



XL3 channel penstock (Seal on the plate)

made of stainless steel or steel

CHANNEL PENSTOCK WITH RECTANGULAR OPENING, 3-SIDED SEALING

Opening dimensions and pressure stage

Opening dimensions 150 x 150 mm to 3500 x 3500 mm

Pressure level on the front or back side possible

Pressure level corresponds to the plate height

Frame and plate

- Supplied as pre-assembled penstock which does not require assembly, setting and adjusting works up to 1200 mm
- Design as self-supporting frame construction made of stainless steel with integrated spindle bearing
- Welded frame and penstock plate made of stainless steel, optimised for maximum safety and durability by means of FEM certification
- Bridge screwed on, thereby all wear parts (spindle, spindle nut, spindle bearing and seal) can be exchanged in the installed condition without dismantling the penstock from the structure
- Penstock for embedding in concrete: Equipped with adjustment sleeves for aligning the penstock in the channel recess
- No offset in rear to front invert level on the embedded penstock
- Welding certificate in accordance with DIN EN 1090-2 EXC2

Material

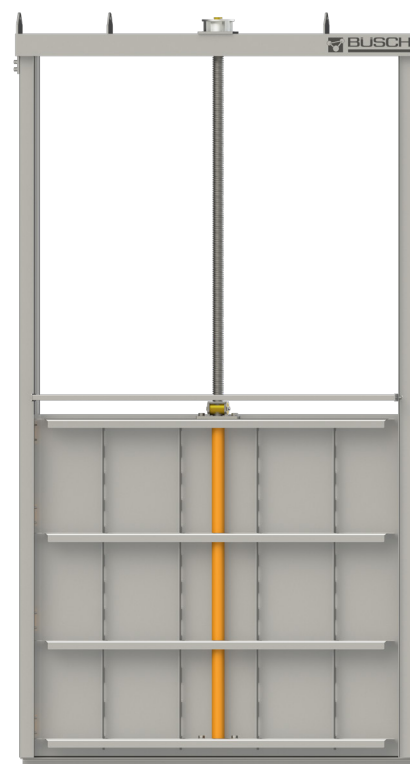
- Stainless steel 1.4301 (304) / 1.4404 (316L) / 1.4410 (A182 F53) / 1.4462 (A182 F51) / Steel 1.0038 (S235JR/A36) hot-dip galvanised or epoxy-coated

Spindle

- Spindle protection made of polyethylene or stainless steel
- Spindle with rolled trapezoidal thread made of stainless steel from opening dimensions 150-1900 mm
- Spindle with whirled trapezoidal thread made of stainless steel, opening dimensions 2000-3500 mm
- Single spindle design or twin spindle design
- Spindle nut made of seawater- and wastewater-resistant bronze
- Optional: Spindle outside the medium rising or non-rising (easier to lubricate)

Seal

- Assembled on the penstock plate, note profile seal with hot vulcanised (minimum temperature: 180°C) UNO angle joints made of wastewater and UV-resistant EPDM or oil-resistant NBR
- Easy replacement of the seal possible during operation, as the penstock plate can be pulled upwards
- Factory pre-assembled seal to the wall made of solid, wastewater resistant foam rubber on the penstock frame up to maximum pressure stage 6 mwc on both sides
- Seal line 50 mm larger than the masonry opening to prevent leaks on masonry openings



XL3 channel penstock 2000 x 1850 mm

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YOUR ADVANTAGES

- **READY FOR IMMEDIATE USE**
Penstock is delivered ready for assembly*
- **FOREVER DURABLE SEAL**
Through vulcanised UNO angle joints
- **SEAL ON PENSTOCK PLATE**
Exchangeable during operation by pulling out the entire penstock plate
- **PERFECT CORROSION PROTECTION**
All welded stainless steel parts from our own pickling plant
- **OPTIONAL EX-PROTECTION**
On request, the penstock can be proven to comply with the ATEX Directive 2014/34/EU

*(multiple frame as of 1300 mm)

