



HOMMEL TESTER W55

Roughness measurement and evaluation with workshop performance



Precision is our business.



Your partner for industrial metrology

Hommel-Etamic is a leading manufacturer and system provider of high-precision, tactile and non-tactile production metrology. The range of products provided include total solutions for a wide range of measurement tasks such as testing surfaces, form, and determining dimensional tolerances – throughout all phases of the production process, for final inspection or in a metrology lab. Our product portfolio is rounded off by a wide range of services in consulting, training and service, including long-term maintenance contracts.

Hommel-Etamic – precision is our business!

Flexible surface roughness measurement

We have the right system for any measuring task. Our product line includes mobile compact measuring devices,

as well as standard and custom stationary systems, for roughness, topography and contour measurement.

In workshops, production lines and laboratories. Start up and be in the know – the HOMMEL TESTER W55 supplies precise measuring results quickly and easily. In addition to measurement results displayed in full colour, results can also be archived centrally or printed both locally or via the LAN interface.

Operation is based on true workshop practice. The 10" TFT colour display displays parameters, profile views and measurement conditions clearly on one screen. Robust function keys are used for operation and detailed information can be accessed as required with the touch screen.

Professional workshop performance

The advantages of the HOMMEL TESTER W55 at a glance

Operation

A simple menu structure, allowing access to all the most important functions, makes the HOMMEL TESTER W55 simple to operate, even for operators who only occasionally use the system.

Clarity

The large 10" TFT colour LCD displays all the measurement information on one screen. Further information can be accessed through the touch screen as required.

Functionality

State of the art electronics guarantee precise measuring results, including difficult measurement solutions, with considerable ease of operation. All common parameters and measuring conditions can be set individually.

Design

An ergonomic, robust, aluminum housing ensures complete functionality under a wide variety of workshop and laboratory conditions.

Data management

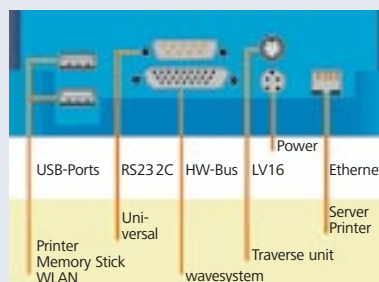
Measuring results are saved internally. Stored data can then be transferred to a USB-Memory-Stick or archived directly on a server via the LAN. Data can be printed locally or centrally and may be exported to qs-STAT® as an option.

Compatibility

The standard interfaces USB, LAN, WLAN, RS232 and CAN-bus allow individual system configuration and make the HOMMEL TESTER W55 compatible with present day and future peripheral devices.



Clear menu structure



Connections for the standard interfaces



Data export to USB-Memory-Stick

HOMMEL TESTER W55

- Compact, efficient evaluation unit for use in lab or production environments
- Calculation of all common roughness, profile and waviness parameters
- Tolerance monitoring for all parameters
- Representation of P, R and W profiles as well as Abbott curve
- Measuring programs created by touch-screen
- Management of up to 30 measuring programs
- Integrated statistic functions
- Electronic archiving of measuring results
- Comfortable use for operators by function keys
- Data export in ASCII format
- Adaptable with various traverse units, roughness probes, measuring columns (wavesystem)

Roughness measuring station HOMMEL TESTER W55 R60-400

Art. 1001 7077

Universal measuring station with motorised measuring column used for roughness, profile and waviness measurements.

