

# PENSTOCKS



## PURPOSE

- ◆ A penstock is a small to medium-sized watertight mobile device meant to isolate a chamber to dewater it, cut or control flow
- ◆ It is used in all industrial plants where water flows in channels or basins
- ◆ They are sometimes referred to as sluice gates, slide gates or roller gates
- ◆ They are actuated with a level difference between front and back

## DESCRIPTION

- ◆ Penstocks are either on-seating or off-seating
- ◆ They consist of:
  - ◇ A frame with two side guides and top and bottom sills, bolted or grouted to the civil structure
  - ◇ A fabricated obturator with seals on all four sides.
  - ◇ A manual or motor-driven spindle lifting device (with rising or non-rising stem)
- ◆ Bi-directional sealing is available
- ◆ BEAUDREY penstocks are built in compliance with international standard DIN 19569. Compliance to other standards such as BS 7775 or AWWA C561 upon request

## ADVANTAGES

- ◆ Simple and easy to handle
- ◆ Economical
- ◆ Excellent water tightness (better than DIN 19569-4 or AWWA C561 requirements), leakage rate below 0.2 l/min/meter of seal
- ◆ Maintenance-free

## HANDLING

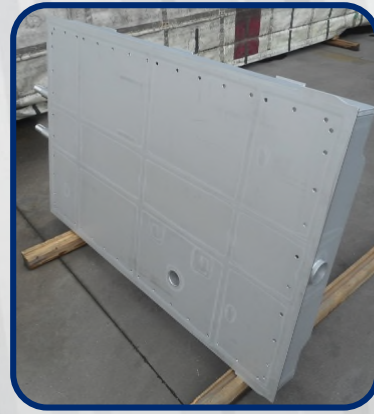
- ◆ Two types of lifting methods:
  - ◇ Manual actuators
  - ◇ Motorized actuators



Gate, wet side



Wall Frame



Gate, dry side

## INSTALLATION

- ◆ The penstocks can be either:
  - ◇ On-seat
  - ◇ Off-seat
  - ◇ Bi-directional
- ◆ Several installation options such as:
  - ◇ Channel-mounted or wall-mounted
  - ◇ Open or closed frame
  - ◇ Rising or non rising spindle

## MATERIALS

- ◆ Guides and gates:
  - ◇ AISI 304L stainless steel for fresh-water applications
  - ◇ AISI 316L, duplex or super-duplex stainless steel for seawater applications
- ◆ Stem: high-tensile steel or stainless steel
- ◆ Seals: EPDM

## SIZES AND DATA

- ◆ Standard width up to 2 m
- ◆ Standard height up to 2 m
- ◆ Larger dimensions on special request
- ◆ Maximum standard water differential: 10m (more upon special request)



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