PowerMix Datasheet

DLG TEST REPORT **7573**



	Boost	Standard	
Rated power*	155	136	kW
Maximum power*	166	147	kW
According to*	ECE-R120		

	Boost	Standard	
Rated power	130	112	kW
Maximum power	150	134	kW
According to	OECD Code 2		

	Diesel	AdBlue	
Energy efficiency	257	32.0	g/kWh
Consumption per hectare	5.7	0.6	l/ha
Area output	7.9		ha/h

	Diesel	AdBlue	
Energy efficiency	353	43.0	g/kWh
Consumption per 100 kilometre per ton	4.1	0.4	l/100tkm
Haul capacity (40km/h)		932	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 166 kW +/- 20 kW indicate a specific fuel consumption range of 245 g/kWh to 295 g/kWh under standardized field load conditions. The tractor evaluated in this test showed a specific fuel consumption of 257 g/kWh.

Transport work:
In the DLG transport test, tractors within the same power range have achieved specific fuel consumption values between 309 g/kWh and 430 g/kWh. The tested machine showed a fuel consumption of 353 g/kWh.



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 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	1557	7.5	107	28.1	33.6	10.7	262	35.0
Z1G[1]	cultivator, disc harrow	1502	9.3	109	29.0	34.7	10.3	266	34.9
Z2P[1]	mech. seed drill, planter	1251	8.7	75	19.9	23.8	9.6	265	32.2
Z2G[1]	stubble working, seed bed combination	1265	11.6	86	23.1	27.6	10.3	268	35.4
Z3K	milling, rotary harrows seeding combination	1625	5.8	121	27.7	33.2	9.9	229	29.0
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1600	15.0	126	30.2	36.2	10.1	240	30.8
Z4K	pneumatic seeding drill, milling as plant care, mulch	1392	5.9	88	20.6	24.7	9.2	234	27.4
Z4M	cut 2. step, direct seeding machine	1429	15.9	95	23.9	28.6	9.8	251	31.8
Z5K	plant protector, mineral fertiliser, tedder, swather	1388	6.0	50	13.4	16.1	8.7	266	30.1
Z5M	cut 3. step, airseeder	1401	16.1	54	15.9	19.0	8.9	293	33.9
Z6MS	self-loading wagon, manure spreading	1537	6.6	98	24.5	29.3	9.9	250	31.8
Z7PR	high pressure baler, round baler or square baler	1547	9.8	83	21.9	26.2	9.3	263	31.9
								257	**32.0**

[1] scaled with PTO Power 141 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]	264	35.0	12.2	1.3	3.2
Medium-duty pulling work[1]	267	33.8	7.6	0.7	3.9
Heavy PTO work	235	29.9	4.8	0.5	10.4
Medium-duty PTO work	243	29.6	3.5	0.3	11.0
Light PTO work	280	32.0	2.3	0.2	11.1
Traction+PTO+hydraulic work	257	31.8	3.7	0.4	7.7

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	1205	1816	5040	44	6465	56	11505	1.2	1.2	-
Medium-duty pulling work	0	0	3640	43	4844	57	8484	1.2	1.2	-
Heavy PTO work	0	0	3640	43	4844	57	8484	1.2	1.2	1000
Medium-duty PTO work	0	0	3640	43	4844	57	8484	1.2	1.2	1000E
Light PTO work	0	0	3640	43	4844	57	8484	1.2	1.2	1000E
Traction+PTO+hydraulic work	0	0	3640	43	4844	57	8484	1.2	1.2	1000E

Performance and fuel consumption during 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	1669	98	329	41.5	6.5	0.6	593
Light transport work at 40 km/h	1417	33	519	54.9	1.6	0.1	1271
Light transport work at 50 km/h	1737	42	530	56.4	1.7	0.1	1558
Light transport work at 60 km/h	-	-	-	-	-	-	-
Overall result transportation work 40 km/h			**353**	**43.0**	**4.1**	**0.4**	**932**
Overall result transportation work 50 km/h			**354**	**43.2**	**4.1**	**0.4**	**1075**
Overall result transportation work 60 km/h			**-**	**-**	**-**	**-**	**-**
Idle consumption	**2.6**	**l/h**					
Trailer weight	**31489**	**kg**					

