



CASE IH OPTUM CVX 300

PowerMix

DLG Test Report 6298

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Datasheet DLG PowerMix

Applicant

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Test performed by

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Test No.

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Specifications

Engine			
Manufacturer	FPT		
Stage of emission	IV		
Exhaust aftertreatment device			
Nitrous gaseous emission	Selective Catalytic Reduction (SCR)		
Particulate matter emission	-		
Time for regeneration DPF (average)	-**	min	
Time between regeneration:			
- maximum*	-**	h	
- under PowerMix conditions*	-**	h	
- checked	-**		
Exhaust gas recuperation			
-			
Number of cylinders*	6		
Bore*	104	mm	
Stroke*	132	mm	
Displacement*	6728	cm ³	
Rated speed	2100	min ⁻¹	
Power by ECE R 120	standard	boost	
Rated power	221 kW	- kW	
Maximum power	230 kW	- kW	
at engine speed	1800 min ⁻¹	- min ⁻¹	
Loss of power during regeneration	-**		
Main fan			
Diameter	660	mm	
Number of fan blades	9		
Transmission			
Manufacturer	CNH Industrial		
Type of construction	Continous variable Transmission		
Ranges	FWD 4 / Rev 2		
Gears			
Forward	-		
Reverse	-		
Design speed	50	km/h	

Power take off				
Profile	Form 3: 20 tooth (1 ¼")			
Transmission ratio*				
Standard pto speed	540	540E	1000	1000E
Engine speed [min ⁻¹]	1931	1598	1853	1583
Chassis				
Front axle				
Manufacturer	CNH Industrial			
Type	Rigid axle, suspended			
Tires	front	rear		
Manufacturer	Michelin AXIOBIB	Michelin AXIOBIB		
Tire size	IF 650/60 R34	IF 710/75 R42		
Axle load	front	rear	total	
Permissible*	7500 kg	11600 kg	16000 kg	
Empty weight	5040 kg	6345 kg	11385 kg	
Hydraulic				
System*	Load Sensing CCLS (Pressure and Flow Compensated)			
Supply of oil	Common with transmission oil			
Fluid type*	MAT 3525			
Capacity*	148	l		
Extractable*	70	l		
Auxiliary valves				
Number	5			
Max. flowrate*	220	l/min		
Max. pressure*	215	bar		
Fitted options				
Free return flow				Yes
Air condition				Yes
Air compressor				Yes
Front hydraulic power lift				Yes
Front pto				No
				-
				-

Test conditions

Axle load	front	rear
With ballast	5400 kg	7600 kg
Ballast		
on frame	870 kg	950 kg
on axle	- kg	- kg
Axle load distribution	42 %	58 %
Tire pressure		
	front	rear
	1,2 bar	1,2 bar

Remarks

* Manufacturer's data

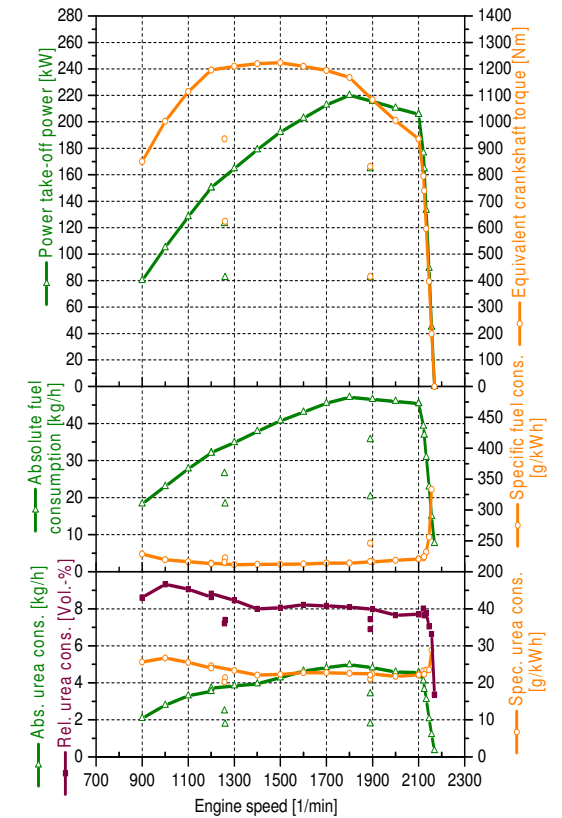
** No Diesel-Particulate-Filter (DPF)

Results of measurement at pto dynamometer – standard

Full load	
Rated speed	
Pto power	205,7 kW
Absolute fuel consumption	45,4 kg/h
Specific fuel consumption	221 g/kWh
Specific urea consumption	22,1 g/kWh
Ratio urea to fuel	7,7 Vol-%
Maximum power	
Engine speed	1800 min ⁻¹
Pto power	220,1 kW
Absolute fuel consumption	47,1 kg/h
Specific fuel consumption	214 g/kWh
Specific urea consumption	22,6 g/kWh
Ratio urea to fuel	8,1 Vol-%
Maximum torque	
Engine speed	1500 min ⁻¹
Pto power	192,1 kW
Absolute fuel consumption	40,7 kg/h
Specific fuel consumption	212 g/kWh
Specific urea consumption	22,3 g/kWh
Ratio urea to fuel	8,1 Vol-%
1000 rpm at pto	
Engine speed	1853 min ⁻¹
Pto power	218,2 kW
Absolute fuel consumption	46,9 kg/h
Specific fuel consumption	215 g/kWh
Specific urea consumption	22,7 g/kWh
Ratio urea to fuel	8,1 Vol-%

