

Datasheet DLG PowerMix

Applicant

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Test performed by

DLG e.V.
Test Center
Technology and Farm Inputs
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Test No.

2012-524



Specifications

Engine			
Manufacturer	FPT		
Stage of emission	III B		
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	2200	min ⁻¹	
Power by	ISO TR 14396	standard	boost
Rated power	103	kW	122 kW
Maximum power	113	kW	129 kW
at engine speed	1800	min ⁻¹	1800 min ⁻¹
Loss of power during regeneration	-**		
Main fan			
Diameter	550	mm	
Number of fan blades	9		
Transmission			
Manufacturer	CNH		
Type of construction	Semi-Powershift (SPS)		
Ranges	2		
Gears			
Forward	17		
Reverse	16		
Design speed	50	km/h	

Power take off				
Profile		Form 3: 20 tooth (1 ¾")		
Transmission ratio*				
Standard pto speed	540	540E	1000	1000E
Engine speed [min ⁻¹]	-	1592	1893	1621
Chassis				
Front axle				
Manufacturer		CNH		
Type		Rigid axle, suspended		
Tires		front	rear	
Manufacturer	Michelin MultiBIB		Michelin MultiBIB	
Tire size	480/65R28		600/65R38	
Axle load		front	rear	total
Permissible*	4900 kg		7300 kg	9000 kg
Empty weight	2560 kg		4070 kg	6630 kg
Hydraulic				
System*		Load Sensing PFC (Pressure and Flow Compensated)		
Supply of oil		Common with transmission oil		
Fluid type*		CIH AXCELA NEXPLORE 10W-30 (MAT 3525)		
Capacity*		78	l	
Extractable*		33	l	
Auxiliary valves				
Number		3		
Max. flowrate*		113	l/min	
Max. pressure*		210	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	3010 kg	5095 kg
Ballast		
on frame	450 kg	1025 kg
on axle	- kg	- kg
Axle load distribution	37 %	63 %
Tire pressure		
	front	rear
	1,2 bar	1,2 bar

Remarks

* Manufacturer's data

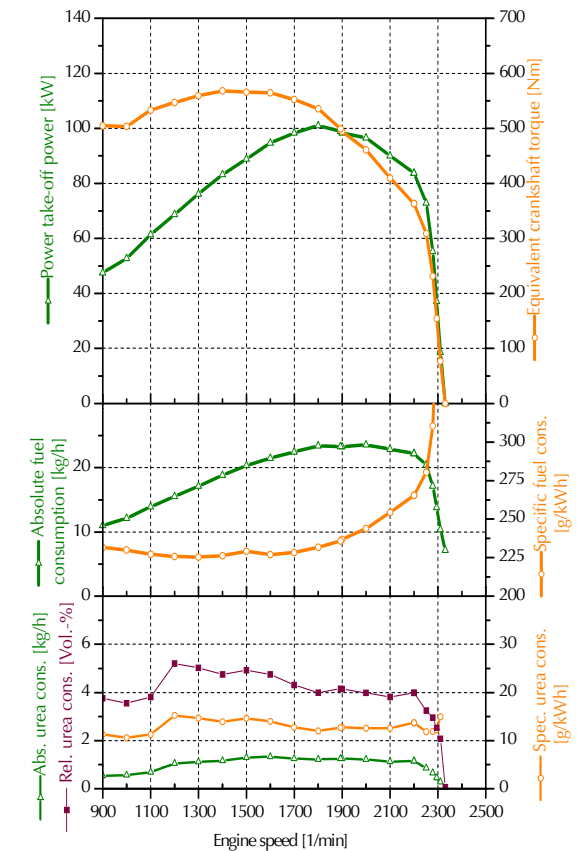
** No Diesel-Particulate-Filter (DPF)

Results of measurement at pto dynamometer – standard

Full load	
Rated speed	
Pto power	83,7 kW
Absolute fuel consumption	22,2 kg/h
Specific fuel consumption	265 g/kWh
Specific urea consumption	13,7 g/kWh
Ratio urea to fuel	4,0 Vol-%
Maximum power	
Engine speed	1800 min ⁻¹
Pto power	101,0 kW
Absolute fuel consumption	23,4 kg/h
Specific fuel consumption	232 g/kWh
Specific urea consumption	12,0 g/kWh
Ratio urea to fuel	4,0 Vol-%
Maximum torque	
Engine speed	1400 min ⁻¹
Pto power	83,3 kW
Absolute fuel consumption	18,8 kg/h
Specific fuel consumption	226 g/kWh
Specific urea consumption	14,0 g/kWh
Ratio urea to fuel	4,7 Vol-%
1000 rpm at pto	
Engine speed	1893 min ⁻¹
Pto power	99,0 kW
Absolute fuel consumption	23,3 kg/h
Specific fuel consumption	236 g/kWh
Specific urea consumption	12,7 g/kWh
Ratio urea to fuel	4,1 Vol-%

Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	19,3 kg/h
Specific fuel consumption	288 g/kWh
Specific urea consumption	11,7 g/kWh
Ratio urea to fuel	3,1 Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	17,7 kg/h
Specific fuel consumption	265 g/kWh
Specific urea consumption	12,0 g/kWh
Ratio urea to fuel	3,5 Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	11,3 kg/h
Specific fuel consumption	339 g/kWh
Specific urea consumption	12,4 g/kWh
Ratio urea to fuel	2,8 Vol-%
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	8,8 kg/h
Specific fuel consumption	263 g/kWh
Specific urea consumption	11,1 g/kWh
Ratio urea to fuel	3,3 Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	11,9 kg/h
Specific fuel consumption	238 g/kWh
Specific urea consumption	12,6 g/kWh
Ratio urea to fuel	4,1 Vol-%

Graphical analysis



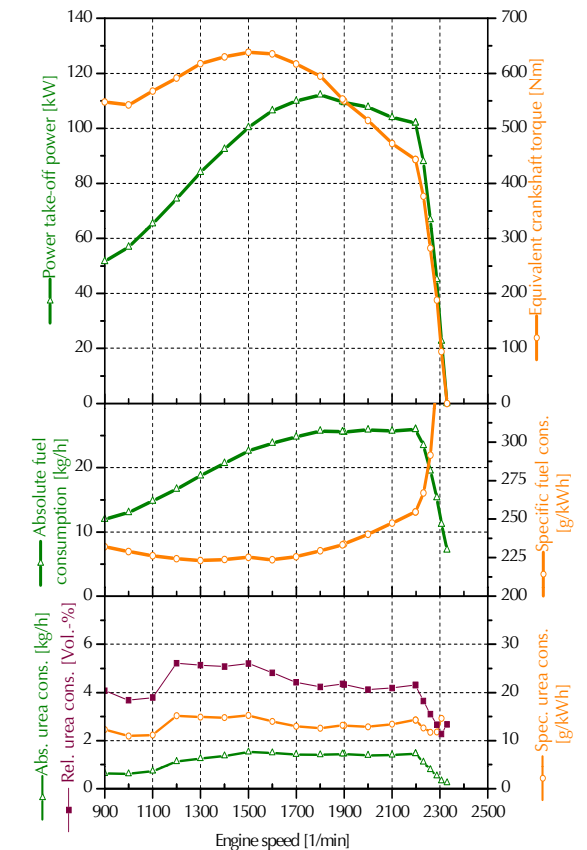
Torque rise	56 %
Engine speed drop	36 %
Pulling off torque	139 %

Results of measurement at pto dynamometer – boost

Full load	
Rated speed	
Pto power	102,0 kW
Absolute fuel consumption	26,0 kg/h
Specific fuel consumption	255 g/kWh
Specific urea consumption	13,2 g/kWh
Ratio urea to fuel	4,4 Vol-%
Maximum power	
Engine speed	1800 min ⁻¹
Pto power	112,2 kW
Absolute fuel consumption	25,7 kg/h
Spec. Fuel consumption	229 g/kWh
Spec. urea consumption	12,6 g/kWh
Ratio urea to fuel	4,2 Vol-%
Additional fuel consump. during regeneration	-* kg
Additional fuel consump. turned-over**	-* %
Calculated spec. fuel consump. with reg.	-* g/kWh
Maximum torque	
Engine speed	1500 min ⁻¹
Pto power	100,3 kW
Absolute fuel consumption	22,6 kg/h
Spec. Fuel consumption	225 g/kWh
Spec. urea consumption	15,2 g/kWh
Ratio urea to fuel	5,2 Vol-%
1000 rpm at pto	
Engine speed	1893 min ⁻¹
Pto power	109,7 kW
Absolute fuel consumption	25,6 kg/h
Spec. Fuel consumption	233 g/kWh
Spec. urea consumption	13,2 g/kWh
Ratio urea to fuel	4,4 Vol-%

Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	22,2 kg/h
Spec. Fuel consumption	272 g/kWh
Spec. urea consumption	12,4 g/kWh
Ratio urea to fuel	3,5 Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	20,7 kg/h
Spec. Fuel consumption	253 g/kWh
Spec. urea consumption	12,1 g/kWh
Ratio urea to fuel	3,7 Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	12,8 kg/h
Spec. Fuel consumption	313 g/kWh
Spec. urea consumption	14,2 g/kWh
Ratio urea to fuel	3,5 Vol-%
Additional fuel consump. during regeneration	-* kg
Additional fuel consumption turned-over**	-* %
Calculated spec. fuel consump. with reg.	-* g/kWh
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	10,3 kg/h
Spec. Fuel consumption	251 g/kWh
Spec. urea consumption	12,2 g/kWh
Ratio urea to fuel	3,7 Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	14,1 kg/h
Spec. Fuel consumption	230 g/kWh
Spec. urea consumption	13,4 g/kWh
Ratio urea to fuel	4,5 Vol-%
Additional fuel consump. during regeneration	-* kg
Additional fuel consumption turned-over**	-* %
Calculated spec. fuel consump. with reg.	-* g/kWh

Graphical analysis

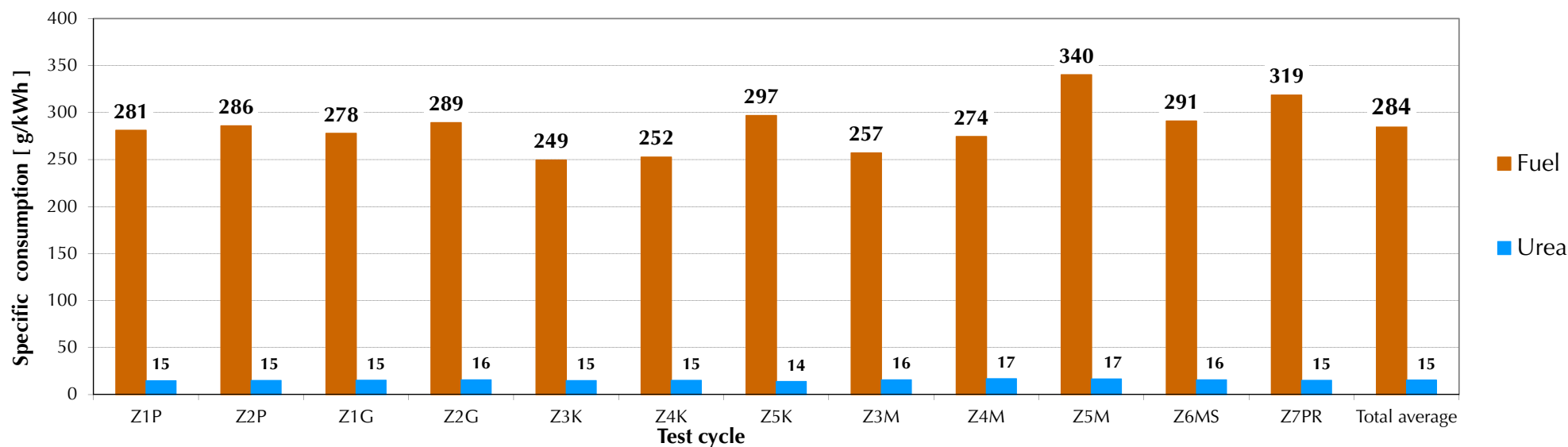


Torque rise	44 %
Engine speed drop	32 %

* No Diesel particulate filter

** 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



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]	Specific fuel consumption [g/kWh]	Spec. urea cons. [g/kWh]				
Drawbar work	Plough 100 %	Z1P	1833	7,8	80	22,2	27,1	281	15	4,0	No DPF	No DPF	
	Plough 60 %	Z2P	1445	8,6	54	15,3	18,5	286	15	4,0	No DPF	No DPF	
	Cultivator 100 %	Z1G	1772	9,4	81	22,2	26,7	278	15	4,1	No DPF	No DPF	
	Cultivator 60%	Z2G	1564	11,5	61	17,5	21,1	289	16	4,1	No DPF	No DPF	
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1640	5,1	88	21,6	26,2	249	15	4,5	No DPF	No DPF	
	Rotary harrow 70 %	Z4K	1363	6,1	64	16,0	19,5	252	15	4,5	No DPF	No DPF	
	Rotary harrow 40 %	Z5K	1408	6,3	38	11,0	13,4	297	14	3,5	No DPF	No DPF	
	Mower 100 %	Z3M	1597	13,9	84	21,5	26,2	257	16	4,6	No DPF	No DPF	
	Mower 70 %	Z4M	1454	17,0	67	18,2	22,2	274	17	4,7	No DPF	No DPF	
	Mower 40 %	Z5M	1454	17,1	37	12,3	15,0	340	17	3,7	No DPF	No DPF	
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1784	6,4	72	20,3	24,7	291	16	4,1	No DPF	No DPF	
	Baler	Z7PR	1843	9,2	61	18,4	22,5	319	15	3,7	No DPF	No DPF	
Total average DLG PowerMix								284	15	4,1	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)