

Case IH Maxxum 145 CVX

Datasheet DLG PowerMix

Applicant
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Test performed by
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Specifications

Engine

Manufacturer			**Fiat Power Train**	
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*			**4**	
Bore*		**104**		**mm**
Stroke*		**132**		**mm**
Displacement*		**4485**		**cm³**
Rated speed		**2200**		**min^{-1}**
Power by ECE R120	**standard**		**boost**	
Rated power	107	kW	118	kW
Maximum power	114	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	**CVT**	
Ranges	**2**	
Powershift gear	**-**	
Forward	-	
Reverse	-	
Design speed	**50**	**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}]	-	1592	1893	1621

Chassis

Front axle			
Manufacturer		CNH	
Type		Rigid axle, suspended	
Tires	**front**	**rear**	
Manufacturer	Firestone Performer65	Firestone Performer65	
Tire size	480/65 R28	600/65 R38	
Axle load	**front**	**rear**	**total**
Permissible*	4900 kg	7300 kg	10500 kg
Empty weight	3180 kg	3670 kg	6850 kg

Hydraulic

System*	**Load Sensing CCLS (Pressure and Flow Compensated)**	
Supply of oil	**Common with transmission oil**	
Fluid type*	**MAT 3525**	
Capacity*	**78**	**l**
Extractable*	**33**	**l**
Auxiliary valves		
Number	4	
Max. flowrate*	100	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)	**Yes**
	-
	-

Test conditions

Axle load	**front**	**rear**
With ballast	**4330 kg**	**4620 kg**
Ballast		
on frame	1150 kg	950 kg
on axle	- kg	- kg
Axle load distribution	**48 %**	**52 %**
Tire pressure	**front**	**rear**
Field work	1,2 **bar**	1,2 **bar**
Transporttest	1,6 **bar**	1,6 **bar**

Remarks

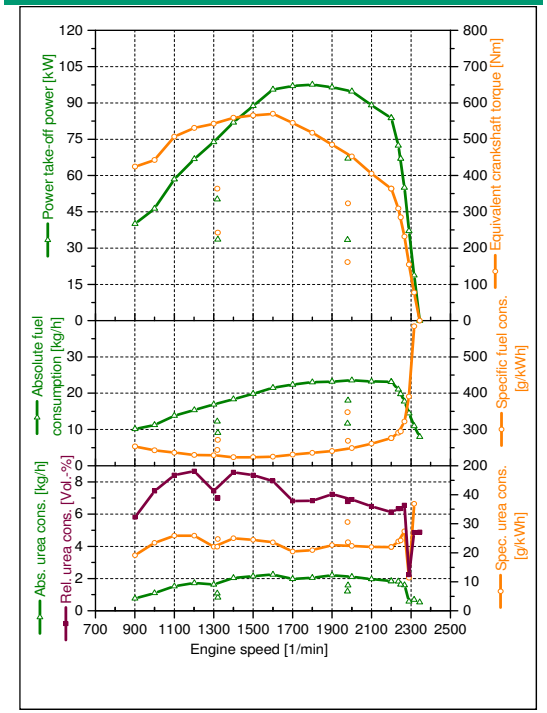
* Manufacturer´s data

Results of measurement at pto dynamometer – standard

Full load		
Rated speed		
Pto power	83,8	kW
Absolute fuel consumption	23,1	kg/h
Specific fuel consumption	276	g/kWh
Specific urea consumption	22,0	g/kWh
Ratio urea to fuel	6,1	Vol-%
Maximum power		
Engine speed	1800	min^{-1}
Pto power	97,6	kW
Absolute fuel consumption	23,0	kg/h
Specific fuel consumption	236	g/kWh
Specific urea consumption	20,9	g/kWh
Ratio urea to fuel	6,8	Vol-%
Maximum torque		
Engine speed	1600	min^{-1}
Pto power	95,5	kW
Absolute fuel consumption	21,5	kg/h
Specific fuel consumption	225	g/kWh
Specific urea consumption	23,6	g/kWh
Ratio urea to fuel	8,1	Vol-%
1000 rpm at pto		
Engine speed	1893	min^{-1}
Pto power	96,4	kW
Absolute fuel consumption	23,1	kg/h
Specific fuel consumption	240	g/kWh
Specific urea consumption	22,6	g/kWh
Ratio urea to fuel	7,2	Vol-%

