O.E.C.D. No.: 529
Printed: September 1976

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



Agricultural Tractor SCHILTER ST 11000

Manufactured by: Maschinenfabrik SCHILTER AG
CH-6370 Stans

Date of Tests: October 1975 till April 1976

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: 20th August, 1976

Serial No.: 529

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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TABLE OF CONTENTS

	Page
Specification of tractor	4 to 13
Fuel and lubricants used in tests	14
COMPULSORY TESTS	
(1) Main power take-off performance	15 to 17
(2) Drawbar performance on a concrete track	18 and 19
(3) Turning space and turning circle	20
(4) Location of centre of gravity	20
(5) Braking performance	21
(6) Ambient noise, emitted by the tractor	22
(7) Noise at the driver's ear level	22
(8) Power lift and hydraulic pump performance	23 to 26
OPTIONAL TESTS	
(1) Engine performance	27 to 30

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

Tractor manufacturer:	SCHILTER AG, Maschinenfabrik CH-6370 Stans (Switzerland)
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running-in:	Stans and Groß-Umstadt
Duration of running-in:	Engine and tractor appr. 110 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	SCHILTER AG, Maschinenfabrik
Model:	ST 11000
Type:	Wheeled tractor, unit construction, all-wheel driven
Serial No:	481

Engine

Make:	MWM, MOTORENWERKE MANNHEIM AG
Model:	D 226-6
Type:	4-stroke DIESEL-engine with direct injection, water-cooled
Serial No:	226.6.03501
Cylinders:	6, in-line; bore 105 mm, stroke 120 mm; displacement 6240 cm^3; compression ratio 18:1
Valves:	Overhead
Fuel system:	PIERBURG fuel feed pump PE 15509; BOSCH in-line injection pump: PES 6A 80D 320/3S; manufacturer's production setting 56 mm^3/stroke at rated engine speed and full load; injection timing 28° before TDC; BOSCH multihole injection nozzles DLL 150 S 393; injection pressure 180 bar; HENGST fuel filter with replaceable cartridge; capacity of fuel tank 95 l
Governor:	BOSCH centrifugal variable speed governor: EP/RSV 325/1500 B-505 DR governed range of engine speed: 650 to 2480 rev/min; rated engine speed 2300 rev/min

Air cleaner:	MANN UND HUMMEL paper element filter with pre-cleaner; replaceable cartridge; service indicator
Exhaust silencer:	SALKA, Sempach absorption type silencer; 107 mm diameter, 660 mm long; on the left hand side of engine; mouth of exhaust pipe 2380 mm above ground, showing upwards
Lubrication system:	Forced feed from gear type pump; strainer in sump; MANN oil filter in full flow with by-pass valve; replaceable cartridge; oil capacity 13 l; oil changing intervals 100 to 125 hours; recommended oil viscosity: winter below 0°C SAE 10W summer from 0°C to +30°C SAE 20 tropics above +30°C SAE 30
Cooling system:	Pressurized water cooling, impeller assisted; by-pass thermostat; overpressure relief valve set at 0,4 bar; fan with 6 blades, 455 mm diameter; cooling water capacity 18 l
Starting system:	Electrical; BOSCH screw-push starter motor JD 12V 3kW
Electrical equipment:	12 Volt, negative earth; BOSCH 3-phase alternator G1 14V 28A 1 lead acid battery 122 Ah at 20 hours rating

Transmission

Clutch:	LAMELLEN UND KUPPLUNGSBAU GMBH dry dual disc clutch DT 310/310 G; tractor drive disc operated by pedal, p.t.o. drive disc operated by hand lever
Gear box:	Own make; speed change gear with 6 speeds; 1st and 2nd speed collar shifted; 3rd to 6th speed synchronized; group gear with 2 groups (slow and fast group); reversing gear for forward and reverse speeds; with engaged reverse group the 6th speed of the speed shange gear is locked; group and reversing gear are collar shifted; total 12 forward and 10 reverse speeds
Rear axle and final drive:	Own make; bevel gear drive with crown wheel and pinion; bevel gear type differential with lock, operated by hand lever, self-disengaging; planetary final drives
Front axle and final drive:	Own make; steered driving axle, portal construction; driven by universal joint shaft on the right hand side of tractor, by jaw coupling engageable and disengageable, operated by hand lever; crown wheel and pinion; bevel gear type differential with lock; pedal operated, self disengaging; spur gear final drives in the wheel hubs
Oil capacity:	Speed change gear, group gear and rear axle 21 l front axle 13 l final drives of rear axle each 2 l final drives of front axle each 0,75 l
Recommended oil viscosities:	Speed change gear, group gear, reversing gear, rear axle and front axle Hypoidoil SAE 90 final drives SAE 140
Oil changing interval:	500 hours

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

Total ratios and speeds

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
Forward speeds				
slow	1	800,20	0,83	0,75
	2	424,05	1,57	1,41
	3	366,17	1,82	1,64
	4	246,22	2,71	2,44
	5	176,15	3,79	3,40
	6	131,32	5,08	4,57
fast	1	160,42	4,16	3,74
	2	85,01	7,85	7,05
	3	73,41	9,09	8,17
	4	49,36	13,53	12,15
	5	35,31	18,91	16,98
	6	26,32	25,37	22,79
Reverse speeds				
slow	1	786,60	0,85	0,76
	2	416,83	1,60	1,44
	3	359,95	1,85	1,67
	4	242,03	2,76	2,48
	5	173,16	3,86	3,46
fast	1	157,69	4,23	3,80
	2	83,56	7,99	7,18
	3	72,16	9,25	8,31
	4	48,52	13,76	12,36
	5	34,71	19,24	17,28

