

Water transmission





Lengths of over 100 kilometres and nominal widths of over DN 100 are not unusual for large scale water transmission systems. Often they are installed as parallel pipelines. They ensure that drinking water is available at all times and at the highest quality for thousands or even millions of households and companies within large cities and metropolitan areas. Highest product quality and reliability are therefore of greatest importance.

In many of these systems pumps are used to transport water across hills or to water towers. Rotary pumps are usually used in these systems, often in dual installation for reasons of operational safety.

TALIS offers a large number of valves for this application. The range extends from butterfly valves and pump start-up valves via pump by-passes and check valves up to air valves for filling and draining the pipelines.



In addition to operational safety and a long-service life, the optimum design of the installation is at the forefront of this application, as only correct dimensioning with optimum flow values can assure long-term and cost effective pump operation with minimum energy costs. With many years of experience behind them our project engineers are the competent contact persons for this.

Our products for water transmission

- Double-eccentric butterfly valves
- Air valves
- Non-return valves
- Connection systems



The TALIS product range for pumping stations



Double-eccentric butterfly valves

The **ERHARD ROCO® Premium butterfly valve** as a logical and consistent development of the ERHARD butterfly valves that have been tried and tested for many years stands for highest quality in the nominal sizes DN 80 to DN 600. Perfect solutions ensure outstanding product properties with respect to operating safety, durability and cost effectiveness. The innovative polygon shaft-hub connection [1] features a completely closed disc eye, does not need any additional connecting elements and hence no separation joints and offers 20 % more torque reserves thanks to the notch-free polygonal profile with the same shaft diameter. State of the art, precision production technologies enable the connection to be made absolutely free of play and, together with the flow-optimised shape of the valve disc, prevents any fluttering whatsoever. The innovative design also allows complete encapsulation of the connection between the shaft and valve disc [3] and, therefore, there will be no contact between the shafts and the medium any longer. Sealing consistently and logically occurs at coated parts of the component, a decisive plus for protection against corrosion and durability.

Further advantages:

- Safe sealing using a rolled up, solid seat ring made of stainless steel or in the enamelled version, it sits directly on the smooth vitreous enamel
- Fully rubberised EPDM clamping ring [2] which simultaneously serves as a sealing element, can be easily readjusted and, if necessary, can be easily replaced at any time
- Double-eccentrically supported valve disc with optimised flow performance
- Sliding crank mechanism with optimal movement kinematics that is almost exactly corresponding to the valve's characteristic curve

1



2



3



The ERHARD ROCO Premium butterfly valve is available in numerous variants, e. g. with a high-quality fusion bonded epoxy coating with flanged connection, as dismantling type or for the BLS system.

With their nominal sizes DN 700 up to DN 3600 and pressure ratings from PN 10 to PN 40, the **ERHARD EAK butterfly valves**, which have been used for many years, cover a wide range of applications. Proven details ensure reliable quality and a high degree of cost-effectiveness:

- Drive shaft and bearing pin are supported in maintenance-free, self-lubricating plain bearings and hence are highly resilient
- Connection between drive shaft and valve disc with proved and robust key connection for force transmission without play even under the highest stresses
- Main seal through profile ring that is clamped onto the valve disc and fixed with a clamping ring
- Double-eccentrically supported valve disc with optimised flow performance
- Sliding crank mechanism with optimal movement kinematics that is almost exactly corresponding to the valve's characteristic curve (spindle gear for DN 800 and up)

Air valves

The **BAYARD VANNAIR air valve** is a double air valve built according to an original compact design. It is made of two mechanically free floats operating in a single chamber body. One float is a ball fully covered by elastomer, the other is a disc in which two o-rings are inserted in a concentric way. The floating ball ensures the shut-off of the small orifice whereas the floating disc ensures the shut-off of the large orifices located in the bonnet. A cover protects the large orifices against dirt and allows a direct air exhaust in downward direction.

Thanks to its large cross-section and the very high ventilation speed, the **ERHARD TWIN-AIR® air valve** is ideal for use in larger pipe networks. It guarantees safe pipe ventilation during the filling process, operational air release being in service and during the draining process. Notwithstanding the high performance, the construction is compact and space-saving. The ERHARD TWIN-AIR air valve has two nozzles. Air can first escape via both orifices in the pipe filling process which means high ventilation performance. Both orifices will be shut once the water level has reached the floating point of the balls. If air should however accumulate during ongoing operation, only the float ball of the small orifice will drop thus releasing the small valve until the air volume has escaped. The small orifice is being purged by a cleaning device with every switching action.