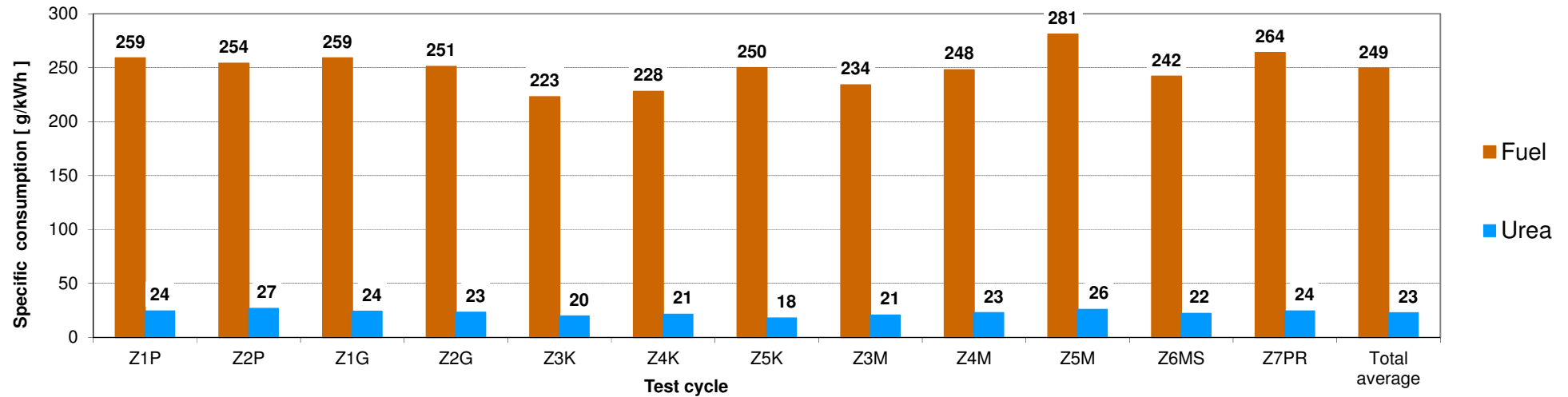
Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	36,9 kg/h
Specific fuel consumption	224 g/kWh
Specific urea consumption	22,3 g/kWh
Ratio urea to fuel	7,6 Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	35,7 kg/h
Specific fuel consumption	217 g/kWh
Specific urea consumption	21,0 g/kWh
Ratio urea to fuel	7,4 Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	20,2 kg/h
Specific fuel consumption	246 g/kWh
Specific urea consumption	22,1 g/kWh
Ratio urea to fuel	6,9 Vol-%
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	18,3 kg/h
Specific fuel consumption	222 g/kWh
Specific urea consumption	21,4 g/kWh
Ratio urea to fuel	7,4 Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	26,5 kg/h
Specific fuel consumption	215 g/kWh
Specific urea consumption	20,2 g/kWh
Ratio urea to fuel	7,2 Vol-%

