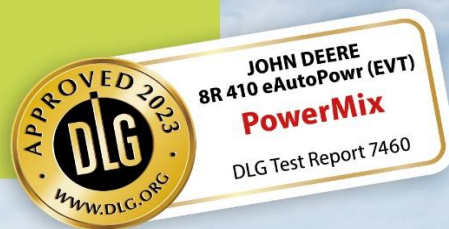


DLG Tractor Datasheet PowerMix

Performance and fuel consumption
during field and transport applications

John Deere 8R 410 eAutoPowr (EVT)

DLG Test Report 7460



	Boost Standard	
		
Rated power	327	302 kW
Maximum power	337	326 kW
According to	UNECE R 120	

	Diesel AdBlue	
		
Energy efficiency	245	11 g/kWh
Consumption per hectare	5.5	0.2 l/ha
Area output	16.1	ha/h

	Boost	Standard mobile/stationary
		
Rated power	305	281 / 249 kW
Maximum power	318	310 / 284 kW
According to	OECD Code 2	

	Diesel AdBlue	
		
Energy efficiency	440	20 g/kWh
Consumption per 100 kilometre per tonne	5.1	0.2 l/100tkm
Haul capacity	989	tkm/h

Measurement results overview

Power Take-Off (PTO) power according to OECD Code 2		Engine speed	Power Take- Off Power	Specific consumption		Diesel consump- tion	Ratio AdBlue to diesel
				Diesel	AdBlue		
		min ⁻¹	kW	g/kWh		l/h	Vol-%
Standard mode mobile/stationary							
Rated power		2100	281 / 249	220 / 222	4 / 12	74.0 / 66	3.9 / 4.2
Maximum power		1850 / 1700	310 / 284	217 / 212	4 / 12	80.5 / 72	3.4 / 4.4
Maximum torque		1600 / 1500	297 / 261	213 / 211	4 / 10	76.0 / 66	4.1 / 3.9
Torque increase	39 / 47 %	Note on PTO operation: In stationary PTO operation, this model operates in a reduced power mode. Shown here additionally is the usable power at the PTO during travel operation (mobile) as a basis for the DLG PowerMix 2.0					
Drop in speed	24 / 29 %						
Overcapacity	29 / 35 kW						
Starting torque	111 / - %						
Boost mode							
Rated power		2100	305	222	4	81.1	3.2
Maximum power		1900	318	220	4	83.7	3.1
Maximum torque		1600	296	214	4	75.8	4.1
Torque increase	27 %						
Drop in speed	24 %						
Overcapacity	13 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		2154	225	225	5	60.6	4.3
		1887		216	4	58.0	3.5
Savings in %				-4	-21	-4	-19
40 % of standard rated power, instead of 90 % of rated speed only with 60 % of rated speed		1888	112	243	4	32.7	3.0
		1261		219	9	29.6	3.2
Savings in %				-10	153	-9	7

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	1624	237	252	12	11.8	0.4	7.0
Medium pulling work	1478	176	240	10	6.8	0.2	8.5
Heavy PTO shaft work	1751	264	233	10	4.9	0.2	21.2
Medium PTO shaft work	1393	186	232	11	3.4	0.1	21.1
Light PTO shaft work	1439	113	249	11	2.1	0.1	23.3
Drawbar + PTO + Hydraulic work	1774	189	263	13	3.8	0.1	15.7
Overall result at field work			245	11	5.5	0.2	16.1

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	1659	160	398	18	7.9	0.3	960
Light transportwork at 40 km/h	1200	26	751	36	2.3	0.1	1017
Optional: light transportwork at 50 km/h	1463	33	794	36	2.4	0.1	1296
Optional: light transportwork at 60 km/h	-	-	-	-	-	-	-
Overall result transport work at 40 km/h			440	20	5.1	0.2	989

