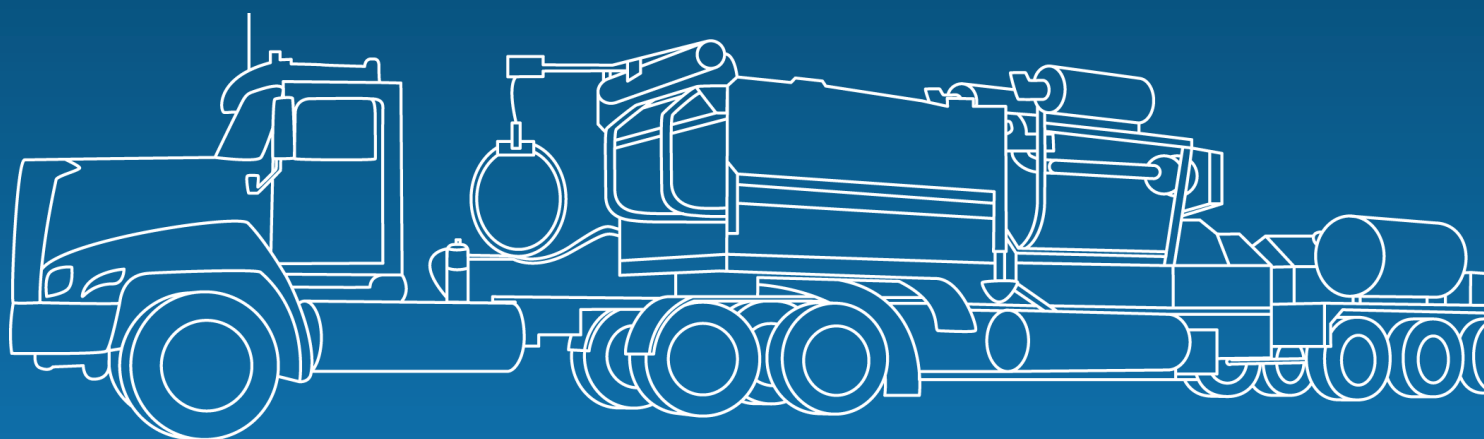
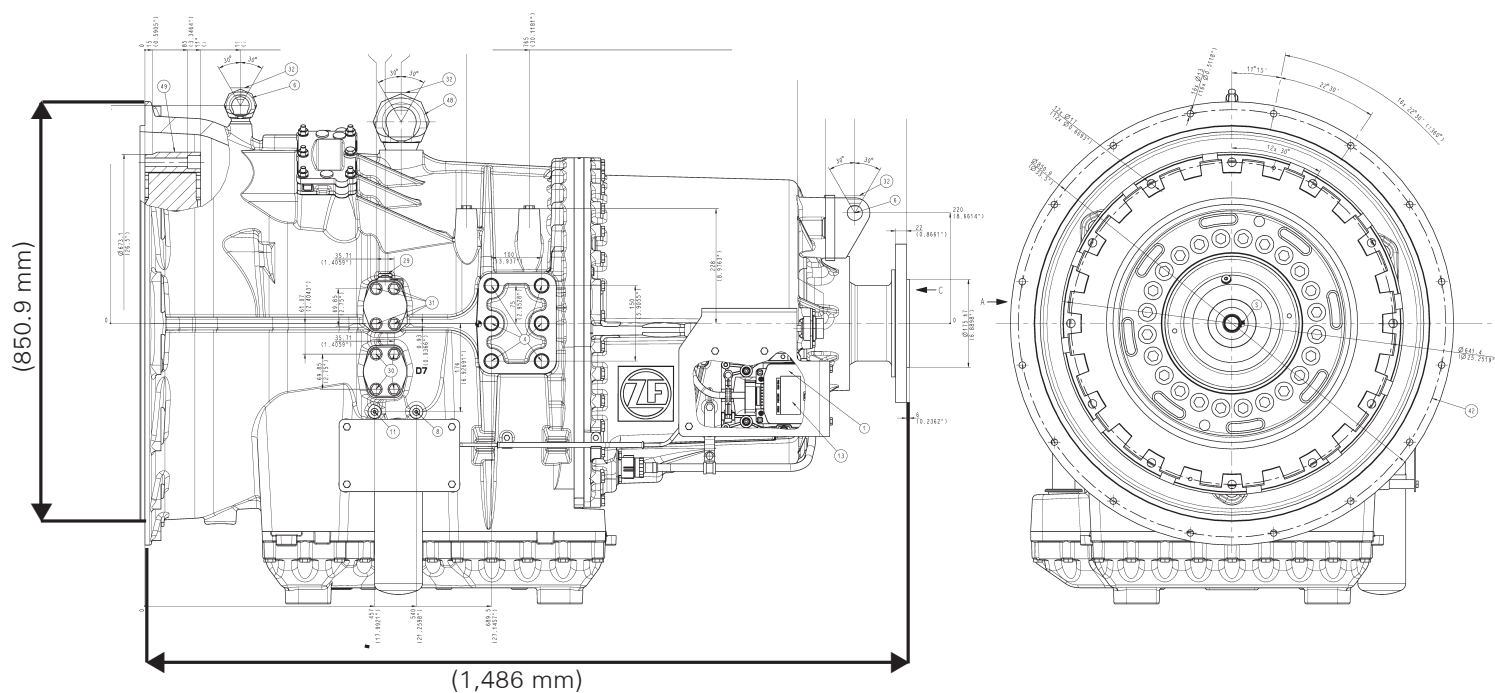


