

TESTING TECHNOLOGY

We develop complete solutions for measuring, testing and assembly systems from the design to the final production, assembly and commissioning.

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Innovation is our world**



DIMENSIONAL CONTROL DEVICE

Description

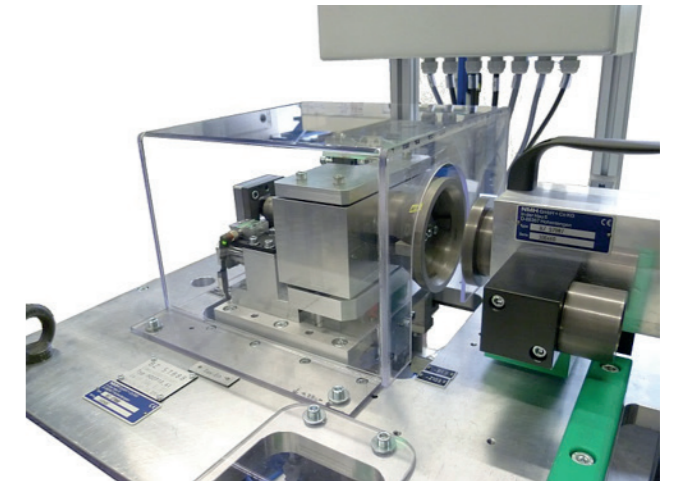
Components (in this case, exhaust gas heat exchangers) are measured or calibrated according to customer requirements with the dimensional control device. With actuation of the 1-handed, or 2-handed start-up, the component is clamped and then tested for dimensional tolerance in a fully-automated process. Then the test result is displayed on the