DLG Tractor Datasheet PowerMix

Performance and fuel consumption during field and transport applications

Fendt 1046 Vario

DLG Test Report 7533



	Boost	Standard	
Rated power	-	350	kW
Maximum power	-	350	kW
According to		UNECE R 120	

	Boost	Standard	
Rated power	-	330	kW
Maximum power	-	332	kW
According to		OECD Code 2	

	Diesel	AdBlue	
Energy efficiency	234	21.3	g/kWh
Consumption per hectare	5.2	0.4	l/ha
Area output		16.9	ha/h

	Diesel	AdBlue	
Energy efficiency	397	32.1	g/kWh
Consumption per 100 kilometre per ton	4.7	0.3	l/100tkm
Haul capacity		1062	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								
Rated power			1700	330	207	14.7	82.4	5.4
Maximum power			1500	332	202	17.9	81.0	6.7
Maximum torque			1200	276	199	21.1	66.5	8.0
Torque increase	19	%						
Drop in speed	29	%						
Overcapacity	-	kW						
Starting torque	105	%						
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			1749	264	212	9.9	67.6	3.6
			1532		202	13.7	64.6	5.1
Savings in %					**-4.7**		**-4.4**	
40 % of standard rated power, instead of 90 % of rated speed only with 60 % of rated speed			1531	132	228	11.7	36.3	3.9
			1019		212	10.5	33.7	3.8
Savings in %					**-7.0**		**-7.2**	

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	1355	247	242	22.7	11.2	0.8	7.4
Medium pulling work	1154	185	241	22.7	6.8	0.5	9.0
Heavy PTO shaft work	1388	271	216	20.4	4.6	0.3	21.6
Medium PTO shaft work	1093	196	224	25.5	3.3	0.3	22.7
Light PTO shaft work	1112	117	244	15.7	2.0	0.1	24.3
Drawbar + PTO + Hydraulic work	1391	195	240	20.6	3.5	0.2	16.5
Overall result at field work			**234**	**21.3**	**5.2**	**0.4**	**16.9**

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	1535	184	365	30.8	7.3	0.5	1090
Light transportwork at 40 km/h	1013	28	629	41.4	2.0	0.1	1033
Optional: light transportwork at 50 km/h	1232	39	666	29.1	2.2	0.1	1285
Optional: light transportwork at 60 km/h	1466	50	688	24.4	2.4	0.1	1542
Overall result transport work at 40 km/h			**397**	**32.1**	**4.7**	**0.3**	**1062**

Technical data

Engine*				
Manufacturer				**MAN**
Stage of exhaust emission				**IV**
Rated engine speed			**1700**	**min^{-1}**
Engine power according				
UNECE-R 120	**Standard**		**Boost**	
Rated power	350	kW	-	kW
Maximum power	350	kW	-	kW
at engine speed	1500-1700		-	min^{-1}
Boost activation requirement				
	-			
Exhaust aftertreatment device				
Nitrous gaseous emission	Selective Catalytic Reduction (SCR)			
Particulate emission			-	
Time for regeneration (average)			-	min
Regeneration interval:				
- maximum			-	h
Replacement intervals				0
Exhaust gas recuperation			**Yes**	
Exhaust-gas turbocharger	**variable turbine geometry**			
Number of cylinders			**6**	
Bore			**126**	**mm**
Stroke			**166**	**mm**
Displacement			**12419**	**cm³**
Main fan				
Diameter			650	mm
Number of fan blades			12	
Fan Type			hydraulic, pushing fan	
Tank volume				
Diesel / AdBlue	800	l /	85	l
Transmission*				
Manufacturer				**AGCO Fendt**
Type of construction				**CVT, VarioDrive TA 400**
Number of ranges			**0**	
Number of gears			**0**	
Forward			-	
Reverse			-	
Design speed			**60**	**km/h**
Chassis*				
Front axle				
Manufacturer				Dana
Type				independent suspension

Axle load	**front**	**rear**	**total**
Unladen masses	6215 kg	8125 kg	14340 kg
Permissible	10000 kg	12000 kg	23000 kg[2]
Technically permissible	- kg	- kg	- kg

Dimensions*				
Length w/o front linkage				**6350 mm**
Width				**2750 mm**
Height				**3570 mm**
Wheelbase				**3300 mm**
Distance hitch points to PTO shaft (lower links horizontal)	**Front**		**Rear**	
	-	**mm**	**782**	**mm**
Distance axle to hitch points (lower links horizontal)	**Front**		**Rear**	
	1425	**mm**	**1490**	**mm**
Turning circle				**14660 mm**
Rear PTO Shaft*				
Profile				**6 spline (1 ¾")**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	-	-	1614	1255
Front PTO Shaft*				
Profile				**-**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	-	-	-	-

Hydraulic power lift*	**front**	**rear**
Category	II	III / IV
Lifting force at the hitch points exerted through full range	55.8 kN	129.2 kN

Hydraulic power*		
System	**CCLS (Closed Center Load Sensing System)**	
Hydraulic oil	**transmission and hydraulic separate**	
Total capacity	**139**	**l**
Removable	**100**	**l**
Hydraulic flow		
Maximum delivery	165	l/min
Optional	220 / 220+210	l/min
Max. flow at one rear remote	170	l/min
Maximum pressure*	**200 ±5**	**bar**

