PowerMix Datasheet

DLG TEST REPORT **7581**

	Boost	Standard	
Rated power*	204	189	kW
Maximum power*	210	195	kW
According to*	ISO14396		

	Boost	Standard	
Rated power	177	164	kW
Maximum power	190	177	kW
According to	OECD Code 2		

	Diesel	AdBlue	
Energy efficiency	241	24.9	g/kWh
Consumption per hectare	5.4	0.4	l/ha
Area output	9.9		ha/h

	Diesel	AdBlue	
Energy efficiency	334	34.9	g/kWh
Consumption per 100 kilometre per ton	3.9	0.3	l/100tkm
Haul capacity (40km/h)		984	tkm/h

* Manufacturer information

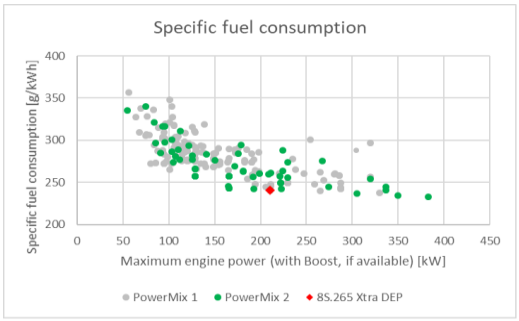
Assessment in brief

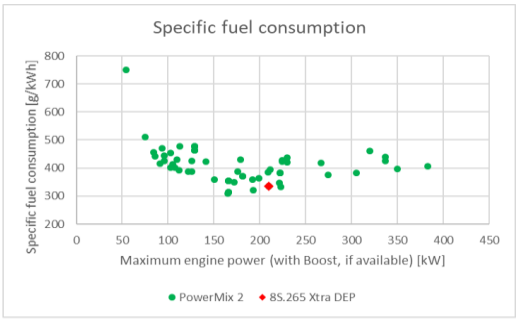
The DLG PowerMix is a standardized test procedure in which the German Agricultural Society (DLG) measures the energy efficiency of tractors under conditions that replicate real-life field and transport operations. Testing is carried out on the DLG roller test bench. The resulting data provide a transparent 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.

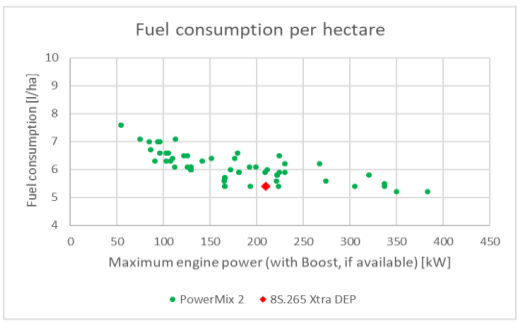
Field work:
The DLG PowerMix test results for tractors in the power class of 210 kW +/- 20 kW indicate a specific fuel consumption range of 241 g/kWh to 288 g/kWh under standardized field load conditions. The tractor evaluated in this test showed a specific fuel consumption of 241 g/kWh.

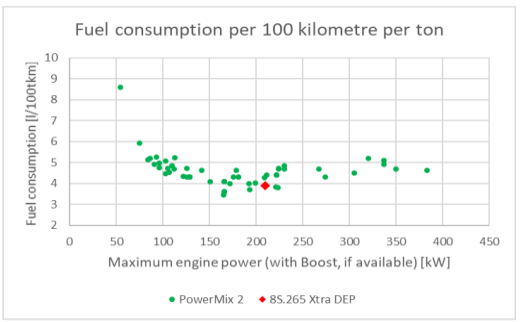
Transport work:
In the DLG transport test, tractors within the same power range have achieved specific fuel consumption values between 321 g/kWh and 436 g/kWh. The tested machine showed a fuel consumption of 334 g/kWh.

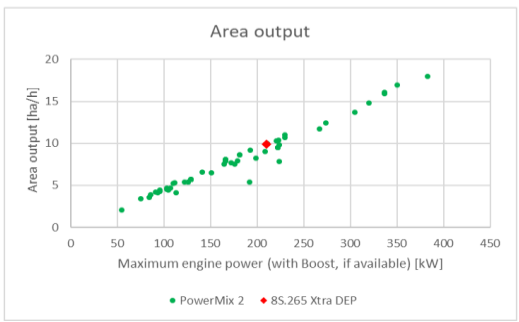
Fieldwork	Transportation work

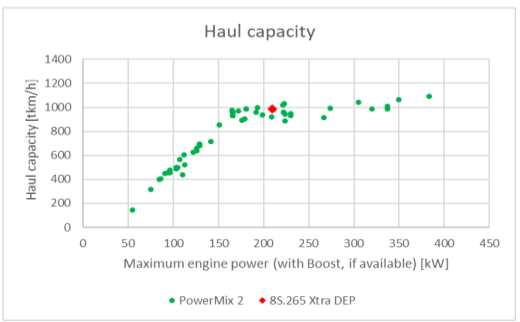












The green scatter plots show the results of all machines tested on the roller test bench according to PowerMix 2 (period 2018 – present).

