- Body shall be Rolled Steel to BS EN 10025-2 Grade S275 and End rings or sleeves shall be Rolled Steel to BS EN 10025-2Grade S275 or Rolled Steel to BS EN 10025-2 Grade S355.
- For Flange spigot, Flange shall be Steel to BS EN10025:1993 Grade S275 and Spigot shall be Steel to BSI0216-1or Rolled Steel to BS EN 10025-2Grade S275.
- Gaskets shall be accordance with BS-EN 681-1
- The nuts, bolts, studs, tie rods and washers shall be stainless steel to BS EN3506-1Grade A2/A4 or any other higher grades of stainless steel.

Flange Adaptors

- Flange drilling shall be accordance with BS EN 1092.
- Body and End rings shall be Ductile iron to BS EN 1563, Symbol EN-GJS-450-10 or any other approved superior material.
- Gaskets shall be accordance with BS-EN 681-1
- The nuts, bolts, studs, tie rods and washers shall be stainless steel to BS EN3506-1Grade A2/A4 or any other higher grades of stainless steel.

1.2.10 Penstocks and Stop locks

A. Penstock, sluice valves, shall be designed to ensure tight closure and shall be suitable for wall or channel mounting. Stem, stem nut and stem adapter including stem brackets shall be oversized and shall be designed for heavy duty load and shall not break by any means in case the gate is blocked.

B. The penstock, sluice valve shall be designed to be suitable in function and material for storm water of high salinity with a conductivity level not less than 10000µS/cm. following BS 7775 or AWWA C501 requirements.

C. Pedestal including mechanical and electrical position indicator, position penstock gate shall be indicated at the MCC for "open" and "closed".

D. Valves shall be equipped with bevel gearbox with rising steam.

E. The leakage shall be restricted to the following limits:

a) Under a design seating head of less than 3.0m measured from the gate invert, leakage shall not exceed 1.25 L/min per meter of seating perimeter.