

Valtra N163 Direct

Tractor Test No. 1983/13

APPLICANT

GVS-Agrar AG
Im Majorenacker 11
8207 Schaffhausen

TRACTOR

Manufacturer: Valtra Inc.
Model: Valtra N163 Direct
Approval certificate no.: ---

SUSPENSION AND BRAKES

Central four-wheel drive with powershift transmission
Front axle suspension (disengageable)
Wet disc brake on rear axle
Automatic all-wheel activation
Spring-loaded parking brake

DRIVER PROTECTION

Integrated safety cab with mechanical suspension



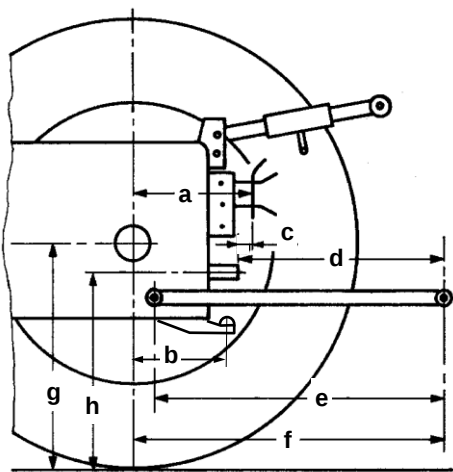
TYRES

Track width:

front: VF 600/60 R28 1950 mm
rear: VF 710/60 R38 1820 mm

DIMENSIONS

Length: — mm
With front mounting: 5150 mm
Front overhang from steering wheel: 2930 mm
Width: 2550 mm
Height: 2940 mm
Wheelbase: 2665 mm
Ground clearance: 510 mm
Turning diameter: 12,0 m (without four-wheel drive)
12,7 m (with four-wheel drive)



Rear

a: 650 mm
b: 600 mm
c: 190 mm
d: 720 mm
e: 940 mm
f: 1180 mm
g: 870 mm
h: 810 mm

Front

d: 650 mm
e: 830 mm
f: 1170 mm
g: 670 mm
h: 870 mm

TEST EQUIPMENT

- front 3-Point Hitch and front PTO
- air-conditioning compressor
- air compressor

WEIGHT

in test equipment

Front: 2980 kg 42 %
Rear: 4070 kg
Total: 7050 kg

Permissible front axle load: 5000 kg
Permissible rear axle load: 8000 kg
Permissible total weight: 11000 kg

Payload: 3950 kg

Towed weight, braked: 32 200 kg

CAPACITIES

Fuel tank 230 l
AdBlue tank 25 l
Engine oil 17,5 l (change interval 500 h)
Gearbox oil 65 l (change interval 2000 h)
Hydraulic oil 62 l (change interval 1000 h)

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ENGINE (Manufacturer's data)

