

Loss-in-weight-feeder MechaTron® LQ S



- The gravimetric ultra-low volume feeder with a proportioning pump and an optional vertical agitator
- Feed system for gravimetric feeding of liquids
- Integrated measuring, control and supervisory electronics
- High feed accuracy and consistency (better than $\pm 0,5\%$)

Application

The MechaTron LQ S feed system is used for gravimetric feeding of liquids such as oils, acids, water etc.

Typical applications are based in all industries, especially in the plastic and chemical industry.

Construction

In its basic configuration, (see picture) the MechaTron LQ S consists of a feeding hopper and an order specific dosing pump.

The feed hopper can be suspended on a hermetically encapsulated weighing module based on the platform scale principle. The precision load cell based upon strain gages contains a built-in overload, lifting and twist lock.

The electronic evaluation and regulating equipment can be directly built into the mechanism as a type of mechatronics or installed into a control cubicle or wall-mounted housing.

Operating principle

In its gravimetric design, the MechaTron LQ S feed system with a regulated pump is used based on the principle of a loss-in-weight feeder.

With loss-in-weight feeders, the actual feed rate is determined from the decrease in weight per unit time. A controller compares the actual feed rate to a setpoint and controls the dosing pump accordingly.

To achieve a more accurate weighing result, the pump is decoupled from the weighing part. This has the advantage that the MechTron LQ S can operate against a counter-pressure without a loss of accuracy.

Technical Data	
Contact parts in stainless steel	Hoppers and covers SS304 (1.4301) Piping SS316 (1.4404/1.4571)
Material temperature	5 °C ... 100 °C
Ambient temperature	-10 °C ... +50 °C
Viscosity	0 ... 1000 mPas*
Design pressure	-5 ... 95 mbar
Operating pressure	-0,5 ... 20 mbar
Counter-pressure	up to 70 bar*
Feed rate	0,25 ... 150 kg/h*
Feed accuracy	±0,5 % (typically)
Feed constancy	±0,5 % (typically)
Drives	AC motors for dosing pump and agitation
*higher/lower values on request	

Variants	
Standard	<p>3 dm³ or 8 dm³ feed hopper</p> <p>Collecting tray in SS304 (1.4301)</p> <p>Internal piping between hopper outlet and feed pump with flexible hose and 3-ball valve for closing the pump and emptying the feed hopper and pump</p> <p>Process control via pressure gauge</p> <p>Order specific dosing pump with AC motor</p> <p>The cover for filling, deaeration and inspection by machine including 2 x ½" connections (for example for inert gas or thermal detector)</p> <p>Container suspension with a built-in DMS weighing module</p> <p>Flexible connections and isolation parts of silicone</p> <p>Mechatronic or junction box design</p> <p>The dirt filter in the pump inlet</p>
Options	<p>Hoppers and covers in SS316 (1.4404/1.4571)</p> <p>The agitator for feed hoppers</p> <p>The moveable oil collecting trough</p> <p>The special cover for manual filling</p> <p>Electrical heating and/or insulating</p> <p>Sealing and isolating parts silicone free</p> <p>Dirt filter in pump inlet</p> <p>The volumetric design without the weighing module or decoupling</p>