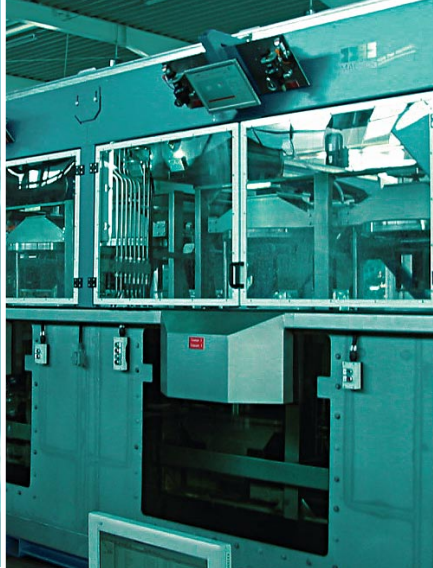


## Ultrasonic-Leak-Tester for Alloy Wheels

Type: USLT-AW-A-1Sx6A



### History

Leak testing of Alloy Wheels was/is typically done with the classical water bath test by operator.

As operator testing is not objective and reliable, Helium leak testing was established in the last decades too. While water bath testing is done with the unpainted Alloy Wheels, Helium testing is sometimes done with painted Alloy Wheels. Today there are some problems with leaking Alloy Wheels in the field.

One assumption is that these problems are due to testing of the painted Alloy Wheels instead of testing unpainted ones. Now, if looking to the Helium testers, it seems that it is more difficult to test unpainted Alloy Wheels according to the specification compared to painted wheels. In some cases you can find a fast rising Helium-background while testing unpainted wheels leading to 100% NOK results. The reason may be a rougher surface of the unpainted wheels.

### Solution

Facing this, MACEAS has developed an **Ultrasonic-Leak-Tester for Wheels** as an alternative to Helium-machines, which fit the specification and is fully automatic and operator independent.

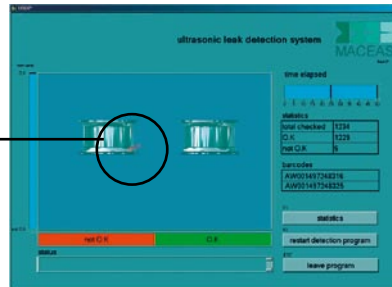
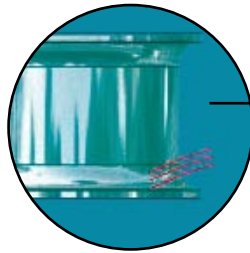
### Your advantages

- No changeover
- Transparent test method
- According to specifications
- Reliable leak testing of unpainted wheels
- Test gas: Air
- Low operating costs
- Maintenance free sensor system
- No vacuum components
- No periodic calibration



## Ultrasonic-Leak-Tester for Alloy Wheels

### Leak localisation



### Technical data

#### Specification

A typical specification (Volkswagen/ Audi) for leak testing of Alloy Wheels is:

**A decay of pressure of 0,2 bar within 6 month at a volume of 25 l at 3 bar absolute test pressure versus 1 bar absolute pressure outside (atmosphere) at constant temperature and constant volume is accepted. Leak testing to be done with unpainted wheels!**

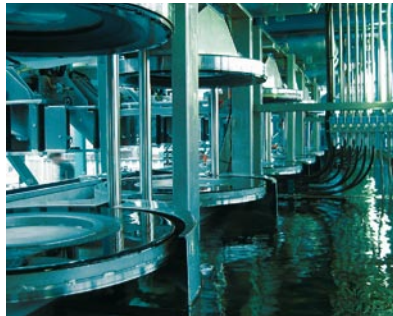
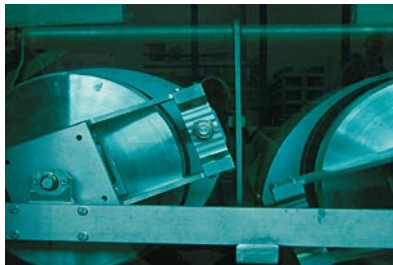
#### Machine capacity

##### USLT-AW-A-1Sx6A

Capacity	200 pcs./h
Effective cycle time	18 s

#### Product range

Max. weight	30 kg
Diameter	15" - 22"
Width	5" - 12"
Min. batch size	1



### Resulting leak rate

Test method	USLT	Helium Vacuum
Test Pressure	4 bar (absolute)	2 bar (absolute)
Pressure outside	1 bar (Atmosphere)	0 bar (Vacuum)
$\Delta p$	3 bar	2 bar
Test gas	Air	100 % Helium
Leak rate	6,00·10 <sup>-4</sup> mbar·l/s 35 bubbles with a diameter of 1 mm within 30 s)	1,47·10 <sup>-4</sup> mbar·l/s By using Helium-Air mixture, e.g. 20 % Helium anliumd due to the calibration factor the mass spectrometer has to detect leak rates down to 10 <sup>-7</sup> mbar·l/s

**MACEAS GmbH**  
Königstrasse 2  
26676 Harkebrügge  
Germany

Contact person:  
Dipl.-Physiker Jürgen Steck  
Fon +49 (4497) 92190-17  
Fax +49 (4497) 92190-19  
Mobil +49 (172) 6823421  
info@maceas.com