

Water distribution network







Underground pipeline networks are also parts of water distribution systems like voluminous water storage systems.

Many thousands of kilometres of pipeline of various dimensions ensure that drinking water is available at all times and at the highest quality in every household and company.

The pipe dimensions and materials depend on the usage, the water quality and ground conditions. Water tanks and towers, as well as numerous hydrants for flushing the pipeline networks and for supplying water for the fire service supplement the system, which is monitored with modern network information systems.

Being 100 % suitable for drinking water is therefore of decisive importance for the valves used in these installations. Another special challenge for the use of valves lies in the fact that pipelines and valves are generally buried in the ground protected against frost. Many valves such as service clamps, for example, are not used there for long periods of time, but when called upon they must exhibit full functional capacity in order to avoid costly and sometimes almost impossible construction work (e. g. in the case of tram lines in city centres).

Extreme robustness, optimum protection against corrosion (e. g. according to GSK with a coating thickness of at least 250 µm) or the external impermeability of gearboxes therefore play a decisive role in the case of valves for pipeline networks.

Our products for water distribution networks

- Resilient-seated gate valves
- Double-eccentric butterfly valves
- Air valves
- Control valves
- Non-return valves
- Hydrants
- Connection and repair systems



The TALIS product range for water distribution networks



Resilient-seated gate valves

As the latest generation of gate valves, the **TALIS BAKIO gate valve** offers a lot of advantages, such as an insert-type stem bearing enabling seamless bonnet coating for complete corrosion protection and sealing of the spindle bearing with o-rings which can be replaced under full working pressure if required. An integrated spindle screw end stop guarantees increased safety and the innovative protective cap with integrated sealing lips serves as secure sealing against dust and moisture. The shut-off wedge made from top-quality cast iron with complete elastomer coating guarantees a soft seal and one hundred per cent tightness. Profiles with integrated friction guides ensure easier actuation. Optimum corrosion protection is guaranteed by a fusion bonded epoxy coating or fibre-reinforced Pro-Enamel.

The TALIS BAKIO gate valve is available with flanged connection, series 14 and 15, with socket connections for PVC pipes or TYTON system as well as in numerous other variants and connection options.



Double-eccentric butterfly valves

The **ERHARD ROCO Premium butterfly valves** stands for highest quality in the nominal sizes DN 80 to DN 600. The innovative polygon shaft-hub connection features a completely closed disc eye, does not need any additional connecting elements and hence no separation joints and offers 20 % more torque reserves. The connection is absolutely free of play and, together with the flow-optimised shape of the valve disc, prevents any fluttering whatsoever. The design also allows complete encapsulation of the connection between the shaft and valve disc 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. The sliding crank mechanism has an optimal movement kinematics that is almost exactly corresponding to the valve's characteristic curve. The ERHARD ROCO Premium butterfly valve is available in numerous variants: with a fusion bonded epoxy coating or in Pro-Enamel, and with flanged connection, as dismantling type or for the BLS system.



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 speeds, 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.

Control valves

The pilot-controlled **BAYARD Hydrobloc pressure reducing valve** is deployed in converting a fluctuating, higher inlet pressure into a lower, constant downstream pressure. The valve controlled by its own medium features a pilot valve as control unit ensuring precise, prompt and fast control in addition to the main valve. The pilot valve will open once the downstream pressure drops below the value set on the control unit. The resulting pressure relief will then result in opening the main valve. Further advantages:

- Low head loss at completely open valve for highest flow capacity, for example, in case of fire-extinguishing requirement
- Practical, wide range of downstream pressure from 1 to 20 bar
- Seat located outside of the cavitation zone for minimum wear
- High maintainability with inner parts accessible from above
- Two integrated pressure gauges with globe valve for high operating convenience

The **BAYARD Hydrobloc pressure sustaining valve** is of similar design but its task is to avoiding increased pressures in pipes. It opens on exceeding a pre-set pressure value thus protecting the line from too high pressure as pressure relief valve.

