Report on test in accordance with O.E.C.D. STANDARD CODE

O.E.C.D. No. 838



# Agricultural Tractor DEUTZ D 6807 (2 WD)

## type denomination D 6806-S

**Manufacturer**
Klöckner-Humboldt-Deutz AG
D-5000 Köln-Deutz

Deutsche Landwirtschafts-Gesellschaft e. V.
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This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of Tests: October 1981 till February 1982
DLG-Testing-Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß Umstadt

This report has been approved by the O.E.C.D. Coordinating Centre (C.N.E.E.M.A., France) as being in accordance with the O.E.C.D STANDARD CODE.

Date of Approval: 23rd June 1982 O.E.C.D. No. 838

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In this report all performance characteristics are given corresponding to the International System of Units.

The reference to the former used Technical System of Units is given by the following relations:

| | | | | |
|---|---|---|---|---|
| Forces | 1 daN = 10 N | = 1,02 kp | or 1 kp | = 0,981 daN |
| Powers | 1 kW | = 1,36 PS | or 1 PS | = 0,736 kW |
| Pressures | 1 bar | = 1,02 kp/cm² | or 1 kp/cm² | = 0,981 bar |
| | 1000 mbar = 750,1 mm Hg | | | |

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PRÜFUNGS-ABTEILUNG
DEUTZ D 6806-S

Test No. 80-125

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**PRÜFUNGS-ABTEILUNG**
DEUTZ D 6806-S

Test No. 80-125

| | |
|---|---|
| Tractor manufacturer: | KLÖCKNER-HUMBOLDT-DEUTZ AG<br>D-5000 Köln-Deutz |
| Submitted for test by: | Manufacturer |
| Selected by: | Manufacturer with agreement by DLG |
| Place of running in: | Köln and Groß-Umstadt |
| Duration of running in: | Engine and tractor appr. 100 hours |

## SPECIFICATION OF TRACTOR

### Tractor

| | |
|---|---|
| Make: | DEUTZ |
| Trade name: | D 6807 |
| Type denomination: | D 6806-S |
| Type: | Wheel tractor, unit construction, rear wheel driven |
| Serial No.: | 7569 8543 |

### Engine

| | |
|---|---|
| Make: | DEUTZ |
| Model: | F4L 912 |
| Type: | 4-stroke Diesel-engine, direct injection, air cooled |
| Serial No.: | 6343242 |
| Cylinders: | 4, in-line, bore 100 mm, stroke 120 mm; displacement 3770 $cm^3$, compression ratio 17; replaceable ribbed cylinders |
| Valves: | Overhead |
| Fuel system: | PIERBURG fuel feed pump PE 15252<br>BOSCH in-line injection pump<br>NP-PES 4A 80D 410/3 RS 1300;<br>manufacturer's production setting 50,5 $mm^3$/stroke at rated engine speed and full load;<br>start of pump delivery 28° before TDC;<br>BOSCH multihole injection nozzles DLLA 149 S 774<br>injection pressure 175 + 8 bar;<br>MANN fuel filter, replaceable;<br>capacity of fuel tank 92 l |
| Governor: | BOSCH mechanical variable-speed governor<br>NP-EP/RSV 325-1150 A8B 657 DL,<br>governed range 700 to 2430 rev/min;<br>rated engine speed 2300 rev/min |

**PRÜFUNGS-ABTEILUNG**
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Air cleaner: DEUTZ-SICCOPUR
dry paper element filter with precleaner and replaceable cartridge,
electrically operating maintenance indicator

Exhaust silencer: ROTH
multichamber absorption-expansion type silencer 125 to 60 mm dia, 800 mm long,
on the left hand side above engine bonnet;
mouth showing upwards, 2530 mm above ground

Lubrication system: Forced feed with gear pump,
strainer in sump;
MANN oil filter in full flow with by-pass valve, filter replaceable;
change period 200 operating hours, oil capacity 9,5 l

recommended oil qualities and oil change periods:

API-CC change every 100 operating hours
API-CD change every 200 operating hours

specified oil viscosities:

| | | | | |
|---|---|---|---|---|
| below | - 5°C | | | SAE 10W |
| over | -10°C | to | +10°C | SAE 20W/20 |
| over | + 5°C | to | +30°C | SAE 30 |
| over | +25°C | | | SAE 40 |

oil cooler inside of engine cooling-air baffle

Cooling system: Air cooling
V-belt driven axial blower

Starting system: Electrical
BOSCH solenoid pre-engaged-drive starting motor JD 12V 3kW;
BOSCH flame glow plug in intake manifold

Electrical equipment: 12 Volt, negative earth;
BOSCH 3-phase alternator
G1-14V 33A 27, 462 W;
1 lead accid battery,
110 Ah at 20 hours rating

**PRÜFUNGS-ABTEILUNG**
DEUTZ D 6806-S

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Transmission

| | |
|---|---|
| Clutch: | FICHTEL u. SACHS<br>DUT 295H 250/295<br>dry dual disc clutch;<br>travel drive pedal operated, disc 295 mm dia<br>p.t.o. drive hand lever operated,<br>disc 250 mm dia |
| Gear box: | DEUTZ<br>TW 56.10-S<br>synchromesh speed change gear with 4 speeds,<br>optionally collar shifted available;<br>collar shifted group gear with 3 forward<br>groups (L,Z and S) and 1 reverse group (R);<br>totally 12 forward and 4 reverse speeds |
| Rear axle and final drive: | DEUTZ<br>bevel gear drive to intermediate shaft,<br>bevel gear differential with pedal operated<br>selfdisengaging lock on intermediate shaft;<br>cylindrical gear transmissions from intermediate<br>shaft to rear axle half shafts |
| Front axle: | Not propelled |
| Gear lubrication: | Oil capacity for complete gearbox, final drives included 36 l,<br>recommended oil gear oil SAE 90 API-GL4<br>or engine oil SAE 20W/20 API-CC or API-CD<br>oil change at least once a year or every 1000 operating hours |

PRÜFUNGS-ABTEILUNG
DEUTZ D 6806-S

Test No. 80- 125

Total ratios and speeds (tyres 16.9 - 34)

| Group | Gear | Total ratio engine : driving wheels | Nominal travelling speed *) at rated engine speed km/h |
|---|---|---|---|
| L | 1 | 298,57 | 2,16 |
| | 2 | 192,50 | 3,36 |
| | 3 | 137,88 | 4,68 |
| | 4 | 93,78 | 6,89 |
| Z | 1 | 124,62 | 5,18 |
| | 2 | 80,35 | 8,04 |
| | 3 | 57,55 | 11,22 |
| | 4 | 39,14 | 16,50 |
| S | 1 | 68,24 | 9,47 |
| | 2 | 44,00 | 14,68 |
| | 3 | 31,52 | 20,50 |
| | 4 | 21,44 | 30,14 |
| R | 1 | 92,89 | 6,95 |
| | 2 | 59,89 | 10,79 |
| | 3 | 42,90 | 15,06 |
| | 4 | 29,18 | 22,14 |

*) calculated with the radius index 745 mm

Power-take-off

Independent p.t.o.
driven by the second disc of the dual disc clutch;
at rear of tractor in tractor's median plane,
693 mm above ground,
420 mm behind rear axle centre line,
35 mm dia, 6 splines ISO 500/DIN 9611 type 1

2 speeds are preselectable by hand lever:

540 rev/min p.t.o.

