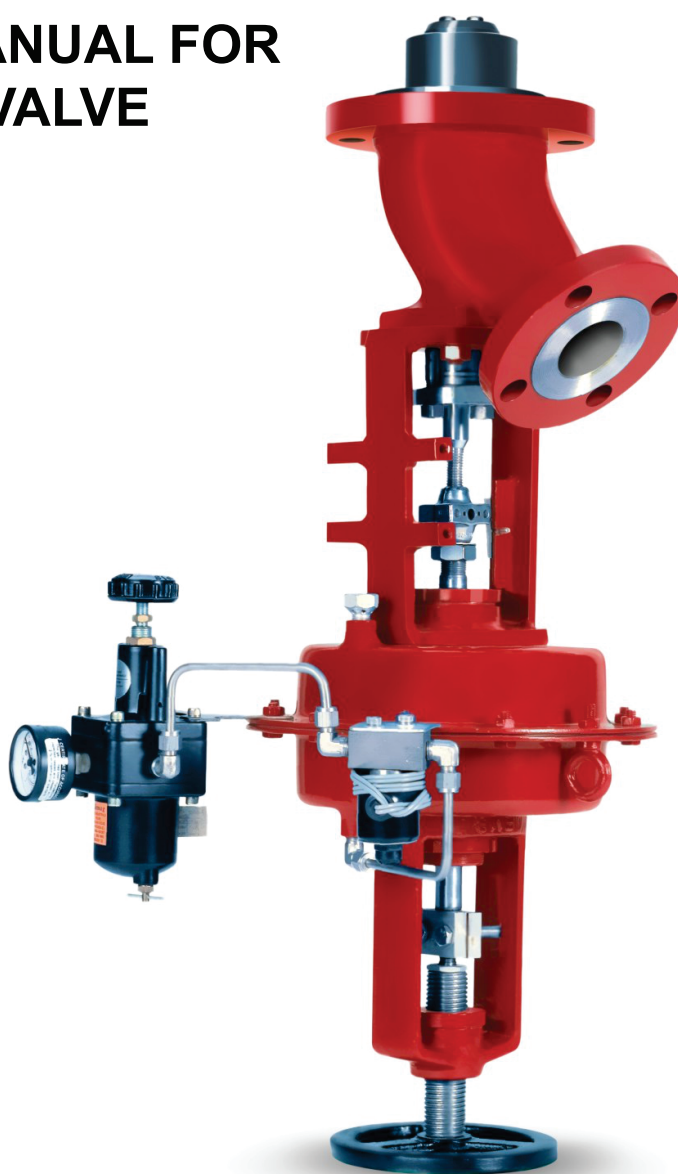




Dembla

INSTRUCTION MANUAL FOR FLUSH BOTTOM VALVE SERIES : 9000



21 NOV 2015



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1.0 FOREWORD

1.1 SCOPE OF INSTRUCTION MANUAL

1.2 COPYRIGHTS AND MODIFICATION RIGHTS RESERVATION

Dembla Valves Pvt. Ltd. retains the copyright on the contents of this Instruction Manual.

The Total content of this instruction manual described here corresponds to the information during preparation of the instruction manual. It is user's responsibility to refer the latest version.

All data, specifications and illustrations here are subjected to technical modifications and improvements and hence modification can be done by us at any time without any prior notice. No claim to modification or repair of these valves, which have already been supplied by us, can be made.

1.3 SAFETY INSTRUCTIONS

- 1) Before attending to Valve Installation / Maintenance, the instruction manual must be compulsorily read and understood properly.
- 2) Valve must be operated by qualified personnel.
- 3) Ensure that the operator handling these Valves must follow Safety and Accident Prevention Rules and Regulations.
- 4) Ensure that before opening the valve for maintenance or repair, wear suitable protection when dealing with hazardous process fluids.
- 5) All Safety Messages such as Cautions, Warnings and Notes are highlighted in this Instruction Manual which must be strictly followed to avoid any possibility of arising danger / risk of damage to the equipment / person's life.
- 6) No Liability on Manufacturer for any wrong handling, improper commissioning and wrong assembly.
- 7) No modification / conversions are allowed without written authorization from Dembla Valves Pvt. Ltd.

2.0 Storage & Preservation

All Valves are dispatched in the closed/open position as ordered and it is recommended that they are left in this position during storage. All protective packing should remain in position until the Valve is to be installed. Valve should be stored in a clean and dry environment, without disturbing company setting. (E.g. Gland, Seat etc.) Protect it from shock & lifting damage.