System Components

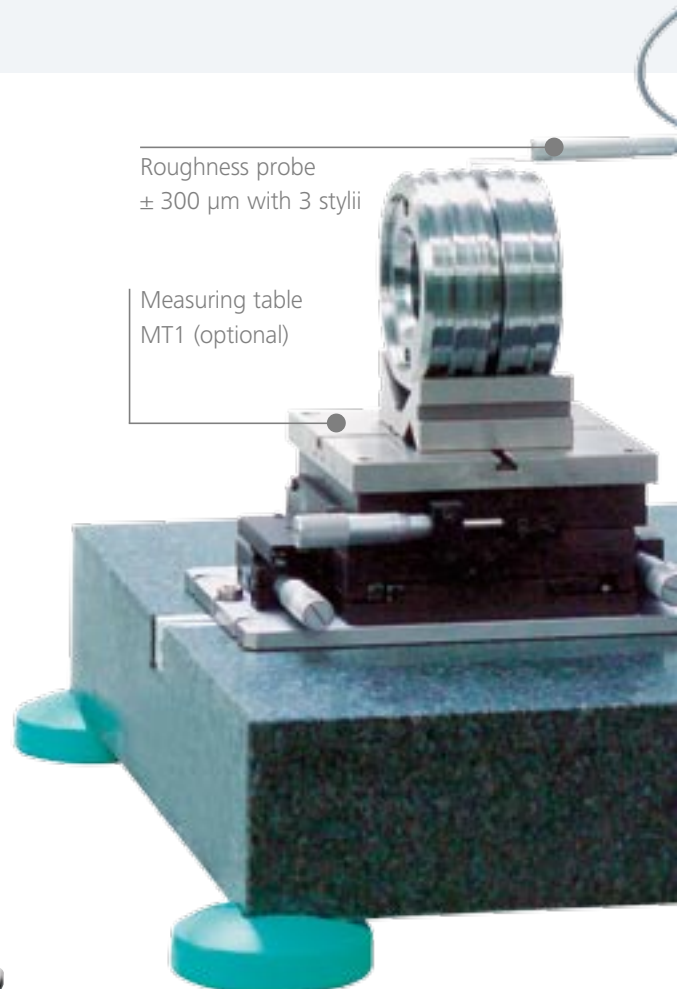
- HOMMEL TESTER W55 evaluation unit
- Granite base with T-groove
Dimensions 630 x 500 mm
- Measuring column wavelift 400
 - 400 mm motorised travel
 - Auto stop-function
- Tilting and holding unit for waveline 60
 - Coarse adjustment range $\pm 45^\circ$
 - Fine adjustment range $\pm 5^\circ$
- waveline 60 traverse unit
 - Traverse length: 60 mm
 - Guide accuracy $0.8 \mu\text{m}/60 \text{ mm}$
 - Traverse speed $0.01 - 3 \text{ mm/s}$
- Roughness standard RNDH2
- Pick-up set TKU 300
 - Measuring range $\pm 300 \mu\text{m}$
 - Incl. 3 exchangeable probe arms

Evaluation unit
HOMMEL TESTER W55

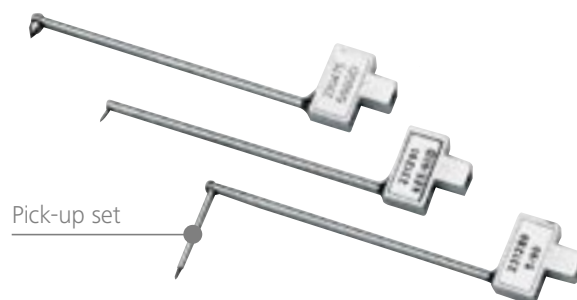


Roughness probe
 $\pm 300 \mu\text{m}$ with 3 stylii

Measuring table
MT1 (optional)



Pick-up set





Measuring column
wavelift 400
with motorised drive

Tilt unit $\pm 45^\circ$ with
fine adjustment
range $\pm 5^\circ$

Traverse unit
waveline 60
with 60 mm
traverse length

Granite base with T-groove
630 x 500 mm



Measuring program selection
Fast selection by icons



Result display
Roughness parameters and profile log



Result display
Waviness parameters and waviness trace

Teil	Ra	Rz	Rmax	Rt	Datum	Zeit
1	1.40	8.25	11.25	12.11	04.01.08	12.21.01
2	1.34	8.00	10.20	11.50	04.01.08	14.43.37
3	1.28	8.30	10.02	10.90	04.01.08	14.43.41
4	1.30	8.40	10.40	10.90	04.01.08	14.43.41
5	1.30	8.00	10.70	12.52	04.01.08	15.28.21
6	1.22	8.70	11.25	11.40	04.01.08	15.44.51

Partnr.	Jg	Messwert	s	Anzahl	Zeit
Ra	1.00	1.24	0.08	1.40	1.23
Rz	8.00	1.11	0.03	10.91	8.40
Rmax	11.50	1.88	0.07	10.25	10.40
Rt	11.00	2.70	0.07	12.50	10.40

