

# SUMMARY OF OECD TEST 2071—NEBRASKA SUMMARY 412 FENDT 412 VARIO DIESEL

## POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed - (PTO Speed -1084 rpm)</b>					
107.3 (80.0)	2100	6.30 (23.83)	0.409 (0.249)	17.05 (3.36)	
<b>Standard Power Take-off Speed (1000 rpm)</b>					
114.7 (85.5)	1937	6.44 (24.39)	0.392 (0.239)	17.79 (3.51)	
<b>Maximum Power (2 hours)</b>					
115.9 (86.4)	1800	6.34 (24.00)	0.381 (0.232)	18.27 (3.60)	

## VARYING POWER AND FUEL CONSUMPTION

107.3 (80.0)	2100	6.30 (23.83)	0.409 (0.249)	17.05 (3.36)	Air temperature
94.3 (70.3)	2170	5.67 (21.47)	0.420 (0.255)	16.62 (3.27)	68°F (20°C)
71.2 (53.1)	2193	4.59 (17.37)	0.449 (0.273)	15.52 (3.06)	Relative humidity
48.0 (35.8)	2216	3.49 (13.20)	0.508 (0.309)	13.77 (2.71)	22%
24.4 (18.2)	2241	2.43 (9.20)	0.697 (0.424)	10.04 (1.98)	Barometer
--	2275	1.39 (5.26)	--	--	29.7" Hg (100.7 kPa)

Maximum Torque -408 lb.-ft. (553 Nm) at 1201 rpm

Maximum Torque Rise -51.9%

Torque rise at 1700 engine rpm -31%

## 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 lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—Low Range</b>								
85.15 (63.50)	7100 (31.59)	4.50 (7.24)	2095	3.7	0.505 (0.307)	13.81 (2.72)	190 (88)	61 (16)
<b>75% of Pull at Maximum Power—Low Range</b>								
66.69 (49.73)	5315 (23.64)	4.71 (7.57)	2152	2.8	0.533 (0.324)	13.10 (2.58)	187 (86)	59 (15)
<b>50% of Pull at Maximum Power—Low Range</b>								
45.82 (34.17)	3555 (15.81)	4.83 (7.78)	2177	2.0	0.600 (0.365)	11.62 (2.29)	181 (83)	57 (14)
<b>75% of Pull at Reduced Engine Speed—Low Range</b>								
67.43 (50.28)	5370 (23.89)	4.71 (7.58)	1708	2.8	0.470 (0.286)	14.82 (2.92)	183 (84)	55 (13)
<b>50% of Pull at Reduced Engine Speed—Low Range</b>								
45.96 (34.27)	3570 (15.87)	4.83 (7.78)	1718	2.0	0.517 (0.314)	13.50 (2.66)	181 (83)	55 (13)

**Location of Test:** DLG Testing Station for Agricultural Machinery Max - Eyth - Weg 1, D-64823, Gros-Umstadt, Germany

**Dates of Test:** January - March, 2003

**Manufacturer:** AGCO GmbH & Co. D-87616 Marktoberdorf, Germany

**FUEL and OIL:** Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.838 Fuel weight 6.98 lbs/gal (0.836 kg/l) Oil SAE 10W40 API service classification CD Transmission lubricant SAE 10W/30 Hydraulic lubricant SAE 10W/40 Front axle lubricant 85W/90 gear oil, API GL-5

**ENGINE:** Make Deutz Diesel Type Four cylinder vertical with turbocharger and air to air intercooler Serial No. 00761723 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 3.858" x 4.961" (98.0 mm x 126.0 mm) Compression ratio 18.0 to 1 Displacement 232 cu in (3802 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 Fuel cooler radiator for pump return fuel Muffler underhood Exhaust vertical Cooling medium temperature control thermostat and variable speed fan

**CHASSIS:** Type front wheel assist Serial No. 412/22/1417 Tread width rear 70.5" (1790 mm) front 72.0" (1830 mm) Wheel base 95.2" (2417 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 0-15 (0-24), high range 0-31(0-50) reverse: Low range 0-11 (0-17), high range 0-25 (0-40) Clutch a foot pedal controls the hydrostatic oil flow Brakes wet disc hydraulically operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 1932 engine rpm or 1000 rpm at 1937 engine rpm. Unladen tractor mass 12180 lb (5525 kg)

