DLG Tractor Datasheet PowerMix

Performance and fuel consumption during field and transport applications

Fendt 314 Vario Gen4

DLG Test Report 7290



	Boost	Standard	
Rated power	-	104	kW
Maximum power	-	112	kW
According to		UNECE R 120	

	Boost	Standard	
Rated power	-	92	kW
Maximum power	-	102	kW
According to		OECD Code 2	

	Diesel	AdBlue	
Energy efficiency	277	25.9	g/kWh
Consumption per hectare	6.1	0.5	l/ha
Area output	5.3		ha/h

	Diesel	AdBlue	
Energy efficiency	393	33.3	g/kWh
Consumption per 100 kilometre per tonne	4.7	0.3	l/100tkm
Haul capacity	603		tkm/h

Measurement results overview

Power Take-Off (PTO) power according to OECD Code 2		Engine speed	Power Take-Off Power	Specific consumption		Diesel consump-tion	Ratio AdBlue to diesel
				Diesel	AdBlue		
		min^{-1}	kW	g/kWh		l/h	Vol-%
Standard mode with DynamicPerformance							
Rated power		2100	92	253	22.7	28.1	6.8
Maximum power		1700	102	234	21.4	28.8	7.0
Maximum torque		1600	100	231	23.0	27.9	7.6
Torque increase	43	%					
Drop in speed	24	%	Comment on PTO operation: In PTO operation, the extra power DynamicPerformance (DP) is always fully available as standard.				
Overcapacity	10	kW					
Starting torque	123	%					
Boost mode							
Rated power		-	-	-	-	-	-
Maximum power		-	-	-	-	-	-
Maximum torque		-	-	-	-	-	-
Torque increase	-	%					
Drop in speed	-	%					
Overpcapacity	-	kW					
Savings potential through speed reduction for the same power output							
80 % of standard rated power, instead of full throttle only at 90 % of rated speed		2127	74	261	21.6	23.2	6.3
		1887		245	22.3	21.8	6.9
Savings in %				**-6.1**		**-6.0**	
40 % of standard rated power, instead of 90 % of rated speed only with 60 % of rated speed		1891	37	286	20.6	12.7	5.5
		1264		242	28.7	10.8	9.0
Savings in %				**-15.4**		**-15.0**	

PowerMix - Field work	Engine speed	Delivered net power	Specific consumption		Consumption / hectare		Area output
			Diesel	AdBlue	Diesel	AdBlue	
	min^{-1}	kW	g/kWh		l/ha		ha/h
Heavy pulling work	1463	67	274	27.8	12.7	1.0	2.0
Medium pulling work	1313	51	277	33.0	7.9	0.7	2.5
Heavy PTO shaft work	1617	84	251	24.0	5.3	0.4	6.8
Medium PTO shaft work	1649	62	265	23.0	3.9	0.2	7.5
Light PTO shaft work	1672	36	306	23.4	2.5	0.1	7.5
Drawbar + PTO + Hydraulic work	1834	63	288	24.5	4.1	0.3	5.4
Overall result at field work			**277**	**25.9**	**6.1**	**0.5**	**5.3**

PowerMix - Transport work	Engine speed	Delivered net power	Specific consumption		Consumption per 100 km and per t		Transport power
			Diesel	AdBlue	Diesel	AdBlue	
	min^{-1}	kW	g/kWh		l/100tkm		tkm/h
Heavy transportwork	1841	65	365	31	7.4	0.5	394
Light transportwork at 40 km/h	1481	22	587	50	2.0	0.1	811
Optional: light transportwork at 50 km/h	-	-	-	-	-	-	-
Optional: light transportwork at 60 km/h	-	-	-	-	-	-	-
Overall result transport work at 40 km/h			**393**	**33.3**	**4.7**	**0.3**	**603**

