1. **SAFOX© round**
2. Penstock made of stainless steel
3. Opening dimensions DN 150 to DN 3000
4. Standard pressure stages for pressure on the front or back sides of the slide plate:

* DN 150 to DN 300: 10 mwc
* DN 400 to DN 800: 8 mwc
* DN 900 to DN 1200: 7 mwc
* Larger than DN 1200: 6 mwc
* Higher pressure stages possible

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 circular, round opening, all-sided seal with the following design features:

**Frame and plate**

* Supplied as pre-assembled penstock which does not require assembly, setting and adjusting works up to 1200 mm (multiple frame as of 1300 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
* Penstock plate with stiffening ribs according to structural requirements: The result of the FEM verification of the penstock plate must be submitted.
* 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.
* Exchangeable closing wedges in bronze frame resistant to seawater and wastewater
* All welded parts with perfect corrosion protection from our own pickling line

**Material:** SS 304 / 316L / A 182 F51 / A 182 F53 / 904L (Delete as applicable)

**Spindle**

* Spindle protection made of stainless steel
* Spindle with rolled stainless steel trapezoidal thread, opening size DN 150 – 1300
* Spindle with whirled trapezoidal thread made of stainless steel, opening size DN 1400 - 3000
* Single spindle design or twin spindle design
* Spindle nut made of sea and wastewater resistant bronze
* Optional: Spindle outside the medium rising or non-rising (easier to lubricate)

**Seal**

* Factory-fitted profile sealing ring suspended freely in the frame, flexible sealing. Sealing both to the wall and also to the penstock. Additional sealing to the wall not necessary
* Made of wastewater and UV-resistant EPDM or oil-resistant NBR with welded BÜSCH UNO push joint
* Seal line larger than the masonry opening to prevent leaks on masonry spalling
  + DN 150 to DN 600: 12 mm
  + DN 700 to DN 1200: 32 mm
  + DN 1400 to DN 3000: 50 mm

**Leak tightness class**

**SAFOX© leak rate according to DIN EN 12266-2, Part 2, Table A.5:**

Pressure on rear side: leak rate C

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

* Dowelling to the wall in front of the opening

No fixing needed on the bottom side

Fastening in the base

* Concreting in recess >> corresponds to **SAFOX© G**
* Dowelling to the wall in front of the opening

No fixing needed on the bottom side

(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
* BEA**©**servo electric drive 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:**

Dimensions of the opening: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ DN

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

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

Installation depth: \_\_\_\_\_\_\_\_\_\_\_\_ mm (measured from channel bottom to upper edge of control floor)

Can be used 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 SAFOX©**

or equivalent

**Manufacturer:**

BÜSCH Armaturen Geyer GmbH

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09468 Geyer

Germany

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

Number ........ EURO/Unit ......... EURO/Pos. .........