

PowerMix Datasheet

DLG TEST REPORT 7599

Performance and fuel consumption
in field and transport operations

Fendt 832 Vario



AGCO
FENDT 832 VARIO
PowerMix

DLG Test Report 7599

	Boost	Standard	
Rated power*	252	-	kW
Maximum power*	252	-	kW
According to*	ECE-R120		

	Boost	Standard	
Rated power	229	-	kW
Maximum power	233	-	kW
According to	OECD Code 2		

	Diesel	AdBlue	
Energy efficiency	235	29,0	g/kWh
Consumption per hectare	5,3	0,5	l/ha
Area output	11,8		ha/h

	Diesel	AdBlue	
Energy efficiency	329	38,1	g/kWh
Consumption per 100 kilometre per ton	3,8	0,3	l/100tkm
Haul capacity (40km/h)	1076		tkm/h

* Manufacturer information

Assessment in brief

The DLG PowerMix is a standardized test procedure in which the German Agricultural Society (DLG) measures the energy efficiency of tractors under conditions that replicate real-life field and transport operations. Testing is carried out on the DLG roller test bench. The resulting data provide a transparent basis for evaluating tractor performance and overall efficiency under consistent and repeatable conditions. The scatter plots below illustrate the results in fuel consumption and productivity.

Field work:

The DLG PowerMix test results for tractors in the power class of 252 kW +/- 20 kW indicate a specific fuel consumption range of 240 g/kWh to 301 g/kWh under standardized field load conditions. The tractor evaluated in this test showed a specific fuel consumption of 235 g/kWh.

Transport work:

In the DLG transport test, tractors within the same power range have achieved specific fuel consumption values between 417 g/kWh and 421 g/kWh. The tested machine showed a fuel consumption of 329 g/kWh.



Performance and fuel consumption during field and transport operations

Performance and fuel consumption during exemplary field work	Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to Diesel	Specific consumption	
	1/min	km/h	kW	kg/h	l/h	Vol-%	Diesel g/kWh	AdBlue g/kWh
Z1P ¹ ploughing, heavy tine cultivator	1166	6,6	156	38,0	45,5	9,5	244	30,1
Z1G ¹ cultivator, disc harrow	1434	9,5	185	45,5	54,4	9,1	245	29,1
Z2P ¹ mech. seed drill, planter	1153	8,7	125	29,9	35,8	9,8	239	30,3
Z2G ¹ stubble working, seed bed combination	1253	11,5	141	34,0	40,7	9,2	242	29,1
Z3K milling, rotary harrows seeding combination	1417	5,7	191	41,6	49,8	9,0	218	25,4
Z3M cut 1. step, cultivator-rotary harrows-seeding combination	1402	14,3	193	43,8	52,4	9,2	227	27,3
Z4K pneumatic seeding drill, milling as plant care, mulch	1244	5,9	136	29,9	35,7	9,6	219	27,5
Z4M cut 2. step, direct seeding machine	1247	15,8	145	33,2	39,7	10,3	230	30,6
Z5K plant protector, mineral fertiliser, tedder, swather	1262	5,9	79	18,9	22,7	9,5	239	29,5
Z5M cut 3. step, airseeder	1258	15,8	83	21,0	25,2	9,6	252	31,4
Z6MS self-loading wagon, manure spreading	1370	5,6	141	32,6	39,0	9,6	231	29,0
Z7PR high pressure baler, round baler or square baler	1388	8,3	126	30,1	36,0	9,3	239	29,1
							235	29,0

¹ scaled with PTO Power 232,9 KW

	Energy efficiency		Consumption per hectare		Area output
	Diesel g/kWh	AdBlue g/kWh	Diesel l/ha	AdBlue l/ha	ha/h
Heavy pulling work ¹	245	29,61	11,4	1,1	5,2
Medium-duty pulling work ¹	241	29,7	6,9	0,7	6,4
Heavy PTO work	223	26,3	4,7	0,4	15,5
Medium-duty PTO work	225	29,0	3,2	0,3	16,9
Light PTO work	246	30,4	2,0	0,2	16,9
Traction+PTO+hydraulic work	235	29,0	3,7	0,4	10,2

Test conditions fieldwork	Ballasting		Axle load distribution				Total weight	Tire pressure		PTO speed stage
	Front kg	Rear kg	Front kg	%	Rear kg	%	kg	Front bar	Rear bar	1000/1000E
Heavy pulling work	2200	3870	6350	39,5	9720	60,5	16070	1,2	1,2	-
Medium-duty pulling work	0	0	3950	39,5	6050	60,5	10000	1,2	1,2	-
Heavy PTO work	0	0	3950	39,5	6050	60,5	10000	1,2	1,2	1000
Medium-duty PTO work	0	0	3950	39,5	6050	60,5	10000	1,2	1,2	1000E
Light PTO work	0	0	3950	39,5	6050	60,5	10000	1,2	1,2	1000E
Traction+PTO+hydraulic work	0	0	3950	39,5	6050	60,5	10000	1,2	1,2	1000E



