

Fendt 514 Vario S4

Datasheet DLG PowerMix

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Test performed by
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Specifications

Engine

Manufacturer	**Deutz AG**		
Stage of emission	**IV**		
Exhaust aftertreatment device			
Nitrous gaseous emission*	Selective Catalytic Reduction (SCR)		
Particulate matter emission	Active regenerating Diesel particulate filter (DPF)		
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*	**101**	**mm**	
Stroke*	**126**	**mm**	
Displacement*	**4038**	**cm³**	
Rated speed	**2100**	**min^{-1}**	

Power by ECE R24	**standard**		**boost**	
Rated power	99	kW	-	kW
Maximum power	107	kW	-	kW
at engine speed	1800	min^{-1}	-	min^{-1}
Loss of power during regeneration			-	

Main fan		
Diameter	576	mm
Number of fan blades	9	

Transmission

Manufacturer	**Fendt**	
Type of construction	**continous variable**	
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}]	-	1541	1938	1541

Chassis

Front axle			
Manufacturer	Dana		
Type	Rigid axle, suspended		
Tires	**front**	**rear**	
Manufacturer	Michelin MultiBib	Michelin MultiBib	
Tire size	540/65 R28	650/65 R38	
Axle load	**front**	**rear**	**total**
Permissible*	4800 kg	7500 kg	10500 kg
Empty weight	2650 kg	3750 kg	6400 kg

Hydraulic

System*	**Load Sensing PFC (Pressure and Flow Compensated)**	
Supply of oil	**seperate to transmission oil**	
Fluid type*	**DIN 51 5243 HVI**	
Capacity*	**69**	**l**
Extractable*	**55**	**l**
Auxiliary valves		
Number	5	
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)	**No**
	-
	-

Test conditions

Axle load	**front**	**rear**
With ballast	**3400 kg**	**5140 kg**
Ballast		
on frame	750 kg	950 kg
on axle	- kg	- kg
Axle load distribution	**40 %**	**60 %**

Tire pressure	**front**	**rear**
Field work	1,2 **bar**	1,2 **bar**
Transporttest	1,6 **bar**	1,6 **bar**

