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

O.E.C.D. No. **607**



Agricultural Tractor DEUTZ DX 85-S and DX 85-N

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.

Performance of tests: March till July 1978

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: 5th February 1979 O.E.C.D. No. 607

The tractor DX 85 is manufactured in 2 variants:

i) as **DX 85-S** with a speed change gear with 5 speeds and a maximum design related speed of 30 km/h
ii) as **DX 85-N** with the same speed change gear but without the 5th gear and a maximum design related speed of 25 km/h

In the rest both variants are identical.

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 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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PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

TABLE OF CONTENTS

	Page
Specification of tractor	4 to 15
Fuel and lubricants used in tests	16
COMPULSORY TESTS	
(1) Main power take-off performance	18 to 21
(2) Drawbar performance on a concrete track	22 to 23
(3) Turning space and turning circle	24
(4) Location of centre of gravity	24
(5) Braking performance	25
(6) Ambient noise, emitted by the tractor	26
(7) Noise at the driver's ear level	26
(8) Power lift and hydraulic pump performance	27 to 30
OPTIONAL TESTS	
(1) Engine performance	31 to 34

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

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-Deutz and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	KLÖCKNER-HUMBOLDT-DEUTZ AG
Model:	DX 85-S and DX 85-N
Type:	Wheel tractor, unit construction, rear wheel driven
Serial no:	7616/0002

Engine

Make:	Own make
Model:	F5L 912
Type:	4-stroke DIESEL engine with direct injection, air cooled
Serial no:	5734672
Cylinders:	5 in line, bore 100 mm, stroke 120 mm; displacement 4710 cm^3; compression ratio 17:1, replaceable ribbed cylinder liners
Valves:	Overhead
Fuel system:	PIERBURG fuel feed pump PE 15252; BOSCH in line injection pump: PES 5 A 80 D 410/3 RS 2526; manufacturer's production setting 49 mm^3/stroke at rated engine speed; injection timing 30° before TDC; BOSCH multihole injection nozzles DLLA 149 S 394; injection pressure 175 bar; BOSCH fuel filter with replaceable cartridge; capacity of fuel tank 125 l
Governor:	BOSCH centrifugal variable speed governor: EP/RSV 325-1150 A 8 B 2014 DL; governed range of engine speed 750 to 2400 rev/min; rated engine speed 2300 rev/min

Air cleaner:	Own make DEUTZ-SICCOPUR dry paper element filter with precleaner, replaceable cartridge with electrically operating maintenance teleindicator; air intake below bonnet; on desire additional DONALDSON cyclonic precleaner with air intake above bonnet; optional: MANN UND HUMMEL oil bath air cleaner with DONALDSON cyclonic precleaner with air intake above bonnet; oil capacity 0,9 l
Exhaust silencer:	LANGE 1-chamber-expansion type silencer; 120 x 230 mm oval, 1090 mm long; on the left hand side of the bonnet; mouth showing upwards; mouth 2639 mm above ground
Lubrication system:	Forced feed from gear pump; strainer in sump; MANN UND HUMMEL oil filter in full flow with by-pass valve and replaceable cartridge; cartridge change at all oil changes; oil capacity 13 l; recommended oils and change intervals: MIL-L-2104 B or MIL-L-2104 C 100 hours 200 hours recommended oil viscosities: below - 5°C SAE 10W from -10°C to +10°C SAE 20W/20 from + 5°C to +30°C SAE 30 above +25°C SAE 40 or SAE 20W/40 above -10°C oil cooler on the right hand side of engine
Cooling system:	Air cooling with axial blower V-belt driven
Starting system:	Electrical BOSCH screw push starter motor JD 12V 3 kW, BOSCH flame plug in intake pipe
Electrical equipment:	12 Volt, negative earth; BOSCH three phase alternator G 1 14 V 33 A; 1 battery 110 Ah at 20 hours rating

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

Transmission

Clutch:	LAMELLEN UND KUPPLUNGSBAU GMBH independent dry dual disc clutch: DT 295/280G; driving part pedal operated, 295 mm diameter, p.t.o. part hand lever operated, 280 mm diameter
Gear box:	Own make; TW 90.10; synchromesh speed change gear with 5 speeds; at model DX 85-N with 4 speeds; collar shifted group gear with 3 forward groups and 1 reverse group; optional: intermediate group and reverse group synchronized; collar shifted creep group optional, not fitted on tractor tested; totally 15 forward and 5 reverse speeds; at model DX 85-N 12 forward and 4 reverse speeds, see page 7
Rear axle and final drive:	Bevel gear with crown wheel and pinion; bevel gear differential on intermediate shaft; spur gear final drives; differential lock in the rear axle, pedal operated, self disengaging, electrically tele-indicated when locked
Front axle:	Not propelled; standard axle model 01; reinforced front axle model 02 for heavy-duty available; permissible axle loads are the same for both axle models
Oil capacity:	Speed change gear, group gear, rear axle and final drives totally 48 l
Recommended oil:	Engine oil SAE 20W/20 MIL-L-2104 B
Oil changing:	2000 hours but at least after 2 years

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

Total ratios and speeds (18,4 R 34)

Group	Gear	Total ratio engine : driving wheel	Nominal travelling speed *) at rated engine speed km/h	Nominal travelling speed *) at standard p.t.o. speed 540 rev/min km/h
Creep group optional o)	1	1644,39	0,41	0,37
	2	1077,03	0,62	0,55
	3	878,45	0,76	0,68
	4	605,83	1,10	0,98
	5 +)	493,64	1,35	1,21
Slow group	1	307,89	2,17	1,94
	2	201,66	3,31	2,96
	3	164,48	4,06	3,63
	4	113,43	5,89	5,26
	5 +)	92,43	7,22	6,46
Intermediate group	1	151,94	4,39	3,93
	2	99,52	6,71	6,00
	3	81,17	8,23	7,36
	4	55,98	11,93	10,67
	5 +)	45,61	14,64	13,09
Fast group	1	72,44	9,22	8,24
	2	47,45	14,07	12,59
	3	38,70	17,25	15,43
	4	26,69	25,02	22,37
	5 +)	21,75	30,70	27,46
Reverse group	1	123,80	5,39	4,82
	2	81,09	8,23	7,36
	3	66,14	10,10	9,03
	4	45,61	14,64	13,09
	5 +)	37,16	17,96	16,07

