

Transmission technology

Variable-force transmission solenoid



BOSCH

Invented for life



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PRODUCT BENEFITS

- ▶ Meets the highest requirements for robustness
- ▶ High level of flexibility for mechanical and electrical interfaces
- ▶ Outstanding quality at high production volume

- 1 Bleed type of variable-force transmission solenoid
- 2 Spool type of variable-force transmission solenoid



drive economically

thanks to minimization of leakage in the transmission hydraulics (CE function)

TASK

The variable-force transmission solenoid (VTS) controls the pilot pressure in automatic transmissions.

FUNCTION

The VTS is a pressure regulator in slider (spool VTS) or flat-seat construction (bleed VTS). In automatic step transmissions, the VTS controls the main pressure, modulates the switching pressure, switches the lock-up clutch and assists the safety functions. In continuously variable transmissions, it is used mainly for shifting the transmission ratio, regulating the belt tension and controlling the lock-up clutch.

The VTS has a vent-controlled pilot valve for automatic transmission, as well as a Teflon-coated anchor bearing. The pilot pressure is subsequently amplified in the hydraulic control plate to operate the clutch couplings. The VTS is available in versions with a rising or falling characteristic curve.

flexible

due to variable mechanical and electrical interfaces

TECHNICAL CHARACTERISTICS

	Bleed VTS	Spool VTS
Areas of use	automatic step transmission, continuously variable transmission, dual-clutch transmission	
Inlet pressure	≤ 900 kPa	≤ 2,500 kPa
Control pressure	0 – 94 % P _{sup}	0 – 48 % P _{sup}
Operating current	0 – 1.2 A	0 – 1.2 A
Leakage	0.1 l/min at CE position	150 ml at 100 °C and 15 bar
Flow rate	≤ 1.4 l/min	≤ 3.5 l/min
Max. diameter	23 mm	23 mm