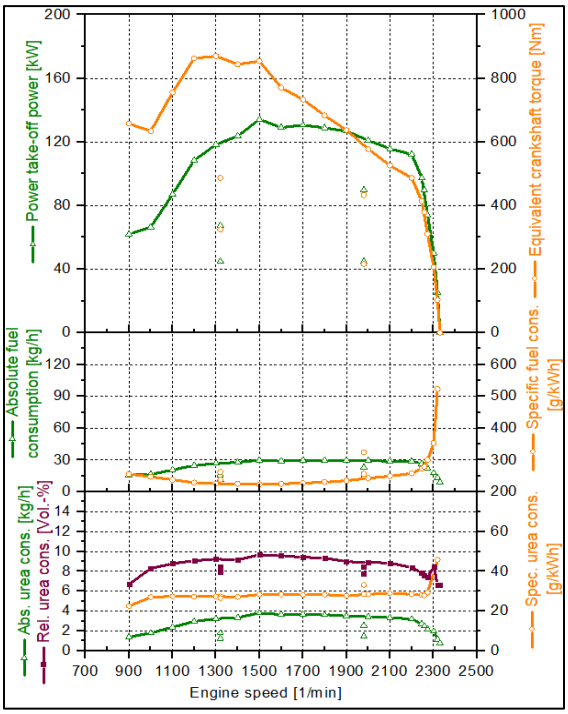
Test conditions Transport use	Ballasting		Axle load distribution				Total weight	Tire pressure	
	Front	Rear	Front		Rear			Front	Rear
	kg	kg	kg	%	kg	%	kg	bar	bar
Transportation work	-	-	3640	43	4844	57	8484	1.6	1.6

Tires	Front	Rear
Manufacturer/Type	Nokian Soil King VF	Nokian Soil King VF
Tire size	VF 540/65R28	VF650/65R42
Equipment		
Pressureless return		**Yes**
A/C		**Yes**
Compressor		**Yes**
Front power lift		**Yes**
Front PTO		**No**

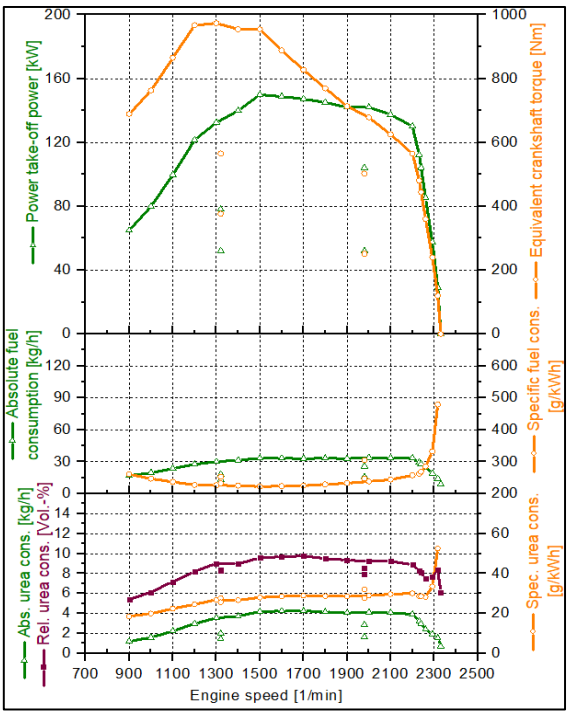
Power Take-Off Power according to OECD Code 2

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	2200	130.2	565	33.5	40.1	3.9	3.6	8.9	257	30.1
Standard	2200	112.2	487	28.9	34.6	3.2	2.9	8.4	258	28.4
Maximum power										
Boost	1500	149.9	954	33.4	39.9	4.2	3.8	9.6	223	28.0
Standard	1500	134.1	854	30.0	35.8	3.8	3.5	9.7	223	28.4
Maximum torque										
Boost	1300	132.5	973	30.0	35.9	3.6	3.2	9.0	226	26.8
Standard	1300	118.4	870	26.7	31.9	3.2	3.0	9.2	226	27.4
1000 PTO shaft rotation										
Boost	1929	141.1	699	33.1	39.6	4.0	3.6	9.2	235	28.3
Standard	1929	124.7	617	29.8	35.6	3.5	3.2	8.9	239	28.0
Part loads at full throttle										
80 % of boost rated pw.	2240	104.2	444	28.0	33.5	3.0	2.7	8.1	269	28.6
80 % of standard rated pw.	2258	89.7	379	25.0	29.9	2.5	2.3	7.6	279	27.8
Part loads with governor control set to 90% of rated engine speed										
80 % of boost rated pw.	1979	104.2	503	25.8	30.8	2.9	2.6	8.5	247	27.7
80 % of standard rated pw.	1980	89.8	433	23.0	27.5	2.6	2.3	8.5	256	28.5
40 % of boost rated pw.	1980	52.0	251	15.9	19.0	1.7	1.5	8.0	305	32.0
40 % of standard rated pw.	1980	44.8	216	14.5	17.4	1.5	1.4	7.8	324	33.1
Part loads with governor control set to 60% of rated engine speed										
60 % of boost rated pw.	1320	78.1	565	18.2	21.7	2.0	1.8	8.4	232	25.5
60 % of standard rated pw.	1320	67.3	487	16.0	19.1	1.8	1.6	8.5	238	26.5
40 % of boost rated pw.	1320	52.1	377	13.2	15.8	1.4	1.3	8.3	253	27.6
40 % of standard rated pw.	1320	44.9	325	11.8	14.1	1.2	1.1	8.0	262	27.4

