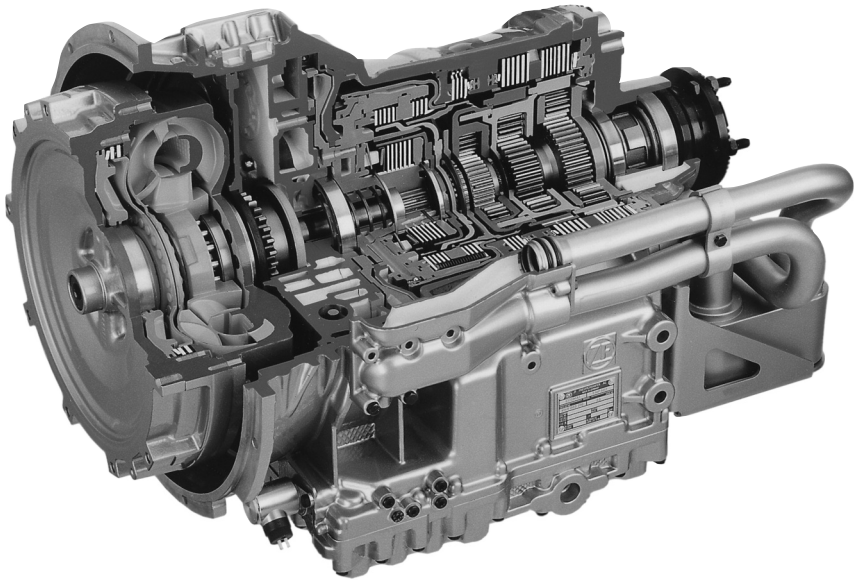
HP 502 C
HP 592 C
HP 602 C

ZF-Ecomat 2 / ZF-Ecomat 2 plus
+ EST 146 / EST 147 (Bus)

ZF automatic transmission for city buses, line service buses and coaches



- As a result of the use of the electronic control units (EST146 / EST147), provide the system with maximum possible shift comfort, safety, economy and service life – with or without integration in the vehicle's CAN systems.
- Electronic control unit communicates with electronic systems CAN (SAE J 1929 and others)

	max. perm. input speed	Max. weight (t) at engine torque DIN 70020/ISO 1585 [Nm]				Weight [2]
		City bus		articulated bus	Coach	
Transmisson type	[min^{-1}]	19 t	24 t	28 t	26 t	[≈ kg]
HP 502 C	2800[1]	1100	–	1100	1100	328
HP 592 C	2800[1]	–	1250	1250	1250	330
HP 602 C	2650[1]	–	1600	1600	1600	341

The values indicated are maximum values. ZF release depends on vehicle type and data as well as on the conditions of application.

No. of gears	Standard ratios in gear								Spreading [4]
	1 H [3]	1	2	3	4	5	6	R [3]	
5	8.33	3.43	2.01	1.42	1.00	0.83	–	11.76	10.1 (4.1)
6	8.33	3.43	2.01	1.42	1.00	0.83	0.59	11.76	14.1 (5.8)

1) ati i = 0,59; n_{max} = 2000 min^{-1}
2) Transmission with retarder and oil cooler (without oil); Oil fill quantity for initial fill: approx. 30 dm^3; Oil grade as specified in ZF list of Lubrication TE-ML 20.
3) incl. maximum converter torque ratio at the moment of setting off - depending on converter type
4) Ratio between the highest ratio and the lowest one incl. maximum converter torque ratio at the moment of setting off - depending on converter type (Ratio without torque converter)

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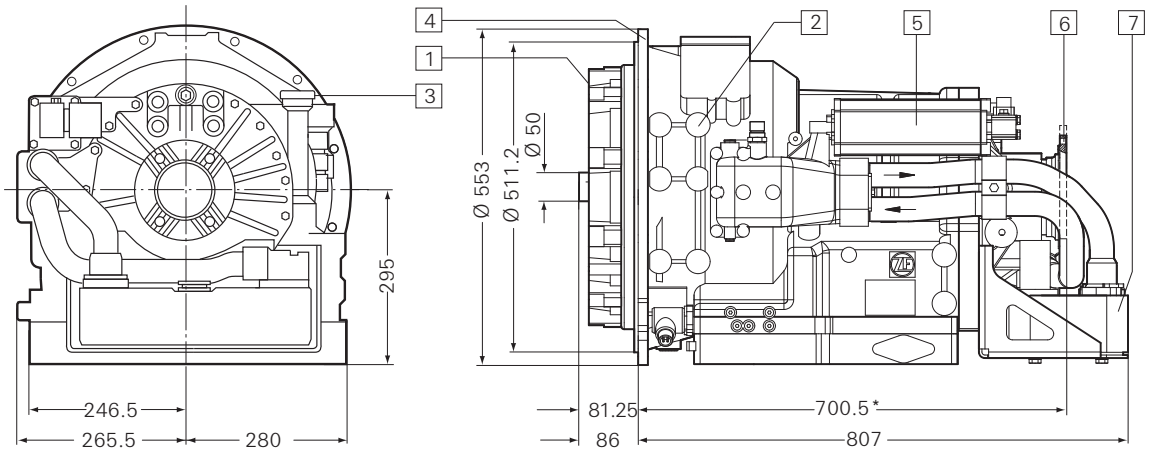
Installation dimensions



1 Input
2 Side mounting faces
3 Oil filler tube with dipstick
4 SAE1 engine mounting flange
5 Retarder accumulator
6 Output flange (various flange versions possible)
7 Heat exchanger
* depending on output flange type

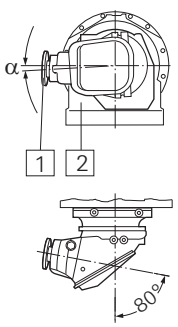
Angle drives

For transvers installation of engine/transmission unit, the following angle drives (WTR) are available:

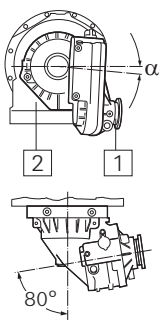
Angle drive	Ratios	max. engine torque [Nm]	Weight [≈ kg]	Position right	Position left
80° LHD with offset axle	0.97	1600*	97		α = 3°; 6°; 9°
80° RHD** with offset axle	0.98	1250	125	α = 5°	

* after consultation with ZF
** max. perm. engine speed after consultation with ZF

80° WTR LHD without offset axle



80° WTR RHD with offset axle



1 Output (various flange versions possible)
2 Ecomat transmission

Pictures: 011561; 019925_1; 019926_1

Subject to technical change without notice.

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