613 rev/min at rated engine speed,
standard p.t.o. speed 540 rev/min at engine speed 2025 rev/min

1000 rev/min p.t.o.

1062 rev/min at rated engine speed,
standard p.t.o. speed 1000 rev/min at engine speed 2167 rev/min

sense of rotation clockwisely, viewed from tractor rear

**PRÜFUNGS-ABTEILUNG**
DEUTZ D 6806-S

Test No. 80-125

| | |
|---|---|
| Power lift | DEUTZ<br>K 45.1 DEUTZ-TRANSFERMATIC-System<br>hydraulic power lift in unit construction;<br>draft- and position control, floating position;<br>top link sensing |
| Hydraulic system: | Open centre system;<br>PLESSY gear pump TF/217-50 S/A<br>directly driven by engine;<br>delivery 42 l/min at rated engine speed,<br>hydraulic oil filter incorporated in power lift unit,<br>filter change period 500 operating hours<br><br>DEUTZ-control valve;<br>maximum working pressure 200 + 8 bar,<br>single acting cylinder with 90 mm bore and 152 mm stroke;<br>overpressure relief valve in cylinder set to 240 + 70 bar<br><br>1 single acting additional DEUTZ-control valve with oil tap and return pipe at rear of tractor;<br>maximum 3 single or double acting additional control valves available<br><br>hydraulic oil reservoir with 14 l capacity in power lift unit, additional tank with 14 l capacity optionally available;<br>by oil tap may be taken off 7 l if tractor is standing or travelling and 21,5 l if additional tank is fitted |
| Hydraulic oil: | Recommended engine oil SAE 20W/20 or SAE 10W<br>API-CC or API-CD<br><br>oil change at least once a year or every 1000 operating hours |

Implement linkage:

Three point linkage, joint balls according to ISO 730/I category 2;
lift rods adjustable from 620 to 780 mm;
with mean length 700 mm of lift rods lifting range above ground from 403 to 910 mm

Pull attachment

Trailer hitch:

DEUTZ
AK 56, non automatical;
height above ground adjustable to 800, 845, 865 or 910 mm by shifting respectively turning;
coupling pin 32 mm dia;
distance of hitch hole centre:
to rear axle centre line 526 mm
to p.t.o. shaft end 106 mm;
permissible vertical load 1250 kg

automatical trailer hitch optionally available

Swinging drawbar:

Optional, not fitted on tractor tested

Drawbar:

Short bar, fitted on clevis of lower links of three point linkage;
length between the joint balls 820 mm,
thickness 30 mm, width 80 mm;
centre hole and 4 holes in 80 mm distance each on either side, all holes 33 mm dia;
distance of holes' centre line with lower links in horizontal position:
from rear axle centre 975 mm
from p.t.o. shaft end 555 mm

with lift rods mean length 700 mm:
height above ground adjustable by power lift in the range from 418 to 925 mm;
the drawbar may be mechanically hydraulically fixed in the height of 530 mm above ground

this datas were determined at the surface of the bar

Towing hitch:

Height above ground 720 mm

| | |
|---|---|
| Steering | Hydrostatic, ZAHNRADFABRIK FRIEDRICHSHAFEN AG SERVOSTAT 8451<br>oil circuit in common with power lift, WABCO flow dividing valve;<br>1 differential cylinder acting by linkage lever and steering track rod on front wheels |

Brakes

| | |
|---|---|
| Parking brake: | Mechanical internal-expanding-shoe brake acting on intermediate shaft, operated by pulling handle with ratchet;<br>1 brake drum with 180 mm dia and 40 mm width each on the left and right outside of gearbox |
| Service brake: | KNOTT, internal-expanding-shoe brake;<br>pedal operated muscle power brake with hydraulical transmission, by intermediate shaft acting on rear axle<br>1 brake drum with 254 mm dia and 70 mm width each on the left and right outside of gearbox, on intermediate shaft |
| Steering brake: | Divided pedal of foot brake, for normal use locked together |

Wheels

| | |
|---|---|
| Steering wheels: | at front, 2 pneumatics 7.50 - 20 6 ply<br>maximum permissible load per tyre 875 kg at 2,25 bar inflation pressure and 30 km/h travelling speed;<br>track width adjustable from 1415 to 1915 mm in steps of 100 mm each by extending telescopic half axles;<br>rims 5.50F x 20 |
| Driving wheels: | at rear, 2 pneumatics 16.9 - 34 6 ply<br>diagonal type tyre casing;<br>maximum permissible load per tyre 2015 kg at 1,3 bar inflation pressure and 30 km/h travelling speed;<br>track width adjustable from 1520 to 2020 mm in steps of 100 mm each by offset lug typ rims;<br>rims W 15L x 34 |
| Wheel base: | 2170 mm |

**PRÜFUNGS-ABTEILUNG**
DEUTZ D 6806-S

Test No. 80-125

Safety frame: FRITZMEIER
model 901, OECD-tested, approval No. CS 1105c

Seat: GRAMMER
model DS 20D 3H
upholstered seat with back rest, adjustable spring with shock absorber;
height of driver's platform 950 mm above ground,
height of unballasted seat in front- and lowermost position 440 mm above platform;
seat on an inclined plane adjustable in longitudinal direction by 230 mm and simultaneously in the height by 125 mm;
additional independent height adjustment of 125 mm in 8 steps

Number of grease points: 14

Dimensions

| | | |
|---|---|---|
| Total length: | 3770 mm | without ballast |
| | 4100 mm | with ballast |
| Total width: | 1960 mm | without ballast |
| | 2340 mm | with ballast |
| Total height: | 2530 mm | to top of safety frame and to top of exhaust silencer |
| Ground clearance: | 470 mm | below front axle |

Available tyres

| Tyre size | |
|---|---|
| at front | at rear |
| 7.50 - 18 6 ply<br>or<br>7.50 - 20 6 ply | 9.5 - 44 8 ply<br>12.4 - 38 6 ply<br>13.6 - 36 6 ply<br>13.6 - 38 6 ply<br>16.9 - 30 6 ply<br>16.9 - 34 6 ply |

all tyre sizes at front and at rear may be combined with each other

**PRÜFUNGS-ABTEILUNG**
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Lighting equipment — Electrical, 12 Volt
in accordance with the German legislation

| | Dimensions mm | Height of centre above ground mm | Distance from outside edge of tractor to centre mm |
|---|---|---|---|
| Head lights | 130 dia | 970 | 820 |
| Side lights | 85 x 30 | 1610 | 260 |
| Rear lights | 85 x 30 | 1490 | 255 |
| Reflectors | 75 dia | 1150 | 155 |

