Fig 934 Floating Arms.

industrial PENSTOCKS ltd

OVERVIEW

Industrial PENSTOCKS ltd manufacture a range of Floating and Decanting Arms with options on the Floating arms for single or twin float, scum boxes, constant discharge single or twin orifice plates.

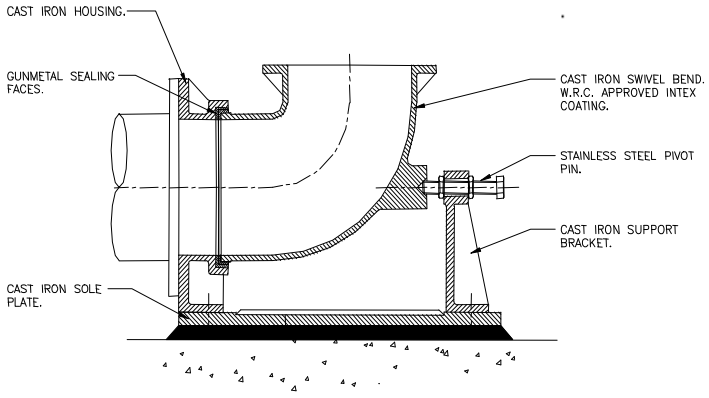
CONSTRUCTION

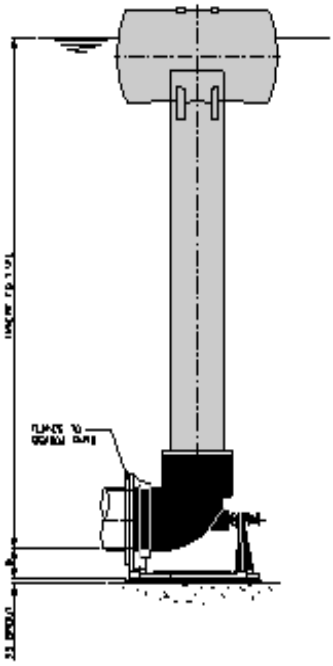
Swivel Bend Body, Swivel Bend, Swivel Bend Bracket and Sole Plate - Manufactured in cast iron to BS1452 Gr 220 with outlet flange drilled to BS4504 NP16.

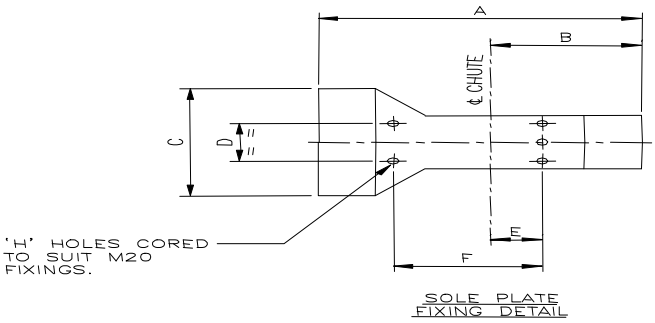
Swivel Bend Seals - Manufactured from Gun-Metal to BS1400 LG2.

Float - manufactured in mild steel and galvanised to BS729, complete with float plugs to facilitate accurate setting of float level.

Arm - Manufactured in st st 304/316







SOLE PLATE FIXING DETAIL

Dia	A	B	C	D	E	F	H
100	370	230	240	180	65	135	3
150	385	200	350	290	80	170	3
200	575	320	340	140	105	300	3
250	650	345	400	140	105	300	4
300	635	370	410	140	60	300	4

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS FLOATING ARMS

INSTALLATION RECOMMENDATIONS

HANDLING AND STORAGE

If chains or slings are used for handling purposes, the unit should be protected with cloth sacking or similar material.

NEVER USE HOOKS UNLESS EYEBOLTS ARE FITTED

Floating Arms should be stored in the horizontal position whenever possible and with the chute and float removed.

NOTES

1. Pressure of any locating jacks must be spread evenly using timber. AVOID point loading to any part of the unit.

2. Due to civil work tolerances, mounting of the unit must be affected by grouting between the base and sole plate, without any part of the sole plate actually touching the floor thus avoiding the possibility of distortion. **DO NOT** attempt to seal the sole plate to the base by means of mastic or other resilient compounds, as this will only result in future problems.

3. The anchor bolts are of stainless steel construction. Anchor bolts should ALWAYS be tightened up, using a torque wrench to the correct setting. Please refer to the Liebig anchor bolt manufacturers literature for specific recommendations.

4. All units leave the factory with the body and swivel bend fitted to the sole plate. It is very important that the swivel bend seal is checked and adjusted prior to installation.

