



Press release

Dosing, conveying and filling under high pressure

Accurate results in the field of pharmaceuticals

High pressures are often necessary for the precise dosing of small quantities of high viscous pharmaceutical products such as ointments, creams and gels. These high pressures are required to fill viscous media through small openings in primary packaging, such as syringes, or to optimize thread breakage. Being able to dispense without pulsation, despite the high pressure, is also essential for applications such as supplying extrudates to the extruder (using the Hot Melt method) or supplying coatings to the spray nozzle. For these applications, the Pharma Dispenser from ViscoTec is particularly suitable due to its outstanding pressure-stability under high pressure.

Dispensers, such as those from ViscoTec, based upon the endless piston principle belong to the group of rotating positive displacement pumps. The stainless steel rotor moves eccentrically inside an elastomeric stator. Through the interaction of the rotor and stator, chambers are formed. These alternate opening chambers are sealed between each other. This results in a pressure-resistant, linear pump characteristic curve of 0-20 bar.

An example of such an application is the filling of highly viscous semi-solid pharmaceutical products into dosing syringes. Products with viscosities of up to 500,000 mPas are filled, bubble-free, through a tapered, thin opening of a Luer connector, into the syringe. The plug is already inserted and is pressed upwards during the filling process by the dispensing pressure. Dosing syringes can be semi-automatically filled without applying vacuum to fit the plug and without melting the product. Shear-sensitive medicines and media containing solids, such as suspensions, are therefore easier to fill.

Due to their risk of thread breakage, highly viscous medical products, such as blood separating gels, are difficult to fill cleanly and accurately into tubes. The diameter of the thread is reduced to a minimum thanks to the use of the endless piston principle and a thin dispensing needle. This creates a defined breakage of the thread and the tubes can be filled cleanly, accurately and quickly, without contaminating the edges. The resulting measurements are still linear to the number of revolutions of the pump, even whilst dispensing at pressures of up to 20 bar.





The Pharma Dispenser provides the ideal dosing technology for the accurate filling of small quantities or for the pulsation-free conveying of medium to high viscous pharmaceuticals or medical products.

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ViscoTec - Perfectly dosed!

ViscoTec primarily deals in systems required for conveying, dosing, applying, filling and emptying medium to high-viscosity media. The headquarters of the technological market leader is in Töging (Upper Bavaria, in the district of Altötting). In addition, ViscoTec has subsidiaries in the USA, in China and in Singapore and employs about 120 people worldwide. Many traders around the world extend this international distribution network. In addition to sophisticated solutions even in the most complicated tasks, ViscoTec offers all components for a complete application from one source: from procurement, through to product preparation to dosage. This guarantees a successful interaction of all components. All fluids with a viscosity of up to 7.000.000 mPas can be conveyed and dosed almost pulsation-free and with extremely low pressure. For each application there is comprehensive consultation - and where necessary in collaboration with the customer - extensive tests are carried out. ViscoTec dosing pumps and dosing systems are optimally adjusted to the respective application: in food applications, in the automotive, aerospace, medical, pharmaceutical and in many other industries.

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