The CC model is a rectangular penstock designed for open channel installation. A resilient sealing feature is incorporated on 3 sides, (both laterals and bottom), resulting in a perfect seal without the need of pressing wedges. This feature allows the design to be utilised for applications requiring accurate regulation of the flow, where the positive sealing achieved reduces the potential for leakage, even from partially closed channel section, ensuring optimum performance.

**SIZES:** From 200x200 to 2000x2000 (as standard). Alternative sizes available on request.

**CONSTRUCTION MATERIALS**

Standard materials of construction:

1. **Frame:** Stainless Steel AISI 304, AISI 316, AISI 316 Ti or Carbon Steel
2. **Gate:** Stainless Steel AISI 304, AISI 316, AISI 316 Ti or Carbon Steel
3. **Seals:** EPDM
4. **Stem:** Stainless steel AISI 303 as standard. AISI 304/AISI 316 on request
5. **Sliders:** UHMWPE

Alternative alloy materials, like AISI 904L or DUPLEX stainless steel are available if required.
Slide gates with a self-contained frame design accommodate a direct interface with various actuators. However, when using extensions, the actuator must be mounted securely onto a dedicated floor pillar or appropriate wall bracket supports.

**Accessories:**

- Various accessories available for the actuators: mechanical stops, actuator manual overrides, locking devices, solenoid valves, positioners, limit switches, proximity switches or sensors, etc.

**ACTUATORS**

The CC series are easily adaptable to non-rising stem, rising stem, and lineal actuators: pneumatic and hydraulic cylinders.

**Manual operators:**
- Handwheel with rising stem
- Handwheel with non-rising stem
- Gear box with rising stem
- Gear box with non-rising stem
- Others (cap top...)

**Actuators:**
- Electric actuator
- Pneumatic cylinder
- Hydraulic cylinder

Slide gates with a self-contained frame design accommodate a direct interface with various actuators. However, when using extensions, the actuator must be mounted securely onto a dedicated floor pillar or appropriate wall bracket supports.

**INSTALLATION INSTRUCTIONS**

CC series penstocks are designed to be mounted in a channel. There are no protrusions from the wall, reducing the accumulation of debris, thus minimising any potential resulting head loss.

1. **Installation in a channel**

   - The penstock is fixed into the preformed rebates in the sides and invert of channels, dimensions as illustrated on the drawings provided.
   - Place the penstock into the rebate with the seals on the upstream side.

   **Unidirectional**

   **Bidirectional**
• Centre the frame in the channel, levelling it on both horizontal and vertical planes. Level the bottom beam of the frame with the channel floor.
• Fix the frame to avoid movement while filling the rebate with mortar. Small channel gates are usually fixed by means of simple wooden wedges. If the size or weight of the equipment does not facilitate this method, the frame will be provided with additional mountings to allow fixing to the wall with anchor bolts or similar.
• Fill the rebates with expansive mortar, SIKAGROUT or suitable alternative.

2. Wall mounting
• Open the gate.
• Place the frame against the wall making sure the orifices on both the wall and the frame are perfectly aligned.
• Drill the concrete using the holes on the frame as a guide.
• Introduce the anchor bolts with a hammer.
• In order to avoid leakage between frame and wall, separate the frame from the wall and fill the void between them with SIKAFLEX 11 FC or similar.
• Place the frame back on the wall and tighten the fasteners of the anchor bolts. Be very careful not bending the frame.

MAINTENANCE INSTRUCTIONS

1. Stem lubrication
Keep the stem well greased to avoid premature wear of the bronze nut.

2. Seal replacement
The seals are retained with stainless steel plates and fasteners. After replacing the seals, the fixing components can be reused.

WARNING!!
According to EN 13463-1 (15) while the maintenance operations is not allowed any electrical equipement.

OPERATING INSTRUCTIONS

1. Opening and closing
A clockwise rotation closes the gate. Once the closed position is reached, apply additional 1/4 turn. This will ensure that the bottom seal is properly pressed.

WARNING!!
Forcing the spindle unnecessarily does not improve the sealing performance and may cause irreparable damage on stems, nuts, gates and frames. A counter clockwise rotation opens the gate. The gate will stop against the upper beam once the slide gate is fully open. The slide gate operating system is self-locking by design, thus the gate will remain in the last operated position: open, closed or intermediate.

2. Electric actuators
Electric actuators for ORBINOX slide gates should have the following adjustments:

Opening:
Position indicator and motor cut-off by limit switch. Adjust the torque switch setting at the values specified by ORBINOX.

Closing:
Position indicator and motor cut-off by limit switch or torque switch. Adjust the torque switch setting at the values specified by ORBINOX.

WARNING!!
• Electric motors without limit and torque switches are not applicable to ORBINOX slide gates.
• Electric motors have internal anti-condensation electric heaters. Avoid mounting the actuators outside if they are not connected to the electric supply. Internal humidity could damage the electric/electronic components.
• For motor maintenance, refer to the dedicated manufacturers IOM manual.

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www.orbinox.com
RISING STEM HANDWHEEL ACTUATOR

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NON RISING STEM HANDWHEEL ACTUATOR

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Model CC

Handwheel on Frame

Bevel Gear on Frame

Motor on Frame

Bevel Gear and Motor on Frame

Pneumatic Cylinder on Frame

Hydraulic Cylinder on Frame