If hoisting the Valve, use a nylon sling to protect the surface. Carefully position the sling to prevent damage to Actuator tubing and any Accessory. Also, take care to prevent people from being injured in case the hoist or rigging slips unexpectedly. For Weight refer Valve Packing Slip.

3.0 INSTALLATION

3.1 PRE-INSTALLATION CHECKS:

Before installing any Control Valve

- Inspect it for any shipment damage and for foreign material that might have collected during packing and shipment.
- Blow out all pipelines to remove pipescale-chips, welding-slag, and other foreign materials.
- Install the valve using accepted piping practices. Use a suitable gasket between the body and pipeline flanges and tighten the bolts evenly to avoid any strain on the body or cracking of flange.
- Install the control valve preferably in a straight run of pipe away from bends or sections of abnormal velocity.
- Control valves can be installed in any orientation but the normal method is with the actuator vertical.
- If continuous operation is required during maintenance and inspection, a conventional three valve by-pass should be installed.
- An air supply pressure regulator with filter should be installed in the air line ahead of any instrument mounted on the valves.

3.2 POST – INSTALLATION CHECKS:

After the Valve has been installed make a final check of following:

- Vary air supply to the actuator to ascertain that actual travel corresponds with the travel scale indication.
- Check all air lines to the actuator for leaks.
- The Gland nuts are factory set, but should there be any gland leakage after installation, further tightening, just enough to stop gland leak is recommended. Excessive tightening will disturb stem movement.

4.0 MAINTENANCE

4.1 REPLACING GLAND PACKING

WARNING

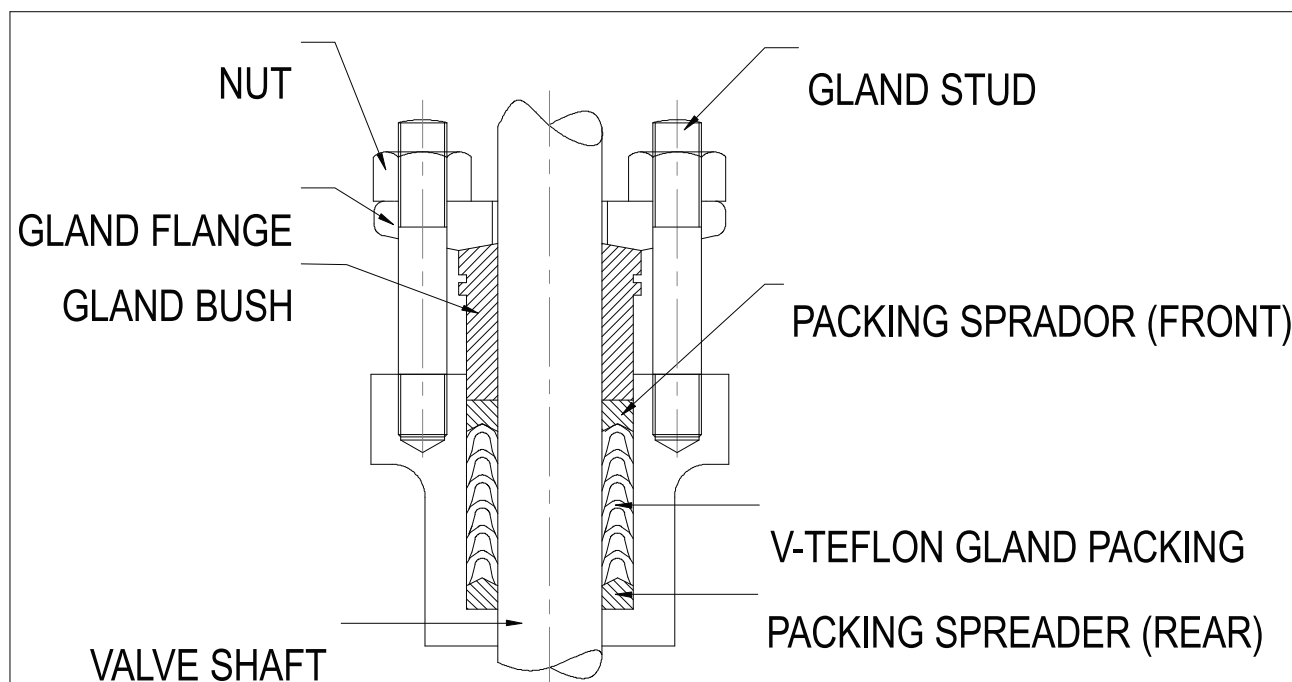
Pipeline pressure is to be released before the valve is to be opened for maintenance of gland packing, other wise it may cause damage to the equipment / person's life.

