1. **XL3 double plate penstock**
2. Double plate penstock made of stainless steel
3. Opening dimensions 300 x 300 mm to 4500 x 4500 mm
4. Pressure stage possible on the front or back
5. Pressure stage corresponds to the plate height (both plates closed)

Optional ex-protection: On request, the penstock can be proven to comply with the ATEX Directive 2014/34/EU

A valid welding certificate of at least execution class EXC3 according to DIN EN 1090-2, from the manufacturer must be attached to the offer.

Penstock with rectangular opening, three-sided seal with the following design characteristics:

**Frame and plate**

* Supplied as pre-assembled penstock which does not require assembly, setting and adjusting works requires up to 1200 mm (from 1300 mm multi-part frame)
* 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
* Penstock plate with stiffening ribs according to structural requirements: The result of the FEM verification of the penstock plate must be submitted.
* The lower and upper panels overlap by a maximum of 125 mm
* both plates raised, maximum storage height released (max. storage height = both plates closed)
* upper plate fully lowered in front of lower plate (lower plate = upper plate height +125mm)
* 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
* Integrated slide strips on the penstock plate made of polyethylene (PE-UHMW)
* Penstock for embedding in concrete: Equipped with setting sleeve for aligning the penstock in the channel recess
* All welded parts with perfect corrosion protection from our own pickling plant
* No crack in the base of the embedded penstock

**Material:** SS 304 / 316L / Duplex 2205 / super duplex 2507 / 904L (Delete as applicable)

**Spindle**

* Spindle protection made of stainless steel or polyethylene
* Spindle with rolled trapezoidal thread made of stainless steel, opening size 150-2000 mm
* Spindle with whirled trapezoidal thread made of stainless steel, opening size 2100-4500 mm
* Depending on panel dimension: single-spindle version or double-spindle version each plate
* Spindle nut made of seawater and wastewater resistant bronze
* Rising spindle stored and guided in form A (spindle outside the medium/easier to lubricate)
* Optional: Spindle mounted non-rising in the bridge and spindle nut on the penstock plate (spindle nut in the medium)

**Seal**

* Assembled on the penstock plate, note profile seal with hot vulcanised (minimum temperature 180°C) BÜSCH UNO corner connections made from 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 on both sides
* Seal line 50 mm larger than the masonry opening to prevent leaks on masonry spalling

**Leak tightness class**

* **Leak rate better than DIN EN 19569, Part 4, Table 1:**
  + Pressure on front side: maximum 1 % from 0.05 to 0.1 l/s/m (leak tightness class **3**)
  + Pressure on rear side: maximum 5 % from: 0.1 to 0.3 l/s/m (leak tightness class **2**)

Prerequisites for wall properties:

The concrete quality must at least correspond to strength class C25 according to DIN 1045 / DIN 1084. The dimensional tolerances according to DIN EN 18202 (table 3, line 7) must be observed.

**Penstock must be demonstrably tested on leak test bench at factory (unless frame is set in concrete or screwed into channel)**

**Type of assembly for penstock**

Lateral fixing

* Concreted into recess
* Dowelling to the wall in front of the opening
* Dowelling laterally on the wall

Fastening in the base

* Concreted into recess
* Dowelling to the wall in front of the opening
* Dowelling onto the base

(Delete as applicable)

**Actuation of the penstock by:**

* Stainless steel handwheel on transverse yoke
* Lateral actuation with gearbox with BÜSCH stainless steel gearbox with stainless steel handwheel or stainless steel crank handle
* BÜSCH All-in-one control key via square cap
* BÜSCH MOBITORQ mobile electric drive unit via square cap
* BEAservo e-actuator unit assembled on transverse yoke, optional with BÜSCH weather protection roof
* Pneumatic drive unit assembled on transverse yoke
* Hydraulic drive unit assembled on transverse yoke
* E-Actuator

(Delete as applicable)

**Penstock designed for:**

Sewer width: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Sewer depth: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Plate height lower plate

(>= top plate height +125mm): \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Plate height upper plate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Lift: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Operating height above upper edge of operating corridor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Maximum operating pressure on the front side: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mwc

Maximum operating pressure on the rear side: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mwc

Can be utilised with BÜSCH drive unit package \_\_\_\_\_\_\_\_\_ (2 to 25), refer to Position: \_\_\_\_\_ LV-No.: \_\_\_\_\_\_

**Scope of supply**

Penstock complete with all necessary fastening elements (dowels (stainless steel A4) and sealing material).

* Including works certificate according to DIN EN 10204, 2.1, with indication of leakage rate according to DIN 19569, part 4
* Including acceptance test certificate according to DIN EN 10204, 3.1, with factory leak test in the design for dowelling in front of the wall
* Including acceptance test certificate according to DIN EN 10204, 3.2, with factory leak test in the presence of the customer in the design for dowelling in front of the wall.

(Delete as applicable)

**BÜSCH XL3 double plate penstock** or equivalent

**Manufacturer:**

BÜSCH Armaturen Geyer GmbH

Industriestraße 1

09468 Geyer

Germany

[**www.buesch.com**](http://www.buesch.com/)

Quantity ........ EURO/Unit ......... EURO/Pos. .........