display of the measuring computer of the testing station and classified as OK / NOK. A fully-automatic OK / NOK identification takes place, e.g. with a bar code sticker, before the component is released.

Advantages

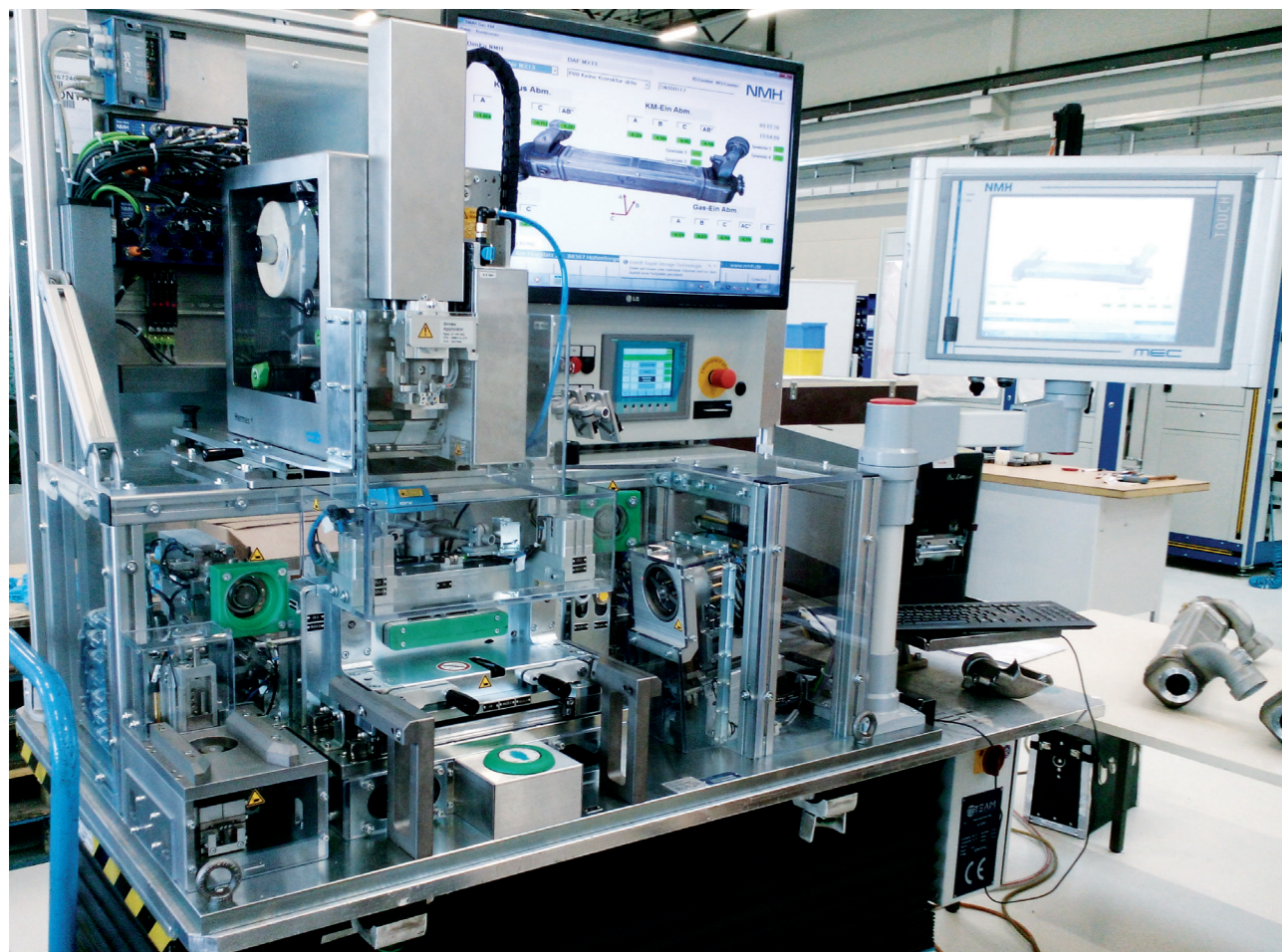
- >> Rapid check of workpieces for dimensional accuracy immediately after production
- >> 100 % control
- >> Direct display of the measuring result on the measuring computer and thus simple and rapid adaptation of the welding process
- >> The control device can be adapted for multiple types / variants
- >> Check of the device with supplied test gauge
- >> Optionally with identification of components as OK / NOK