*) Calculated with the INDEX-RADIUS 770 mm as per WdK

Power take-off

Main p.t.o. Independent p.t.o.;
at rear of tractor, in tractor's median plane;
driven through the 2nd disc of the
dry dual disc clutch;
675 mm above ground;
29 x 34,9 x 8,7 mm = 1 3/8 in, 6 splines,
(DIN 9611 Form 1, BS 1495; ASAE S 203.7);
engageable and disengageable by hand lever;
2 speeds can be selected:

540 rev/min p.t.o.
601 rev/min at rated engine speed;
standard p.t.o. speed 540 rev/min at
2066 rev/min engine speed

1000 rev/min p.t.o.
1119 rev/min at rated engine speed;
p.t.o. speed 1000 rev/min at
2056 rev/min engine speed

All p.t.o. speeds can be set by aid of
tractormeter;
direction of rotation clockwise
(viewed from tractor rear)

Front p.t.o.: Independent p.t.o.
drive and dimensions same as main p.t.o.;
in tractor's median plane, 585 mm above
ground;
1077 rev/min at rated engine speed;
p.t.o. speed 1000 rev/min at
2135 rev/min engine speed;
direction of rotation anticlockwise
(viewed from tractor rear)

Ground
speed p.t.o.: Main p.t.o. may be shifted to ground
speed p.t.o.;
travelling distance per 1 rev of the p.t.o.:
in slow group 0,098 m
in fast group 0,487 m
1 rev of driving wheel for
49,55 rev of p.t.o. in slow group
9,93 rev of p.t.o. in fast group

Ground speed p.t.o.: (Continuation)

The ground speed p.t.o. can be driven when the tractor is working stationary with the group gear shifting lever in neutral position. The following p.t.o. speeds are shiftable:

Gear	P.t.o. speed at rated engine speed direction of rotation, viewed from the rear	
	forward speed clockwise rev/min	reverse speeds anticlockwise rev/min
1	142	145
2	269	273
3	311	317
4	463	471
5	647	658
6	868	-

Power lift

Hydraulic system:

Own make, unit construction;
power control, position control, both stepless mixable, floating position;
single acting ram,
bore 100 mm, stroke 140 mm;
1 external auxiliary ram,
bore 50 mm, stroke 320 mm;
BOSCH gear pump with 16 cm³/rev delivery;
directly driven by engine;
BOSCH control valve;
maximum pressure 175 bar;
no overpressure relief valve for ram;
1 oil tapping for single acting and
1 tapping for double acting additional control valves in front of tractor as well as in the rear;
hydraulic lock for transport;
hydraulic oil tank in power lift unit;
oil capacity 20 l, 10 l may be taken off through oil tappings when tractor is working stationary, 8 l when tractor is working driving;
oil changing interval 500 hours
oil quality ATF type A-Suffix A

Implement linkage:	Three point linkage, category II , DIN 9674; lift rods length adjustable from 770 to 835 mm lifting height above ground: with short lift rods from 293 to 973 mm with long lift rods from 85 to 845 mm
Holed bar:	Fitted on the hitch points of the lower links; length between the joint balls 825 mm thickness of the bar 40 mm; centre hole and 4 holes on either side with 80 mm distance each, DIN 9676; all holes 33 mm diameter; height above ground from 105 to 993 mm; depending on lifting rods length, adjustable by power lift, measured on the surface of the bar; in each height above ground hydraulically lockable; with lower links in horizontal position distance of holes centre line: to p.t.o. shaft end 630 mm to rear axle centre 950 mm

Pull attachment

Swinging drawbar:	Height above ground 440 mm; bore of clevis hole, 33 mm; distance of hole to rear axle centre 600, 680 or 760 mm p.t.o. shaft end 280, 360 or 440 mm adjustable by shifting swinging drawbar; lateral oscillation of the axis of the clevis pin 20° to either side
Trailer hitch:	Own make or ROCKINGER; not automatical; height above ground 850 or 890 mm changeable by turning hitch; hitch hole 33 mm diameter; distance of hitch hole to rear axle centre 307 mm with SCHILTER hitch or 375 mm with ROCKINGER hitch; permissible vertical load 1500 kg
Towing hitch:	Height above ground 770 mm

Steering	ZAHNRADFABRIK FRIEDRICHSHAFEN AG ZF-column hydrosteering gear 7409; with flow dividing valve; operated by hand wheel; acting on front wheels
Brakes	
Parking brake:	Mechanically acting band brake; acting on 1 brake drum with 150 mm diameter on the front axle driving shaft; operated by hand lever with ratchet
Service brake:	Mechanically acting shoe type brake make KNOTT; acting on 2 brake drums with 200 mm diameter on the differential half shafts; pedal operated
Steering brake:	Divided pedal of service brake, for normal use locked together
Wheels	
Steering wheels:	Two pneumatics at front 12,5-24 AS 6 ply; maximum permissible load per wheel 1775 kg at 1,75 bar inflation pressure and 30 km/h; track width 1750 mm; rims W10 x 24
Driving wheels:	At front and rear; front wheels see steering wheels; rear driving wheels: two pneumatics 18,4-34 AS 6 ply; maximum permissible load per wheel 2250 kg at 1,1 bar inflation pressure and 30 km/h; track width 1660 and 1800 mm; changeable by turning wheels; (optional : track adjustment wheels) rims W14 x 34
Wheel base:	2540 mm

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

Weights

	Ready for use, as tested	without driver	with driver
Without ballast:	front	1440 kg	1445 kg
	rear	2175 kg	2250 kg
	total	3615 kg	3695 kg
Front ballast:	8 front weights 36 kg each		288 kg
	water in the tyres		200 kg
Rear ballast:	water in the tyres		695 kg
With ballast:	front	1989 kg	1994 kg
	rear	2809 kg	2884 kg
	total	4798 kg	4878 kg

