Loss-in-weight feeder
MET LQ S

- **Gravimetric feeder for small quantities with dosing pump and optional vertical agitator**
- **System for the gravimetric feeding of liquids**
- **Integrated measurement, control and regulation electronics**
- **High feeding accuracy and consistency (below ±0.5%)**

Application

The MET LQ S feed system is used for the continuous gravimetric dosing of liquids such as oils, acids, water, and more.
Typical applications can be found in all industries, principally in the plastics and chemicals industries.

Design

In its basic configuration (image), the MET LQ S consists of a feed hopper and a task-specific feeder pump.
The feed hopper can be suspended on a hermetically encapsulated weighing module based on the platform scale principle. The precision load cell, based on strain gauges, includes an integrated overload, lift-off, and anti-rotation protection.
The electronic control 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.

Function

The MET LQ S feed system is used as a gravimetric feeder with a controlled pump, operating on the principle of a loss-in-weight feeder.
The actual feed rate is calculated from the weight loss per unit of time. A controller compares the actual feed rate with the set target feed rate and adjusts the pump's dosing performance accordingly.
The pump is detached from the weighed section in order to increase measuring accuracy. This has the advantage that the MET LQ S can also operate seamlessly under back pressure without affecting measurement accuracy.

Technical Data

Metal parts in contact with bulk material	Hopper and lid: 1.4301 Pipes: 1.4404/1.4571
Bulk 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
Backpressure	up to 70 bar*
Conveying rate	0.25 … 150 kg/h*
Feeding accuracy	±0.5 % (typically)
Feed constancy	±0.5 % (typically)
Drives	AC drives for pump and agitator

*higher/lower values on request

Design Variants

Standard configuration	Feed hopper 3 and 8 dm^3
	Drip tray with drain made of 1.4301
	3-way ball valve for shut-off as well as tank and pump emptying
	Process pressure monitoring via manometer
	Task-specific feeder pump with AC drive
	Lid for machine filling, venting, inspection hatch, and 2 x ½” connections (e.g., for inert gas or temperature sensor)
	Tank suspension with integrated strain gauge weighing module
	Seals and decoupling elements made of silicone
	Mechatronic or junction box design
	The dirt filter in the pump inlet
Options	Hopper and lid in: 1.4404/1.4571
	The agitator for feed hoppers
	Mobile drip tray
	The special cover for manual filling
	Electric heating and/or insulation
	Silicone-free seals and decoupling elements
	The volumetric design without the weighing module or decoupling