Parameter list and statistics
Data export in Excel

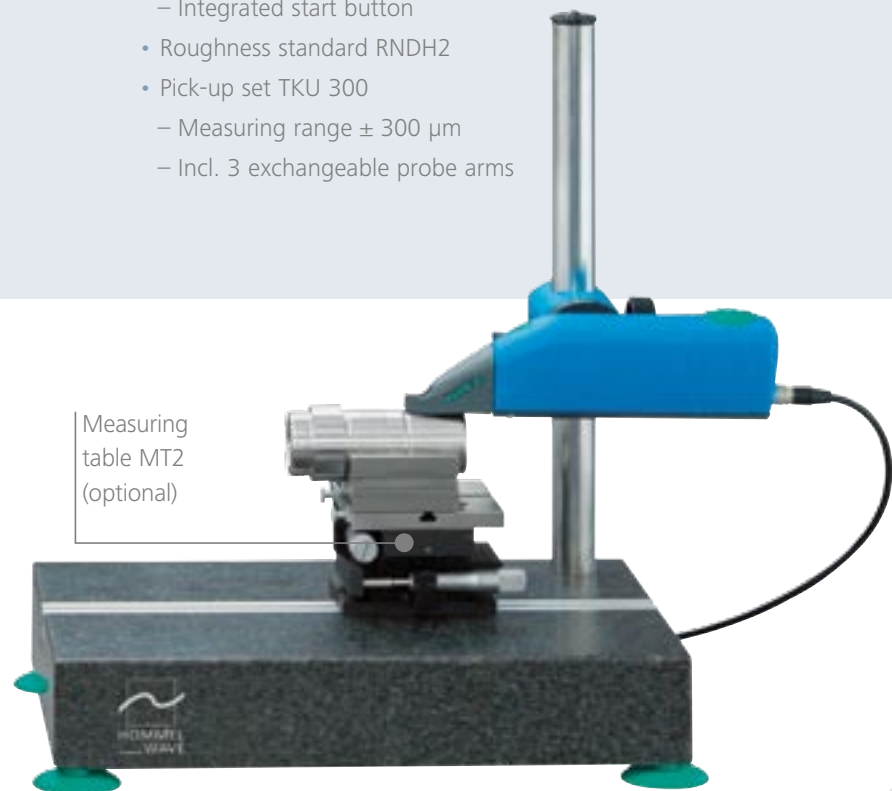
Roughness measuring station HOMMEL TESTER W55 R20-300

Art. 1001 7076

Compact measuring station used for roughness, profile and waviness measurements, for small to medium-sized workpieces.

System Components

- HOMMEL TESTER W55 evaluation unit
- Granite base with T-groove
Dimensions 400 x 280 mm
- Measuring stand
 - Vertical adjustment range 300 mm
 - Tilt direction $\pm 45^\circ$
- waveline 20 traverse unit
 - Traverse length: 20 mm
 - Guide accuracy $0.2 \mu\text{m}/20 \text{ mm}$
 - Motorised probe positioning with auto stop in probe zero position
 - Internal alignment range $\pm 2^\circ$
 - Integrated start button
- Roughness standard RNDH2
- Pick-up set TKU 300
 - Measuring range $\pm 300 \mu\text{m}$
 - Incl. 3 exchangeable probe arms



The compact dimensions of the HOMMEL TESTER W55 allow it to be used for a wide range of measurement tasks. In connection with the waveline 20 traverse unit measurement tasks in production can be performed quickly and easily. A start button integrated in the traverse unit and the ergonomic design ensure safe and easy handling.



Roughness measuring station HOMMEL TESTER W55 R16-300

Art.-Nr. 1002 3350

Compact measuring station used for roughness measurement, for small to medium-sized workpieces, with skid probe.