Seat

BOSTROM
DS 4413
upholstered seat with back rest;
back rest adjustable up and down 55 mm;
adjustable spring with shock absorber;
height of seat platform above ground 940 mm;
height of seat above platform 460 mm with seat not compressed in downmost position;
60 mm steplessly adjustable up and down;
150 mm adjustable fore and aft

Dimensions

Total length:	4120 mm	with implement linkage
Total height:	2455 mm	to top of cab
	2380 mm	to top of exhaust pipe
Total width:	2155 mm	at smallest track width
	2255 mm	at largest track width
Ground clearence:	405 mm	in tractor's median plane below swinging drawbar

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

Safety cab — Own make
O.E.C.D. tested
approval no. CS 1136

Number of grease points (whole tractor) 34

Lighting equipment — Electric, 12 Volt
in accordance with German legislation

	Dimensions mm	Height above ground of centre mm	Distance from outside edge of tractor to centre mm ***)
Head lights	120 x 130	945	360
Side lights *)	80 x 40	1430	90
Rear lights **)	115 x 115	1490	90
Reflectors	80 ø	950	200

*) in combination with direction indicator
**) in combination with direction indicator and stop light
***) at smallest track width 1660 mm

Permissible total weights and axle loads
for all available wheel equipments

Wheel equipment front	Wheel equipment rear	Permissible total weight kg	Permissible front axle load kg	Permissible rear axle load kg
12,5-24 6 ply	18,4-34 6 ply 16,9-38 8 ply	5700	2206	3494

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

FUELS AND LUBRICANTS USED IN TESTS

Fuel	ARAL DIESEL fuel DIN 51 601
	specific gravity at 15°C
	during engine tests 0,833 kg/l
	during p.t.o. tests 0,842 kg/l
	during drawbar tests 0,842 kg/l
Engine oil:	SHELL ROTELLA SX HD 20W/20
Transmission oil:	Speed change gear, group gear, reversing gear, rear axle and front axle:
	MOTOREX HYPOGEAR EP 90
	Final drives:
	MOTOREX SAE 140
Power lift:	MOTOREX COREX 10W/30

