CP4 penstock

Penstock made of stainless steel

Opening dimensions 150 x 150 mm to 1200 x 1200 mm

Pressure stage on the front side: 6 mwc

Pressure stage on the rear side: 4 mwc; from 900 x 900 mm: 3 mwc

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, four-sided seal with the following design characteristics:

Frame and plate

* Supplied as pre-assembled penstock which does not require assembly, setting and adjusting works.
* Design as self-supporting frame construction made of stainless steel with integrated spindle bearing
* Slim construction design (width = masonry opening + 165 mm)
* 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.
* All welded parts with perfect corrosion protection from our own pickling line
* No offset in rear to front invert level on the embedded penstock
* Penstock for embedding in concrete: Equipped with setting sleeve for aligning the penstock in the channel recess
* Seal and wear parts (spindle, spindle nut, spindle bearing, seal) replaceable

**Material:** SS 304 / SS 316L (delete as applicable)

Spindle

* Spindle with rolled trapezoidal thread made of stainless steel
* Spindle non-rising
* Spindle nut made of sea and wastewater resistant bronze
* Optional: Spindle outside the medium rising or non-rising (easier to lubricate)

Seal

* Movable, positioned seal support,seal clipped with stainless steel and pre-tensioned for two-sided pressure absorption
* Profile seal with BÜSCH UNO corner connections (minimum temperature: 180°C) made from wastewater and UV resistant EPDM or oil-resistant NBR
* Factory pre-assembled seal against the wall made of solid, wastewater resistant foam rubber on the seal support in the design for dowel fixing.
* Seal line 44 mm larger than the masonry opening to prevent leaks on masonry spalling

**Leak tightness class**

* **Leak rate according to DIN EN 19569, Part 4, Table 1:**
	+ Pressure on front side: 0.02 to 0.05 l/s/m (leak tightness class **4**)
	+ Pressure on rear side: 0.05 to 0.1 l/s/m (leak tightness class **3**)
* **CP4 penstock leak rate:**
	+ Pressure on front side: maximum 1 % from 0.02 to 0.05 l/s/m (leak tightness class **4**)
	+ Pressure on rear side: maximum 5 % from 0.02 to 0.05 l/s/m (leak tightness class **4**)

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**

Fastening in the base

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

(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 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:**

Opening width: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

Opening height: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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

Installation depth: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm

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 CP4 penstock

or equivalent

**Manufacturer:** BÜSCH Armaturen Geyer GmbH

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 Germany

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

Unit ........... EURO/Unit ............ EURO/Position ...........