PowerMix Datasheet

DLG TEST REPORT **7574**



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

	Boost	Standard	
Rated power	140	121	kW
Maximum power	155	139	kW
According to	OECD Code 2		

	Diesel	AdBlue	
Energy efficiency	243	27.2	g/kWh
Consumption per hectare	5.4	0.5	l/ha
Area output	8.1		ha/h

	Diesel	AdBlue	
Energy efficiency	315	36.9	g/kWh
Consumption per 100 kilometre per ton	3.6	0.3	l/100tkm
Haul capacity (40km/h)		956	tkm/h

* Manufacturer information

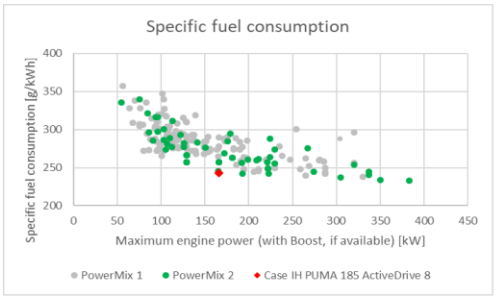
Assessment in brief

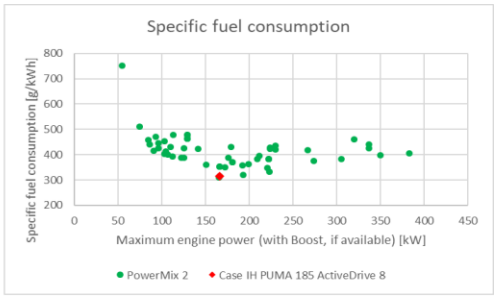
The DLG PowerMix is a standardized test procedure in which the German Agricultural Society (DLG) measures the energy efficiency of tractors under conditions that replicate real-life field and transport operations. Testing is carried out on the DLG roller test bench. The resulting data provide a transparent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

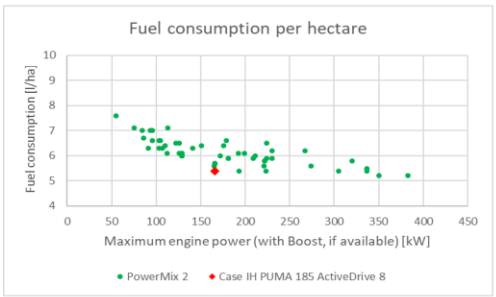
Field work:
The DLG PowerMix test results for tractors in the power class of 166 kW +/- 20 kW indicate a specific fuel consumption range of 245 g/kWh to 295 g/kWh under standardized field load conditions. The tractor evaluated in this test showed a specific fuel consumption of 243 g/kWh.

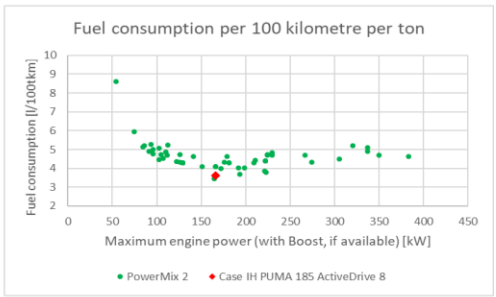
Transport work:
In the DLG transport test, tractors within the same power range have achieved specific fuel consumption values between 309 g/kWh and 430 g/kWh. The tested machine showed a fuel consumption of 315 g/kWh.

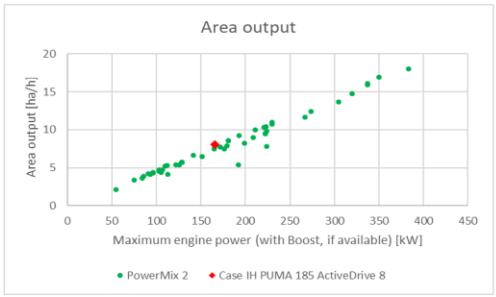
Fieldwork	Transportation work

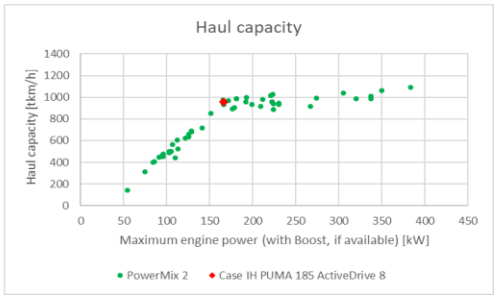












The green scatter plots show the results of all machines tested on the roller test bench according to PowerMix 2 (period 2018 – present).