- (1) Separate out operator from the valve body.
- (2) Remove the operator bracket from the valve.
- (3) Unscrew and remove nuts on packing studs.
- (4) Remove gland flange, gland bush & packing spreader.
- (5) Take out gland packing from the stuffing box.

CAUTION

Be careful while taking out gland bush, gland packing & packing spreader to avoid making scratches on the stuffing box wall.

- (6) Clean the stuffing box.
- (7) Follow the below procedure for the applicable gland packing option.

4.1.1 V-TEFLON PACKING

This consists of 1 rear packing spreader, 1 set of V-Teflon gland packing and 1 front packing spreader.

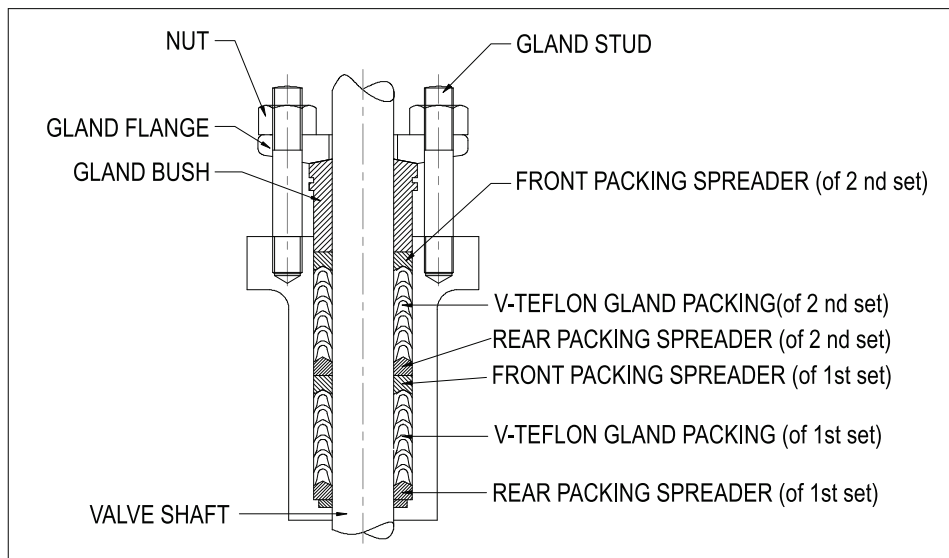
- (1) Place the V-Teflon gland packing set in the body after 1 rear packing spreader followed by front packing spreader as shown in Fig. Lubrication is not required.

CAUTION

Push each V-Teflon packing carefully inside to avoid the packing lip to bend towards the outer side.

- (2) Insert the Gland bush.
- (3) Insert the Gland flange on Gland Studs and tighten their Nuts to specified torque.