Graphical analysis



Torque rise	31 %
Engine speed drop	29 %
Pulling off torque	107 %

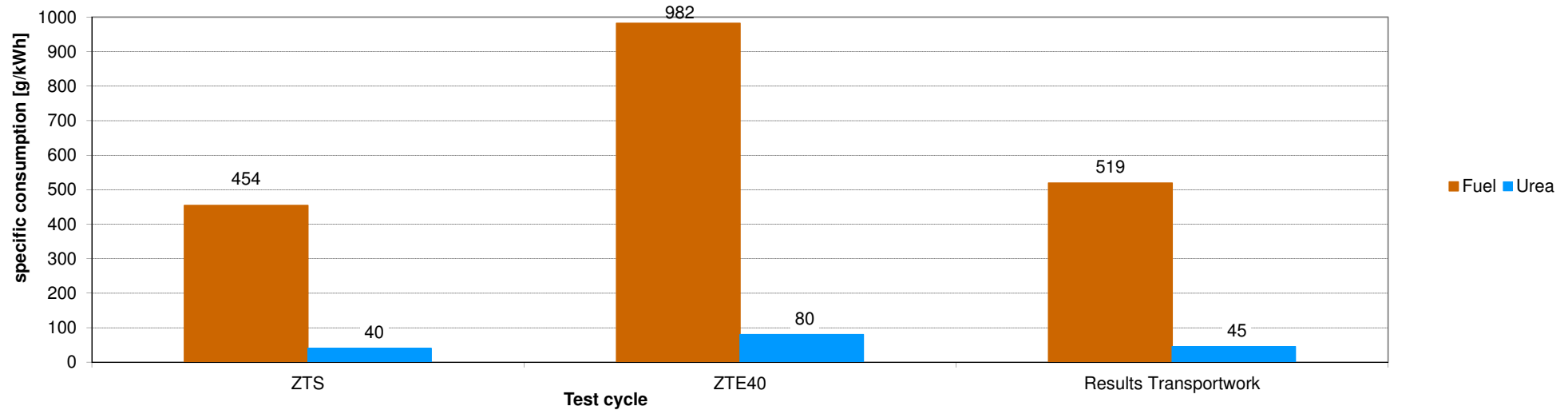
Results at DLG PowerMix



Load type	Test cycle	Engine speed [min ⁻¹]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption		Average values		Spec. urea cons. [g/kWh]	Ratio urea to fuel [Vol-%]	Relative additional fuel for DPF regeneration* [%]	Calculated spec. Fuel cons. with DPF regeneration** [g/kWh]
					[kg/h]	[l/h]	[g/kWh]	[g/kWh]				
Drawbar work	Plough 100 %	Z1P	1567	7,2	158	40,9	49,6	259	24	7,2	No DPF	No DPF
	Plough 60 %	Z2P	1294	8,7	118	29,8	35,9	254	27	8,0	No DPF	No DPF
	Cultivator 100 %	Z1G	1715	9,4	173	44,6	53,3	259	24	7,1	No DPF	No DPF
	Cultivator 60%	Z2G	1466	11,7	136	33,8	40,6	251	23	7,1	No DPF	No DPF
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1618	5,4	180	39,6	47,8	223	20	6,8	No DPF	No DPF
	Rotary harrow 70 %	Z4K	1429	5,8	133	29,9	36,1	228	21	7,2	No DPF	No DPF
	Rotary harrow 40 %	Z5K	1429	5,8	76	18,6	22,5	250	18	5,4	No DPF	No DPF
	Mower 100 %	Z3M	1608	14,2	180	42,2	51,2	234	21	6,7	No DPF	No DPF
	Mower 70 %	Z4M	1389	15,8	132	32,7	39,5	248	23	7,0	No DPF	No DPF
	Mower 40 %	Z5M	1406	15,9	76	21,2	25,7	281	26	7,0	No DPF	No DPF
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1574	6,4	144	34,4	41,6	242	22	6,9	No DPF	No DPF
	Baler	Z7PR	1577	9,5	123	31,3	37,9	264	24	7,0	No DPF	No DPF
Total average DLG PowerMix								249	23	7,0	No DPF	No DPF

* Ratio of additional fuel for regeneration to total fuel consumption during two regenerations; calculated with maximum operating hours during regeneration (see Specification-Engine)

Results DLG-PowerMix - Transport work



Load type	Test cycle	Engine speed [min ⁻¹]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption		Average values				
					[kg/h]	[l/h]	Specific fuel consumption [g/kWh]	Spec. urea cons. [g/kWh]	Ratio urea to fuel [Vol-%]	Relative additional fuel for DPF regeneration** [%]	Calculated spec. Fuel cons. with DPF regeneration** [g/kWh]
Transportwork	only hill section ZTS	1673	36,8	97	44,2	53,0	454	40	7,0	*)	*)
	flat section 40 km/h ZTE40	1418	41,0	18	17,7	21,4	982	80	6,6	*)	*)
Idle***	ZLL	842	-	-	1,8	2,2	-	-	-	-	-
Result DLG-PowerMix - Transporttest flat section with 40 km/h (50 % ZTS : 40 % ZTE40 : 10 % ZLL)***							519	45	6,7	*)	*)

Optional tests (e.g. ZTS with reduced (R) engine speed, flat section with additional speed settings)

Transportwork	only hill section ZTSR	-	-	-	-	-	-	-	-	-	-
	flat section 50 km/h ZTE50	1602	51,0	25	24,1	29,0	978	81	6,3	*)	*)
	flat section 60 km/h ZTE60	-	-	-	-	-	-	-	-	-	-
Optional results based on	hill section with reduced engine speed ZTSR (50 % ZTSR : 40 % ZTE40 : 10 % ZLL)***						-	-	-	*)	*)
	flat section with 50 km/h ZTE50 (50 % ZTS : 40 % ZTE50 : 10 % ZLL)***						524	45	6,7	*)	*)
	flat section with 60 km/h ZTE60 (50 % ZTS : 40 % ZTE60 : 10 % ZLL)***						-	-	-	*)	*)

* No activ regenerating diesel-particel-filter (DPF)

** Relation of additional fuel consumption caused by regeneration to conventional fuel consumption within two regeneration cycles; calculated for the maximum regeneration interval (see technical data - engine)

*** 70 % in parking position w/o driver, 30 % w/ inserted drive position and w/ driver, e.g. waiting at traffic lights

**** single results are weighted as follows: 50 % ZTS, 40 % ZTE und 10 % ZLL

The fuel consumption in cycle ZLL is taken into the final result by a calculation based on the real measured fuel consumption during the test.