

LEWA ECOFOAM®

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 is a system for the metering of blowing agent, e.g. CO₂, propane, butane, halogenated hydrocarbons and pentane into the plastic melt of an extrusion process.

Performance overview:

Pressure	50 bar to 500 bar
Flow rate	0,5 kg/h to 250 kg/h

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.

Your benefit:

- Consistent quality of the foamed product due to:
 - Exact metering even at fluctuating extruder pressures
 - Use of the controller LEWA smart control with a faster response time than a conventional PID controller
- High productivity by long maintenance intervals (1 x per year depending on process conditions)
- High reliability due to robust and hermetically tight pump technology (LEWA ecoflow)
- High expertise of blowing agent, e.g. switch from butane to CO₂

LEWA ECOFOAM®**THE METERING SYSTEM FOR BLOWING AGENTS IN EXTRUSION PROCESSES****Components of LEWA ecofoam:**

- LEWA diaphragm metering pump (LEWA ecoflow)
- Suction side strainer
- 2 contact pressure gauges for pressure monitoring in the suction and discharge pipeline
- Safety valve to protect the metering system against overpressure
- Mass flow meter
- Control cabinet
- CO₂ applications:
 - Heat exchanger in the suction pipeline for cooling of the CO₂ before pump inlet
 - Cooling jacket on each pump head
 - Compact chiller for supply of the cooling medium incl. cooling circuit

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

Application examples:

- Polystyrene foam (PS-Foam) - Manufacturing of insulation boards and food package trays
- Polyethylene foam (PE-Foam) - Manufacturing of packaging foil, impact sound insulation, cap liners and insulation tubes
- Polyurethane foam (PU-Foam) - Manufacturing of insulation boards and insulation tubes
- Foam granulate (EPS/EPP/EPE) - Reusable transport boxes and moulded impact absorber in automotive

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