Responsibility and recognition

Performing competent authority:
Julius Kühn-Institute (Germany)
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This test is recognized by the ENTAM members:

BLT- Francisco Josephinum, Wieselburg (Austria)	030/09
AU/DAE - University of Aarhus - Department of Agricultural Engineering Sciences (Denmark)	AU/DAE/ENTAM 2009-04
Cemagref - Institut de recherche pour l'ingénierie de l'agriculture et de l'environnement (France)	CEMAGREF/ENT/09/013
I.A.M.C. Institute of Agricultural Machinery and Constructions (Greece)	ΛΕ/113/01/ΖΖ
HIAE Hungarian Institute of Agricultural Engineering (Hungary)	D-11/2009
ENAMA Ente Nazionale per la Meccanizzazione Agricola (Italy)	ENTAM „Rapporto di prova prestazionale“ 06/2009
PIMR - Przemyslowy Instytut Maszyn Rolniczych Industrial Institute of Agricultural Engineering (Poland)	PIMR - 35/ENTAM/09
CMA Generalitat de Catalunya Centre de Mecanització Agrària (CMA) (Spain)	EB 009/09
ART - Agroscope Reckenholz-Taenikon (Switzerland)	D-20.09

ENTAM - Test Report

Trade mark:	Agrotop
Model:	AirMix 110-03
Equipment type:	hydraulic nozzle, flat spray
Field of application:	Field crop spraying
Pressure range:	1.5 - 6 bar tested
Standard working height:	50 cm and 75 cm (40 cm - 90 cm tested)

Manufacturer:
Agrotop GmbH
Köferinger Str. 5
93083 Obertraubling
Germany

Test report: D - 1637

Dec 2007

Test results

This nozzle has been tested without accessories.
This nozzle is appropriate for the use of spraying field crops, grassland, vegetables and ornamental plants with a liquid pressure of 1.5 - 6.0 bar.

The front page image of this report shows the demountable nozzle parts (right side) and the assembled nozzle in a 90° twisted position (left side).

- The cross distribution CV[1)] is between 2.8 % (3 bar) and 7.3 % (1.5 bar) for the tested pressure range 1.5 - 6.0 bar at a standard working height of 50 cm. For a pressure of 3.0 bar, the CV varies from 2.4 % (40 cm) to 5.1 % (75 cm). The maximum allowed CV for one working height and one pressure (specified by the manufacturer) is 7 %, for all heights and pressures is 9 %.

- The deviation between the measured single nozzle flow rate and the flow rate table is between 2.2 % (at 6 bar) and 3.9 % (at 3 bar). The maximum allowed deviation is 5 %.

- The max. deviation of the single nozzle flow rates from the mean flow rate is between 1.35 % and 2.97 %.

- The nozzle fullfils the discharge rate requirement of the color code according ISO 10625 (color code: Gentian blue, 1.2 l/min at 3 bar). See tab.1.

Free download of the test report under: www.ENTAM.net
or: www.jki.bund.de

Test results

Pressure (bar)	Discharge rate without accessories (l/min)	droplet size [2)]
1.5	0.87	very coarse
3.0	1.21	coarse
6.0	1.71	coarse

tab.1: Discharge rate and droplet size depending on liquid pressure.

1) on a spray boom with 50 cm nozzle distance
2) according BCPC scheme (additional information)

Additional information

At the time of publishing this report the nozzle is listed in the drift reduction classes 50 % and 75 % of the German drift reduction system, depending on the regulations of use. For more information about the assessment of this nozzle relating to the **German drift reduction system** see: www.jki.bund.de

The tested nozzles (24) were picked out at random of a stock of 200 nozzles. Testing takes place according to the Technical Instructions for ENTAM-Tests of Spray nozzles, rel.1.
This procedure was developed by the competent testing authorities of the European countries participating in ENTAM and is based on the ISO 5682 standard: „Equipment for crop protection - Spraying equipment; Part 1 Test methods for sprayer nozzles“ and on EN 12761 standard: „Agricultural and forestry machinery - Sprayers and liquid fertilizer distributors - Enviromental protection; Part 2“. This test is only a technical performance test which takes place without an accompanying field test. The test results apply only to the tested appurtenances of the sprayer. Statements on the behaviour of different appurtenances cannot be derived from these results.