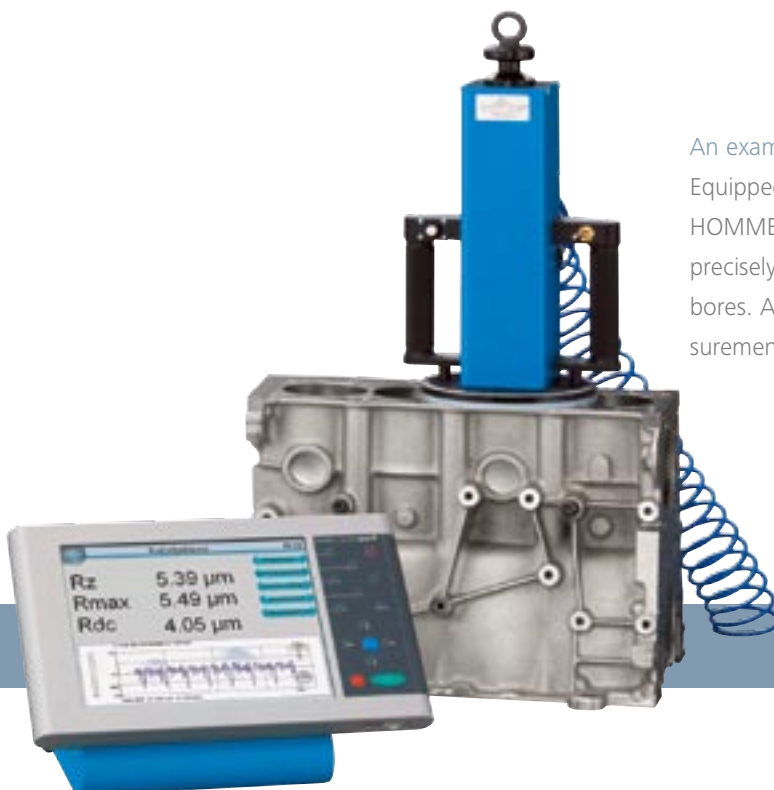
System Components

- HOMMEL TESTER W55 evaluation unit
- Granite base with T-groove
Dimensions 400 x 280 mm
- Measuring stand
 - Vertical adjustment range 300 mm
 - Tilt direction $\pm 45^\circ$
- Traverse unit LV16 for skid probes
 - Traversing direction axial, traverse measurement
 - Traverse length: 16 mm
 - Integrated start button
- Roughness standard RNDH2
- Skid probe T1E for flat planes, waves and bores



An example for tailor made solutions

Equipped with a scanning head for cylinders, the HOMMEL TESTER W55 is capable to rapidly and precisely determine roughness parameters in cylinder bores. An ergonomic and mobile design allows measurements on the production line.



Software options

W55 software option Dominant Waviness

Art. 1001 2251

According to VDA2007, evaluation of form deviations (waviness) on surfaces.

Calculated parameters:

WD1c; WD1t; WD1Sm; WD2c; WD2t; WD2Sm

W55 software option qs-STAT® interface

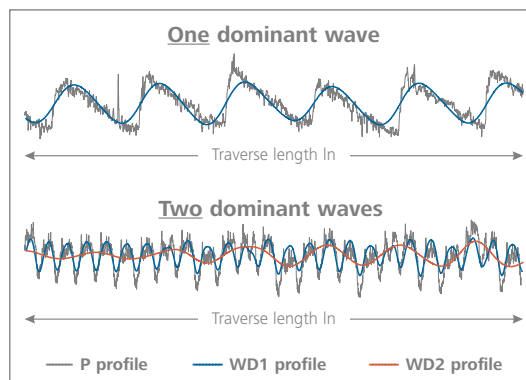
Art. 1001 2252

Q-DAS ASCII transfer format for local and central storage of measuring results and data in .DFQ-format.

W55 software option pdf-converter

Art. 1003 0730

Creation and storage of print forms in pdf-format (portable document format).



W55 software option CNC

Art. 1003 0790

CNC software for control of automated measurement runs. For system configurations with wave-line and wavelift peripherals.

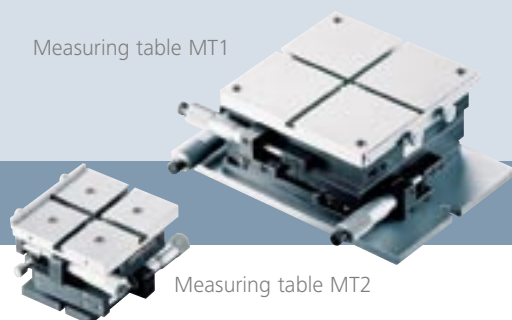
wavesystem accessories for different measuring tasks

The modular design of our measuring systems with numerous accessories ensures maximum usage options. The following accessories are only an excerpt from our extensive range.

Measuring tables

For support and exact positioning of smaller workpieces.

