminate the column.

## STEP 6

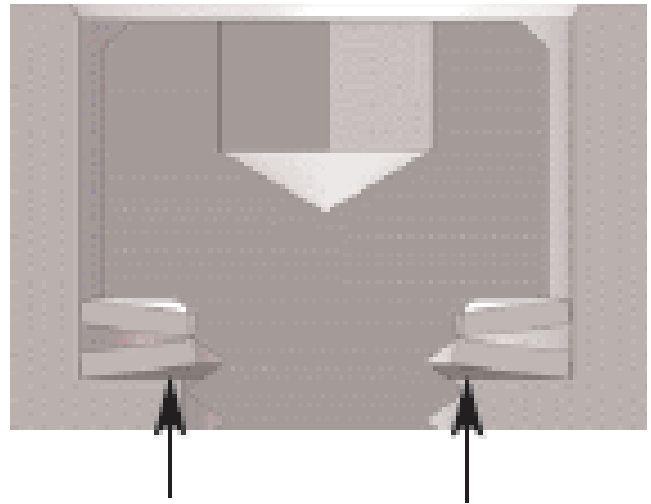
Re-install the valve head on the cylinder body by aligning the cylinder dowel pins with valve head corresponding holes and gently depose the valve head on the diaphragm. Make sure that the counter bore on the valve head and that the screws are aligned with the threads in the cylinder body.

**Note:** If you feel any resistance, you may not be aligned properly.

## STEP 7

Re-install the valve head on the cylinder body by aligning the cylinder dowel pins with valve head corresponding holes and gently depose the valve head on the diaphragm. Make sure that the counter bore on the valve head and that the screws are aligned with the threads in the cylinder body.

**Note:** Re-install the four mounting screws by beginning with the longer one that must be installed in the center hole of the valve head. Tighten this screw to 10 lb-in (1.3 N-m) using a proper torquing tool supplied in our tool kit (TK-01) and then continue with the 3 other ones.



## STEP 8

Tighten first the center screw to exactly 20 in-lb (2.3 N-m) for the 6 ports valve and 26 in-lb (2.9 N-m) for the 10 ports valve using a proper torquing tool. Then continue with the 3 others ones at 20 in-lb (2.3 N-m).

## STEP 9

Re-pressurize the actuator and remove the relief pins.

## STEP 10

Depressurize the actuator.

## STEP 11

The valve is now ready to be used.