

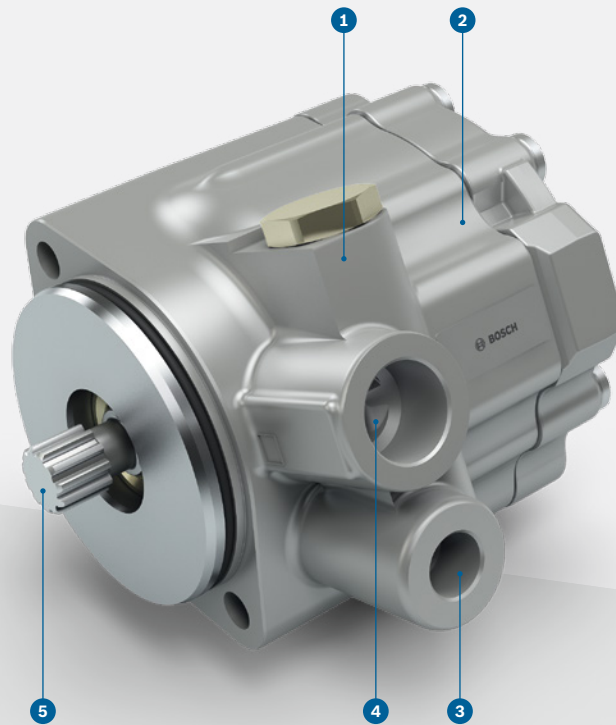
Steering systems

Varioserv® power steering pump



BOSCH

Invented for life



PRODUCT BENEFITS

- ▶ Reduced power consumption compared to a conventional power steering pump
- ▶ Reduced fuel consumption compared to a conventional power steering pump and lower CO₂ emissions
- ▶ Lower operating temperature in the steering system
- ▶ Same flange pattern as a conventional power steering pump
- ▶ Tandem-capable power steering pump

- 1 Control valve
- 2 Housing with integrated flange
- 3 Pressure port
- 4 Suction port
- 5 Driveshaft



up to
15 °C

lower temperature in the steering system, which means less cooling required and improved system efficiency

TASK

The Varioserv® power steering pump provides the amount of oil needed at any time for operation of hydraulic steering systems in commercial vehicles. The pump is designed primarily for connection to the air compressor or a power take-off on an engine. The shaft connects by means of a cross-slotted disk or splines.

FUNCTION

The Varioserv® power steering pump consists essentially of the housing with integrated control valve, cover, front plate, shaft and rotor set. The rotor set consists of the rotor, eleven radial vanes installed in the rotor, the cam ring and the outer ring. The cam ring in the Varioserv® is positioned eccentrically and hydraulically adjustable. Until a fixed control point is reached, the Varioserv® operates like a conventional power steering pump. Once this control point is reached, the geometric delivery volume is decreased by repositioning the cam ring to provide the defined flow. The fixed flow is controlled on the basis of the engine rpm and pressure requirement. The lower flow compared to that of a conventional power steering pump translates into reduced power consumption and, in turn, a lower system temperature. The maximum system pressure must be limited by a pressure-limiting valve installed on the pump or in the system.

VARIANTS

Gear or pulley drive. A pressure of up to 200 bar is available if necessary. The Varioserv® can be combined in tandem with other pump types (e.g. fuel pre-supply pumps).

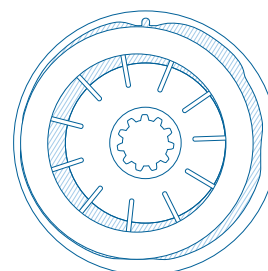
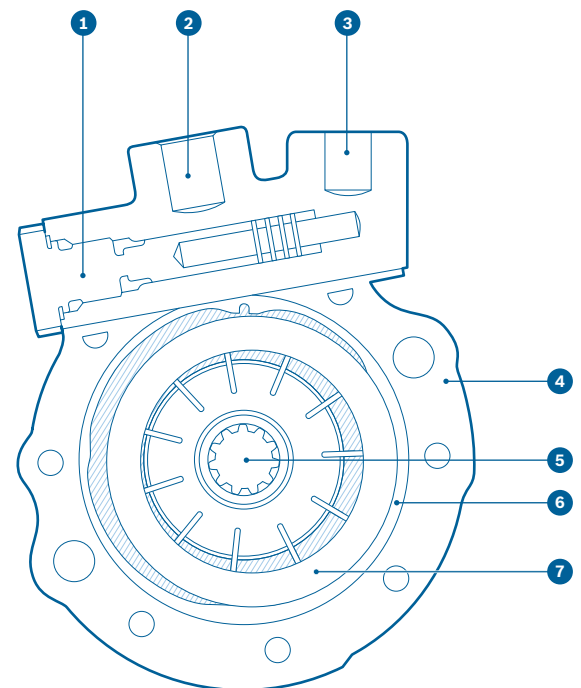
TECHNICAL CHARACTERISTICS

Model	7654	7655	7656	7657
Theor. displacement volume (cm ³ /rev)	22	25	28	34
Max. rotational speed (rpm)	5,000	5,000	5,000	5,000
Max. pressure (bar)	185	185	185	185
Controlled volumetric flow (l/min)	16/25	16/25	16/25	16/25
Suction port thread	1 1/16" – 12UN 2B M26 × 1.5			
Pressure port thread	3/4" – 16UNF 2B M18 × 1.5			
Drive direction of rotation	clockwise or counterclockwise			

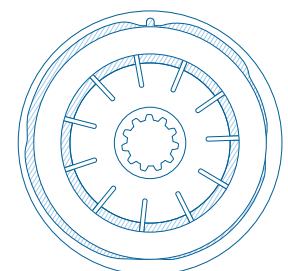
up to
40 %

lower fuel consumption and CO₂ emissions compared to a conventional power steering pump (depending on vehicle type, up to 0.2l/100km or 5.2g CO₂/100km)

- 1 Control valve
- 2 Suction port
- 3 Pressure port
- 4 Housing
- 5 Driveshaft
- 6 Outer ring
- 7 Cam ring



Eccentric bearing of cam ring for maximum delivery capacity



Concentric bearing of cam ring for minimum delivery capacity