Fendt 724 Vario SCR

Datasheet DLG PowerMix

Applicant
AGCO GmbH (Fendt)
Johann-Georg-Fendt Str. 4
87616 Marktoberdorf
Germany
www.fendt.com

Test performed by
DLG e.V.
Test Center
Technology and Farm Inputs
Max-Eyth-Weg 1
64823 Groß-Umstadt
Germany
www.dlg-test.de

Test No.

2012-635

August 2012

Specifications

Engine

Manufacturer	**Deutz AG**		
Stage of emission	**III B**		
Exhaust aftertreatment device			
Nitrous gaseous emission	Selective Catalytic Reduction (SCR)		
Particulate matter emission	No Diesel Particulate Filter (DPF)		
Time for regeneration DPF (average)	-**		min
Time between regeneration:			
- maximum*	-**		h
- under PowerMix conditions*	-**		h
- checked	-**		
Exhaust gas recuperation	**-**		
Number of cylinders*	**6**		
Bore*	**101**	**mm**	
Stroke*	**126**	**mm**	
Displacement*	**6056**	**cm³**	
Rated speed	**2100**	**min^{-1}**	

Power* by ECE R120	**standard**		**boost**	
Rated power	168	kW	-	kW
Maximum power	176	kW	-	kW
at engine speed	1800	min^{-1}	-	min^{-1}

Loss of power during regeneration	-**	
Main fan		
Diameter	576	mm
Number of fan blades	9	

Transmission

Manufacturer	**Fendt**	
Type of construction	**continuous (ML 180)**	
Ranges	**2**	
Gears		
Forward	-	
Reverse	-	
Design speed	**50**	**km/h**

Power take off

Profile	**Form 2: 21 tooth (1 ⅜")**			
Transmission ratio*				
Standard pto speed	540	540E	1000	1000E
Engine speed [min^{-1}]	1933	2070	1902	-

Chassis

Front axle

Manufacturer	Dana		
Type	Rigid axle, suspended		
Tires	**front**	**rear**	
Manufacturer	Michelin MultiBIB	Michelin MultiBIB	
Tire size	540/65R30	650/65R42	
Axle load	**front**	**rear**	**total**
Permissible*	5720 kg	8000 kg	13500 kg
Empty weight	2905 kg	4855 kg	7760 kg

Hydraulic

System*	**Closed Center, Pressure and Flow Compensated**	
Supply of oil	**Common with transmission oil**	
Fluid type*	**HD SAE 10W40 nach API-CD**	
Capacity*	**79**	**l**
Extractable*	**64**	**l**
Auxiliary valves		
Number	7	
Max. flowrate*	100	l/min
Max. pressure*	**200**	**bar**

Fitted options

Free return flow	**Yes**
Air condition	**Yes**
Air compressor	**Yes**
Front hydraulic power lift	**Yes**
Front pto	**No**
	-
	-

Test conditions

Axle load	**front**	**rear**
With ballast	**3775 kg**	**5880 kg**
Ballast		
on frame	870 kg	1025 kg
on axle	- kg	- kg
Axle load distribution	**39 %**	**61 %**
Tire pressure	**front**	**rear**
	1,2 **bar**	1,2 **bar**