*) calculated with the INDEX RADIUS 770 mm as per WdK 154

+) not fitted on model variant DX 85-N

o) not fitted on trator tested

Power take-off

Independent p.t.o.;
2 stub shafts at rear of tractor,
1 for 540 rev/min, 1 for 1000 rev/min;
both shafts rotate in common and are
driven through the hand lever operated
second disc of the dual disc clutch;
both are engaged or disengaged in common
by hand lever of p.t.o.-
disc of dual disc clutch;
direction of rotation of both p.t.o. shafts
clockwise, viewed from tractor rear

540 rev/min p.t.o.
615 mm above ground,
50 mm right of tractor's median plane;
29 x 34,9 x 8,7 mm = 1 3/8in, 6 splines
DIN 9611 Form 1, BS 1495 ASAE S 203.7;
604 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2057 rev/min engine speed

1000 rev/min p.t.o.
600 mm above ground,
50 mm left of tractor's median plane;
involute profile 1 3/8in, 21 splines;
DIN 9611 Form 2, ASAE S 204.4;
optional: 29 x 34,9 x 8,7 mm = 1 3/8in,
6 splines;
DIN 9611 Form 1, BS 1495, ASAE S 203.7;
1111 rev/min at rated engine speed;
standard p.t.o. speed 1000 rev/min at
2071 rev/min engine speed

All p.t.o. speeds may be set by aid
of tractormeter

Power lift

Hydraulic system:

Own make;
K 55.2 DEUTZ TRANSFERMATIC system;
hydraulic power lift, unit construction;
BOSCH tandem gear type pump:
HY/ZFFS 11/16 + 14 L;

tandem part for hydraulic steering;
delivery of power lift part 16 cm³/rev or 39,6 l/min at rated engine speed;
optional: BOSCH tandem gear type pump: HY/ZFFS 11/22,5 + 14 L;
delivery of power lift part 22,5 cm³/rev or 55,6 l/min at rated engine speed;
directly driven by engine;
single acting ram 90 mm bore, 146 mm stroke;
overpressure relief valve for ram adjusted to 210 to 260 bar;
1 external additional ram of own make, 55 mm bore, 185 mm stroke;
optional: 2 external additional rams of own make 55 mm bore, 185 mm stroke;
DEUTZ control valve for lifting, lowering, neutral and floating position, draft control and position control;
maximum oil pressure 175 bar;
up to 3 single and/or dual acting DEUTZ-additional control valves with each 1 or 2 oil tappings available;
hydraulic oil tank with 18,5 l capacity;
optional: additional oil tank with 20 l capacity;
4,5 l (with additional tank 24,5 l) oil may be taken off through oil tappings when tractor is working driving, 7,5 l (with additional tank 27,5 l) when tractor is working stationary;
recommended oil engine oil SAE 10W MIL-L-2104 C throughout the year;
oil changing interval 1000 hours or once 1 year

Implement linkage:

Three point linkage category II DIN 9674;
WALTERSCHEIDT quick coupler available;
2 holes in the lower links for fitting the lift rods;
hole 1 in 570 mm
hole 2 in 610 mm distance of the pivot point of lower links;

lift rods length adjustable from 725 to 830 mm;
lifting range above ground when using
hole no. 1:
with short lift rods from 398 to 1035 mm
with long lift rods from 167 to 850 mm
hole no. 2:
with short lift rods from 440 to 1035 mm
with long lift rods from 220 to 882 mm

Holed bar

Short bar;
fitted on clevis of lower links;
length between the joint balls 825 mm;
width of the bar 80 mm, thickness 30 mm;
centre hole and 4 holes on either side with 80 mm distance each;
all holes 33 mm diameter;
height above ground adjustable by power lift from 182 to 1050 mm depending from lift rods length and fixing on the lower links, measured at the surface of the bar;
distance of centre hole with lower links in horizontal position
from rear axle centre 1085 mm
from p.t.o. shaft end 562 mm

Trailer hitch

CRAMER or own make
KU 758 AK 8500
automatical not automatical
height above ground 865 mm, not adjustable;
hitch hole diameter 33 mm;
distance of hitch hole centre to rear axle centre 608 mm;
permissible vertical load 1090 kg

Swinging drawbar

Height above ground 382 mm;
diameter of hitch hole 33 mm;
pivot point 338 mm before rear axle centre;
in 3 positions fixable on pivot point;
distance of hitch hole
from rear axle centre 881, 926 or 1026 mm
from p.t.o. shaft end 355, 400 or 500 mm;
swingable to either side about 530, 545 or 590 mm

Towing hitch

667 mm above ground

Steering

ZAHNRADFABRIK FRIEDRICHSHAFEN AG
hydrostatic steering;
model SERVOSTAT 8452;
pressure oil supply from tandem part of
power lift hydraulic pump;
oil delivery 14 cm^3 per revolution;
control valve operated by steering wheel;
double acting ram propped on the front axle;
ram with 45 mm bore and 250 mm stroke
when tractor is equipped with front axle model 01
or 50 mm bore and 250 mm stroke when tractor
is equipped with reinforced front axle model 02

Brakes

Parking brake: SIMPLEX shoe type brake;
mechanically acting on 2 brake drums on
the differential half shafts;
brake drum diameter 180 mm, width 60 mm;
operated by hand lever with ratchet

Service brake: TEVES
hydraulically-mechanically acting dry
fixed saddle disc type brake SS 60;
acting on 2 discs on the differential half shafts;
effectual disc diameter 216 mm;
outside disc diameter 276 mm;
pedal operated

Steering brake: Divided pedal of service brake;
for normal braking locked together

Trailer
braking device: Own make; by request, not fitted on tractor tested;
dual line type or combined single-dual
line type;
air compressor with 120 l/min delivery at
rated engine speed,
air tank with 20 l capacity;
operating pressure 8 bar;
air pressure to relief valve 14 bar
to control valve 7,3 bar;
connection pressure at single line type 5,3 bar
at dual line type 7,3 bar

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

Wheels

Steered wheels: 2 pneumatics in front 7,50-20 AS 6 ply;
maximum permissible load per tyre 875 kg
at 2,25 bar inflation pressure and 30 km/h;
track width adjustable from 1476 to 1976 mm
in 5 steps of 100 mm each by extending
telescopic half axles;
rims 5,5 F x 20

