

Reference

Iris® Diaphragm Control Valve

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Aeration air flow control on WWTP Jena

Energy cost savings with Iris® diaphragm control valves

At the sewage treatment plant of Jena in Germany four



decentralized closing square-diaphragm control valves were replaced by Iris® Diaphragm Control Valves with a nominal diameter of DN 200 (8"). The adaptation to the

existing pipeline was carried out with special flanges.

Dimensioning:

- BS DN 200 EAC (Serial Nbr.: B021009-10 / B0210011-12)
- Blower Pressure: 1.585 – 1.625 bar (23 – 23.6 Psi)
- Flow rate: 400 – 5520 Nm³/h (250 – 3440 SCFM)
- Diffuser depth: 5.60 m (18.4 ft)



The diffusers can be flushed with a blower pressure of 625 mbar and a flow rate of 5520 Nm³/h for maintenance purposes.

With the use of Iris® diaphragm control valves a substantial improvement of the oxygen control accuracy could be achieved. Control accuracies of oxygen set points of ± 0.1 mg O₂ are now possible.



By precise adjustment and utilization of the Iris® valve operating parameters, the compressor pressure could also be reduced to a minimum.

By using of a sliding pressure control, the blower pressure could be reduced by 35 mbar with an optimum opening degree of the Iris® valve aperture from 70 to 95 %.

The resulting energy savings are in evaluation.

Reference Company

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