Technical data

Engine*				
Manufacturer		John Deere		
Stage of exhaust emission		V		
Rated engine speed		2100	min ⁻¹	
Engine power according				
UNECE-R 120	Standard	Boost		
Rated power*	302 kW	327	kW	
Maximum power*	326 kW	337	kW	
at engine speed*	1900 min ⁻¹	1900	min ⁻¹	
Boost activation requirement*				
Load at the power take-off and driving speed > 0,5 km/h or driving speed above 23 km/h				
Exhaust aftertreatment device*				
Nitrogene oxide emission*		Selective Catalytic Reduction (SCR)		
Particulate emission		Diesel Particulate Filter (DPF)		
Time for regeneration (average)		20-25 min		
Regeneration interval:				
- maximum*		40	h	
Replacement intervals		-		
Exhaust gas recuperation*		externally cooled		
Exhaust-gas row turbocharger*		variable+fixed geometry		
Number of cylinders*		6		
Bore*	118	mm		
Stroke*	136	mm		
Displacement*	8984	cm³		
Main fan				
Diameter	813	mm		
Number of fan blades	9			
Fan Type	Visco fan			
Tank volume*				
Diesel / AdBlue	651 l	/	37 l	
Transmission*				
Manufacturer		John Deere		
Type of construction		eAutoPowr / EVT		
Number of ranges		1		
Number of gears				
Forward		-		
Reverse		-		
Design speed*		50	km/h	
Chassis*				
Front axle				
Manufacturer		John Deere		
Type		independent supension		
Axle load*	front	rear	total	
Unladen masses*	7303 kg	7058	kg	14361
Permissible*	10000 kg	11500	kg	20000 / 18000**
Technically permissible*	10000 kg	11500	kg	20000

Dimensions*		
Length w/o front linkage*		6065 mm
Width*		2550 mm
Height*		3500 mm
Wheelbase*		3050 mm
Turning radius*		6310 mm

Rear PTO Shaft*				
Profile		20 spline (1 3/4")		
Transmission ratio*				
PTO mode	540	540E	1000	1000E
Engine speed [min ⁻¹]	-	-	2000	1590
Front PTO Shaft*				
Profile		-		
Transmission ratio*				
PTO mode	540	540E	1000	1000E
Engine speed [min ⁻¹]	-	-	-	-
Hydraulic power lift*		front		rear
Category	3N		4N / 3	

Hydraulic power *		
System* CCLS (Closed Centre Load Sensing System)		
Hydraulic oil common with transmission		
Total capacity*		207 l
Removable*		40 Standard / 90 Optional l
Hydraulic flow		
Maximum pump delivery*		227 l/min
Optional*		318 l/min
Max. flow at one rear remote*		132 l/min
Maximum pressure*		204 ±3 bar