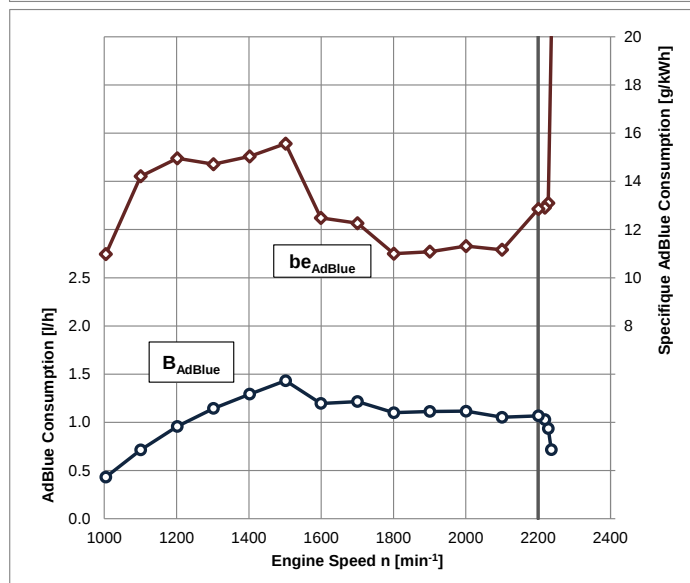
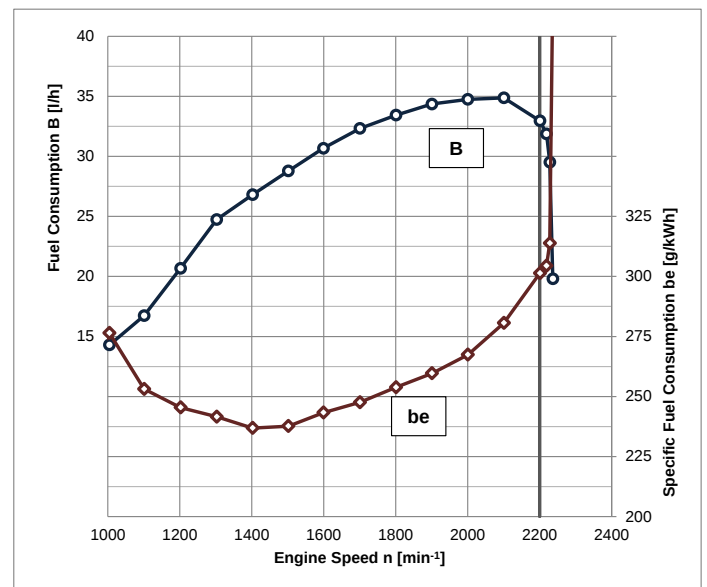
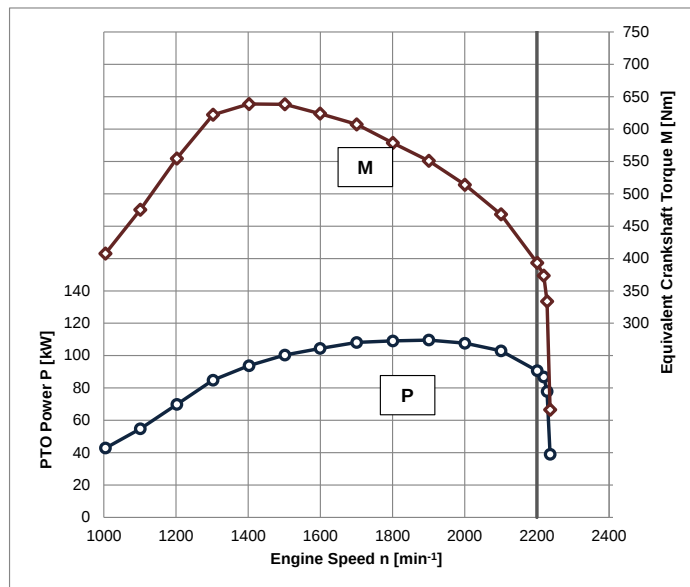
Manufacturer: AGCO Sisu Power
Model: 49AWI.861
Injection: Diesel direct injection
CommonRail
Supercharging: Exhaust gas turbocharger and air-to-air intercooling
Exhaust emission treatment: DOC + SCR

Bore/stroke: 108 / 134 mm
Cylinders / capacity: 4 / 4910 cm³
Cooling: Water, viscous fan

Rated power: 117 kW (159 PS) ISO TR 14396

Rated engine speed: 2200 min⁻¹
Exhaust stage: IIIB

POWER TAKE-OFF MEASUREMENT



Measurement conditions:

- air temperature 22 °C
- relative atmospheric humidity 35 %
- atmospheric pressure 955 mbar



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Full load test values

	Speed [min ⁻¹]		Power		Fuel consumption		AdBlue consumption	
	Engine	PTO	kW	HP	Specific [g/kWh]	Absolute [l/h]	Specific [g/kWh]	Absolute [l/h]
Rated power	2200	1100	90,7	123,3	301	33,0	13	1,1
Maximum power	1900	950	110,4	150,1	259	34,5	11	1,1
Normal speed PTO	2000	1000	107,7	146,4	267	34,8	11	1,1