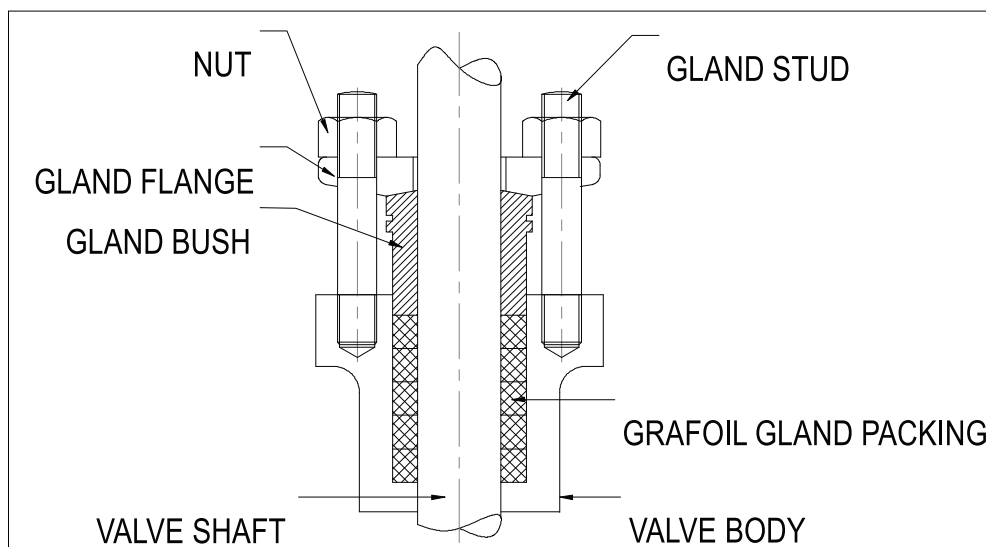
4.1.2 DOUBLE V-TEFLON PACKING



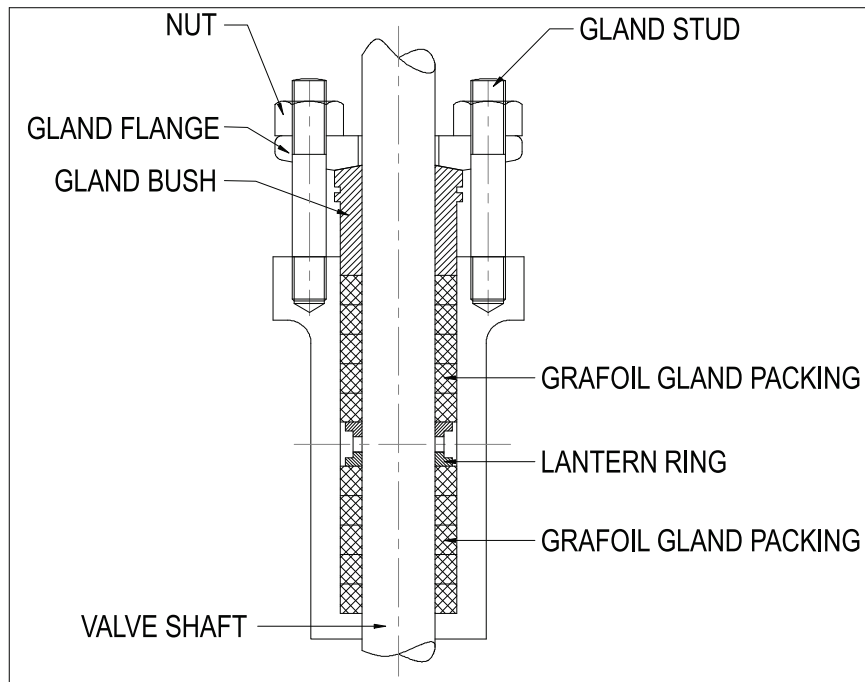
This consists of 1st set of front and Rear packing spreader, 1st set of V-Teflon gland packing, 2nd set of front and Rear packing spreader & 2nd set of V-Teflon gland packing.

- 1) Place the 1st set of V-Teflon gland packing after rear packing spreader of 1st set followed by the front packing spreader of 1st set.
- 2) On the front packing spreader of 1st set Place the 2nd set of V-Teflon gland packing after rear packing spreader of 2nd set followed by the front packing spreader of 2nd set.
- 3) Insert the gland bush.
- 4) Insert the gland flange on gland stud and tighten their nuts to specified torque.

