

# TEST REPORT



[OFFICIALLY TESTED  
APPROVED  
Federal Biological  
Research Centre for  
Agriculture and Forestry]  
Inspection No. G 1699

of the  
**Federal Biological  
Research Centre  
for Agriculture and  
Forestry  
Braunschweig  
Germany**

Member of



**Inspection equipment  
Test stand for individual nozzles AAMS FRMC 16**

**Approved for the inspection of spraying and atomising devices for  
bush and tree crops (individual nozzle check)**

**Applicant and manufacturer**  
AAMS n.v.  
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**Approved on**  
**19 January 2004**

The approval is valid for a period of five years and can be extended.

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### Equipment and dimensions

**Design:** Individual nozzle test stand with a framework in aluminium sections, 16 measuring cylinders and 16 nozzle adapters with hoses.

**Instrument components:**



*Fig. 2: Universal individual nozzle adapter*

**Nozzle adapter:** Universal individual nozzle adapter with threaded spindle (with black-oxide finish) and aluminium jaws to fit all threaded union nuts with a diameter from 14 to 37 mm; quick-connection device via 2 jaws and threaded spindle. Liquid discharge via silicone hoses.

**Dimensions:** diameter 30 mm, length 180 mm, silicone connection hose with a length of 3000 mm and inside diameter of 7 mm.



*Fig. 3: Mountings for the nozzle adapters*

**Hose/adapter mounting:** The nozzle adapters are suspended in the specially designed recesses for transportation or when not in use. The hoses are fixed to the test stand through the relevant hole. No other hose guide is provided.



*Fig. 4: Swivelling lever for filling, reading and emptying the cylinder. This is the filling position.*

**Test stand:** Aluminium frame on two guide rollers and two adjustable support legs with 16 Plexiglas measuring cylinders, each with a stuck-on scale of 20 to 2000 ml (20 ml graduations). The swivelling measuring cylinders are set to the filling position via a lever. During the measurement period the user must hold the swivelling lever in the filling position. The cylinders swing into a vertical position for reading and are held there via a spring-loaded locking device (adjustable). Emptying takes place via the same tilt lever. The water is discharged on the surrounding floor area. The manufacturer also offers a stainless steel recuperation container.



Fig. 5: Emptying the measuring cylinders.



Fig. 6: Measuring cylinders with stuck-on scales

These can either be emptied via a valve or via a pump (not supplied) and therefore allow the liquid to be pumped back into the tested spraying device. The test stand can easily be operated by one person via two guide rollers. It can also be adjusted horizontally via the adjustable support legs. However, measurement should only be carried out on level and adequately stable sites.

Measuring cylinder: Plexiglas cylinder with a 2,000 ml capacity and 20 ml graduations.  
 Dimensions: Inside diameter 63.8 mm, wall thickness 3 mm, depth 670 mm

Overall dimensions: Length 1830 mm (with handle), width 860 mm, height 1150 mm, total weight 49.4 kg.

Table 1: Measurement accuracy of the measuring cylinders used (permitted error rate max 20 ml)

| Cylinder No. | Target capacity 500 |           | Target capacity 1000 |           | Target capacity 1500 |           |
|--------------|---------------------|-----------|----------------------|-----------|----------------------|-----------|
|              | ml                  | Dev. (ml) | ml                   | Dev. (ml) | ml                   | Dev. (ml) |
| 1            | 500                 | 0         | 1005                 | 5         | 1500                 | 0         |
| 2            | 500                 | 0         | 1010                 | 10        | 1500                 | 0         |
| 3            | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 4            | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 5            | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 6            | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 7            | 500                 | 0         | 1000                 | 0         | 1504                 | 4         |
| 8            | 505                 | 5         | 1010                 | 10        | 1505                 | 5         |
| 9            | 495                 | -5        | 990                  | -10       | 1490                 | -10       |
| 10           | 500                 | 0         | 1000                 | 0         | 1505                 | 5         |
| 11           | 500                 | 0         | 1000                 | 0         | 1505                 | 5         |
| 12           | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 13           | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 14           | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |
| 15           | 515                 | 15        | 1010                 | 10        | 1510                 | 10        |
| 16           | 500                 | 0         | 1000                 | 0         | 1500                 | 0         |

**Assessment**

The individual nozzle test stand consists of the measuring frame with 16 measuring glasses with 16 universal nozzle adapters which can be moved on rollers. It allows the individual nozzle flow volume of nozzles to be determined on spraying and atomising devices for bush and tree crops.

The universal nozzle adapters fit all threaded nozzle union nuts. The test stand can be moved by one person. It must be placed on a level surface for the measurement. The scales of the measurement cylinders comply with the required error tolerance of max. +/- 20 ml. It must be ensured that the hoses to the nozzle adapter do not become kinked when using the test stand.

The inspection equipment was used in 2003 in the instrument inspection in Jork (Altes Land [Old Country]). No problems occurred in practical use. The operating company praised the flexibility of the silicone hoses and the light but simultaneously stable construction. The model with 20 measuring cylinders would, however, have been better for the instruments checked in that area. No defects occurred in operation. The black-oxide finished screws of the individual nozzle adapters must, however, be regularly and adequately protected against corrosion (e.g. with a coat of grease).

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