Performance and fuel consumption during field 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	1548	7.8	110	26.2	31.4	9.2	239	27.8
Z1G[1]	cultivator, disc harrow	1659	9.4	110	26.8	32.1	8.9	244	26.7
Z2P[1]	mech. seed drill, planter	1470	8.6	73	18.4	22.1	8.3	251	26.3
Z2G[1]	stubble working, seed bed combination	1620	11.7	86	21.7	26.0	8.2	253	26.2
Z3K	milling, rotary harrows seeding combination	1723	6.0	133	29.1	34.9	9.2	219	25.2
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1711	14.8	134	31.0	37.1	9.6	232	28.2
Z4K	pneumatic seeding drill, milling as plant care, mulch	1440	5.6	92	20.8	24.9	8.9	226	25.7
Z4M	cut 2. step, direct seeding machine	1440	16.2	100	23.5	28.1	9.2	236	27.8
Z5K	plant protector, mineral fertiliser, tedder, swather	1440	5.7	53	13.3	16.0	8.0	252	26.1
Z5M	cut 3. step, airseeder	1440	16.3	57	15.2	18.3	8.2	267	28.4
Z6MS	self-loading wagon, manure spreading	1587	6.9	105	25.7	30.8	9.2	244	28.9
Z7PR	high pressure baler, round baler or square baler	1600	9.7	88	22.4	26.8	8.7	255	28.9
								243	**27.2**

[1] scaled with PTO Power 139 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]	242	27.2	11.3	1.0	3.2
Medium-duty pulling work[1]	252	26.3	7.2	0.6	3.9
Heavy PTO work	226	26.7	4.7	0.4	10.7
Medium-duty PTO work	231	26.8	3.5	0.3	11.3
Light PTO work	260	27.2	2.2	0.2	11.4
Traction+PTO+hydraulic work	250	28.9	3.6	0.3	8.1

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	1152	1726	5025	43	6625	57	11650	1.2	1.2	-
Medium-duty pulling work	0	0	3595	42	5035	58	8630	1.2	1.2	-
Heavy PTO work	0	0	3595	42	5035	58	8630	1.2	1.2	1000
Medium-duty PTO work	0	0	3595	42	5035	58	8630	1.2	1.2	1000E
Light PTO work	0	0	3595	42	5035	58	8630	1.2	1.2	1000E
Traction+PTO+hydraulic work	0	0	3595	42	5035	58	8630	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	1638	107	295	35.7	5.8	0.5	650
Light transport work at 40 km/h	1558	33	460	45.8	1.5	0.1	1262
Light transport work at 50 km/h	1919	41	483	45.2	1.5	0.1	1554
Light transport work at 60 km/h	-	-	-	-	-	-	-
Overall result transportation work 40 km/h			**315**	**36.9**	**3.6**	**0.3**	**956**
Overall result transportation work 50 km/h			**318**	**36.8**	**3.7**	**0.3**	**1102**
Overall result transportation work 60 km/h			**-**	**-**	**-**	**-**	**-**
Idle consumption	**2.1**	**l/h**					
Trailer weight	**31370**	**kg**					

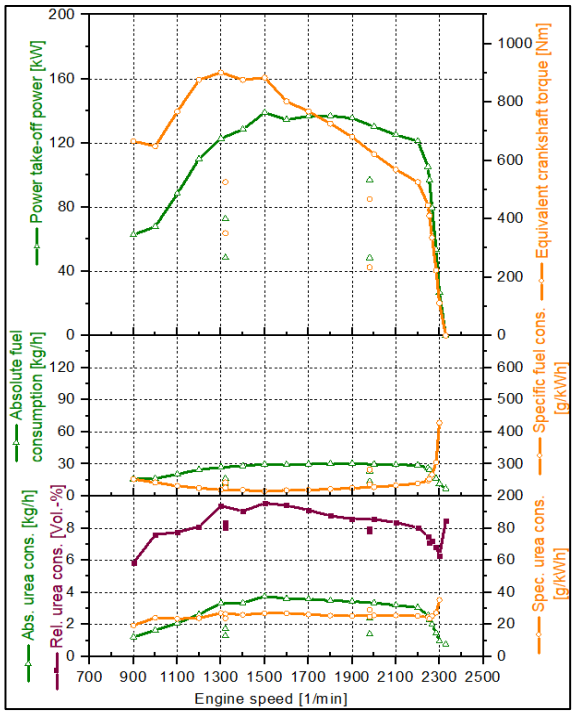
Test conditions Transport use	Ballasting		Axle load distribution				Total weight	Tire pressure	
	Front	Rear	Front		Rear			Front	Rear
	kg	kg	kg	%	kg	%	kg	bar	bar
Transportation work	-	-	3595	42	5035	58	8630	1.6	1.6