Running-time meter — Mechanical, combined with tachometer, driven by camshaft of engine; reference engine speed for one really counted hour 1500 rev/min

## TEST CONDITIONS

Track of wheels — At front 1415 mm
at rear 1520 mm

Weights — As used for drawbar performance test

| | | Without driver | With driver |
|---|---|---|---|
| Without ballast: | front | 1065 kg | 1070 kg |
| | rear | 1820 kg | 1890 kg |
| | total | 2885 kg | 2960 kg |
| Front ballast: | 13 weights, total | | 560 kg |
| Rear ballast: | water in the tyres | | 580 kg |
| | 9 weights per rear wheel, total | | 890 kg |
| With ballast: | front | 1745 kg | 1750 kg |
| | rear | 3170 kg | 3240 kg |
| | total | 4915 kg | 4990 kg |

Fuel and lubricants used in tests

| | | |
|---|---|---|
| Fuel: | ARAL Diesel fuel DIN 51601 | |
| | specific gravity at 15°C | |
| | at engine test and p.t.o. test | 0,832 kg/l |
| | at drawbar performance test | |
| | without ballast | 0,832 kg/l |
| | with ballast | 0,834 kg/l |
| Engine oil: | SHELL ROTELLA SAE 20W/20 | |
| Gear oil: | ESSOLUBE SAE 90 | |
| | gearbox inclusive of rear axle | |
| Hydraulic oil: | SHELL ROTELLA SAE 20W/20 | |

**PRÜFUNGS-ABTEILUNG**
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Test No. 80-125

## COMPULSORY TESTS

### (1) MAIN POWER TAKE-OFF PERFORMANCE (1000 rev/min)

Date of tests: 18th September 1981
Location of tests: DLG-Testing-Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

| Power kW | Speed engine rev/min | Speed p.t.o. rev/min | Fuel consumption hourly l/h | Fuel consumption hourly kg/h | Fuel consumption specific g/kWh | Specific energy kWh/l |
|---|---|---|---|---|---|---|
| **Maximum power** | | | | | | |
| At 2-hour test | | | | | | |
| 47.5 | 2300 | 1061 | 13.94 | 11.60 | 244 | 3.41 |
| At standard p.t.o. speed | | | | | | |
| 46.2 | 2167 | 1000 | 13.49 | 11.22 | 243 | 3.42 |
| At the speed recommended for drawbar work | | | | | | |
| 47.5 | 2300 | 1061 | 13.94 | 11.60 | 244 | 3.41 |
| **Part loads**, the governor hand lever in the position corresponding to the maximum power at full load (curve a) | | | | | | |
| (i) 85% of the torque at maximum power at 2-hour test | | | | | | |
| 41.3 | 2352 | 1085 | 11.99 | 9.98 | 242 | 3.44 |
| (ii) unloaded | | | | | | |
| - | 2430 | 1122 | 3.39 | 2.82 | - | - |
| (iii) 50% of the load defined in (i) | | | | | | |
| 21.0 | 2390 | 1103 | 7.28 | 6.06 | 289 | 2.88 |
| (iv) maximum power | | | | | | |
| 47.5 | 2300 | 1061 | 13.94 | 11.60 | 244 | 3.41 |
| (v) 25% of the load defined in (i) | | | | | | |
| 10.6 | 2410 | 1112 | 5.26 | 4.38 | 414 | 2.01 |
| (vi) 75% of the load defined in (i) | | | | | | |
| 31.3 | 2374 | 1095 | 9.56 | 7.96 | 255 | 3.27 |

**PRÜFUNGS-ABTEILUNG**
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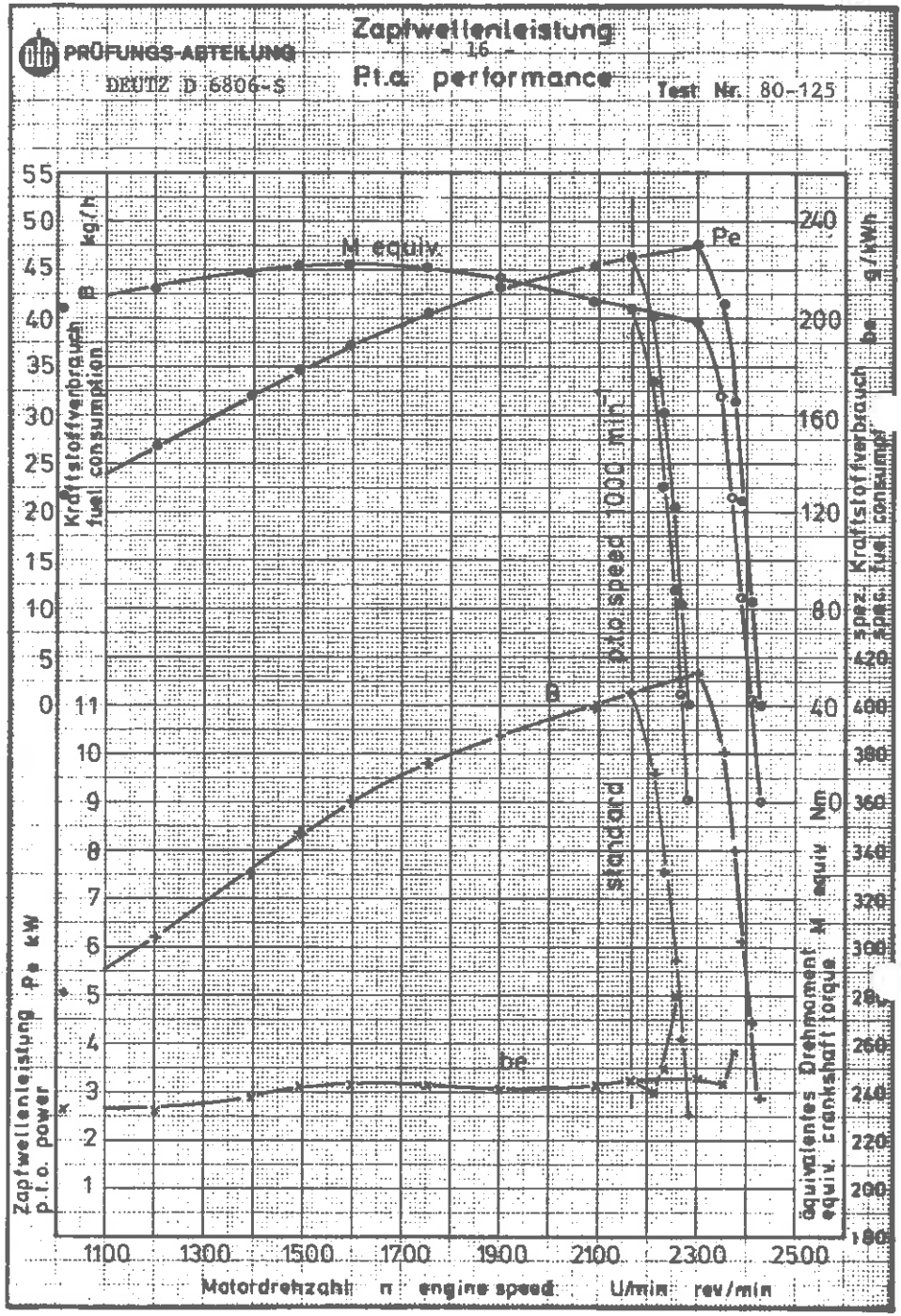
Test No. 80-125

