O.E.C.D. No. 479
Printed: May 1975

Report on test in accordance with
O.E.C.D. STANDARD CODE for the Official Testing
of agricultural Tractors




# DEUTZ - AGRICULTURAL TRACTOR D 5206

Manufactured by: KLÖCKNER-HUMBOLDT-DEUTZ AG
D 5000 Köln-Deutz

Date of Tests: October 1974 till February 1975

DLG-Testing Station for Agricultural Machinery
D 6114 Groß Umstadt

DEUTSCHE LANDWIRTSCHAFTS GESELLSCHAFT e. V.
Prüfungsabteilung für Landmaschinen
D 6000 Frankfurt/Main 1, Zimmerweg 16

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

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

Date of Approval: 25th April 1975

Serial No.: 479

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

The relation with the former used Technical System of Units is given by the following formulas:

| | | |
|---|---|---|
| Forces: | 1 N = 0,102 kp | or 1 kp = 9,81 N |
| 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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Printed in Germany

**PRÜFUNGS-ABTEILUNG**
Deutz D 5206

Test No. 74-146

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| | |
|---|---|
| Tractor manufacturer: | KLÖCKNER-HUMBOLDT-DEUTZ AG; 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: | KLÖCKNER-HUMBOLDT-DEUTZ AG |
| Model: | D 5206 |
| Type: | Wheel type tractor; unit construction; rear wheel driven; |
| Serial No: | 7553/0046 |

### Engine

| | |
|---|---|
| Make: | Own make |
| Model: | F3L912 |
| Type: | 4-stroke Diesel engine with direct injection air cooled |
| Serial No: | 536 6234 |
| Cylinders: | 3, in line; bore 100 mm, stroke 120 mm; displacement 2826 $cm^3$; compression ratio 17:1; |
| Valves: | overhead |
| Fuel system: | PIERBURG fuel feed pump PE 15252; BOSCH in line injection pump; PES 3 A 80 D 410/3 RS 1183; manufacturer's production setting 54 $mm^3$/stroke at rated engine speed and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles DLLA 149 S 394; injection pressure 175 bar; MANN fuel filter with replaceable cartridge; capacity of fuel tank appr. 70 l |
| Governor: | BOSCH centrifugal variable speed type governor: EP/RSV 325-1150 A 8 B 657 DL; governed range of engine speed 660 to 2420 rev/min; rated engine speed 2300 rev/min |

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| | |
|---|---|
| Air cleaner: | Own make in cooperation with<br>MANN UND HUMMEL;<br>dry paper element filter with pre-cleaner,<br>replaceable cartridge and maintenance indicator |
| Exhaust silencer: | Own make;<br>2-chamber expansion type silencer;<br>125 mm diameter, 460 mm long;<br>situated on the left hand side of clutch case;<br>mouth showing rearward |
| Lubrication system: | Forced feed from gear type pump;<br>strainer in sump;<br>MANN oil filter in full flow with by-pass valve;<br>replaceable cartridge;<br>oil capacity 8,5 l;<br>oil changing period 100 till 200 hours when using HD-S1-oil or 200 till 240 hours when using HD-B -oil;<br>recommended oil viscosities<br>winter SAE 10 W<br>summer SAE 20 W/20<br>tropics SAE 30 |
| Cooling system: | Air cooling with axial blower;<br>V-belt driven |
| Starting system: | Electrical;<br>BOSCH starter motor DD (R) 12 V 2,2 kW;<br>BOSCH flame type plug in intake pipe |
| Electrical equipment: | 12 Volt, negative earth;<br>BOSCH 3-phase alternator:<br>G 1 RL 14V 28 A 22;<br>1 lead acid battery 110 Ah at 20 hours rating |

Transmission

| | |
|---|---|
| Clutch: | FICHTEL UND SACHS AG;<br>independent dry dual disc type clutch:<br>DT 280/250 G;<br>driving part pedal operated;<br>p.t.o. part hand lever operated |

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| | |
|---|---|
| Gear box: | Own make;<br>TW 50.3;<br>speed change gear with 4 forward speeds;<br>1st and 2nd speed collar shifted;<br>3rd and 4th speed synchronized;<br>group gear with 2 forward groups (slow and fast group) and 1 reverse group;<br>(optional: creep speed group with 4 additional forward speeds, not fitted on tractor tested);<br>slow and fast group pin coupling shifted;<br>reverse group sliding gear shifted;<br>total 8 forward and 4 reverse speeds |
| Rear axle and final drive: | Bevel gear with crown wheel and pinion;<br>bevel gear type differential with lock fitted;<br>pedal operated, self disengaging;<br>spur gear final drive |
| Oil capacity: | Speed change gear, group gear, rear axle and final drives total 16 l |
| Recommended oil quality: | Transmission oil SAE 90 |
| Oil changing period: | 1000 hours or yearly |
| Power take-off | Independent p.t.o.;<br>driven through the hand lever operated clutch disc;<br>engageable and disengageable by hand lever;<br>at rear of tractor;<br>640 mm above ground in tractor median plane;<br>2 speeds are preselectable:<br>1. 598 rev/min at rated engine speed;<br>540 rev/min at 2076 rev/min engine speed;<br>2. 993 rev/min at rated engine speed;<br>1000 rev/min at 2316 rev/min engine speed<br>adjustable only at part load;<br>29 x 34,9 x 8,7 mm = 1 3/8"; 6 splines;<br>(DIN 9611 Form A; BS 1495; ASAE S 203.7)<br>all p.t.o.-speeds may be set by aid of tractormeter;<br>direction of rotation clockwise (viewed from tractor rear) |