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

COMPULSORY TESTS

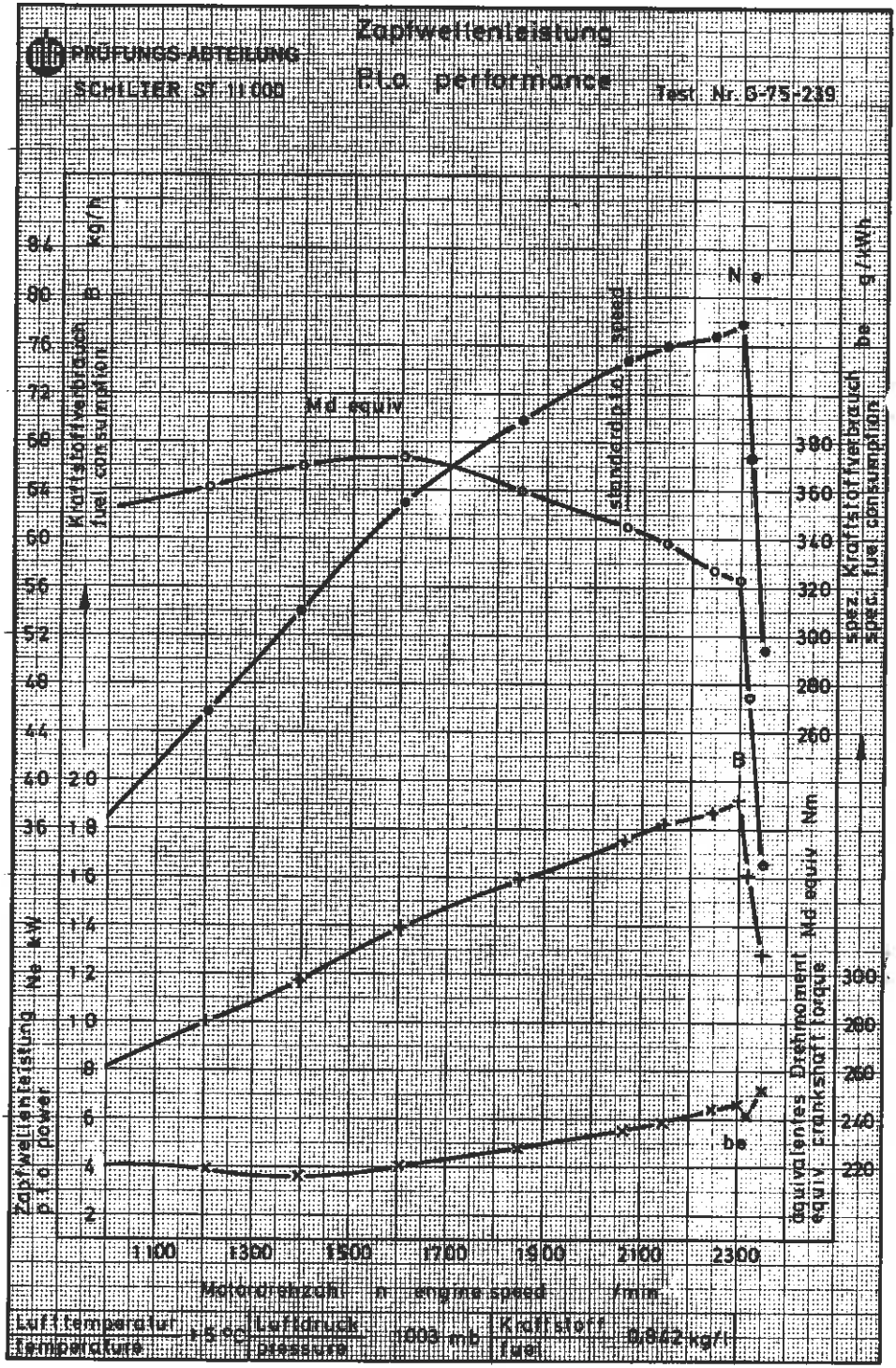
(1) MAIN POWER TAKE-OFF PERFORMANCE

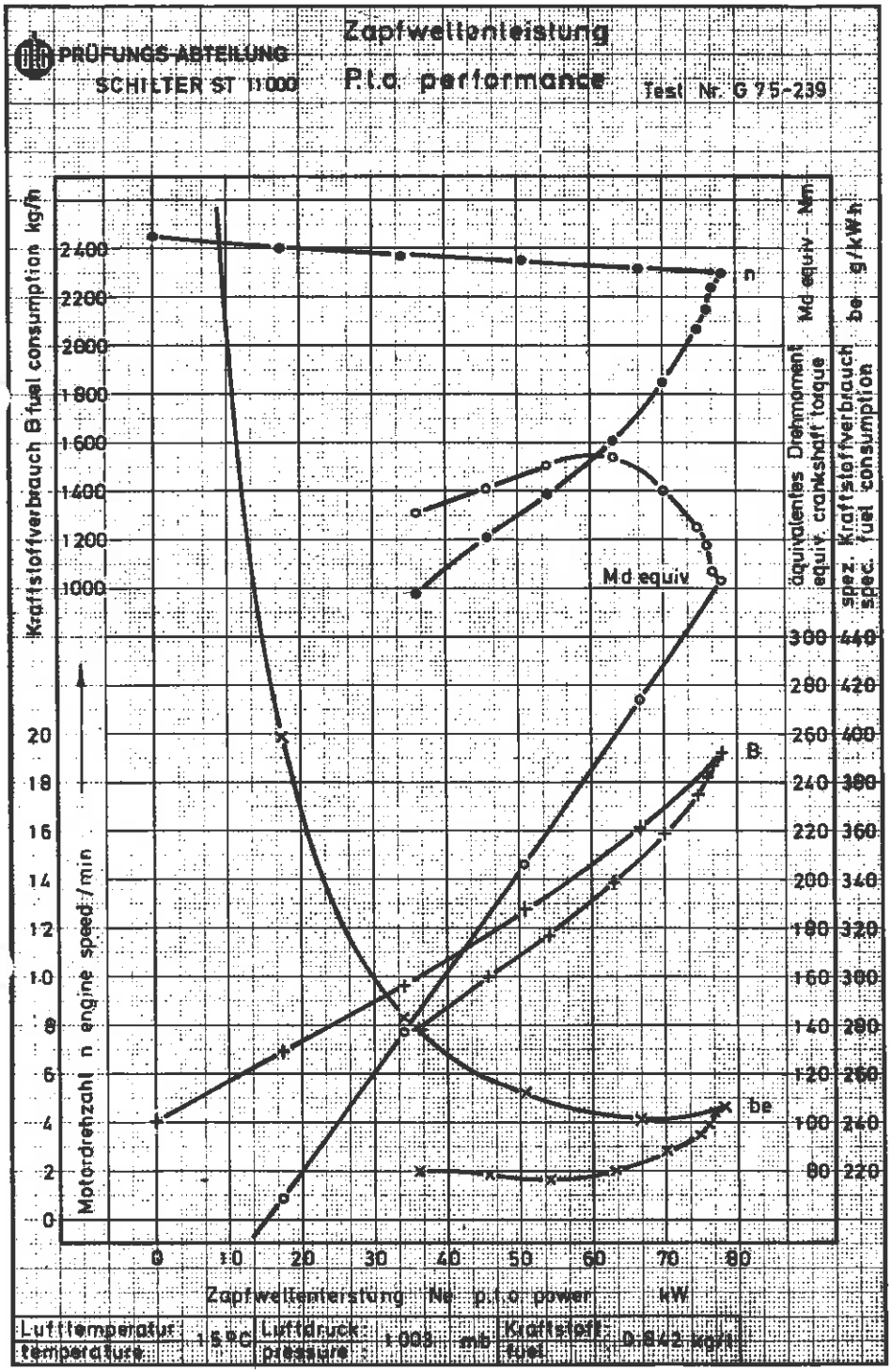
Date of tests: 30th October 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

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						
77.8	2300	601	22.74	19.14	246	3.42
At standard p.t.o. speed (540 rev/min)						
74.6	2068	540	20.84	17.54	235	3.58
At the speed recommended for drawbar work						
77.8	2300	601	22.74	19.14	246	3.42
Part loads						
(i) 85% of the torque at maximum power at 2-hour test						
66.7	2320	606	19.10	16.09	241	3.49
(ii) unloaded						
-	2445	639	4.85	4.09	-	-
(iii) 50% of the load defined in (i)						
34.0	2368	618	11.45	9.64	283	2.97
(iv) maximum power						
77.8	2300	601	22.74	19.14	246	3.42
(v) 25% of the load defined in (i)						
17.2	2398	626	8.15	6.86	399	2.11
(vi) 75% of the load defined in (i)						
50.6	2349	614	15.16	12.77	252	3.34

No load maximum engine speed: 2445 rev/min
Equivalent crankshaft torque at maximum power (2 hours): 323 Nm
Maximum equivalent crankshaft torque: 374 Nm at 1607 rev/min of the engine

