

**M4C075 G3M**

**Cylinder head -  
Example for application**

**EMCO TEST**  
YOUR FACTOR OF SAFETY.



This example for application was created in cooperation with "Alutec-Belte".

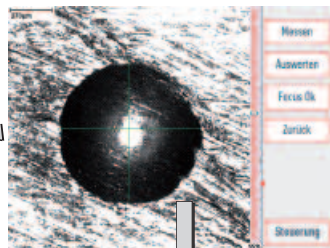
On this occasion we would like to thank again for their cooperation and the trust they have put in us!

## Customer requirements to the hardness tester:

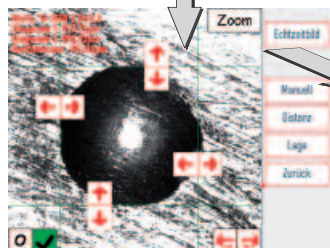
- The basic requirement for the purchase of the hardness tester was a safe and comprehensible process that has to ensure the machine capability according to standards! The customer required a deviation of +/- 2-3 HBW with reference to the automatic image evaluation; however, this value is related to the average value of the manually determined values.

## Execution of the hardness testing operation:

- The test method is HBW 5/ 250. This test method is subject to the load factor HBW 10. This load factor is suited to the testing of aluminium, which means that principally 3 test methods can be used for aluminium testing (HBW10/1000, HBW 5/ 250, HBW 2.5/ 62.5)!



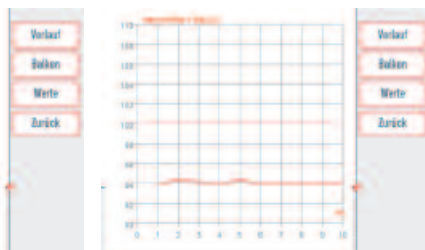
- After the preparation of the surface (grinded surface) the test method may be selected. Then you can switch on the live image and inspect the test point. In the next step the measurement is carried out. Then you get the evaluated indentation. The zoom function provides the detailed view on the corner points which considerably facilitates the manual re-measurement.



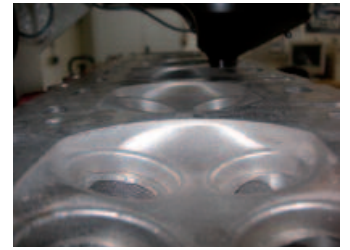
## Statistical analysis of the measurement rows:

- The database can be statistically recorded and analyzed afterwards. The limits are freely definable. The measurement data, respectively the statistical analysis can be later printed via the USB connection. Another possibility to file the data is to send them to a server via interface.

Anzahl:	10
Anzahl zu weich:	0
Anzahl zu hart:	0
Anzahl Statistik:	10
Maximum:	94,34
Spannenbreite:	3,36
Minimum:	94,007
Spannenbreite:	3,36
Mittelwert-SS:	93,647
Mittelwert:	93,647
Cp:	119,59
Cpk:	119,59



## Safety in detail:



## Technical Data:

- M4C075G3M Hardness Tester
- NKW28E05Z 5 mm ball holder
- M4ZL1CG3 40x lens

- Workpieces: cylinder heads made of aluminium casting
- Test points: plane surface of the head
- Test method: HBW 5/250
- Customer: Alutec- Belte AG

## EMCO-TEST Prüfmaschinen GmbH

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