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**

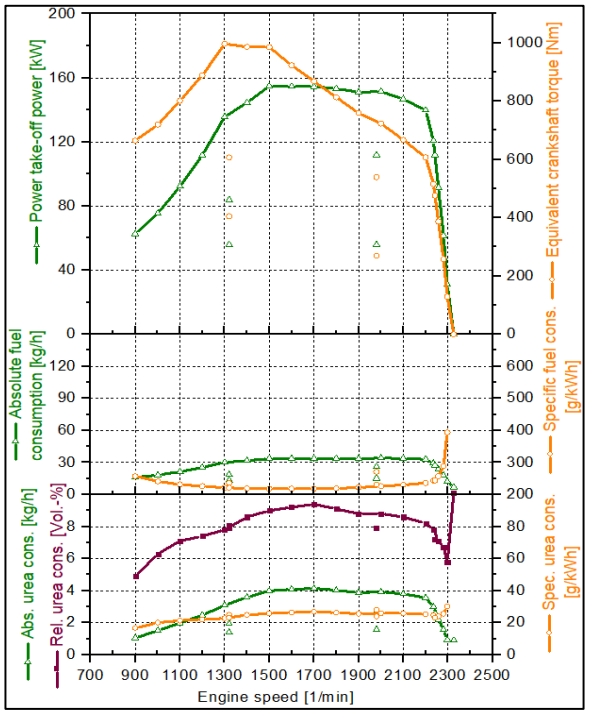
Power Take-Off Power according to OECD Code 2

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	139.8	607	33.0	39.5	3.6	3.2	8.2	236	25.4
Standard	2200	121.2	526	29.0	34.6	3.1	2.8	8.0	239	25.2
Maximum power										
Boost	1500	154.8	986	33.7	40.2	4.0	3.6	9.0	218	25.8
Standard	1500	138.9	884	29.9	35.7	3.8	3.4	9.6	215	27.0
Maximum torque										
Boost	1300	135.7	997	30.0	35.9	3.1	2.8	7.8	221	22.8
Standard	1300	122.8	902	27.0	32.2	3.3	3.0	9.4	220	27.1
1000 PTO shaft rotation										
Boost	1929	151.5	750	33.8	40.4	3.9	3.5	8.8	223	25.7
Standard	1929	134.7	667	30.2	36.1	3.4	3.1	8.5	224	25.0
Part loads at full throttle										
80 % of boost rated pw.	2242	111.8	476	27.3	32.6	2.6	2.4	7.2	244	23.1
80 % of standard rated pw.	2253	97.0	411	24.6	29.4	2.3	2.1	7.1	253	23.6
Part loads with governor control set to 90% of rated engine speed										
80 % of boost rated pw.	1980	111.9	540	25.9	30.9	2.7	2.4	7.9	231	24.0
80 % of standard rated pw.	1980	97.0	468	23.0	27.4	2.4	2.2	7.9	237	24.7
40 % of boost rated pw.	1980	55.9	269	15.1	18.1	1.6	1.4	7.9	271	28.1
40 % of standard rated pw.	1980	48.5	234	13.7	16.3	1.4	1.3	7.8	282	29.0
Part loads with governor control set to 60% of rated engine speed										
60 % of boost rated pw.	1320	83.9	607	18.6	22.2	1.9	1.8	7.9	221	23.1
60 % of standard rated pw.	1320	72.8	526	16.4	19.6	1.7	1.6	8.0	226	23.8
40 % of boost rated pw.	1320	56.0	405	13.2	15.8	1.4	1.3	8.1	236	25.0
40 % of standard rated pw.	1320	48.5	351	11.8	14.1	1.3	1.2	8.4	242	26.6

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 or a driving speed above 18 km/h				
Exhaust aftertreatment device				
Nitrous gaseous emission	Selective Catalytic Reduction (SCRoF) Katalysator			
Particulate emission	Diesel Oxidations Katalysator (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	**dual clutch transmission**			
Number of ranges			**3**	
Number of gears			**8**	
Forward			24	
Reverse			24	
Design-related maximum speed			**50**	**km/h**

Chassis*			
Front axle			
Manufacturer		CNHi	
Type		suspended front axle	
Axle load	**Front**	**Rear**	**Total**
Unladen masses	3595 kg	5035 kg	8630 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			
Total capacity		**90**	**l**
Removable		**50**	**l**
Hydraulic flow		**common oil circuit**	
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

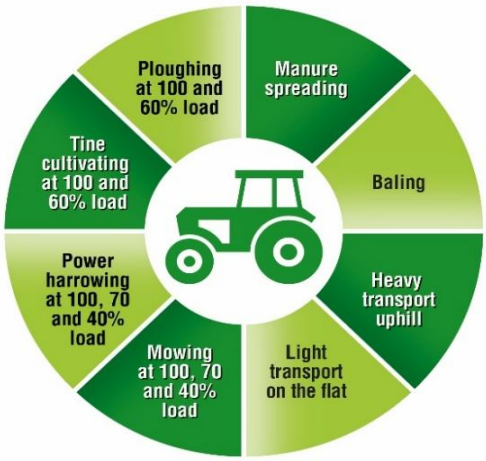
DLG TestService GmbH
Test center technology and farm inputs
Max-Eyth-Weg 1
64823 Groß-Umstadt
https://www.dlg-testservice.com

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

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https://www.dlg.org/powermix

Internal test number DLG: 2503-0082

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