| Power kW | Speed engine rev/min | Speed p.t.o. rev/min | Fuel consumption hourly l/h | Fuel consumption hourly kg/h | Fuel consumption specific g/kWh | Specific energy kWh/l |
|---|---|---|---|---|---|---|
| Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b) | | | | | | |
| (i) 85% of the torque at maximum power at standard p.t.o. speed | | | | | | |
| 40.1 | 2210 | 1020 | 11.47 | 9.54 | 238 | 3.49 |
| (ii) unloaded | | | | | | |
| - | 2281 | 1053 | 2.99 | 2.49 | - | - |
| (iii) 50% of the load defined in (i) | | | | | | |
| 20.4 | 2253 | 1040 | 6.82 | 5.67 | 278 | 3.00 |
| (iv) maximum power | | | | | | |
| 46.2 | 2167 | 1000 | 13.49 | 11.22 | 243 | 3.42 |
| (v) 25% of the load defined in (i) | | | | | | |
| 10.3 | 2265 | 1046 | 4.83 | 4.02 | 392 | 2.12 |
| (vi) 75% of the load defined in (i) | | | | | | |
| 30.3 | 2229 | 1029 | 9.03 | 7.51 | 248 | 3.35 |

Standard specific fuel consumption (g/kWh): 242/289/238/278

No load maximum engine speed: 2430 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 197 Nm
Maximum equivalent crankshaft torque: 222 Nm at 1596 rev/min of the engine

| | | |
|---|---|---|
| Mean atmospheric conditions: | temperature | 18 °C |
| | pressure | 997 mbar |
| | relative humidity | 73 % |
| Maximum temperatures: | cylinder head | 91 °C |
| | engine oil | 104 °C |
| | fuel | 20 °C |
| | engine air intake | 21 °C |

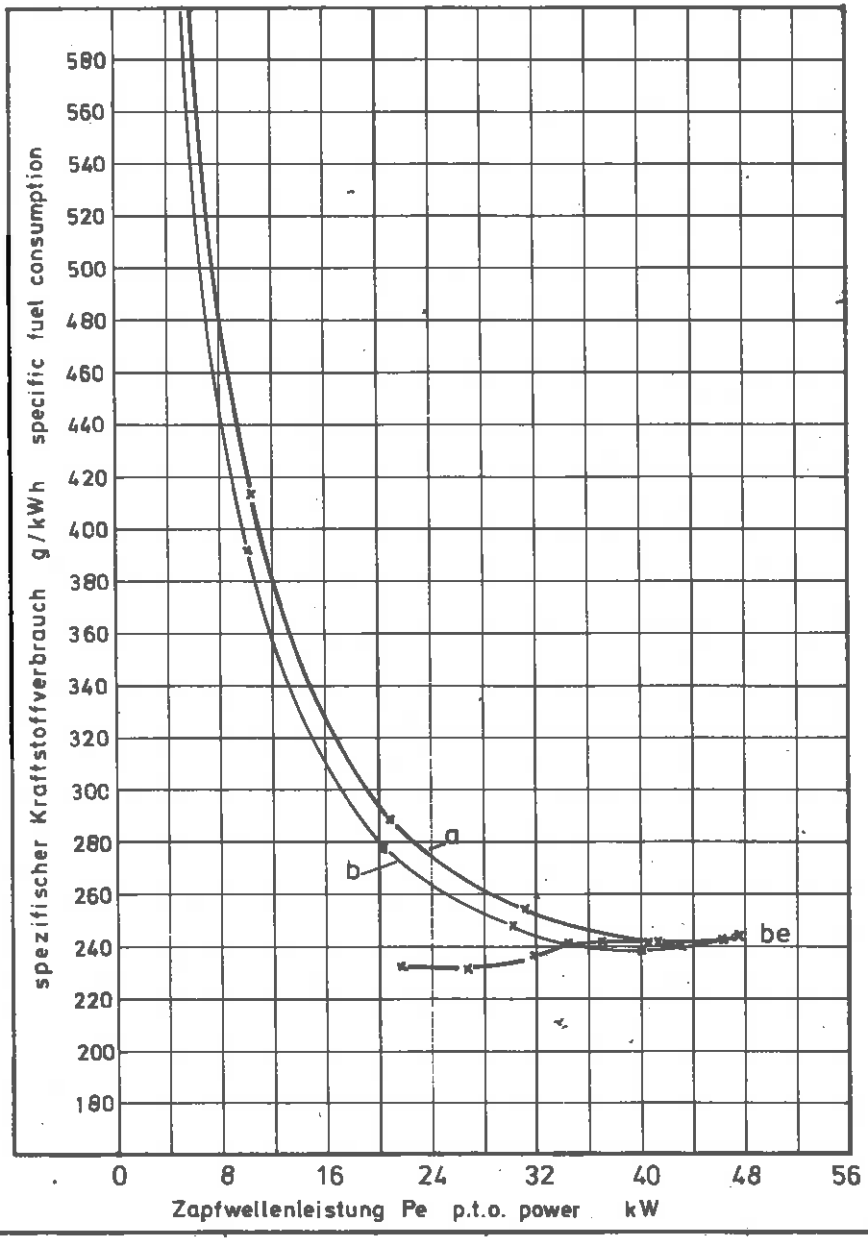

Zapfwellenleistung
P.t.o. performance
PRÜFUNGS-ABTEILUNG
DEUTZ D 6806-S
Test Nr. 80-125
M equiv.
Pe
B
be
p.t.o. speed 1000 min⁻¹
standard
Kraftstoffverbrauch fuel consumption kg/h
spez. Kraftstoffverbrauch spec. fuel consumption g/kWh
Zapfwellenleistung P.t.o. power kW
Äquivalentes Drehmoment equiv. crankshaft torque M equiv Nm
Motordrehzahl n engine speed U/min rev/min
1100
1300
1500
1700
1900
2100
2300
2500