Technical data

Engine*				
Manufacturer			**AGCO Fendt**	
Stage of exhaust emission			**V**	
Rated engine speed			**2100**	**min-1**
Engine power according				
UNECE-R 120	**Standard**		**Boost**	
Rated power	104	kW	-	kW
Maximum power	112	kW	-	kW
at engine speed	1800	min^{-1}	-	min^{-1}
Boost activation requirement				
Variable				
Exhaust aftertreatment device				
Nitrous gaseous emission	Selective Catalytic Reduction (SCR)			
Particulate emission	Diesel Particulate Filter (DPF), Diesel Oxidation Catalysator (DOC)			
Time for regeneration (average)			35	min
Regeneration interval:				
- maximum			500	h
Replacement intervals				-
Exhaust gas recuperation				**none**
Exhaust-gas turbocharger			**Wastegate turbo charger**	
Number of cylinders				**4**
Bore				**108** **mm**
Stroke				**120** **mm**
Displacement				**4400** **cm³**
Main fan				
Diameter			576	mm
Number of fan blades				9
Fan Type				Visco fan
Tank volume				
Diesel / AdBlue	210	l /	23	l
Transmission*				
Manufacturer				**Fendt**
Type of construction				**Continuously Variable Transmission (CVT)**
Number of ranges				**1**
Number of gears				**-**
Forward			0,02 km/h to 40 km/h	
Reverse			0,02 km/h to 25 km/h	
Design speed				**40** **km/h**
Chassis*				
Front axle				
Manufacturer				Dana
Type			planetary driven steering axle	

Axle load	**front**	**rear**	**total**
Unladen masses	2080 kg	2930 kg	5010 kg
Permissible	4500 kg	7000 kg	8500 kg
Technically permissible	7500 kg **	7000 kg	- kg

Dimensions*				
Length w/o front linkage			**4336**	**mm**
Width			**2320**	**mm**
Height			**2860**	**mm**
Wheelbase			**2420**	**mm**
Distance hitch points to PTO shaft (lower links horizontal)	**Front**		**Rear**	
	598	**mm**	**652**	**mm**
Distance axle to hitch points (lower links horizontal)	**Front**		**Rear**	
	1113	**mm**	**1067**	**mm**
Turning circle			**9080**	**mm**

Rear PTO Shaft*				
Profile				**6 spline (1 ¾")**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	1904	1500	1884	-

Front PTO Shaft*				
Profile				**6 spline (1 ⅜")**
Transmission ratio*				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	-	-	1897	-

Hydraulic power lift*	**front**		**rear**	
Category	**2**		**3N/3**	
Lifting force at the hitch points exerted through full range	**18.5**	**kN**	**50.7**	**kN**

Hydraulic power*			
System	**CCLS (Closed Centre Load Sensing System)**		
Hydraulic oil	**transmission and hydraulic separate**		
Total capacity		**50**	**l**
Removable		**43**	**l**
Hydraulic flow			
Maximum delivery		84	l/min
Optional		110	l/min
Max. flow at one rear remote		100	l/min
Maximum pressure		**200**	**bar**