Performance and fuel consumption in transport operations

PowerMix - Transport work	Motor speed	Delivered effective power	Specific consumption		Consumption per 100 km and per ton		Transport performance
			Diesel	AdBlue	Diesel	AdBlue	
	min ⁻¹	kW	g/kWh		l/100tkm		tkm/h
Heavy transportation work	1486	156	311	36,2	6,1	0,5	950
Light transport work at 40 km/h	1103	32	450	52,6	1,4	0,1	1203
Light transport work at 50 km/h	1156	45	446	56,3	1,6	0,2	1491
Light transport work at 60 km/h	1324	58	449	51,2	1,7	0,2	1799
Overall result transportation work 40 km/h			329	38,1	3,8	0,3	1076
Overall result transportation work 50 km/h			330	38,7	3,9	0,4	1220
Overall result transportation work 60 km/h			331	38,2	3,9	0,3	1374
Idle consumption	2,1	l/h					
Trailer weight	30000	kg					

Test conditions Transport use	Ballasting		Axle load distribution				Total weight	Tire pressure	
	Front	Rear	Front	Rear				Front	Rear
	kg	kg	kg	%	kg	%	kg	bar	bar
Transportation work	-	-	3950	39,5	6050	60,5	10000	1,6	1,6

Tires	Front	Rear
Manufacturer/Type	Nokian/ SoilKing	Nokian/ SoilKing
Tire size	VF650/60R34	VF710/75R42
Equipment		
Pressureless return	Yes	
A/C	Yes	
Compressor	Yes	
Front power lift	Yes	
Front PTO (can be disengaged)	No	

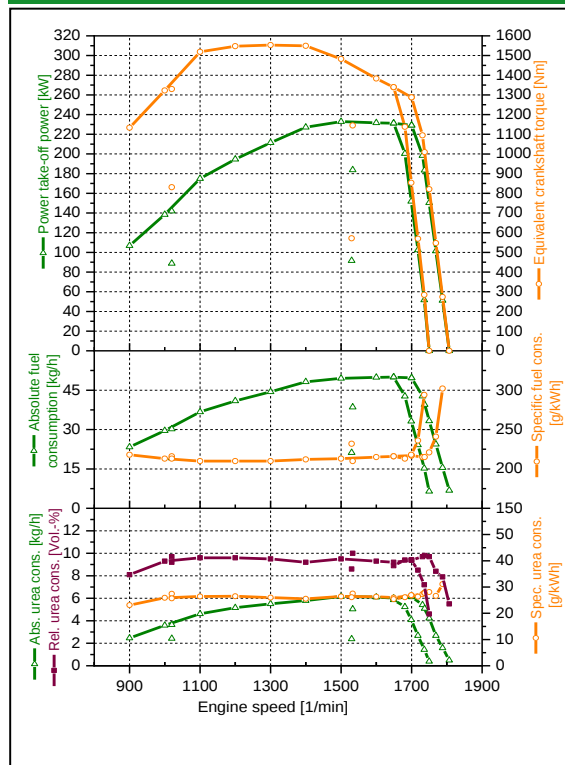


Power Take-Off Power according to OECD Code 2

Measuring point	Engine speed	PTO power	Equiv. Torque	Absolute consumption				Ratio AdBlue to Diesel	specific consumption	
				Diesel		AdBlue			Diesel	AdBlue
	1/min	kW	Nm	kg/h	l/h	kg/h	l/h	Vol-%	g/kWh	
Rated power										
Boost	1700	229,2	1.288	49,7	59,3	6,1	5,6	9,4	217	26,8
Standard	-	-	-	-	-	-	-	-	-	-
Maximum power										
Boost	1500	232,9	1.482	49,5	59,1	6,2	5,6	9,5	213	26,4
Standard	-	-	-	-	-	-	-	-	-	-
Maximum torque										
Boost	1300	211,4	1.553	44,4	52,9	5,5	5,0	9,5	210	26,0
Standard	-	-	-	-	-	-	-	-	-	-
1000 PTO shaft rotation										
Boost	1649	231,3	1.339	50,0	59,6	5,9	5,3	8,9	216	25,4
Standard	-	-	-	-	-	-	-	-	-	-
Part loads at full throttle										
80 % of boost rated pw.	1737	183,5	1.009	39,5	47,1	5,1	4,6	9,8	215	27,7
80 % of standard rated pw.	-	-	-	-	-	-	-	-	-	-
Part loads with governor control set to 90% of rated engine speed										
80 % of boost rated pw.	1533	183,8	1.145	38,5	46,0	5,1	4,6	10,0	210	27,5
80 % of standard rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of boost rated pw.	1530	91,6	572	21,2	25,3	2,4	2,2	8,6	232	26,1
40 % of standard rated pw.	-	-	-	-	-	-	-	-	-	-
Part loads with governor control set to 60% of rated engine speed										
60 % of boost rated pw.	1020	142,0	1.329	30,2	36,0	3,7	3,3	9,2	213	25,7
60 % of standard rated pw.	-	-	-	-	-	-	-	-	-	-
40 % of boost rated pw.	1020	88,8	831	19,2	22,9	2,4	2,2	9,7	216	27,4
40 % of standard rated pw.	-	-	-	-	-	-	-	-	-	-

