

KD05.1/05.2

Penstock



KD Penstocks are suitable for water and wastewater applications and are primarily suitable for flow control, isolation and regulation duties.

KD Penstocks have a simple and robust stainless steel construction ensuring limited maintenance and low running cost. With more than 20 years of experience and hundreds of installations worldwide KD penstocks have a proven design with a long lifetime.

The penstock size is customized according to customer request and it is supplied with a non-rising trapezoid single or twin spindle arrangement. Operation by hand wheel, crank, electric actuator, pneumatic or hydraulic cylinder. After machining all stainless steel parts are completely pickled and passivated for optimal surface treatment.

The penstock is installed by using adhesive anchors. KD05.1 channel mounted is fixed into

the preformed recess and grouted. KD05.2 wall mounted is fixed by foundation bolts and sealed with rubber between frame and wall. Installation parts and sponge rubber are included at delivery.

To ensure a successful installation of KD Penstocks the on-site conditions have to be considered. In order to select the appropriate grouting material special attention is drawn to wall straightness, crevices, gaps and humidity.

Advantages :

- More than 20 years of experience and hundreds of installations worldwide
- Penstocks are customized according to customer request
- Long service time and minimum maintenance

Design

The Penstocks are dimensioned for a water pressure of 5mVS as standard.

KD 05.1 is for installation in channels, KD 05.2 is for wall installation.

Operated method for Penstocks:

- Hand wheel
- Crank
- Gear motor (AUMA)
- Pneumatic or hydraulic cylinder

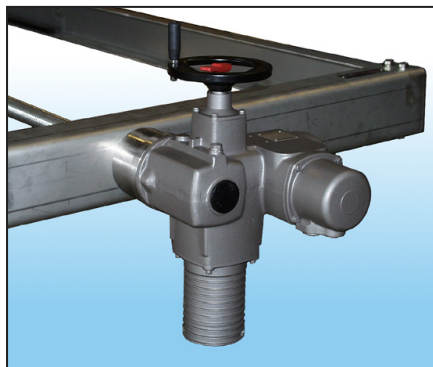
Operation and support bearing is mounted on a console. Console for KD 05.1 is as standard, mounted directly on the frame. KD 05.2 has a various options of mounting positions, depending

on the distance from hole to position of operation:

- Console mounted directly on the frame (short distance)
- Console mounted on a separate frame (long distance)
- Wall bracket (AUMA)
- Straight column (through floor/ceiling)

By large dimensions the Penstock can be equipped with a Spiral Bevel gearbox and two spindle arrangements.

As standard the Penstock is made in AISI 304, and fully pickled after production to ensure optimum durability. If an even better corrosion resistance is required, we can supply Penstocks made of acid-proof steel AISI 316 or SMO steel.



Automatic operation by AUMA gear motor.



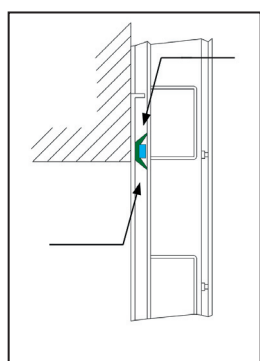
The gate plate is guided by four PEHD rails, which minimize the weir of sealing.



Manual operation existing of: Spiral gearbox and two spindles.

The Penstock principle

The gate is operated by means of a handle or a gear motor. By manual as well as automatic



activation of the spindle, the gate plate will be lifted or lowered.

The location of the gate plate with respect to the seal is controlled by four PEHD guide rails.

These four guide rails help minimize the seal pressure and thus prolong the life of the seal.

Seal

The sealing system developed by KD is used specially for penstocks and the unique design makes the gate tight in both on- and off-seating duties. The guide rails keep the gate door in position relative to the sealing. Additionally, the guide rails decrease the sealing pressure and consequently the sealing lifetime is prolonged. KD Penstock is designed according to DIN19569-4, leakage class 4 (0,02 to 0,05 l/s/m).



KD DWE