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2021

## Nebraska Summary 1216S: FENDT 714 VARIO GEN6

Nebraska Tractor Test Lab

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# SUMMARY OF OECD TEST 3328 - NEBRASKA SUMMARY 1216 FENDT 714 VARIO GEN6 DIESEL

## POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>						
<b>Rated Engine Speed—(PTO speed—1104 rpm)</b>						
116.4 (86.8)	2100	7.73 (29.26)	0.460 (0.280)	15.06 (2.97)	0.19 (0.72)	
<b>Standard Power Take-off Speed (1000 rpm)</b>						
126.3 (94.2)	1902	7.61 (28.80)	0.418 (0.254)	16.60 (3.27)	0.19 (0.73)	
<b>Maximum Power (1 hour)</b>						
129.5 (96.6)	1600	7.02 (26.58)	0.376 (0.229)	18.45 (3.63)	0.27 (1.04)	

## VARYING POWER AND FUEL CONSUMPTION

116.4 (86.8)	2100	7.73 (29.26)	0.460 (0.280)	15.06 (2.97)	0.19 (0.72)	Air temperature
100.0 (74.6)	2123	7.04 (26.65)	0.488 (0.297)	14.21 (2.80)	0.16 (0.59)	68°F (20°C)
75.6 (56.4)	2139	5.84 (22.12)	0.536 (0.326)	12.94 (2.55)	0.16 (0.59)	Relative humidity
50.8 (37.9)	2159	4.72 (17.87)	0.644 (0.392)	10.76 (2.12)	0.13 (0.51)	51%
25.6 (19.1)	2170	3.66 (13.88)	0.994 (0.604)	6.98 (1.37)	0.09 (0.34)	Barometer
--	2196	2.51 (9.50)	--	--	0.00 (0.00)	30.2" Hg (102.1 kPa)

Maximum torque - 448 lb.-ft. (608 Nm) at 1400 rpm

Maximum torque rise - 54.0%

Torque rise at 1700 engine rpm - 36%

Power increase at 1600 engine rpm - 11.2%

## DRAWBAR PERFORMANCE

### UNBALLASTED - FRONT DRIVE ENGAGED FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Power at Rated Engine Speed—Speed setting Low range 7.5</b>									
98.2 (73.2)	7910 (35.19)	4.65 (7.49)	2101	1.9	0.544 (0.331)	12.54 (2.47)	0.015 (0.009)	194 (90)	61 (16) (100.0)
<b>75% of Pull at Rated Engine Speed—Speed setting Low range 7.5</b>									
75.4 (56.2)	5950 (26.48)	4.75 (7.64)	2131	1.4	0.603 (0.367)	11.32 (2.23)	0.012 (0.007)	192 (89)	63 (17) (100.0)
<b>50% of Pull at Rated Engine Speed—Speed setting Low range 7.5</b>									
50.7 (37.8)	3910 (17.39)	4.86 (7.82)	2150	0.6	0.712 (0.433)	9.59 (1.89)	0.025 (0.015)	190 (88)	63 (17) (99.9)
<b>75% of Pull at Reduced Engine Speed—Speed setting Low range 9</b>									
74.4 (55.5)	5910 (26.29)	4.72 (7.59)	1782	1.3	0.506 (0.308)	13.50 (2.66)	0.013 (0.008)	190 (88)	63 (17) (99.9)
<b>50% of Pull at Reduced Engine Speed—Speed setting Low range 9</b>									
50.2 (37.4)	3920 (17.44)	4.80 (7.73)	1798	0.6	0.587 (0.357)	11.62 (2.29)	0.010 (0.006)	187 (86)	63 (17) (99.9)

**Location of tests:** DLG TestService, GmbH, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

**Dates of tests:** September to October, 2021

**Manufacturer:** AGCO GmbH Johann Georg Fendt Str 4 D-87616 Marktoberdorf, Germany

**CONSUMABLE Fluids:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8323 Fuel weight 6.95 lbs/gal (0.831 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.071 lbs/gal (1.087 kg/l) Oil SAE 5W-30 API service classification CJ-4 Transmission and hydraulic lubricant Extra Trans/STOU fluid Front axle lubricant Extra Trans/STOU fluid

