Press Release

Specially developed for fluid circuits in point-of-care and point-of-use applications
The new micro-valve Type 6712 from Bürkert: fast, quiet and small

Ingelfingen, March 2015**:** *In the 21st century, the requirements for fluid control systems in medical technologies as in other areas have changed significantly. The goal is to minimize: minimize liquid consumption, minimise the size, minimise the dosing and wash cycles, and above all, minimise the distance to the application. Tailored to meet these requirements, Bürkert has developed a new micro-valve.*

The name of the micro-valve – WhisperValve – reveals a special property of the new media separated 2/2-way valve: with its non-impact actuator, it controls the flow rate very quietly. The new actuator is designed to operate at a sound level below 36 dB. The typical metal-to-metal contact noise of a solenoid valve is eliminated in the WhisperValve. This is an advantage not only for the patient, but also for the lab employee, who enjoys a quieter work environment.

With a width of just 7 mm and a height of 26 mm, the new micro-valve fits in miniature apparatus. The 7mm width makes it ideal for 9 mm titre plates, but it can also be installed in smaller spaces. For applications on dispensing arms, pipetting arms and dosing robots the low overall weight of the valve is an advantage. The power consumption of the WhisperValve is also low: in both switching and holding it uses less than 1 W, which eliminates the need for expensive, space-consuming electronics are needed for power reduction.

Due to its compact size and excellent flushability, the new micro-valve is ideal for applications in lab environments. Typical examples of such applications are the analysis of blood or urine. The ideal flushing properties of the valve are achieved by a minimal internal volume,including the valve flange, of only 5 µl. This value is significantly lower than that of comparable valves of competitors. The accumulation of air bubbles, a frequent problem in smaller valves due to the poor flushability, has been effectively minimised by Bürkert in the new valve. With a pressure differential of 1 bar, the longest dwell time of a fluid is 5 ms. In addition to high dosing precision, the requirement for exact flow rates is also increasing in diagnostics and other applications. For manufacturers of fluid control components, that means increasing the power density of the actuators, so that smaller valves can also switch high pressures. Compared to similar sized valves the pressure working range of Type 6712 is very high, at 3 bar (0.3 MPa) during switching and 8 bar (0.8 MPa) during the flushing

process of the open valve. Dialysis, ventilation and the use of pipetting arms are typical applications where nearly all liquids and gases can be used in medical technology thanks to EPDM, FKM or FFKM membranes. The Type 6712 is ideal for all point-of-use or point-of-care applications because it sets a new standard in speed, size, acoustic volume and cleanability.

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