PENSTOCK HDPE / SS316

INSTRUCTION MANUAL FOR FLAT WALL MOUNTING TILL 5 M.W.C.

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING THE INSTALLATION!

The installation instruction as described below must be followed in the correct order. If the installation is not being executed according to our instructions, we can't be held responsible for any damage that may occur after an incorrect installation (In this case, we reject all liability).

Please check the goods supplied for completeness and any damages. Report any defects or damage to us immediately upon receipt of the goods.

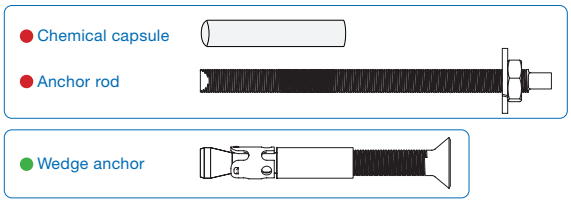
In the event of any ambiguities, we recommend to consult our product specialist. He will be able to help and/or advise.

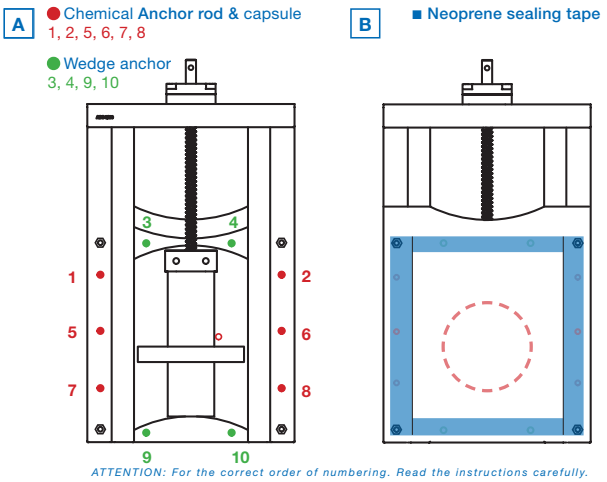
PREPARATION

- The penstock is designed and developed to be installed on a flat and clean wall.
- Check the flatness of the (concrete) wall according to DIN 18 202 table 3 item 7 with a maximum deviation of 2 mm over a distance of 2.00 meters.
- Also check the wall for minor blemishes/bumps, especially where the Neoprene is sticked on the back of the penstock frame plate, which provides the sealing between the penstock and the (concrete) wall.
- Moving the penstock on site needs to be done with care.
  Always lift the penstock vertically.

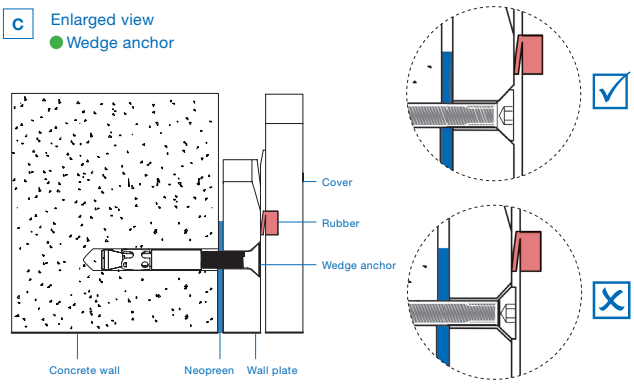
INSTALLATION

1. Position the penstock in such a way that the passage is situated exactly in front of the outlet of the civil construction.
2. Mark the first two chemical anchors holes on the wall. **(see image A - ● 1 & 2)**
3. Remove the penstock from the wall.
4. Drill the marked holes at correct depth and place the anchors according to the instructions of the anchor supplier.
   Observe the time required for the hardening of the chemical capsules (p.t.o).
5. The door must be completely closed during installation.
6. Mount the penstock by hanging it on these two anchors.
7. Check if the penstock is positioned vertically and mark the remaining mounting holes. Marking can be done by pre-drilling the holes.
   During pre-drilling of the horizontal holes the HDPE frame plate may not be damaged, while this is relatively soft and flexible.
8. Remove the penstock from the wall.
9. Drill all remaining holes at depth (● **5,6,7,8**). Check ● **1 & 2** dubbel **(see image A)**
10. Drill the holes for the wedge anchors 55 mm deep in the concrete wall .
    (for the countersunk head bolt M10 x60) **(see image A - ● 3, 4, 9, 10)**
11. Place the chemical capsules in the holes and drill the anchor rods into these holes.
12. Remove excess residue of the chemical capsule that is coming out of the holes..
    (Follow the instructions of the anchor supplier.
    Pay attention to the needed hardening time!)
13. Stick the Neoprene sealing tape around the passage over the anchor holes. Make sure that most of the neoprene tape falls inside the anchors. In case of wet weather, the tape may also be stapled to the frame plate **(see image B).**
14. Make the holes for the anchors in the neoprene tape.
15. Install the penstock in position over the anchor rods. Tighten the two upper nuts of the anchor rods hand-tight **(see image A - ● 1 & 2)**
16. Now place the countersunk bolts of the wedge anchors **(see image A - ● 3,4,9,10)**
17. Go further with the nuts of the chemical anchors. Start with the anchors in the middle above the door and work your way equally from centre to left/right side of the penstock (● **5 & 6)** in order to prevent deformations in the frame plate. Tighten the countersunk head bolts into the wedge anchors evenly so that a good seal to the wall is obtained without deforming the frame plate
18. Do the same for the wedge anchors below the door. The countersunk bolts may not protrude, otherwise they will damage the seal during sliding of the door
19. Tighten the anchors in the guides gradually one by one so that a good seal to the wall is obtained without deforming the frame plate and guides. Work your way from the bolts from the highest location to the lowest location. After tightening the nuts repeat once again if the nuts are tightened. **(see image C)**