Mean atmospheric conditions:	temperature	15 °C
	pressure	1003 mbar
	relative humidity	70 %
Maximum temperatures:	coolant	88 °C
	engine oil	96 °C
	fuel	17 °C


PRÜFUNGS-ABTEILUNG
SCHLEPPER ST 1100
Zapfwellenleistung
PTO performance
Test Nr. S-75-239
Kraftstoffverbrauch fuel consumption kg/h
spez. Kraftstoffverbrauch spec. fuel consumption g/kWh
Md equiv
standard no. speed
Ne
be
B
Zapfwellenleistung PTO power Ne kW
äquivalentes Drehmoment equiv crankshaft torque Md equiv Nm
1100
1300
1500
1700
1900
2100
2300
Motordrehzahl n engine speed 1/min
Lufttemperatur temperature +5 °C
Luftdruck pressure 1003 mb
Kraftstoff fuel 0,842 kg/l


PRÜFUNGS-ABTEILUNG
SCHLEPPER ST 11000
Zapfwellenleistung
P.t.o. performance
Test Nr. G 75-239
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed: /min
äquivalentes Drehmoment Md equiv. Nm
equiv. crankshaft torque
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
n
Md equiv
B
be
Zapfwellenleistung Ne p.t.o. power kW
Lufttemperatur temperature 15 °C
Luftdruck pressure 1003 mb
Kraftstoff fuel D 842 kg/l

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

(2) DRAWBAR PERFORMANCE

Date of tests: 6th November till 11th December 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 430 mm						
1 slow	0,78	10,8	49950	2427	14,8	1,41
2 slow	1,47	20,4	49950	2403	14,9	2,05
3 slow	1,69	23,4	49850	2393	15,0	2,19
4 slow	2,48	34,4	50000	2382	15,0	2,51
5 slow	3,43	47,5	49850	2352	15,0	2,68
1 fast	3,76	52,1	49900	2348	14,9	2,81
6 slow	4,54	62,4	49500	2317	14,9	2,81
2 fast	7,55	67,5	32200	2300	7,5	2,95
3 fast	8,84	67,7	27550	2300	6,3	2,96
4 fast	13,50	67,5	18000	2299	3,8	2,94
5 fast	19,17	64,7	12150	2302	2,2	2,82
(ii) FIVE-HOUR-TEST at 75% of pull at maximum power in 2nd gear of fast group						
2 fast	7,91	53,1	24150	2350	5,2	2,97
(iii) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (i)						
6 slow	-	-	50000	2312	-	-
(v) MAXIMUM POWER without ballast height of drawbar above ground 430 mm						
1 fast	3,78	42,1	40150	2365	15,0	2,72
6 slow	4,59	51,1	40050	2348	15,0	2,82
2 fast	7,27	66,6	33000	2300	10,5	2,92
3 fast	8,62	67,6	28200	2300	8,5	2,96
4 fast	13,28	68,2	18500	2300	5,2	2,99
5 fast	18,84	66,6	12700	2300	3,5	2,93

Total oil consumption during ten hours duration of tests (ii) and (iii): 59 g/h

PRÜFUNGS-ABTEILUNG

Test No. 75-239

Tyres make and size front: FIRESTONE 12,5-24 6 ply
rear: SEMPERIT 18,4-34 6 ply

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 1,75 bar at front, 1,4 bar at rear rolling radius of tyres under static load 799 mm						
597	13	86	78	8	90	992
409	15	86	80	8	84	992
383	15	86	90	8	80	992
336	16	86	80	13	97	996
313	17	86	92	13	95	996
300	13	86	84	7	98	980
299	13	86	88	7	98	980
286	15	86	80	10	98	980
284	18	86	90	11	98	980
286	17	86	94	11	98	980
299	16	86	90	10	98	980
283	12	86	90	8	96	992
-	15	86	94	8	92	996
tyre inflation pressure 1,75 bar at front, 1,1 bar at rear rolling radius of tyres under static load 791 mm						
310	13	86	86	11	98	1014
299	13	86	84	11	98	1014
289	13	86	80	10	98	1014
284	15	86	89	10	96	1014
281	13	86	82	10	97	1014
288	13	86	87	11	98	1014

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

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment front: 12,5-24 AS
rear: 18,4-34 AS

Track of wheels front: 1750 mm
rear: 1660 mm

	With brakes left-hand m	With brakes right-hand m	Without brakes left-hand m	Without brakes right-hand m
With all wheel drive				
Radius of turning space	4,71	4,51	6,17	5,80
Radius of turning circle	4,46	4,26	5,93	5,55
With rear wheel drive				
Radius of turning space	5,15	4,90	5,87	5,57
Radius of turning circle	4,90	4,65	5,62	5,32

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground		898 mm
Distance forward from the vertical plane containing the axis of the rear wheels		998 mm
Distance of the median plane of the tractor	left	6 mm

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

(5) BRAKING PERFORMANCE

A) FOOT BRAKE

Date of tests: 10th and 11th November 1975
Type of track: Concrete
Type of decelerometer: MOTO METER-Bremsverzögerungs- und Pedalkraftschreiber

Weight of ballasted tractor: 4878 kg with driver

Cold brakes

		With ballast	Without ballast
Travelling speed	km/h	25,0	25,0
Deceleration	m/s^2	6,5	8,0
Stopping distance	m	4,6	3,8
Force on pedal	N	715	735
Force on pedal to achieve a deceleration of 2,5 m/s^2	N	315	245

Brake fade characteristics (hot tests)

Deceleration	hot/cold	%	100	84
Stopping distance	cold/hot	%	100	91
Force on pedal	cold/hot	%	101	100