Slide sealing system

Opening dimension 150 x 150 mm to 3500 x 3500 mm

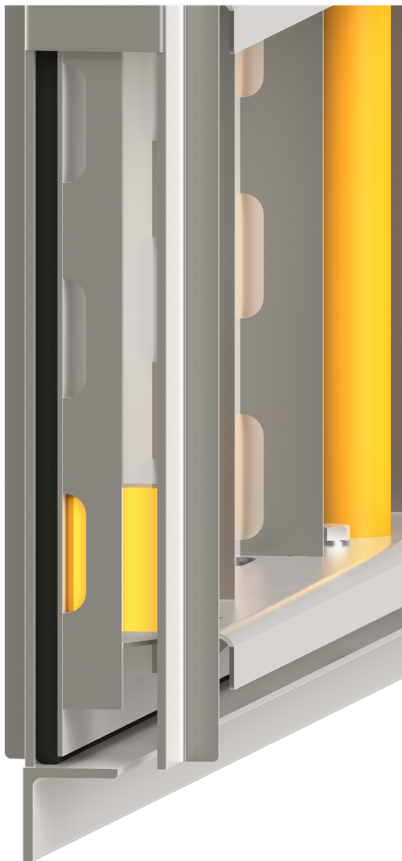
- Integrated sliding guides on the penstock plate made of polyethylene (PE-UHMW)

Leak tightness class

- Leak rate better than DIN EN 19569, Part 4, Table 1:
 - Pressure on front side max: 1 % from 0.05 to 0.1 l·s⁻¹·m⁻¹ (leak tightness class 3)
 - Pressure on back side max: 5 % from 0.05 to 0.1 l·s⁻¹·m⁻¹ (leak tightness class 3)

Detailed view

Adjustable and readjustable sliding sealing system with replaceable sliding guides



Side view

Wedge sealing system

up to Opening dimension 1200 x 1200 mm

- Integrated closing wedges in the frame made of stainless steel, on the penstock plate made of polyethylene (PE-UHMW)

Leak tightness class

- Leak rate better than DIN EN 19569, Part 4, Table 1:
 - Pressure on front side max: 1 % from 0.02 to 0.05 l·s⁻¹·m⁻¹ (leak tightness class 4)
 - Pressure on back side max: 2 % from 0.05 to 0.1 l·s⁻¹·m⁻¹ (leak tightness class 3)

Wedge sealing system

Opening dimensions over 1200 x 1200 mm

- Integrated closing wedges in the frame made of sea and waste water resistant bronze, on the penstock plate made of stainless steel

Leak tightness class

- Leak rate better than DIN EN 19569, Part 4, Table 1:
 - Pressure on front side max: 1 % from 0.02 to 0.05 l·s⁻¹·m⁻¹ (leak tightness class 4)
 - Pressure on back side max: 5 % from 0.05 to 0.1 l·s⁻¹·m⁻¹ (leak tightness class 3)

Detailed view

Wedge-actuated side sealing system



Side view

Mounting

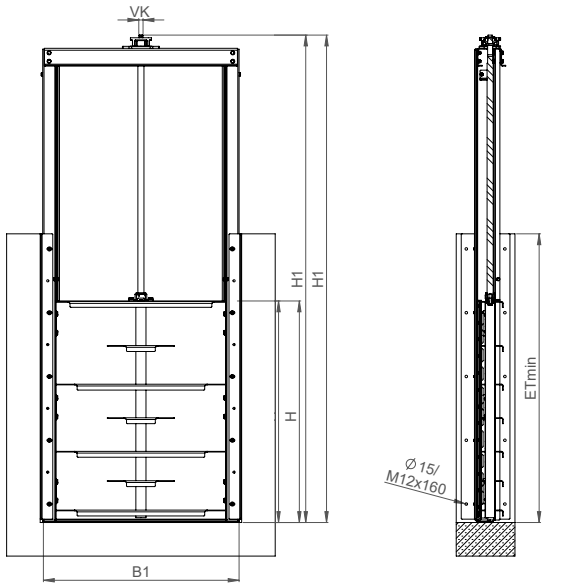
- Lateral fixing
 - Grouting into recess
 - Anchoring to the wall in front of the opening
 - Anchoring laterally on the wall
- Fixing onto the base
 - Grouting into recess
 - Anchoring to the wall in front of the opening
 - Anchoring onto the base