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Total ratios and speeds

| Group | Gear | Total ratio engine: driving wheel | Nominal travelling speed at rated engine speed *) km/h | m/s |
|---|---|---|---|---|
| Slow group | 1 | 264,61 | 2,15 | 0,597 |
| | 2 | 166,42 | 3,42 | 0,949 |
| | 3 | 113,96 | 4,99 | 1,386 |
| | 4 | 67,64 | 8,41 | 2,335 |
| Fast group | 1 | 88,93 | 6,39 | 1,776 |
| | 2 | 55,93 | 10,17 | 2,824 |
| | 3 | 38,30 | 14,84 | 4,124 |
| | 4 | 22,73 | 25,01 | 6,947 |
| Reverse group | 1 | 233,84 | 2,43 | 0,675 |
| | 2 | 147,07 | 3,87 | 1,074 |
| | 3 | 100,71 | 5,65 | 1,568 |
| | 4 | 59,78 | 9,51 | 2,642 |

*) calculated with the turn off circumference 4120 mm according to manufacturer's specification

Belt pulley Optional, not fitted on tractor tested;
figure acc. to manufacturer's specification;
at rear of tractor;
driving device attached to p.t.o.-shaft;
engaged by p.t.o. hand lever;
320 mm diameter; 140 mm width;
1256 rev/min at rated engine speed;
linear belt speed 21,03 m/s;
standard belt speed at 2187 rev/min engine speed;
direction of rotation anticlockwise
(viewed from the right hand side of tractor)

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Power lift

Own make;
K 45;
DEUTZ-TRANSFERMATIC-System;
Hydraulic power lift, unit construction;
draught control, position control,
floating position;
single acting ram, bore 80 mm, stroke 152 mm;
overpressure relief valve for ram adjusted
to 200 bar
BOSCH gear type pump HY/ZFR 1/11 CL (212/1);
oil delivery rate 11 $cm^3$/revolution;
directly driven by engine;
DEUTZ control valve;
maximum oil pressure 175 bar;
up to 4 oil tappings for single or double acting
remote rams with supplementary DEUTZ-control
valves available;
hydraulic linkage lock for transport;
oil tank incorporated in lift unit;
oil capacity 14 l;
7 l may be taken off trough oil tappings;
oil changing period 1000 hours or yearly

Implement linkage

Three point linkage category I (DIN 9674);
lift rods length adjustable from 522 to 660 mm;
lifting range above ground with:
lift rods short from 410 to 970 mm
lift rods long from 125 to 780 mm

Holed bar

Fitted on clevis of lower links;
centre hole and 3 holes on either side with
80 mm distance each (DIN 9676);
all holes 33 mm diameter;
height above ground adjusted by power
lift from 140 to 985 mm depending from lift rods
length, measured at the surface of the bar;
in standard height 450 mm above ground
mechanically-hydraulically lockable with
lift rods 635 mm long;
distance of centre hole with lower links in
horizontal position:
from rear axle centre 908 mm
from p.t.o.-shaft 504 mm

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Pull attachment

| | |
|---|---|
| Trailer hitch: | Height above ground 575, 705, 770 mm<br>645, 775, 840 mm<br>changeable by shifting and turning hitch;<br>hitch hole diameter 33 mm;<br>distance of hitch hole from rear axle centre 568 mm;<br>permissible bearing load 1000 kg |
| Towing hitch: | Height above ground 655 mm |
| Steering: | ZAHNRADFABRIK FRIEDRICHSHAFEN AG;<br>ZF-Gemmer steering: GD 28a;<br>model 73;<br>operated by hand wheel;<br>acting on front wheels |

Brakes

| | |
|---|---|
| Parking brake: | Simplex shoe type brake;<br>mechanically acting on 1 external brake drum situated on an intermediate gear shaft;<br>brake drum 180 mm diameter;<br>operated by hand lever with ratchet |
| Foot brake: | Encased dry disc type brake;<br>mechanically acting on 2 discs on both differential half shafts on either side;<br>active brake disc diameter 193 mm;<br>pedal operated |
| Steering brakes: | Divided pedal of foot brake;<br>for normal use locked together |

Wheels

| | |
|---|---|
| Steering wheels: | 2 pneumatics in front 7,50-16 AS 6 ply;<br>max. permissible weight on each tyre 855 kg at 2,25 inflation pressure at 25 km/h;<br>track width: 1280 to 1880 mm in steps of 100 mm each; changeable by extending telescopic half axles;<br>rims 5,50 F x 16 |

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Wheels (Continuation)

| | |
|---|---|
| Driving wheels: | Two pneumatics at rear 14,9 - 28 AS 6 ply; max. permissible load on each tyre 1720 kg at 1,4 bar inflation pressure and 25 km/h; track width 1513, 1635, 1735, 1828 and 1928 mm; changeable by turning wheels and offset lug type rims; rims W 12 x 28 |
| Wheel base: | 1995 mm |
| Other wheels: | Available are:<br>Steering wheels: 6,00-16; 6,50-16<br>Driving wheels: 9,5 -36; 12,4 -32; 13,6-28; 16,9 -26; |

Weights — Ready for use, as tested

without ballast:

| | without driver | with driver |
|---|---|---|
| front | 734 kg | 735 kg |
| rear | 1376 kg | 1450 kg |
| total | 2110 kg | 2185 kg |

| | | |
|---|---|---|
| front ballast: | 1 built in weight | 80 kg |
| | 11 front weights 20 kg each | 220 kg |
| rear ballast: | 15 weights per wheel 20 kg each | 1200 kg |
| | water in the tyres | 315 kg |

| | | | |
|---|---|---|---|
| with ballast: | front | 1139 kg | 1145 kg |
| | rear | 2786 kg | 2855 kg |
| | total | 3925 kg | 4000 kg |

Seat — .GRAMMER;
DS 20/D 3 H
upholstered seat with back rest;
adjustable spring, shock absorber;
height of seat platform above ground 710 mm;
height of seat above platform appr. 500 mm in medium position, not compressed;
adjustable on inclined guide ways 150 mm to and fro and simultanously 90 mm up and down; additional independent height adjustment in the range of 125 mm in 9 steps

Number of grease points (whole tractor) 14

Dimensions

Overall length: 3470 mm with 3 point linkage without ballast
3740 mm with 3 point linkage with ballast;