>> Calibrating dimensional control device for exhaust gas heat exchangers

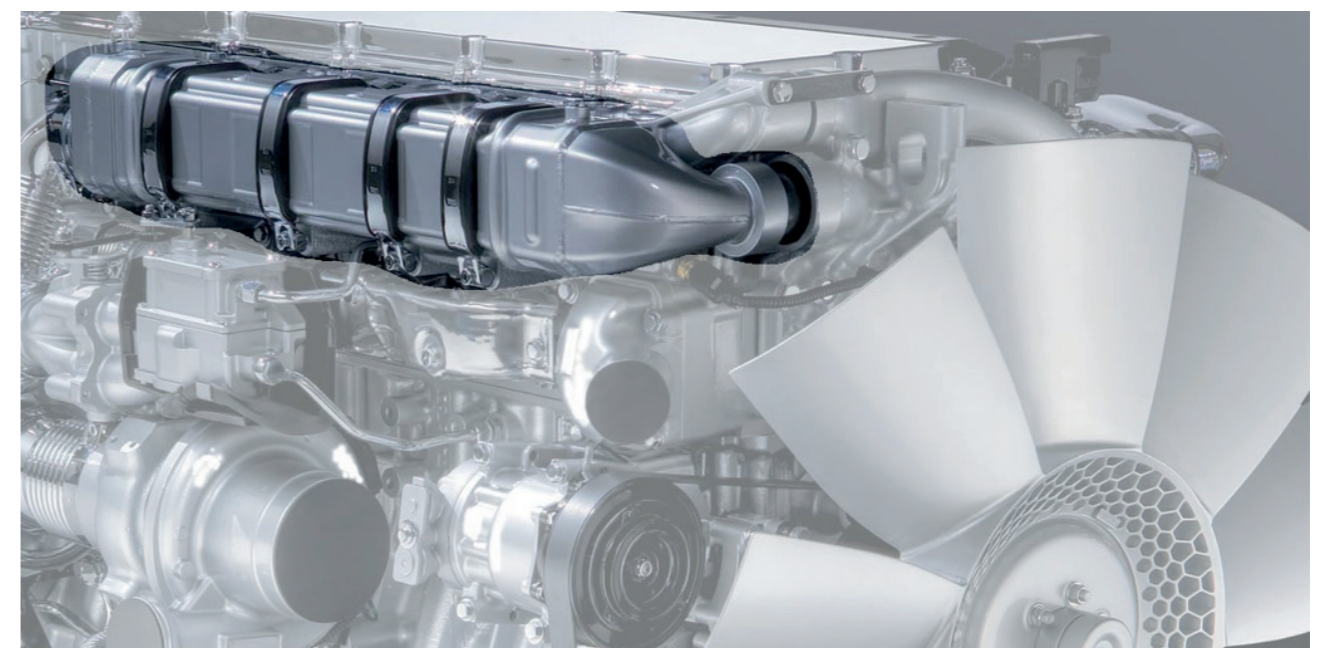


>> Calibrating device detailed view



>> Measuring dimensional control device for exhaust gas heat exchangers

Nr	Station	Ablauf	Merkmale	Tester	Kontrollen/Messzeit	Ein	Start	Aktiv	Ende
1	Grundstellung	STA		1,2,3,4,5,6,7,8,9	GS		4		4
2	Impfen	STA	29,30,31,32,33,34,35,36,37,109,110				5		5
3	Scannen	DAT	19				27		27
4	Scandagnose	STA	39						27
5									
6	Ergebnis Schalterprüfung	STA	8				20		20
7	Ri-Gang Maximalzeit Fenster initialisieren	STA	111,112,279,280,285,298,295,300				20		20
8	Ri-Gang Endzeit Fenster initialisieren	STA	113,114,284,285,303,308,303,303				20		20
9	Gangzeit Maximalzeit Fenster re	STA	115,116,285,311,311,316,311,311				20		6
10	Visualisieren	DYN					19		4
11	Aufzeichnung Rollprüfung li	DYN	339,339,340	4			46	47	46
12	Auswertung Rollprüfung links	STA	2						47
13	Aufzeichnung Rollprüfung re	DYN	339,339,340	8			43	44	43
14	Auswertung Rollprüfung re	STA	2						44
15									
16	1. Gang Aufzeichnung li (B)	DMK	22*119*121*	3,4,9			6	7	7
17	2. Gang Aufzeichnung li (B)	DMK	22*119*122*	3,4,9			6	8	8
18	3. Gang Aufzeichnung li (B)	DMK	22*119*122*	3,4,9			6	9	9

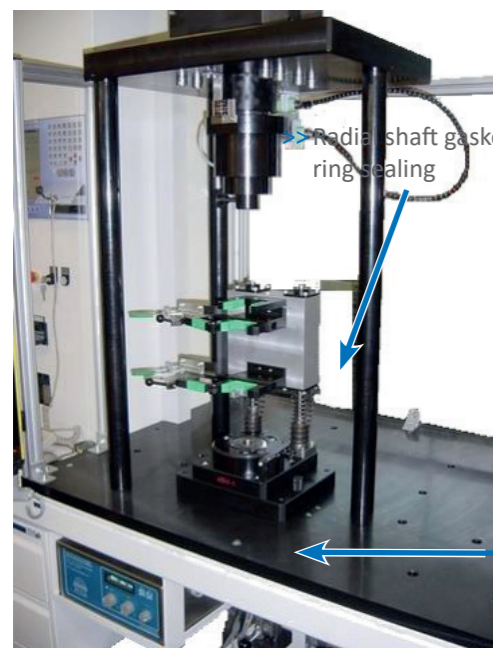


>> Display: exhaust gas heat exchanger installation location

LEAK TEST

Fully-automatic system for the leak test (Example: front-axle transmission)