Product Overview

Transmission Technology for Oil and Gas Applications



ZF 8 TX



Trans-mission type	Power	Output/pump performance	Weight *	Oil capacity	Oil grade	Engine connection	Coverage
Version	[hp] e.g. at 1,900 rpm	[hhp]	[kg] [lb]	[l]		SAE	
8 TX 2600	2,600	2,506	1,238 2,729	80	Engine oil	SAE 00	4.514
8 TX 3000	3,000	2,705	1,243 2,740	80	Engine oil	SAE 00	4.514

* Dry without PTOs including resilient coupling

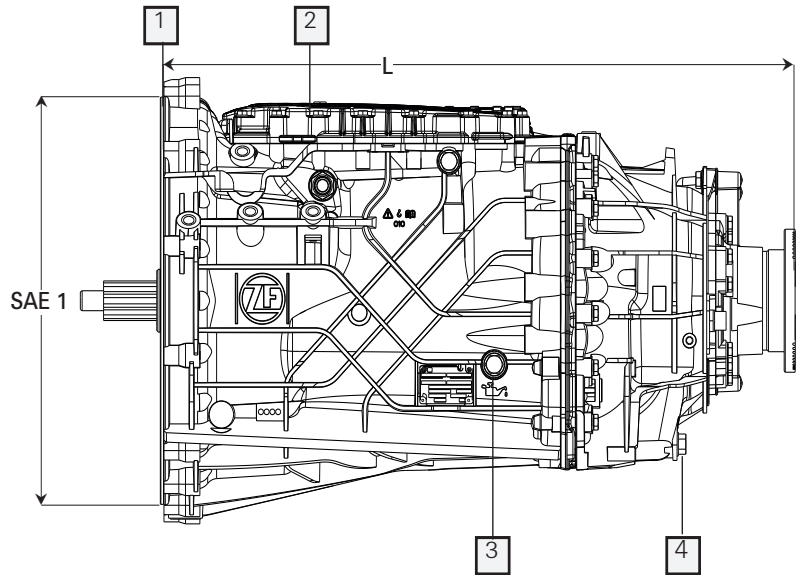
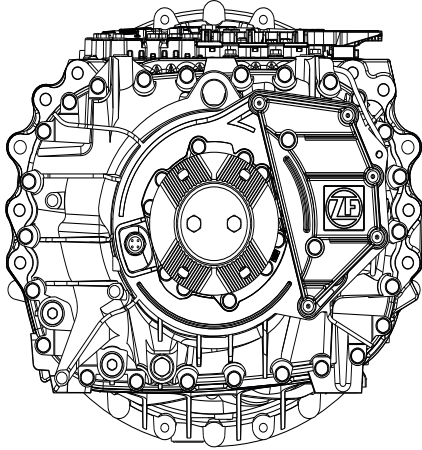
Standard ratios in gear