Overall width : 1880 mm at smallest track width
2295 mm at largest track width

Overall height: 1610 mm to top of steering wheel

Ground clearance: 350 mm in tractor median plane

Lighting equipment Electric 12 Volt
acc. to German governmental regulations

| | Dimensions of area mm | Height above ground to centre mm | Distance from outside edge of tractor to centre mm ***) |
|---|---|---|---|
| Head lights | 130 ø | 965 | 765 |
| Side lights *) | 85 x 90 | 1705 | 230 |
| Rear lights **) | 85 x 90 | 1520 | 240 |
| Reflectors | 75 ø | 1035 | 70 |

*) in combination with direction indicator
**) in combination with direction indicator and stop lights
***) at 1513 mm track width

## FUELS AND LUBRICANTS USED IN TESTS

| | |
|---|---|
| Fuel: | ARAL-Diesel fuel (DIN 51601) |
| | specific gravity at 15°C |
| | on engine tests 0,836 kg/l |
| | on p.t.o. tests 0,836 kg/l |
| | on track tests 0,833 kg/l |
| Engine oil: | SHELL-ROTELLA SX 20W/20 |
| Transmission oil: | SAE 90 |
| Hydraulic oil: | Engine oil HD 20 W/20 |

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## COMPULSORY TESTS

### (1) MAIN POWER TAKE-OFF PERFORMANCE

Date of tests: 28th and 29th October 1974
Type of dynamometer: Schenck hydraulic dynamometer U1-40

Maximum power

| Power kW | Speed engine rev/min | Speed p.t.o. rev/min | Fuel consumption total l/h | Fuel consumption total kg/h | Fuel consumption specific g/kWh | Specific energy kWh/l |
|---|---|---|---|---|---|---|
| At maximum power 2-hour test | | | | | | |
| 37,5 | 2300 | 598 | 11,10 | 9,28 | 248 | 3,37 |
| At standard p.t.o. speed (540 rev/min) | | | | | | |
| 35,4 | 2076 | 540 | 10,22 | 8,54 | 241 | 3,46 |
| At the speed recommended for drawbar work | | | | | | |
| 37,5 | 2300 | 598 | 11,10 | 9,28 | 248 | 3,37 |
| Part loads | | | | | | |
| (i) 85 % of the torque at maximum power | | | | | | |
| 32,6 | 2359 | 613 | 10,84 | 8,06 | 247 | 3,01 |
| (ii) unloaded | | | | | | |
| - | 2433 | 633 | 2,56 | 2,13 | - | - |
| (iii) 50 % of the load defined in (i) | | | | | | |
| 16,6 | 2396 | 623 | 6,00 | 5,02 | 303 | 3,17 |
| (iv) maximum power | | | | | | |
| 37,5 | 2300 | 598 | 11,10 | 9,28 | 248 | 3,37 |
| (v) 25 % of the load defined in (i) | | | | | | |
| 8,4 | 2414 | 628 | 4,43 | 3,70 | 441 | 1,90 |
| (vi) 75 % of the load defined in (i) | | | | | | |
| 24,6 | 2374 | 617 | 7,76 | 6,49 | 264 | 3,01 |

No load maximum engine speed: 2433 rev/min
Equivalent crankshaft torque at maximum power: 155 Nm
Maximum equivalent crankshaft torque: 176 Nm at 1600 rev/min of the engine

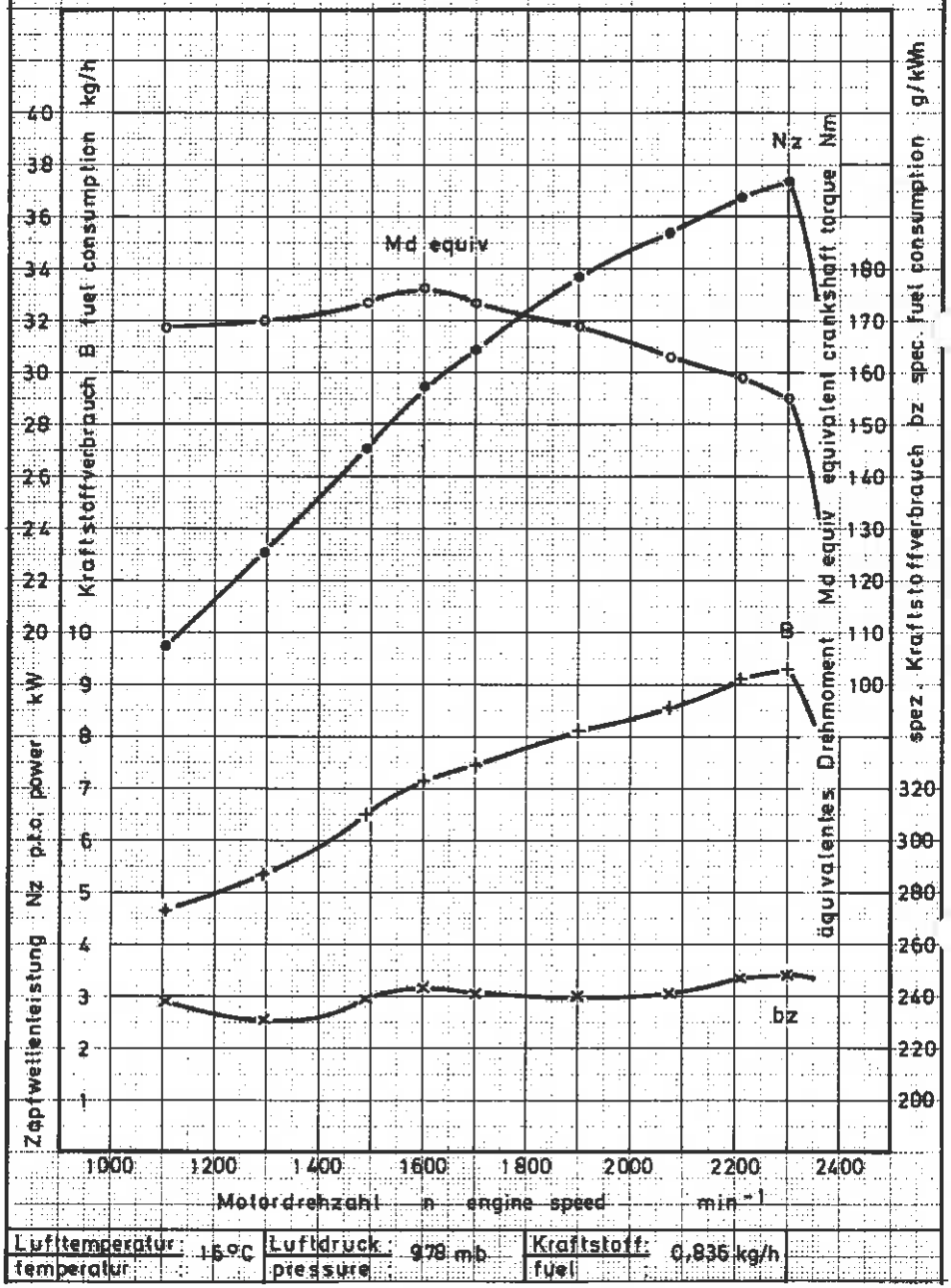
Mean atmospheric conditions:
- temperature 16°C
- pressure 978 mbar
- relative humidity 65 %

