

INSTALLATION AND MAINTENANCE INSTRUCTIONS DIAPHRAGM ACTUATOR – MODEL PDC & PDO

GENERAL

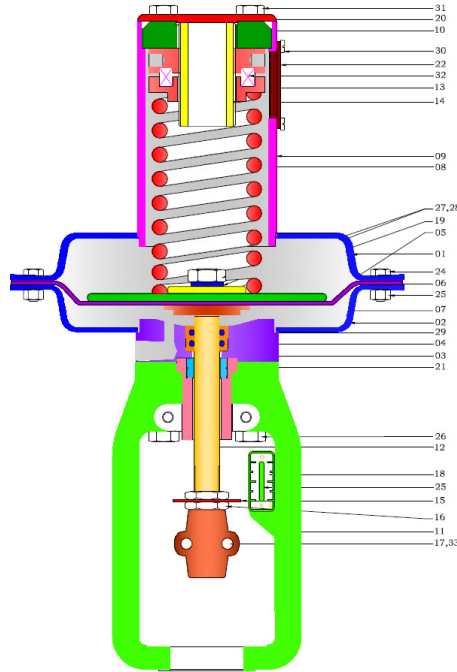
DIRECT (Model PDO) Actuator (see Fig:-A) extend the actuator stem with increasing air pressure and retract the stem with decreasing pressure.

REVERSE (Model PDC) Actuator (see Fig:-B) retract the actuator stem with increasing operating air pressure and extend the stem with decreasing pressure.

TO REPLACE DIAPHRAGM AND ‘O’ RINGS (FOR PDC & PDO ACTUATOR)

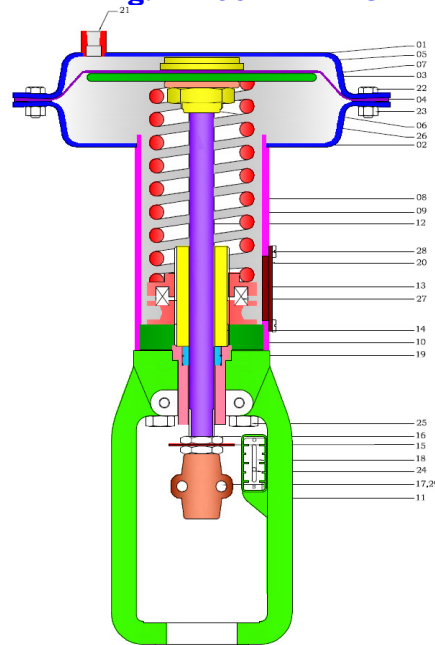
1. Remove the actuator from the valve in the following steps.
 - (a) Ensure plug face is not in contact with the seat – (apply air pressure to reverse action actuator).
 - (b) Remove the stem coupling.
 - (c) Unscrew the locking ring.
 - (d) Lift actuator off valve.
2. Remove the spring cover plate.
3. Release all spring compression by inserting ½ inch wide bar in the retainer slot and rotating in an anti-clockwise direction.
4. Remove the diaphragm case screws and nuts and separate the diaphragm cases. (In the reverse action arrangement care must be taken to lift the top diaphragm case assembly perfectly straight with a slight rotary movement until the slide is clear of the stem).
5. Unlock travel stop nuts and indicator disc unscrew from stem.
6. Lift the diaphragm assembly and the actuator stem clear of the actuator, taking care to withdraw the stem perfectly straight to avoid damaging the threads and ‘o’ rings in the reverse action arrangement.
7. For PDC Actuator replace the ‘O’ ring, remove the yoke screw and separate the yoke from the diaphragm case or spring assembly.
8. For PDC Remove the old ‘O’ ring from the seal- box and replace with new ones.
9. For PDC unscrew the stem lock nut and remove the diaphragm.
10. For PDO unscrew the collar nut and remove the diaphragm.
11. Slide the diaphragm button and the old diaphragm off the actuator stem.
12. Fit the new diaphragm on to the diaphragm, diaphragm collar, stem and stem lock nut assembly and secure the stem lock nut.
13. Fit the diaphragm, diaphragm collar, stem and stem lock nut assembly into the actuator without damaging the ‘O’ rings on a PDC actuator.
14. Bolt together the diaphragm casings ensuring the bolting is tightened evenly to ensure correct sealing and also prevent damage to casings. Unscrew the shaft of TMH (Part No. 23). At the stage bearing housing along with shaft will be decouple from the actuator stem.
15. Fit the travel indicator plate and travel plate locknuts onto the stem.
16. Using the spring adjuster the spring compression should be applied until the actuator start to operate at the bench set figure detailed on the nameplate.

Fig:-A ASSEMBLY OF REVERSE ACTION



Sr. No.	PART NAME
01	TOP CASING
02	BOTTOM CASING
03	CASING END CAP
04	SEAL BOX
05	AREA PLATE
06	DIAPHRAGM
07	DIAPHRAGM WASHER
08	SPRING
09	SPRING TUBE
10	TUBE END PLATE
11	YOKE
12	ACTUATOR STEM
13	RETAINER
14	SPRING ADJUSTER
15	TRAVEL INDICATOR
16	INDICATOR LOCK NUT
17	COUPLING
18	TRAVEL PLATE
19	SPRING GUIDE
20	SPINDLE COVER
21	TRAVEL STOPPER
22	WINDOW COVER
23	HEX SCREW FOR CASING
24	HEX NUT FOR CASING
25	CHS FOR TRAVEL PLATE
26	HEX BOLT FOR YOKE
27	HEX LOCK NUT
28	SPRING WASHER S.Q. SECTION
29	'O' RING FOR SEAL BOX
30	CHS FOR WINDOW COVER
31	HEX SCREW FOR SPINDLE COVER
32	THRUST BALL BEARING
33	HEX SCREW FOR COUPLING

Fig:-A ASSEMBLY OF DIRECT ACTION



Sr. No.	PART NAME
01	TOP CASING
02	BOTTOM CASING
03	AREA PLATE
04	DIAPHRAGM
05	DIAPHRAGM COLLER
06	DIAPHRAGM COLLER NUT
07	SPRING GUIDE
08	SPRING
09	SPRING TUBE
10	TUBE END PLATE
11	YOKE
12	ACTUATOR STEM
13	RETAINER
14	SPRING ADJUSTER
15	TRAVEL INDICATOR
16	INDICATOR LOCK NUT
17	COUPLING
18	TRAVEL PLATE
19	TRAVEL STOPPER
20	WINDOW COVER
21	AIR CONNECTION
22	HEX SCREW FOR CASING
23	HEX NUT FOR CASING
24	CHS FOR TRAVEL PLATE
25	HEX BOLT FOR YOKE
26	SPRING WASHER S.Q. SECTION
27	THRUST BALL BEARING
28	CHS FOR WINDOW COVER
29	HEX BOLT FOR COUPLING