Part load		
Full throttle, 80 % of power at rated speed		
Absolute fuel consumption	19,8	kg/h
Specific fuel consumption	295	g/kWh
Specific urea consumption	24,3	g/kWh
Ratio urea to fuel	6,3	Vol-%
90 % of rated speed, 80 % of power at rated speed		
Absolute fuel consumption	18,0	kg/h
Specific fuel consumption	269	g/kWh
Specific urea consumption	23,6	g/kWh
Ratio urea to fuel	6,8	Vol-%
90 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	11,6	kg/h
Specific fuel consumption	347	g/kWh
Specific urea consumption	30,6	g/kWh
Ratio urea to fuel	6,8	Vol-%
60 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	9,1	kg/h
Specific fuel consumption	271	g/kWh
Specific urea consumption	24,7	g/kWh
Ratio urea to fuel	7,0	Vol-%
60 % of rated speed, 60 % of power at rated speed		
Absolute fuel consumption	12,2	kg/h
Specific fuel consumption	244	g/kWh
Specific urea consumption	22,1	g/kWh
Ratio urea to fuel	7,0	Vol-%

Graphical analysis



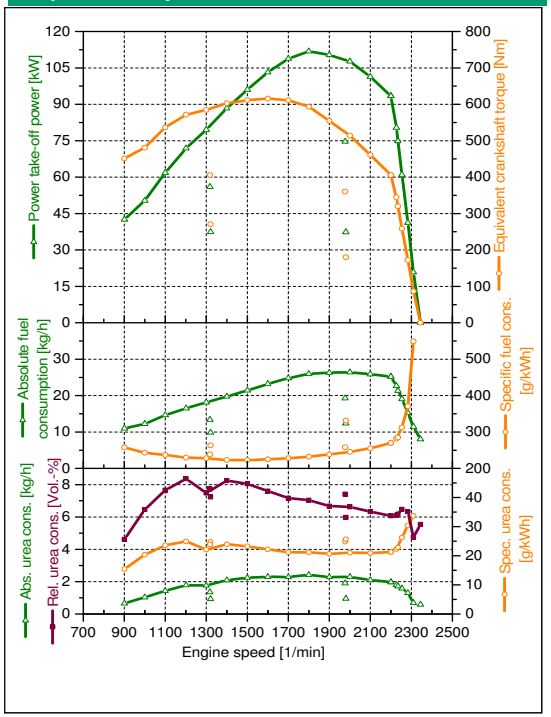
Torque rise	57 %
Engine speed drop	27 %
Pulling off torque	122 %

Results of measurement at pto dynamometer – boost

Full load		
Rated speed		
Pto power	93,4	kW
Absolute fuel consumption	25,2	kg/h
Specific fuel consumption	270	g/kWh
Specific urea consumption	21,3	g/kWh
Ratio urea to fuel	6,1	Vol-%
Maximum power		
Engine speed	1800	min^{-1}
Pto power	111,8	kW
Absolute fuel consumption	26,0	kg/h
Spec. Fuel consumption	232	g/kWh
Spec. urea consumption	21,2	g/kWh
Ratio urea to fuel	7,0	Vol-%
Additional fuel consump. during regeneration	0,0	kg
Additional fuel consump. turned-over**	0,0	%
Spec. fuel consump. with regen. (calculated)	232	g/kWh
Maximum torque		
Engine speed	1600	min^{-1}
Pto power	103,2	kW
Absolute fuel consumption	23,2	kg/h
Spec. Fuel consumption	225	g/kWh
Spec. urea consumption	22,2	g/kWh
Ratio urea to fuel	7,6	Vol-%
1000 rpm at pto		
Engine speed	1893	min^{-1}
Pto power	110,6	kW
Absolute fuel consumption	26,3	kg/h
Spec. Fuel consumption	238	g/kWh
Spec. urea consumption	20,3	g/kWh
Ratio urea to fuel	6,6	Vol-%