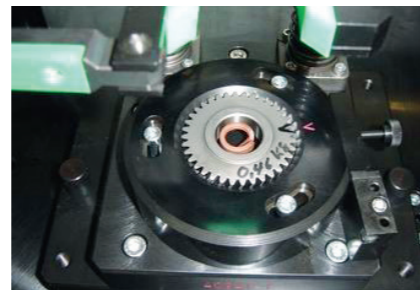
- >> Front axle transmissions are transported automatically to the system on workpiece carriers
- >> The workpiece carrier is indexed automatically and machines the front axle transmission
- >> Sealing of ventilation bore
- >> Sealing of the radial shaft gasket rings of the output shaft
- >> Pre-centring of the sealing unit on the outer contour of the housing
- >> Automatic dirt extraction for the sealing shafts on the radial shaft gasket rings
- >> Permissible leakage rate of 4 cm³/min



>> Radial shaft gasket ring sealing

>> Front axle transmission

>> Front axle transmission leak test

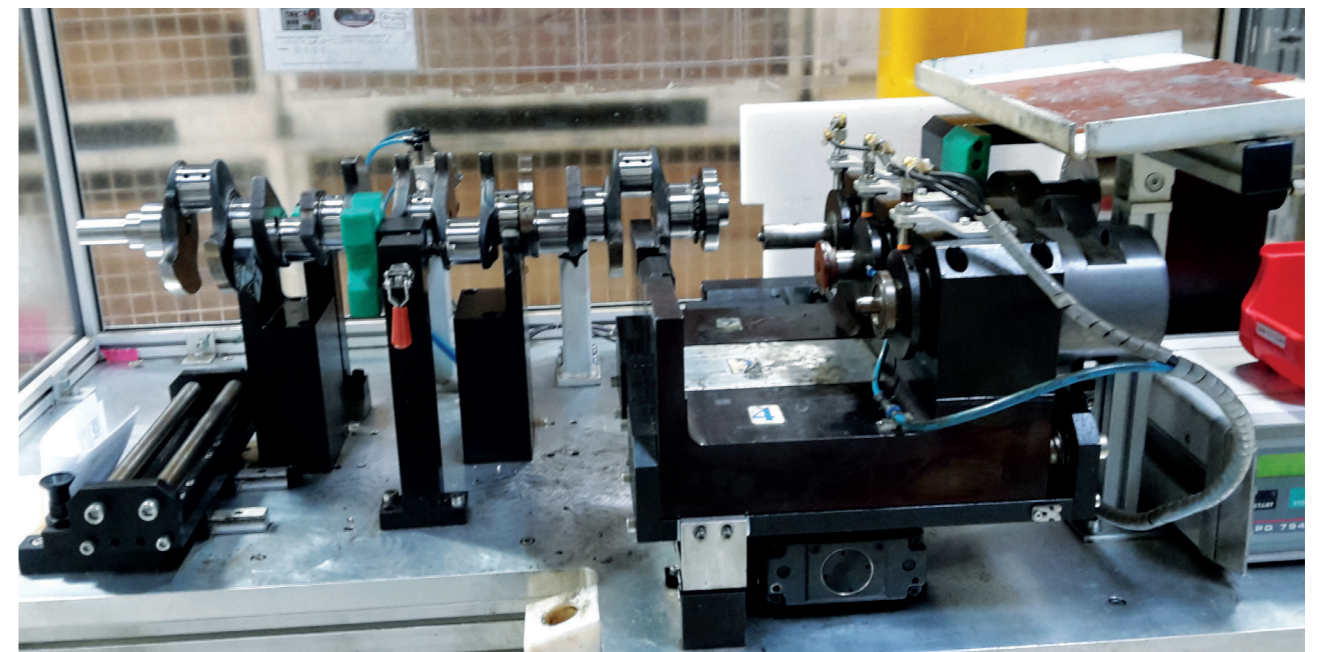


>> Radial shaft gasket ring sealing

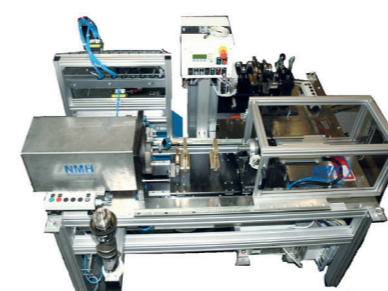
>> Leak test