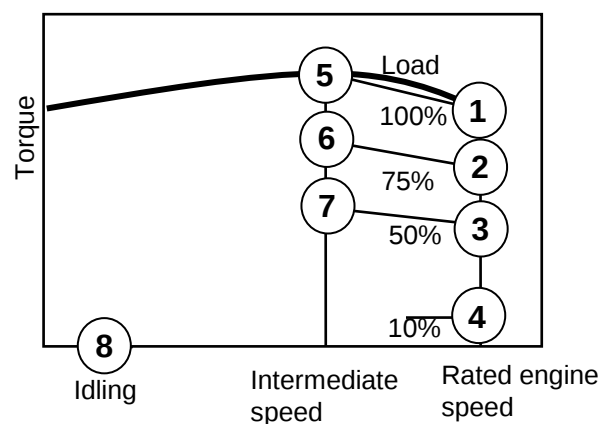
Max. torque: 639 Nm at 1400 min⁻¹
 Torque increase: 62 % at 36 % speed drop
 Starting torque: 104 %
 Idling speed: 650 min⁻¹
 Cutoff speed: 2243 min⁻¹

Partial load values

Fuel consumption with 42,5 % partial load at normal PTO speed

PTO shaft Fuel AdBlue
 1000 min⁻¹: 343 g/kWh, 18,8 l/h 20 g/kWh, 0,8 l/h
 1000E min⁻¹: — g/kWh, — l/h — g/kWh, — l/h

In characteristic diagram



Measuring point	Fuel consumption		AdBlue consumption	
	Specific [g/kWh]	Absolute [l/h]	Specific [g/kWh]	Absolute [l/h]
1	301	33,0	13	1,1
2	329	26,2	17	1,0
3	393	21,0	19	0,8
4	1206	12,9	47	0,4
5	237	26,8	15	1,3
6	247	20,7	22	1,4
7	270	15,1	19	0,8
8	-	1,7	-	0,0

EMISSIONS

Exhaust gas emissions

▪ Black smoke 0,05 SZ (BOSCH)

Emissions according to ISO 8178-4, C1

▪ Hydrocarbons HC 0,01 g/kWh*
 ▪ Nitrogen oxides NOx 3,56 g/kWh*
 ▪ Carbon monoxide CO 0,03 g/kWh*
 ▪ Particulate number Pn 2,2E13 #/kWh*
 ▪ Cycle consumption
 Fuel 316 g/kWh* (19,8 l/h)
 AdBlue 17 g/kWh* (0,8 l/h)

* With reference to PTO power

Noise level

▪ Noise level at driver's ear: 75,0 dB(A)
 ▪ Passing noise: 87,5 dB(A)