Task of the **BAYARD Hydrobloc float valve** is to maintain an adjustable minimum and maximum water level. When the water level in the container is rising, the float will slide upward to the upper stop. The upward force lifts the cable using weight thus switching the 3/2 way valve so that the upstream pressure line is connected to the drive line. The inlet pressure shuts the main valve. The procedure takes place in reverse order when the float sinks. The main valve will open when it has reached the lower stop. So the BAYARD Hydrobloc float valve operates as an ON/OFF valve with ± 20 mm precision within water levels that are adjustable in the range of 50 to 4,000 mm thus rendering the valve insensitive to cavitation. The closing speed can be adjusted thus enabling operation under only very little hydrostatic pressure.





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.



Hydrants

To prevent an unauthorised access the **BAYARD MONECA automatic hydrant** is equipped with an electronic smart card management. The unit consists of a non-return check valve, a strainer, a flow meter and a battery operated screen displaying volume information and instructions. The users' smart cards can be charged using a management software that is bundled with the hydrant. The card holds information about water volume credits, the user's subscriber number and the area that is covered. For the use in historic environments, the specially designed **BAYARD CLEO automatic hydrant** is available with the same technical specifications.



Thanks to its innovative shut-off cone, the **ERHARD underground fire hydrant** with PUR cone is especially durable. This is because the PUR sheathing of the shut-off cone has very good resistance to wear and is therefore slower to wear out. At the same time, it is insensitive to dirt and has very good resistance to tear propagation, as well as good resistance to ageing. The ERHARD underground fire hydrant with a PUR cone is equipped with a safety interlock for the inner fitting which prevents the dangerous ejection of its parts during disassembly. For optimal corrosion protection, the underground fire hydrant is manufactured in ERHARD Pro-Enamel. This high-quality fibre enamel is extremely stable, crack-resistant, and hard-wearing. The ERHARD underground fire hydrant is available with a variety of bayonet outlets – either with or without double cut-off (form AD or form A).



Connection and repair systems

FRISCHHUT MEGA-FLEX are special socket fittings with large diameters which can adapt and connect different standards, materials and outside diameters. The fittings are pre-assembled in the factory and do not have to be dismantled on the construction site, which allows an easy and fast installation.

The **BAYARD universal wide tolerance coupling** enables the mechanical connection of pipes made of different materials and of various outside diameters, which can vary up to 25 mm. When compressing the gasket between the end ring and the sleeve onto the pipe surface, a permanent leak tight joint is created. The coupling allows an angular deflection of $\pm 5^\circ$ by side. It also absorbs expansion and contraction, accommodates any misalignment of the installation and is built according to ISO, DIN and EN standards. The sealing materials are approved according to WRAS requirements.



SCHMIEDING repair clamps are used for permanent repair of cracks, breaks and holes in cast iron, steel, PVC and fibre cement pipes. The repair clamps are suitable for water up to a PN 16 pressure rating and for a temperature range from -30°C to $+110^\circ\text{C}$. All types – whether one-, two- or three-part – have the same basic structure. They are made of premium A2 stainless steel. During installation, the pre-rolled stainless steel plate is firmly clamped around the pipe using a nut-and-bolt locking system. Bolts and clamps are welded into one unit, and the guide handle is the only movable part. Inside, the clamp is lined with an NBR rubber seal. After installation, the grid creates closed cells that ensure an optimal seal.



For a fast, easy and permanent repair of water and gas lines up to PN 10, **WAFREGA RDS pipe break sealing clamps** are used. They are suitable for steel, PVC and asbestos cement pipes, and in a special design for cast iron pipes. The body of the pipe break sealing clamps is made of EN-JS1030 ductile cast iron and has a black, two-component varnish for corrosion protection. This makes the pipe break sealing clamps suitable even for underground installation. The seals made of NBR rubber are firmly vulcanized into the clamps at the factory and are designed as overlapping lamellas for an optimal seal. SCHMIEDING RDS pipe break sealing clamps come in two- or three-part designs. In practice, pipe break sealing clamps are not used for permanent repair of damaged pipes, but often as a simple, inexpensive option for creating outlets when tapping the pipe. The SCHMIEDING line also includes numerous designs with internal or external threads, as well as flange outlets.



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".



TALIS Management Holding GmbH

Meeboldstraße 22
89522 Heidenheim
Germany

Phone: +49 7321 320-0

Fax: +49 7321 320-491

E-mail: info@talis-group.com

Internet: www.talis-group.com

Note: Specifications may be changed without notification at any time.
Copyright: No copying without express written permission of TALIS.
TALIS and ERHARD are registered trademarks. 46271 EN (02/13)