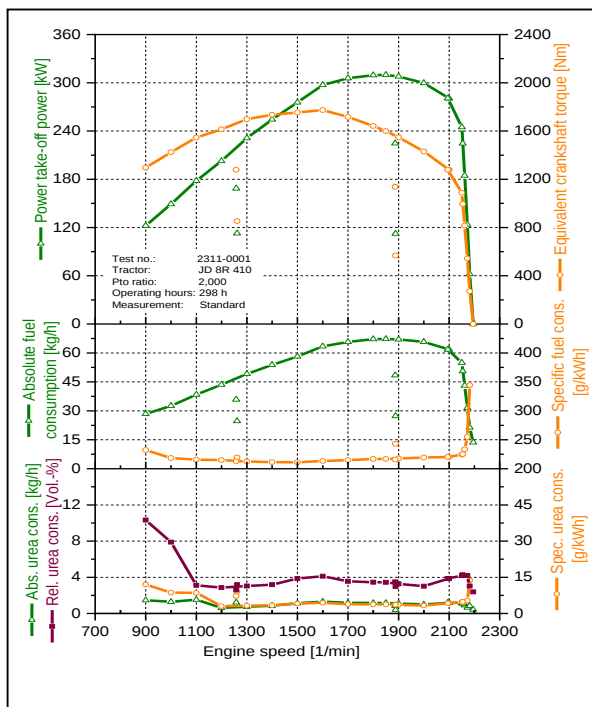
* Manufacturer data

** at 40 / 50 km/h

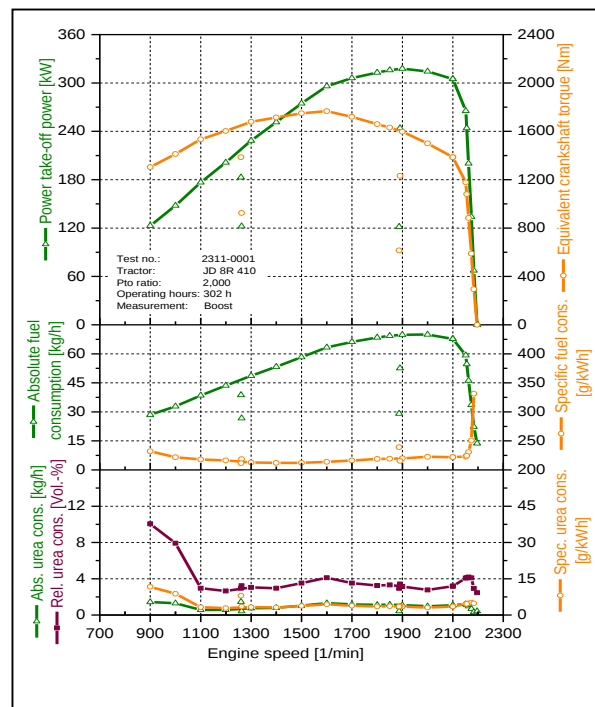
Power Take-Off Power according to OECD Code 2

Measuring point	Engine speed	PTO power	Equiv. Torque	Absolute consumption				Ratio AdBlue to fuel	specific consumption	
				fuel		AdBlue			fuel	AdBlue
	1/min	kW	Nm	kg/h	l/h	Kg/h	l/h	Vol-%		
Rated power										
Boost	2100	305	1386	67.7	81.1	1.1	2.6	3.2	222	4
Standard (mobile)	2100	281	1279	61.8	74.0	1.2	2.9	3.9	220	4
Maximum power										
Boost	1900	318	1597	69.9	83.7	1.1	2.6	3.1	220	4
Standard (mobile)	1850	310	1600	67.2	80.5	1.2	2.8	3.4	217	4
Maximum torque										
Boost	1600	296	1767	63.3	75.8	1.3	3.1	4.1	214	4
Standard (mobile)	1600	297	1774	63.4	76.0	1.3	3.1	4.1	213	4
1000 PTO shaft rotation										
Boost	2000	314	1501	70.0	83.8	1.0	2.3	2.8	223	3
Standard (mobile)	2000	300	1431	65.7	78.7	1.0	2.4	3.0	219	3
Part loads at full throttle										
80 % of boost rated pw.	2155	244	1081	54.7	65.5	1.1	2.7	4.1	224	5
80 % of standard rated pw.	2154	225	995	50.6	60.6	1.1	2.6	4.3	225	5
Part loads with governor control set to 90 % of rated engine speed										
80 % of boost rated pw.	1891	244	1232	52.6	63.0	0.9	2.2	3.4	215	4
80 % of standard rated pw.	1887	225	1137	48.5	58.0	0.8	2.0	3.5	216	4
40 % of boost rated pw.	1887	122	616	29.1	34.9	0.4	1.0	2.9	239	4
40 % of standard rated pw.	1888	112	568	27.3	32.7	0.4	1.0	3.0	243	4
Part loads with governor control set to 60 % of rated engine speed										
60 % of boost rated pw.	1260	183	1386	38.7	46.4	1.5	1.4	3.0	212	8
60 % of standard rated pw.	1258	169	1279	35.9	43.0	1.2	1.1	2.6	213	7
40 % of boost rated pw.	1262	122	925	26.7	32.0	0.4	1.0	3.2	218	4
40 % of standard rated pw.	1261	113	853	24.7	29.6	1.0	0.9	3.2	219	9

