DIAVITE AG DIAVITE Compact II roughness measuring device

mobile roughness measuring device with external feed unit

Application:
Compact, mobile roughness measuring device for standard roughness measurements in production facilities and measuring rooms.

Execution:
- External calibration standard Ra 3.0 µm
- Roughness parameters in line with DIN ISO, JIS, ASME
- **Ident. No. 100:** Stylus instrument with feed unit VH for skid-type probe
- **Ident. No. 110:**
  - Stylus instrument with feed unit VHF for skid-type probes and free tracers
  - Standard probe SH with diamond probe tip 5 µm

Advantage:
- Simple and intuitive operation, no training required
- Safe measurement using permanently connected cut-off filter with scanning path
- Feed unit can be integrated into device for wireless measuring
- Measurements in all directions, horizontal, vertical and overhead
- Evaluation software DIASOFT Basic with individual log generation. Version can be upgraded with feed unit VHF.

Delivery:
Ident. No. 100: Display unit with feed unit type VH, standard probe SH, diamond probe tip 5 µm/90°, adapter and connecting cable between feed unit and display unit, battery, power pack/charger, CD with software DIASOFT Basic, USB PC connecting cable, metal calibration standard, case
Ident. No. 110: Display unit with feed unit type VH, standard probe SH, diamond probe tip 5 µm/90°, adapter and connecting cable between feed unit and display unit, battery, power pack/charger, CD with software DIASOFT Basic, USB PC connecting cable, metal calibration standard, case, feed unit

Technical data:
- Surface roughness measuring range: 350 µm | 20 µm
- Min. scanning path: 0.5 mm
- Max. scanning length: 15 mm
- Surface roughness resolution: 0.001 µm | 0.01 µm
- Threshold wave length: 0.25 mm | 0.8 mm | 2.5 mm
- Measurement profile memory (number of profiles): 15 PCS
- Data transmission type: USB

Ident. No. 100

Ident. No. 110

	Model	Probe system		
47000...	DIAVITE Compact II VH	Runner probe system	Ident. No.	100 ●
47000...	DIAVITE Compact II VHF	Runner probe system | Free probe system	Ident. No.	110 ●

Prod. Gr. 445

Mahr MarSurf M 300C roughness measuring device

Mobile roughness measuring device with external feed unit for skid-type probe

Application:
Mobile roughness measuring device for standard roughness measurements in production facilities and measuring rooms.

Execution:
- Stylus instrument with feed unit for skid-type probes
- Calibration standard integrated into feed unit
- Roughness parameters in line with DIN ISO, JIS, ASME and MOTIF
- Standard tracer PHT 6-350 with diamond probe tip 2 µm
- Thermal printer with high print quality

Advantage:
- Bluetooth connection for wireless data transfer between feed unit and evaluation unit
- Simple calibration using integrated calibration standard
- Measurements in all directions, horizontal, vertical and overhead
- Lock and/or password-protected device settings
- Up to 5 selectable individual measurement lengths

Technical data:
- Surface roughness measuring range: 350 µm | 180 µm | 90 µm
- Surface roughness scanning path: 1.75 mm | 5.6 mm | 17.5 mm
- Surface roughness resolution: 0.032 µm | 0.016 µm | 0.008 µm
- Threshold wave length: 0.25 mm | 0.8 mm | 2.5 mm
- Measurement profile memory (number of single readings): 40000 PCS
- Measurement profile memory (number of profiles): 30 PCS
- Data transmission type: RS232C/USB

		Model	Probe system		
47100...	Roughness measuring device MAHR M 300 C	MarSurf M 300 C	Runner probe system	Ident. No.	200 ○

Prod. Gr. 307

MarSurf M 300 roughness measuring device

Mobile roughness measuring device with Bluetooth feed unit for skid-type probe

Application:
Mobile roughness measuring device for standard roughness measurements in production facilities and measuring rooms.

Execution:
- Stylus instrument with feed unit for skid-type probes
- Calibration standard integrated into feed unit
- Roughness parameters in line with DIN ISO, JIS, ASME and MOTIF
- Standard tracer PHT 6-350 with diamond probe tip 2 µm
- Thermal printer with high print quality

Advantage:
- Bluetooth connection between feed unit and display unit
- Simple calibration using integrated calibration standard
- Measurements in all directions: horizontal, vertical and overhead
- Lock and/or password-protected device settings
- Up to 5 selectable individual measurement lengths

Technical data:
- Surface roughness measuring range: 350 µm | 180 µm | 90 µm
- Min. scanning path: 1.75 mm
- Max. scanning length: 17.5 mm
- Surface roughness resolution: 0.032 µm | 0.016 µm | 0.008 µm
- Threshold wave length: 0.25 mm | 0.8 mm | 2.5 mm
- Measurement profile memory (number of single readings): 40000 PCS
- Measurement profile memory (number of profiles): 30 PCS
- Data transmission type: RS232C/USB

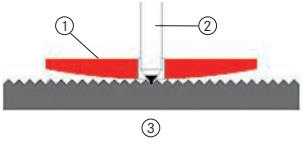
		Model	Probe system		
47100...	Roughness measuring device MAHR M 300	MarSurf M 300	Runner probe system	Ident. No.	100 ○

Prod. Gr. 307

Roughness measuring devices
Feed units VH / VHF

Feed unit VH for skid-type probes

Skid-type probes are equipped with skids. The skid plate creates a reference plane for determining surface roughness.

