



Test Report

STIHL MS 650

OWNER OF THE TEST CERTIFICATE:

Manufacturer and applicant:

Andreas Stihl AG & Co KG

Badstrasse 115

D-71336 Waiblingen

www.stihl.de



Test Results and Evaluation



STIHL MS 650 Chainsaw with 50 cm cutting length

Andreas Stihl AG & Co. KG, Badstraße 115, D-71336 Waiblingen

Test item	Test results				Evaluation
Function	Chain saw in the power class over 4 kW; for professional use				
Engine power					
Power	Engine speed	Torque	Spec. fuel consumption		NE
max. 4.8 kW	9500 min ⁻¹	4.8 Nm	56.5 kW/l		
3.7 kW	6500 min ⁻¹	max. 5.4 Nm	43.5 kW/l		
Fuel consumption					
	max. power		max. torque		
absolute / specific	3.3 l/h	512 g/kWh	2.8 l/h	575 g/kWh	O
Exhaust emission complies with level 1 of the standard 2002/88 EG					
Chain lubrication					
Oil consumption	at 5000 min ⁻¹		at 9000 min ⁻¹		.
min / max	6ml/min	9 ml/min	11 ml/min	18 ml/min	O
Sound pressure level					
	idling speed		full load speed		
at ear of the operator	85 dB(A)		103 dB(A)		O
Equivalent sound pressure level, total value 100 dB(A) (average of idle and loaded levels)					
Accoustic power 118 dB(A) according to the standard 2000/14/EG					
Vibrations					
	idling speed		full load speed		
front handle	7.4 m²		6.0 m/s²		O
rear handle	7.3 m/s²		6.1 m/s²		
Total equivalent vibration front/rear 6.8 / 6.8 m/s²					
Chain brake					
Handguard activation	Actuating force	aver. braking time	max. braking time		NE
	30 N	0.07 s	0.08 s		
Inertia activation	horizontal acceleration		vertical acceleration		NE
	335 m/s²		610 m/s²		
Kickback					
Cutting equipment 50 cm, 3/8“	Kickback angle with brake		Chain stop angle		NE
Full chisel tooth	Measurement not required		Measurement not required		

Stihl MS 650

Mass			
Weight per unit power		With cutting equipment	Without cutting equipment
		1.9 kg/kW	1.5 kg/kW
Operability / handling			
Control elements		Easy to reach and use	+
Chain oil flow adjuster		Operation impeded (position, dirt)	-
Primer		Decompression valve	+
Chain assembly		easy, drive sprocket easily accessible	o
Chain tensioning		simple, on the side	o
Heated handle		not available	-
Maintenance			
Air filter and spark plug cover		Removable without tools	+
Casing		Requires tools	o
Air filter	cleaning	No tools required	+
	soiling	normal	o
Special features		Compensator for optimal fuel/air mixture when air filter is clogged-up	+
Reliability			
No defects during the test			+
Operating manual			
clear, well illustrated			+
Operator safety			
EG-type examination test		(DPLF) Test certificate No. K-EG 2004/3925	
GS-Test		(DPLF) Test certificate No. K-GS-2004/3926	

Rating: ++ / + / o / - / --./. (o = Standard / NE= no evaluation, complies with tolerance value)

Tolerance values and evaluation criteria are described in the "Informationen zur Gebrauchswertprüfung" ("Information about the type examination test"). This publication is available from the DLG and the KWF.

Description and Technical Data (measured values)

Engine

- Air-cooled single-cylinder two-stroke engine;
- engine displacement 84.9 cm³; bore 52 mm; stroke 40 mm;
- Fuel: minimum octane number 90 ROZ; mixed lubrication, 2T-special fuel with "KWF-TEST" or normal unleaded gasoline;
- Spark plug Bosch WSR-6F or NGK BPMR 7A.
- Idling speed 2500 min⁻¹; max. speed 12600 min⁻¹
- Membrane carburettor Walbro.

Cutting equipment

- Clutch drum with external chain sprocket;
- Guide bar with sprocket nose, type Rollomatic E;
- full chisel tooth, 3/8" pitch.

Additional equipment (not tested)

- Guide bars for 40, 45, 63, 75, 80 and 90 cm cutting lengths;
- Heated handle not available

Main dimensions and weights

Length,	incl. cutting equipment 50 cm	940 mm
	engine unit with spiked bumper	470 mm
Width,	engine unit	205 mm
	incl. handle	267 mm
Height,	engine unit	221 mm
	with front hand guard	320 mm
Stump height,	chain sprocket cover	23 mm
	handle	33 mm
Tank volume,	fuel	0.82 l
	chain oil	0.36 l
Weight,	incl. cutting equipment 50 cm	9.0 kg
	without cutting equipment	7.3 kg

Test

Test carried out by:

Kuratorium für Waldarbeit und Forsttechnik Groß-Umstadt
DLG-Testzentrum Technik & Betriebsmittel Groß-Umstadt

Field test

Waldwirtschaftsverband Schweiz, Solothurn
Forstliches Bildungszentrum Königsbrunn
Landesanstalt für Ökologie, Bodenordnung und Forsten, Arnsberg

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FPA/DLG Testing commission

“Geräte und Werkzeuge“ (“Equipment and tools”) with 16 members
Chairman: Josef Berthold

FPA / DLG-Acceptance:

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FPA-Index: 1.01.4024
DLG-Test Report: 5493

The applicant is entitled to display the test mark on machines of this type according to the test regulations and to use the certification for advertising purposes.

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