

Roller Dynamometer

Performance and Function Tester for cars, trucks and motorcycles

Model: LPS 3000



- ▶ Continuous measurement
- ▶ Discrete measurement
- ▶ Load simulation
- ▶ Elasticity measurement
- ▶ Speedometer test
- ▶ Graphics package

Premium Workshop
Equipment

Roller Dynamometer Performance and Function Tester for cars, trucks and motorcycles

Model: LPS 3000

Description:

Measurement program

- Power measurement at constant RPM, speed, tractive force
- Graphical and numerical display of wheel, drag and engine power and torque
- Background display of three power measurements
- Individual display of performance curves
- Display of speed, RPM and oil temperature during power measurement
- Projection of engine power according to DIN 70020, EEC 80/1269, ISO 1585, JIS D 1001, SAE J 1349 (optional)

Load simulation with graphical evaluation

- Constant RPM, speed, tractive force
- Road driving simulation

External measurement data

- Data collection program for external measurement values: pressure, temperature, OBD data (optional)
- Three additional external values displayable as curves
- Connection for MAHA emission testers MGT 5, MDO 2 LON (optional)
- Connection for Krupp/AIC fuel consumption testers for Otto and Diesel engines (optional)

Graphical evaluation for power measurement & load simulation

- Evaluation of performance diagrams via cursor function with numerical display of values at the cursor position
- 5x zoom function for evaluation of curves
- Graphical display of measured values
- Visual display of limit value deviation
- Text input in diagrams and entry field of printout
- Selection of measurement units (kW/PS/BHP.....)
- Test program for speedometer display
- Stop watch for acceleration measurement between selectable speed marks

Printout

- Clear color printout (graphics printout optional)
- Performance diagrams of continuous and discrete measurements printable in tabular form; maximum values highlighted; selection of tabular values

Database

- Storage and loading of performance diagrams
- Data import and export
- Freely programmable load simulation profiles
- Determination of data according to vehicle type

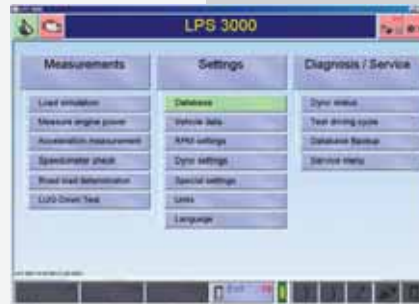
Driving cycles (optional)

Language selection

Motorcycle testing on car roller set (optional)

Expandable for 4WD car testing (optional)

Radio remote control for dynamometer and cooling fan



Easy operation of dynamometer with clear, self-explanatory menus.



Easy vehicle data collection via entry menu.



In the load selection menu the measured values can be displayed in analog, numerical or graphical representation.



The cursor function offers optimum evaluation of the performance diagram. The values at the cursor position are displayed numerically.



Speedometer test.

LPS 3000

Interface Box



Interface box

- Collection of external measurement data
- Casing suitable for four slide-in modules
- Standard box with environmental module & engine speed module
- Expandable by additional interface box

Test modules

- Engine speed module: RPM measurement by means of trigger tongs, clamping encoder, light barrier etc.
- Temperature/Pressure module: measurement of two temperature values and two pressure values (in preparation)
- Environmental module: measurement of ambient temperature, intake air temperature, air pressure and humidity
- OBD module: measurement of OBD data (in preparation)

Roller sets of LPS EURO 3000

- Sturdy, self-supporting frame with powder coating
- Flame-sprayed load rollers for optimum power transfer

Roller sets of model series R100 (Car)

- Pneumatic lifting bar with roller blocking
- Two wheel drive versions:
 - LPS 3000 / R101
 - LPS 3000 / R102 with two brakes
- Four wheel drive versions (two roller sets required):
 - LPS 3000/R142 with two brakes
 - LPS 3000/R143 with three brakes
 - LPS 3000/R144 with four brakes

Roller sets of model series R200 (Truck)

