

General

The peristaltic pump EASYDOS does not require any suction and discharge valves due to its working principle. Driven by a shaded-pole motor, it ensures consistent flow rates of 0.4, 1.4, 3.4 or 6.6 l/h. Its advantages are the insensitiveness to air and gas entering the pump tube and the capability of priming in dry condition against operating pressure.

A variation of the flow rate can be realized by pulsed switching operation at any frequency with up to 20 switchings per minute, using electronic time relays.

The EASYDOS is most suited to be used as a final control element for controllers with modulated pulse duration output. Its preferred application fields are swimming pools for metering disinfectants (sodium hypochlorite, chlorine-cyanur compounds, hydrogen peroxide), pH correction agents (acid, lye) and flocculants (e.g. PAC).

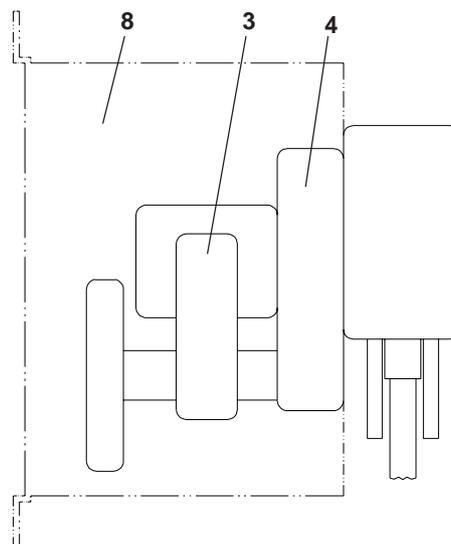
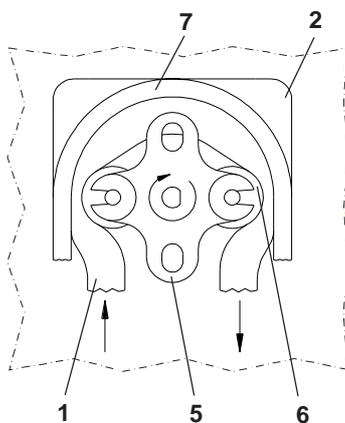
Design

The pump tube (1) as the actual conveyer part lies alongside the inner wall of the semi-circular tube supporting enclosure (2). Centrally located, the rotor (5) turns with two pressure rollers (6), activated by the motor (3) with gear (4). The volume (7) between the two rollers is displaced continuously from the suction to the discharge side.

A splash-proof plastic housing (8) with a powdery epoxy resin coat accommodates the motor with gear.

Drive

A shaded-pole motor with reduction gear is used as low-noise drive. Speed and thus flow rate depend on the mains frequency. To protect the motor in the case of overload, the voltage supply is cut off after exceeding 125° C.