PRÜFUNGS-ABTEILUNG
DEUTZ D 6806-S

# Zapfwellenleistung

# P.t.o. performance

Test Nr. 80-125



**PRÜFUNGS-ABTEILUNG**
DEUTZ D 6806-S

(2) DRAWBAR PERFORMANCE

Date of tests: 16th October 1981 till 9th February 1982
Type of track: Concrete

| Gear no. and group | Driving speed km/h | Power kW | Drawbar pull daN | Engine speed rev/min | Slip of wheels % |
|---|---|---|---|---|---|
| (i) | MAXIMUM POWER (unballasted) height of drawbar above ground 600 mm | | | | |
| 3 L | 4,04 | 33,2 | 2961 | 2361 | 15,1 |
| 1 Z | 4,45 | 37,2 | 3010 | 2342 | 14,9 |
| 4 L | 6,15 | 40,6 | 2376 | 2300 | 9,5 |
| 2 Z | 7,34 | 41,4 | 2030 | 2301 | 7,6 |
| 1 S | 8,74 | 42,4 | 1747 | 2298 | 6,3 |
| 3 Z | 10,51 | 41,9 | 1435 | 2297 | 5,1 |
| 2 S | 13,92 | 42,3 | 1093 | 2302 | 4,0 |
| 4 Z | 15,70 | 41,7 | 957 | 2302 | 3,3 |
| (ii) | MAXIMUM POWER (ballasted) height of drawbar above ground 600 mm | | | | |
| 1 L | 1,84 | 24,4 | 4777 | 2364 | 14,9 |
| 2 L | 2,82 | 37,4 | 4769 | 2322 | 14,9 |
| 3 L | 4,14 | 38,9 | 3384 | 2299 | 8,8 |
| 1 Z | 4,64 | 39,4 | 3060 | 2298 | 7,7 |
| 4 L | 6,30 | 41,4 | 2367 | 2302 | 5,5 |
| 2 Z | 7,42 | 42,2 | 2047 | 2299 | 4,9 |
| 1 S | 8,80 | 42,1 | 1724 | 2300 | 3,9 |
| 3 Z | 10,53 | 40,4 | 1381 | 2300 | 3,2 |
| 2 S | 13,86 | 40,5 | 1051 | 2300 | 2,5 |
| (iii) | FIVE-HOUR-TEST at 75% of pull at maximum power in 1st S-gear | | | | |
| 1 S | 9,10 | 32,7 | 1293 | 2354 | 2,9 |
| (iv) | FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii) | | | | |
| 2 L | 2,95 | 39,1 | 4777 | 2342 | - |

Total oil consumption during ten hours duration of tests (iii) and (iv) 56 g/h

**PRÜFUNGS-ABTEILUNG**

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Tyre size front: 7.50 - 20 6 ply
rear: 16.9 - 34 6 ply

Tread bar height at the beginning of drawbar tests
87% of the value when new

| Specific fuel consumpt. g/kWh | Specific energy kWh/l | Temperatures Fuel °C | Cylinder-head °C | Engine-oil °C | Atmospheric conditions Tempe-rature °C | Relative humidity % | Pressure mbar |
|---|---|---|---|---|---|---|---|
| tyre inflation pressure 0,8 bar | | | | | | | |
| 308 | 2,70 | 26 | 55 | 79 | 10 | 86 | 1003 |
| 301 | 2,76 | 28 | 55 | 75 | 9 | 92 | 1004 |
| 283 | 2,93 | 27 | 62 | 85 | 9 | 94 | 1004 |
| 278 | 2,99 | 28 | 65 | 82 | 10 | 93 | 1004 |
| 274 | 3,03 | 26 | 55 | 82 | 10 | 92 | 1004 |
| 275 | 3,02 | 27 | 61 | 82 | 10 | 88 | 1004 |
| 274 | 3,03 | 28 | 67 | 84 | 10 | 86 | 1004 |
| 278 | 2,99 | 28 | 68 | 82 | 10 | 86 | 1005 |
| tyre inflation pressure 0,9 bar | | | | | | | |
| 344 | 2,42 | 30 | 60 | 80 | 3 | 78 | 980 |
| 303 | 2,75 | 35 | 67 | 85 | 2 | 78 | 980 |
| 296 | 2,82 | 30 | 65 | 85 | 2 | 80 | 980 |
| 291 | 2,86 | 32 | 65 | 85 | 2 | 80 | 980 |
| 283 | 2,95 | 27 | 65 | 85 | 3 | 83 | 988 |
| 278 | 3,00 | 26 | 65 | 85 | 5 | 75 | 988 |
| 276 | 3,02 | 25 | 65 | 85 | 4 | 75 | 988 |
| 286 | 2,91 | 27 | 65 | 85 | 3 | 83 | 988 |
| 288 | 2,89 | 27 | 65 | 85 | 3 | 83 | 988 |
| 277 | 3,01 | 26 | 68 | 80 | 10 | 75 | 1010 |
| - | - | 25 | 70 | 88 | 6 | 87 | 1010 |

Test (iv) was carried out with additional ballast,
the figures not quoted are therefore irrelevant

## (3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7.50 - 20 6 ply
rear: 16.9 - 34 6 ply

Track of wheels front: 1415 mm
rear: 1520 mm

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | left-hand m | right-hand m | left-hand m | right-hand m |
| Radius of turning space | 3,62 | 3,47 | 4,20 | 4,05 |
| Radius of turning circle | 3,35 | 3,22 | 3,93 | 3,80 |

## (4) LOCATION OF CENTRE OF GRAVITY

| | |
|---|---|
| Height above ground | 870 mm |
| Distance forward from rear axle centre | 784 mm |
| Distance from tractor's median plane, to the right | 1 mm |

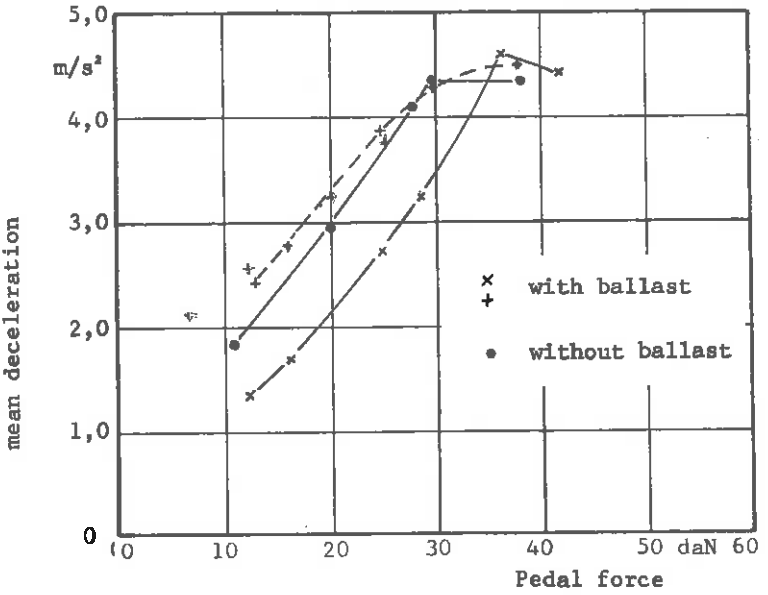
(5) Braking

Date of tests: 20th October and 26th November 1982

| Tractor masses during tests with driver: | front kg | rear kg | total kg |
|---|---|---|---|
| without ballast | 1070 | 1890 | 2960 |
| with ballast | 1750 | 3240 | 4990 |