- Roller set with two eddy current brakes
- Hydraulic lifting bar with roller blocking
- Closed roller set versions:
 - LPS 3000/R200
 - LPS 3000/R201 with power brakes
- Split roller set versions (in installation pit):
 - LPS 3000/R210
 - LPS 3000/R211 with power brakes

Roller set of model R50 (Motorcycle)

- Roller set with one eddy current brake
- Pneumatic lifting bar (optional)
- Front wheel clamping device (optional)



**Specifications**

	LPS 3000 Car	LPS 3000 Truck	LPS 3000 Mot.cycle
Color screen	19" diagonal	19" diagonal	19" diagonal
Dimensions PC desk	600x1850x800 mm	600x1850x800 mm	600x1850x800 mm
RPM	0 - 10000	0 - 10000	0 - 10000
Measuring accuracy	+/- 2% of meas. value	+/- 2% of meas. value	+/- 2% of meas. value
Power supply	230 V / 50 Hz	400 V / 50 Hz	230 V / 50 Hz
Fuse protection	16 amp time delay ¹⁾	35 amp time delay ²⁾	16 amp time delay
Roller sets	R 100 , R 100/2	R 200 , R 200/2	R 50
Wheel power	0 - 260 kW	0 - 400 kW	0 - 260 kW
Optional 2nd eddy current brake	0 - 520 kW	-	-
Optional power brake	-	0 - 660 kW / 0 - 25 kN	-
Speed	0 - 260 km/h	0 - 200 km/h	0 - 300 km/h
Tractive force	0 - 6 kN	0 - 15 kN	0 - 6 kN
Axle load	2500 kg	15000 kg	1500 kg
Dimensions	3345x1100x625 mm	4550x1100x625 mm ³⁾	1420x1100x625 mm
Dead weight	1200 kg	2350 kg ³⁾	450 kg
Track width min.	800 mm	820mm / geteilt 950mm ³⁾	-
Track width max.	2300 mm	2620mm / geteilt 2750mm ³⁾	-
Roller diameter	318 mm	318 mm	318 mm
Roller center distance	540 mm ⁴⁾	565 mm	560 mm
Smallest wheel diameter	12"	12"	12"
Elevation of rollers	45 mm	-	-
Wheel lifting bar	pneumatic	hydraulic	pneumatic (optional)
Options			
	Interface box	Interface box	Interface box
	RPM counter	RPM counter	RPM counter
	Oil temperature probe	Oil temperature probe	Oil temperature probe
	Emission temperature probe	Emission temperature probe	Emission temperature probe
	Printer	Printer	Printer
	Hydr. roller set adjustm. device	-	-
	Additional eddy current brake	Adjustable eddy current brake	-
	-	Hydr. load simulator	-
	-	Idle roller set	-
	Cooling fan model Air ⁵⁾	Cooling fan model Air ⁵⁾	Cooling fan model Air ⁵⁾

1) 2 brakes: 35 amp TD. **2)** power brake: 63 amp TD. **3)** split roller set in installation pit: dimensions per roller set 2260 x 1100 x 865 mm; weight per roller set 1250 kg; track width min. / max. depending on pit width (dimension given is recommended). **4)** available with roller center distance 500 mm if ground clearance too low. **5)** see brochure Cooling Fan Model: Air

Production Program:

Testing Technology for Cars, Trucks, Motorcycles, Tractors, Forklifts, Aircraft · Roller Brake Testers · Platform Brake Testers · Shock Absorber and Suspension Testers · Side-Slip Testers · Play Detectors · Roller Dynamometers for Performance and Function Testing · Speedometer Testers · Tachograph and Taximeter Testers · Axle and Wheel Load Scales · Scissors Lifts · Two- and Four-Post Lifts · In-Ground Lifts · Pit Jacks · Axle and Transmission Jacks · Mobile Column Lifts · Headlight Testers · Diesel Smoke Meters · Emission Testers for Petrol and Gas Engines · Sound Level Meters · Air Conditioning Service Equipment · Decelerometers · Closing Force Meters · Brake Fluid Testers · Complete Test Lanes for Cars and Trucks · Mobile Test Containers · Wheel Alignment Analysers · Wheel Balancers · Tyre Changers.

