



CASE IH LUXSUM 120

PowerMix

DLG Test Report 6401

Case IH Luxxum 120

Datasheet DLG PowerMix

Applicant

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Test performed by

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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		Extern, cooled	
Number of cylinders*		4	
Bore*	99	mm	
Stroke*	110	mm	
Displacement*	3384	cm ³	
Rated speed	2200	min ⁻¹	
Power by ECE-R 120	standard	boost	
Rated power	86 kW	- kW	
Maximum power	86 kW	- kW	
at engine speed	1900 min ⁻¹	- min ⁻¹	
Loss of power during regeneration	-		
Main fan			
Diameter	520	mm	
Number of fan blades	10		
Transmission			
Manufacturer	ZF		
Type of construction	Semi Powershift 32x32		
Ranges	4		
Powershift gear	-		
Forward	32		
Reverse	32		
Design speed	40	km/h	

Power take off				
Profile	Form 1: 6 spline (1 ⅜")			
Transmission ratio*				
Standard pto speed	540	540E	1000	1000E
Engine speed [min ⁻¹]	1805	1542	1880	1606
Chassis				
Front axle				
Manufacturer	CNH			
Type	Rigid axle, suspended			
Tires	front	rear		
Manufacturer	Mitas AC65	Mitas AC65		
Tire size	480/65 R24	540/65 R38		
Axle load	front	rear	total	
Permissible*	3500 kg	5000 kg	8000 kg	
Empty weight	2505 kg	2825 kg	5330 kg	
Hydraulic				
System*	Pressure an flow compensated load sensing (CCLS) for electrical and mechanical control units			
Supply of oil	Seperate hydraulic tank			
Fluid type*	MAT 3525			
Capacity*	44	l		
Extractable*	36	l		
Auxiliary valves				
Number	4			
Max. flowrate*	110	l/min		
Max. pressure*	205	bar		
Fitted options				
Free return flow	Yes			
Air condition	Yes			
Air compressor	Yes			
Front hydraulic power lift	Yes			
Front pto (disengageable)	No			
	-			
	-			

Test conditions

Axle load	front	rear
With ballast	2490 kg	4140 kg
Ballast		
on frame	450 kg	950 kg
on axle	- kg	- kg
Axle load distribution	38 %	62 %
Tire pressure	front	rear
Field work	1,2 bar	1,2 bar
Transporttest	1,6 bar	1,6 bar