A) Service brake

Type-0-test (cold brakes) ——— , Type-I-(fade)test – – –




Speed before application of brakes, without ballast 31,2 km/h
with ballast 30,7 km/h

The brakes were heated by towing of the tractor for 1 km

B) Parking brake

| | Ballasted tractor on 18%-slope | | Unballasted tractor on 12%-slope with trailer of 2960 kg | |
|---|---|---|---|---|
| | up | down | up | down |
| Braking device control force daN | 29 | 27 | 23 | 20 |

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## (6) MEASUREMENT OF EXTERNAL NOISE LEVEL

Date of test: 19th October 1981
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 4th S
Travelling speed before acceleration: 23,1 km/h
Sound level: 88,5 dB(A)

## (7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 19th October 1981
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

With FRITZMEIER safety frame model 901, without plastic-roof

Results of tests

| Gear no. and group | Drawbar pull at which the tractor develops the maximum sound level daN | Travelling speed nominal km/h | Travelling speed effective km/h | Sound level dB(A) |
|---|---|---|---|---|
| 1 L | 2915 | 2,16 | 1,94 | 94,5 |
| 2 L | 2985 | 3,36 | 2,94 | 94,5 |
| 3 L | 2962 | 4,68 | 3,95 | 95,0 |
| 1 Z | 2967 | 5,18 | 4,19 | 25,5 |
| 4 L | 2354 | 6,89 | 6,17 | 96,0 |
| 2 Z*) | light load | 8,04 | 8,37 | 93,0 |
| 2 Z*) | 1980 | 8,04 | 7,27 | 96,0 |
| 1 S | 1717 | 9,47 | 8,76 | 96,0 |
| 3 Z | 1408 | 11,22 | 10,56 | 96,5 |
| 2 S | 1072 | 14,68 | 13,95 | 95,5 |
| 4 Z | 925 | 16,50 | 15,70 | 97,0 |
| 4 S | light load | 30,14 | 30,86 | 95,5 |

*) The 2nd Z gear corresponds to the travelling speed nearest to 7,5 km/h

## (8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

Date of tests: 14th December 1981

### Power Lift

| | Height of lower hitch point above ground in down pos. mm | Vertical movement mm | Max. force exerted through full range daN | Corresp. pressure of hydraul. fluid bar | Moment about rear axle daNm | Max. tilt angle of mast over range of lift degrees |
|---|---|---|---|---|---|---|
| At hitch points | 403 | 507 | 2790 | 180 | - | - |
| On the frame | 403 | 615 | 2010 | 180 | 3186 | 12 |

Temperature of hydraulic fluid at start of test 65 °C

Lifting heights relative to horizontal lower links

| mm | -185 | -162 | -100 | 0 | +100 | +200 | +300 | +345 | +400 | +430 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lifting forces at hitch points | | | | | | | | | | |
| daN | | 2880 | 2900 | 2920 | 2900 | 2790 | 2790 | 2810 | | |
| Lifting forces at test frame | | | | | | | | | | |
| daN | 2630 | | 2610 | 2470 | 2410 | 2260 | 2100 | | 2010 | 2010 |

### Hydraulic Pump Performance

| | |
|---|---|
| Opening pressure of the relief valve in remote circuit | 190 bar |
| Sustained pressure with relief valve open | 200 bar |
| Pump delivery rate at minimum pressure, the governor control lever being set for max. power | 32,0 l/min |
| Hydraulic power at 90% of relief valve setting | 9,0 kW |
| Corresponding delivery rate | 29,9 l/min |
| Pressure | 180 bar |
| Temperature of hydraulic fluid | 65 °C |

Tapping point used for test: At rear of tractor

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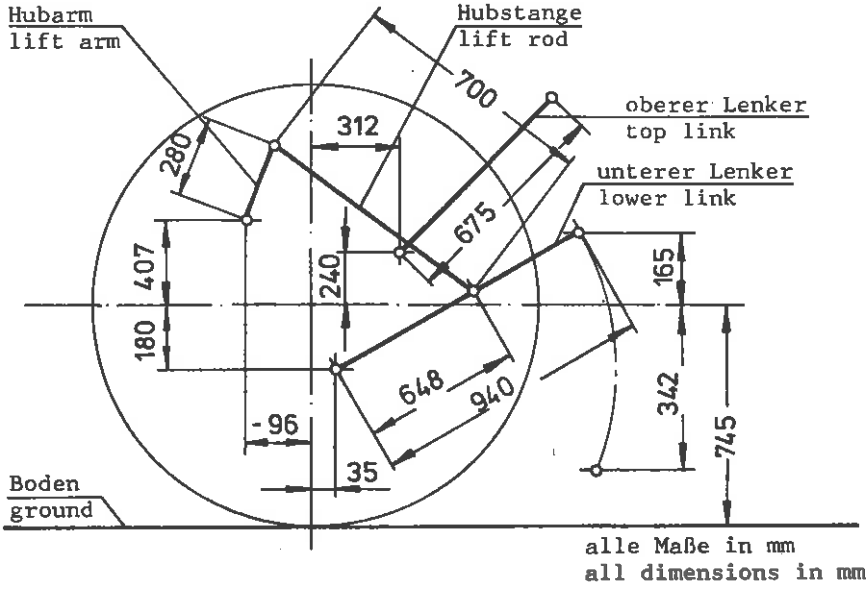
LINKAGE GEOMETRY when connected to the standard frame

Projected length in side view:

| | |
|---|---|
| Lower links | 940 mm |
| Lift arms | 280 mm |
| Lift rods | 700 mm |
| Top link | 675 mm |
| Distance of lift rod connection point from pivot point of lower link | 648 mm |

