

DLG Tractor Datasheet PowerMix

Performance and fuel consumption during field and transport applications

New Holland T6.180 Dynamic Command

DLG Test Report 7004



NEW HOLLAND
T6.180 DYNAMIC COMMAND
PowerMix
DLG Test Report 7004



	Boost		Standard	
Rated power	121	107	kW	
Maximum power	129	117	kW	
According to	UNECE R 120			

	Boost		Standard	
Rated power	106	92	kW	
Maximum power	120	107	kW	
According to	OECD Code 2			

	Diesel		AdBlue	
Energy efficiency	266	24	g/kWh	
Consumption per hectare	6,0	0,4	l/ha	
Area output	5,7 ha/h			

	Diesel		AdBlue	
Energy efficiency	464	33	g/kWh	
Consumption per 100 kilometre per tonne	4,3	0,3	l/100km/t	
Haul capacity	690 tkm/h			

Measurement results overview

Power Take-Off (PTO) power according to OECD Code 2	Engine speed	Power Take-Off Power	Specific consumption		Diesel consumption	Ratio AdBlue to diesel
			Diesel	AdBlue		
	min ⁻¹	kW	g/kWh		l/h	Vol-%
Standard mode						
Rated power	2200	92	248	24	27,1	7,4
Maximum power	1800	107	222	21	28,2	7,5
Maximum torque	1499	95	217	22	24,3	7,8
Torque increase	50	%				
Drop in speed	32	%				
Overcapacity	15	kW				
Starting torque	134	%				
Boost mode						
Rated power	2200	106	239	24	30,1	7,7
Maximum power	1800	120	219	22	31,1	7,7
Maximum torque	1500	110	214	22	27,8	7,8
Torque increase	52	%				
Drop in speed	32	%				
Overcapacity	14	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	2255	74	266	24	23,3	6,8
	1976		248	21	21,6	6,5
Savings in %			-7	-11	-7	-5
40 % of standard rated power, instead of 90 % of rated speed only with 60 % of rated speed	1985	37	309	25	13,6	6,2
	1318		252	24	11,0	7,3
Savings in %			-19	-4	-19	18

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	1710	73	275	25	12,6	0,9	2,2
Medium pulling work	1476	62	271	25	7,7	0,5	3,0
Heavy PTO shaft work	1610	91	240	22	5,5	0,4	6,4
Medium PTO shaft work	1456	72	249	23	3,6	0,3	7,9
Light PTO shaft work	1464	43	288	25	2,3	0,2	8,8
Drawbar + PTO + Hydraulic work	1715	71	276	25	4,0	0,3	5,8
Overall result at field work			266	24	6,0	0,4	5,7

PowerMix - Transport work	Engine speed	Delivered net power	Specific consumption		Consumption / 100 kilometre / tonne		Transport power
			Diesel	AdBlue	Diesel	AdBlue	
	min ⁻¹	kW	g/kWh		l/100km/t		tkm/h
Heavy transportwork	1942	70	350	30	6,8	0,5	426
Light transportwork at 40 km/h	1588	25	579	36	1,8	0,1	955
Optional: light transportwork at 50 km/h	1990	33	625	45	2,0	0,1	1197
Optional: light transportwork at 60 km/h	-	-	-	-	-	-	-
Overall result transport work at 40 km/h			464	33	4,3	0,3	690,2