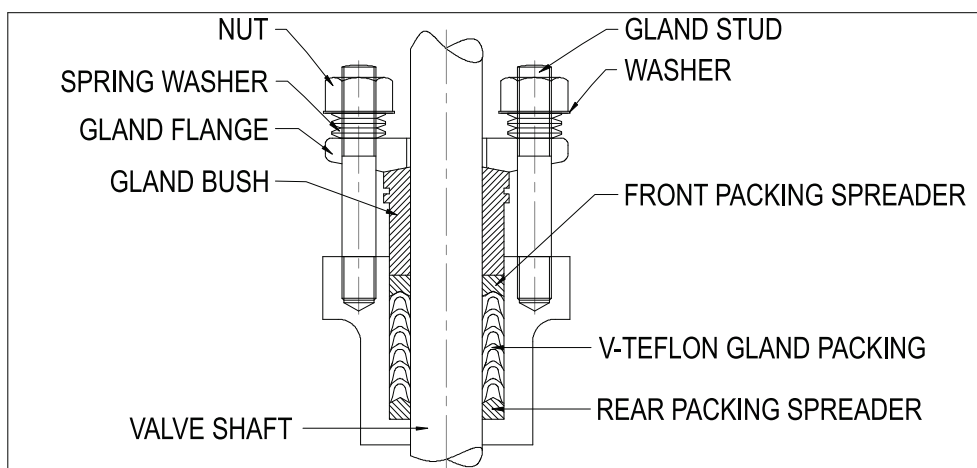
4.1.3 GRAFOIL PACKING



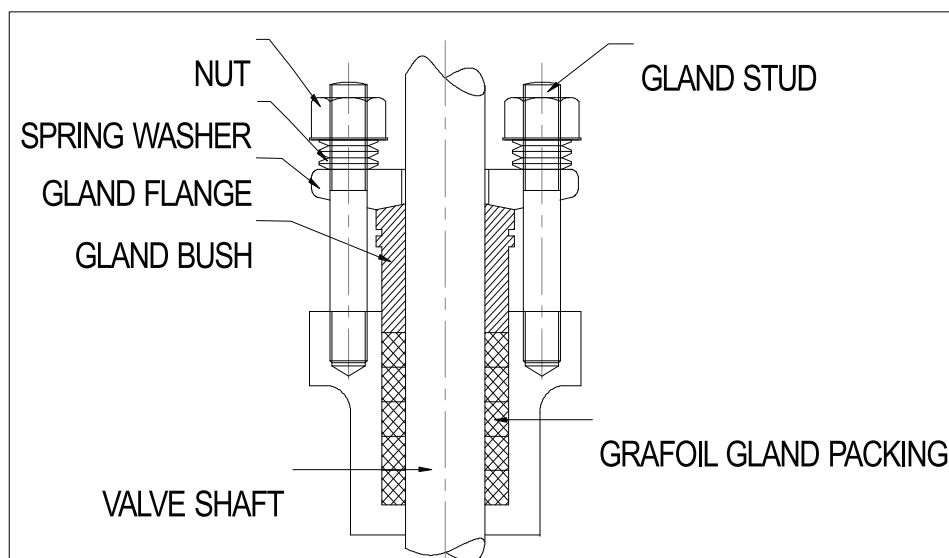
4.1.4 DOUBLE GRAFOIL PACKING



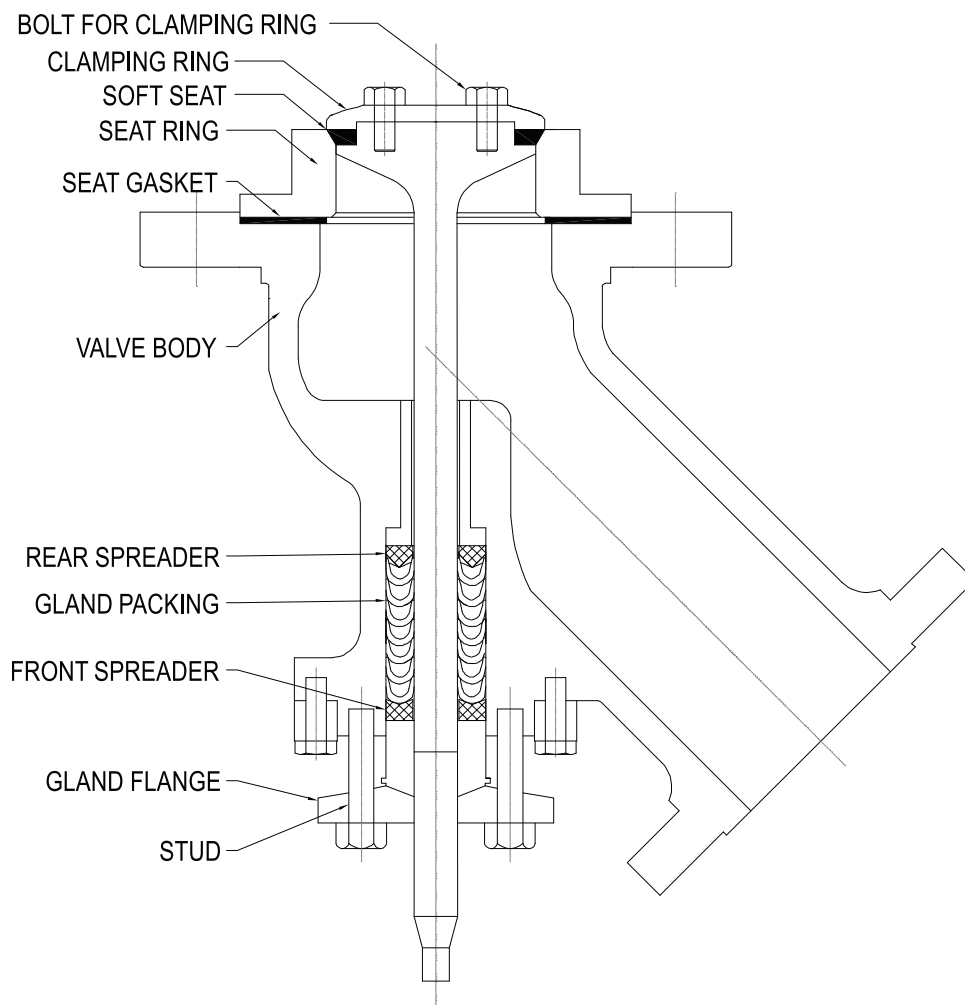
4.1.5 V-TEFLON LOW FUGITIVE EMISSION PACKING



