

DME

Microdosing pumps



with stepper motor drive for
low-pulsation supply of liquids

in PP, PTFE, stainless steel
or high-grade steel construction

optionally
with heated or cooled dosing heads



OPERATION DESCRIPTION

The **TELAB DME diaphragm dosing pump** integrates all the characteristics and functions of conventional dosing pumps and makes dosing so easy, that you can take high accuracy for granted. The DME series covers a **performance range** from 0.002 l/h to 48 l/h at up to 18 bar back pressure.

The dosing device is based on the direct connection of motor and diaphragm via an impulse crank drive with drive belt gear transmission ratio. Thus, in contrast to conventional dosing pumps, the position and the speed of the diaphragm are electronically controlled with **microprocessors** during the complete pressure / aspiration cycle.

The stroke frequency and the duration of the compression stroke are controlled, in accordance with the required dosing amount, via a microprocessor controlled stepper motor.

This results in a low pulsation supply for small supply volumes by means of a steady, slow expulsion of the material with very short aspiration times simultaneously. You can achieve a **practically pulsation-free supply** by using a **TELAB pulsation damper**.

- (1) Drive unit
- (2) Dosing head (PP, VA, PTFE) optionally heated or cooled
- (3) PTFE diaphragm
- (4) Microprocessor control
- (5) Stepper motor
- (6) Composite case IP65



This drive is unique in its class and only found in **TELAB dosing pumps**.

The microprocessor controlled compression stroke provides a better, **more even mixture and dosing**. The stepper motor in the DME pumps has many special functions, which make your work easier and improve your results.

The **anti-cavitation function** for highly viscous liquids is also based on the speed reduction (halving) in the aspiration stroke. The dosing can be regulated by external signals (4-20 mA) or manual setting (l/h).

All dosing pumps always operate at maximum stroke length, so that no adjustment is required. For this reason, the pump is **less sensitive to gas-emitting materials** like e.g. sodium hypochlorite or hydrogen peroxide. The gas emission is reduced by the optimised cylinder clearance ratio and completely driven out by the active cubic capacity on each stroke, so that accuracy and operation are also maintained for the most difficult gas-emitting fluids.

As a consequence of this innovative drive principle, the pumps have a wide range of settings and therefore also retain their **accuracy** for dosing very small quantities. In comparison with magnet driven dosing pumps this means, that the whole range from 0.002 l/h to 48 l/h is covered by only 5 models.



Dosing head - PP



Dosing head - stainless steel



Dosing head - PTFE



Dosing head - electr. heated

BENEFITS

- small overall sizes for a large performance range
- touchscreen display with simple user interface
- easy calibration function
- high accuracy (+/- 1%) across the complete range of settings
- integrated counters (number of strokes, operating hours, pump mains activation – all cumulative)
- wide range of settings, DME 1:1000
- self-regulating power supply 100-240V, 50-60Hz
- integrated ventilation valve
- long service life for the diaphragm and the valves
- case protected against water sprays according to IP65
- quick dismantling and cleaning of the pump head and valves
- low-pulsation supply
- Maintenance-free driving unit



Pulsation dumper in PTFE

ACCESSORIES

Many standard accessory components are available:

Ball valves in PTFE or as required with high-grade steel, ceramic, or ruby bearings, as well as **pulsation dampers**, **pressure-retaining valves** in various designs, **(pre-) filters**, as well as all usual **connections**.

All TELAB DME microdosing pumps are available with optional **heated or cooled dosing heads**.

(There is a choice of external heating or cooling or with integrated electronic control for heated dosing heads and hoses.)

Simultaneously, we are, of course, able to develop **customer-specific system solutions** or to make customised modifications to the TELAB microdosing devices.



Pulsation dumper in stainless steel

- Dosing head PP
- Dosing head VA
- Dosing head PTFE
- PTFE connections
- Pulsation dampers
- Pressure-retaining valves
- Filters (pre- and intermediary filters) PTFE choice of filter discs
- Ball valves in PP, VA or PTFE
- Ball valves in VA, PTFE or ceramic
- Ball valves in PTFE or ceramic
- VA connections

- External heatable / coolable dosing head in PTFE
- electronically heated dosing head in VA or PTFE
- electronic control for heated dosing head and / or hoses
- Heating hoses with PTFE core in various lengths / diameters
- PP and PTFE hoses in various lengths / diameters



PTFE Pressure-retaining valve Type B



PTFE Pressure-retaining valve Type A



(Pre-) Filters in PTFE

TECHNICAL DATA

Pump type	DME 2-18	DME 8-10	DME 12-6	DME 19-6	DME 48-3
Dosing capacity at maximum pressure	2,5 l/h	7,5 l/h	12,0 l/h	18,5 l/h	48,0 l/h
Maximum pressure	18 bar	10 bar	6 bar	6,2 bar	2,6 bar
Dimensions	137 x 239 x 168 mm			192 x 294 x 188 mm	
Setting range	1:1000				
Stroke cycle	180 min ⁻¹				
Aspiration stroke	5 m				
Maximum viscosity	500 mPa/s				
Power supply	100-240V 50-60Hz				
Accuracy	+/- 1% of actual value				
Interfaces					
4-20 mA	yes				
RS232	Optional with a digital-analog interface				
External impulse	yes				
Internal timer	yes				
Feldbus interface	yes				
NAMUR interface	Optional				
Dosierköpfe					
PP	Type DME PP				
VA (stainless steel)	Type DME VA				
VA / electrically heated	Optional				
PTFE	Type DME PTFE				
PTFE / externally cooled	Optional				
PTFE / externally heated	Optional				
PTFE / electrically heated with / without control for heating hoses	Optional				
Accessories					
Pulsation damper PTFE	Optional				
Pulsation damper VA	Optional				
Pressure-retaining valve PTFE	Optional				
(Pre-) filter PTFE	Optional				
Connections PTFE	Optional in GL14B or GL18B				
Connections stainless steel	Optional in Swagelok or Gyrolok				

CONTACT

TELAB Technology GmbH
 Gewerbegebiet Genend
 Carl-Zeiss-Str. 43
 47445 Moers
 GERMANY

Tel: +49 2841 88887 - 0
 Fax: +49 2841 88887 - 29
 Net: www.telab.de
 Mail: info@telab.de