Maximum temperatures:
- coolant not recorded
- engine oil 102°C
- fuel 19°C

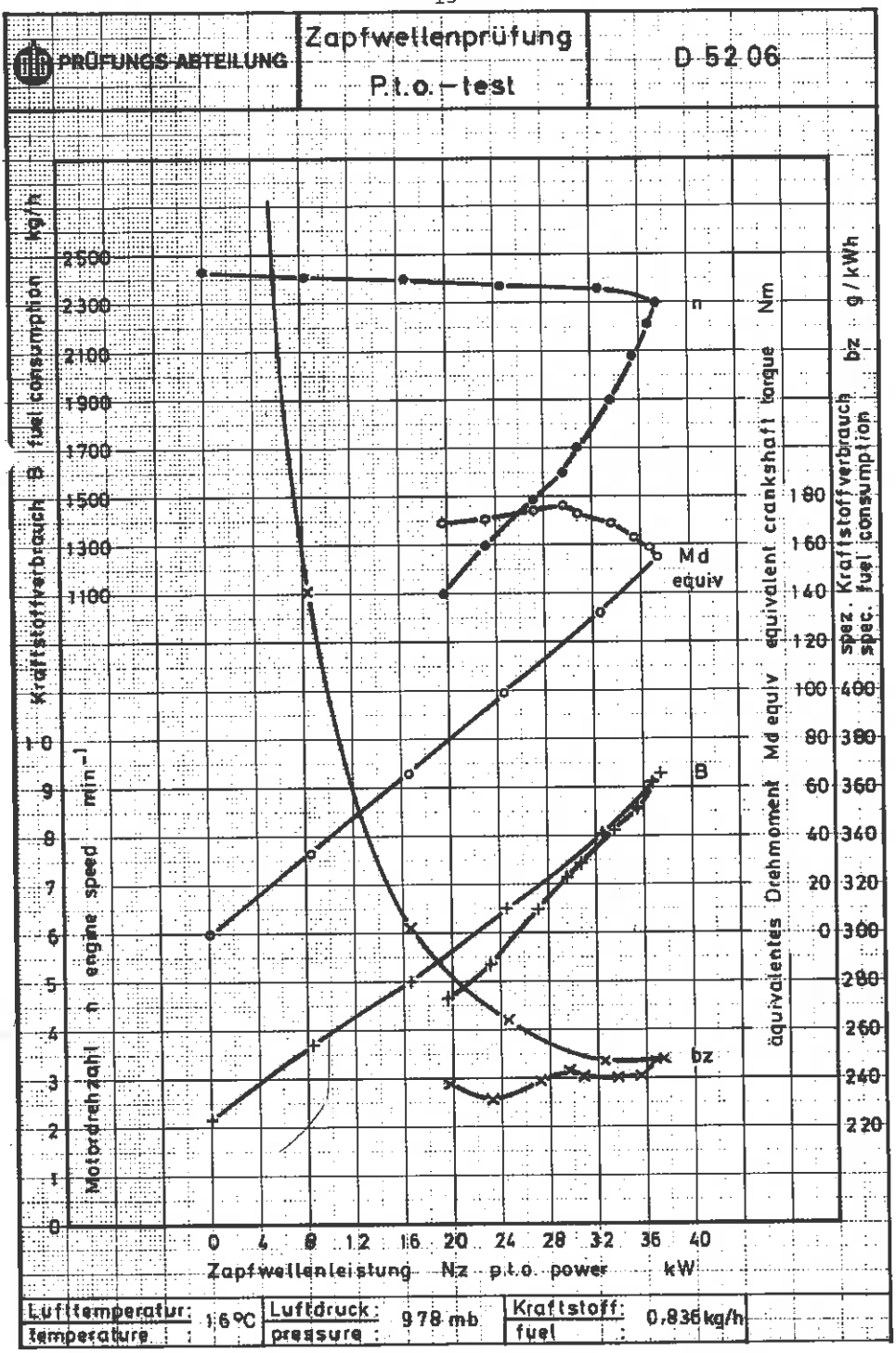
PRÜFUNGS-ABTEILUNG

# Zapfwellenprüfung
P.t.o. – test

D 52 06




| | | |
|---|---|---|
| Lufttemperatur / temperatur: 15 °C | Luftdruck / pressure: 978 mb | Kraftstoff / fuel: 0,836 kg/h |


