Environment & Design Tools

Wastewater whether municipal or industrial is fluid which contains aggressive dissolve or suspended solids that can lead to devastating impact on the environment.

Typical wastewater systems are working intensively 24/7, characterized by low pressure, usually by pulses and no leakage are allowed.

The design of these systems and selection of components that are used must be done very professionally to avoid malfunction and severe environmental and ecological damage.

Therefore, BERMAD's wastewater hydraulic components are strictly designed and made of special materials to comply with these unique requirements, to ensure a reliable and long lasting operation.

BERMAD key goal is to provide top quality solutions for wastewater applications, early from the engineering design stage using advanced tools and software.

Main software used by BERMAD engineers

- **BERMAD AIR** – Air Valves Sizing And Positioning Software
- **BERMAD SIZING** – Hydraulic Control Valves Sizing Software
- **BERSOFT**
- **KYPipe** – Hydraulic Transient Analysis Software

BERMAD AIR - Air Valves Sizing and Positioning Software

BERMAD AIR software, an important design tool for optimizing air control in wastewater & water pipelines and networks.

Developed in house by BERMAD, this software supports water systems' designer on informed decisions regarding Air Valves' locations, models and sizes selection in a specific project.

Using BERMAD AIR will:

- Protect against vacuum conditions and pipeline collapse
- Improve Surge Protection solutions
- Enhance system efficiency during pipeline filling, draining & pressurized operation
- Reduce air valve procurement costs

Major features of BERMAD AIR are:

- Easy data upload – from AutoCAD, MS Excel or manual
- Integration of pressure reducing valves, drainage valves and consideration of demand nodes
- Air Valve selection is based on actual air flow measurement for each model & size
- Integrated graphic display and reports interface

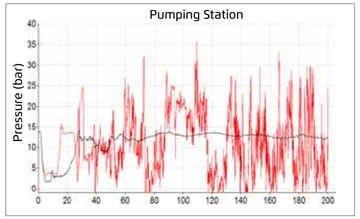
KYPipe – Hydraulic Transient Analysis Software

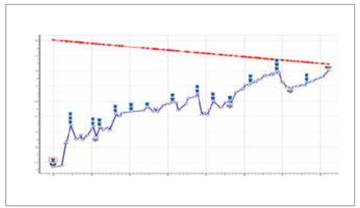
Performing surge analysis in order to determine an optimal cost-effective solution, thus to ensure efficient and safe system operation in steady state and transient events.