Technical data

Engine			
Manufacturer	FPT		
Stage of exhaust emission	IV		
Rated engine speed	2200	min ⁻¹	
Engine power according			
UNECE-R 120	Standard	Boost	
Rated power	107 kW	121 kW	
Maximum power	117 kW	129 kW	
at engine speed	1800 min ⁻¹	1800 min ⁻¹	
Boost activation requirement			
Load at the power take-off and driving speed > 0,5 km/h or driving speed above 20 km/h			
Exhaust aftertreatment device			
Nitrous gaseous emission*	Selective Catalytic Reduction (SCR)		
Particulate emission	-		
Time for regeneration (average)	-	min	
Regeneration interval:			
- maximum*	-	h	
Replacement intervals	none		
Exhaust gas recuperation			
	none		
Exhaust-gas turbocharger			
	1 with fixed geometry		
Number of cylinders			
	6		
Bore*			
	104	mm	
Stroke*			
	132	mm	
Displacement*			
	6728	cm ³	
Main fan			
Diameter	550	mm	
Number of fan blades	9		
Fan Type	Visctronic (electronically controlled fan drive)		
Tank volume			
Diesel / AdBlue	190 l	/	31 l
Transmission			
Manufacturer	CNH		
Type of construction			
	Dual clutch transmission		
Number of ranges			
	3		
Number of gears			
Forward	8		
Reverse	8		
Design speed			
	50	km/h	
Chassis			
Front axle			
Manufacturer	CNH		
Type	Rigid axle, suspended		
Axle load			
	front	rear	total
Unladen masses	3040 kg	4040 kg	7080 kg
Permissible*	4900 kg	7300 kg	10500 kg
Technically permissible*	4900 kg	7300 kg	10500 kg

Dimensions			
Length w/o front linkage*	4556 mm		
Width*	2840 mm		
Height*	3005 mm		
Wheelbase*	2642 mm		
Distance hitch points to PTO shaft (lower links horizontal)*			
	Front	Rear	
	715 mm	625 mm	
Distance axle to hitch points (lower links horizontal)*			
	Front	Rear	
	851 mm	1188 mm	
Turning circle*	12700 mm		
Rear PTO Shaft			
Profile	6 spline (1 3/8")		
Transmission ratio*			
PTO mode	540	540E	1000 1000E
Engine speed [min ⁻¹]	-	1592	1893 1621
Front PTO Shaft			
Profile	6 spline (1 3/8")		
Transmission ratio*			
PTO mode	540	540E	1000 1000E
Engine speed [min ⁻¹]	-	-	1893 -
Hydraulic power lift			
	front	rear	
Category	II or IIIN	III	
Lifting force at the hitch points exerted through full range	2511 daN	5778 daN	
Hydraulic power			
System*	CCLS (Closed Centre Load Sensing System)		
Hydraulic oil			
	Common with transmission		
Total capacity*	78	l	
Removable*	38	l	
Hydraulic flow			
Maximum pump delivery*	125	l/min	
Optional*	-	l/min	
Max. flow at one rear remote*	93	l/min	
Maximum pressure*	205 ±5 bar		

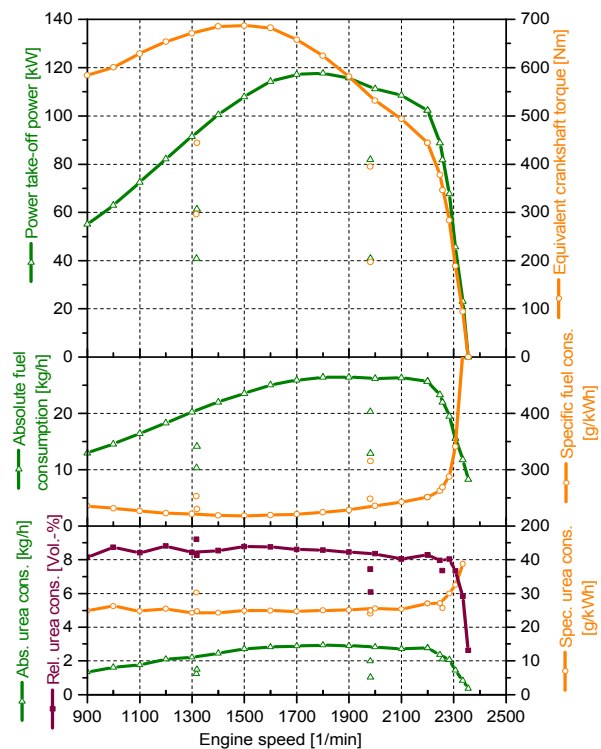
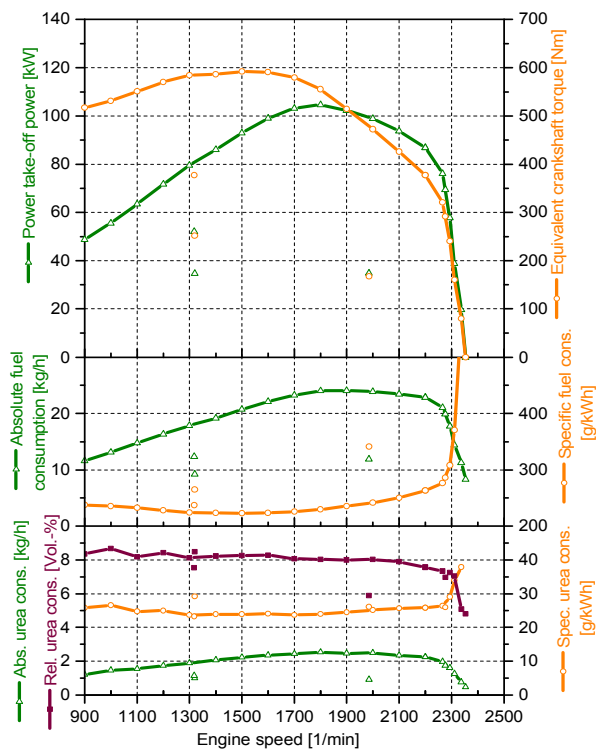
* Manufacturer data