Actuation options

- Stainless steel handwheel with direct mounting or with Modular Actuation System MAS
- Lateral actuation with stainless steel gearbox with stainless steel handwheel or stainless steel crank handle
- Stainless steel operating key All-in-one via square cap
- MOBITORQ mobile actuators (electric or battery-powered) via square cap
- BEAmax stainless steel electric rotary actuator for open-close & modulating duty with direct mounting or with Modular Actuation System MAS, optional with stainless steel weather protection roof
- Electric actuator
- Pneumatic actuator/Hydraulic actuator with direct mounting or with Modular Actuation System MAS

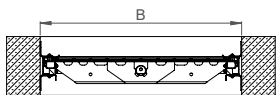
Dimensional drawing

Anchoring in the channel



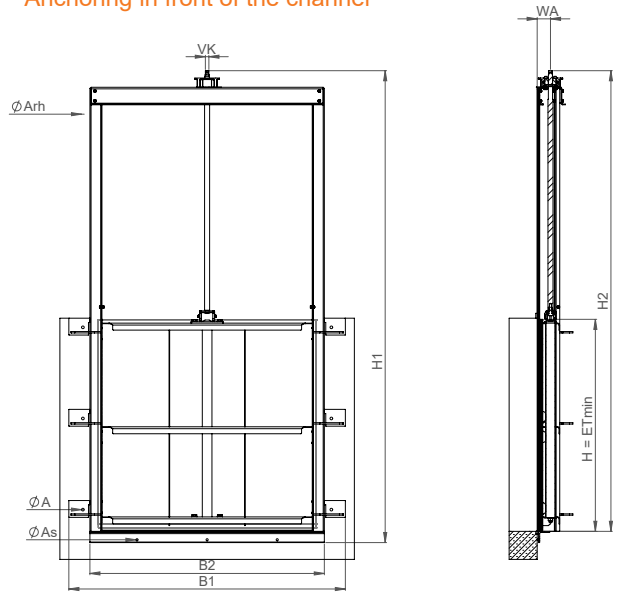
XL3 channel penstock 1200 x 1300 mm front view

Side view



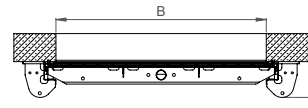
XL3 channel penstock 1200 x 1300 mm top view

Anchoring in front of the channel



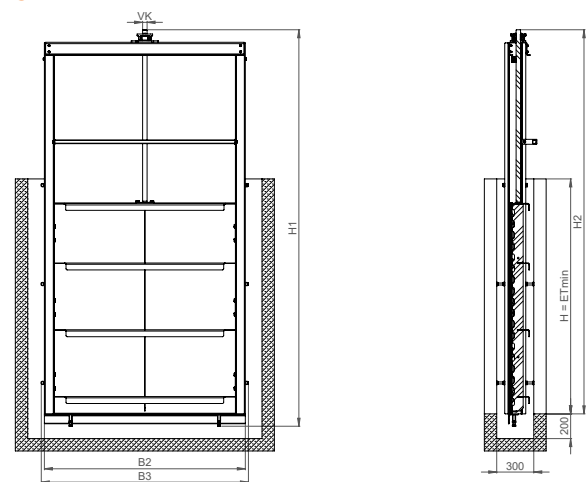
XL3 channel penstock 1500 x 1500 mm front view

Side view



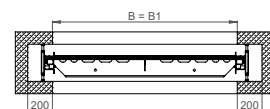
XL3 channel penstock 1500 x 1500 mm top view

Concrete in the channel



XL3 channel penstock 1500 x 1500 mm front view

Side view



XL3 channel penstock 1500 x 1500 mm top view

W x H

B1	Please specify when ordering
B2	
H1	Size dependent
H2	
H3	
H4	Please specify when ordering
ET min.	
WA	Size dependent
Rev./Stroke	
VK	
A	
As	
Aq	
Arh	

XL3 channel penstock round base

VARIANT* OF XL3

WITH SEMICIRCULAR OPENING, 3-SIDED SEALING

Slide sealing system

Opening dimension 150 x 150 mm to 3500 x 3500 mm

- Integrated sliding guides on the penstock plate made of polyethylene (PE-UHMW)