The following dimensions are given relative to the rear wheel centre line, situated 745 mm above ground:

| | | |
|---|---|---|
| Lower link pivot point | 180 mm below | 35 mm behind |
| Top link pivot point | 240 mm above | 312 mm behind |
| Lift arm pivot point | 407 mm above | 96 mm behind |
| Maximum and minimum height of lower link hitch points | 165 mm above | 342 mm below |
| Height of lower link hitch points when locked in transport position | 165 mm above or | 230 mm below |




alle Maße in mm
all dimensions in mm

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## OPTIONAL TESTS

### (9) ENGINE PERFORMANCE

Date of tests: 16th September 1981
Type of dynamometer: SCHENCK eddy-current dynamometer W 150

| Power kW | Engine speed rev/min | Fuel consumption hourly l/h | Fuel consumption hourly kg/h | Fuel consumption specific g/kWh | Specific energy kWh/l |
|---|---|---|---|---|---|
| **Maximum power** | | | | | |
| At 2-hour test | | | | | |
| 51.0 | 2300 | 14.19 | 11.80 | 231 | 3.60 |
| At standard p.t.o. speed (1000 rev/min) | | | | | |
| 49.7 | 2167 | 13.71 | 11.41 | 229 | 3.63 |
| At the speed recommended for drawbar work | | | | | |
| 51.0 | 2300 | 14.19 | 11.80 | 231 | 3.60 |
| **Part loads** | | | | | |
| (i) 85% of the torque at maximum power at 2-hour test | | | | | |
| 44.2 | 2345 | 12.18 | 10.14 | 229 | 3.63 |
| (ii) unloaded | | | | | |
| - | 2422 | 3.13 | 2.60 | - | - |
| (iii) 50% of the load defined in (i) | | | | | |
| 22.4 | 2380 | 7.23 | 6.02 | 268 | 3.10 |
| (iv) maximum power | | | | | |
| 51.0 | 2300 | 14.19 | 11.80 | 231 | 3.60 |
| (v) 25% of the load defined in (i) | | | | | |
| 11.3 | 2403 | 5.11 | 4.26 | 376 | 2.21 |
| (vi) 75% of the load defined in (i) | | | | | |
| 33.4 | 2363 | 9.60 | 7.99 | 239 | 3.48 |

Optimum fuel consumption: 214 g/kWh at 22.4 kW and 1265 rev/min
No load maximum engine speed: 2422 rev/min
Torque at maximum power (2 hours): 212 Nm
Maximum torque: 238 Nm at 1602 rev/min of the engine

| | | |
|---|---|---|
| Mean atmospheric conditions: | temperature | 20 °C |
| | pressure | 1000 mbar |
| | relative humidity | 77 % |
| Maximum temperatures: | cylinder head | 77 °C |
| | engine oil | 96 °C |
| | fuel | 22 °C |
| | engine air intake | 23 °C |

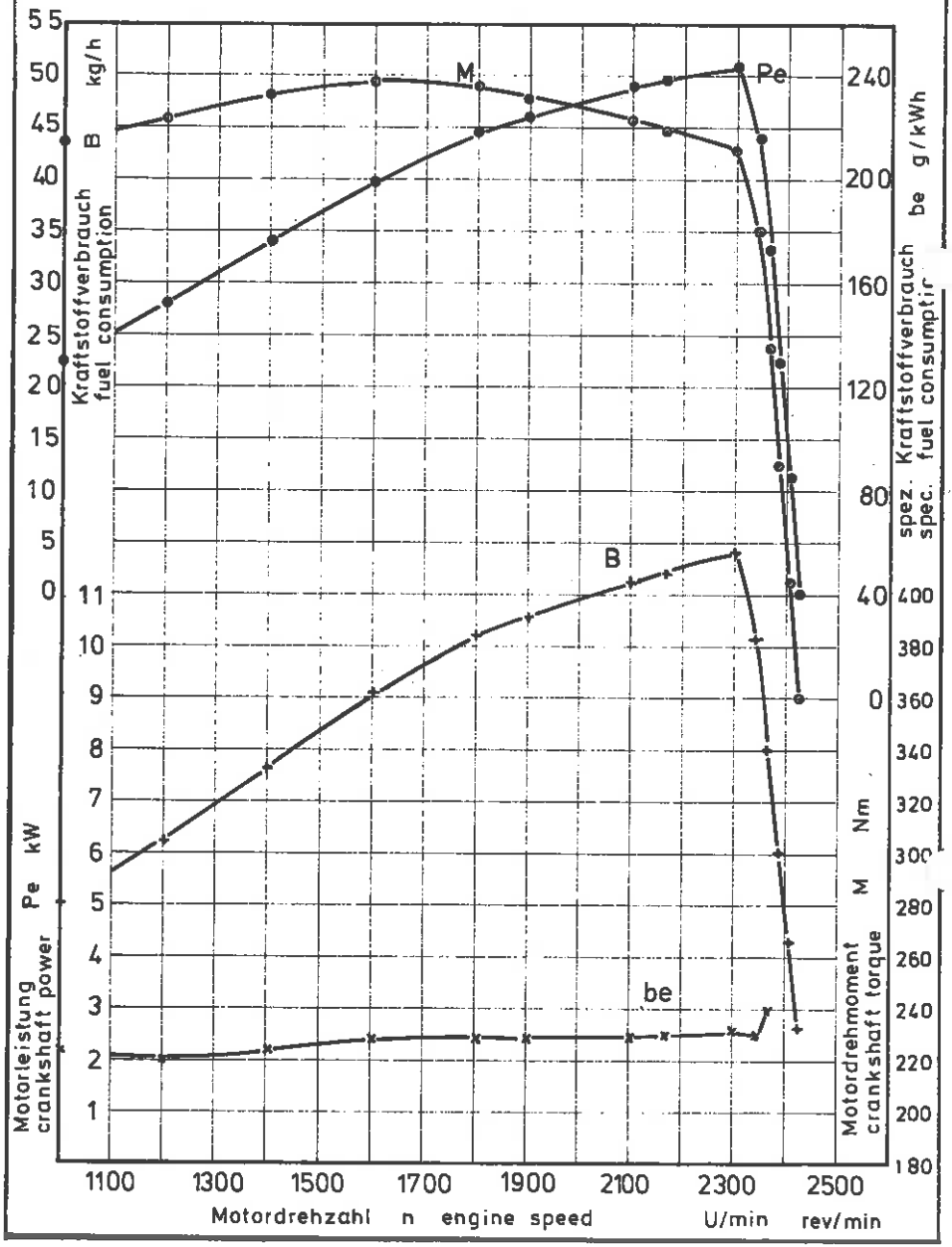
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# Motorleistung