PRÜFUNGS-ABTEILUNG
Zapfwellenprüfung
P.t.o.-test
D 52 06
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed min⁻¹
äquivalentes Drehmoment Md equiv equivalent crankshaft torque Nm
spez. Kraftstoffverbrauch bz spec. fuel consumption g/kWh
n
Md equiv
B
bz
Zapfwellenleistung Nz p.t.o. power kW
Lufttemperatur: 16°C
temperature
Luftdruck: 978 mb
pressure
Kraftstoff: 0,836 kg/h
fuel

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(2) DRAWBAR PERFORMANCE

Date of test: 15th January, 5th and 6th February 1975
Type of track: Concrete

| Gear No. and Group | Speed km/h | Power kW | Drawbar pull N | Engine speed rev/min | Slip of wheels % | Specific energy kWh/l |
|---|---|---|---|---|---|---|
| (i) MAXIMUM POWER with ballast height of drawbar above ground 500 mm | | | | | | |
| 1 slow | 1,84 | 18,4 | 36000 | 2362 | 15,1 | 2,39 |
| 2 slow | 2,86 | 28,6 | 36000 | 2321 | 15,0 | 2,58 |
| 3 slow | 4,40 | 31,1 | 25400 | 2302 | 9,9 | 2,77 |
| 1 fast | 5,79 | 32,3 | 20100 | 2302 | 7,2 | 2,90 |
| 4 slow | 7,75 | 31,8 | 14760 | 2300 | 5,3 | 2,84 |
| 2 fast | 9,46 | 32,4 | 12300 | 2301 | 4,5 | 2,91 |
| 3 fast | 14,02 | 31,6 | 8110 | 2301 | 2,9 | 2,54 |
| (ii) FIVE-HOUR-TEST at 75 % of pull at maximum power in 1st gear of fast group | | | | | | |
| 1 fast | 6,02 | 25,2 | 15050 | 2348 | 5,4 | 2,83 |
| (iii) FIVE HOUR-TEST at pull corresponding to 15 % wheel slip in test (i) | | | | | | |
| 2 slow | - | - | 36000 | 2320 | - | - |
| (v) MAXIMUM POWER without ballast height of drawbar above ground 510 mm | | | | | | |
| 2 slow | 2,90 | 17,9 | 22150 | 2369 | 15,0 | 2,36 |
| 3 slow | 4,16 | 25,6 | 22200 | 2338 | 15,0 | 2,57 |
| 1 fast | 5,32 | 30,4 | 20600 | 2299 | 13,8 | 2,71 |
| 4 slow | 7,40 | 31,4 | 15250 | 2301 | 8,9 | 2,80 |
| 2 fast | 9,12 | 31,8 | 12600 | 2300 | 6,9 | 2,85 |
| 3 fast | 13,60 | 31,7 | 8380 | 2300 | 5,0 | 2,83 |

Total oil consumption during ten hours duration of tests (ii) and (iii): 44 g/h

Tyres make and size — front: PHÖNIX 7,50 - 16 AS Front 6 ply
rear : DUNLOP 14,9 - 28 AS 6 ply

| Specific fuel consumpt. g/kWh | Fuel °C | Coolant °C | Engine-oil °C | Atmospheric conditions: Tempe-rature °C | Relative humidity % | Pressure mbar |
|---|---|---|---|---|---|---|
| tyre inflation pressure 1,4 bar<br>active tyre radius under static load 641 mm | | | | | | |
| 352 | 12 | - | 65 | 5 | 76 | 1018 |
| 322 | 15 | - | 84 | 8 | 67 | 1018 |
| 299 | 15 | - | 78 | 8 | 68 | 1018 |
| 287 | 15 | - | 80 | 8 | 70 | 1018 |
| 292 | 15 | - | 75 | 8 | 70 | 1018 |
| 286 | 15 | - | 80 | 8 | 72 | 1018 |
| 292 | 15 | - | 79 | 8 | 73 | 1018 |
| 290 | 15 | - | 80 | 9 | 72 | 1017 |
| - | 15 | - | 82 | 9 | 72 | 1017 |
| tyre inflation pressure 1,1 bar<br>active tyre radius under static load 654 mm | | | | | | |
| 349 | 15 | - | 77 | 9 | 74 | 1005 |
| 321 | 15 | - | 75 | 9 | 83 | 1004 |
| 306 | 14 | - | 78 | 10 | 74 | 1005 |
| 296 | 14 | - | 73 | 10 | 77 | 1005 |
| 290 | 14 | - | 80 | 10 | 75 | 1005 |
| 292 | 14 | - | 82 | 11 | 77 | 1005 |

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

## (3)) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50 - 16 AS Front 6 ply
rear: 14,9 - 28 AS 6 ply
Track of wheels front: 1380 mm
rear: 1513 mm

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | left-hand m | right-hand m | left-hand m | right-hand m |
| Radius of turning space | 3,51 | 3,46 | 4,00 | 3,90 |
| Radius of turning circle | 3,34 | 3,29 | 3,84 | 3,74 |

## (4) LOCATION OF CENTRE OF GRAVITY

| | |
|---|---|
| Height above ground | 765 mm |
| Distance forward from the vertical plane containing the axis of the rear wheels | 677 mm |
| Distance of the median plane of the tractor | 0 mm |

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## (5) BRAKING PERFORMANCE

### A) FOOT BRAKE

Date of tests: 20th January 1975
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 4000 kg with driver

Cold brakes

| | | with ballast | without ballast |
|---|---|---|---|
| Travelling speed | km/h | 25,0 | 25,0 |
| Deceleration | $m/s^2$ | 4,7 | 4,4 |
| Stopping distance | m | 5,4 | 5,6 |
| Force on pedal | N | 785 | 265 |
| Force on pedal to achieve a deceleration of 2,5 $m/s^2$ | N | 255 | 118 |

Brake fade characteristics (hot test)

| | | with ballast | without ballast |
|---|---|---|---|
| Deceleration | hot/cold % | 102 | 102 |
| Stopping distance | cold/hot % | 97 | 97 |
| Force on pedal | cold/hot % | 100 | 100 |

### B) PARK BRAKE

Tractor facing up slope:
Pull on hand brake 230 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 230 N, tractor does not roll