Power Take-Off Power according to OECD Code 2

Measuring point	Engine speed 1/min	PTO power kW	Equiv. Torque Nm	Absolute consumption				Ratio AdBlue to fuel Vol-%	specific consumption	
				fuel		AdBlue			fuel g/kWh	AdBlue g/kWh
				kg/h	l/h	Kg/h	l/h			
Rated power										
Boost	2200	106	461	25,4	30,1	2,5	2,3	7,7	239	24
Standard	2200	92	401	22,9	27,1	2,2	2,0	7,4	248	24
Maximum power										
Boost	1800	120	637	26,3	31,1	2,6	2,4	7,7	219	22
Standard	1800	107	570	23,8	28,2	2,3	2,1	7,5	222	21
Maximum torque										
Boost	1500	110	699	23,5	27,8	2,4	2,2	7,8	214	22
Standard	1499	95	603	20,5	24,3	2,1	1,9	7,8	217	22
1000 PTO shaft rotation										
Boost	1893	119	597	26,4	31,2	2,6	2,4	7,8	222	22
Standard	1893	106	536	24,0	28,4	2,3	2,1	7,5	226	22
Part loads at full throttle										
80 % of boost rated pw.	2239	85	362	21,7	26,1	2,0	1,9	7,2	256	24
80 % of standard rated pw.	2255	74	312	19,6	23,3	1,7	1,6	6,8	266	24
Part loads with governor control set to 90 % of rated engine speed										
80 % of boost rated pw.	1982	85	409	20,4	24,4	1,8	1,7	6,9	240	21
80 % of standard rated pw.	1976	74	356	18,3	21,6	1,5	1,4	6,5	248	21
40 % of boost rated pw.	1981	42	204	12,6	15,1	0,9	0,9	5,9	297	22
40 % of standard rated pw.	1985	37	178	11,4	13,6	0,9	0,8	6,2	309	25
Part loads with governor control set to 60 % of rated engine speed										
60 % of boost rated pw.	1319	64	460	14,2	17,1	1,4	1,2	7,1	224	21
60 % of standard rated pw.	1316	55	401	12,6	15,0	1,2	1,1	7,2	229	21
40 % of boost rated pw.	1318	42	307	10,3	12,4	1,0	0,9	6,8	243	23
40 % of standard rated pw.	1318	37	267	9,3	11,0	0,9	0,8	7,3	252	24

Standard mode

Boost mode



PowerMix - performance and fuel consumption during field and transport applications

