

LEWA ecofoam[®]

The metering system for blowing agents in extrusion processes



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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 agents, e.g. butane, CO₂, halogenated hydrocarbons, pentane and propane into the plastic melt of an extrusion process.

Performance overview:

Pressure	50 bar to 500 bar
Flow rate	0.05 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 agents, e.g. switch from butane to CO₂

Main components of LEWA ecofoam:

- LEWA diaphragm metering pump (LEWA ecoflow)
- Strainer in suction line
- 2 contact pressure gauges for pressure monitoring in the suction and discharge line
- Safety valve to protect the metering system against overpressure
- Mass flow meter
- Control cabinet
- CO₂ applications:
 - Heat exchanger in the suction line 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.

LEWA testing system:

With the LEWA testing system, interested parties can convince themselves of the system's outstanding quality and the consistent and accurate metering of the blowing agent. The whole system can be tested for up to 6 weeks, after consulting us also longer, for a small fee.

Contact person at LEWA:

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Application examples in the plastics industry



Food package trays:

For the production of packaging trays polystyrene foam, short PS foam, is used.



Foam granulate:

Expanded Polystyrene, Polyethylene and Polyurethane, short EPS/EPP/EPE are used for the production of foam granulate, reusable transport boxes, moulded impact absorber in automotive, and insulation tubes.



Insulation tubes:

For manufacturing of insulation tubes Polyurethane foam (PU foam) as well as Polyethylene foam (PE foam) are used. For the production of packaging foil, impact sound insulation, and cap liners Polyethylene foam (PE foam) is used.



Insulation boards:

For manufacturing of insulation boards Polystyrene foam (PS foam) as well as Polyurethane foam (PU foam) are used.

Your local representative:



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