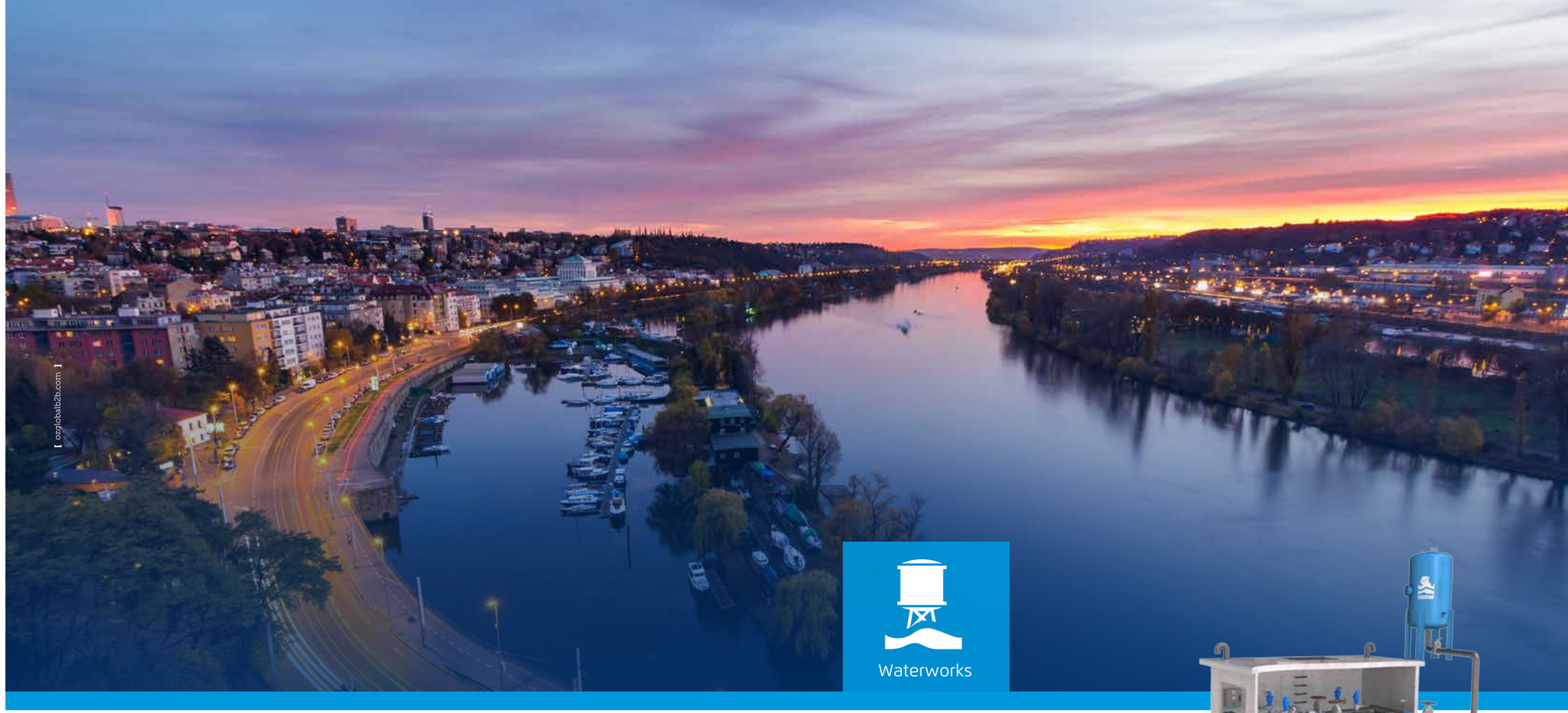
The surge analysis procedure includes the following steps:

- Modeling and data verification (steady state)
- Transient analysis without any protection
- Running iterations with various protection components to achieve optimal solution

A comprehensive analysis report is submitted to the client, includes recommendation for BERMAD hydraulic solutions size and positions.







