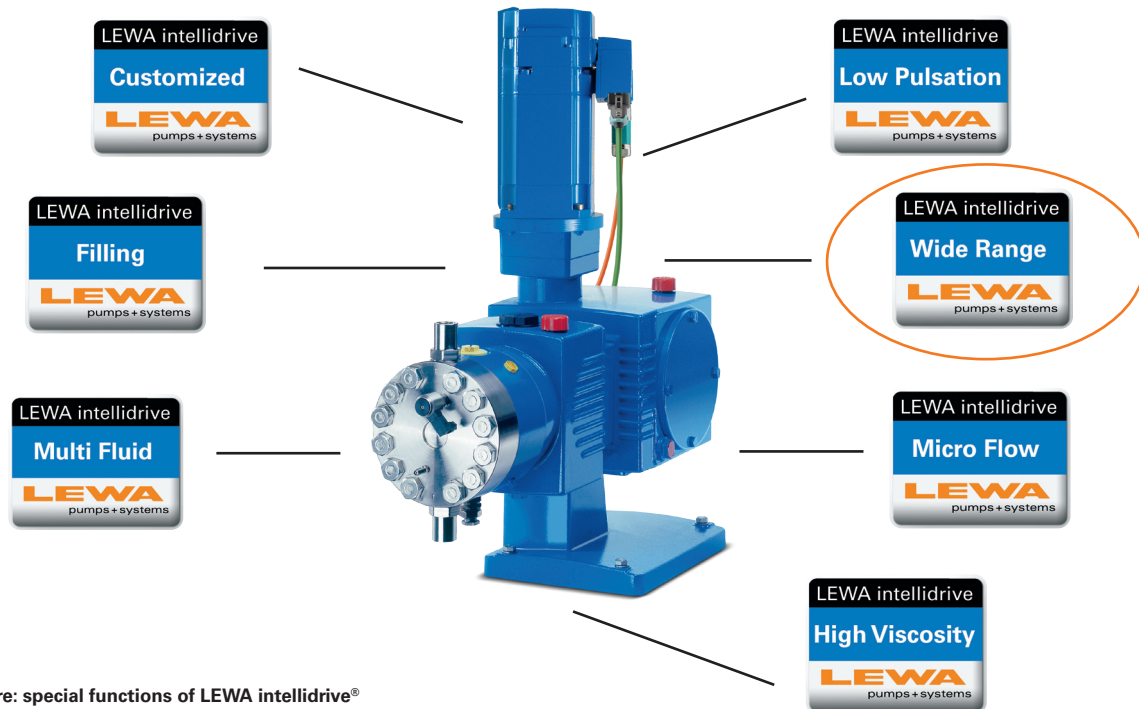




LEWA INTELLIDRIVE - WIDE RANGE



Picture: special functions of LEWA intelligidrive®

Introduction

LEWA intelligidrive® is a combination of the proven LEWA metering pump mechanics and state of the art servo motors with application oriented programming of the plunger and diaphragm movement.

The dynamics of practical adjustment periods of conventional positive displacement reciprocating pumps, with frequency controlled asynchronous motors exceeds the sequence duration of the suction and discharge stroke. Therefore they can only be used for time averaged volume flow with closed loop control. The shortest useable start-stop sequence covers one full stroke at a minimum.

The improved dynamics of the new LEWA intelligidrive®, system allows a free adaptation of the travel time diagram of the period formed by a suction and discharge stroke. This not only means that the suction and discharge stroke can have a variable duration and now the sequence of the period itself is continuously adjustable.

The technology

LEWA intelligidrive® follows the modular concept employed in all of the modular systems of the LEWA plunger and diaphragm pumps. Designs for hazardous areas are possible in all sizes.

Functions and advantages

The moving sequence can be programmed absolutely free. LEWA has worked out basic solutions that are designed to meet the highest requirements for handling critical fluids or problematic applications.

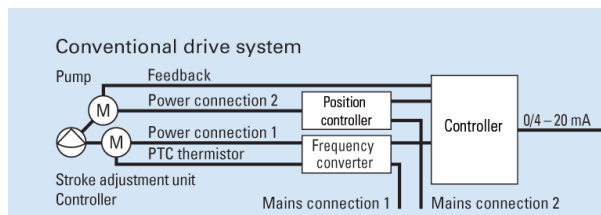


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The application

Coarse and micro metering, adjusting range > 1:100.

The standard solution

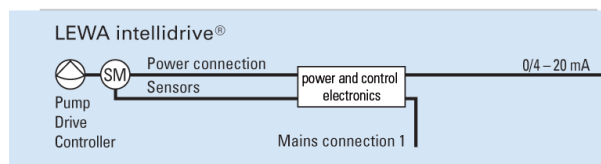


The conventional metering pump is equipped with a frequency inverter for speed adjustment and electro/pneumatic stroke length adjustment. This means that two adjusting parameters are being used.

With this an adjustment range of 1:50 and, at a good volumetric efficiency and high stroke frequency, even an adjustment of 1:100 can be achieved. For controlling the pump two power supplies, data lines and a hardware or software based guiding system is required which determines which parameter is being adjusted.

This solution requires extensive wiring and controls the cost of which can be equal to the pump price, especially when hazardous area requirements must be met.

The LEWA intellidrive® solution



LEWA intellidrive® cuts the costs in half.

In Detail

The LEWA intellidrive® frequency controlled standard drive and the actuator for stroke length adjustment are combined in one unit. This greatly simplifies the installation and wiring requirements. Prefabricated plugs at the pump motor connect the power supply and data lines to the power and control electronics.

In partial stroke mode the stroke adjustment function takes over the setting of low volume flows. For this the pump plunger does not fully move to the front dead end during the discharge phase – depending on the flow volume desired the plunger stops sooner and then returns on the suction stroke.

Fieldbus communication is standard, interfaces such as Ethernet and Profibus assure problem free system integration.



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The operator interface and the open and closed loop control electronics are compactly integrated into the drive unit. Optimum integration of the system as a field unit or into a process control centre is possible. Completely new functions can be generated by using closed loop speed and position control circuits with feedback of the real time kinematic data (travel time data) of the electric drive. This offers additional application possibilities to the user, reduces the number of machines required and makes interfacing easy.

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