



John Deere 6210R AutoQuad

Datasheet DLG PowerMix

Applicant

John Deere Werke Mannheim
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Germany
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Test performed by

DLG e.V.
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Specifications

Engine		
Manufacturer	John Deere	
Stage of emission	III B	
Exhaust aftertreatment device		
Nitrous gaseous emission	-	
Particulate matter emission	Active regenerating Diesel particulate filter (DPF)	
Time for regeneration DPF (average)	28	min
Time between regeneration:		
- maximum*	25	h
- under PowerMix conditions*	25	h
- checked	Long-term test for 6210R	
Exhaust gas recuperation Extern, cooled		
Number of cylinders*	6	
Bore*	106	mm
Stroke*	127	mm
Displacement*	6788	cm ³
Rated speed	2100	min ⁻¹
Power by 97/68 EC	standard	boost
Rated power	155 kW	177 kW
Maximum power	170 kW	183 kW
at engine speed	1900 min ⁻¹	2000 min ⁻¹
Loss of power during regeneration	no loss of power	
Main fan		
Diameter	600	mm
Number of fan blades	9	
Transmission		
Manufacturer	John Deere	
Type of construction	Partial-Powershift	
Ranges	5	
Gears		
Forward	4	
Reverse	4	
Design speed	40	km/h

Power take off				
Profile	Form 3: 20 tooth (1 3/4")			
Transmission ratio*				
Standard pto speed	540	540E	1000	1000E
Engine speed [min ⁻¹]	-	1761	1989	1756
Chassis				
Front axle				
Manufacturer	Dana			
Type	Rigid axle, suspended			
Tires	front	rear		
Manufacturer	Trelleborg TM900 HP	Trelleborg TM900 HP		
Tire size	600/70R28	650/85R38		
Axle load	front	rear	total	
Permissible*	7600 kg	10000 kg	13000 kg	
Empty weight	3220 kg	4900 kg	8120 kg	
Hydraulic				
System*	Load Sensing PFC (Pressure and Flow Compensated)			
Supply of oil	Common with transmission oil			
Fluid type*	JDM J20 C/D			
Capacity*	99		l	
Extractable*	55		l	
Auxiliary valves				
Number	4			
Max. flowrate*	96		l/min	
Max. pressure*	200		bar	
Fitted options				
Free return flow	No			
Air condition	Yes			
Air compressor	Yes			
Front hydraulic power lift	Yes			
Front pto	No			
	-			
	-			

Test conditions

Axle load	front	rear
With ballast	4550 kg	6050 kg
Ballast		
on frame	900 kg	950 kg
on axle	- kg	- kg
Axle load distribution	43 %	57 %
Tire pressure	front	rear
	1,2 bar	1,2 bar

Remarks

Optional:
 Form 1: 6-Keil (1 3/8") or
 Form 2: 21 Zähne (1 3/8") or
 Form 3: 20 Zähne (1 3/4")

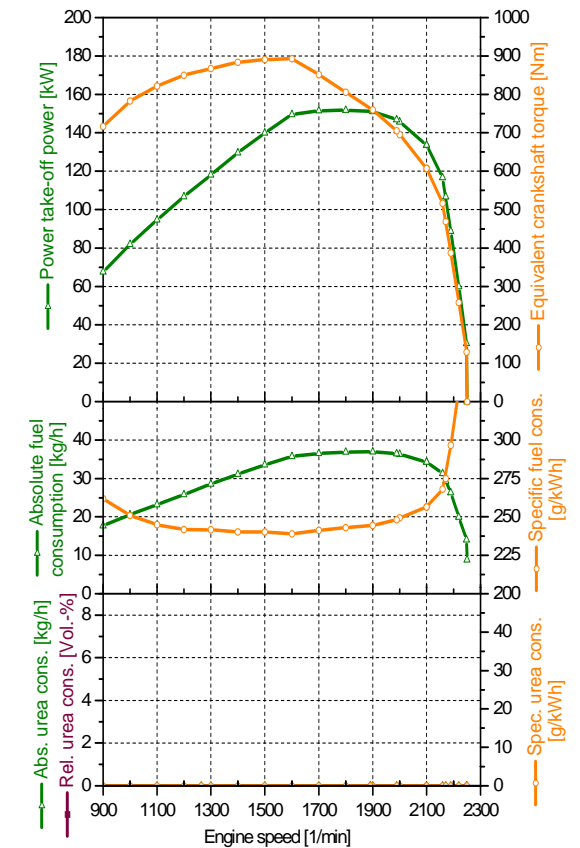
* Manufacturer's data

Results of measurement at pto dynamometer – standard

Full load	
Rated speed	
Pto power	133,6 kW
Absolute fuel consumption	34,2 kg/h
Specific fuel consumption	256 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
Maximum power	
Engine speed	1800 min ⁻¹
Pto power	151,8 kW
Absolute fuel consumption	36,9 kg/h
Specific fuel consumption	243 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
Maximum torque	
Engine speed	1600 min ⁻¹
Pto power	149,5 kW
Absolute fuel consumption	35,7 kg/h
Specific fuel consumption	239 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
1000 rpm at pto	
Engine speed	1989 min ⁻¹
Pto power	146,8 kW
Absolute fuel consumption	36,4 kg/h
Specific fuel consumption	248 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%

Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	29,3 kg/h
Specific fuel consumption	275 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	27,8 kg/h
Specific fuel consumption	260 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	16,5 kg/h
Specific fuel consumption	308 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	14,0 kg/h
Specific fuel consumption	260 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	19,6 kg/h
Specific fuel consumption	244 g/kWh
Specific urea consumption	-* g/kWh
Ratio urea to fuel	-* Vol-%

Graphical analysis



Torque rise	47 %
Engine speed drop	24 %
Pulling off torque	129 %

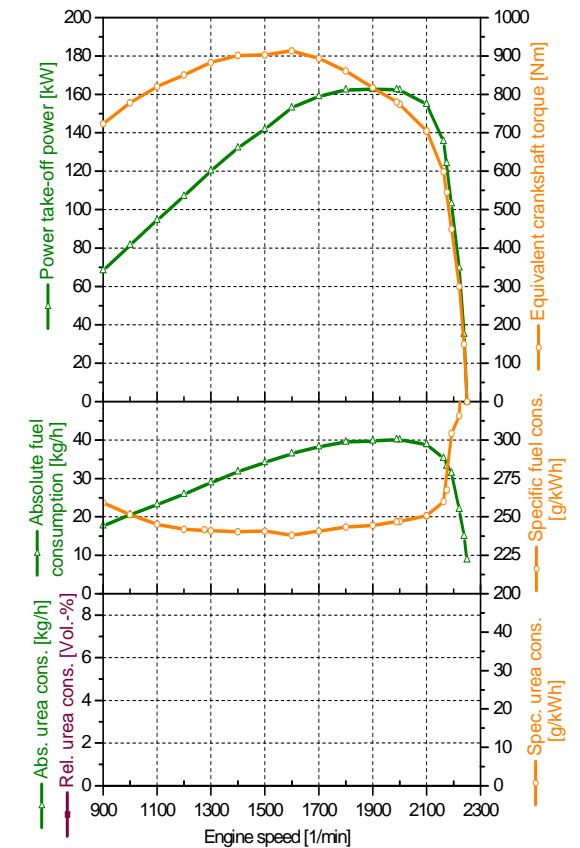
* No Selectiv catalytic reduction

Results of measurement at pto dynamometer – boost

Full load	
Rated speed	
Pto power	154,9 kW
Absolute fuel consumption	38,9 kg/h
Specific fuel consumption	251 g/kWh
Specific urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
Maximum power	
Engine speed	1900 min ⁻¹
Pto power	162,6 kW
Absolute fuel consumption	39,8 kg/h
Spec. Fuel consumption	244 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
Additional fuel consump. during regeneration	3,2 kg
Additional fuel consump. turned-over**	0,3 %
Calculated spec. fuel consump. with reg.	245 g/kWh
Maximum torque	
Engine speed	1600 min ⁻¹
Pto power	153,1 kW
Absolute fuel consumption	36,4 kg/h
Spec. Fuel consumption	238 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
1000 rpm at pto	
Engine speed	1989 min ⁻¹
Pto power	162,5 kW
Absolute fuel consumption	40,1 kg/h
Spec. Fuel consumption	247 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%

Part load	
Full throttle, 80 % of power at rated speed	
Absolute fuel consumption	33,2 kg/h
Spec. Fuel consumption	268 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
90 % of rated speed, 80 % of power at rated speed	
Absolute fuel consumption	31,2 kg/h
Spec. Fuel consumption	252 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
90 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	18,5 kg/h
Spec. Fuel consumption	298 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
Additional fuel consump. during regeneration	2,1 kg
Additional fuel consumption turned-over**	0,4 %
Calculated spec. fuel consump. with reg.	299 g/kWh
60 % of rated speed, 40 % of power at rated speed	
Absolute fuel consumption	15,9 kg/h
Spec. Fuel consumption	254 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
60 % of rated speed, 60 % of power at rated speed	
Absolute fuel consumption	22,8 kg/h
Spec. Fuel consumption	242 g/kWh
Spec. urea consumption	-- g/kWh
Ratio urea to fuel	-* Vol-%
Additional fuel consump. during regeneration	2,0 kg
Additional fuel consumption turned-over**	0,4 %
Calculated spec. fuel consump. with reg.	243 g/kWh