Gears and Ratios	1	2	3	4	5	6	7	8
8 TX	3.674	2.667	2.156	1.708	1.378	1.217	1.005	0.814

Features / Function

- Light resilient coupling, no torque converter needed
- Reduced heat rejection compared to torque converter equipped transmissions
- Integrated bell housing / clear facing
- Electronic control unit fully J1939 capable, IP69K protection, onboard ECU
- Service intervals according engine service intervals
- 2 PTO’s available, 112 kW each, interfaces SAE C&B pads
- Specific designed Vdamp® available
- Oil sight glass for easy oil level check
- Integrated pre-heating system
- Condition monitoring system available
- Specific software functions available

ZF TraXon



- 1 Engine connection, SAE 1
- 2 Gearshift module
- 3 Oil-filling and overflow check, transmission
- 4 Oil drain, transmission

Transmission type	Input torque	Weight without auxiliaries	Oil capacity for initial fill w/o heat exchanger	Oil grade	Length „L“	Engine connection
Version	[Nm]	[kg]	[l]	ZF list of lubricants	[mm]	SAE
12 TX 2610 SO	max. 2,600	≈ 254	≈ 12.5	TE-ML 02	from 866	SAE 1
12 TX 3420 SO	max. 3,400	≈ 268	≈ 13.5	TE-ML 02	from 898	SAE 1
16 TX 3440 SO	max. 3,400	≈ 292	≈ 14.5	TE-ML 02	from 953	SAE 1

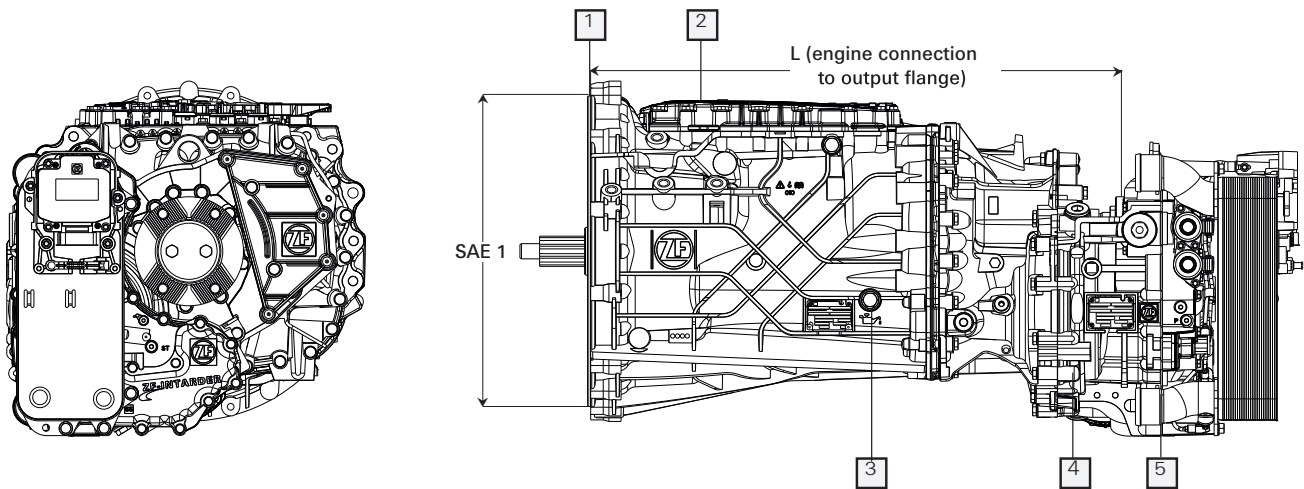
Standard ratios in gear

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	R1	R2	R3	R4
2610	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	-	-	-	-	12.03	9.29	2.64	2.04
3420	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	-	-	-	-	14.14	11.60	3.10	2.54
3440	14.68	12.05	9.92	8.14	6.78	5.56	4.57	3.75	3.22	2.64	2.17	1.78	1.49	1.22	1.0	0.82	14.14	11.60	3.10	2.54