B) PARK BRAKE

Tractor facing up slope:
Pull on hand brake 275 N, tractor does not roll

Tractor facing down slope:
Pull on hand brake 265 N, tractor does not roll

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

(6) AMBIENT NOISE EMITTED BY THE TRACTOR

Date of test: 10th November 1975
Type of track: Concrete
Type of sound level meter: BRÜEL AND KJAER model 2203

Results of test

Gear: 6th fast
Travelling speed before acceleration: 21,0 km/h
Sound level: 92 dB(A)

(7) NOISE AT THE DRIVER'S EAR LEVEL

Date of tests: 10th November 1975
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)

A safety cab was fitted on tractor
Approval no. CS 1136

Results of tests

Gear	Drawbar pull at which the tractor develops the maximum sound level	Travelling speed		Sound level
		nominal	effective	
	N	km/h	km/h	dB(A)
1 slow	39650	0,83	0,68	95,5
2 slow	39800	1,57	1,32	96
3 slow	39900	1,82	1,47	96,5
4 slow	39150	2,71	2,42	98
5 slow	39100	3,79	3,27	99
1 fast	39800	4,16	3,64	98
6 slow	39550	5,08	4,50	106
2 fast*)	32950	7,85	7,26	99
3 fast	27000	9,09	8,65	99,5
4 fast	17900	13,52	13,31	100
5 fast	12300	18,90	18,97	100
6 fast	light load	25,35	27,34	98,5

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

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

Test No. 75-239

(8) POWER LIFT AND HYDRAULIC PUMP PERFORMANCE

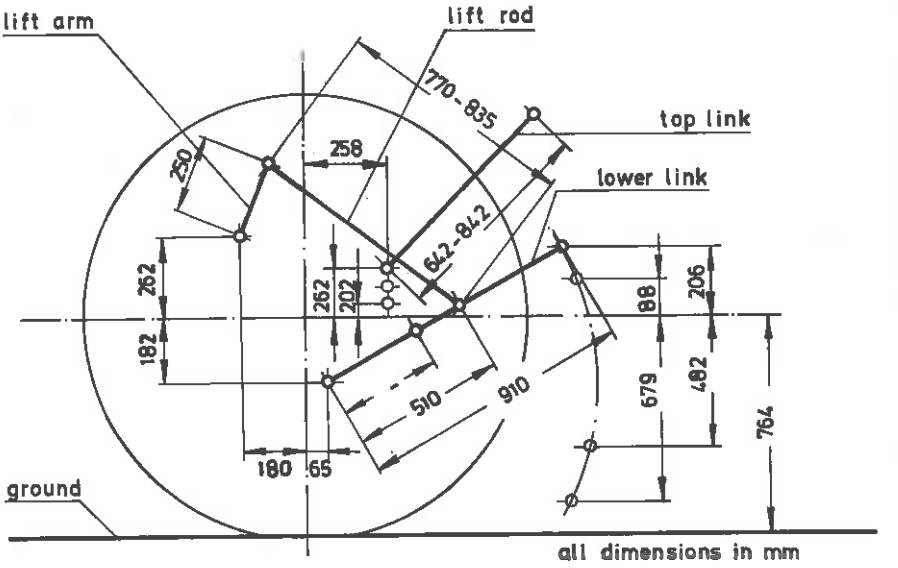
Date of tests: 5th and 28th April 1976

HYDRAULIC PUMP

(1) Opening pressure of relief valve in remote circuit	180 bar
Sustained pressure by open relief valve	175 bar
(2) Pump delivery rate at minimum pressure and maximum engine speed	32,1 l/min
(3) Pump delivery rate	27,1 l/min
Delivery pressure	149 bar
Hydraulic Power	6,7 kW

POWER LIFT

Dimensions of linkage geometry for the table on page 26



PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000

LIFTING FORCES

Lifting heights relative to horizontal lower links

mm	-522	-500	-497	-400	-307	-300	-200	-100

at hitch points maximum mechanical advantage

N						24550	27900	30350

minimum mechanical advantage

N			23750	24750		26850	28500	29950

Max. force exerted throughout the whole range 24550 N

Front of tractor does not lift with max. allowable front ballast

at test frame maximum mechanical advantage

N					28000	28150	29850	30900

minimum mechanical advantage

N	26000	25600		25700		26200	26750	27050

Max. force exerted throughout the whole range 28000 N

Force at which front of tractor lifts with maximum allowable front ballast 31350 N

DLG PRÜFUNGS-ABTEILUNG

Test No. 75-239

0	+100	+200	+270	+300	+308	+388	+400	+408
lift rods 770 mm long								
32150	33650	34750		35250		35350		
lift rods 835 mm long								
31200	31900	32300	32250					

lift rods 770 mm long, high top link pivot point

31350	31550	31100		30300			28650	28400
lift rods 835 mm long, low top link pivot point								
27200	26900	26200		25450	25250			

All values of forces for pressure at max. hydraulic power 149 bar, see page 23; calculated from measurements at max. oil pressure 175 bar

LINKAGE GEOMETRY when connected to the standard frame	Maximum mechanical advantage	Minimum mechanical advantage
Projected length in side view:		
Lower links	910 mm	910 mm
Lift arms	250 mm	250 mm
Lift rods	770 mm	835 mm
Top link	720 mm	720 mm
Distance of lift rod connection point from pivot point of lower link	510 mm	510 mm
The following dimensions are given relative to rear axle centre line 764 mm above ground		
Lower link pivot point	65 mm behind, 182 mm below	65 mm behind, 182 mm below
Top link pivot point	258 mm behind, 262 mm above	258 mm behind, 202 mm above
Lift arm pivot point	180 mm forward, 262 mm above	180 mm forward, 262 mm above
Maximum and minimum height of lower link hitch points	206 mm above, 482 mm below	88 mm above, 679 mm below
Height of lower link hitch points above ground when locked in highest transport position	970 mm	852 mm

