

# Commercial Vehicle Power Steering Pump e-Varioserv<sup>®</sup>





## Up to 15° C

lower temperature, requires fewer cooling measures in the steering system and enables improved system efficiency.

### Task

The e-Varioserv® power steering pump supplies exactly the right amount of oil that is needed for operating hydraulic steering systems in commercial vehicles.

### Function

The e-Varioserv® power steering pump is designed for connection to the air compressor or a power take-off on the engine. The shaft connects by means of a cross-slotted disk or spline toothing. The e-Varioserv® consists of a housing with an integrated control valve, cover, front plate, shaft, and rotor set as well as an ECO (electronically controlled nozzle). The ECO enables a demand-driven lowering of the volume flow depending on the vehicle-specific requirements. The rotor set is comprised of a rotor, eleven radially-guided blades as well as an eccentrically-mounted and hydraulically-adjustable cam ring and an outer ring.

The e-Varioserv® behaves like a conventional power steering pump up to a defined control

## Up to 65 %

less fuel consumption CO<sub>2</sub> emissions compared to conventional power steering pumps (depending on driving cycle, up to 0.3l/100km and 7.8g CO<sub>2</sub>/km)

point. As soon as this control point is reached, the geometric delivery volume is reduced by the cam ring adjustment. In addition, the volume flow is also reduced by the ECO valve.

The ECO valve is controlled depending on the vehicle-specific requirements. This lower delivery volume compared to a Varioserv® pump leads to a further decrease in power consumption and thus a lower system temperature.

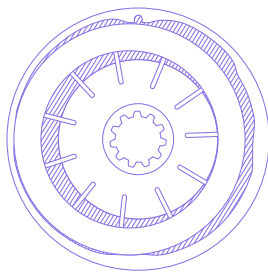
### Variants

The wide-ranging manufacturing program of Evamo® includes various pump designs and model series.

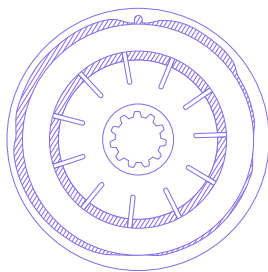
The e-Varioserv® can also be driven by a gear or belt pulley. If required, a pressure level of up to 200 bar is available. The connection for this is made via an intermediate housing and a shaft coupling.

## Product benefits

- Demand-dependent regulation of the volume flow
- Reduces the power consumption even further compared to Varioserv® power steering pumps
- Decreased operating temperature in the steering system
- Reduced fuel consumption and lower CO<sub>2</sub> emissions
- Same flange pattern as conventional and Varioserv® power steering pumps

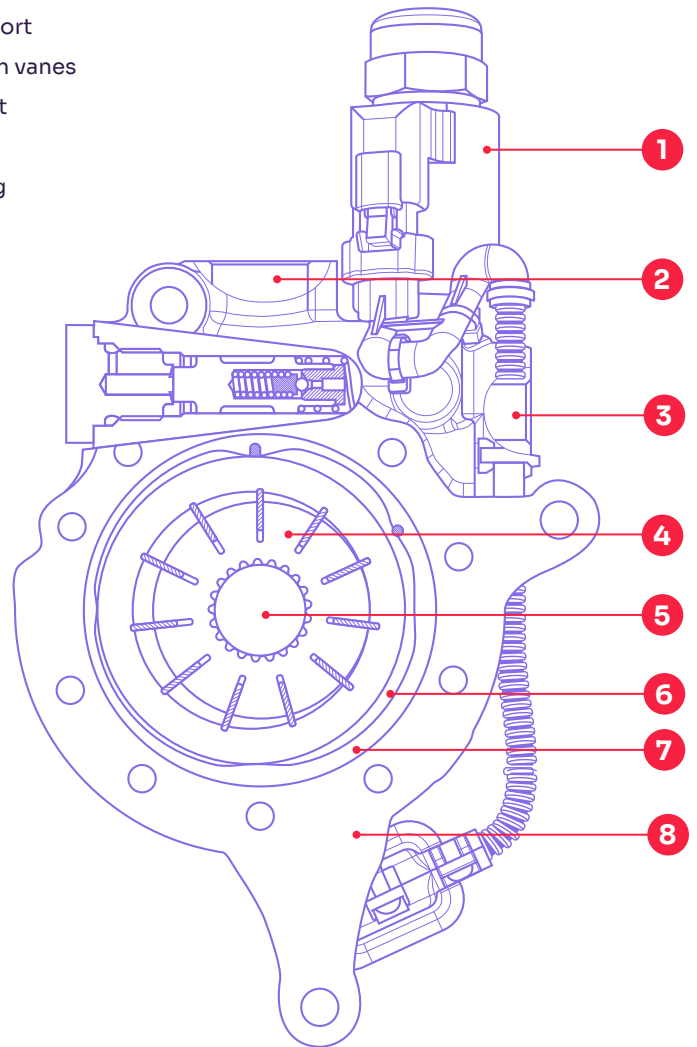


**Concentrical bearing of cam ring for minimum delivery capacity**



**Eccentric bearing of cam ring for maximum delivery capacity**

- 1** Electronically-controlled orifice (ECO)
- 2** Pressure port
- 3** Suction port
- 4** Rotor with vanes
- 5** Driveshaft
- 6** Cam ring
- 7** Outer ring
- 8** Housing



**Technical data\***

Displacement volume (cm <sup>3</sup> /rev)	25
Max. rotational speed (rpm)	5,000
Max. pressure (bar)	185
Controlled volumetric flow (dm <sup>3</sup> /min)	5/25
Suction port Thread	1 1/16" – 12UN 2B M26 × 1.5
Pressure port Thread	5/8" – 16UNF 2B M16 × 1.5
Drive direction of rotation	clockwise or counter-clockwise

\*Technical data of an other optional tandem pumps are not considered here