Performance and fuel consumption during exemplary field work	Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to diesel	Specific consumption	
				kg/h	l/h		Diesel	AdBlue
				1/min	km/h		kW	g/kWh
Z1P ploughing, heavy tine cultivator	1649	6,6	71	19,4	23,1	7,1	272	25
Z1G cultivator, disc harrow	1772	8,5	75	20,8	24,7	7,1	277	25
Z2P mech. seed drill, planter	1416	8,7	58	15,7	18,7	6,7	272	24
Z2G stubble working, seed bed combination	1536	11,7	66	17,8	21,1	7,5	270	26
Z3K milling, rotary harrows seeding combination	1583	4,9	92	21,5	25,5	7,0	233	21
Z3M cut 1. step, cultivator-rotary harrows-seeding combination	1637	11,1	90	22,0	26,2	7,1	246	23
Z4K pneumatic seeding drill, milling as plant care, mulch	1462	6,1	73	17,5	20,8	7,2	240	22
Z4M cut 2. step, direct seeding machine	1450	13,8	70	18,1	21,4	7,3	257	24
Z5K plant protector, mineral fertiliser, tedder, swather	1462	6,1	42	11,4	13,6	6,6	275	23
Z5M cut 3. step, airseeder	1466	15,9	44	13,1	15,6	6,8	301	27
Z6MS self-loading wagon, manure spreading	1611	6,2	77	20,2	23,9	7,2	261	25
Z7PR high pressure baler, round baler or square baler	1820	9,3	65	19,0	22,6	6,4	291	25

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Performance and fuel consumption during exemplary transport work	Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to diesel	Specific consumption	
				kg/h	l/h		Diesel	AdBlue
				min ⁻¹	km/h		kW	g/kWh
ZTB Transportwork at full load (uphill)	1942	18	70	24,4	29,0	6,7	350	30
ZTE40 Transportwork at flat section with 40 km/h	1588	39	25	14,7	17,4	4,7	579	36
ZTE50 Transportwork at flat section with 50 km/h	1990	50	33	20,6	24,5	5,6	625	45
ZTE60 Transportwork at flat section with 60 km/h	-	-	-	-	-	-	-	-
Idle	780	-	-	1,6	1,9	-	-	-

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Test conditions

Tires	front	rear
Manufacturer	Michelin MULTIBIB	Michelin MULTIBIB
Tire size	480/65 R 28	600/65 R 38
Fitted options		
Free return flow		yes
Air condition		yes
Air compressor		yes
Front hydraulic power lift		yes
Front PTO (disengageable)		yes
		-
		-

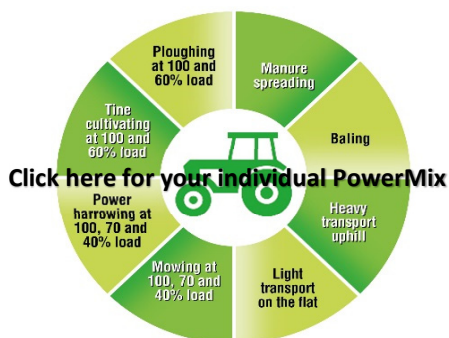
PowerMix	Ballast		Axle load distribution				Gross weight	Tire pressure		PTO mode	Boost power available
	front	rear	front	rear		front		rear			
	kg	kg	kg	%	kg	%		bar	bar		
Performance and fuel consumption during exemplary field work											
heavy drawbar work	0	0	2970	43	3900	57	6870	1,2	1,2	-	no*
medium havy drawbar w.	0	0	2970	43	3900	57	6870	1,2	1,2	-	no*
heavy PTO work	0	0	2970	43	3900	57	6870	1,2	1,2	1000	yes
medium heavy PTO work	0	0	2970	43	3900	57	6870	1,2	1,2	1000E	yes
light PTO work	0	0	2970	43	3900	57	6870	1,2	1,2	1000E	yes
Drawbar + PTO + hyd.	0	0	2970	43	3900	57	6870	1,2	1,2	1000E	yes
Performance and fuel consumption during exemplary transport work											
Transport work	0	0	2970	43	3900	57	6870	1,6	1,6	-	yes

Applicant

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

* see description Boost activation requirements in the technical data