* Manufacturer´s data

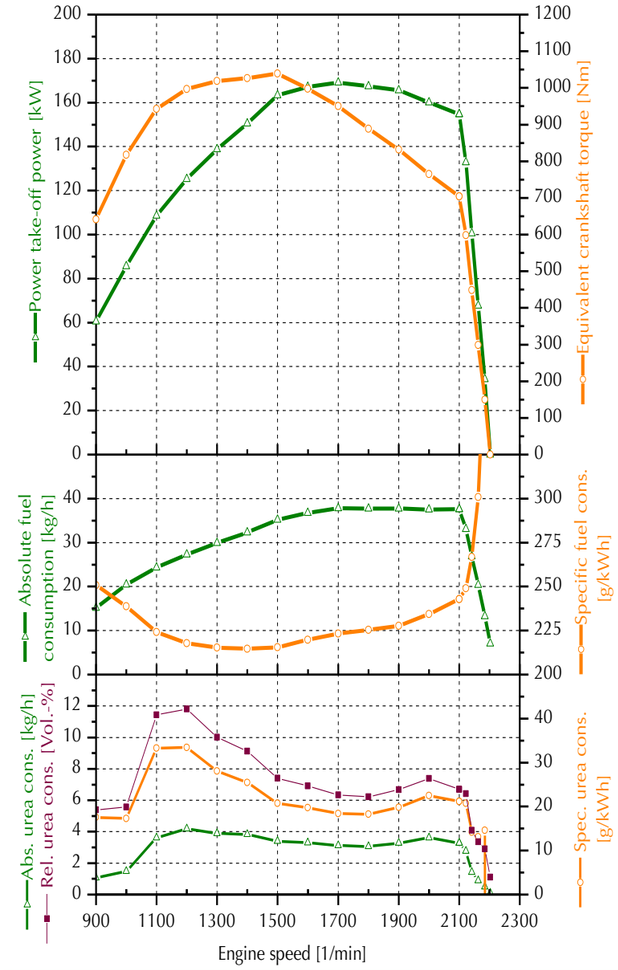
** No Diesel Particulate Filter (DPF)

Results of measurement at pto dynamometer – standard

Full load		
Rated speed		
Pto power	154,8	kW
Absolute fuel consumption	37,6	kg/h
Specific fuel consumption	243	g/kWh
Specific urea consumption	21	g/kWh
Ratio urea to fuel	6,7	Vol-%
Maximum power		
Engine speed	1700	min^{-1}
Pto power	169,2	kW
Absolute fuel consumption	37,8	kg/h
Specific fuel consumption	223	g/kWh
Specific urea consumption	18	g/kWh
Ratio urea to fuel	6,3	Vol-%
Maximum torque		
Engine speed	1500	min^{-1}
Pto power	163,3	kW
Absolute fuel consumption	35,2	kg/h
Specific fuel consumption	215	g/kWh
Specific urea consumption	21	g/kWh
Ratio urea to fuel	7,4	Vol-%
1000 rpm at pto		
Engine speed	1900	min^{-1}
Pto power	165,6	kW
Absolute fuel consumption	37,7	kg/h
Specific fuel consumption	228	g/kWh
Specific urea consumption	20	g/kWh
Ratio urea to fuel	6,7	Vol-%

Part load		
Full throttle, 80 % of power at rated speed		
Absolute fuel consumption	31,3	kg/h
Specific fuel consumption	252	g/kWh
Specific urea consumption	19	g/kWh
Ratio urea to fuel	5,7	Vol-%
90 % of rated speed, 80 % of power at rated speed		
Absolute fuel consumption	29,3	kg/h
Specific fuel consumption	236	g/kWh
Specific urea consumption	22	g/kWh
Ratio urea to fuel	7,1	Vol-%
90 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	17,3	kg/h
Specific fuel consumption	280	g/kWh
Specific urea consumption	21	g/kWh
Ratio urea to fuel	5,6	Vol-%
60 % of rated speed, 40 % of power at rated speed		
Absolute fuel consumption	14,1	kg/h
Specific fuel consumption	227	g/kWh
Specific urea consumption	32	g/kWh
Ratio urea to fuel	10,8	Vol-%
60 % of rated speed, 60 % of power at rated speed		
Absolute fuel consumption	20,0	kg/h
Specific fuel consumption	216	g/kWh
Specific urea consumption	28	g/kWh
Ratio urea to fuel	10,1	Vol-%