Driving wheels: 2 pneumatics at rear 18,4 R 34 AS 8 ply
radial type tyre casing;
maximum permissible load per tyre 2565 kg
at 1,4 bar inflation pressure and 30 km/h;
track width adjustable from 1600 to 2000 mm
in 4 steps of 100 mm each by turning wheels
and offset lug type rims;
rims W 15 L x 34

Wheel base: 2558 mm

Other wheels: Optional available are:

steered wheels	10,00-16	AS	6 ply
driving wheels	9,5-44	AS	8 ply
	12,4-38	AS	6 ply
	13,6-38	AS	6 ply
	16,9-34	AS	6 ply

radial type tyre casings as well as
diagonal type tyre casings permissible;
permissible loads and total weights page 15

Cab

Own make;
safety cab:
model SK 1905-37 LUXUS (MASTER CAB)
O.E.C.D. tested
approval no. CSD 0018/12-a(C) DX 85-S
no. CSD 0018/11-a(C) DX 85-N
platform with rubber vibration damper
fixed on rear axle casing and clutch casing;
four post protection frame of square steel
tubes with steel roof built up upon platform;
protection frame completed by front frame
of square steel tubes too;
round about glassed with safety glass;
windscreen and upper part of back window
may be opened upwards and fixed;
rear side windows may be removed;

lower part of back window for free look on implement linkage, swinging drawbar and trailer hitch is built in solid;
inside totally covered with noise damping paddings of PVC-material;
door on the left hand side, optional on the left and right hand side, manufactured of glass fiber reinforced synthetics;
entry with 2 steps, lower step 530 mm above ground, upper step 820 mm above ground;
oil cooler heat exchanger heating system;
optional additional heating and/or air-conditioning system;
electric windscreen wiper and washer;
2 rear view mirrors;
optional inside mirror

The tractor is also available without cab or with safety frame or without safety frame or with JUNIOR CAB (simpler equipment)

Seat

GRAMMER
DS 85 H/90 AR
upholstered seat with back and arm rests;
adjustable spring with shock absorber;
back rest infinitely variable,
side inclination adjustable,
arm rest adjustable;
height of driver's platform 1080 mm above ground,
height of unloaded seat above platform adjustable in 3 steps from 420 to 480 mm;
for and aft adjustable about 155 mm

Dimensions

Total length:	4362 mm	with implement linkage without ballast
Total width:	2304 mm	with smallest track width
	2504 mm	with largest track width
Total height:	2639 mm	to top of exhaust pipe
Ground clearance:	500 mm	below engine crankshaft case

PRÜFUNGS-ABTEILUNG

DEUTZ DX 85-S
DX 85-N

Test No. 78-27

Weights — Ready for use, as tested

		without driver	with driver
Without ballast:	front	1525 kg	1540 kg
	rear	2685 kg	2755 kg
	total	4210 kg	4295 kg
Front ballast:	1 front weight		40 kg
Rear ballast:	6 weights per wheel	50 kg each	600 kg
	water in the tyres		665 kg
With ballast:	front	1590 kg	1600 kg
	rear	3925 kg	4000 kg
	total	5515 kg	5600 kg

Lighting equipment — 12 Volt
as per German legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm *)
Head lights with parking lights	130 Ø	1005	944
Side lights	50 x 50	1617	354
Rear lights	45 x 66	1582	325
Reflectors	103 x 58	1319	142

*) at smallest track width

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

Permissible total weights and axle loads

for all available wheel equipment

Wheel equipment front	Wheel equipment rear	Permissible total weights kg	Permissible axle load front kg	Permissible axle load rear kg
DX 85-S				
7,50-20 6 PR or 10,00-16 6 PR	9,5-44 8 PR	5600	1750	3890
	12,4-38 6 PR	4710		2960
	13,6-38 6 PR	5070		3320
	16,9-34 6 PR	5600		4030
	18,4-34 8 PR	5600		4200
DX 85-N				
7,50-20 6 PR or 10,00-16 6 PR	9,5-44 8 PR	5600	2010	3890
	12,4-38 6 PR	5170		3160
	13,6-38 6 PR	5560		3550
	16,9-34 6 PR	5600		4200
	18,4-34 8 PR	5600		4200

All driving wheel tyres are permissible as diagonal type tyre casings as well as radial type tyre casings

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

FUELS AND LUBRICANTS USED IN TESTS

Fuel:	ARAL-DIESEL-fuel DIN 51601
	specific gravity at 15°C
	at engine tests 0,833 kg/1
	at p.t.o. tests 0,833 kg/1
	at drawbar tests 0,835 kg/1
Engine oil and transmission oil	ESSOLUBE HDX SAE 20W/20 MIL-L-2104 B
Hydraulic oil:	ESSOLUBE HDX SAE 10W MIL-L-2104 B

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

TEST RESULTS

PRÜFUNGS-ABTEILUNG
Deutz DX 85-S
DX 85-N

COMPULSORY TESTS

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

Date of tests: 19th April 1978
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

