

## FP 70 smooth flow pump from KNF is low in pulsation and high in efficiency

KNF is bringing some much-needed calm to the world. By adding the FP 70 to its Smooth Flow liquid pump family, KNF is addressing the market need for pumps with lower pulsation. The new product combines the established strengths of KNF diaphragm pump technology – self priming and dry running ability, gentle and clean liquid transfer, excellent chemical and abrasion resistance – with the smooth flow normally associated with gear and centrifugal pump technologies. This unique combination makes the FP 70 a tempting all round package for customers in all markets, where reliable and gentle transfer of precious liquids is key.

KNF says the integrated low-pulsation technology generates customer value in many ways. First and foremost, it improves the efficiency of the pump and the customer's fluidic system. Due to the smooth and steady flow, the impedance of the customer's fluid system is greatly reduced and therefore flow performance is significantly improved. This can be a crucial factor if small bore tubing is used in the customer's system. Another benefit is the reduced risk of bubble formation and foaming, which helps to keep the liquid in a stable state and therefore increases the reliability of the customer's processes.

Most fluid systems incorporate other components, such as filters and sensors, which are also positively affected by the low pulsation. Lower pressure means less stress on these parts, which results in a longer lifetime.

In many systems, the pumps are part of a closed-loop PID control system using flow or pressure sensors to provide feedback. Pulsation in these systems can make integration more complicated and the choice of flow sensors which can cope with large pulsations is limited and more costly. A pump with smooth flow delivery makes control and integration much simpler and allows the use of more common and lower-cost sensors. This offers an interesting cost and time saving potential for customers.

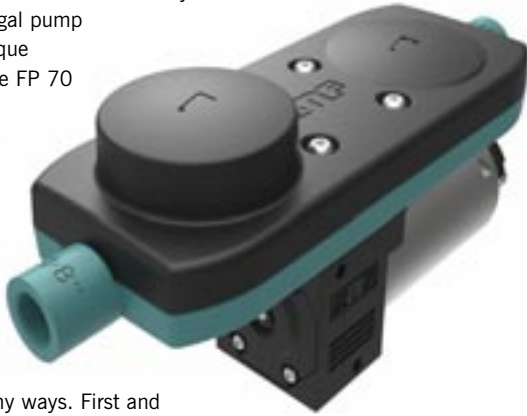
In medical applications, where equipment is often situated close to, or in direct contact with the patient, minimising pulsation can have a positive impact. Any pulses in the liquid are transferred to the tubing and to other parts of the equipment, so smooth flow helps to make treatments a calmer and less stressful experience. Integrating a pump into a system with additional pulsation damping elements and extra fittings and tubing can be challenging where space is limited, and the extra components add cost. The FP 70 solves these problems by having all the necessary damping technology integrated.

In its standard configuration, the FP 70 delivers flowrates up to 850 ml/min and is designed for continuous operation up to 2 bar pressure. On a project basis, configurations offering up to 1.2 l/min, or up to 4 bar are possible. The integrated dampers reduce the pulsation very effectively at both the pump inlet and outlet. Patented 4-point valves ensure reliable self-priming of the pump, even at very low motor speed. This means no additional priming pump is needed in the customer's system.

To match the customer's control and lifetime requirements, the FP 70 can be equipped with motors ranging from high-end programmable BLDC motors to lower-end DC motors. Depending on the operating parameters, the BLDC motors can achieve a lifetime of more than 20,000 hours.

Furthermore, these programmable BLDC motors can be customised by KNF to provide customer-specific control behaviour and individual pump calibration to deliver precise and consistent performance from every pump. Along with a wide selection of elastomers such as EPDM, PTFE, FFKM and FKM, different hydraulic connectors such as compression fittings, push-in fittings, inside threads or hose barbs, the pump may be further customised according to the customer's needs.

[www.knf.com](http://www.knf.com)



## Elesa launches new ranges of wire rope isolators, spring mounts and cushions

New Elesa ranges of stainless steel damping elements offer different designs for different jobs – AVC wire rope isolators are suitable for low-frequency damping with high deflections. Their function is to prevent damage to structures and preserve the correct operation of sensitive equipment while also reducing noise. The sister range of AVM spring mounts is excellent for low vibration with high deflections, while AVF metal cushions are compact for small spaces, higher frequencies and smaller deflections.

Elesa wire rope isolators are very high-performance shock absorber and vibration dampers that can be used in endless applications. Typically from oil exploration, radio equipment and generator sets, to blowers/fans, and other HVAC style installations. They are very useful because they maintain excellent isolation performance under maximum shock in severe environmental conditions, for example chemical pollution or extreme temperatures. Stainless steel wire rope

isolators have a long service life and can adapt to elastic displacement in all dimensions. This allows multi-directional isolation, with installation in many different orientations, making them suitable for railway compressors, aviation and marine engineering as well as camera mounts on UAVs and robotic camera platforms.

AVM spring mounts offer low-frequency damping at higher deflection rates, combined with the higher frequency damping of rubber end pads. They suit acoustic and motor mountings where a wider range of vibrations and larger deflections are likely also where wind loads or asymmetric movement patterns are experienced, such as in engine starting.

At the other end of the scale, AVF metal cushions provide a very compact solution to the needs of machine tool manufacturers. They are ideal for machine component mounting where space is at a premium but deflection is minimised – such as in electronics equipment or isolation of exhaust systems. These wire mesh vibration dampers can be used for pass-through mounting or with an inset machine screw for component retention.

[www.elesa.com](http://www.elesa.com)



## Sealed B0 IP67 Series enclosures from BCL hold PCBs vertically or horizontally

Protecting PCBs from the elements effectively is the task of the B0 Series of IP67 enclosures from UK manufacturer BCL Enclosures. Ensuring continued functioning of electronic circuit boards, these IP67-rated enclosures are made totally dust and particulate tight with a vacuum seal and can protect their contents against the effects of full immersion in up to 1 metre of water for as long as 30 minutes. There are multiple applications for the B0 Series, including in industrial and marine environments.

PCBs can be held internally either horizontally or vertically via mounting slots. The enclosures feature M20 threaded cable knockouts and come complete with four captive plastic screws. Unique snap-on DIN rails and flange brackets are available.

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