ATTENTION: For the correct order of numbering. Read the instructions carefully.



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INSTALLATION OF AN OPTIONAL SPINDLE EXTENSION

1. Position the spindle extension with guide bracket on top of the bare shaft of the penstock.
2. Put the guide bracket approximately 250 mm below the operation deck or 250 mm below the top of the spindle extension.
3. Mark the drilling holes for the guide bracket onto the wall. Temporarily remove the extension to drill the holes
4. Drill the holes and mount the chemical anchors as per instructions of the supplier of the chemical anchors. Note the hardening time, which is required for the chemical anchors.
5. Mount the spindle extension and fix the guide bracket to the wall in such a way that the adjustable block is positioned at the right angle in relation to the extension. There will remain some slack in the guide bracket for any movements of the spindle extension.

COMMISSIONING OF THE PENSTOCK

- Remove all dirt from the penstock. Especially any dirt which is in between the door and the frame plate, while this is the place where the dirt will easily accumulate. The sealing could be damaged if the penstock is not cleaned properly between the door and the frame plate.
- Moisturize the seal before operation/commissioning.
- Check if the penstock operates properly by opening and closing the door.
- Don't use too much force during turning of the spindle. An increase of the torque means you have reached the end of the thread. Do not continue operation. Too much force can cause damages to the penstock.

MAINTENANCE

- Check the operation of the door (by open and closing) at least 2 times a year.
- Remove all dirt from the spindle and from the door.
- Grease the spindle if required.

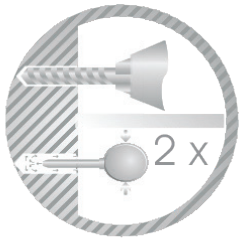
INSTALLATION OF ELECTRICAL DEVICES

- Installation of electrical devices must be installed according to the guide lines of the supplier of these devices

SUPPLIER REGULATIONS. OF THE CHEMICAL ANCHORS

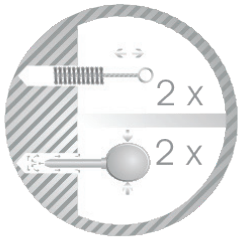
1

1.1 Mark the depth of the drilling hole.
1.2 Drill the hole.
1.3 Blow out the drilling hole 2 times.



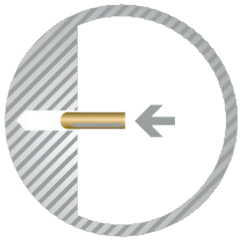
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2.1 Brush the drilling holes 2 times.
2.2 Blow out the drilling holes 2 times.



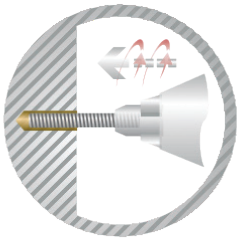
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3.1 Check if the chemical capsule is not damaged.
3.2 Put the chemical capsule into the drilling hole.



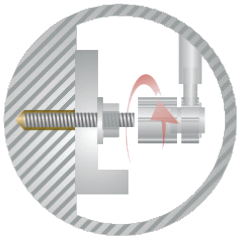
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4.1 Drill the anchor rod in the drilling hole by means of a drilling machine. Turn/drill the anchor rod fully through the chemical capsule.
4.2 Note the time..



5

5.1 Take note of the needed hardening time, before going further with final installation. (see diagram below)



SPECIAL CARE REGARDING CHEMCIAL ANCHORS

Please take note of the needed hardening time for the chemical anchors.