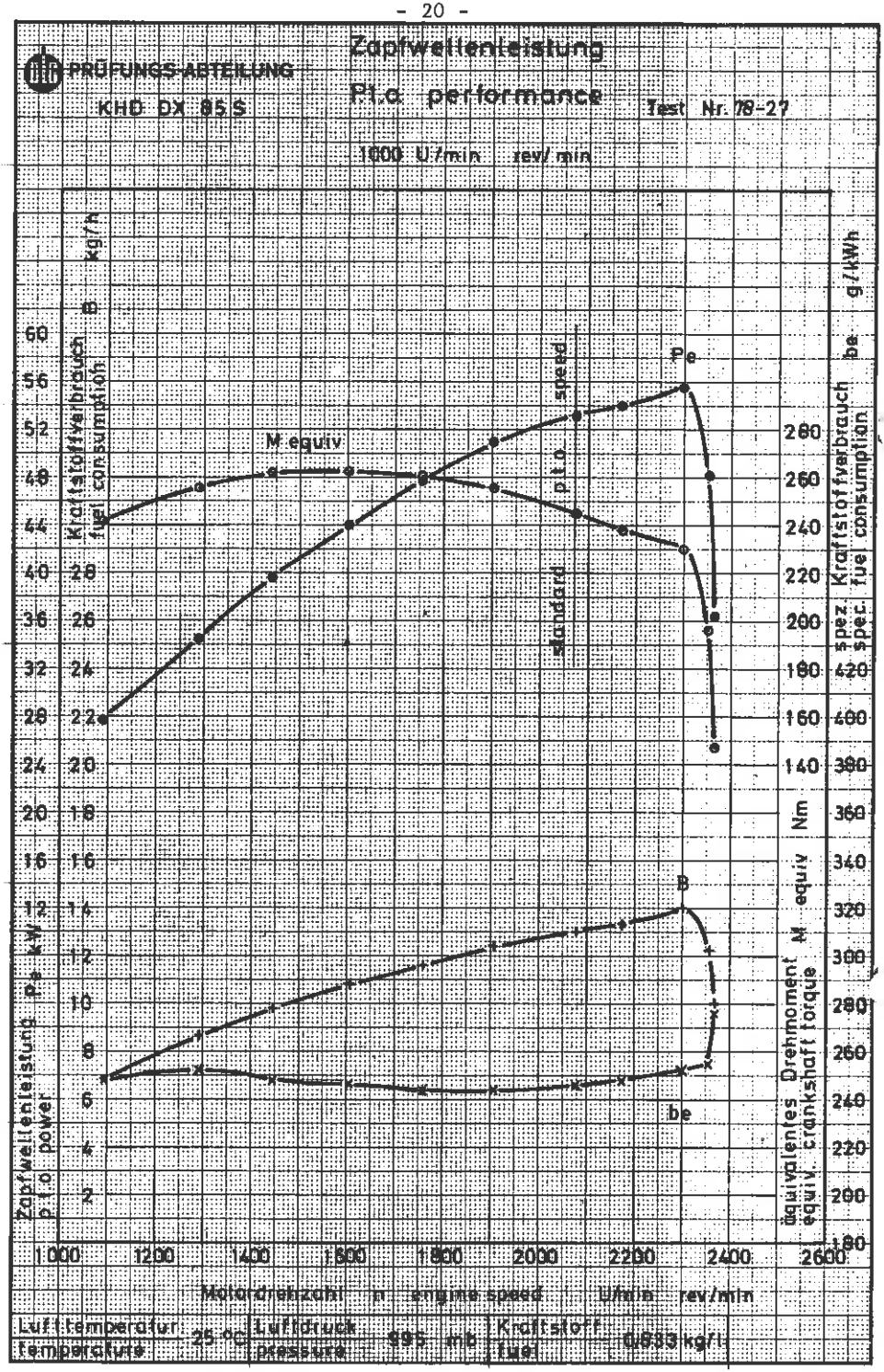
Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
At 2-hour test						
55.5	2300	1110	16.79	13.98	252	3.30
At standard p.t.o. speed						
52.9	2071	1000	15.56	12.96	245	3.40
At the speed recommended for drawbar work						
55.5	2300	1110	16.79	13.98	252	3.30
Part loads, the governor hand lever in the position corresponding to the maximum power at full load						
(i) 85% of the torque at maximum power at 2-hour test						
48.0	2344	1132	14.66	12.21	254	3.28
(ii) unloaded						
-	2425	1171	4.41	3.67	-	-
(iii) 50% of the load defined in (i)						
24.4	2375	1147	9.43	7.85	322	2.59
(iv) maximum power						
55.5	2300	1110	16.79	13.98	252	3.30
(v) 25% of the load defined in (i)						
12.2	2396	1157	7.01	5.84	476	1.75
(vi) 75% of the load defined in (i)						
36.3	2359	1139	12.00	10.00	276	3.02

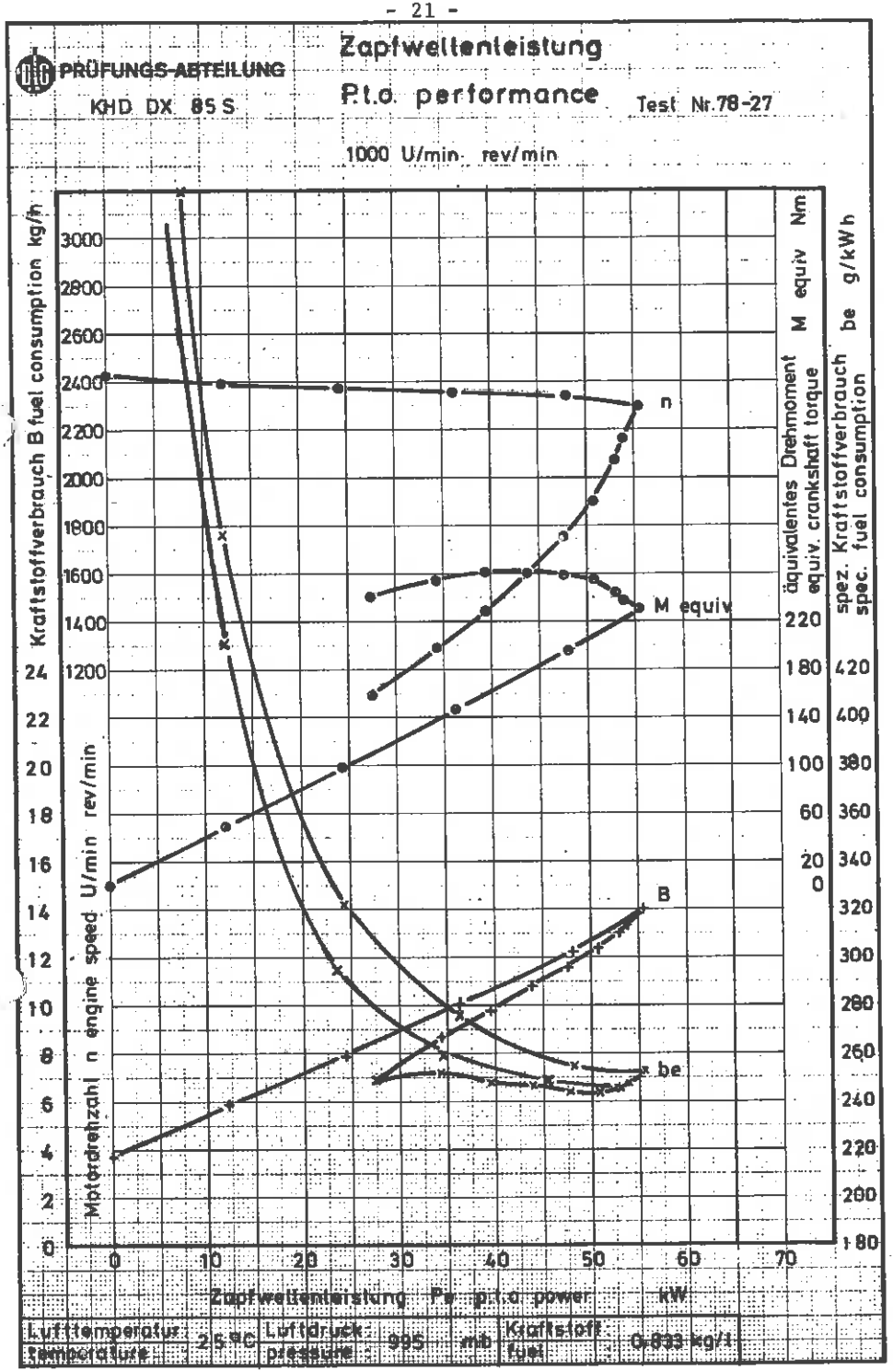
Power kW	Speed engine rev/min	Speed p.t.o. rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load						
(i) 85% of the torque at maximum power at 2-hour test						
45.6	2098	1013	13.34	11.11	244	3.42
(ii) unloaded						
-	2187	1056	3.54	2.95	-	-
(iii) 50% of the load defined in (i)						
23.3	2140	1033	8.24	6.86	295	2.82
(iv) maximum power						
52.9	2071	1000	15.56	12.96	245	3.40
(v) 25% of the load defined in (i)						
11.8	2169	1047	6.08	5.07	430	1.94
(vi) 75% of the load defined in (i)						
34.7	2127	1027	10.78	8.98	259	3.22

