

INSTALLATION, OPERATION AND MAINTENANCE MANUAL



HANDSTOP

WATERFRONT

We are a Glasgow based company providing water engineering solutions in fluid control for both the UK and International markets.



Waterfront Fluid Controls Ltd was formed in 1988 specialising in the installation and commissioning of Penstocks for Treatment Plants.

We offer a service to supply, refurbish and install valves, penstocks and ancillary equipment.

We have extended our range to incorporate a wide range of products for controlling Water Flows. These products cover all types of valves, penstocks and ancillary products.

Waterfront Fluid Controls LTD provides consistent high quality products and services.

CONTENTS :

HANDLING AND STORAGE PAGE 4

INSTALLATION SEQUENCE - CHANNEL MOUNTED FRAME PAGE 4

INSTALLATION SEQUENCE - WALL MOUNTED FRAME PAGE 4

SHUTTERING AND GROUTING PAGE 5

GROUT SPECIFICATION PAGE 5

**OPERATIONAL RECOMMENDATIONS CHANNEL OR WALL MOUNTED
HANDSTOPS PAGE 5**

**MAINTENANCE RECOMMENDATIONS CHANNEL OR WALL MOUNTED
HANDSTOPS PAGE 6**

INSTALLATION RECOMMENDATIONS

CHANNEL OR WALL MOUNTED HANDSTOP

HANDLING AND STORAGE

Where chains or slings are used for handling purposes the frame should be protected using cloth sacking or similar material.

HOOKS ARE ONLY TO BE USED WHERE EYEBOLTS ARE FITTED.

NOTES

1. Pressure of any locating jacks must be spread evenly using timber. **AVOID** point loading to any part of the frame and **NEVER** apply jacking pressure to the door.
2. Due to civil work tolerances, mounting of the unit must be affected by grouting between the wall and frame, without any part of the frame actually touching the wall, thus avoiding the possibility of distortion. **DO NOT** attempt to seal the frame to the wall by means of mastic or other resilient compounds, as this will only result in leakage.
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 anchor bolt manufacturers literature for specific recommendations.
4. Before grouting it is essential that a feeler gauge non-acceptance test of 0.1mm be carried out on all sealing faces.

INSTALLATION SEQUENCE

The installation of handstops, avoiding distortion and consequent leakage, is not difficult providing these recommendations are followed.

Prior to commencing installation, check civil work is correct to all appropriate drawings and that there is no obvious obstruction or undulations on concrete surfaces.

CHANNEL MOUNTED FRAME - LOCATION

1. Support the unit in its required position, relative to the flow, in the prepared recess making sure that the invert of the frame is flush with the final invert of the channel.
2. Locate the unit in its correct final position by wedging the frame in the recess using jacks and packing pieces, of suitable thickness. Carefully check for plumb and Level in all directions and check that the invert to coping dimension is correct.
3. Check seal faces with 0.05 or 0.1mm feeler gauge using light pressure only, to check for and gaps in the seal and use jacks or packers of sufficient thickness to close the gap. Light pressure is required as these are resilient face units and excessive pressure may give false indications.

WALL MOUNTED FRAME - LOCATION USING EXPANDING ANCHOR BOLTS

1. Supporting the frame along the whole of its bottom cross member, or by hanging from a crane, present the unit to its required position.
2. Using the frame as a template, drill holes to accept the anchor bolts specified.
3. Insert the top two anchor bolts and place packing pieces, to the recommended grouting thickness, between the back of the frame and the concrete wall, close to the inserted bolts. Tighten the bolts sufficiently to hold the packing pieces in position.
4. Insert the remaining anchor bolts and by using jacks and packing pieces of suitable thickness, locate the frame in its correct final position. Carefully check for plumb and level in all directions and check that the invert to coping dimensions is correct.
5. Check seal faces with 0.05 or 0.1mm feeler gauge using light pressure only, to check for and gaps in the seal and use jacks or packers of sufficient thickness to close the gap. Light pressure is required as these are resilient face units and excessive pressure may give false indications.
6. Having checked for plumb, correct level, alignment and location you can now grout the handstop.

SHUTTERING AND GROUTING

1. Shutter up the frame 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 wall 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 handstop. Pay attention to the sealing faces so 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

Available from any Builders Merchants

OPERATION RECOMMENDATIONS FOR CHANNEL OR WALL MOUNTED HANDSTOPS

OPERATION

Operation of the handstop is simple and straightforward, providing the Installation recommendations have been carried out correctly.

1. The seals on a handstop are specially designed to give the best degree of water tightness, assuming that the unit is installed correctly. However, whilst many units will be nearly drop-tight, a leakage tolerance has to be applied, and this is:

'The maximum leakage rate under normal operating and on-seating conditions, up to a 6.0 metres head, is 1.25 litres per minute pr metre of periphery. For off- seating conditions, the figure is 2.5 litres.

2. If excessive leakage occurs, the most likely explanations are:

- (a) That the frame has been distorted during installation.
- (b) That the door adjusters have been moved prior to, during, or after installation.
- (c) That there is grout or debris between the door and the frame at the invert.
- (d) That the seals have been scored or damaged in some way.

MAINTENANCE RECOMMENDATIONS CHANNEL OR WALL MOUNTED HANDSTOPS

MAINTENANCE

The handstop 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 frame and the concrete wall. Make good any faults.
3. Check the tightness of the bolts and nuts.
4. Check there is no damage to the frame, door or seals.
5. When carrying out any maintenance work with the handstop door in the open position, ALWAYS ENSURE that the door is securely and independently supported from underneath.

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