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 17th January 1975
Type of track: Concrete
Type of sound level meter: Brüel an Kjaer type 2203

Results of test

Gear: 4th fast speed
Travelling speed before acceleration: 17,5 km/h
Sound level: 87 dB (A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 17th January 1975
Type of track: Concrete
Type of sound level meter: Brüel and Kjaer type 2607
Type of frequency analyser: Brüel and Kjaer type 1614 (fitted with octave filter)

No cab or frame fitted on tractor

Results of tests

| Gear | Drawbar pull at which the tractor develops the maximum sound level N | Travelling speed nominal km/h | Travelling speed effective km/h | Sound level dB(A) |
|---|---|---|---|---|
| 1 slow | 21980 | 2,15 | 1,82 | 91,5 |
| 2 slow | 22160 | 3,42 | 2,82 | 93 |
| 3 slow | 21830 | 4,99 | 4,12 | 94 |
| 1 fast | 20450 | 6,39 | 5,47 | 93 |
| 4 slow*) | 15000 | 8,41 | 7,56 | 96 |
| 2 fast | 12260 | 10,17 | 9,29 | 93,5 |
| 3 fast | 8250 | 14,84 | 13,88 | 93 |
| 4 fast | light load | 25,01 | 26,04 | 92 |

*) The 4th slow gear corresponds to the travelling speed nearest to 7,5 km/h

## (8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

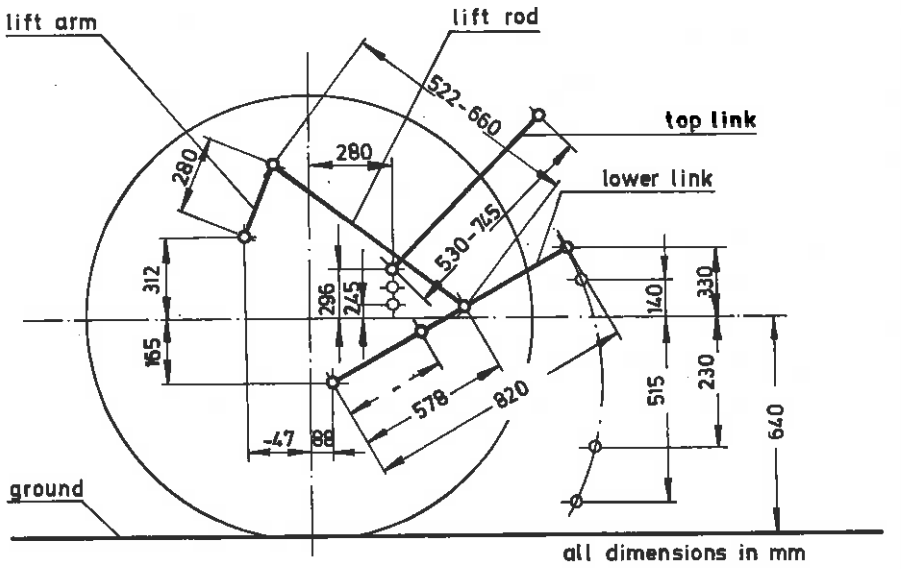
Date of tests: 31st October 1974

### HYDRAULIC PUMP

| | | |
|---|---|---|
| (1) | Opening pressure of relief valve in remote circuit | 175 bar |
| | Sustained pressure by open relief valve | 172 bar |
| (2) | Pump delivery rate at minimum pressure and maximum engine speed | 29,04 l/min |
| (3) | Pump delivery rate | 27,35 l/min |
| | Delivery pressure | 165 bar |
| | Hydraulic power | 7,52 kW |

### POWER LIFT

Dimensions of linkage geometry for the table on page 24



LIFTING FORCES

Lifting heights relative to horizontal lower links

| mm | -350 | -300 | -265 | -200 | -100 | -75 | -65 | 0 |
|---|---|---|---|---|---|---|---|---|
| at hitch points maximum mechanical advantage | | | | | | | | |
| N | | | | | | | 18370 | 18840 |
| minimum mechanical advantage | | | | | | | | |
| N | 15780 | 16000 | | 16480 | 16820 | | | 16950 |

Max. force exerted throughout the whole range 18370 N

Force at which front of tractor lifts with maximum allowable front ballast - N

| at test frame maximum mechanical advantage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| N | | | 23800 | 21250 | 19080 | | | 17680 |
| minimum mechanical advantage | | | | | | | | |
| N | | | | | | 16180 | | 15950 |

Max. force exerted throughout the whole range 16080 N

Force at which front of tractor lifts with maximum allowable front ballast 14850 N

PRÜFUNGS-ABTEILUNG
Deutz D 5206

Test No. 74-146

| 0 | +100 | +200 | +280 | +300 | +305 | +400 | +500 | +600 | +637 |
|---|---|---|---|---|---|---|---|---|---|
| lift rods 522 mm long | | | | | | | | | |
| 18840 | 19050 | 19100 | | 19100 | | 19300 | 21300 | | |
| lift rods 660 mm long | | | | | | | | | |
| 16950 | 16700 | 16820 | | 17420 | 17600 | | | | |

| lift rods 660 mm long | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17680 | 16850 | 16250 | 16080 | | | | | | |
| lift rods 522 mm long | | | | | | | | | |
| 15950 | 15580 | 14820 | | 13800 | | 12700 | 11770 | 10830 | 11050 |