5. Before grouting it is essential that a feeler gauge non-acceptance test of 0.05mm be carried out on all sealing faces (body / swivel bend).

INSTALLATION SEQUENCE

The installation of floating arms, avoiding distortion and consequent leakage, and sufficient movement of the arm is not difficult providing these recommendations are followed.

Prior to commencing installation, check civil work and adjoining pipe work is correct to all appropriate drawings and that there are no obvious obstructions or undulations on concrete surfaces. Ensure there is sufficient distance from the sole plate to the surrounding civil structure to ensure full movement of the chute and float(s)

LOCATION USING EXPANDING ANCHOR BOLTS

1. Supporting the unit on slings or shackles and hanging from a crane or lifting hoist, present the unit to its required position. Support the unit in its required position, relative to the flow, in the prepared location making sure that the float arm bore will align with the connecting pipe work.

2. Locate the unit in its correct final position by sitting the sole plate onto jacks or packing pieces to suitable level and align with pipe work. Carefully check for plumb and Level in all directions and check that the invert to coping dimension is correct (where relevant).

3. Using the sole plate as a template, drill holes to accept the anchor bolts specified.

4. Insert the anchor bolts and place packing pieces, to the recommended grouting thickness, between the back of the sole plate and the floor, close to the inserted bolts. Tighten the bolts sufficiently to hold the packing pieces in position.

4. Carefully check for plumb and level in all directions, check sealing faces with a 0.05mm feeler gauge and check that the invert to coping dimensions is correct (where relevant).

5. Having checked for plumb, correct level, alignment and location finally tighten all bolts securely to ensure no movement of the frame during grouting.

6. Once grouted clean down, connect the chute and floats to the swivel bend and check movement.

SHUTTERING AND GROUTING

1. Shutter up the sole plate for grouting using timber, faced with a thin neoprene type sponge material to ensure a good, clean, seal without undue pressure.

2. CHECK AGAIN for plumb and position. If correct, mix and pour a fluid grout in proportions of 50kg cement, 50kg silver sand and 0.22kg (small tub) cebex 100

plasticized expanding grout admixture (or equivalent) between the frame and floorl or recess.

3. When the grout is set, finally re-tighten the anchor bolts in sequence, i.e. when one bolt head has been dealt with, follow on with the bolt diagonally or diametrically opposite. After all bolts are tightened, remove the shuttering and generally clean up and remove any excess grout or debris from the flap valve. Pay attention to the sealing faces to see that they are not damaged in any way, otherwise the unit may leak.

GROUT SPECIFICATION

50kg	Ordinary Portland Cement
50kg	Silver Sand
1 x Tub	Cebex 100 (0.227kg)
22-24 litres	Water or less as required

OPERATION RECOMMENDATIONS

OPERATION

The floating arm is self operating, when the tank contains water the float will raise or lower the chute to the correct level to allow the fluid to discharge. Usually an isolating valve will prevent any discharge and is usually fitted to the outlet line.

Floating Arms can be either constant discharge or variable discharge. Constant discharge units will draw-off a constant flow or volume irrespective of the depth of fluid in the chamber. A variable discharge unit will pass varying flows and volumes depending on the depth of water in the chamber which changes the head being discharged down the chute.

MAINTENANCE RECOMMENDATIONS

The Floating Arm valve should give years of trouble-free operation, providing the following simple inspection procedures are adopted.

THE FREQUENCY OF INSPECTION SHOULD BE BASED ON THE PARTICULAR REQUIREMENTS OF THE INSTALLATION.

1. Clean the unit by hosing down to remove any grit or debris.

2. Check for leakage between the body and swivel bend and adjust if necessary by slackening the locknut nut on the trunion pin and tightening the trunion pin into the rear of the swivel bend. Re-tighten the locknut

3. Check the tightness of the bolts and nuts.

4. Check there is no damage to the swivel bend, chute and floats.

5. Check the chute is clear and free from debris.

6. Moving parts should be lightly oiled or greased as appropriate.

7. When carrying out any maintenance work when the chute and float needs to be raised, ensure they are securely supported using slings etc.

GREASE

Recommended Grease: BP Energrease Ref. No. L21M

Whilst every care is taken that the information given herein is reliable, Industrial Penstocks Ltd cannot accept responsibility for any damage resulting from the application of these recommendations, intended for guidance only.

LUBRICANTS

MANUFACTURER	NAME OF GREASE	COMMENT
Century Oils	Lacerta CL2X	Never mix one type of oil or grease with another.
Shell	Alvania EP1	As above.
Esso	Beacon EP2	As above.