Leak test and press-in device for crankshafts

- >> Press-fitting of the radial ball bearing
- >> Pressing-in of the end cap into the crankshaft
- >> Leak testing of the end cap
- >> Manual pressing-in of the feather key with a knuckle joint press
- >> Worker protection by safety light curtain



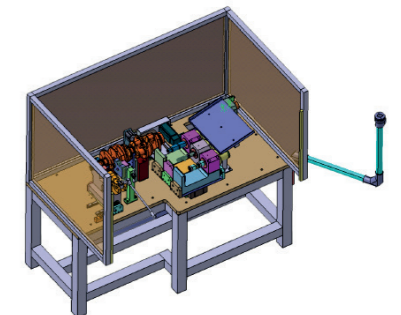
>> Combined press-in system and crankshaft leak testing



>> Station 1 (front side):
semi-automatic mounting of
gearwheels on crankshafts

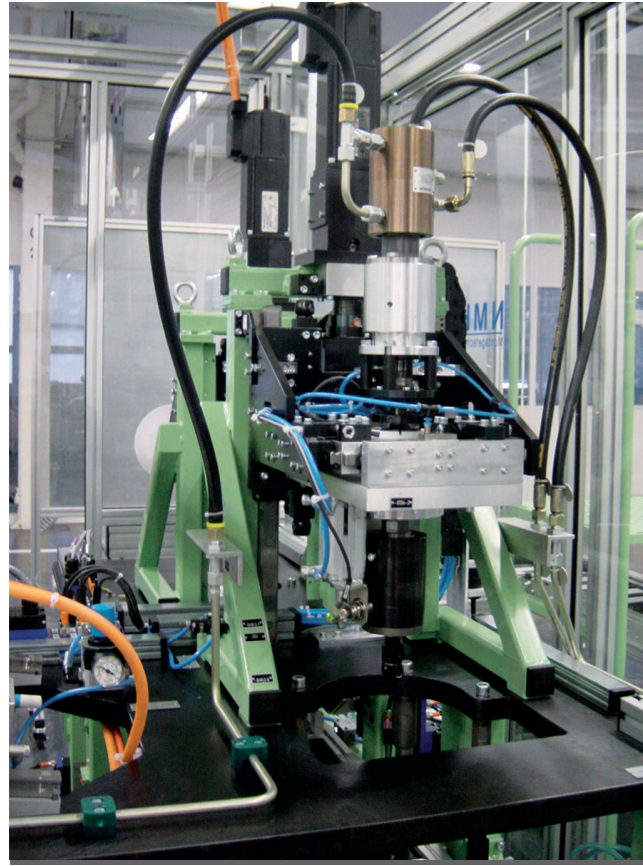


>> Station 2 (rear side):
torque testing – gearwheel
seat strength on crankshaft



>> Combined press-in system
and crankshaft leak testing

INNOVATIVE EXAMPLES



>> Front axle transmission tooth clearance measurement in combination with seal testing