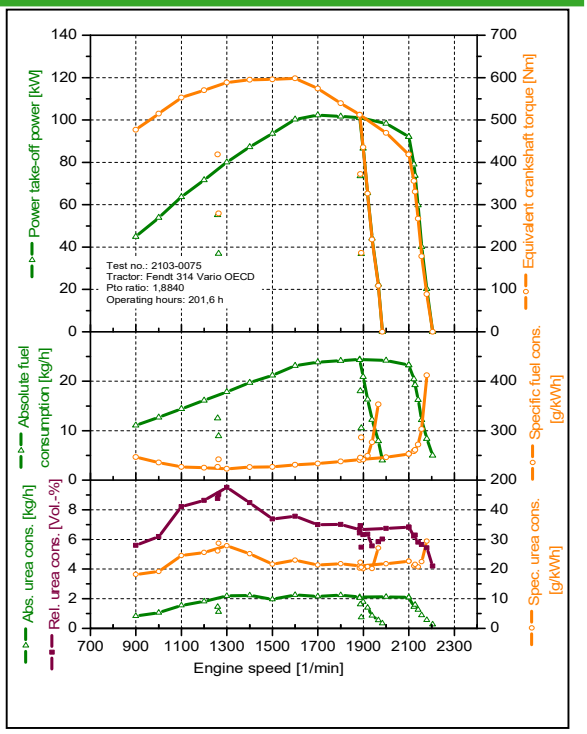
* Manufacturer data

** Up to 8 km/h while use of front loader

Power Take-Off Power according to OECD Code 2

Measuring point	Engine speed	PTO power	Equiv. Torque	Absolute consumption				Ratio AdBlue to fuel	specific consumption	
				fuel		AdBlue			fuel	AdBlue
	1/min	kW	Nm	kg/h	l/h	Kg/h	l/h	Vol-%	g/kWh	
Rated power										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	2100	92	419	23.3	28.1	2.1	1.9	6.8	253	22.7
Maximum power										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1700	102	574	23.9	28.8	2.2	2.0	7.0	234	21.4
Maximum torque										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1600	100	599	23.2	27.9	2.3	2.1	7.6	231	23.0
1000 PTO shaft rotation										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1884	101	512	24.3	29.3	2.1	1.9	6.4	241	20.3
Part loads at full throttle										
80 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
80 % of standard rated pw.	2127	74	331	19.2	23.2	1.6	1.5	6.3	261	21.6
Part loads with governor control set to 90 % of rated engine speed										
80 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
80 % of standard rated pw.	1887	74	372	18.0	21.8	1.6	1.5	6.9	245	22.3
40 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of standard rated pw.	1891	37	186	10.5	12.7	0.8	0.7	5.5	286	20.6
Part loads with governor control set to 60 % of rated engine speed										
60 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
60 % of standard rated pw.	1260	55	419	12.5	15.1	1.5	1.3	8.8	227	26.1
40 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of standard rated pw.	1264	37	279	8.9	10.8	1.1	1.0	9.0	242	28.7

Standard mode



Boost mode

PowerMix - performance and fuel consumption during field and transport applications

Performance and fuel consumption during exemplary field work		Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to diesel	Specific consumption	
								Diesel	AdBlue
		1/min	km/h	kW	kg/h	l/h	Vol-%	g/kWh	
Z1P	ploughing, heavy tine cultivator	1332	7.1	63	17.0	20.5	8.5	268	29.7
Z1G	cultivator, disc harrow	1595	9.5	71	19.8	23.9	7.0	279	25.8
Z2P	mech. seed drill, planter	1296	8.8	48	13.1	15.8	9.1	275	32.6
Z2G	stubble working, seed bed combination	1330	11.7	55	15.3	18.4	9.2	278	33.3
Z3K	milling, rotary harrows seeding combination	1624	5.6	83	20.4	24.5	7.2	244	23.4
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1610	14.4	84	21.8	26.1	7.3	258	24.6
Z4K	pneumatic seeding drill, milling as plant care, mulch	1652	5.9	60	15.6	18.8	6.3	258	21.7
Z4M	cut 2. step, direct seeding machine	1645	15.9	64	17.3	20.9	6.8	272	24.3
Z5K	plant protector, mineral fertiliser, tedder, swather	1674	5.9	35	10.3	12.5	5.9	296	22.9
Z5M	cut 3. step, airseeder	1669	15.9	37	11.6	13.9	5.7	316	23.9
Z6MS	self-loading wagon, manure spreading	1827	6.8	68	19.0	22.9	6.6	279	24.0
Z7PR	high pressure baler, round baler or square baler	1841	9.9	57	17.0	20.5	6.4	297	24.9
								277	**25.9**

Performance and fuel consumption during exemplary transport work		Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to diesel	Specific consumption	
								Diesel	AdBlue
		min^{-1}	km/h	kW	kg/h	l/h	Vol-%	g/kWh	
ZTB	Transportwork at full load (uphill)	1841	19.8	65	23.7	29.0	6.3	365	31.0
ZTE40	Transportwork at flat section with 40 km/h	1481	40.8	22	13.2	16.3	6.4	587	50.4
ZTE50	Transportwork at flat section with 50 km/h	-	-	-	-	-	-	-	-
ZTE60	Transportwork at flat section with 60 km/h	-	-	-	-	-	-	-	-
	Idle	750	-	-	1.1	1.3	-	-	-
								393	**33.3**

Test conditions

Tires	front	rear
Manufacturer	Michelin Multibib	Michelin Multibib
Tire size	540/65 R24	600/65 R38
Fitted options		
Free return flow		**yes**
Air condition		**yes**
Air compressor		**yes**
Front hydraulic power lift		**yes**
Front PTO (disengageable)		**no**
		-
		-

PowerMix	Ballast		Axle load distribution				Gross weight	Tire pressure		PTO mode	Boost power available
	front	rear	front		rear			front	rear		
	kg	kg	kg	%	kg	%	kg	bar	bar	1000/1000E	yes/no
Performance and fuel consumption during exemplary field work											
heavy drawbar work	870	800	3545	47	4055	53	7600	1.2	1.2	-	-
medium havy drawbar w.	0	0	2410	41	3400	59	5810	1.2	1.2	-	-
heavy PTO work	0	0	2410	41	3400	59	5810	1.2	1.2	1000	-
medium heavy PTO work	0	0	2410	41	3400	59	5810	1.2	1.2	1000	-
light PTO work	0	0	2410	41	3400	59	5810	1.2	1.2	1000	-
Drawbar + PTO + hyd.	0	0	2410	41	3400	59	5810	1.2	1.2	1000	-
Performance and fuel consumption during exemplary transport work											
Transport work	0	0	2410	41	3400	59	5810	1.6	1.6	-	-

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