

LEWA ecofoam[®]

Testing system



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The metering system for blowing agents in extrusion processes



The metering of blowing agent is of particular importance to guarantee the constant quality of the end product in extrusion processes. LEWA ecofoam testing system has been designed for all known blowing agents, incl. cooling device for CO₂ and explosion-proof design for combustible blowing agents.

Performance overview:

Pressure	up to 350 bar
Flow rate	depending on type of liquid (compressibility), e.g. up to 11.5 kg/h CO ₂ , 15.5 kg/h Pentane or 20 kg/h H ₂ O

Method of operation:

The guide signal to control the diaphragm metering pump is linked to the extruder's speed. The metering pump delivers the blowing agent into the plastic melt in proportion to the extruder's speed. The controller LEWA smart control conducts a consistent plausibility check between the flow meter's signal and the guiding signal and adjusts the flow rate via speed control of the drive motor in order to meet the process requirements.

Main components of LEWA ecofoam testing system:

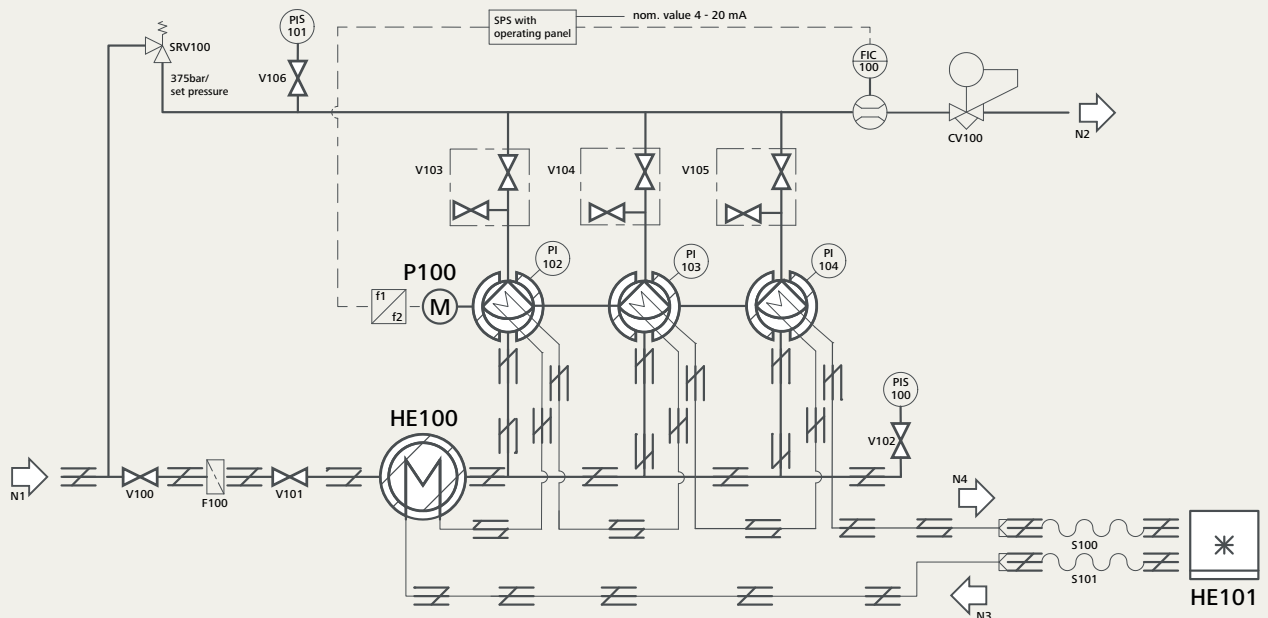
- LEWA diaphragm metering pump (LEWA ecoflow LDB3), incl. motor 0.75 kW, EEx de IIC T4
- Control cabinet with LEWA smart control (metering control)
- Heat exchanger in suction line, incl. tubing for coolant and insulation
- Cooling unit, if necessary
- Regulating valves for constant discharge pressure
- Venting valves for start-up
- Pressure relief valve for protection against overpressure
- Instruments:
 - Pressure gauges
 - Mass flow meter

The above components are piped and mounted on a common base frame. A specially developed controller LEWA smart control can be integrated in the base frame or delivered separately for installation in the customer's control room.

Renting conditions:

You can convince yourselves on the system's outstanding quality and the consistent and accurate metering of the propellant. The whole system can be tested for up to 6 weeks, after consulting us also longer, for a small fee.

Flow diagram of LEWA ecofoam testing system



Dimensions and electrical connecting data

Dimensions:

- 1.2 x 0.9 x 1.9 m (L x W x H)
- Weight: appr. 500 kg

Electrical connection data:

- Power supply: 400 V
- Nominal current: 5.0 A
- Connected load: 2.2 kW
- Pre-fuse: 16 A

Nozzle list

Number	Size	Pressure rating	Type	Description
N1	12x1.5	100 bar at 20°C	tube	Material supply: CO ₂ at 10-40°C, e.g. 65 bar at 20°C
N2	12x2.0	400 bar at 20°C	tube	Process connection: CO ₂ 11.5 kg/h at 350 bar
N3	12x1.5		tube	Cooling water outlet
N4	12x1.5		tube	Cooling water outlet

Contact person at LEWA:

LEWA GmbH

Volker Kirschbauer
Ulmer Str. 10
71229 Leonberg, Germany

Telephone +49 7152 14-1272
Fax +49 7152 14-2272
volker.kirschbauer@lewa.de

Your local representative:



LEWA GmbH
Ulmer Straße 10
71229 Leonberg
Germany

Telephone +49 7152 14-0
Fax +49 7152 14-1303
lewa@lewa.de
www.lewa.de