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	
								Diesel	AdBlue
		1/min	km/h	kW	kg/h	l/h	Vol-%	g/kWh	
Z1P[1]	ploughing, heavy tine cultivator	1434	7.1	128	30.8	36.9	7.9	240	24.6
Z1G[1]	cultivator, disc harrow	1709	9.7	145	36.2	43.3	7.8	249	25.0
Z2P[1]	mech. seed drill, planter	1348	8.7	95	22.6	27.0	7.9	238	24.6
Z2G[1]	stubble working, seed bed combination	1281	11.6	107	26.3	31.5	8.2	245	26.2
Z3K	milling, rotary harrows seeding combination	1624	5.7	158	36.2	43.3	7.6	229	23.0
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1617	14.0	159	38.0	45.5	7.9	239	24.5
Z4K	pneumatic seeding drill, milling as plant care, mulch	1359	5.9	113	25.5	30.5	7.8	225	22.9
Z4M	cut 2. step, direct seeding machine	1357	16.2	121	28.4	34.0	8.1	234	24.7
Z5K	plant protector, mineral fertiliser, tedder, swather	1367	6.0	65	16.1	19.3	8.0	246	25.7
Z5M	cut 3. step, airseeder	1365	16.4	70	18.0	21.6	7.9	258	26.7
Z6MS	self-loading wagon, manure spreading	1501	6.5	125	29.8	35.7	8.3	239	25.6
Z7PR	high pressure baler, round baler or square baler	1508	10.0	108	26.7	32.0	8.1	248	26.0
								241	**24.9**

[1] scaled with PTO Power 176.6 KW

	Energy efficiency		Consumption per hectare		Area output
	Diesel	AdBlue	Diesel	AdBlue	
	g/kWh	g/kWh	l/ha	l/ha	ha/h
Heavy pulling work[1]	245	24.79	11.4	0.9	4.1
Medium-duty pulling work[1]	242	25.4	6.9	0.6	4.9
Heavy PTO work	234	23.7	5.0	0.4	12.4
Medium-duty PTO work	230	23.8	3.4	0.3	14.1
Light PTO work	252	26.2	2.1	0.2	14.2
Traction+PTO+hydraulic work	244	25.8	3.5	0.3	9.8

Test conditions fieldwork	Ballasting		Axle load distribution				Total weight	Tire pressure		PTO shaft
	Front	Rear	Front		Rear			Front	Rear	
	kg	kg	kg	%	kg	%	kg	bar	bar	1000/1000E
Heavy pulling work	1150	1800	5110	40	7820	60	12930	1.2	1.2	-
Medium-duty pulling work	0	0	4130	41	5900	59	10030	1.2	1.2	-
Heavy PTO work	0	0	4130	41	5900	59	10030	1.2	1.2	1000
Medium-duty PTO work	0	0	4130	41	5900	59	10030	1.2	1.2	1000E
Light PTO work	0	0	4130	41	5900	59	10030	1.2	1.2	1000E
Traction+PTO+hydraulic work	0	0	4130	41	5900	59	10030	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	1720	128	318	32.8	6.4	0.5	762
Light transport work at 40 km/h	1229	32	444	51.6	1.4	0.1	1206
Light transport work at 50 km/h	1526	41	465	48.7	1.5	0.1	1498
Light transport work at 60 km/h	-	-	-	-	-	-	-
Overall result transportation work 40 km/h			**334**	**34.9**	**3.9**	**0.3**	**984**
Overall result transportation work 50 km/h			**336**	**34.7**	**3.9**	**0.3**	**1130**
Overall result transportation work 60 km/h			**-**	**-**	**-**	**-**	**-**
Idle consumption	**1.8**	**l/h**					
Trailer weight	**29970**	**kg**					

