SPECIFICATION FOR FABRICATED WALL MOUNTED TYPE PENSTOCKS

SPECIFICATION No 0002-SGW

Frame shall be half or full frame manufactured from welded rigid mild steel sections to mild steel grade 43A BSEN 10025:S275 JOH 1997/J2H 1994, stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404) and shall have removable gusseted yoke piece to allow removal/fitting of door as required.

Where necessary, the side frames shall have reinforcement gussets to cater for off-seating pressures, to prevent any distortion in the frame under full load.

The seating side of the frame shall have resilient EPDM seals to the sides and soffit, seals shall be mechanically fixed with stainless steel grade 316 BS EN ISO 3506 pt1-2 fasteners, and poly ethylene retaining strips BS ISO 15527:2010, so the seal can be removed with the Penstock in situ.

The off-seating side of the frame shall have stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404) adjustable wedges (Weir Penstocks -parallel slides poly ethylene BS ISO 15527:2010) with stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404) adjusters.

The door shall be manufactured from stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404) and shall comprise a main sealing plate with hollow section reinforcing matrix welded to the off-seating side of the plate. All matrix section joints shall be fully welded and sealed. Angled door wedges shall be welded to the sides of the matrix.

Where necessary, additional top wedging shall be provided by means of door wedges and a frame crossbeam to ensure water tightness to the required limits.

The base of the door shall have a formed EPDM seal to create a flush invert , the EPDM seal will be to BS681-1, the seal will be mechanically fixed with stainless steel grade 316 fasteners BS EN ISO 3506 pt1-2 and retaining strips 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404), so it can be removed with the Penstock in situ .

A door lift bracket shall be welded to the top of the door to enable connection of the operating door nut. The design shall allow removal of the nut without disturbing the door.

The Penstock operating stem will be of the rising or non-rising type and be manufactured from stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404). The extension spindle can be mild steel grade 43A BSEN 10025:S275 JOH 1997/J2H 1994, stainless steel grade 304/316 BSEN10088-2 (1.4301/1.4307-1.4401/1.4404). The stem will work through a machine cut operating nut either housed in a thrust taking arrangement mounted direct to the top of the frame, remote on a pillar or housed in a nut located on a pocket at the top of the Penstock door. If actuated the stem will work through the drive sleeve of the actuator unit. (Actuator or gearbox operated Penstocks will utilise the drive sleeve supplied

by the vendor) For rising stems a cover tube shall be provided (indicating or non-indicating). Actuator cover tubes to be Manufacturer's standard

Headstocks shall be manufactured from heavy gauge mild steel and shall be heavy duty galvanised to BS729.

The Penstock will be clockwise closing at the hand wheel. This will be clearly marked on the hand wheel (integrally or mechanically fixed. the hand wheel will be no smaller than 300mm and geared that one operator can operate the Penstock using an effort of approximately 180N. This excluded electrically actuated Penstocks. Installation of the Penstocks will be by electro zinc plated mild steel BS 7371-8:2011 or stainless steel grade A4 BSEN10088-2 (1.4401/1.4404) expanding/resin anchors.

Following installation final adjustment and initial lubrication is to be undertaken and the door operated through one cycle (or as recommended by the manufacturer). If considered necessary by the client's representative a leakage test shall be undertaken at the maximum specified head.

The maximum allowed leakage will be as BS7775:2005.

BS Specification BS7775:2005, including normative specifications references therein.

Mild steel parts will be coated in-accordance with the following:-

Blast clean SA2½.
Galvanise to BS729 and or 'T' wash
Two pack epoxy 150 microns DFT. – black.

Stainless steel self colour, the stainless steel should be cleaned after fabrication by approved methods.