All values of forces for pressure at max. hydraulic power 165 bar, see page 21; calculated from measurements at max. oil pressure 172 bar

| LINKAGE GEOMETRY<br>when connected to the standard frame | Maximum mechanical advantage | Minimum mechanical advantage |
|---|---|---|
| Projected length in side view: | | |
| Lower links | 820 mm | 820 mm |
| Lift arms | 280 mm | 280 mm |
| Lift rods | 660 mm | 522 mm |
| Top link | 628 mm | 632 mm |
| Distance of lift rod connection point from pivot point of lower link | 578 mm | 578 mm |
| The following dimensions are given relative to rear axle centre line 640 mm above ground | | |
| Lower link pivot point | 88 mm behind, 165 mm below | 88 mm behind, 165 mm below |
| Top link pivot point | 280 mm behind, 296 mm above | 280 mm behind, 245 mm above |
| Lift arm pivot point | 47 mm behind, 312 mm above | 47 mm behind, 312 mm above |
| Maximum and minimum height of lower link hitch points | 140 mm above, 515 mm below | 330 mm above, 230 mm below |
| Height of lower link hitch points when locked in the highest transport position | 970 mm above ground | |

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Deutz D 5206

Test No. 74-146

## OPTIONAL TESTS

### (9) ENGINE PERFORMANCE

Date of tests: 22nd and 23rd October 1974
Type of dynamometer: Schenck eddy current dynamometer W 150

Maximum power

| Power kW | Engine speed rev/min | Fuel consumption total 1/h | Fuel consumption total kg/h | Fuel consumption specific g/kWh | Specific energy kWh/l |
|---|---|---|---|---|---|
| At maximum power 2-hour test | | | | | |
| 38,8 | 2300 | 11,00 | 9,20 | 240 | 3,53 |
| At standard p.t.o. speed (540 rev/min) | | | | | |
| 36,4 | 2076 | 10,10 | 8,47 | 233 | 3,60 |
| At the speed recommended for drawbar work | | | | | |
| 38,8 | 2300 | 11,10 | 9,20 | 240 | 3,53 |
| Fuel consumption at part load | | | | | |
| (i) 85 % of torque at maximum power | | | | | |
| 33,4 | 2340 | 9,51 | 7,95 | 238 | 3,51 |
| (ii) unloaded | | | | | |
| - | 2417 | 2,64 | 2,21 | - | - |
| (iii) 50 % of the load defined in (i) | | | | | |
| 17,0 | 2376 | 5,83 | 4,87 | 286 | 2,92 |
| (iv) maximum power | | | | | |
| 38,8 | 2300 | 11,10 | 9,20 | 240 | 3,53 |
| (v) 25 % of the load defined in (i) | | | | | |
| 8,6 | 2398 | 4,15 | 3,47 | 404 | 2,07 |
| (vi) 75 % of the load defined in (i) | | | | | |
| 25,3 | 2358 | 7,89 | 6,60 | 259 | 3,21 |

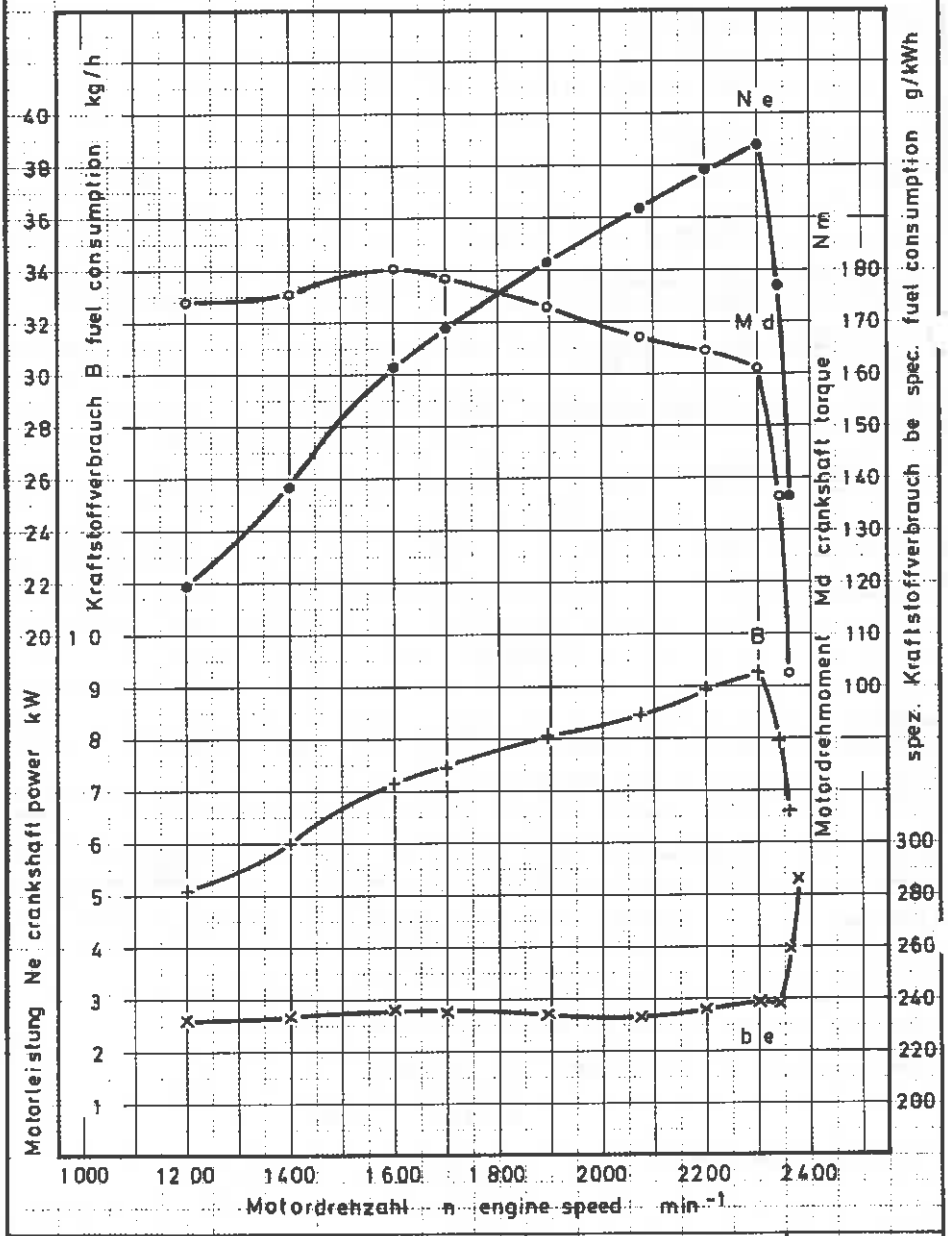
Optimum fuel consumption: 222 g/kWh at 22,2 kW and 1500 rev/min
Standard fuel consumption: 1/2 (DIN 9606): 4,62/9,36 l/h
No load maximum engine speed: 2417 rev/min
Torque at maximum power: 161 Nm
Maximum torque: 181 Nm at 1600 rev/min of the engine

| | | |
|---|---|---|
| Mean atmospheric conditions: | temperature | 15°C |
| | pressure | 977 mbar |
| | relative humidity | 75 % |
| Maximum temperatures: | coolant | not recorded |
| | engine oil | 94°C |
| | fuel | 19°C |