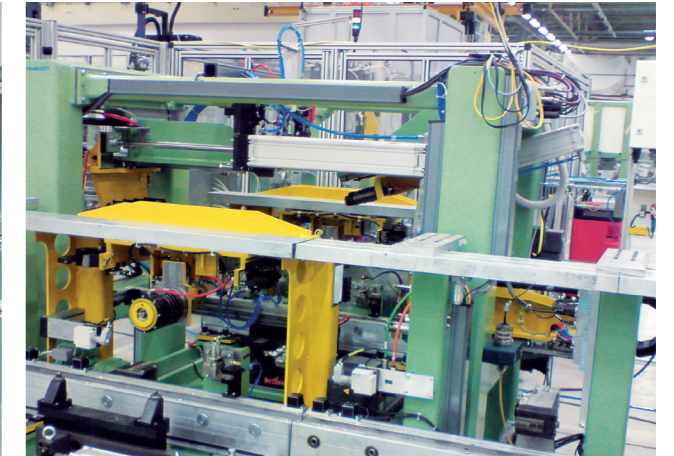
>> Front axle transmission leak test



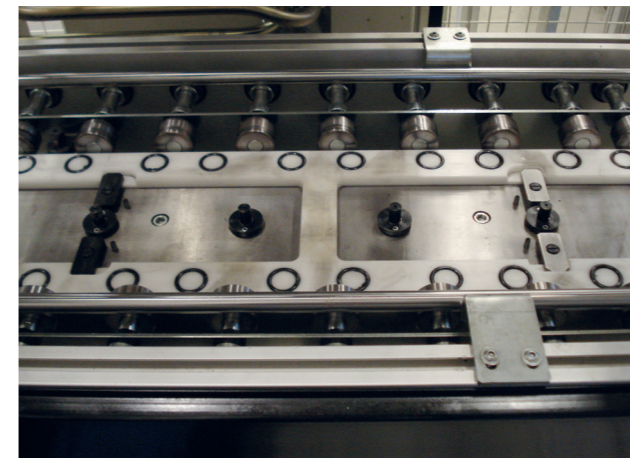
>> Overview: front axle transmission test station for tooth clearance and leak integrity



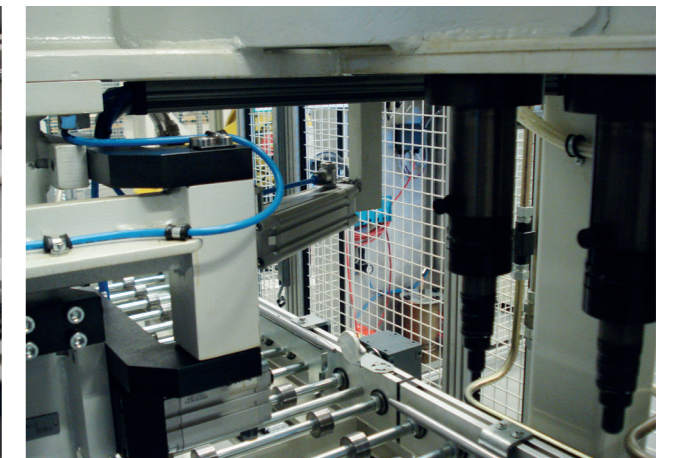
>> Leak test: passenger vehicle engine



>> Leak test: passenger vehicle engine



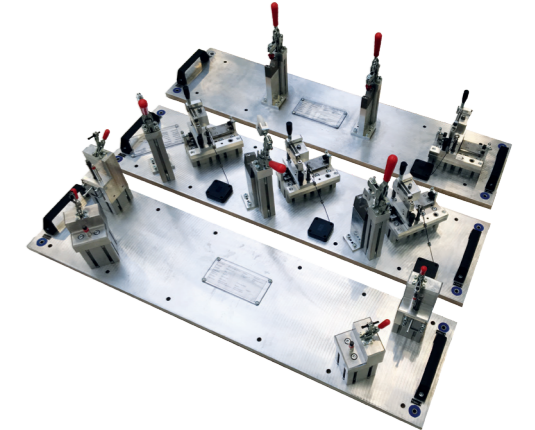
>> Leak test: commercial vehicle cylinder head bottom side



>> Leak test: commercial vehicle cylinder head valve side



>> Test stand for shift turrets



>> Strut brace test gauge

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About NMH

NMH is one of the “hidden champions” for complex measuring, testing and assembly systems. The company employs around 100 employees at the Hohentengen location. NMH offers complete solutions – from the design to the final production, assembly and commissioning. Nearly all German premium automotive manufacturers and their suppliers are NMH customers.

Excerpt of references



Company film



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