

INNOVATION FOR INDUSTRY 4.0 – DKM BALL VALVES WITH A DIGITAL LIFECYCLE RECORD

Balls valves from DKM Armaturentechnik GmbH are provided with a digital lifecycle record during production, allowing the performance data and operating status to be accessed securely. As a result, maintenance planning will be much easier in the future.

With the digital lifecycle records of its ball valves, DKM is opening up significant opportunities for service technicians and plant operators. To achieve this, the company with its headquarters in the State of Hessen has digitised numerous processes in-house in order to generate sustainable added value for plant manufacturers and operators in a changing competitive and market environment. For the introduction of digital services, DKM can draw on many years of experience: For more than 25 years now, the company has been developing, designing and manufacturing high-performance special valves, ball valves and other types of valves for sectors such as the chemical and petrochemical industries and plant construction. DKM provides comprehensive services for its products and can rely on the support of first-class international service partners.

ON THE PATH TO THE DIGITAL TWIN

Ball valves often look very similar on the outside, but sometimes differ significantly in their inner workings. The valve experts at DKM document all the data related to each ball valve in a digital lifecycle record, including product specifications and production data, a description of the condition of the equipment (for example mounted actuators), certificates, maintenance information, and acceptance and test reports. A QR code permanently assigned to each ball valve serves as a link between the digital file and the installed valves.

ACCESS VIA AN INDIVIDUAL QR-CODE

To achieve this, every ball valve is given an individual serial number for access to its respective digital lifecycle record. Via a QR code permanently located on the ball valve, its digital lifecycle record can be accessed by authorised users on their tablets or smartphones. In this way, on-site technicians are able to quickly access the entire history of the respective item, including information on maintenance work carried out and test reports with photos.

In future, every newly supplied ball valve from DKM will have a digital twin in order to optimise maintenance activities. The company also offers the option of integrating DKM ball

valves or other comparable valves that are already in use into the system.

RESEARCH AND DEVELOPMENT IN THE FIELD OF EARLY FAULT DETECTION

With the help of digitisation, DKM is already working on methods and procedures for condition-based maintenance, early fault detection and predictable maintenance. In the future, DKM also aims to simplify and accelerate the entire maintenance process and reduce un-planned downtimes with its own diagnostic and forecasting model.

REMOTE ACCEPTANCE TESTING

The option of remote acceptance of leakage and pressure tests has already been tried and tested in practice. With authorised access to DKM's customer portal, the leak and pressure testing of ball valves can be followed via live streaming. The online inspection process can be monitored with ease using various camera views, and it is also possible to follow the assembly of the products live and to receive all the relevant inspection certificates by email for signing.

www.dkm-armaturen.net

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Picture source: DKM Armaturentechnik GmbH