Waterworks

BERMAD Solutions for sewage and Wastewater

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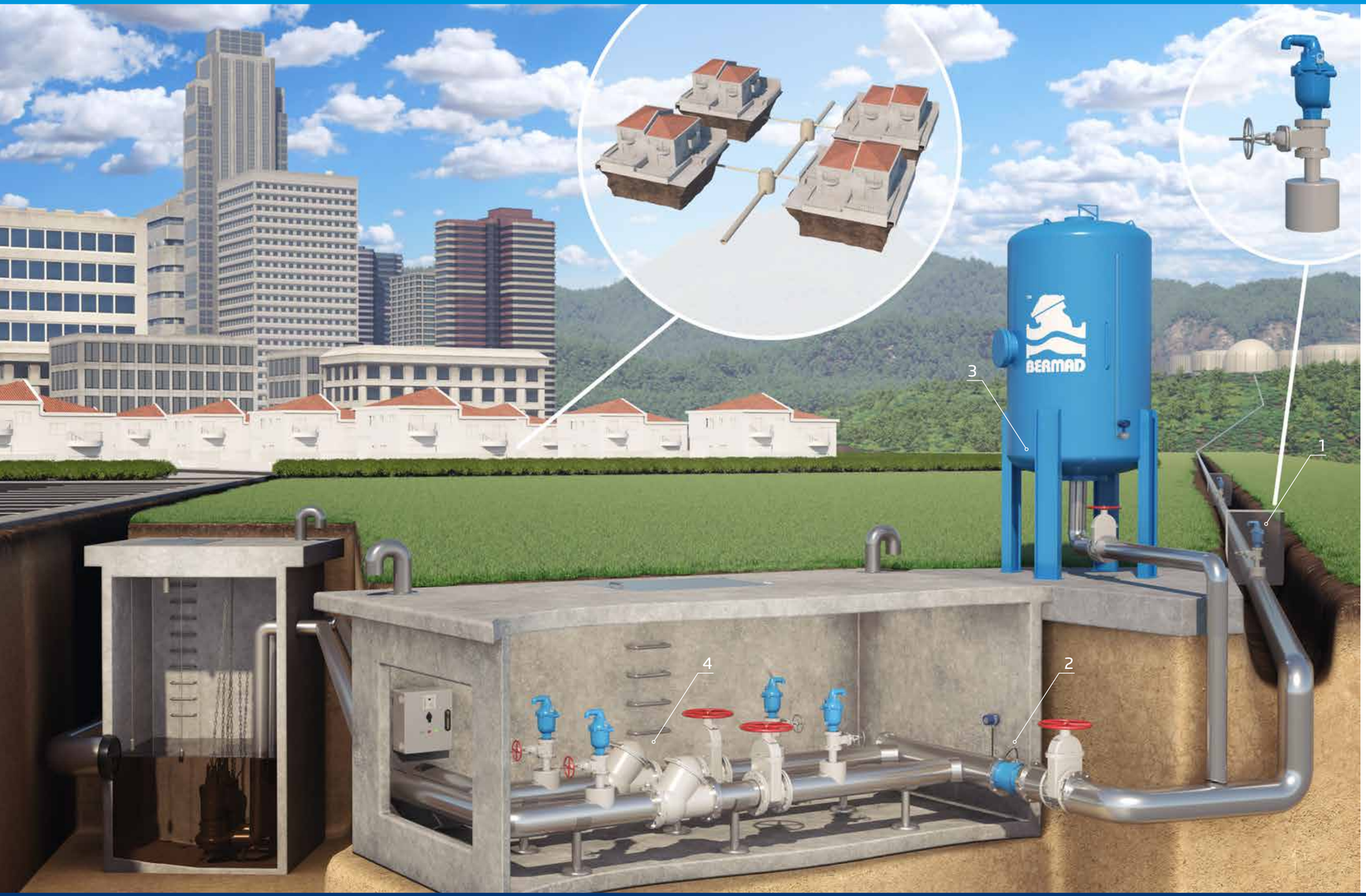
Water Control Solutions



1| Sewage and wastewater combination air valves

BERMAD high quality sewage air valves family is a wide range of combination air valves for a variety of sewage and wastewater networks and operation conditions. They evacuate air during pipeline filling, allow efficient release of air and gas pockets from pressurized pipes, and enable large volume air intake in the event of network draining or burst. With their advanced aerodynamic design, double orifice and anti-slam / slow closing device, these air valves provide excellent protection against air and gas accumulation, surge and water hammers with improved sealing under low pressure conditions.

2| Electromagnetic flowmeter

Mag meter is a common type of flow meter that measures the flow rate based on the electromagnetic induction principle: a magnetic field is applied to the metering tube containing a conductive liquid which results in a potential difference. This voltage is directly proportional to the velocity of the liquid running through the meter and it can be measured accurately. Euromag electromagnetic flowmeters offer solutions to any type of sewage and wastewater installations.

3| Bladder surge tank

BERMAD Bladder Surge Tank is designed to prevent surges in sewage and wastewater systems. The Bladder Surge Tank provides full system protection from both positive and negative pressure surges. The bladder inside the Tank creates a full separation between the air and the liquid, enabling the tank to operate longer and with no required maintenance or electrical supply.

4| Ball check valve

Ball check valve isolate the pump from the system during pump controlled shutdown or power failure. It has sinking ball without mechanical moving parts, perfectly designed for polluted fluid which contains high content of suspended solids.
Ball check valves are widely used in all kind of sewage and wastewater systems offering a reliable and cost-effective protection against reverse flow.

Flex check valve

Flex check valve isolates the pump from the system during pump controlled shutdown or power failure. It is designed for several essential factors such as: drip tight, very low head loss, long service life and maintenance free.
Flex check valves are widely used in all kind of sewage and wastewater systems offering a reliable and cost-effective protection against reverse flow.