

Motor-driven metering pump Sigma in hygienic design

Hygienic design: Precise and hygienic metering

ProMinent®



Capacity range: 25 – 1,000 l/h, 10 – 4 bar

The hygienic design version of the Sigma diaphragm metering pump is optimised in terms of dead space, features as few gaps as possible and has smooth, wetted surfaces for flexible and easy use in hygienically sensitive applications.

The simple construction and smooth surface make easy CIP possible and allow the device to be dismantled at speed. Ball non-return valves and EPDM seals ensure gentle and reliable metering for tasks with strict hygiene requirements (when working with aqueous foods or food additives).

Like all intelligent ProMinent metering pumps, the Sigma product range can be flexibly controlled using a highly diverse range of signals. Designed for continuous operation, hermetically sealed and without a shaft passage into the metering chamber, providing a simple and reliable handling.

The standard PTFE multi-layer diaphragm with diaphragm rupture control offers additional process reliability.

Your benefits

- Process reliability thanks to PTFE multi-layer safety diaphragm with warning system.
- Fast CIP, reliable operation and easy handling.
- Simple construction, optimised in terms of dead space and small number of parts, reliable operation, no shaft passage into the media chamber.
- Precise metering thanks to the option for adjusting the metering volume in 1% steps by means of stroke rate and stroke length.
- Physiologically safe wetted materials (FDA and 1935/2004); reliable and flexible Sigma motor-driven metering pump with ball non-return valves enables a wide range of applications.
- Flexibly connectible: Connection to process management systems via integral PROFIBUS®, CANopen interface.

Field of application

Metering of aqueous foods or food additives in the food and beverage industry. Example:

- Metering of dyes, e.g. beta carotene.
- Metering of aromas, flavour additives, sugar solutions, additives.
- Metering of enzymes, stabilisers, liquid yeasts.



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Technical Data

Capacity ranges:

- Sigma/ 1: 25 l/h/10 bar to 70 l/h/7 bar – nominal width DN 10
- Sigma/ 2: 50 l/h/10 bar to 350 l/h/4 bar – nominal width DN 15, DN 25
- Sigma/ 3: 150 l/h/10 bar to 990 l/h/4 bar – nominal width DN 25, DN 32

Wetted materials:

- Liquid end, valves, valve seat: 1.4435
- Seals: EPDM
- Valve balls: ceramic Al₂O₃
- Diaphragm: PTFE multi-layer diaphragm with diaphragm rupture warning system

Connection types:

- Tri clamp: DIN 11864-3

Features:

- CIP-capable up to 130 °C, max. 2 bar, max. 15 min.
- Smooth surfaces: electropolished Ra ≤ 0.8 µm (wetted), optimised in terms of dead space and liquid end with as few gaps as possible
- Integrated controller, universal and flexible: External activation via potential-free contacts, mA or ProfiBus and/or ProfiNet via Dulconvert
- Remote transmission of operating statuses via an additional output or relay module
- Wide-range voltage power unit, power supply: 1 ph, 100 – 230 V ±10 %, 240 V ±6 %, 50/60 Hz
- Stroke length adjustment range 0 – 100%
- IP 65 degree of protection
- Confirmations: FDA, 1935/2004, AoF, BSE/TSE
- EN10204 Type 2.2 factory certificate for surface roughness Ra ≤ 0.8 µm
- GMP EC 2023/2006
- Wide range of different drive units, also for use in hazardous areas (ATEX), and different flange versions (Sigma Basic)
- EN 10204 3.1 material certificate, performance curves (on request)

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