Additional Services: Workshop Design and Planning · Training Seminars for Users and Service Technicians

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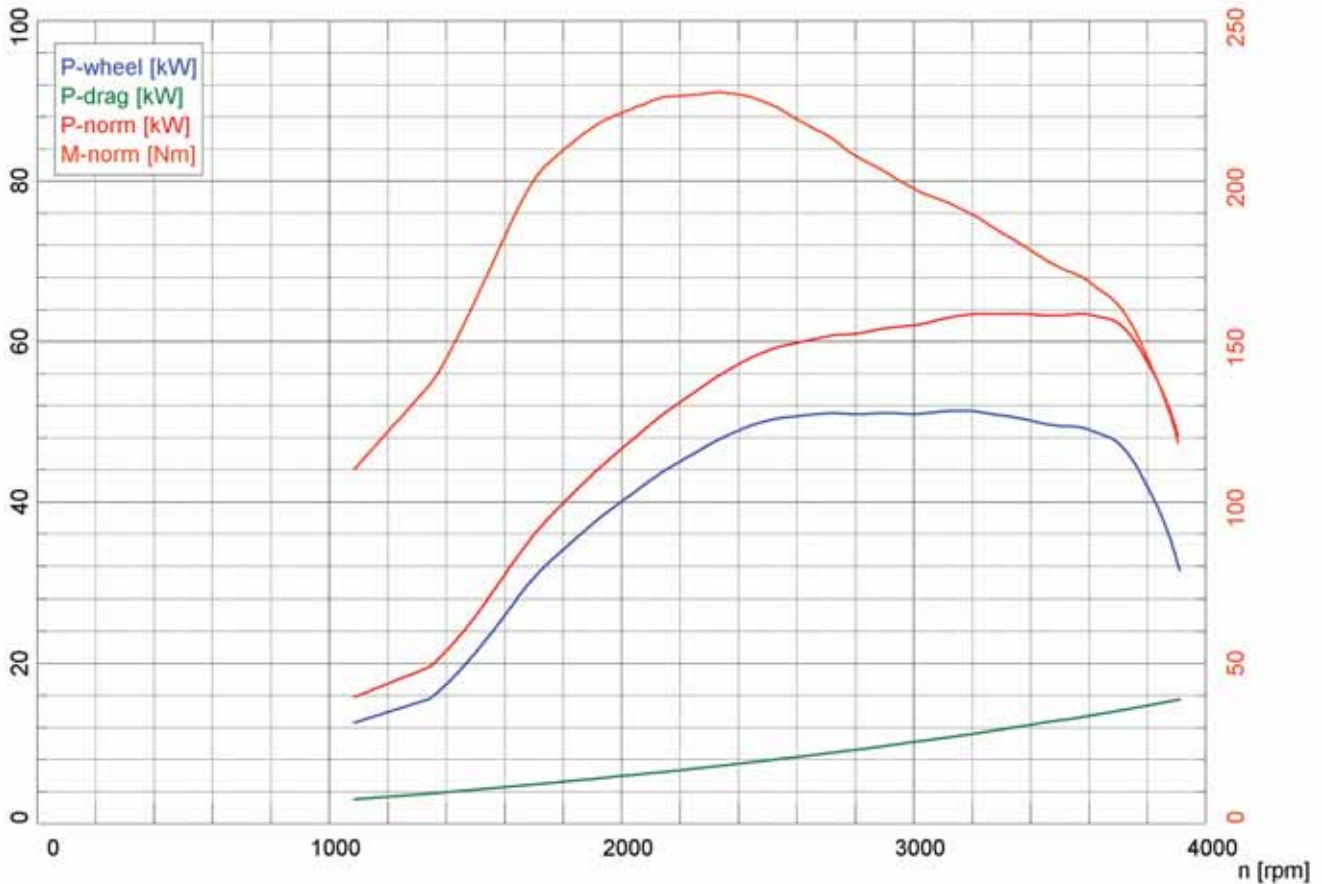
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Vehicle type: Peugeot 406
 License plate: OA CC 802
 Inspector: Träger