Features / Function

- Automatic transmission system for heavy duty special vehicles and applications
- PreVision GPS driving strategy
- New software functions for enhanced comfort
- Optional clutch-dependent PTO and emergency steering pump available

ZF TraXon (with Intarder)



1 Engine connection, SAE 1

2 Gearshift module

3 Oil-filling and overflow check, transmission

4 Oil drain, transmission

5 Intarder

Transmission type	Input torque	Weight without auxiliaries	Oil capacity for initial fill w/o heat exchanger	Oil grade	Length „L“	Engine connection
Version	[Nm]	[kg]	[l]	ZF list of lubricants	[mm]	SAE
12 TX 2611 SO	max. 2,600	≈ 333	≈ 22.5	TE-ML 02	from 866	SAE 1
12 TX 3421 SO	max. 3,400	≈ 359	≈ 23.5	TE-ML 02	from 898	SAE 1
16 TX 3441 SO	max. 3,400	≈ 369	≈ 24.5	TE-ML 02	from 953	SAE 1

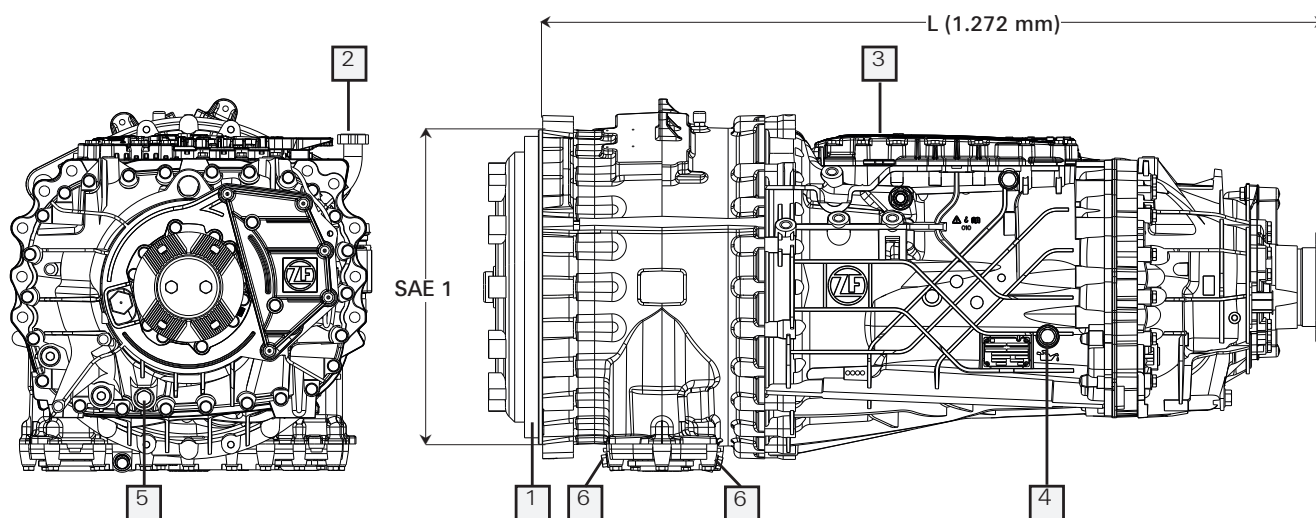
Standard ratios in gear

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	R1	R2	R3	R4
2611	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	-	-	-	-	12.03	9.29	2.64	2.04
3421	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	-	-	-	-	14.14	11.60	3.10	2.54
3441	14.68	12.05	9.92	8.14	6.78	5.56	4.57	3.75	3.22	2.64	2.17	1.78	1.49	1.22	1.0	0.82	14.14	11.60	3.10	2.54

