

- D. 12v Battery shall be supplied to ensure automatic closing in case of if main power failure.

1.2.15 Solenoid Valve Actuator

- A. Heavy-duty industrial type actuators shall be provided, with direct acting actuator, sealed by an EPDM diaphragm against the flow media, spring loaded for reverse operation.

1.2.16 Gear Boxes

- A. Gear boxes shall be totally enclosed, of robust construction and shall be suitable for continuous duty under ambient conditions. Long-life seals on the input and output shafts shall be fitted up to prevent the escape of lubricants and the ingress of dust and moisture. The gearbox housing shall be of rigid high strength close-grained cast iron with a properly closing cover. Eye bolts for lifting purposes shall be provided.
- B. Oil level sight glasses shall be installed for easy viewing and ventilation (breather), oil filling caps and drains shall be provided. Where applicable gear boxes shall be equipped with a flexible coupling, including safe guards, between the motor and the shaft of the gear box.
- C. Lubrication of bearings etc. shall be by either splash or forced feeding system. The lubricant used for the initial filling and specified in the maintenance manual shall be adequate for prolonged operation without overheating in the temperature specified.

1.2.17 Supports and Anchors

- A. Pipe and equipment supports shall be situated at those points in the building where provisions have been made for the load imposed. The cutting of floor or roof beams or the reinforcement in slabs is not permitted.
- B. Pipe supports and hangers shall be designed in accordance to MSS SP 58, MSS SP 69 and MSS SP 89.
- C. All necessary supports, including hangers, saddles, sliding shoes, slings, bolts, anchors etc. shall be supplied to support the pipe work and associated equipment. Heavy Valves and other pipe accessories etc. shall be supported separately.
- D. All metallic supports and brackets etc. shall be manufactured from stainless steel grade 316L or equivalent.