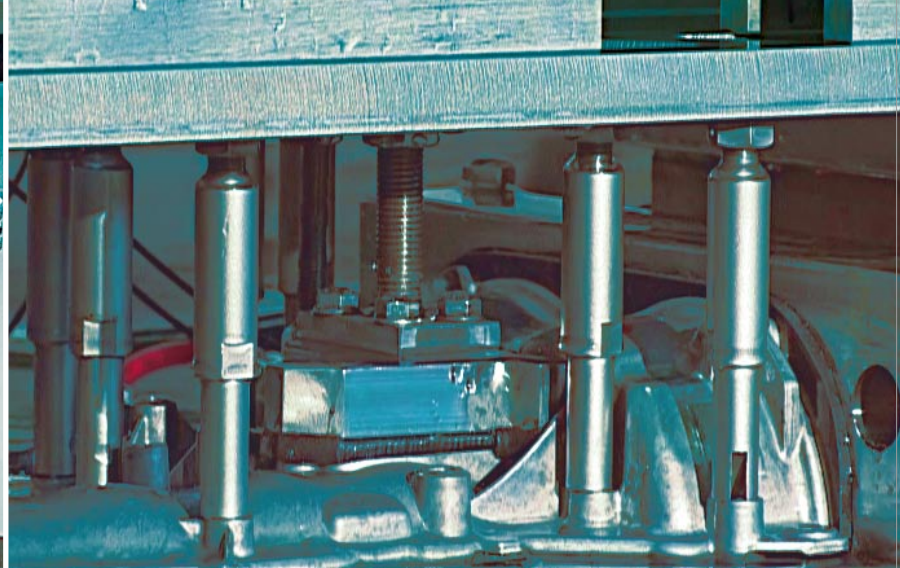
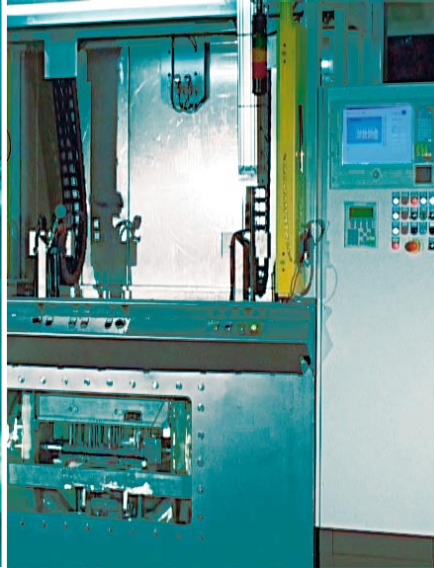


Ultrasonic-Leak-Tester for Cylinder-Head-Cover

Type: USLT-CHC-SA-1Sx1A



Background

Leak Test specification in general and especially for Aluminium cast parts are getting more and more worse. Sometimes this is due to new functions of the product. Therefore typically used pressure difference methods can not be applied in many cases in the future. As an alternative water bath leak testing or test gas methods may be used. While test gas methods often do not work properly under hard production conditions, water bath leak testing performed by an operator is no more accepted by the customer due to the dependence on human factor.

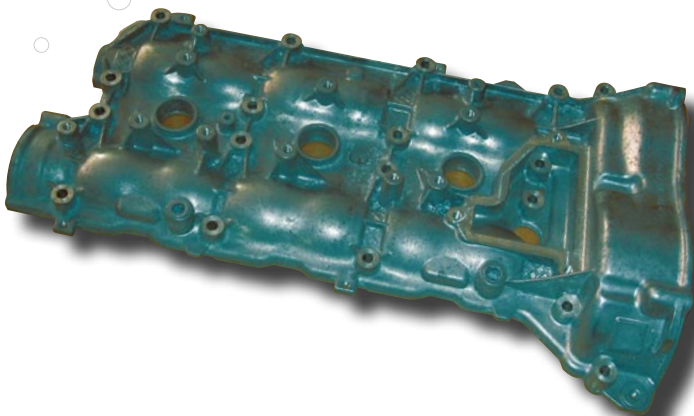
Solution

In many cases **Ultrasonic-Leak-Testing of MACEAS** can improve/replace water bath testing and is a leak test method without the human factor. Ultrasonic leak testing is detecting directly the back scattered sound of leak bubbles when hit by an ultrasound wave. By measuring the time-of-flight, the distance between the transducer and the bubbles can be calculated using the speed of sound in water.

Therefore leak bubbles can be detected reliable without the influence of an operator and can be localised automatically.

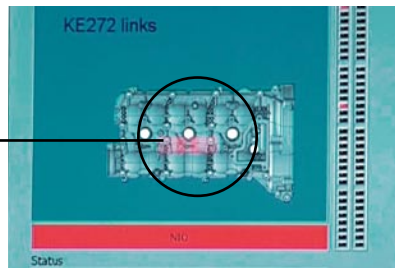
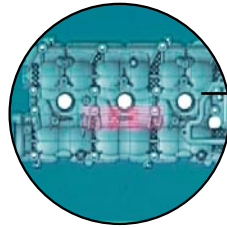
Your advantages

- 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

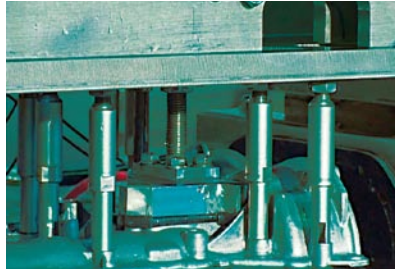


Ultrasonic-Leak-Tester for Cylinder-Head-Cover

Leak localisation



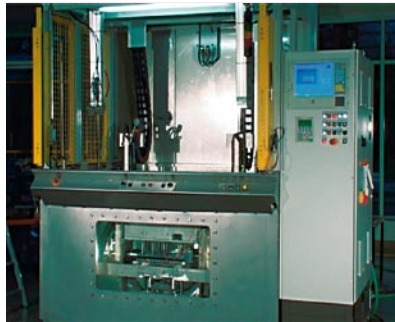
Sealing



Machine example

machine with manual handling of parts

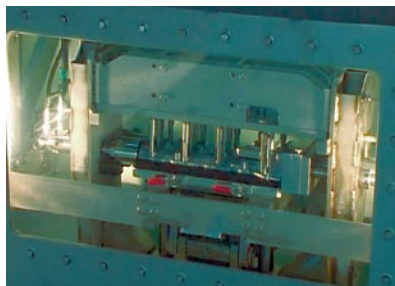
- Manual placement
- Automatic sealing
- Automatic testing



Technical data

Test method USLT

| | |
|--|------------------------------|
| Test pressure | 6 bar (absolute) |
| Pressure outside | 1 bar (Atmosphere) |
| Δp | 5 bar |
| Test gas | Air |
| Leak rate | $8,3 \cdot 10^{-3}$ mbar·l/s |
| 59 bubbles with a diameter of 2 mm within 30 s | |



Machine capacity

USLT-CHC-SA-1Sx1A

| | |
|----------------------|-----------|
| Capacity | 36 pcs./h |
| Effective cycle time | 100 s |
| Changeover time | < 30 min |

Appropriate to

parts which are difficult to seal because of three open sides and with comparatively high pressure of 6 bar.

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