Proportional valve with pressure compensation achieves compact footprint for medical and analytical devices

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Bürkert Fluid Control Systems has released a new 2-way proportional valve with pressure compensation. The Type 2852 offers high flow rates as well as higher pressure operations compared to equivalent size valves, and can handle oxygen, air, natural gases, and fuel gases. The valve's compact dimensions and low power consumption make it well-suited for applications in analytical and medical devices.

The Type 2852 proportional valve is up to 50% smaller than alternative pressure compensation valves, giving OEMs greater flexibility in the design of their devices. The valve also features a streamlined form, which includes direct inlet pressure control without the requirement for a separate pressure controller. This feature optimises flexible device integration and enables faster, simpler installation.

Despite its compact dimensions, the Type 2852 delivers high flow rates, with a kVs flow coefficient value of 0.2 m^3/h, and a pressure range up to 7 bar. The new valve design also provides high performance positioning, achieving a repeat accuracy deviation of less than 1%, and response sensitivity deviation lower than 0.1%. Featuring an expansive setting range of over 1:500, the single width design covers the equivalent scale of orifice sizes between 1 mm and 3 mm.

Integrated within medical devices, the excellent dynamics of the Type 2852's solenoid valve also optimises patient comfort. In ventilator applications, the ability

to control of a wide pressure range, combined with a short reaction time, offers safe patient ventilation, removing the need for higher flow rates. As well as integration in respiratory devices, the Type 2852 is also ideal for laparoscopy devices, environmental analysis and material analytics machines.

Meeting its high performance in flow and pressure rates, as well as accurate positioning control, the valve is up to 70% more energy efficient than traditional proportional valves with pressure compensation. In addition to reducing energy demands, the Type 2852's optimised efficiency capability helps ensure a longer operating time for battery-powered devices. The valve also operates with reduced heat input, increasing reliability and helping to extend service life.

Constructed from a stainless steel body with FKM sealing, the Type 2852 can be specified with a flange or cartridge fitting, with wires, connectors, or pins, and the valve operates with a 12 or 24 V DC input. The Type 2852 is certified for use with oxygen, food & beverage/hygiene with USP Class VI, as well as DVGW certification for use with hydrocarbons (flammable gases).

Image captions:

Image 1: The Type 2852 pressure compensation solenoid valve offers excellent energy efficiency and a compact footprint.

Image 2: High energy efficiency supports longer battery life in portable equipment.

Image 3: Ideal for medical devices, the Type 2852 is optimised for patient comfort.

About Bürkert

Bürkert Fluid Control Systems is one of the leading manufacturers of control and measuring systems for fluids and gases. The products have a wide variety of applications and are used by breweries and laboratories as well as in medical engineering and space technology. The company employs over 2,200 people and has a comprehensive network of branches in 35 countries world-wide.

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