Part load		
Full throttle, 80 % of power at rated speed		
Absolute fuel consumption	21,3	kg/h
Spec. Fuel consumption	285	g/kWh
Spec. urea consumption	23	g/kWh
Ratio urea to fuel	6,2	Vol-%
90 % of rated speed, 80 % of power at rated speed		
Absolute fuel consumption	19,3	kg/h
Spec. Fuel consumption	258	g/kWh
Spec. urea consumption	25	g/kWh
Ratio urea to fuel	7,4	Vol-%
90 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	12,4	kg/h
Spec. Fuel consumption	332	g/kWh
Spec. urea consumption	26	g/kWh
Ratio urea to fuel	6,0	Vol-%
60 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	9,9	kg/h
Spec. Fuel consumption	263	g/kWh
Spec. urea consumption	25	g/kWh
Ratio urea to fuel	7,2	Vol-%
60 % of rated speed, 60 % of power at rated speed		
Absolute fuel consumption	13,4	kg/h
Spec. Fuel consumption	239	g/kWh
Spec. urea consumption	24	g/kWh
Ratio urea to fuel	7,7	Vol-%

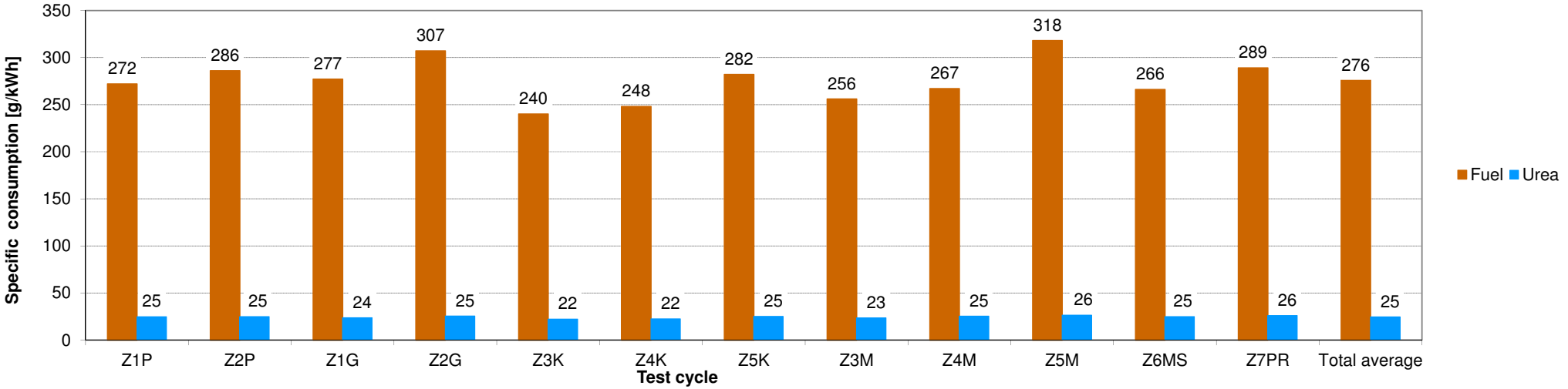
Graphical analysis



Torque rise	52 %
Engine speed drop	27 %

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

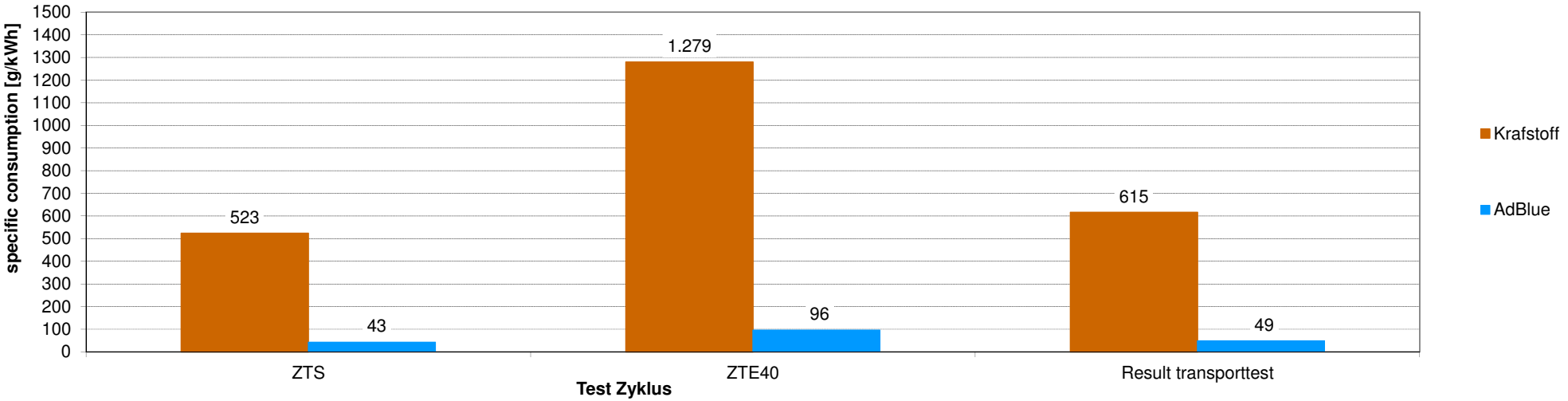
Results at DLG PowerMix - Field work



Load type	Test cycle		Average values: Engine speed [min^{-1}]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption [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	1603	6,9	77	21,0	25,5	272	25	6,9	No DPF	No DPF
	Plough 60 %	Z2P	1505	8,9	53	15,1	18,4	286	25	6,6	No DPF	No DPF
	Cultivator 100 %	Z1G	1699	9,7	79	21,7	26,3	277	24	6,5	No DPF	No DPF
	Cultivator 60%	Z2G	1835	11,8	60	18,1	22,0	307	25	6,2	No DPF	No DPF