Remarks

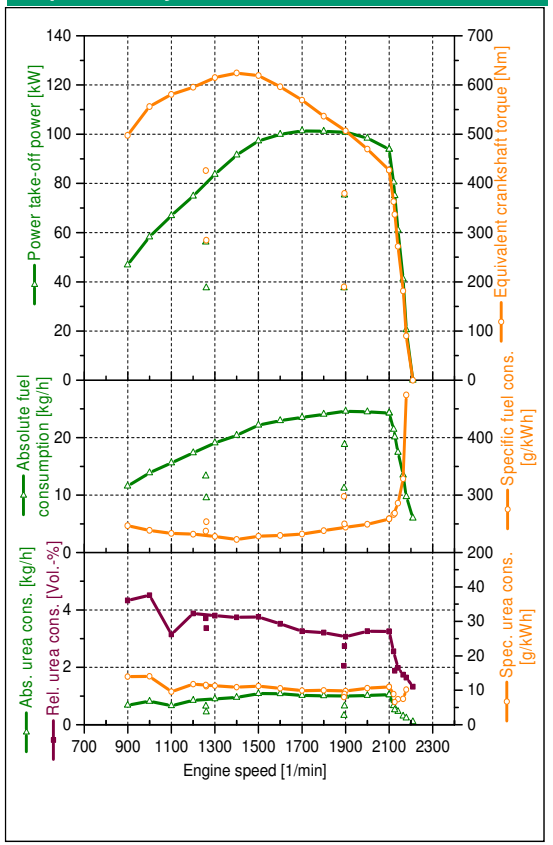
* Manufacturer´s data

Results of measurement at pto dynamometer – standard

Full load		
Rated speed		
Pto power	93,9	kW
Absolute fuel consumption	24,3	kg/h
Specific fuel consumption	259	g/kWh
Specific urea consumption	11,0	g/kWh
Ratio urea to fuel	3,3	Vol-%
Maximum power		
Engine speed	1700	min^{-1}
Pto power	101,3	kW
Absolute fuel consumption	23,5	kg/h
Specific fuel consumption	232	g/kWh
Specific urea consumption	9,9	g/kWh
Ratio urea to fuel	3,3	Vol-%
Maximum torque		
Engine speed	1400	min^{-1}
Pto power	91,5	kW
Absolute fuel consumption	20,4	kg/h
Specific fuel consumption	223	g/kWh
Specific urea consumption	10,9	g/kWh
Ratio urea to fuel	3,7	Vol-%
1000 rpm at pto		
Engine speed	1938	min^{-1}
Pto power	100,7	kW
Absolute fuel consumption	24,7	kg/h
Specific fuel consumption	246	g/kWh
Specific urea consumption	10,5	g/kWh
Ratio urea to fuel	3,3	Vol-%

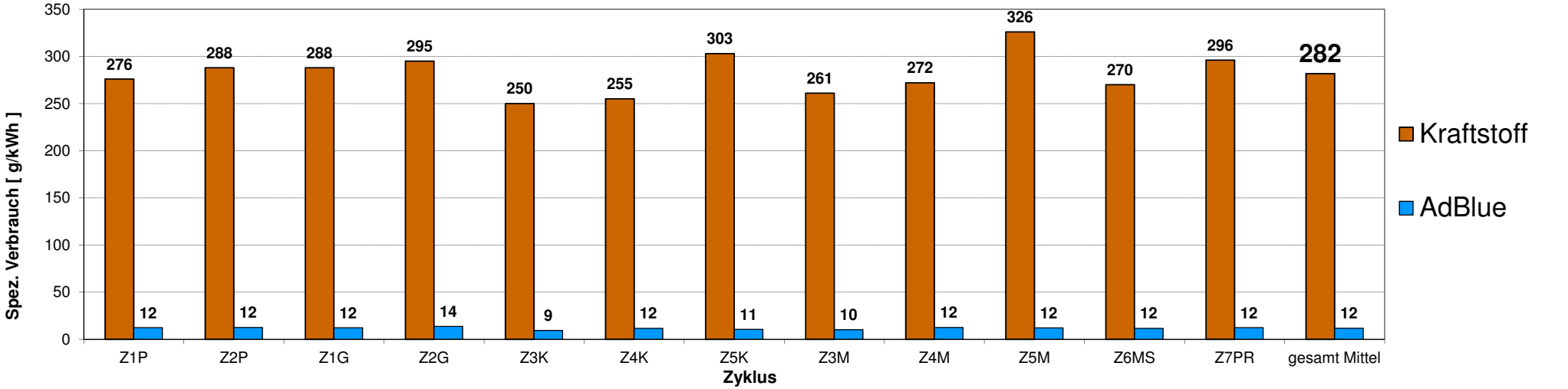
Part load		
Full throttle, 80 % of power at rated speed		
Absolute fuel consumption	20,1	kg/h
Specific fuel consumption	268	g/kWh
Specific urea consumption	6,6	g/kWh
Ratio urea to fuel	1,9	Vol-%
90 % of rated speed, 80 % of power at rated speed		
Absolute fuel consumption	18,8	kg/h
Specific fuel consumption	250	g/kWh
Specific urea consumption	9,0	g/kWh
Ratio urea to fuel	2,7	Vol-%
90 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	11,2	kg/h
Specific fuel consumption	298	g/kWh
Specific urea consumption	8,0	g/kWh
Ratio urea to fuel	2,1	Vol-%
60 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	9,5	kg/h
Specific fuel consumption	253	g/kWh
Specific urea consumption	11,2	g/kWh
Ratio urea to fuel	3,4	Vol-%
60 % of rated speed, 60 % of power at rated speed		
Absolute fuel consumption	13,3	kg/h
Specific fuel consumption	237	g/kWh
Specific urea consumption	11,5	g/kWh
Ratio urea to fuel	3,7	Vol-%

