

Ultrasonic-Leak-Tester for Fuel Tank

Type: USLT-FT-SAR-1Sx1A_2



Background

Leak testing is an important step in the production of fuel tanks. The specifications are getting more and more strict – reasonable or useless. However there are three basic methods for testing:

Well known water bath testing by operator with the big advantage that the operator can localise the leak and analyse the reason. Nevertheless operator depending testing seems to gain less acceptance in the future.

Test gas method, mainly Helium, in vacuum chamber with the advantage of dry testing but being very sensitive to bad maintenance and critical environment. And last but not least it is a black box system without localisation and analysis capabilities

Solution

Ultrasonic-Gas-Bubble-Detection of MACEAS used for leak testing tries to overcome these problems. Ultrasonic leak testing is detecting the back scattered sound from leak-bubbles. By using the speed of sound the distance between transducers and bubbles can be calculated. Therefore ultrasonic leak testing is a localising leak test method without the influence of an operator.

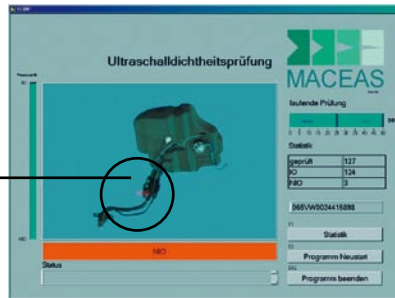
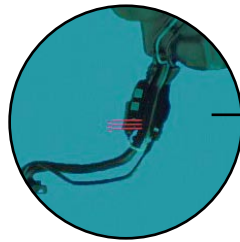
Your advantages

- Objective leak testing
- Transparent test method
- Localising test method
- Direct test method
- Test gas: Air
- Low operating costs
- Maintenance free sensor system
- No vacuum components
- No periodic calibration
- Automated handling possible



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Leak localisation



Machine example

machine with manual handling of parts

- Manual placement
- Manual sealing
- Automatic testing



Technical data

Specification

Typical specification for fuel tank:
detection of a 15 µm leak channel.

Test method USLT

Test pressure	1330-1370 mbar (absolute)
Pressure outside	1000 mbar (Atmosphere)
Δp	330-370 mbar
Test gas	Air
Changeover time	< 30 min

Machine capacity

USLT-FT-SAR-1Sx1A_2

Capacity	42-48 pcs./h
Effective cycle time	75-85 s

Appropriate to

- different types of Fuel Tanks with/
without Filler Pipe.
- as well for Filler Pipes only

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