Features / Function

- Automatic transmission system for heavy duty special vehicles and applications
- PreVision GPS driving strategy
- New software functions for enhanced comfort
- Optional clutch-dependent PTO and emergency steering pump available
- ZF-Intarder with up to 4,000 Nm/600 kW braking torque/power is fully integrated as wear-free auxiliary brake

ZF TraXon Torque



- | | |
|------------------------------|--|
| 1 Engine connection | 4 Oil-filling and overflow check, transmission |
| 2 Oil-filler tube, converter | 5 Oil drain, transmission |
| 3 Gearshift module | 6 Oil drain, converter (TCC) |

Transmission type	Input torque	Weight without auxiliaries	Oil capacity for initial fill w/o heat exchanger	Oil grade	Torque increase converter	Length „L“	Engine connection
Version	[Nm]	[kg]	[l]	ZF list of lubricants		[mm]	SAE
12 TT 3020 SO	max. 3,000	≈ 507	TCC: ≈ 26 Transmission: ≈ 13.5	TE-ML 02	1.59	1,272	SAE 1

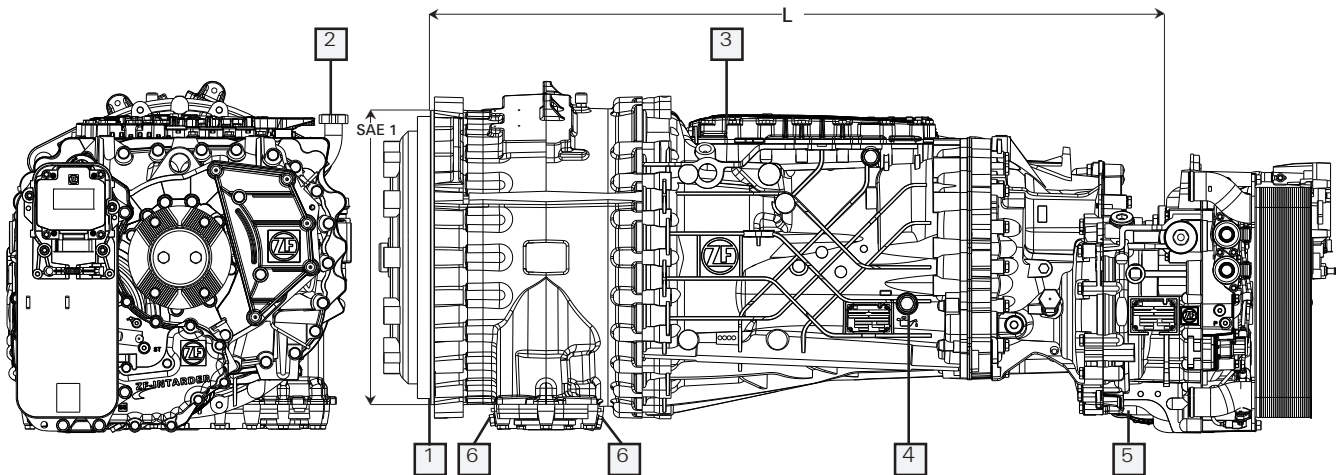
Standard ratios in gear

	1	2	3	4	5	6	7	8	9	10	11	12	R1	R2	R3	R4
3020	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	12.03	9.29	2.64	2.04

Features / Function

- Combination of the TraXon system with upstream torque converter clutch (TCC)
- Automatic transmission system and starting module for special applications and heavy goods transporters
- Lock-up of torque converter at driving speed thereby shifting without loss
- Common on-site control unit for Intarder and TraXon Torque module
- Clutch slip control and clutch protection
- Optional clutch-dependent PTO and emergency steering pump available
- PreVision GPS driving strategy

ZF TraXon Torque (with Intarder)



- | | |
|-------------------------------------|---|
| 1 Engine connection | 4 Oil-filling and overflow check, transmission |
| 2 Oil-filler tube, converter | 5 Oil drain, transmission |
| 3 Gearshift module | 6 Oil drain, converter (TCC) |