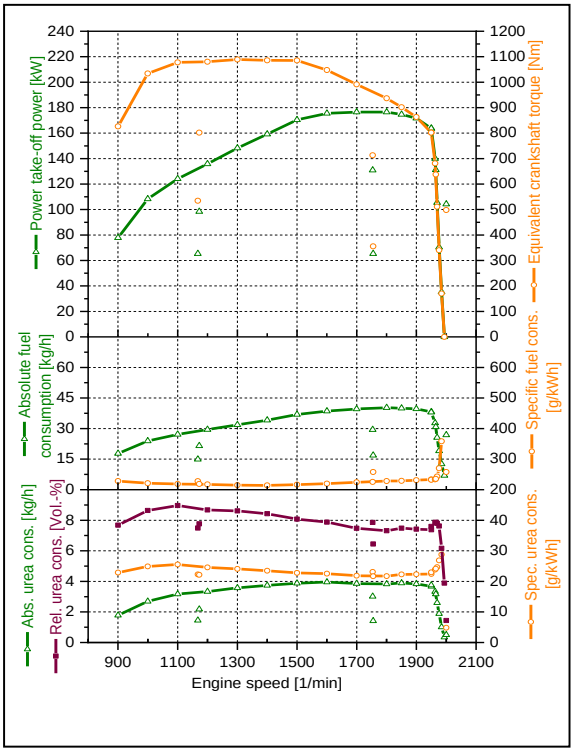
Test conditions Transport use	Ballasting		Axle load distribution				Total weight	Tire pressure	
	Front	Rear	Front		Rear			Front	Rear
	kg	kg	kg	%	kg	%	kg	bar	bar
Transportation work	-	-	4130	41	5900	59	10030	1.6	1.6

Tires	Front	Rear
Manufacturer/Type	Nokian SoilKing VF	Nokian SoilKing VF
Tire size	600/70 R28	710/70 R42
Equipment		
Pressureless return		**Yes**
A/C		**Yes**
Compressor		**Yes**
Front power lift		**Yes**
Front PTO (can be disengaged)		**No**

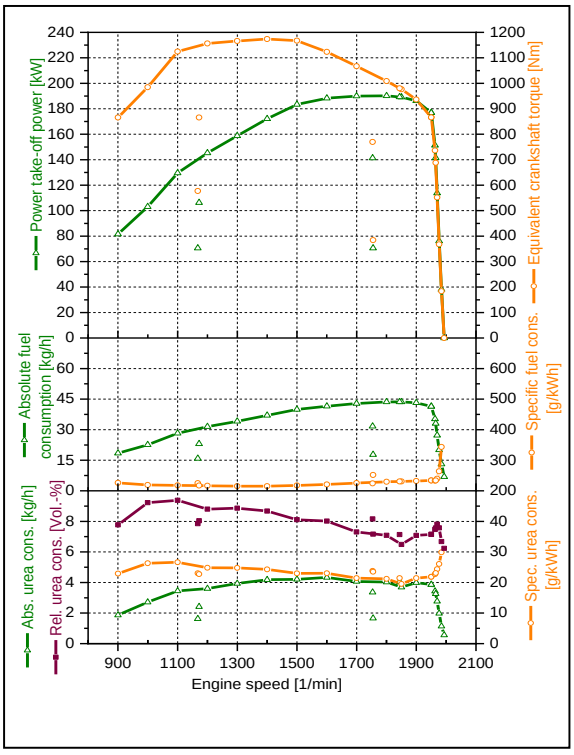
Power Take-Off Power according to OECD Code 2

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	1950	176.9	866	41.4	49.6	3.9	3.5	7.2	234	21.8
Standard	1950	163.7	802	38.2	45.7	3.7	3.4	7.4	233	22.4
Maximum power										
Boost	1800	190.1	1,009	43.6	52.3	4.0	3.7	7.1	230	21.2
Standard	1800	176.6	937	40.3	48.2	3.8	3.5	7.3	228	21.7
Maximum torque										
Boost	1400	172.1	1,174	37.0	44.3	4.2	3.8	8.7	215	24.3
Standard	1300	148.3	1,089	31.9	38.1	3.6	3.3	8.6	215	24.1
1000 PTO shaft rotation										
Boost	1844	189.3	980	43.6	52.2	4.1	3.7	7.1	231	21.4
Standard	1844	174.5	903	40.0	47.9	3.8	3.5	7.4	229	22.0
Part loads at full throttle										
80 % of boost rated pw.	1965	141.5	688	33.1	39.7	3.3	3.0	7.6	234	23.1
80 % of standard rated pw.	1965	131.2	637	30.9	37.0	3.2	2.9	7.9	235	24.2
Part loads with governor control set to 90% of rated engine speed										
80 % of boost rated pw.	1754	141.4	770	31.7	37.9	3.4	3.1	8.2	224	23.8
80 % of standard rated pw.	1754	130.9	713	29.5	35.3	3.0	2.8	7.9	225	23.1
40 % of boost rated pw.	1755	70.6	384	17.8	21.3	1.7	1.5	7.2	252	23.5
40 % of standard rated pw.	1755	65.3	355	16.9	20.2	1.4	1.3	6.4	258	21.7
Part loads with governor control set to 60% of rated engine speed										
60 % of boost rated pw.	1172	106.3	866	23.1	27.6	2.4	2.2	8.0	217	22.8
60 % of standard rated pw.	1172	98.4	802	21.5	25.8	2.2	2.0	7.8	219	22.2
40 % of boost rated pw.	1168	70.6	577	15.9	19.0	1.6	1.5	7.9	225	23.0
40 % of standard rated pw.	1168	65.4	534	14.9	17.8	1.5	1.3	7.5	228	22.3