**ENGINE:** Make Deutz Diesel Type six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment Serial No. 12671374 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 3.976" x 4.961" (101.0 mm x 126.0 mm) Compression ratio 18.0 to 1 Displacement 369 cu in (6056 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and aspirator Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter one paper element and prestrainer Fuel cooler radiator for pump return fuel Exhaust DOC (diesel oxidation catalyst)/DPF (diesel particulate filter) System and SCR (selective catalyst reduction) with a vertical muffler Cooling medium temperature control thermostat and variable speed fan

**CHASSIS:** Type front wheel assist Serial No. WAM76021C00F01062 Tread width rear 60.0" (1524 mm) to 88.0" (2235 mm) front 60.0" (1524 mm) to 88.0" (2235 mm) Wheelbase 109.6" (2783 mm) Hydraulic control system direct engine drive Transmission Fendt Vario. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. Nominal travel speeds mph (km/h) forward: Low range 0-17 (0-28), high range 0-31 (0-50) reverse: Low range 0-11 (0-17), high range 0-20 (0-33) Clutch a foot pedal controls the hydrostatic oil flow Brakes wet multiple disc hydraulically operated by two foot pedals that can be locked together Steering hydrostatic Power take-off 1000 rpm at 1903 engine rpm Unladen tractor mass 17385 lb (7885 kg)

## DRAWBAR PERFORMANCE

### UNBALLASTED - FRONT DRIVE ENGAGED - 1600 ENGINE RPM MAXIMUM POWER AT SELECTED TRAVEL SPEEDS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med	Air dry bulb	inch Hg (kPa)
Speed setting Low range 5										
101.4 (75.6)	17655 (78.53)	2.15 (3.46)	1611	11.6	0.500 (0.304)	13.65 (2.69)	0.015 (0.009)	196 (91)	63 (17)	29.7 (100.7)
Speed setting Low range 6										
109.7 (81.8)	14820 (65.93)	2.78 (4.47)	1600	5.3	0.460 (0.280)	14.82 (2.92)	0.016 (0.010)	196 (91)	65 (18)	29.7 (100.7)
Speed setting Low range 7.5										
111.7 (83.3)	12120 (53.92)	3.45 (5.56)	1601	3.9	0.447 (0.272)	15.28 (3.01)	0.025 (0.015)	196 (91)	63 (17)	29.7 (100.7)
Speed setting Low range 9										
112.6 (84.0)	10175 (45.26)	4.15 (6.68)	1601	2.9	0.450 (0.274)	15.18 (2.99)	0.026 (0.016)	196 (91)	61 (16)	29.7 (100.7)
Speed setting Low range 11										
112.0 (83.5)	8210 (36.51)	5.12 (8.23)	1601	2.3	0.452 (0.275)	15.08 (2.97)	0.026 (0.016)	196 (91)	63 (17)	29.7 (100.7)
Speed setting Low range 13										
110.7 (82.6)	6870 (30.56)	6.04 (9.72)	1602	1.8	0.447 (0.272)	15.28 (3.01)	0.033 (0.020)	196 (91)	61 (16)	29.8 (100.8)
Speed setting Low range 15										
109.3 (81.5)	5815 (25.86)	7.05 (11.34)	1602	1.4	0.444 (0.270)	15.38 (3.03)	0.033 (0.020)	194 (90)	59 (15)	29.8 (100.8)
Speed setting Low range 17										
108.2 (80.7)	5165 (22.97)	7.86 (12.65)	1600	1.3	0.427 (0.260)	15.99 (3.15)	0.043 (0.026)	194 (90)	59 (15)	29.8 (100.8)
Speed setting Low range 19										
107.4 (80.1)	4670 (20.32)	8.82 (14.19)	1605	1.2	0.449 (0.273)	15.23 (3.00)	0.046 (0.028)	194 (90)	59 (15)	29.8 (100.8)
Speed setting High range 9										
104.9 (78.2)	9610 (42.75)	4.09 (6.58)	1600	2.8	0.483 (0.294)	14.06 (2.77)	0.018 (0.011)	196 (91)	64 (18)	29.7 (100.6)
Speed setting High range 11										
109.0 (81.3)	8080 (35.94)	5.06 (8.14)	1601	2.3	0.465 (0.283)	14.62 (2.88)	0.018 (0.011)	196 (91)	64 (18)	29.7 (100.6)
Speed setting High range 13										
110.9 (82.7)	6905 (30.71)	6.02 (9.69)	1604	1.8	0.447 (0.272)	15.23 (3.00)	0.016 (0.010)	199 (93)	64 (18)	29.7 (100.6)
Speed setting High range 15										
110.6 (82.5)	5915 (26.32)	7.01 (11.29)	1602	1.5	0.434 (0.264)	15.65 (3.08)	0.016 (0.010)	196 (91)	64 (18)	29.7 (100.7)
Speed setting High range 17										
110.1 (82.1)	5220 (23.22)	7.91 (12.73)	1597	1.4	0.450 (0.274)	15.08 (2.97)	0.020 (0.012)	194 (90)	63 (17)	29.7 (100.7)
Speed setting High range 19										
109.0 (81.3)	4640 (20.64)	8.81 (14.19)	1603	1.3	0.419 (0.255)	16.24 (3.20)	0.018 (0.011)	194 (90)	63 (17)	29.7 (100.7)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
At no load at speed setting 4.7 mph (7.5 km/h)	64.0	64.0
Transport speed - at speed setting 31 mph (50 km/h)		75.5
Bystander		--