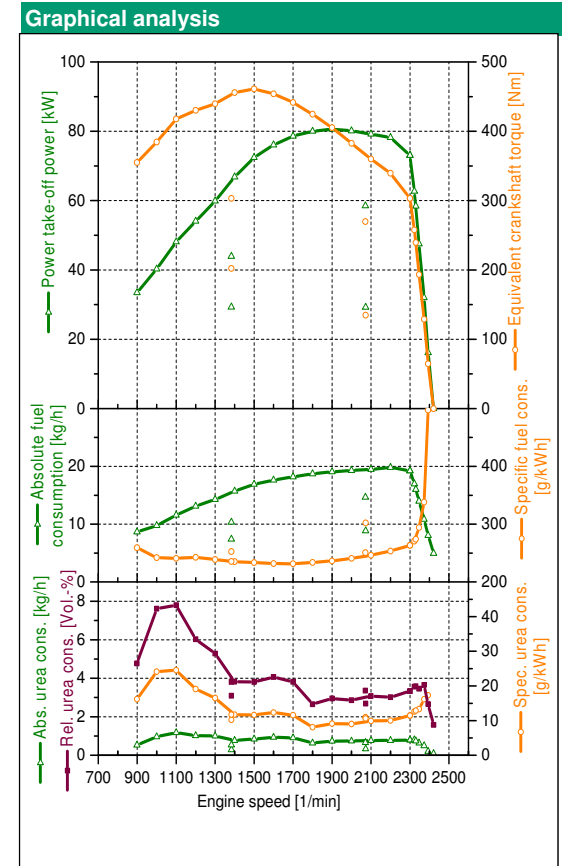
Remarks

* Manufacturer's data

Results of measurement at pto dynamometer – standard

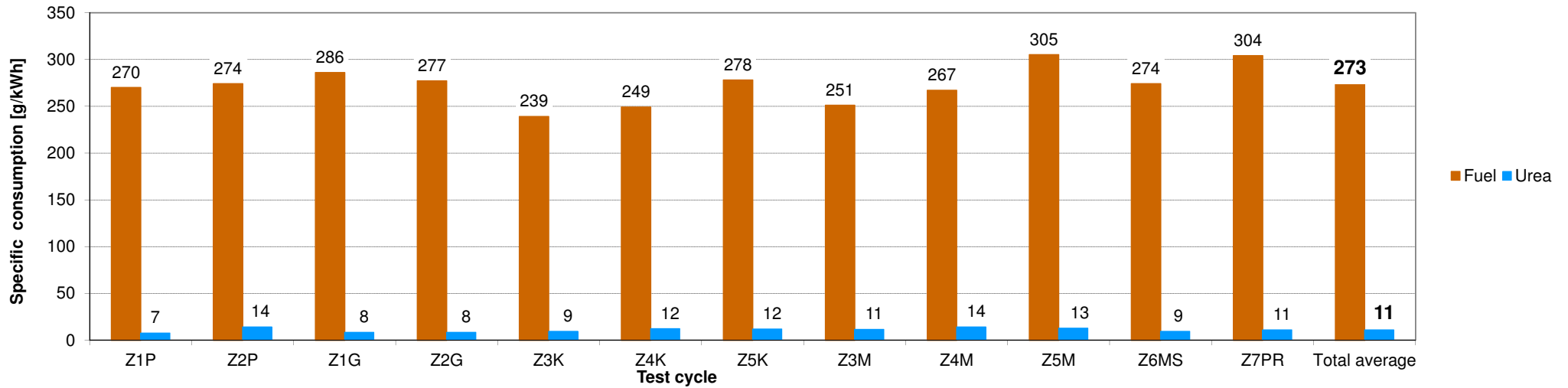
Full load	
Rated speed	
Pto power	73,1 kW
Absolute fuel consumption	19,2 kg/h
Specific fuel consumption	263 g/kWh
Specific urea consumption	11,5 g/kWh
Ratio urea to fuel	3,3 Vol-%
Maximum power	
Engine speed	1900 min ⁻¹
Pto power	80,6 kW
Absolute fuel consumption	19,1 kg/h
Specific fuel consumption	236 g/kWh
Specific urea consumption	9,1 g/kWh
Ratio urea to fuel	2,9 Vol-%
Maximum torque	
Engine speed	1500 min ⁻¹
Pto power	72,4 kW
Absolute fuel consumption	16,9 kg/h
Specific fuel consumption	233 g/kWh
Specific urea consumption	11,6 g/kWh
Ratio urea to fuel	3,8 Vol-%
1000 rpm at pto	
Engine speed	1880 min ⁻¹
Pto power	80,6 kW
Absolute fuel consumption	19,0 kg/h
Specific fuel consumption	236 g/kWh
Specific urea consumption	7,6 g/kWh
Ratio urea to fuel	2,5 Vol-%

Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	16,0 kg/h
Specific fuel consumption	274 g/kWh
Specific urea consumption	12,9 g/kWh
Ratio urea to fuel	3,6 Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	14,7 kg/h
Specific fuel consumption	251 g/kWh
Specific urea consumption	11,0 g/kWh
Ratio urea to fuel	3,4 Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	8,8 kg/h
Specific fuel consumption	302 g/kWh
Specific urea consumption	10,6 g/kWh
Ratio urea to fuel	2,7 Vol-%
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	7,4 kg/h
Specific fuel consumption	253 g/kWh
Specific urea consumption	10,2 g/kWh
Ratio urea to fuel	3,1 Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	10,3 kg/h
Specific fuel consumption	235 g/kWh
Specific urea consumption	11,7 g/kWh
Ratio urea to fuel	3,8 Vol-%