Measuring table MT1



Measuring table MT2

MT1: Two co-ordinates $\pm 12,5$ mm adjustable

Support area: 160 x 160 mm

Axes XYO

Art. M0 435 273

Additionally rotatable $\pm 5^\circ$ about vertical axis

Axes XYO

Art. M0 435 276

MT2: Two co-ordinates $\pm 12,5$ mm adjustable

Rotatable $\pm 5^\circ$ about vertical axis

Support area: 100 x 100 mm

Axes XYO

Art. M0 435 278

HOMMEL TESTER W55

Measurement principle	Tracing method calibrated
Total deviation acc. to DIN 4772	Class 1
Measuring ranges/resolution	± 8 µm/1 nm; ± 80 µm/10 nm; ± 400 µm/50 nm; ± 800 µm/100 nm
Filter: cut-off lengths	0.025; 0.08; 0.25; 0.8; 2.5; 8 (mm); selectable in -2 to +1 cut-off steps; variable from 0.001 to 80 in steps of 0.001
DIN 4768	RC, digitally calculated [mm], cut-off lengths 0.025; 0.08; 0.25; 0.8; 2.5; 8
ISO 11562, Part 1, (50 % Gauss)	Gauss (M1) digital cut-off lengths 0.025; 0.08; 0.25; 0.8; 2.5; 8
ISO 13565-1	2x Gauss (M2) Rk-parameter, cut-off lengths 0,025; 0,08; 0,25; 0,8; 2,5; 8
ISO 3274/11562	Short-wave cut-off length λs; selectable in steps λc / λs 30; 100; 300
ISO 3274/11562	Form filter λf
Traverse speed vt	lt – assigned 0.05; 0.15; 0.5 mm/s; variable 0.01 - 2.0 mm/s in 0.01 steps
Scan distances lt	0.48; 1.5; 4.8; 15; 48 mm or variable from 0.1 – 120 mm, dependent on traverse unit
Traverse lengths ln	0.40; 1.25; 4.0; 12.5; 40 mm or variable cut-off lengths
Cut-off λ [mm]	0.08; 0.25; 0.8; 2.5; 8.0
Roughness parameters: ISO 4287	Ra; Rz; Rmax; Rt; Rq; Rsk; lmo; lo; Rdq; da; ln; La; Lq; Rdc; Rv; Rz-ISO; R3z; Rpm; Rp3z; R3zm; Rp; D; RPC; RSm; Rpm/R3z; lr; Rku; tpif; tpia; tpip; tpic; Rt/Ra; Rz1; Rz2; Rz3; Rz4; Rz5; Rmr; Rmr%; Api
Core roughness parameters: ISO 13565	Rpk*; Rpk; Rk; Rvk*; Rvk; Mr1; Mr 2; A1; A2; Vo(70%)0.01* Rv/Rk
Profile parameters: ISO 4287	Pt'; Pp; Pz; Pa; Pq; Psk; PSm; Pdq; lp; Pku; tpaf; tpa; tpab; tpac; Pmr0; APa; APa%; Pmr; Pmr%
Waviness parameters: ISO 4287	Wt'; Wp; Wz; Wa; Wq; Wsk; WSm; Wdq; lw; Wku
Motif parameters: ISO 12085	R; Rx; AR; Nr; W; Wx; AW; Nw; Wte; Tpaf(CR, CL, CF)
Roughness parameters: JIS B – 0601	Rz-JIS; Rmax-JIS
Statistics	(n, x, S, R, max, min) per measuring program from 1 to 999 measurements
Screen and print outputs	Surface characteristic values; statistics; profile position; P-, R-, W-, K-profile; material ratio; measuring conditions; tolerances
Peripheral connections	Linear traverse unit: waveline 20; 60; 120; LV16; Measuring columns: wavelift 400; 2 x USB on the front, 2 x USB on the rear, LAN 10/100 (RJ45); RS232 (9-PIN-D-Sub)
Power supply	100 V – 240 Volt, 50-60 Hz, 160 VA
Operating temperature without condensation	+10°C to + 45°C, relative humidity max. 85%; ΔT 2°C/h
Storage temperature	-20°C to + 50°C

Roughness measuring stations

	HOMMEL TESTER W55 R16-300	HOMMEL TESTER W55 R20-300	HOMMEL TESTER W55 R60-400
Traverse unit	LV16	waveline 20	waveline 60 basic
Guidance	Skid	Skidless	Skidless
Tracing length	16 mm	20 mm	60 mm
Tracing speed	0.05 – 3 mm/sec.	0.05 – 3 mm/sec.	0.01 – 3 mm/sec.
Straightness accuracy	–	< 0.2 µm/20 mm	< 0.8 µm/60 mm
Probe	T1E	TKU 300	TKU 300
Max. measuring range	– 120 µm	± 300 µm	± 300 µm
Measuring column	Manual	Manual	Motorised
Vertical adjustment range	300 mm	300 mm	400 mm
Tilting unit	± 180°	± 180°	± 45°
Fine adjustment range	–	–	± 5°
Traverse speed	–	–	0.1 – 12 mm/sec
Positioning repeatability	–	–	< 12 µm
Granite plate dimensions	400 x 280 mm	400 x 280 mm	630 x 500 mm



Our global presence.

Germany	Spain	Mexico
France	Czech Republic	China
Switzerland	United States	South Korea
		India

Group companies, affiliates and representation worldwide

www.hommel-etamic.com