Graphical analysis



Torque rise	46	%
Engine speed drop	33	%
Pulling off torque	130	%

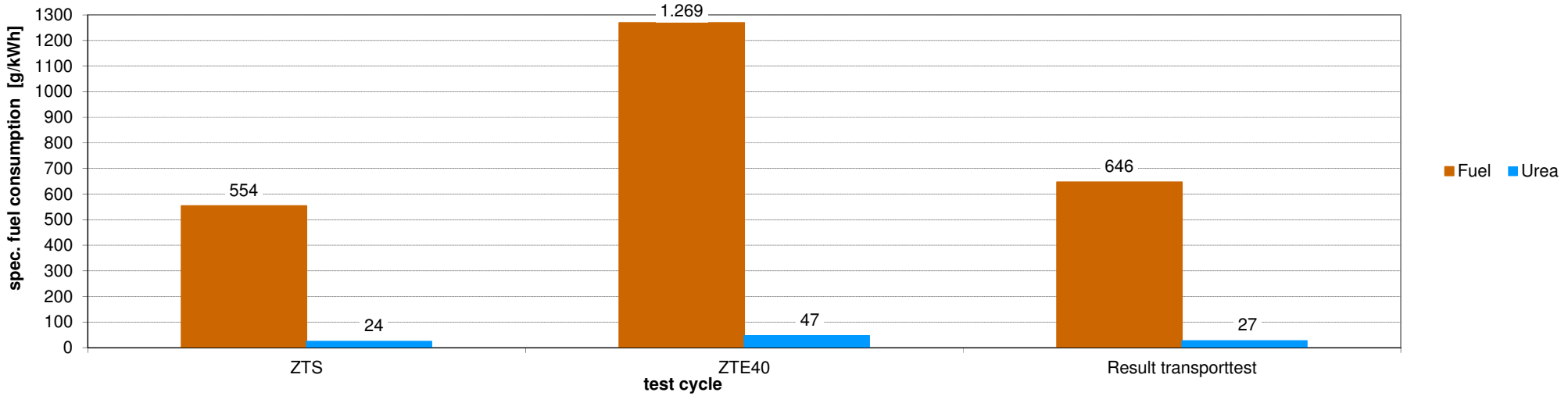
Results at DLG PowerMix - Field work



Load type	Test cycle		Engine speed	Driving speed	Total power	Absolute fuel consumption		Specific fuel consumption	Spec. urea cons.	Ratio urea to fuel	Relative additional fuel for DPF regeneration*	Calculated spec. Fuel cons. with DPF regeneration
			Average values									
			[min^{-1}]	[km/h]	[kW]	[kg/h]	[l/h]	[g/kWh]	[g/kWh]	[Vol-%]	[%]	[g/kWh]
Drawbar work	Plough 100 %	Z1P	1350	6,8	69	19,1	23,1	276	12	3,4	-	-
	Plough 60 %	Z2P	1416	8,7	55	15,6	18,9	288	12	3,3	-	-
	Cultivator 100 %	Z1G	1723	9,4	80	22,8	27,8	288	12	3,2	-	-
	Cultivator 60%	Z2G	1368	11,4	61	17,8	21,5	295	14	3,5	-	-
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1678	5,9	84	20,6	25,0	250	9	2,8	-	-
	Rotary harrow 70 %	Z4K	1358	5,9	60	14,9	18,1	255	12	3,4	-	-
	Rotary harrow 40 %	Z5K	1377	5,9	34	10,2	12,3	303	11	2,6	-	-
	Mower 100 %	Z3M	1637	15,0	85	22,1	27,0	261	10	2,9	-	-
	Mower 70 %	Z4M	1352	15,5	62	16,7	20,4	272	12	3,5	-	-
	Mower 40 %	Z5M	1372	15,6	36	11,5	14,0	326	12	2,8	-	-
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1486	6,8	66	17,5	21,2	270	12	3,2	-	-
	Baler	Z7PR	1503	9,8	56	15,9	19,3	296	12	3,1	-	-
Total average DLG PowerMix								**282**	**12**	**3,2**	**-**	**-**

* 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	1806	33,4	42	23,0	27,6	554	24	3,4	-	-
	flat section 40 km/h	ZTE40	1461	40,9	9	10,9	13,1	1269	47	2,7	-	-
Idle * **		ZLL	858	-	-	1,9	2,3	-	-	-	-	-
Result DLG-PowerMix - Transporttest flat section with 40 km/h (50 % ZTS : 40 % ZTE40 : 10 % ZLL) ***								**646**	**27**	**3,2**	**-**	**-**

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	1709	50,8	12	14,7	17,6	1253	40	2,3	-	-
	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) ***							**652**	**26**	**3,1**	**-**	**-**
	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.