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1644	5,7	92	21,7	26,5	240	22	7,1	No DPF	No DPF
	Rotary harrow 70 %	Z4K	1465	5,9	68	16,5	20,1	248	22	6,9	No DPF	No DPF
	Rotary harrow 40 %	Z5K	1414	6,0	38	10,4	12,7	282	25	6,6	No DPF	No DPF
	Mower 100 %	Z3M	1632	13,6	89	22,8	28,0	256	23	6,9	No DPF	No DPF
	Mower 70 %	Z4M	1389	15,7	66	17,5	21,4	267	25	7,1	No DPF	No DPF
	Mower 40 %	Z5M	1434	16,0	39	12,3	15,0	318	26	6,2	No DPF	No DPF
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1568	6,5	72	18,9	23,2	266	25	7,1	No DPF	No DPF
	Baler	Z7PR	1573	9,8	62	17,2	21,2	289	26	6,8	No DPF	No DPF
Total average DLG PowerMix								**276**	**25**	**6,7**	**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		Average values: Engine speed [min⁻¹]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption [kg/h]	Absolute fuel consumption [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	1830	32,0	45	23,7	28,5	523	43	7,5	no DPF	no DPF
	flat section 40 km/h	ZTE40	1617	40,8	9	12,0	14,4	1279	96	5,8	no DPF	no DPF
Idle * **		ZLL	846	-	-	1,6	1,9	-	-	-	-	-
Result DLG-PowerMix - Transporttest flat section with 40 km/h (50 % ZTS : 40 % ZTE40 : 10 % ZLL) ***								**615**	**49**	**6,0**	**no DPF**	**no 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	1748	51,0	13	16,1	19,3	1255	100	6,2	no DPF	no DPF
	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) ***							**620**	**50**	**6,1**	**no DPF**	**no DPF**
	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.