Wedge sealing system

up to Opening dimension 1200 x 1200 mm

- Integrated closing wedges in the frame made of stainless steel, on the penstock plate made of polyethylene (PE-UHMW)

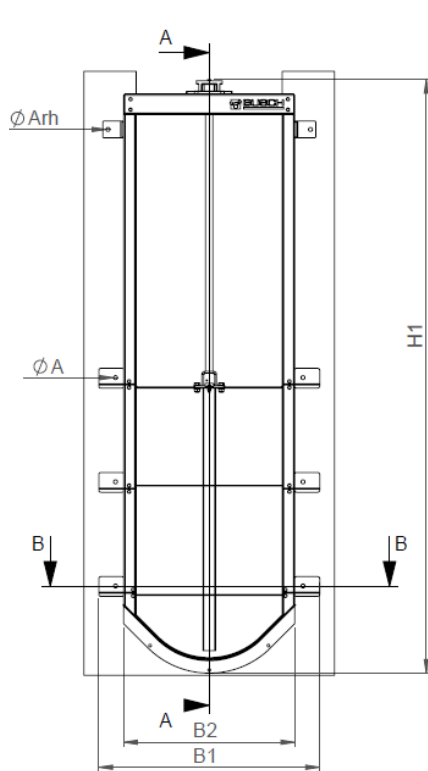
Opening dimensions over 1200 x 1200 mm

- Integrated closing wedges in the frame made of sea and waste water resistant bronze, on the penstock plate made of stainless steel

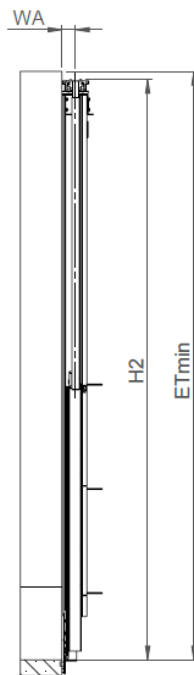
Leak tightness class

- Leak rate better than DIN EN 19569, Part 4, Table 1:
 - Pressure on front side max: 1 % from 0.05 to 0.1 l·s⁻¹·m⁻¹ (leak tightness class 3)
 - Pressure on back side max: 5 % from 0.1 to 0.3 l·s⁻¹·m⁻¹ (leak tightness class 2)

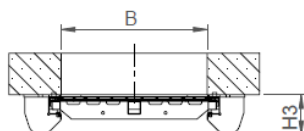
Dimensional drawing



XL3 channel penstock round base
700 x 1300 mm front view



XL3 channel penstock round base
700 x 1300 mm side view



XL3 channel penstock round base
700 x 1300 mm top view

SPECIAL FEATURES

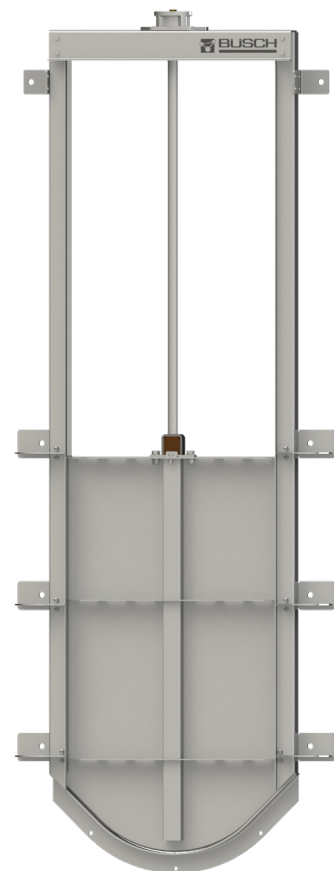
• ROUND BASE

For easy concreting into the channel, water flow at the same level

*STANDARD DATA: please refer XL3 channel penstock

W x H

B1	Please specify when ordering
B2	
H1	Size dependent
H2	
H3	
H4	Please specify when ordering
ET min.	
WA	Size dependent
Rev./Stroke	
VK	
A	
As	
Aq	
Arh	



XL3 channel penstock round base
700 x 1300 mm