Standard



Boost



Technical Data

Engine*				
Manufacturer			**Massey Ferguson**	
Stage of exhaust emission			**5**	
Rated engine speed			**1950**	**min^{-1}**
Motor power according to				
ISO14396	**Standard**		**Boost**	
Rated power*	189	kW	204	kW
Maximum power*	195	kW	210	kW
at engine speed*	1850		1850	min^{-1}
Boost activation Prerequisites				
variable				
Exhaust aftertreatment device				
Nitrous gaseous emission		SCR DOC		
Particulate emission		Soot catalyst		
Time for regeneration (average)			20	min
Regeneration interval:				
- maximum*			1200	h
Replacement intervals			as needed	
Exhaust gas recuperation			**No**	
Exhaust-gas turbocharger			**Yes**	
Number of cylinders			**6**	
Bore			**108**	**mm**
Stroke			**134**	**mm**
Displacement			**7400**	**cm³**
Main fan			**Vistronic**	
Diameter			630	mm
Number of fan blades			11	
Fan Type				
Tank volume				
Diesel / AdBlue	460 l	/	43 l	

Transmission				
Manufacturer			**GIMA**	
Type of contruction			**DCT**	
Number of ranges			**4**	
Number of gears			**7**	
Forward			28	
Reverse			28	
Design-related maximum speed			**53**	**km/h**

Chassis*						
Front axle						
Manufacturer			DANA			
Type			M50HD 4WD suspended			
Axle load	**Front**		**Rear**		**Total**	
Unladen masses	4450	kg	5150	kg	9600	kg
Permissible	6400	kg	11500	kg	16000	kg[2]
Technically permissable	7500	kg	13500	kg	-	kg

Dimensions*				
Length w/o front linkage			**5375**	**mm**
Width			**2750**	**mm**
Height			**3370**	**mm**
Wheelbase			**3050**	**mm**
Distance hitch points to PTO shaft (lower links horizontal)	**Front**		**Rear**	
	692	**mm**	**715**	**mm**
Distance axle to hitch points (lower links horizontal)	**Front**		**Rear**	
	1560	**mm**	**1306**	**mm**
Turning circle			**11400**	**mm**

Rear PTO Shaft*				
Profile			**6x 1 3/8", 20 1 3/4"**	
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	1867	1499	1903	1528

Front PTO Shaft*				
Profile				**6x 1 3/8"**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min-1]	0	0	1920	0

Hydraulic power lift*	Front		Rear	
Categorie	3		3	
Lifting force at the hitch points exerted through full range	3.7	kN	8.7	kN

Hydraulic power*		
System	**CCLS (Closed Center Load Sensing System)**	
Hydraulic oil	**separat circuit**	
Total capacity	**115**	**l**
Removable	**85**	**l**
Hydraulic flow		
Maximum delivery	150	l/min
Optional	275	l/min
Max. flow at one rear remote	140	l/min
Maximum pressure	**200**	**bar**

* Manufacturer data

[2] up to 50 km/h

Additional information

Applicant

AGCO SAS
2 Rue Charles Tellier
60000 Beauvais
France
www.masseyferguson.com

Test performed by

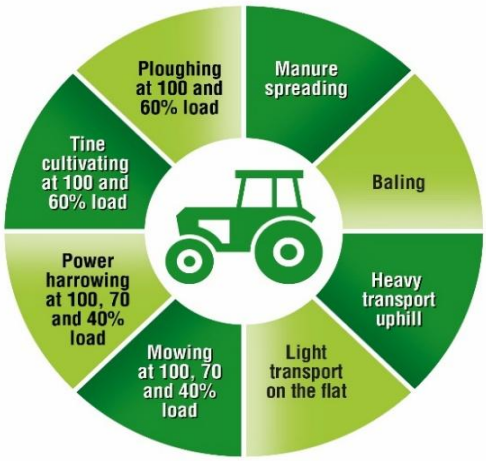
DLG TestService GmbH
Test center technology and farm inputs
Max-Eyth-Weg 1
64823 Groß-Umstadt
https://www.dlg-testservice.com

DLG-Testframe
DLG-PowerMix_2.0 (Stand 01/2025)

Department
Vehicle technology

Testing expertise in agricultural technology and equipment

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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