4.1.6 GRAFOIL LOW FUGITIVE EMISSION PACKING



4.2 REPLACING SEAT RING



NOTE

For the replacement of soft seat or seat ring, the actuator or valve shaft need not be dismantled from the valve body.

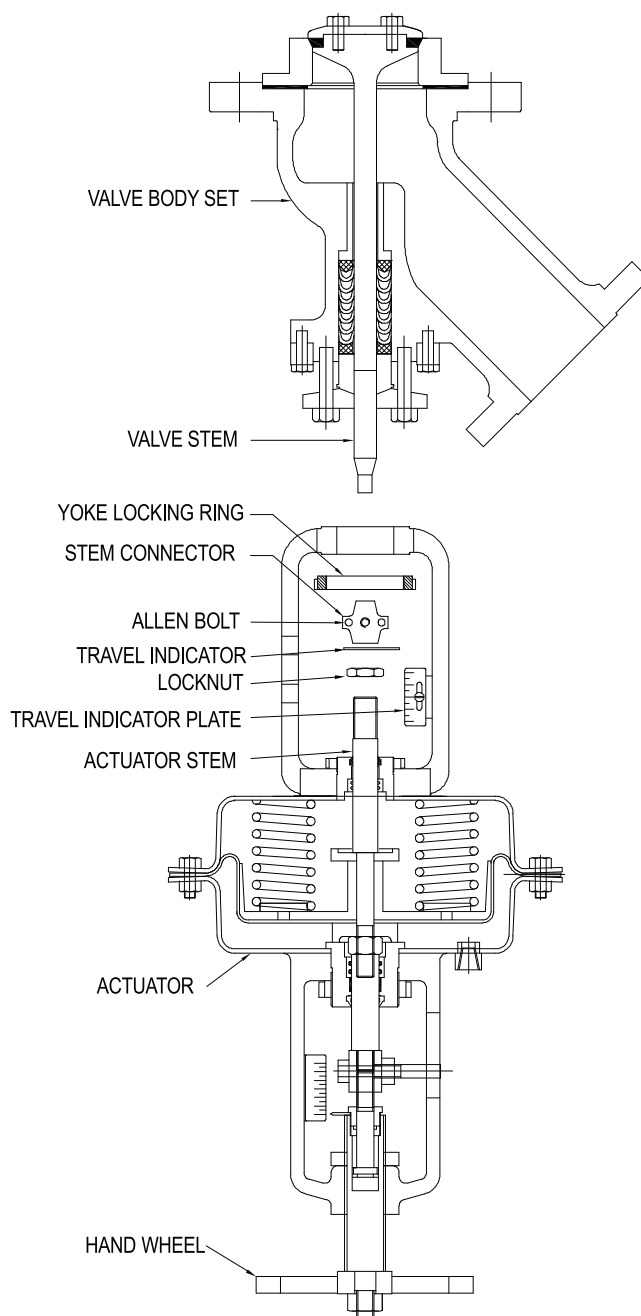
- (1) Take out the valve from the pipe line.
- (2) Loosen & remove bolt from clamping ring.
- (3) Take out the clamping ring.
- (4) Remove soft seat & if required replace it.
- (5) Remove seat ring and its gasket if required replace it.
- (6) For reassemble use reverse sequence.