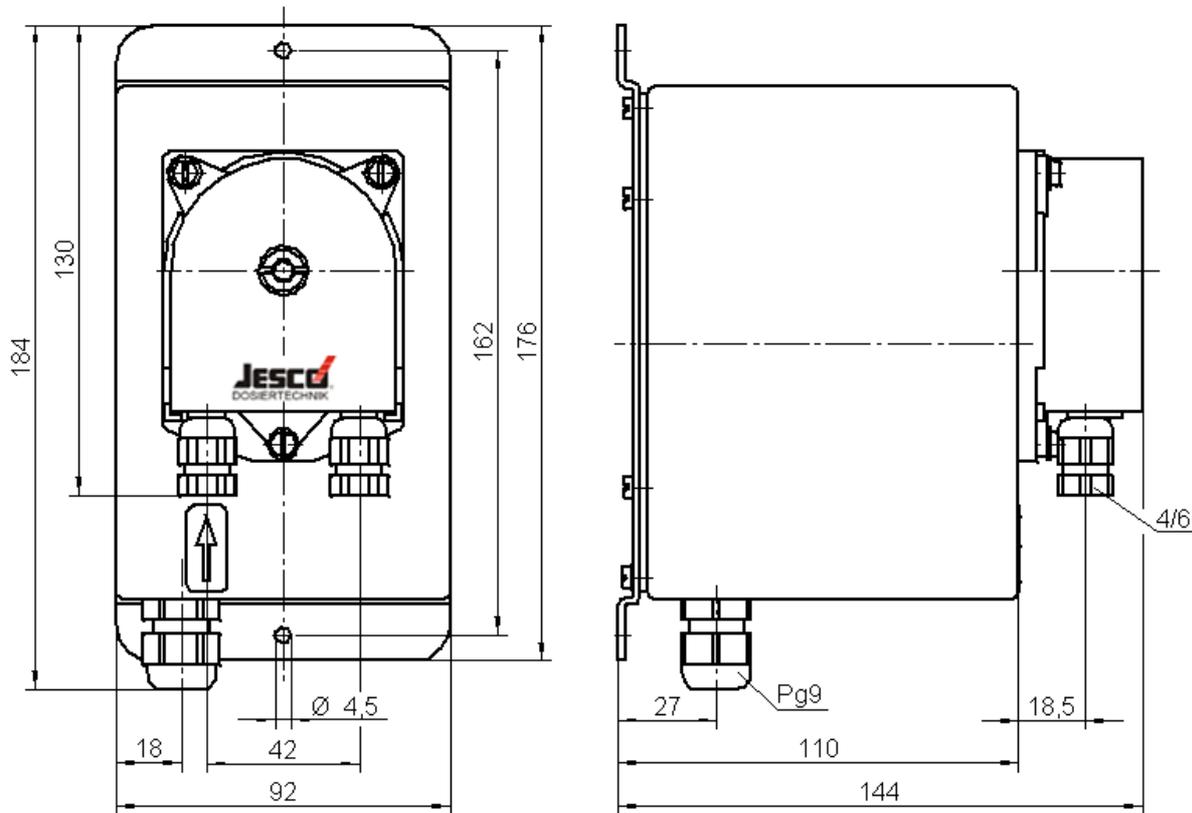
Technical Data

EASYDOS, type		0.4	1.4	3.4	6.6
Flow rate *1)	l/h	0.4	1.4	3.4	6.6
Max. pressure	bar	1.5			
Suction lift	mbar	300			
Tube material	JESCOprene	ø1.6x1.6	ø3.2x1.6	ø3.2x1.6	ø4.8x1.6
	Silicone	ø1.6x1.6	ø3.2x1.6	ø3.2x1.6	ø4.8x1.6
Rotor w. 2 rollers	mm	ø 13.5			
Speed *1)	min-1	20		51	
Shaded-pole motor	Watt	60			
Voltage	V/Hz/Hz	230/50/60			
	V/Hz/Hz	115/50/60 (on request)			
Temperature	ambient	5 - 40°C			
	medium	5 - 50°C			
Housing	WxHxD mm	90x170x141			
	Material	Steel plate, powdery epoxy resin coat			
	Protection Cl.	IP 65			
Connection		1.5 m cable with safety plug			
Weight	kg	2			

*1) applies to 50 Hz. 20% higher performance at 60 Hz.
 The flow rate of the different pumps may differ from the listed values
 by approx. ±15 % (influence of the tube material).

Part Numbers

Pump type	Tube material	Part No.
EASYDOS 0.4	JESCOprene	11000100
	Silicone	11000102
Spare tube with connecting nozzles	JESCOprene	34973
	Silicone	34974
EASYDOS 1.4	JESCOprene	11000105
	Silicone	11000106
Spare tube with connecting nozzles	JESCOprene	34975
	Silicone	34976
EASYDOS 3.4	JESCOprene	11000101
	Silicone	11000104
Spare tube with connecting nozzles	JESCOprene	34975
	Silicone	34976
EASYDOS 6.6	JESCOprene	11000107
	Silicone	11000108
Spare tube with connecting nozzles	JESCOprene	34977
	Silicone	34978
Rotor (Spare)	PA	34949
Injection nozzle G 1/2 - 4/6	PVC/viton/glass	12300001
2x tubing connection	PA	2 x 35236
Hose coupling 4/6 - 6/8	PVC	35874

Dimensions

Installation

For installation and operation, the local rules must be observed. This applies to the selection of suitable pump materials, the handling of the chemicals and the electrical installation. At the same time the technical data of the peristaltic pump according to the above table must be considered, and the plant must be designed correspondingly (e.g. pressure loss in lines depending on nominal diameter and length).