Torque rise	52 %
Engine speed drop	32 %
Pulling off torque	127 %

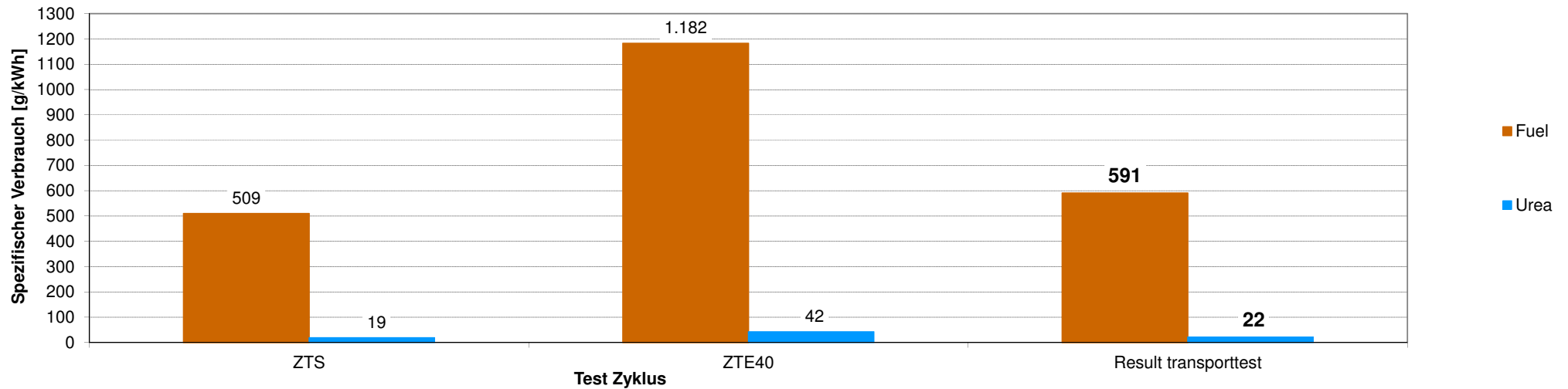
Results at DLG PowerMix - Field work



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]
Drawbar work	Plough 100 %	Z1P	1843	7,8	64	17,1	20,6	270	7	2,1	No DPF	No DPF
	Plough 60 %	Z2P	1502	8,5	42	11,5	13,9	274	14	3,9	No DPF	No DPF
	Cultivator 100 %	Z1G	1915	9,1	61	17,2	20,7	286	8	2,3	No DPF	No DPF
	Cultivator 60%	Z2G	1672	11,4	48	13,1	15,3	277	8	2,6	No DPF	No DPF
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1632	5,4	65	15,4	18,6	239	9	3,0	No DPF	No DPF
	Rotary harrow 70 %	Z4K	1400	5,8	47	11,5	13,9	249	12	3,8	No DPF	No DPF
	Rotary harrow 40 %	Z5K	1422	5,9	27	7,4	9,0	278	12	3,3	No DPF	No DPF
	Mower 100 %	Z3M	1609	14,1	64	15,9	19,3	251	11	3,5	No DPF	No DPF
	Mower 70 %	Z4M	1390	15,8	49	13,0	15,7	267	14	4,0	No DPF	No DPF
	Mower 40 %	Z5M	1422	16,3	28	8,4	10,2	305	13	3,2	No DPF	No DPF
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1835	7,1	54	14,6	17,7	274	9	2,6	No DPF	No DPF
	Baler	Z7PR	1843	10,6	46	13,2	16,0	304	11	2,7	No DPF	No DPF
Total average DLG PowerMix								273	11	3,1	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 at DLG-PowerMix - Transport test



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	1731	32,0	34	17,4	20,9	509	19	2,9	kein DPF	kein DPF
	flat section 40 km/h ZTE40	1691	40,4	7	8,2	9,9	1182	42	2,9	kein DPF	kein DPF
Idle***	ZLL	849	-	-	1,0	1,0	-	-	-	kein DPF	kein DPF
Result DLG-PowerMix - Transporttest flat section with 40 km/h (50 % ZTS : 40 % ZTE40 : 10 % ZLL)***							591	22	2,8	kein DPF	kein DPF

Optional tests (e.g. ZTS with reduced (-R) engine speed, flat section with additional speed settings (-50, -60))

Transportwork	only hill section ZTSR	-	-	-	-	-	-	-	-	-	-
	flat section 50 km/h ZTE50	-	-	-	-	-	-	-	-	-	-
	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)***						-	-	-	-	-
	flat section with 60 km/h ZTE60 (50 % ZTS : 40 % ZTE60 : 10 % ZLL)***						-	-	-	-	-

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

** 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)

*** Results are calculated for a distance of 10 km. 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.