Standard specific fuel consumption (g/kWh): 254/322/244/295

No load maximum engine speed: 2425 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 230 Nm
Maximum equivalent crankshaft torque: 261 Nm at 1602 rev/min of the engine

Mean atmospheric conditions:	temperature	25 °C
	pressure	995 mbar
	relative humidity	37 %
Maximum temperatures:	coolant	-
	engine oil	104 °C
	fuel	25 °C
	engine air intake	30 °C


PRÜFUNGS-ABTEILUNG
KHD DX 85 S
Zapfwellenleistung
P.t.o. performance
Test Nr. 78-27
1000 U/min rev/min
Kraftstoffverbrauch B kg/h
fuel consumption
Zapfwellenleistung P.t.o. power Pe kW
äquivalentes Drehmoment M equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fue consumption
M equiv
p.t.o. speed
standard
Pe
B
be
Motordrehzahl n engine speed U/min rev/min
Lufttemperatur 25 °C temperature
Luftdruck 995 mb pressure
Kraftstoff 0,833 kg/l fuel


PRÜFUNGS-ABTEILUNG
KHD DX 85 S
Zapfwellenleistung
P.t.o. performance
Test Nr. 78-27
1000 U/min rev/min
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed U/min rev/min
äquivalentes Drehmoment M equiv Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
n
M equiv
B
be
Zapfwellenleistung Pe p.t.o power kW
Lufttemperatur 25 °C Luftdruck 995 mb Kraftstoff 0,833 kg/l
temperature pressure fuel

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

(2) DRAWBAR PERFORMANCE

Date of tests: 13th till 24th July 1978
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 620 mm						
1 slow	1,91	26,1	49100	2379	14,9	2,19
2 slow	2,87	38,7	48510	2357	15,2	2,48
3 slow	3,51	44,3	45410	2299	12,9	2,61
1 inter	3,87	44,9	41760	2304	10,9	2,66
4 slow	5,39	47,4	31680	2303	7,4	2,80
2 inter	6,21	47,6	27610	2300	6,4	2,82
5 slow *)	6,74	46,6	24890	2300	5,6	2,74
3 inter	7,71	47,5	22180	2300	5,1	2,79
1 fast	8,74	46,4	19130	2300	4,1	2,75
4 inter	11,40	47,3	14930	2302	3,2	2,79
2 fast	13,54	45,8	12170	2302	2,6	2,71
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 2nd gear of inter group						
2 inter	6,51	37,5	20710	2365	4,5	2,68
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
2 slow	-	-	49100	-	-	-
(iv) MAXIMUM POWER without ballast height of drawbar above ground 790 mm						
3 slow	3,50	38,0	39040	2358	15,0	2,33
1 inter	3,80	41,2	39000	2353	15,0	2,45
4 slow	5,23	44,5	30640	2300	10,6	2,65
2 inter	6,09	44,6	26360	2300	9,1	2,64
5 slow *)	6,57	44,6	24450	2300	8,6	2,65
3 inter	7,54	46,0	21940	2300	7,7	2,72
1 fast	8,58	46,6	19570	2305	6,5	2,74
4 inter	11,23	47,7	15290	2297	5,1	2,84
2 fast	13,39	46,7	12560	2302	4,3	2,76
5 inter*)	13,88	45,8	11880	2294	4,2	2,70

Total oil consumption during ten hours duration of tests (ii) and (iii): 75 g/h

*) not at DX 85-N

PRÜFUNGS-ABTEILUNG

Test No. 78-27

Tyres make and size: front: 7,50-20 AS Front FIRESTONE 6 ply
rear: 18,4 R 34 AS CONTINENTAL FARMER 8 ply

Tread bar height at the beginning of drawbar tests 88% of the value when new

Specific fuel consumpt. g/kWh	Temperatures Fuel °C	Coolant °C	Engine-oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
tyre inflation pressure 1,4 bar rolling radius of tyres under static load 762 mm						
378	24	-	78	20	94	993
335	22	-	75	19	99	993
317	24	-	73	21	91	993
312	24	-	80	21	91	993
296	23	-	78	20	92	993
295	22	-	84	20	92	993
302	22	-	88	20	92	993
297	22	-	85	20	90	993
301	26	-	86	24	85	1001
296	26	-	80	24	84	1002
304	26	-	85	27	81	1002
309	22	-	85	20	90	1002
-	22	-	87	20	89	1002
tyre inflation pressure 1,2 bar rolling radius of tyres under static load 765 mm						
354	28	-	80	23	85	1004
337	28	-	80	22	95	1004
311	30	-	85	27	80	1004
312	30	-	85	26	82	1004
311	30	-	80	26	82	1004
303	28	-	85	23	95	1004
301	25	-	85	21	100	1004
290	30	-	85	24	87	1004
299	30	-	85	25	87	1004
306	30	-	85	26	85	1004