To avoid damage, do not apply excessive force.

Ambient temperatures exceeding 40°C are not permitted. Radiant heat of apparatus and heat exchangers must be kept in limits allowing the pump to sufficiently dissipate its own heat. Exposure to direct sunlight must be avoided. If the peristaltic pump is installed outside, provide an enclosure to protect it against weather.

The line connections must not apply forces to the pump. To avoid incorrect metering after the process is finished, provide an electric and hydraulic interlocking system for the pump.

Both, the designer and the user are responsible to make sure that the whole plant including the peristaltic pump is constructed so that neither plant equipment nor buildings are severely damaged in the case of chemical leakage due to the failure of wear parts (e.g. rupture of the pump tube). When constructing chemical plants, the installation must be carried out so that no consequential damages appear which are unreasonably high even if the peristaltic pump fails. Therefore we recommend installing containment tanks with leakage probe.

Peristaltic pumps are produced according to highest

quality standards. Nevertheless some parts are subject to wear (e.g. pump tube). To ensure long operating life, visual checks are required regularly. Operating and maintenance personnel must be able to access the pump easily.

The hose lines at the pump are suitable for tubes with an internal diameter of 4 mm (e.g. PE or PVC). Despite the low pressure the tube is fastened to the nozzle using the attached tubing locks.

Unnecessary pressure loss must be avoided on the discharge side. Therefore the Ø4mm line should not be longer than 5 m in the case of watery media. The connection of the pump still has an internal diameter of 4 mm but the diameter over the long distance is enlarged using a hose coupling. If the metering point is geodesically above the pump, the effect on the discharge pressure must be taken into account. (E.g. 5 m above the pump result in 0.5 bar at the pump in the case of water. This value must be subtracted from the admissible operating pressure of 1.5 bar. The backpressure at the injection nozzle may then only be 1.0 bar.)

For the introduction of the liquid into the process (e.g. recirculating line of a swimming pool), an injection nozzle should be used so that return flow to the peristaltic pump is avoided. Because of the low discharge pressure, an injection nozzle opening at approx. 0.1 bar with spring-loaded ball check is recommended.

Maintenance

Regular maintenance of the peristaltic pump avoids shutdowns!

Always use appropriate tools for maintenance works.

As a precaution, the pump tube as a wear part should be replaced after approx. 1,000 operating hours.

If a still tight tube is to be used further, reduced flow rates are likely. The flow rate depends - among other factors - on backpressure, suction lift and operating hours (fatigue of the rubber).

For pumps which are used as final control elements in automatic control systems, a reduced output is compensated for by the controller, provided that the max. flow rate is still sufficient.

Startup

The pump is switched on externally by connecting the power supply. The rotor turns clockwise. All tubing connections are checked visually for tightness.

Note:

In the case of longer periods of storage the pump tubing deforms under the back-up roller as a matter of principle. For initial startup, it may be necessary to turn the rotor using a slot screw driver (size 12x2 mm).

Safety instructions

- When working on chemical equipment, observe the local safety rules (e.g. wear personal protective clothes).
- Before working on the peristaltic pump and plant, disconnect it from the main power supply and secure it against reconnection. Before the voltage supply is switched on again, the metering lines must be connected so that chemical left in the tube cannot spurt out.
- Leaking chemical must be removed completely by all means. This is the only way to avoid the danger of physical injury and corrosion at the peristaltic pump.
- When changing the chemical, check whether the materials used for the peristaltic pump and the other plant parts are chemically resistant.

If there is the danger of a chemical reaction between different media, a thorough cleaning first is mandatory.