4.3 TO SEPERATE ACTUATOR FROM VALVE BODY.

CAUTION

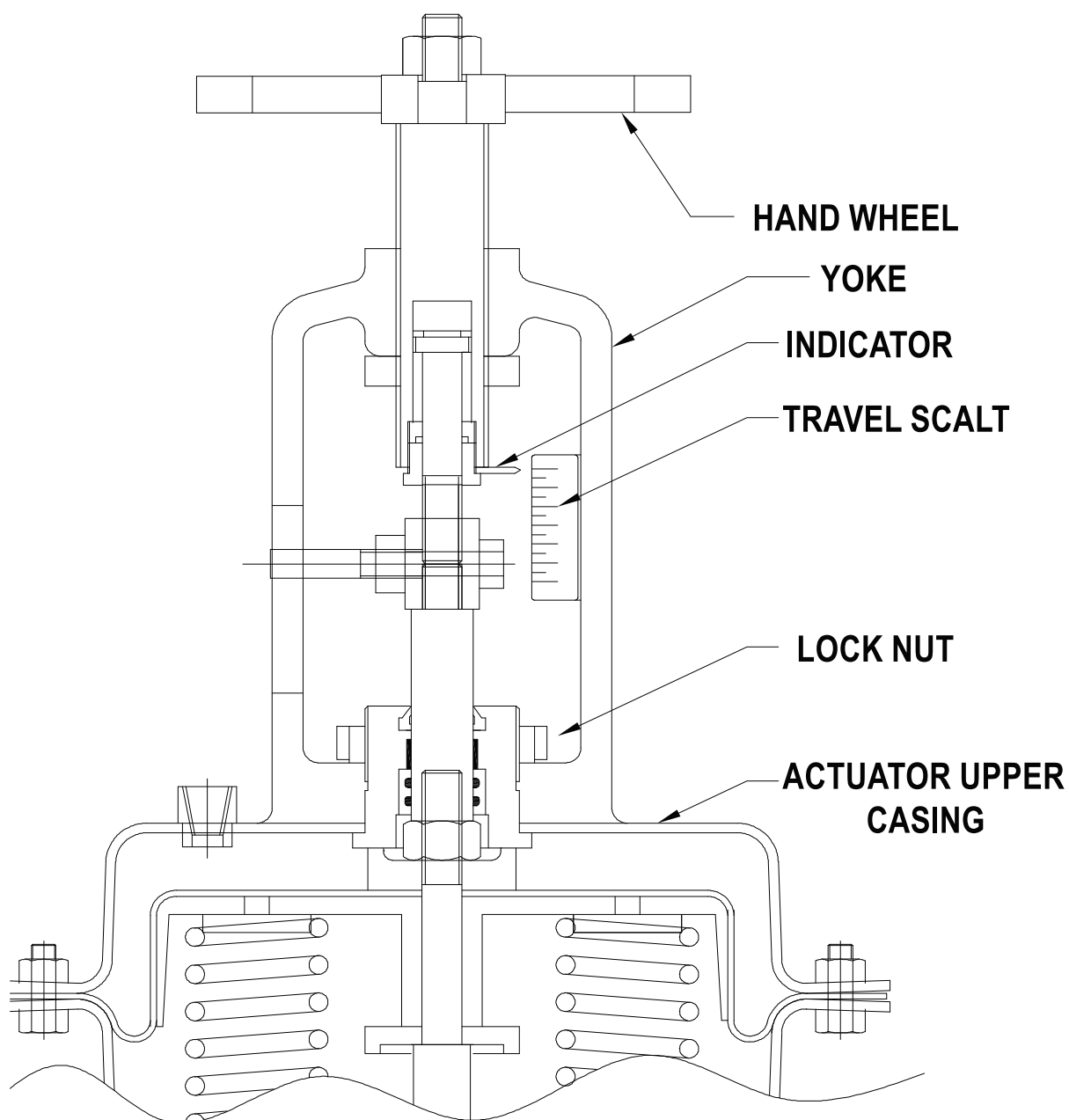
Before starting disassembly.

- Use by-pass Valve or completely shut off the process to isolate the valve from process pressure. Drain fluid from both ends of the Valve.
 - If the valve opens with pneumatic signal pressure to actuator, remove air from the actuator before attempting to remove valve from line.
 - While dismantling the valve, if any part is stuck up, do not use any pressure or force technique. Use proven methods only.
 -
- (1) The valve plug must be off the seat ring while the stem connector is separated-apply air to the actuator, is necessary.
 - (2) Release the travel indicator lock nut from stem connector.
 - (3) Unscrew the yoke locking ring from the bonnet threads and lift the actuator assembly (along with TMH assly) over the plug stem, off the valve taking care to avoid damaging any valve part or accessories attached to it.