Transmission type	Input torque	Weight without auxiliaries	Oil capacity for initial fill w/o heat exchanger	Oil grade	Torque increase converter	Length „L”	Length „L”	Engine connection
Version	[Nm]	[kg]	[l]	ZF list of lubricants		[mm]	[mm]	SAE
12 TT 3021 SO	max. 3,000	≈ 580	TCC: ≈ 26 Transmission: ≈ 23.5	TE-ML 02	1.59	from 1,272	1,272	SAE 1

Standard ratios in gear

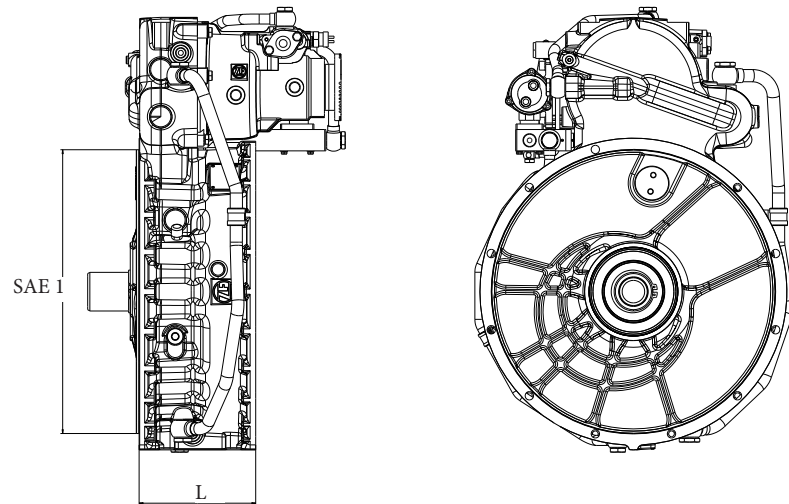
	1	2	3	4	5	6	7	8	9	10	11	12	R1	R2	R3	R4
3021	12.92	9.98	7.69	5.94	4.57	3.53	2.83	2.19	1.68	1.30	1.00	0.77	12.03	9.29	2.64	2.04

Features / Function

- Combination of the TraXon system with upstream torque converter clutch (TCC)
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- PreVision GPS driving strategy
- ZF-Intarder with up to 4,000 Nm/600 kW braking torque/power is fully integrated as wear-free auxiliary brake

ZF PowerDivide

NMV 1600 L1
NMV 2000 L1
NMV 2003 L1



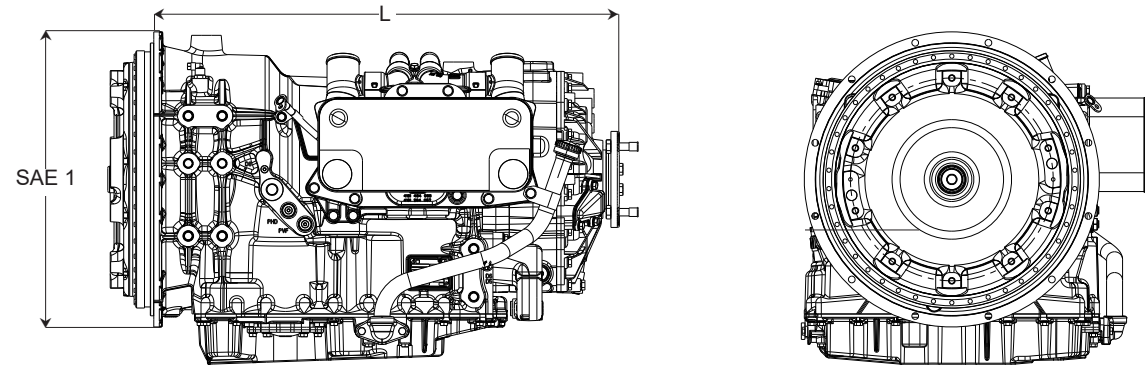
Type	Installation position	PTO power	Transmission power	Output torque	Direction of rotation	Mass (with damper)	Permissible operation temperature	Oil capacity	Oil grade	Speed factor
Version	o'clock	[kW]	[kW]	[Nm]		[kg]	[°C]	[l]	ZF list of lubricants	
NMV 1600 L1	12	251	625	1,600	Same as engine	approx. 168	max. 110	approx. 4.7	TE-ML 02	1.54
NMV 2000 L1	12	314	625	2,000	Same as engine	approx. 168	max. 110	approx. 4.7	TE-ML 02	1.21
NMV 2003 L1	3	314	625	2,000	Same as engine	approx. 168	max. 110	approx. 4.7	TE-ML 02	1.21