Measurement date: 08.08.2002 (15:12)

Page 1



Power data

Corrected power ¹⁾	P_{Norm}	63,4 kW / 86,2 HP
Engine power	P_{Eng}	62,4 kW / 84,9 HP
Wheel power	P_{Wheel}	50,6 kW / 68,7 HP
Drag power	P_{Drag}	11,9 kW / 16,2 HP
Max. power at		3335 rpm / 122,9 km/h
Torque ¹⁾	M_{Engm}	227,5 Nm
Max. Torque at		2335 rpm / 86,0 km/h
Max. attained RPM		3910 rpm / 144,2 km/h

¹⁾ Correction acc. to EWG 80/1269 ($f_m = 0,30$)
 Correction factors: $Q_v = 0,00 \%$

Ambient data

Ambient temperature	$T_{Ambient}$	22,7 °C
Intake air temperature	$T_{Intake\ air}$	24,5 °C
Relative humidity	H_{Air}	51,9 %
Air pressure	p_{Air}	932,0 hPa
Steam pressure	p_{Steam}	14,3 hPa
Oil temperature	T_{Oil}	98,0 °C
Fuel temperature	T_{Fuel}	---,- °C

Slip

Speed no load	$V_{no\ load}$	---,- km/h
RPM no load	$n_{no\ load}$	---,- rpm
Speed full load	$V_{full\ load}$	---,- km/h
RPM full load	$n_{full\ load}$	---,- rpm
Slip		---,- %

Rotating mass

Average delay run down 1	a_1	---,- m/s ²
Average Brake force run down 1	F_1	---,- N
Average delay run down 2	a_2	---,- m/s ²
Average brake force run down 2	F_2	---,- N
Force of the rotating mass	$F_{rot-total}$	---,- N
Rotating total mass	$m_{rot-total}$	250,0 kg
Rotating test stand mass	$m_{rot-dyno}$	250,0 kg
Rotating vehicle mass	$m_{rot-vehicle}$	0,0 kg

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Page 2

Measurement data table

n [rpm]	v [km/h]	P _{Wheel} [kW]	P _{Eng} [kW]	P _{Norm} [kW]	M _{Morm} [Nm]								
1100	40,7	12,7	15,7	15,9	111,5								
1200	44,4	13,9	17,1	17,4	121,6								
1300	48,1	15,0	18,6	18,8	131,8								
1400	51,8	17,3	21,1	21,4	144,4								
1500	55,5	21,2	25,4	25,8	162,8								
1600	59,2	25,9	30,4	30,8	182,5								
1700	62,8	30,5	35,3	35,8	200,0								
1800	66,5	34,0	39,1	39,7	209,4								
1900	70,2	37,2	42,7	43,3	216,5								
2000	73,9	40,0	45,9	46,6	221,1								
2100	77,6	42,6	48,9	49,6	224,7								
2200	81,3	45,0	51,6	52,4	226,4								
2300	85,0	47,1	54,1	54,9	227,2								
2400	88,7	48,8	56,2	57,1	226,8								
2500	92,4	50,1	57,9	58,8	224,2								
2600	96,1	50,6	58,9	59,8	219,1								
2700	99,8	51,0	59,6	60,5	214,3								
2800	103,5	50,9	60,0	60,9	207,7								
2900	107,2	51,0	60,6	61,6	202,9								
3000	110,9	50,9	61,0	61,9	197,5								
3100	114,6	51,2	61,8	62,7	193,8								
3200	118,3	51,2	62,4	63,3	189,4								
3300	122,0	50,7	62,4	63,3	183,8								
3400	125,7	50,1	62,3	63,3	178,3								
3500	129,4	49,4	62,2	63,2	172,9								
3600	133,1	48,9	62,3	63,3	168,5								
3700	136,8	47,3	61,3	62,2	161,3								
3800	140,5	41,8	56,5	57,3	144,8								
3900	144,2	32,7	48,0	48,7	119,9								