Standard



Boost



Technical Data

Engine*				
Manufacturer				**FPT**
Stage of exhaust emission				**V**
Rated engine speed			**2200**	**min^{-1}**
Motor power according to				
ECE-R120	**Standard**		**Boost**	
Rated power*	136	kW	155	kW
Maximum power*	147	kW	166	kW
at engine speed*	1600		1600	min^{-1}
Boost activation Prerequisites				
with PTO load and driving speed above 0,5km/h/ variable with pure traction load				
Exhaust aftertreatment device				
Nitrous gaseous emission	Selective Catalytic Reduction (SCRoF)			
Particulate emission	Diesel Oxidation Catalysator (DOC)			
Time for regeneration (average)			40	min
Regeneration interval:				
- maximum*			750	h
Replacement intervals			-	
Exhaust gas recuperation			**-**	
Exhaust-gas turbocharger	**1 Waste Gate (fixed geometry)**			
Number of cylinders			**6**	
Bore			**104**	**mm**
Stroke			**132**	**mm**
Displacement			**6728**	**cm³**
Main fan				
Diameter			620	mm
Number of fan blades			9	
Fan Type	Viscotronic (electronically controlled fan drive)			
Tank volume				
Diesel / AdBlue	350 l	/	50 l	

Transmission				
Manufacturer			**CNHi**	
Type of contruction			**CVT**	
Number of ranges			**3**	
Number of gears			**-**	
Forward			0,03 km/h till 50 km/h	
Reverse			0,03 km/h till 19 km/h	
Design-related maximum speed			**50**	**km/h**

Chassis*			
Front axle			
Manufacturer			CNHi
Type			suspended front axle
Axle load	**Front**	**Rear**	**Total**
Unladen masses	3640 kg	4844 kg	8484 kg
Permissible	6000 kg	9000 kg	13500 kg[2]
Technically permissable	9000 kg[3]	9000 kg	- kg[2]

Dimensions*				
Length w/o front linkage			**5003**	**mm**
Width			**2550**	**mm**
Height			**3141**	**mm**
Wheelbase			**2789**	**mm**
Distance hitch points to PTO shaft (lower links horizontal)	**Front**		**Rear**	
	675	**mm**	**655**	**mm**
Distance axle to hitch points (lower links horizontal)	**Front**		**Rear**	
	1220	**mm**	**1285**	**mm**
Turning circle			**10350**	**mm**

Rear PTO Shaft*				
Profile				**6 spline (1 ⅜")**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min^{-1}]	1901	1575	1929	1594

Front PTO Shaft*				
Profile				**6 spline (1 ⅜")**
Transmission ratio				
PTO mode	540	540E	1000	1000E
Engine speed [min-1]	-	-	1920	-

Hydraulic power lift*	Front		Rear	
Categorie	3N		3N/3	
Lifting force at the hitch points exerted through full range	36	kN	82	kN

Hydraulic power*			
System	**CCLS (Closed Centre Load Sensing System)**		
Hydraulic oil		**common oil circuit**	
Total capacity		**90**	**l**
Removable		**50**	**l**
Hydraulic flow			
Maximum delivery		170	l/min
Optional		150	l/min
Max. flow at one rear remote		125	l/min
Maximum pressure		**205**	**bar**

* Manufacturer data

[2] up to 50 km/h

[3] up to 8km/h with front loader

Additional information

Applicant

CNH Industrial Austria GmbH
Steyrer Straße 32
4300-St.Valentin
Austria
www.caseih.com

Test performed by

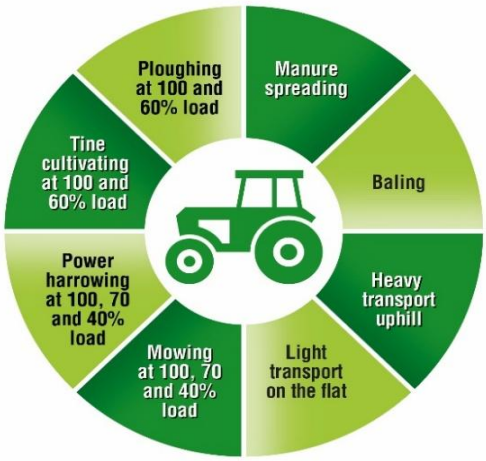
DLG TestService GmbH
Test center technology and farm inputs
Max-Eyth-Weg 1
64823 Groß-Umstadt
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DLG-Testframe
DLG-PowerMix_2.0 (Stand 01/2025)

Department
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https://www.dlg.org/powermix

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DLG TestService GmbH
Location Groß-Umstadt
Max-Eyth-Weg 1 • 64823 Groß-Umstadt
Telephone +49 69 24788-600
Fax +49 69 24788-690
Tech@DLG.org • www.DLG.org

Download all DLG test reports free of charge at: www.DLG-Test.de