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SCHILTER ST 11000

Test No. 75-239

OPTIONAL TESTS

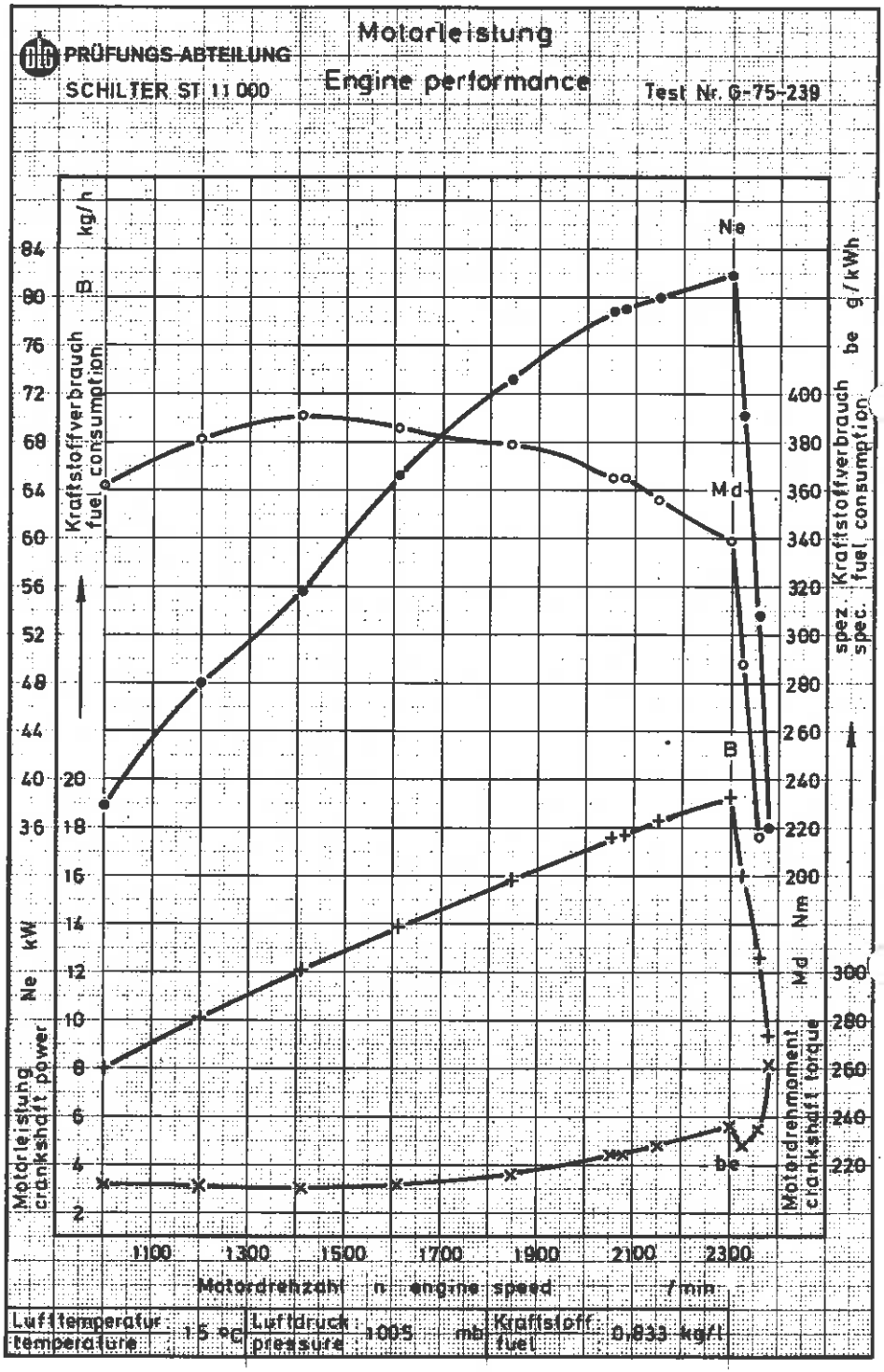
(1) ENGINE PERFORMANCE

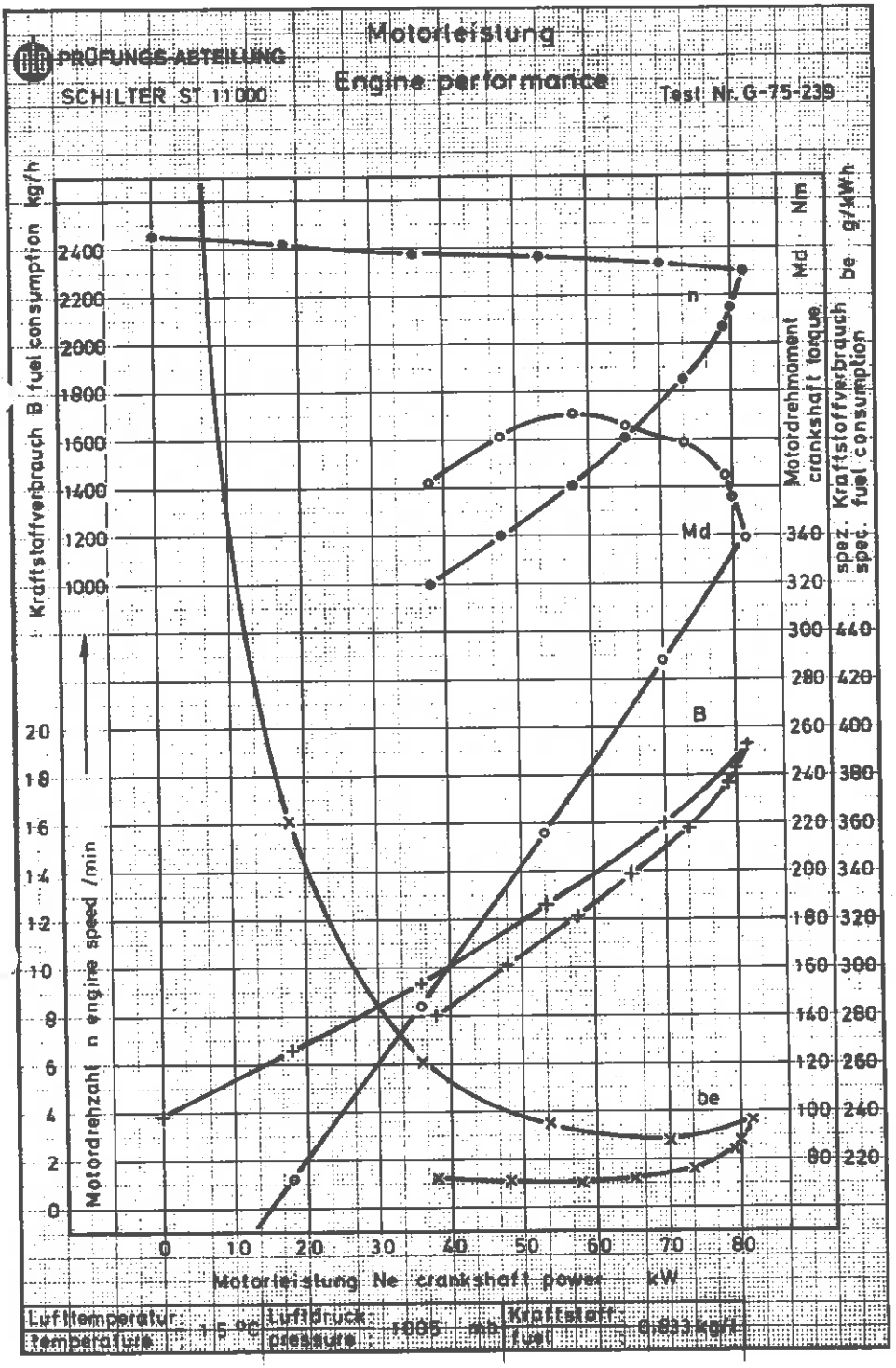
Date of tests: 24th October 1975
Type of dynamometer: SCHENCK hydraulic dynamometer U1-30

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					
81.7	2300	23.13	19.27	236	3.53
At standard p.t.o. speed (540 rev/min)					
78.9	2068	21.20	17.66	224	3.72
At the speed recommended for drawbar work					
81.7	2300	23.13	19.27	236	3.53
Part loads					
(i) 85% of the torque at maximum power at 2-hour test					
70.2	2327	19.21	16.00	228	3.65
(ii) unloaded					
-	2455	4.49	3.74	-	-
(iii) 50% of the load defined in (i)					
35.9	2382	11.26	9.38	261	3.19
(iv) maximum power					
81.7	2300	23.13	19.27	236	3.53
(v) 25% of the load defined in (i)					
18.2	2419	7.89	6.57	360	2.31
(vi) 75% of the load defined in (i)					
53.5	2360	15.09	12.57	235	3.54

Optimum fuel consumption: 207 g/kWh at 51.7 kW and 1450 rev/min
No load maximum engine speed: 2455 rev/min
Torque at maximum power (2 hours): 339 Nm
Maximum torque: 391 Nm at 1410 rev/min of the engine

Mean atmospheric conditions:	temperature	15 °C
	pressure	1005 mbar
	relative humidity	80 %