An efficient protection against water hammer effects by evacuating overpressures instantaneously is provided by the **BAYARD safety relief valve**. Its diaphragm system opens without friction and has a centred valve disc. The conic body shape allows a high flow rate capacity. It is maintenance free and protected against the ejection of water. At zero flow rates it is watertight and a fusion bonded epoxy coating provides a long lasting corrosion protection.





Filters & strainers

The **BAYARD strainer box** offers a secure protection of valves, water meters and pipelines. For easy maintenance the strainer box is accessible from the top. Optional lateral drain plugs allow the installation of a drainage valve for maintenance without interrupting the water supply. The inclined position of the screen reduces clogging and thanks to an optimised filtering section the valve offers a low head loss.



Non-return valves

Installed at the intake side of a pump, the **BELGICAST foot check valve** ensures a maintenance free protection of the pump against flow inversion. The hydraulically profiled disc optimises the flow characteristics and thanks to the flat gasket mounted on the disc, the valves seals properly even with low pressure. Attached to the valve is a strainer made of stainless steel. A special cable-pass in the body allows an easy electrical installation of the pump.

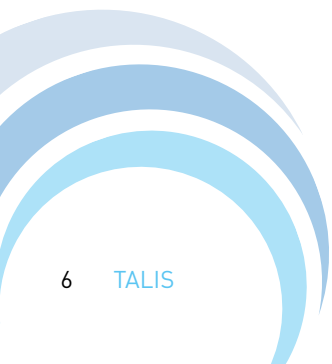


An optimised flow cross-sectional area as well as a valve disc and valve stem gasket designed for minimum flow resistance ensure minimum head losses with the **ERHARD non slam nozzle check valve**. This enables highly economic operation especially in pumping stations. Valve disc, spring and closing travel have been engineered in such a way that the ERHARD non slam nozzle check valve reacts that quickly even in highest flow delays (e. g. in a vertical line) that only minimal return flow velocities occur, with the flow being gently slowed, thus reducing water hammers to a minimum.

Thanks to its compact form (face-to-face dimension to DIN EN 558, series 14), the adjustable spring force as well as its use in any installation position, the ERHARD non slam nozzle check valve can be used for a wide range of applications up to pressure ratings of PN 40 in the natural and drinking water sector as well as in purified wastewater. The body is made from spheroidal cast iron EN-JS1030 (EN-JS1025 for PN 40), the body insert is made from bronze. The resilient-seated piston is rubberised to W270. All internal parts can be easily replaced and the guide bushes are maintenance-free. The ERHARD non slam nozzle check valve is internally enamelled for protection against corrosion and the outside has been coated with EKB fusion bonded epoxy in blue. Position indication is optionally available.



A key component of the **ERHARD ERK tilting-disc check valve** is the valve disc which has a freely oscillating, flow-facilitating design with double eccentricity support. The shafts are in maintenance-free, self-lubricating friction bearings, and the shaft has maintenance-free seals. A rolled up, solid body seat ring made of stainless steel, and a disc seat ring which is additionally provided with an elastic fine seal, provide perfect sealing. The ERHARD ERK tilting-disc check valve has a weight-saving short-pattern design, and, with nominal diameters ranging from DN 150 to DN 1000 and pressure ratings ranging from PN 10 to PN 25, as well as numerous options, it provides a solution that can be individually adapted, even for special applications.



The **BELGICAST dual plate check valve** is clamped between two flanges as a reflux preventer. It has two vanes which, for example, open on starting a pump and will immediately close upon switching off the pump through the pressure exerted by the head of water and the spring restoring force. The check valve can both be installed in horizontal and vertical pipelines and is suitable for temperatures from -10 °C to +60 °C.



Connection systems

Of course the TALIS range also provides all components for an easy and secure connection of valves like:

- **FRISCHHUT fittings** according to DIN EN 545, Series A, made of EN-JS1050 ductile cast iron with epoxy coating, flanged connections or TYTON® socket
- **UNIJOINT flange adapter** with flange connection on one side and insertion socket for the pipe on the other side, offers an adjustability of ± 25 mm as well as an angular deflection of 3° ; absorbs vibrations in the pipeline, overcomes axial offset and guarantees a permanently leaktight connection
- **UNIJOINT PAS20 dismantling joint** with a length compensation up to ± 25 mm for an easy installation and removal of valves, with connection flanges to both ends, 100 % tension with sturdy, continuous threaded rods





TALIS is always the number one choice whenever water transport or control is required. TALIS has the best solution for water and energy management, as well as for industry and municipal applications. With a varied range of products we offer comprehensive solutions for the entire water cycle. From hydrants to butterfly valves. From the knife-gate valves to the needle valves. Our experience, innovative technology, global expertise and individual consultation process form the basis for developing sustainable solutions for the efficient handling of the vital resource "water".



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