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

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 7,50-20 AS Front 6 ply
rear: 18,4 R 34 AS 8 ply

Track of wheels front: 1576 mm
rear: 1700 mm

	With brakes		Without brakes	
	left-hand m	right-hand m	left-hand m	right-hand m
Radius of turning space *)	3,90	4,02	4,33	4,45
Radius of turning circle	3,78	3,90	4,21	4,33

*) without front mould gards

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	962 mm
Distance forward from rear axle centre	915 mm
Distance from tractor's median plane	0 mm

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

(5) BRAKING PERFORMANCE

A) SERVICE BRAKE

Date of tests: 18th till 20th July 1978
Type of track: Concrete
Type of decelerometer: MOTO-METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor with driver 5600 kg

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	4,6	3,8
Stopping distance	m	7,0	7,8
Force on pedal	N	380	250
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	170	100

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	100	108
Stopping distance	cold/hot	%	98	91
Force on pedal	cold/hot	%	115	93

B) PARKING BRAKE

Tractor facing up 16 % slope
Pull on hand brake 220 N, tractor does not roll

Tractor facing down 16 % slope
Pull on hand brake 200 N, tractor does not roll

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 17th July 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test	DX 85-S	DX 85-N
Gear:	5th fast	4th fast
Travelling speed before acceleration:	23,8 km/h	19,3 km/h
Sound level:	88 dB(A)	88,5 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 17th July 1978
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2607
Type of frequency analyzer: BRÜEL AND KJAER model 1614
(fitted with octave filter)

Tractor was fitted with safety cab
SK 1905-37-MASTER CAB

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	39060	2,17	1,88	83
2 slow	39100	3,31	2,92	83
3 slow	38480	4,06	3,49	83,5
1 inter	34250	4,39	3,85	84,5
4 slow	30410	5,89	5,21	83,5
2 inter+)	24110	6,71	6,30	84
5 slow *)	o) 23340	7,22	6,86	84,5
3 inter	18190	8,23	7,95	85
1 fast	17390	9,22	8,86	85
4 inter	13420	11,93	11,63	83,5
2 fast	11920	14,07	13,70	84,5
5 inter	o) 10490	14,64	14,32	84,5
3 fast	8750	17,25	17,04	84,5
4 fast	light load	25,02	25,71	82,5
5 fast	o) light load	30,70	31,70	83

+) at DX 85-N the 2nd inter gear corresponds to the travelling speed nearest to 7,5 km/h
*) at DX 85-S the 5th slow gear corresponds to the travelling speed nearest to 7,5 km/h
o) not at DX 85-N

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S/DX 85-N

Test No. 78-27

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

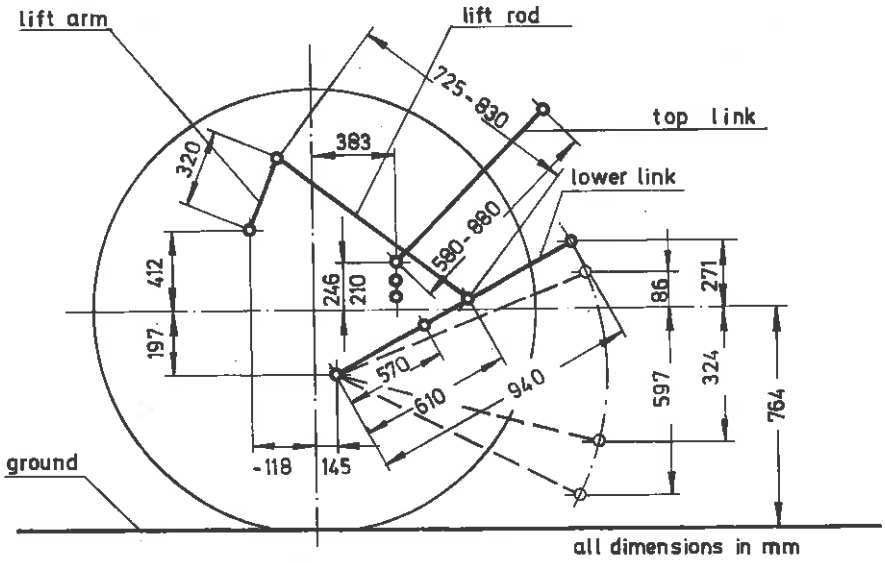
Date of tests: 28th March 1978

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	163 bar
Sustained pressure by open relief valve	176 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	41,8 l/min
(3) Pump delivery rate	38,4 l/min
Delivery pressure	163 bar
Hydraulic Power	10,43 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 30



PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-400	-372	-300	-200	-142	-127	-100	0
at hitch points maximum mechanical advantage								
N						35290	35520	37200
minimum mechanical advantage								
N	31570		33110	34160			34610	35070

Max. force exerted throughout the whole range 35290 N

Front of tractor does not lift

at test frame maximum mechanical advantage								
N		37930	35880	34290			33290	32020
minimum mechanical advantage								
N					32530		32530	32450

Max. force exerted throughout the whole range 27710 N

Force at which front of tractor lifts with maximum allowable front ballast 25850 N

+100	+200	+283	+300	+308	+400	+468	+500	+573

lift rods 725 mm long, hole no. 2

38010	38430		37930		37340	37100		

lift rods 830 mm long, hole no. 1

34610	35380	37100						

lift rods 830 mm long, hole no. 1, upper hole of upper link

30430	28840		27940	27710				

lift rods 725 mm long, hole no. 2, lower hole of upper link

31830	30650		29000		27820		25220	23580

All values of forces for pressure at max. hydraulic power 163 bar, see page 27; calculated from measurements at max. oil pressure 176 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	940 mm	940 mm
Lift arms	320 mm	320 mm
Lift rods	830 mm	725 mm
Top link	697 mm	705 mm
Distance of lift rod connection point from pivot point of lower link	570 mm	610 mm
The following dimensions are given relative to rear axle centre line 764 mm above ground		
Lower link pivot point	145 mm behind, 197 mm below	145 mm behind, 197 mm below
Top link pivot point	383 mm behind, 246 mm above	383 mm behind, 210 mm above
Lift arm pivot point	118 mm behind, 412 mm above	118 mm behind, 412 mm above
Maximum and minimum height of lower link hitch points	86 mm above, 597 mm below	271 mm above, 324 mm below
Height of lower link hitch points above ground when locked in highest transport position	850 mm	1035 mm