# Engine performance

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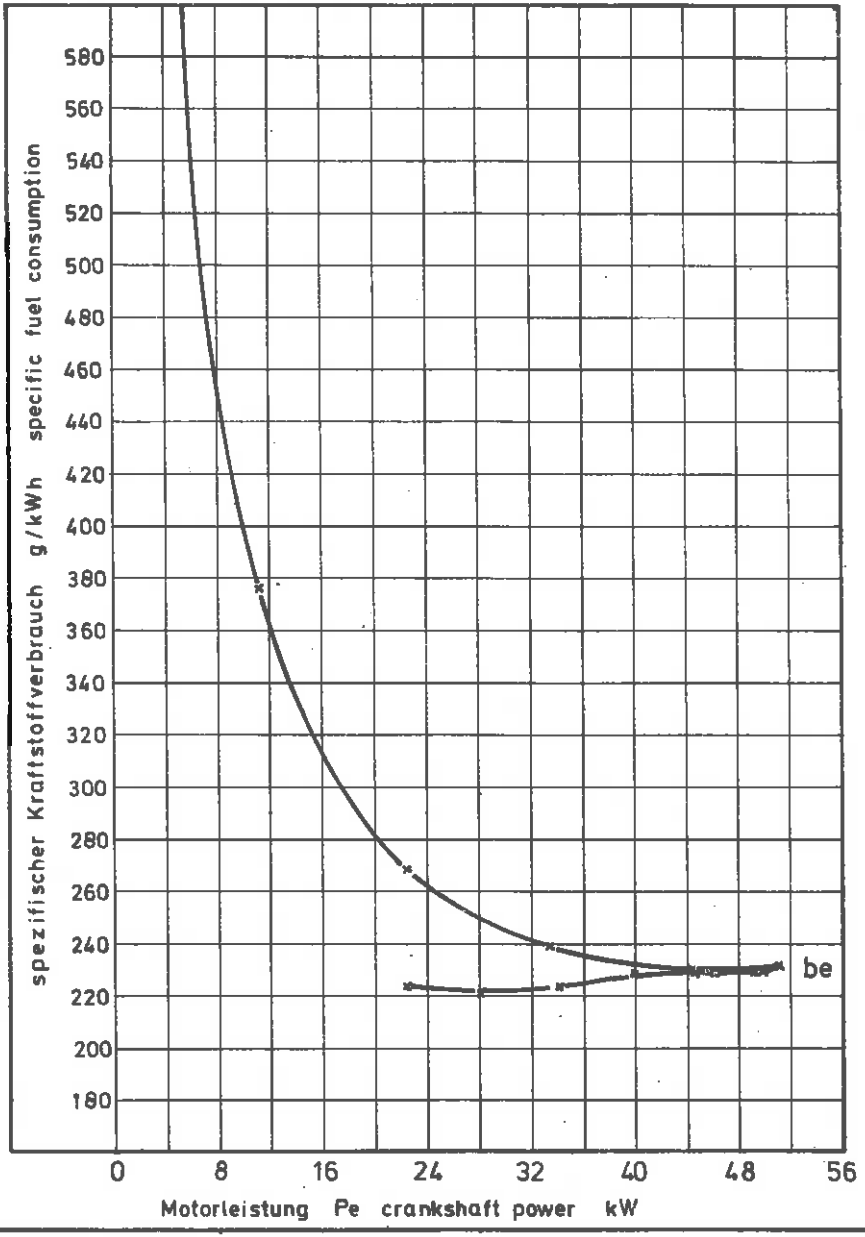
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# Motorleistung

## Engine performance

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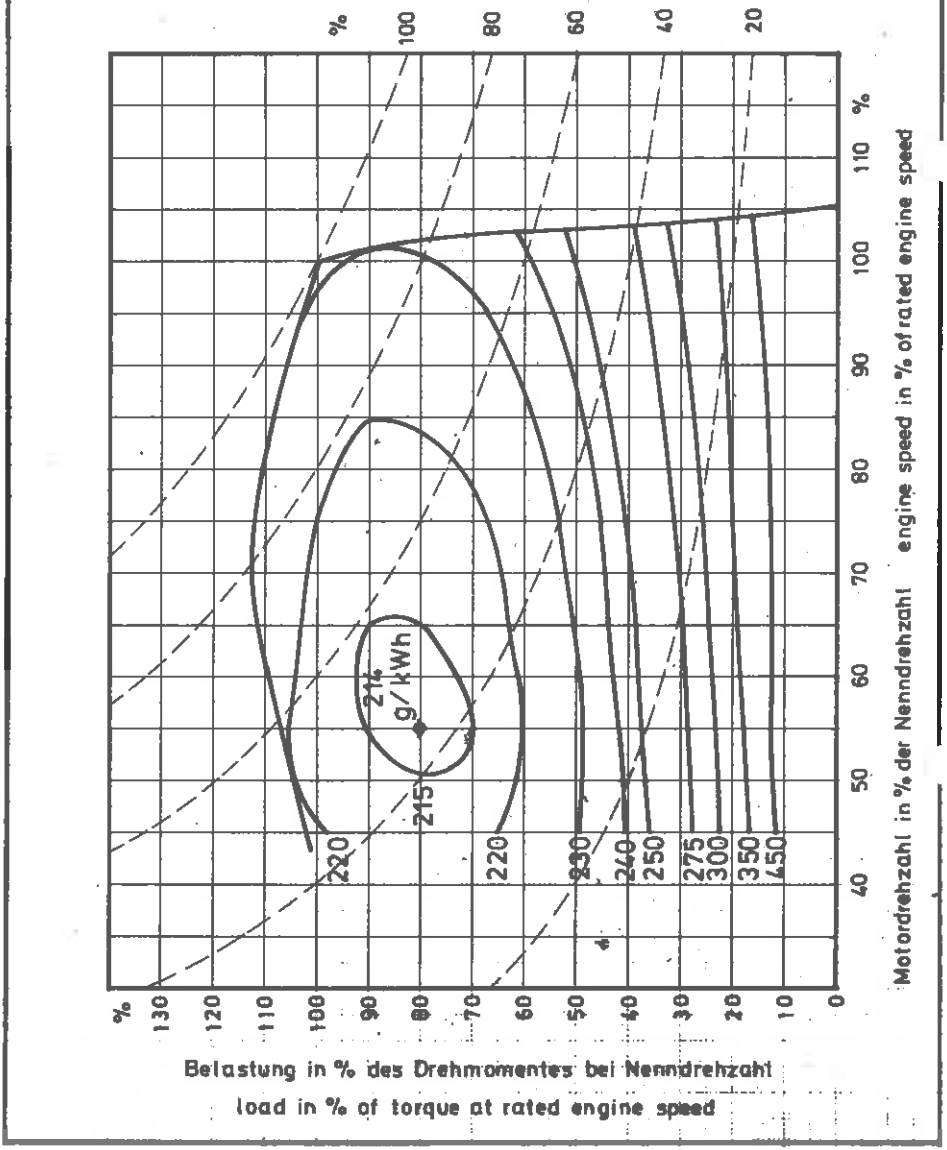
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# Motorleistung

# Engine performance

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