Standard

Boost



Technical Data

Engine*			
Manufacturer	AGCO Fendt		
Stage of exhaust emission	V		
Rated engine speed	1700 min ⁻¹		
Motor power according to			
ECE-R120	Standard	Boost	
Rated power*	- kW	252	kW
Maximum power*	- kW	252	kW
at engine speed*	-	1700	min ⁻¹
Boost activation Prerequisites			

variable (DynamicPerformance)

Exhaust aftertreatment device			
Nitrous gaseous emission	Selective Catalytic Reduction (SCR) catalysator		
Particulate emission	Diesel particulate filter (DPF), Diesel oxidation catalyst (DOC)		
Time for regeneration (average)	38	min	
Regeneration interval:			
- maximum*	500	h	
Replacement intervals	-		
Exhaust gas recuperation	-		
Exhaust-gas turbocharger	VTG		
Number of cylinders	6		
Bore	110	mm	
Stroke	139	mm	
Displacement	7926	cm³	
Main fan			
Diameter	560	mm	
Number of fan blades	9		
Fan Type	hyd. Fan		
Tank volume			
Diesel / AdBlue	540 l	/	65 l

Transmission			
Manufacturer	Fendt		
Type of contruction	CVT, VarioDrive TA250		
Number of ranges	1		
Number of gears	-		
Forward	0,02 km/h bis 60 km/h		
Reverse	0,02 km/h bis 33 km/h		
Design-related maximum speed	60	km/h	

Chassis*			
Front axle			
Manufacturer	DANA		
Type	planetary steering drive axle		
Axle load	Front	Rear	Total
Unladen masses	3910 kg	5990 kg	9900 kg
Permissible	7300 kg	11500 kg	17500 kg ²
Technically permissible	7300 kg	11500 kg	17500 kg

Dimensions*			
Length w/o front linkage	5650	mm	
Width	2751	mm	
Height	3330	mm	
Wheelbase	3020	mm	

Distance hitch points to PTO shaft (lower links horizontal)	Front		Rear	
	560	mm	705	mm

Distance axle to hitch points (lower links horizontal)	Front		Rear	
	1163	mm	1327	mm

Turning circle	11350	mm	
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Rear PTO Shaft*			
Profile	6 spline (1 3/4")		
Transmission ratio			

PTO mode	540	540E	1000	1000E
Engine speed [min ⁻¹]	1618	1405	1649	1432

Front PTO Shaft*			
Profile	6 spline (1 3/8")		
Transmission ratio			

PTO mode	540	540E	1000	1000E
Engine speed [min-1]	-	-	1647	-

Hydraulic power lift*	Front	Rear	
Categorie	3N	3N/3	

Lifting force at the hitch points exerted through full range	32,0	kN	93,4	kN
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Hydraulic power*			
System	CCLS (Closed Centre Load Sensing System)		

Hydraulic oil	independant hydraulic oil circuit		
Total capacity	108	l	
Removable	86	l	

Hydraulic flow			
Maximum delivery	165	l/min	
Optional	220	l/min	
Max. flow at one rear remote	170	l/min	
Maximum pressure	200	bar	

* Manufacturer data

² up to 50 km/h



Additional information

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DLG-Testframe

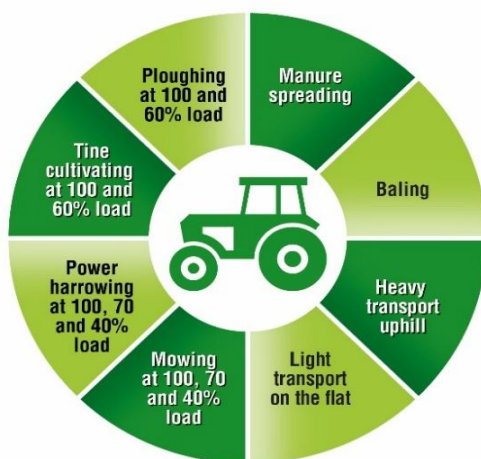
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Department

Vehicle technology

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With its methods, test frameworks and awards, the DLG Test Center for Technology and Equipment is a leader in the testing and certification of agricultural technology and equipment. The methods and test profiles are practice-oriented, manufacturer-independent and developed by neutral test commissions. They are based on state-of-the-art measurement and testing procedures, and international standards and norms are also taken into account.



<https://www.dlg.org/powermix>

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