PRÜFUNGS-ABTEILUNG
DEUTZ DX 85-S
DX 85-N

Test No. 78-27

OPTIONAL TESTS

(1) ENGINE PERFORMANCE

Date of tests: 12th April 1978
Type of dynamometer: SCHENCK eddy-current dynamometer W 400

Power kW	Engine speed rev/min	Fuel consumption total l/h	Fuel consumption total kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power					
At 2-hour test					
59.6	2300	16.80	14.00	235	3.55
At standard p.t.o. speed (1000 rev/min)					
56.9	2071	15.87	13.22	232	3.59
At the speed recommended for drawbar work					
59.6	2300	16.80	14.00	235	3.55
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
52.0	2359	14.91	12.42	239	3.49
(ii) unloaded					
-	2436	4.05	3.37	-	-
(iii) 50% of the load defined in (i)					
26.6	2416	9.35	7.79	293	2.85
(iv) maximum power					
59.6	2300	16.80	14.00	235	3.55
(v) 25% of the load defined in (i)					
13.3	2414	6.58	5.48	412	2.02
(vi) 75% of the load defined in (i)					
39.4	2383	12.06	10.04	255	3.27

Optimum fuel consumption: 229 g/kWh at 48.9 kW and 1955 rev/min
No load maximum engine speed: 2436 rev/min
Torque at maximum power (2 hours): 248 Nm
Maximum torque: 282 Nm at 1605 rev/min of the engine

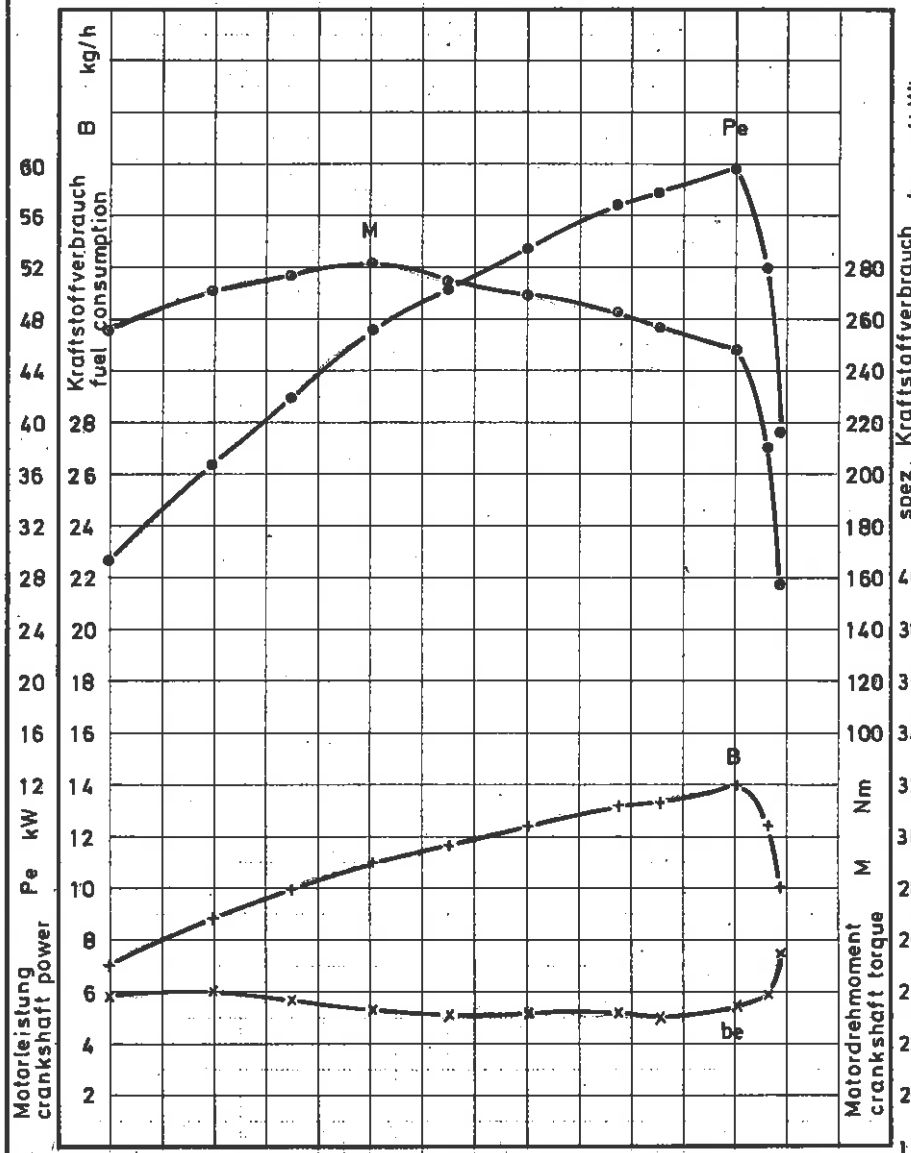
Mean atmospheric conditions:	temperature	23 °C
	pressure	994 mbar
	relative humidity	33 %
Maximum temperatures:	coolant	-
	engine oil	95 °C
	fuel	23 °C
	engine air intake	26 °C

