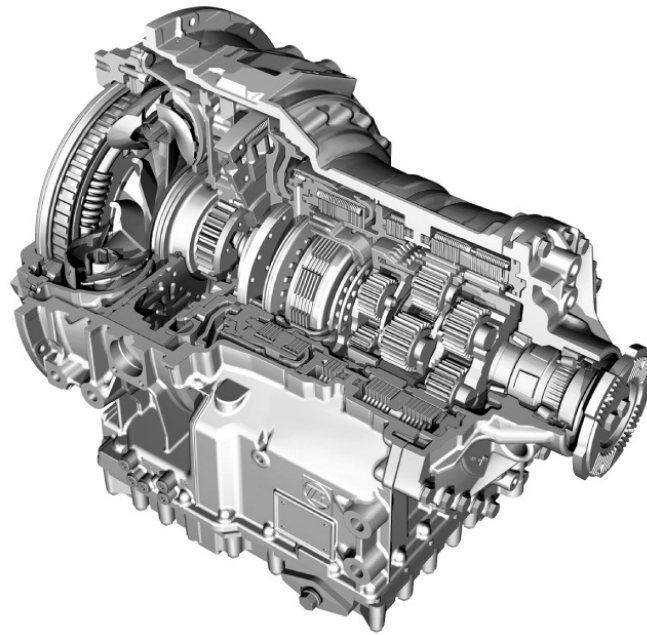


HP 504 C HP 594 C HP 604 C

ZF-Ecomat 4 + 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) and their integration into the vehicle's CAN systems, the Ecomat system provides maximum possible shift comfort, safety, economy and service life.
- Electronic control unit communicates with electronic systems CAN (SAE J 1929 and others)

| Transmission type | max. perm. input speed [min ⁻¹] | Max. weight (t) at engine torque DIN 70020/ISO 1585 [Nm] | | | | Weight ²⁾ [≈ kg] |
|-------------------|------------------------------------------------|----------------------------------------------------------|------|------|-------|--------------------------------|
| | | City bus | | | Coach | |
| | | 13 t | 19 t | 28 t | 26 t | |
| HP 504 C | 2800 | 850 ¹⁾ | 1100 | 1100 | 1100 | 328 |
| HP 594 C | 2800 | – | 1250 | 1250 | 1250 | 330 |
| HP 604 C | 2650 | – | 1750 | 1750 | 1750 | 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⁾ Interjunction with special equipment

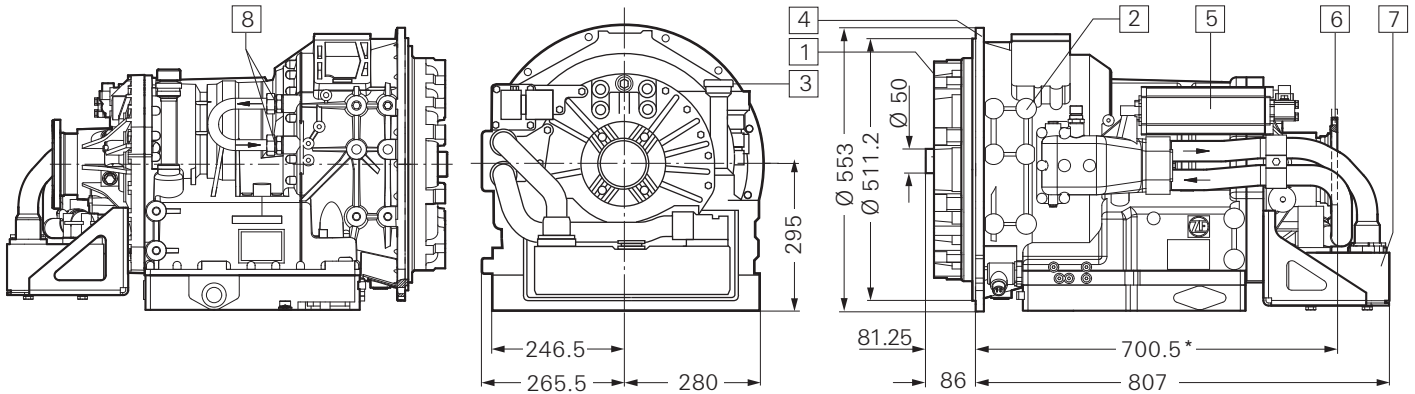
²⁾ Transmission with retarder and oil cooler (without oil); Oil fill quantity for initial fill: approx. 28 dm³; Oil grade as specified in ZF list of Lubrication TE-ML 20.

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)

HP 504 C HP 594 C HP 604 C

Installation dimensions



- | | |
|---------------------------------|----------------------------------------------------|
| 1 Input | 6 Output flange (various flange versions possible) |
| 2 Side mounting faces | 7 Heat exchanger |
| 3 Oil filler tube with dipstick | 8 Connection point for add-on cooler |
| 4 SAE1 engine mounting flange | |
| 5 Retarder accumulator | * depending on output flange type |

Angle drives

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

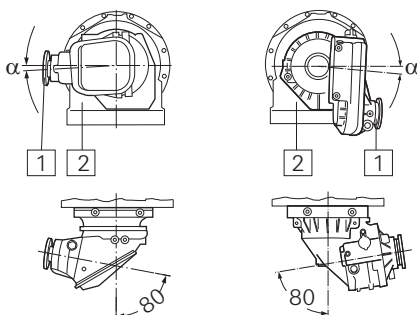
| Angle drive | Ratios | max. engine torque [Nm] | Weight [≈ kg] | Position | |
|--------------------------------|--------|-------------------------|---------------|--------------------|--------------------------------------|
| | | | | right | left |
| 80° LHD without offset axle | 0.97 | 1600 ¹⁾ | 97 | | $\alpha = 3^\circ; 6^\circ; 9^\circ$ |
| 80° RHD with offset axle | 0.98 | 1250 | 125 | $\alpha = 5^\circ$ | |

max. perm. engine speed at $i = 0.59$: 2000 min⁻¹

1) max. engine torque in 1st gear: 1250 Nm

80° WTR LHD
without offset axle

80° WTR RHD
with offset axle



- | |
|---------------------------------------------|
| 1 Output (various flange versions possible) |
| 2 Ecomat transmission |