Maximum temperatures:	coolant	86 °C
	engine oil	87 °C
	fuel	20 °C


PRÜFUNGS-ABTEILUNG
SCHILTER ST 11 000
Motorleistung
Engine performance
Test Nr. G-75-239
Ne
Md
B
be
Kraftstoffverbrauch B kg/h
fuel consumption
spez. Kraftstoffverbrauch be g/kWh
spec. fuel consumption
Motorleistung Ne kW
crankshaft power
Motordrehmoment Md Nm
crankshaft torque
Motordrehzahl n engine speed 1/min
1100
1300
1500
1700
1900
2100
2300
Lufttemperatur 15 °C
temperature
Luftdruck 1005 mb
pressure
Kraftstoff 0,833 kg/l
fuel


PRÜFUNGS-ABTEILUNG
SCHILTER ST 11000
Motorleistung
Engine performance
Test Nr. G-75-239
Kraftstoffverbrauch B fuel consumption kg/h
Motordrehzahl n engine speed /min
Motordrehmoment crankshaft torque Md Nm
spez. Kraftstoffverbrauch spec. fuel consumption be g/kWh
n
Md
B
be
Motorleistung Ne crankshaft power kW
Lufttemperatur temperature 15 °C
Luftdruck pressure 1005 mb
Kraftstoff fuel 0,833 kg/l

PRÜFUNGS-ABTEILUNG
SCHILTER ST 11 000
Motorleistung
Engine performance
Test Nr. G-75-239
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
Motordrehzahl in % der Nenndrehzahl engine speed in % of rated engine speed
207 g/kWh
210
215
220
225
230
240
250
275
300
400
Lufttemperatur temperature +5 °C
Luftdruck pressure 1005 mb
Kraftstoff fuel 0,833 kg/l