

Water Supply and Disposal

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Application: Level Regulation in the Pump Station for Flood Protection

Mankenberg Valve used
 VV 34 DN 80

Description of the Plant

Near the German village of Sermuth the Zwickauer trough valley and the Freiburger trough valley form a joint valley. Both rivers rise in the Ore Mountains and caused disastrous floods in the past. The pump station regulates the level of the valley afflux thus serving as flood protection. Four efficient submersible pumps start up if a certain level is reached and switch off after the second level has been reached.

Task of the Valve within the Plant

When switched off the vacuum breakers provide for a quick pull-down of the liquid column in order to avoid a vacuum and relating damage to the plant.

Advantage of the Mankenberg Valve

The vacuum breaker with setting scale reliably ensures the intake of large air quantities within a short period of time.



Application: Water Supply Works, Potable Water Supply

Mankenberg Valve Used
 UV RP116 DN 150 and EB 1.12 G 1

Description of the Plant and/or the Process

In the surface mining area ground water having potable water quality is conveyed from wells. After treatment the water is supplied to towns and communities in the surrounding area. Owing to fluctuating consumption pressure surges and/or pressure increases may arise within the network of the supplier.

Task of the Valve within the Plant

Thanks to the installation of a backpressure regulator the pressure surges of ≥ 7 bar are efficiently avoided.

To ensure smooth operation of the backpressure regulator, an operating vent valve was installed at a high point upstream of the valve.

Advantage of the Mankenberg Valve

The backpressure regulator is an economically priced valve with high efficiency and good regulating accuracy. The bleeding/venting valve features a long operational lifespan and low weight (made of deep-drawn stainless steel).



Application: Bleeding/Venting Valve at the Oxidant in a Water Supply Works

Mankenberg Valve used
 EB1.10 DN 50/25
 EB1.10 DN 40/20

Description of the Plant and/or the Process

In the oxidant the ferrous and manganese compounds from the raw water out of the well precipitate. The filter boilers (in most cases gravel packs) filtrate suspended matters and other impurities from the raw

water.

Task of the Valve within the Plant

Venting and exhausting of the filter boiler and the oxidant.

Advantage of the Mankenberg Valve

The long operational lifespan of the valve is convincing. Some of the valves have been used since 1977. For application at the oxidant the use of coated cast iron was suggested to prevent oxidation and sooting of the bleeding/venting valve. It is advised to coat the oxidant with a polyamide coating.



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