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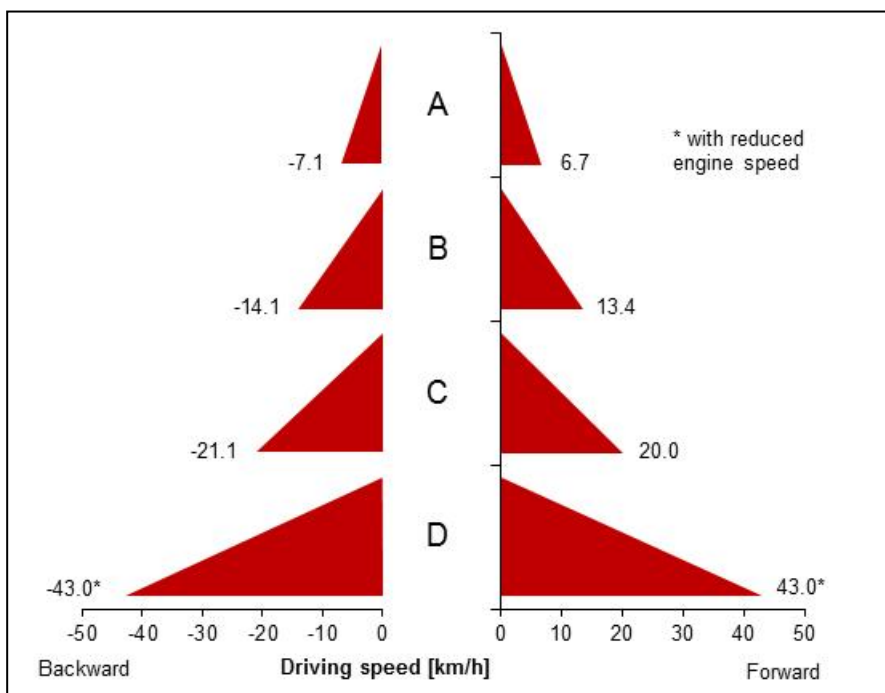
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TRANSMISSION

Travel gear

- Continuously variable transmission
- hydrostatic / mechanical power split
- 4 groups

Driving speed at rated engine speed
(tyre radius $r = 875$ mm)



PTO transmission

Rear

- Wet multi-plate clutch, electro-hydraulic engagement

Front

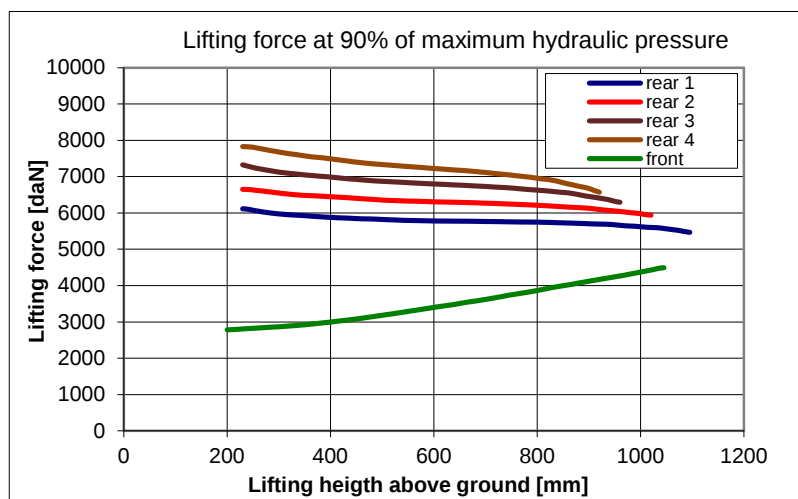
- Wet multi-plate clutch, electro-hydraulic engagement

	Rear						Front
PTO shaft	430	540	540E	1000	1000 E	Ground speed	1000
Engine speed	-	1874	-	2000	-	-	1920

HYDRAULICS

Remote hydraulics

- max. oil pressure: 205,7 bar
- max. flow rate : 160,8 l/min
- flow rate: 151,8 l/min at 174,8 bar
- max. hydraulic power: 44,8 kW (150,7 l/min and 178,3 bar)
- max. flow rate through a single coupler: 96,7 l/min
- max. quantity of oil taken: 40 l



3-Point Hitch

Rear

3-Point Hitch, category: III
Control hydraulics via lower link, (EHR)

Front

3-Point Hitch, category: II / III

		Lifting force at 90% pressure		
Measurement		Lifting movement	Continuous	Maximum
Rear	Lower link, very short	865 mm	5465 daN	6130 daN
	Lower link, short	790 mm	5935 daN	6660 daN
	Lower link, medium	730 mm	6290 daN	7330 daN
	Lower link, long	690 mm	6570 daN	7835 daN
Front		845 mm (200 mm to 1045 mm)	2785 daN	4515 daN

Explanatory notes on tractor test at:
www.traktorentest.ch



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