Graphical analysis

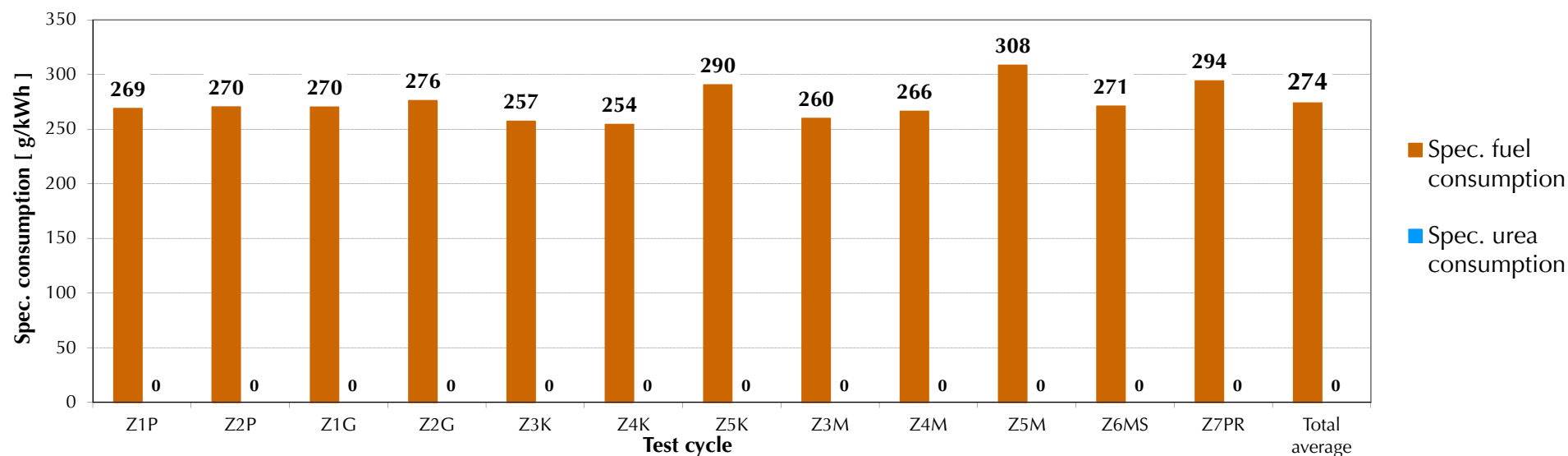


Torque rise	30 %
Engine speed drop	24 %

* No Selectiv catalytic reduction

** Ratio of additional fuel for regeneration to total fuel consumption during two regenerations; calculated with maximum operating hours during regeneration (see Specification-Engine)

Results at DLG PowerMix



Belastungsart	Test cycle		Engine speed [min ⁻¹]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption		Average values				
						[kg/h]	[l/h]	Specific fuel consumption [g/kWh]	Spec. urea cons. [g/kWh]	Ratio urea to fuel [Vol-%]	Relative additional fuel for DPF regeneration** [%]	Calculated spec. Fuel cons. with DPF regeneration** [g/kWh]
Drawbar work	Plough 100 %	Z1P	1606	7,3	113	30,1	36,1	268	-*	-*	0,5	269
	Plough 60 %	Z2P	1241	8,1	76	20,3	24,4	269	-*	-*	0,4	270
	Cultivator 100 %	Z1G	1705	9,8	127	33,6	40,4	269	-*	-*	0,4	270
	Cultivator 60%	Z2G	1296	10,9	87	23,7	28,4	275	-*	-*	0,4	276
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1786	4,3	129	32,3	38,9	256	-*	-*	0,4	257
	Rotary harrow 70 %	Z4K	1512	6,3	96	23,9	28,8	253	-*	-*	0,4	254
	Rotary harrow 40 %	Z5K	1554	6,5	56	15,8	19,1	289	-*	-*	0,5	290
	Mower 100 %	Z3M	1742	14,1	134	34,7	42,0	259	-*	-*	0,4	260
	Mower 70 %	Z4M	1521	15,7	99	26,2	31,7	265	-*	-*	0,3	266
Mower 40 %	Z5M	1553	16,1	57	17,5	21,2	307	-*	-*	0,5	308	
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1679	7,0	108	28,6	34,7	270	-*	-*	0,3	271
	Baler	Z7PR	1705	9,5	90	25,1	30,5	293	-*	-*	0,3	294
Total average DLG PowerMix								273	-*	-*	0,4	274

* No Selective catalytic reduction

** Ratio of additional fuel for regeneration to total fuel consumption during two regenerations; calculated with maximum operating hours during regeneration (see Specification-Engine)