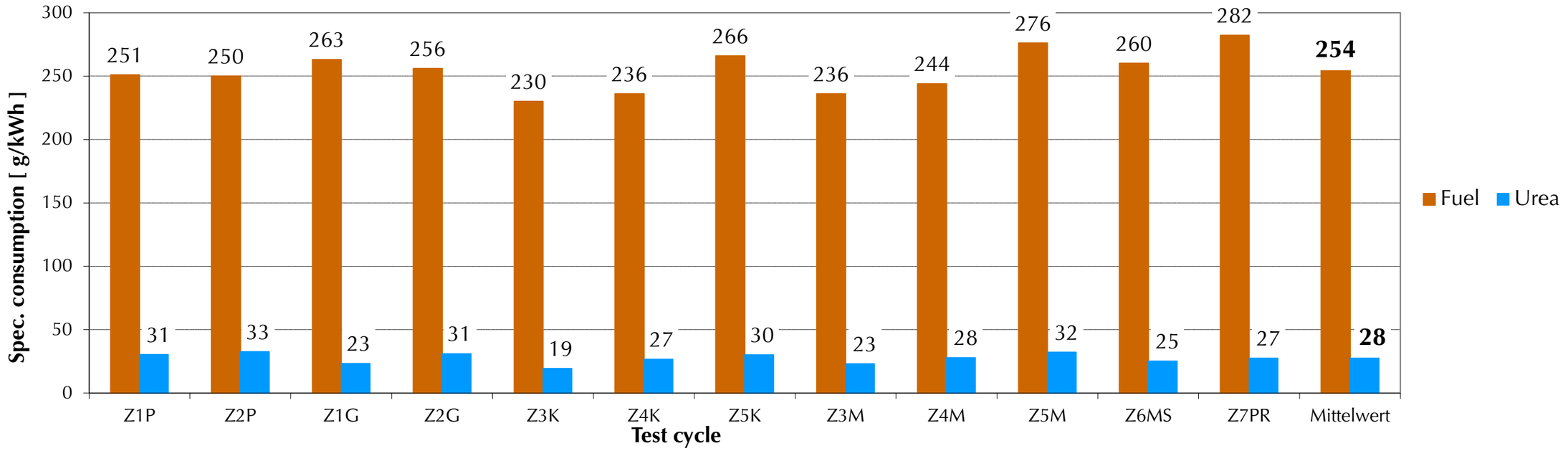
Graphical analysis



Torque rise	48	%
Engine speed drop	29	%
Pulling off torque	116	%

* No Diesel Particulate Filter (DPF)

Results at DLG PowerMix



Belastungsart	Test cycle		Average values: Engine speed [min^{-1}]	Driving speed [km/h]	Total power [kW]	Absolute fuel consumption [kg/h]	Absolute fuel consumption [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	1348	6,7	113	28,2	34,2	251	31	9,3	-*	-*
	Plough 60 %	Z2P	1393	8,8	92	22,9	27,8	250	33	10,0	-*	-*
	Cultivator 100 %	Z1G	1814	9,2	130	33,9	40,9	263	23	6,8	-*	-*
	Cultivator 60%	Z2G	1333	11,6	102	26,0	31,4	256	31	9,3	-*	-*
Drawbar + PTO work	Rotary harrow 100 %	Z3K	1622	5,7	138	30,9	37,6	230	19	6,4	-*	-*
	Rotary harrow 70 %	Z4K	1664	5,9	100	22,9	27,9	236	27	8,7	-*	-*
	Rotary harrow 40 %	Z5K	1684	5,9	57	14,9	18,1	266	30	8,7	-*	-*
	Mower 100 %	Z3M	1590	14,6	138	32,6	39,7	236	23	7,5	-*	-*
	Mower 70 %	Z4M	1659	15,7	104	25,4	31,0	244	28	8,7	-*	-*
	Mower 40 %	Z5M	1681	15,7	60	16,4	20,1	276	32	8,9	-*	-*
Drawbar- + PTO + Hydraulic work	Manure spreader	Z6MS	1820	6,8	112	28,4	34,7	260	25	7,3	-*	-*
	Baler	Z7PR	1840	9,7	94	25,1	30,8	282	27	7,4	-*	-*
Total average DLG PowerMix								**254**	**28**	**8,2**	**-***	**-***

* No Diesel particulate filter

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