Features / Function

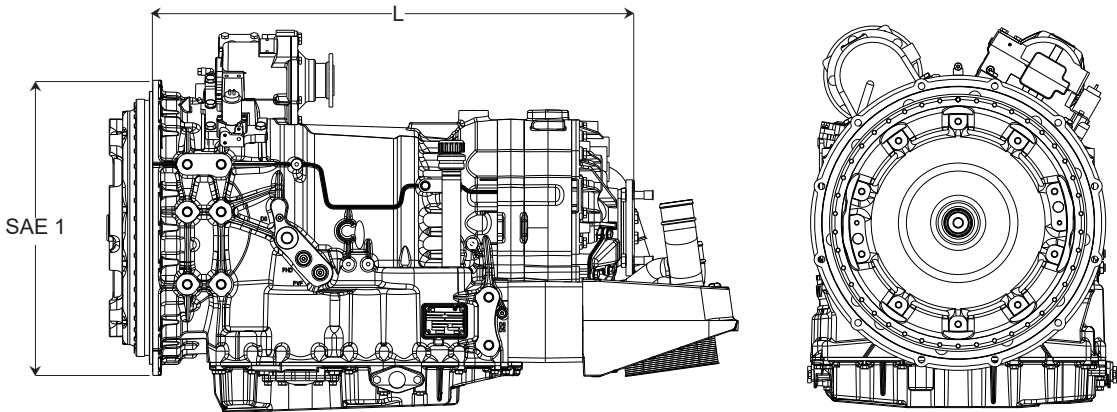
- Engine-dependent PTO for auxiliary power units with high torque, such as concrete pumps, mobile cranes, fire-fighting vehicles, and many more
- Installed like a 'sandwich' between the engine and the transmission (SAE interface)
- 628 kW/3,000 Nm on transmission output
- Multidisc shift system

ZF EcoLife Offroad

Example: With side mounted cooler



Example: With PTO and rear mounted cooler



ZF EcoLife Offroad (ready for PTO)	Max. engine torque	Max. turbine torque Forward	Max. retarder torque	Installation length „L“ (ready for PTO)	Dry weight w/o cooler (ready for PTO)	Torque conversion
Version	[Nm]	[Nm]	[Nm]	[mm]	[kg]	
7 AP 2600 E (EP)	2,600	3,850	- 1,900	871.1 (901.1)	456 (493)	1.95 ... 2.29
7 AP 2100 E (EP)	2,100	3,500	- 1,900	871.1 (901.1)	454 (491)	1.95 ... 2.29
7 AP 1900 E (EP)	1,900	3,130	- 1,900	871.1 (901.1)	452 (489)	1.95 ... 2.29
7 AP 1600 E (EP)	1,600	2,500	- 1,900	871.1 (901.1)	450 (487)	1.95 ... 2.29

Standard ratios in gear

Gears and Ratios	1	2	3	4	5	6	7	R	R _{cr}	Phi
Ratio 7 AP xxxx E (EP)	5.6	3.36	2.04	1.47	1.0	0.67	0.56	3.36	9.05	10
Max. engine speed [rpm]	2,600	2,600	2,600	2,600	2,600	2,600	2,300	2,600	2,600	-

Features / Function

- High efficiency, high power-to-weight ratio
- Application and mission-specific shift programs (can optionally be selected during operation as well)
- Dual cooling system consisting of integrated transmission oil cooler and separate retarder oil cooler
- Higher admissible cooling water temperature of up to 105°C
- Connections for two PTOs with a maximum of 1,000 Nm available as an option

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