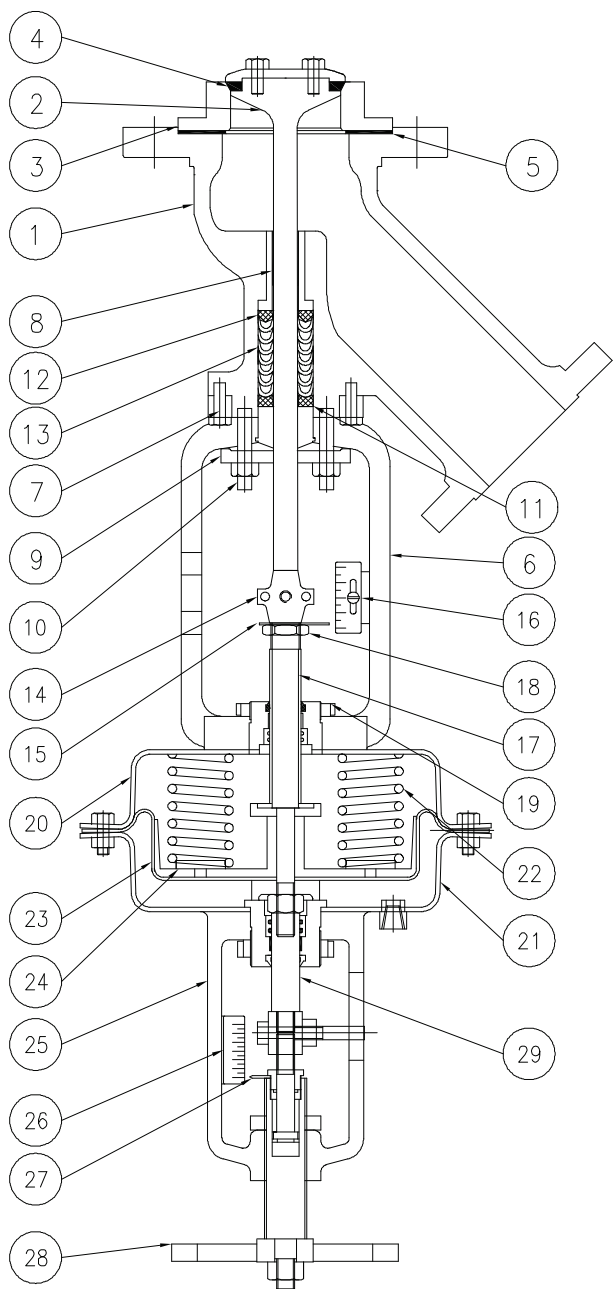


4.4 TOP MOUNTED HANDWHEEL (TMH)

Top Mounted Handwheel (TMH) is capable of providing operating force in both the upward and downward directions and is a continuously connected handwheel. In this arrangement there is nothing to engage or disengage. It can be used to operate the control valve through out its stroke, or as a travel stop, limiting the amount of closing or opening of the valve. The actuator is operatable with pneumatic air when the handwheel is set in 'NEUTRAL' position.



5.0 PARTS ILLUSTRATED



No.	PART	QTY.
1	VALVE BODY	1
2	VALVE PLUG	1
3	SEAT RING	1
4	SOFT SEAT	1
5	SEAT GASKET	1
6	YOKE	1
7	CONNECTING BOLT	2
8	GUIDE BUSH.(BEARING)	1SET.
9	GLAND FLANGE.	1
10	GLAND STUD.	2
11	PACKING SPREADOR-FRONT	1
12	PACKING SPREADOR-REAR	1
13	GLAND PACKING.	1SET.
14	STEM CONNECTOR	1
15	INDICATOR	1
16	TRAVE PLATE	1
17	ACTUATOR STEM	1
18	LOCKNUT	1
19	YOKE LOCKNUT	1
20	ACTUATOR UPPER CASING	1
21	ACTUATOR LOWER CASING	1
22	SPRING	1
23	DIAPHRAGM	1
24	DIAPHRAGM PLATE	1
25	TMH.YOKE	1
26	TMH.TRAVEL SCALE	1
27	TMH.INDICATOR	1
28	HAND WHEEL	1
29	TMH. STEM	1



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6.0 RECOMMENDED SPARES

It is recommended to stock the following spares parts for commissioning and routine service.

Sr. No.	PART NAME	RECOMMENDED QUANTITY
4	Soft Seat	One for every Five identical or One minimum.
8	Guide bush	One set for every Five identical or One set minimum. (front & rear)
13	Gland Packing	One Set for every Two identical or One Set minimum.

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Valve Disposal Detail :After the complete use of valve. Dispose the valve with accessories as per your local laws.



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