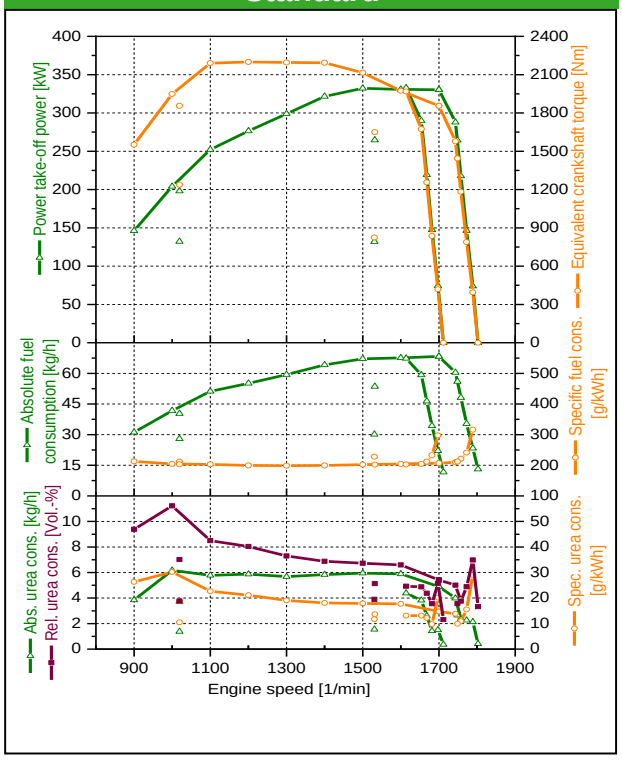
* Manufacturer data

2 up to 50 km/h

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	1700	330	1856	68.3	82.4	4.9	4.5	5.4	207	14.7
Maximum power										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1500	332	2115	67.1	81.0	6.0	5.5	6.7	202	17.9
Maximum torque										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1200	276	2199	55.1	66.5	5.9	5.3	8.0	199	21.1
1000 PTO shaft rotation										
Boost	-	-	-	-	-	-	-	-	-	-
Standard	1614	333	1968	67.4	81.2	4.4	4.0	4.9	203	13.1
Part loads at full throttle										
80 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
80 % of standard rated pw.	1749	264	1444	56.0	67.6	2.7	2.4	3.6	212	9.9
Part loads with governor control set to 90 % of rated engine speed										
80 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
80 % of standard rated pw.	1532	265	1650	53.6	64.6	3.6	3.3	5.1	202	13.7
40 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of standard rated pw.	1531	132	824	30.1	36.3	1.6	1.4	3.9	228	11.7
Part loads with governor control set to 60 % of rated engine speed										
60 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
60 % of standard rated pw.	1019	198	1856	40.3	48.6	3.7	3.4	7.0	203	18.8
40 % of boost rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of standard rated pw.	1019	132	1238	28.0	33.7	1.4	1.3	3.8	212	10.5

Standard



Boost

PowerMix - performance and fuel consumption during field and transport applications

Performance and fuel consumption during exemplary field work		Engine speed	Driving speed	Deliver-ed net power	Diesel consump-tion		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	1283	7.0	236	57.0	67.6	7.3	242	22.5
Z1G	cultivator, disc harrow	1427	9.3	259	62.4	74.0	7.5	241	22.9
Z2P	mech. seed drill, planter	1101	8.5	174	41.9	49.7	6.8	240	21.2
Z2G	stubble working, seed bed combination	1207	11.3	196	47.4	56.2	7.8	241	24.2
Z3K	milling, rotary harrows seeding combination	1394	5.5	270	57.0	67.6	7.4	211	20.3
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1381	14.0	272	60.0	71.2	7.2	220	20.5
Z4K	pneumatic seeding drill, milling as plant care, mulch	1106	5.8	196	42.5	50.3	7.7	217	21.6
Z4M	cut 2. step, direct seeding machine	1081	14.7	197	45.1	53.5	9.9	230	29.3
Z5K	plant protector, mineral fertiliser, tedder, swather	1117	5.9	113	26.8	31.8	4.6	236	13.6
Z5M	cut 3. step, airseeder	1107	15.9	120	30.2	35.8	5.5	252	17.8
Z6MS	self-loading wagon, manure spreading	1201	5.9	204	46.8	55.5	8.0	229	23.7
Z7PR	high pressure baler, round baler or square baler	1581	10.0	186	46.7	55.3	5.2	250	17.6
								234	**21.3**

Performance and fuel consumption during exemplary transport work		Engine speed	Driving speed	Deliver-ed net power	Diesel consump-tion		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)	1535	42	184	67.1	80.0	6.5	365	30.8
ZTE40	Transportwork at flat section with 40 km/h	1013	40	28	17.3	20.6	5.2	629	41.4
ZTE50	Transportwork at flat section with 50 km/h	1232	50	39	23.7	28.2	3.6	666	29.1
ZTE60	Transportwork at flat section with 60 km/h	1466	60	50	30.5	36.4	3.1	688	24.4
	Idle	655	-	-	2.3	2.8	-	-	-
								397	**32.1**

Test conditions

Tires	front	rear
Manufacturer	Michelin AxioBib	Michelin AxioBib
Tire size	IF 710/60 R38	IF 900/65 R46
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 pulling work	2500	2500	10010	52	9170	48	19180	1.2	1.2	-	-
Medium pulling work	0	0	6215	43	8125	57	14340	1.2	1.2	-	-
Heavy PTO shaft work	0	0	6215	43	8125	57	14340	1.2	1.2	1000	-
Medium PTO shaft work	0	0	6215	43	8125	57	14340	1.2	1.2	1000E	-
Light PTO shaft work	0	0	6215	43	8125	57	14340	1.2	1.2	1000E	-
Drawbar+PTO+Hydraulic work	0	0	6215	43	8125	57	14340	1.2	1.2	1000E	-
Performance and fuel consumption during exemplary transport work											
Transport work	0	0	6215	43	8125	57	14340	1.6	1.6	-	-

Applicant

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