Standard mode mobile



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	
		1/min	km/h	kW	kg/h	l/h	Vol-%	Diesel	AdBlue
								g/kWh	
Z1P	ploughing, heavy tine cultivator	1519	7.2	227	57.0	68.1	3.7	251	12
Z1G	cultivator, disc harrow	1729	9.5	246	62.3	74.4	3.5	253	11
Z2P	mech. seed drill, planter	1399	8.6	164	39.2	46.9	3.4	240	11
Z2G	stubble working, seed bed combination	1556	11.5	188	45.1	53.9	3.3	240	10
Z3K	milling, rotary harrows seeding combination	1762	5.7	263	59.9	71.4	3.4	228	10
Z3M	cut 1. step, cultivator-rotary harrows-seeding combination	1739	14.4	266	63.1	75.3	3.5	238	11
Z4K	pneumatic seeding drill, milling as plant care, mulch	1439	6.0	192	43.3	51.6	3.2	226	9
Z4M	cut 2. step, direct seeding machine	1347	14.0	180	42.8	51.0	4.0	238	12
Z5K	plant protector, mineral fertiliser, tedder, swather	1439	6.0	110	26.6	31.8	3.5	243	11
Z5M	cut 3. step, airseeder	1439	15.9	116	29.5	35.2	3.4	256	11
Z6MS	self-loading wagon, manure spreading	1554	5.9	197	48.9	58.3	3.9	249	12
Z7PR	high pressure baler, round baler or square baler	1995	9.9	181	49.9	59.6	3.8	277	13
								245	11

Performance and fuel consumption during exemplary transport work		Engine speed	Driving speed	Delivered net power	Diesel consumption		Ratio AdBlue to diesel	Specific consumption	
		min ⁻¹	km/h	kW	kg/h	l/h	Vol-%	Diesel	AdBlue
								g/kWh	
ZTB	Transportwork at full load (uphill)	1659	38	160	63.6	75.8	3.7	398	18
ZTE40	Transportwork at flat section with 40 km/h	1200	40	26	19.2	22.9	3.4	751	36
ZTE50	Transportwork at flat section with 50 km/h	1463	51	33	26.4	31.6	3.5	794	36
ZTE60	Transportwork at flat section with 60 km/h	-	-	-	-	-	-	-	-
Idle		900	-	-	3.7	4.5	-	-	-
Overall result transport work at 40 km/h								440	20

Test conditions

Tires	front	rear
Manufacturer	Michelin AxioBib 2	Michelin AxioBib 2
Tire size	VF 650/60 R 34	VF 900/60 R 42
Fitted options		
Free return flow		yes
Air condition		yes
Air compressor		yes
Front hydraulic power lift		yes
Front PTO (disengageable)		no
		-
		-

PowerMix	Ballast		Axle load distribution				Gross weight	Tire pressure		PTO mode	Boost power available
	front	rear	front	rear				front	rear		
	kg	kg	kg	%	kg	%	kg	bar	bar	1000/1000E	Yes/No
Performance and fuel consumption during exemplary field work											
Heavy pulling work	1500	3600	9050	46	10495	54	19545	1.2	1.2	-	No
Medium pulling work	0	0	7320	51	7125	49	14445	1.2	1.2	-	No
Heavy PTO shaft work	0	0	7320	51	7125	49	14445	1.2	1.2	1000	Yes
Medium PTO shaft work	0	0	7320	51	7125	49	14445	1.2	1.2	1000E	Yes
Light PTO shaft work	0	0	7320	51	7125	49	14445	1.2	1.2	1000E	Yes
Drawbar+PTO+Hydraulic work	0	0	7320	51	7125	49	14445	1.2	1.2	1000E	Yes
Performance and fuel consumption during exemplary transport work											
Transport work	0	0	7320	51	7125	49	14445	1.6	1.6	-	Yes

Applicant

John Deere Product Engineering Center
P.O. Box 8000
Waterloo, IA 50704-8000
USA
www.deere.com

Test performed by

DLG TestService GmbH
Test Center Technology and Farm Inputs
Max-Eyth-Weg 1
64823 Groß-Umstadt
Germany
www.dlg-test.de
Test no. 2311-0001



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