







Responsibility and recognition



Performing competent authority:

Crop Protection Technology
DEIAFA - meccanica
Via L. da Vinci, 44
I -10095 Grugliasco (TO)

This test is recognized by the ENTAM members:

	Cemagref -Institut de recherche pour l'ingénierie de l'agriculture et de l'environnement – FRANCE	CEMAGREF/ENTAM/10/005
 <small>Generalitat de Catalunya Departament d'Agricultura, Alimentació i Acció Rural</small>	CMA - Centre de Mecanització Agrària - SPAIN	EB005/10
 <small>WIESELBURG</small>	HBLFA Francisco Josephinum Wieselburg - BIOMASS LOGISTICS TECHNOLOGY (FJ - BLT) - AUSTRIA	015/10
 <small>Julius Kühn-Institut Bundesforschungsanstalt für Kulturpflanzen</small>	JKI - Julius Kühn-Institut (formerly BBA) – GERMANY	ENT-I-05/10
 <small>GÖDÖLLÖ 1869</small>	MGI - MEZOGAZDASÁGI GÉPESÍTÉSI INTÉZET Hungarian Institute of Agricultural Engineering - HUNGARY	I-28/2010
	PIMR - Przemysłowy Instytut Maszyn Rolniczych - Industrial Institute of Agricultural Engineering - POLAND	PIMR-49/ENTAM/10



ENTAM - Test Report



Trade mark:	Arag
Model:	WRC 11004
Equipment type:	hydraulic nozzle, flat spray
Field of application:	field crop spraying
Pressure range:	1 – 4 bar
Standard working height:	50 cm tested

Manufacturer:
ARAG srl
Via Palladio, 5/A
I - 42048 Rubiera (RE)

Test report: 46a.010
February 2010

NOTE: Since 23rd January 2012:

Manufacturer:
ASJ srl
Via Busca, 101
I - 12044 Centallo (CN)

Trade mark: ASJ

Test results

This nozzle has been tested without accessories.

This nozzle is appropriate for the use of spraying in crop with a liquid pressure of 1 - 4 bar.

- The cross distribution CV¹ is between 5.3% (50 cm working height) and 8.6% (65 cm working height) for the tested pressure of 3.0 bar. 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 -2.8% and 2.9%. The maximum allowed deviation is 5%.
- The max. deviation of the single nozzle flow rates from the mean flow rate is between 1.4% and 3.9%.
- A spray angle between 104° (at 2 bar) and 110° (at 4 bar) was determined.
- The nozzle fulfils the discharge rate requirement of the color code according ISO 10625 (color code: Flame red, 1.60 l/min at 3 bar). See tab.1.

Free download of the complete test report under: www.ENTAM.net
or: www.ENAMA.it

Test results

Pressure (bar)	Discharge rate without accessories (l/min)	Deviation from the mean flow rate
1.0	0.94	2.1%
2.0	1.36	3.9%
3.0	1.63	1.8%
4.0	1.87	1.4%

Tab. 1: Discharge rate depending on liquid pressure.

- 1) On a spray boom with 50 cm nozzle distance

The tested nozzles (20) 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 method for sprayer nozzles" and on EN 12671 standard: "Agricultural and forestry machinery – Sprayers and liquid fertilizer distributors – Environmental protection; Part 2". This test is only a technical performance test which takes place without an accompanying filed test. The test results apply only to the tested appurtenances of the sprayer. Statements on the behavior of different appurtenances cannot be derived from these results.