Horizontal distances of drawbar hitch point behind rear wheel axis - 35.4 in (900 mm), 39.4 in (1000 mm)  
41.3 in (1050 mm), 45.3 in (1150 mm), 47.2 in (1200 mm), 51.2 in (1300 mm)

#### TIRES AND WEIGHT

<b>Rear Tires</b> - No., size, ply & psi(kPa)	<b>Tested Without Ballast</b>
<b>Front Tires</b> - No., size, ply & psi(kPa)	Two 650/65R42;***;12(80)
<b>Height of Drawbar</b>	Two 540/65R30;***;12(80)
<b>Static Weight with operator</b> - Rear	22.8 in (580 mm)
- Front	10705 lb (4855 kg)
- Total	6845 lb (3105 kg)
	17550 lb (7960 kg)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor fell 10.0% short meeting the manufacturer's 3 point lift claim at ball ends of 19310 lbs (8759 kg). The manufacturer's optional remote hydraulic flow claim of 51 GPM (193 l/h) was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3328**, Nebraska Summary 1216, December 20, 2022.

Roger M. Hoy  
Director

P.J. Jasa  
J.D. Luck  
S. Pitla  
Board of Tractor Test Engineers

## HYDRAULIC PERFORMANCE

CATEGORY: 3

Quick Attach: No

Lift cylinders:

Maximum force exerted through whole range:

on the frame: 14970 lbs (66.6 kN)

at hitch points: 17380 lbs (77.3 kN)

i) Sustained pressure at compensator cutoff: 2830 psi (195 bar)

**two outlet sets combined**

ii) Pump delivery rate at minimum pressure: 40.3 GPM (152.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 37.6 GPM (142.3 l/min)

Delivery pressure: 2560 psi (176 bar)

Power: 56.1 HP (41.8 kW)

**single outlet set**

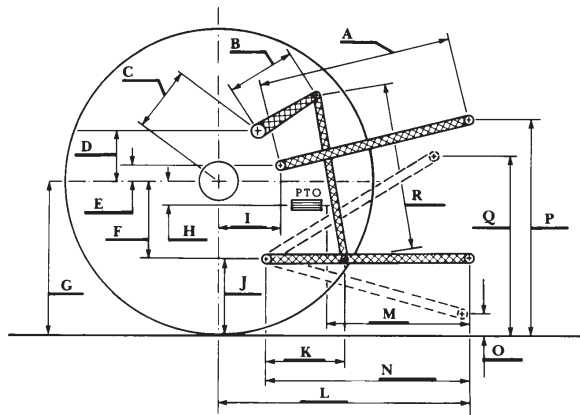
ii) Pump delivery rate at minimum pressure: 26.3 GPM (99.4 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 25.8 GPM (97.8 l/min)

Delivery pressure: 2440 psi (168 bar)

Power: 36.7 HP (27.4 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	31.7	805
B	14.8	375
C	16.5	419
D	14.0	355
E	8.8	223
F	10.9	276
G	36.4	925
H	1.6	40
I	18.5	471
J	25.5	649
K	26.8	680
L	49.1	1247
M	25.5	647
N	41.6	1057
O	9.1	230
P	52.5	1334
Q	42.4	1076
R	31.3	795

## RECOMMENDED CITATION FORMAT:

NTTL.(2022). OECD tractor test 3328 for Fendt 714 Vario Gen6 Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>