**DRAWBAR PERFORMANCE**  
**(Unballasted-Front Drive Engaged)**  
**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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
76.00 (56.66)	12370 (55.02)	2.30 (3.71)	2093	15.1	Low Range 0.568 (0.345)	12.28 (2.42)	185 (85)	54 (12)	29.7 (100.5)
89.96 (67.08)	10120 (45.01)	3.33 (5.36)	1800	7.1	Low Range 0.487 (0.296)	14.31 (2.82)	190 (88)	45 (7)	29.7 (100.5)
91.43 (68.18)	8900 (39.58)	3.85 (6.20)	1801	5.6	Low Range 0.479 (0.291)	14.54 (2.86)	190 (88)	46 (8)	29.7 (100.5)
92.40 (68.90)	7450 (33.14)	4.65 (7.49)	1800	4.1	Low Range 0.476 (0.289)	14.64 (2.88)	190 (88)	46 (8)	29.7 (100.5)
90.89 (67.78)	6080 (27.05)	5.61 (9.02)	1798	3.2	Low Range 0.482 (0.293)	14.47 (2.85)	190 (88)	46 (8)	29.7 (100.5)
90.47 (67.46)	5105 (22.70)	6.65 (10.70)	1799	2.7	Low Range 0.486 (0.295)	14.37 (2.83)	190 (88)	46 (8)	29.7 (100.5)
88.39 (65.91)	4370 (19.44)	7.58 (12.21)	1798	2.3	Low Range 0.497 (0.302)	14.04 (2.76)	190 (88)	48 (9)	29.7 (100.5)
81.76 (60.97)	7425 (33.02)	4.13 (6.65)	1797	4.5	High Range 0.537 (0.327)	12.99 (2.56)	192 (89)	50 (10)	29.7 (100.5)
84.86 (63.28)	7160 (31.84)	4.44 (7.16)	1796	4.4	High Range 0.516 (0.313)	13.53 (2.66)	190 (88)	52 (11)	29.7 (100.5)
89.98 (67.10)	5945 (26.44)	5.68 (9.14)	1805	3.6	High Range 0.487 (0.296)	14.31 (2.82)	190 (88)	52 (11)	29.7 (100.5)
92.13 (68.70)	5095 (22.66)	6.78 (10.91)	1797	3.1	High Range 0.478 (0.291)	14.57 (2.87)	189 (87)	54 (12)	29.7 (100.5)
89.89 (67.03)	4270 (19.00)	7.89 (12.70)	1798	2.8	High Range 0.487 (0.296)	14.31 (2.82)	190 (88)	54 (12)	29.7 (100.5)

**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 did not meet the manufacturer's 3 point lift claim of 8800 lbs (3993 kg) at 24". The performance results on this summary were taken from OECD tests conducted under the Code II Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2071**, Nebraska Summary 412, September 2, 2003.

Leonard L. Bashford  
 Director

M.F. Kocher  
 V.I. Adamchuk  
 W.P. Campbell  
 Board of Tractor Test Engineers

**TIRES AND WEIGHT**

**Rear Tires**—No., size, ply & psi (kPa)  
**Front Tires**—No., size, ply & psi (kPa)  
**Height of Drawbar**  
**Static Weight with operator**—Rear  
 —Front  
 —Total

**Tested Without Ballast**

Two 600/65R38;\*\*, 12 (80)  
 Two 540/65R24;\*\*, 12 (80)  
 18.5 in (470 mm)  
 7595 lb (3445 kg)  
 4750 lb (2155 kg)  
 12345 lb (5600 kg)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Sound level at 4.6 mph (7.5 km/h) - no load	70.0	70.0
Maximum Sound level	73.5	73.5
Bystander	--	--

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Walterscheid lower links

Maximum Force Exerted Through Whole Range: 8500 lbs (37.8 kN)

i) Opening pressure of relief valve: NA  
Sustained pressure of the open relief valve: 3030 psi (209 bar)

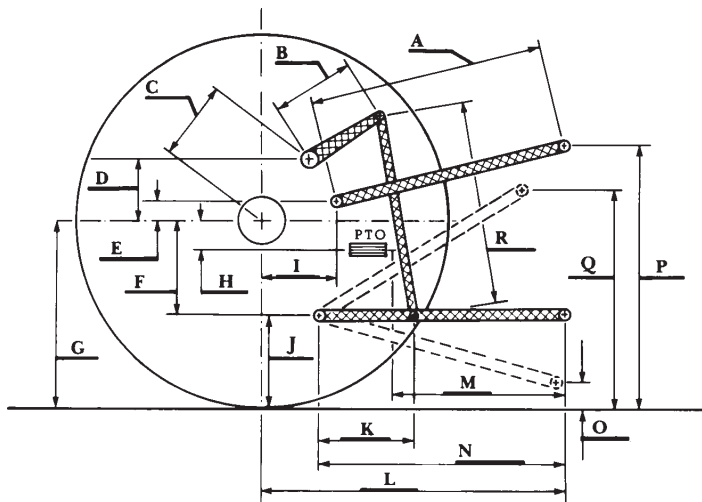
ii) Pump delivery rate at minimum pressure: 21.7 GPM (82.1 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 19.4 GPM (73.3 l/min)

Delivery pressure: 2685 psi (185 bar)

Power: 30.4 HP (22.6 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	29.5	750
B	13.4	340
C	13.9	354
D	11.9	303
E	9.4	240
F	8.3	210
G	32.3	820
H	1.2	30
I	14.4	366
J	24.0	610
K	25.0	636
L	43.5	1105
M	23.4	595
N	38.2	970
O	7.9	200
P	48.0	1220
Q	37.2	945
R	28.0	710