PRÜFUNGS-ABTEILUNG

# Motorprüfung
## Engine – test

D 5206

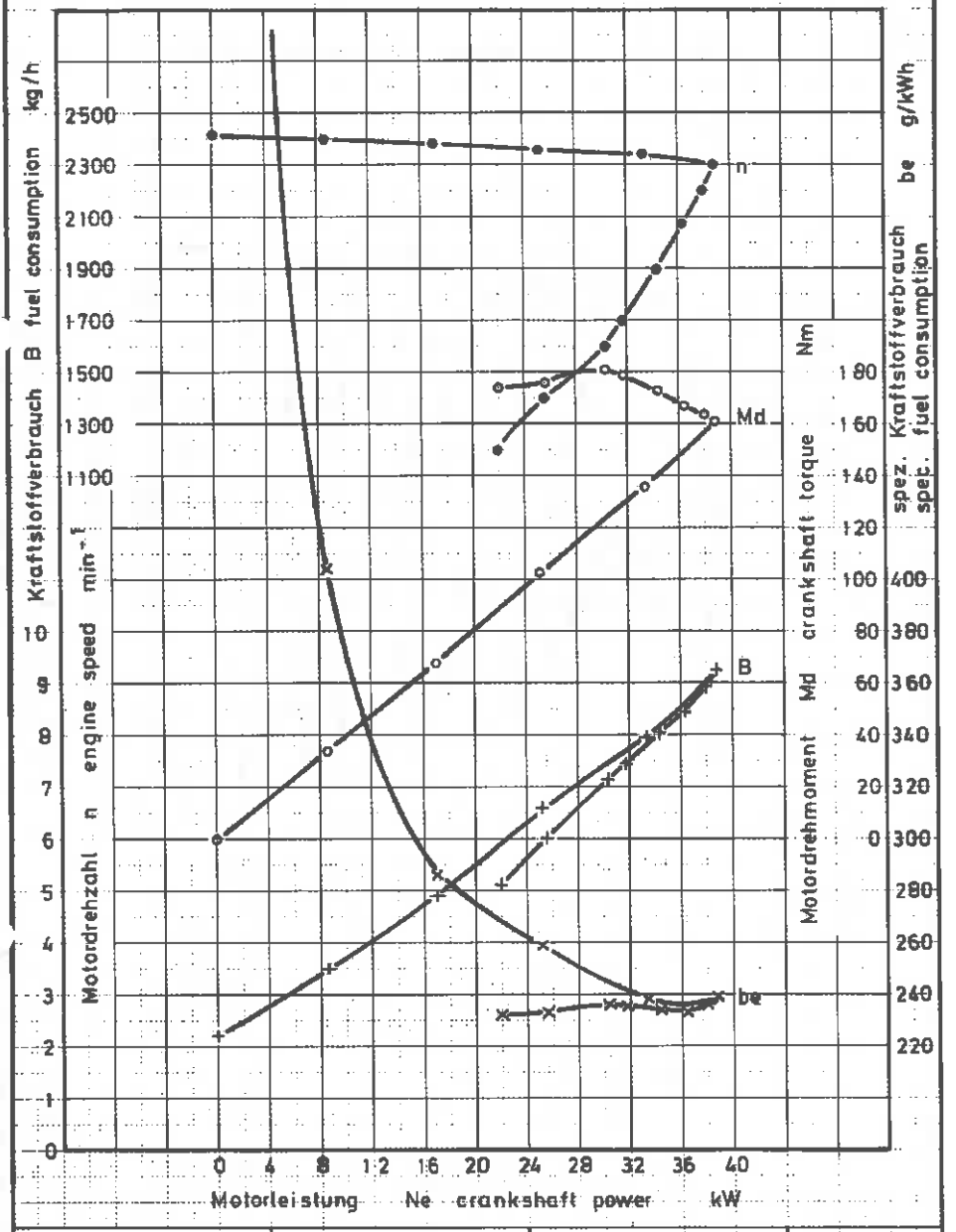



| | | |
|---|---|---|
| Lufttemperatur: 15 °C<br>temperature : | Luftdruck: 977 mb<br>pressure : | Kraftstoff: 0,836 kg/l<br>fuel : |

PRÜFUNGS-ABTEILUNG

# Motorprüfung
# Engine — test

D 5206




| Lufttemperatur: temperature : | 15°C | Luftdruck: pressure : | 977 mb | Kraftstoff: fuel : | 0.836 kg/l |
|---|---|---|---|---|---|

PRÜFUNGS-ABTEILUNG

# Motorprüfung
# Engine – test

D 52 06

Motorleistung in % der Leistung bei Nenndrehzahl
engine power in % of power at rated engine speed

Motordrehzahl in % der Nenndrehzahl
engine speed in % of rated engine speed

Belastung in % des Drehmomentes bei Nenndrehzahl
load in % of torque at rated engine speed

225 g/kWh
222
230
235
240
250
260
275
300
350
450

| | | | | | |
|---|---|---|---|---|---|
| Lufttemperatur: temperature | 15°C | Luftdruck: pressure | 977mb | Kraftstoff: fuel | 0,836kg/l |