PRÜFUNGS-ABTEILUNG

KHD DX 85 S

Motorleistung
Engine performance

Test Nr. 78-27



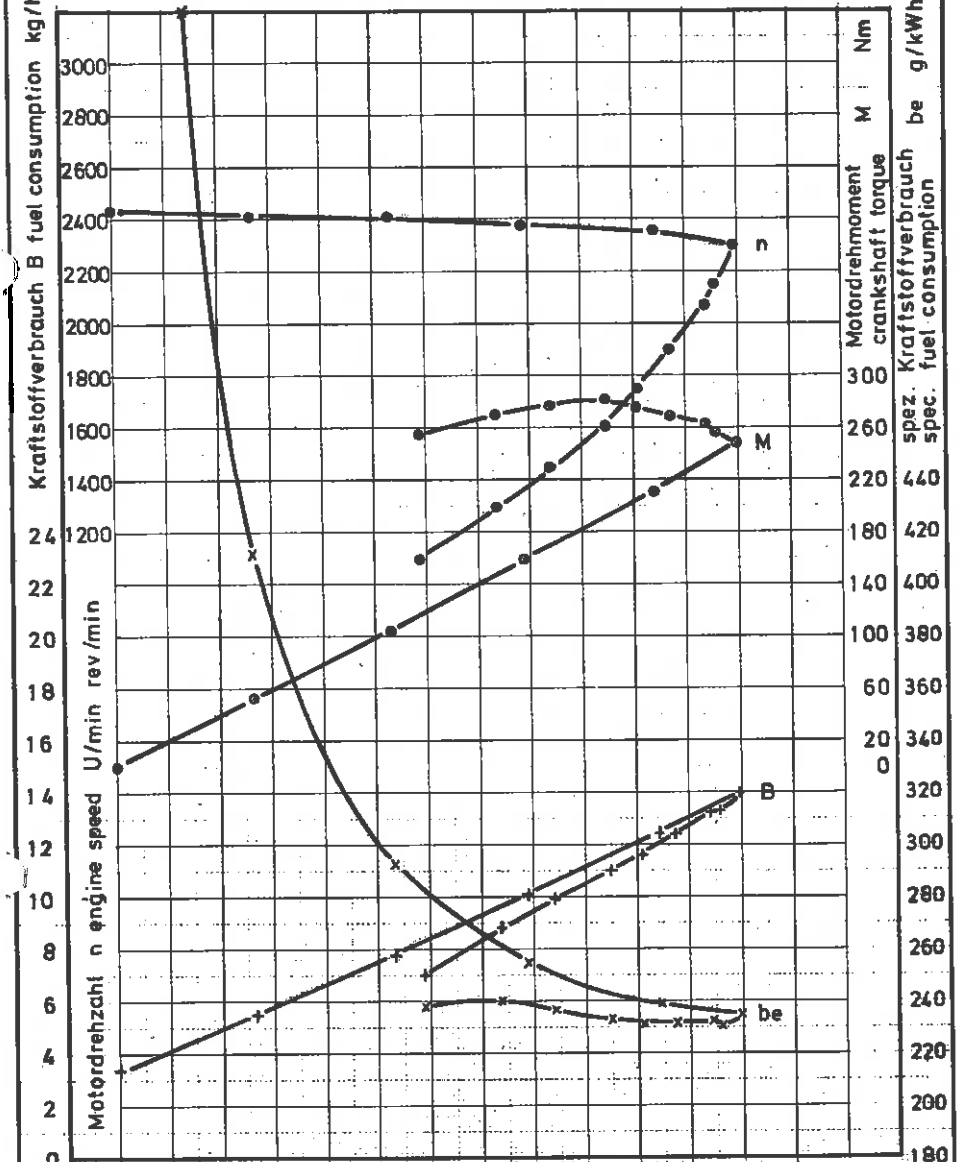
Lufttemperatur: temperature	23 °C	Luftdruck: pressure	994 mb	Kraftstoff: fuel	0,833 kg/l

PRÜFUNGS-ABTEILUNG

KHD DX 85 S

Motorleistung
Engine performance

Test Nr. 78-27



Lufttemperatur: temperature	23 °C	Luftdruck: pressure	994 mb	Kraftstoff: fuel	0,833 kg/l

PRÜFUNGS-ABTEILUNG

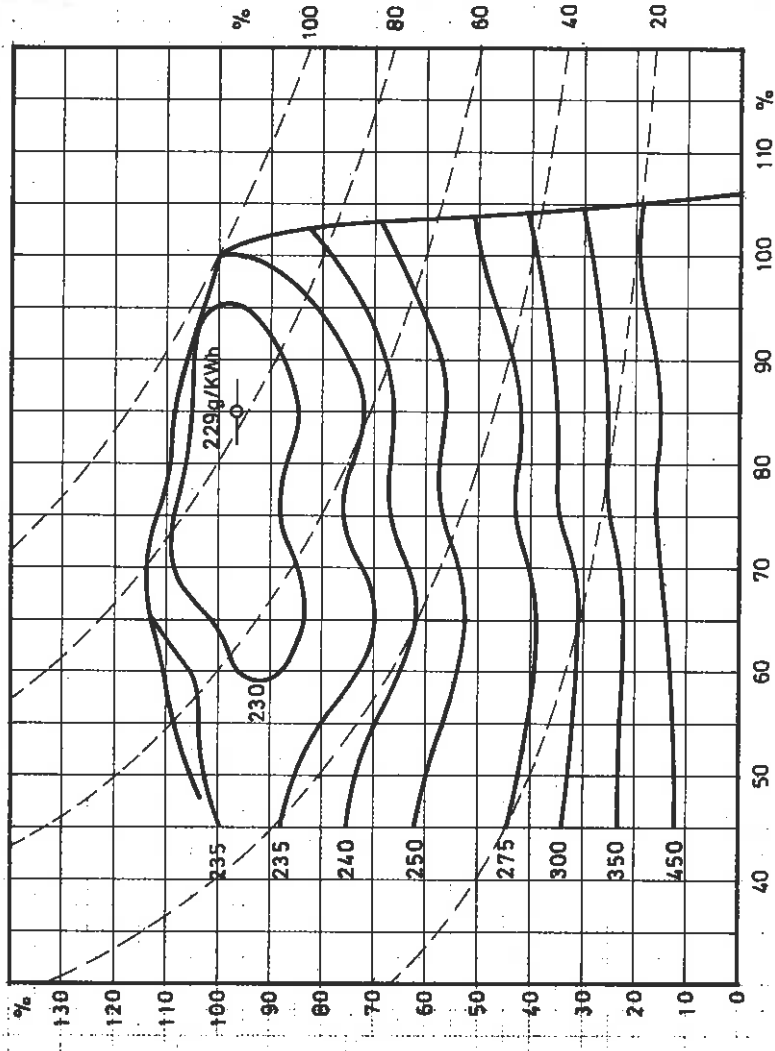
KHD DX 85 S

Motorleistung
Engine performance

Test Nr. 78-27

Motorleistung in % der Leistung bei Nenndrehzahl

engine power in % of power at rated engine speed



Belastung in % des Drehmomentes bei Nenndrehzahl

load in % of torque at rated engine speed

Lufttemperatur / temperature	23 °C	Luftdruck: / pressure	994 mb	Kraftstoff: / fuel	0,833 kg/l

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