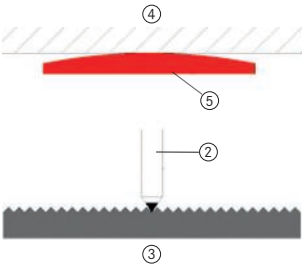


① Skid (baseline)
② Stylus
③ Surface being measured
④ Reference surface (baseline)
⑤ Stylus guide

Application: These probes can be used e.g. for measuring the roughness of smooth outside and inside surfaces (including tapers).

Feed unit VHF for skid-type and reference surface probes

For probes without skids (reference-surface probes or free tracers) the reference plane is shown in the feed device.



Application: These probes can be used e.g. for roughness measurements in grooves, recesses, surfaces on shoulders and flanks of threads and teeth.

DIAVITE DH-8 roughness measuring device

With external feed unit: VH for skid-type probes or VHF for skid-type and free tracers

Application:
Compact, mobile roughness measuring device for standard roughness measurements in production facilities and measuring rooms.

Execution:
- External calibration standard Ra 3.0 µm
- Roughness parameters in line with DIN ISO, JIS, ASME
- Standard probe SH with diamond probe tip 5 µm
- Thermal printer with high print quality
- **Ident. No. 706:** Stylus instrument with feed unit VH for skid-type probe
- **Ident. No. 716:** Stylus instrument with feed unit VHF for skid-type probes and free tracers

Advantage:
- Total of seven scanners can be calibrated
- Freely-selectable scanning path and cut-off filter
- Large measured value memory for 50 measurement profiles
- Evaluation software DIASOFT Basic with individual log generation

Delivery:
Ident. No. 706: Display unit with thermal printer, feed unit type VH, standard tracer SH, diamond probe tip 5 µm/90°, connecting cable to feed device, battery packs, power pack/charger, CD with DIASOFT Basic software for transferring measured values to Excel, USB connecting cable to PC, metal calibration standard, case
Ident. No. 716: Display unit with thermal printer, feed unit type VH, standard tracer SH, diamond probe tip 5 µm/90°, connecting cable to feed device, battery packs, power pack/charger, CD with DIASOFT Basic software for transferring measured values to Excel, USB connecting cable to PC, metal calibration standard, case, with feed unit type VHF

Technical data:
- Surface roughness measuring range: 350 µm | 20 µm
- Min. scanning path: 0.5 mm
- Max. scanning length: 15 mm
- Surface roughness resolution: 0.001 µm | 0.01 µm
- Threshold wave length: 0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
- Measurement profile memory (number of profiles): 50 PCS
- Data transmission type: USB

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

	Model	Probe system		
44805...	DIAVITE DH-8 VH	Runner probe system	Ident. No.	706 ●
44805...	DIAVITE DH-8 VHF	Runner probe system | Free probe system	Ident. No.	716 ○

Prod. Gr. 445

DIAVITE DH-8/App roughness measuring device

With external feed unit: VH for skid-type probes or VHF for skid-type and free tracers

Application:
When combined with a tablet, laptop or all-in-one PC running MS Windows 8, Interface DIAVITE DH-8/App forms an innovative roughness measuring device for standard measurements in production facilities and measuring rooms. Ideal for applications in which a large display is either necessary or advantageous and mobility should not be impaired.

Execution:
- Mobile interface for tablets or computers running MS Windows 8
- External calibration standard Ra 3.0 µm
- Roughness parameters in line with DIN ISO, JIS, ASME
- Standard probe SH with diamond probe tip 5 µm
- **Ident. No. 690:** Interface stylus instrument with feed unit VH for skid-type probes
- **Ident. No. 691:** Interface stylus instrument with feed unit VHF for skid-type and free tracers

Advantage:
- See everything at a glance: Roughness profile, measured values and control command line
- A total of eight tracers can be calibrated
- Large measured value memory for 50 measurement profiles
- Evaluation software DIASOFT/App adapted for tablets
- Keylock for lt, lc and parameter selection R buttons prevents accidental manipulation

Technical data:
- Surface roughness measuring range: 350 µm | 20 µm
- Min. scanning path: 0.5 mm
- Max. scanning length: 15 mm
- Surface roughness resolution: 0.001 µm | 0.01 µm
- Threshold wave length: 0.08 mm | 0.25 mm | 0.8 mm | 2.5 mm
- Measurement profile memory (number of profiles): 50 PCS
- Data transmission type: USB

	Model	Probe system		
44805...	DIAVITE DH-8/App VH	Runner probe system	Ident. No.	690 ○
44805...	DIAVITE DH-8/App VHF	Runner probe system | Free probe system	Ident. No.	691 ○

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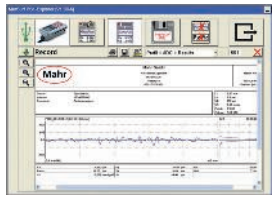
EXPLORER measurement and evaluation software

For MAHR MarSurf PS1 and MarSurf M300 roughness measuring devices

Application:
User-friendly software for evaluating, displaying, saving and recording logged measured values and profiles. Saved data can be printed out, e.g. on A4 paper or in other formats.

Advantage:
- Simple recording and logging of results and profiles
- Automatic detection of MarSurf PS1 and M 300 via USB cable
- Easy, user-friendly software operation
- Your company logo can be inserted



47100...	Ident. No.	680 ○	

Prod. Gr. 307

Probes for MarSurf roughness measuring devices

Application:
Ident. No. 500: Skid-type probe for recording surface roughness
Ident. No. 510: Skid-type probe for logging surface roughness, e.g. in bores from 3 mm diameter
Ident. No. 520: Skid-type probe for logging surface roughness on gear tooth flanks etc.
Ident. No. 530: Skid-type probe for logging surface roughness on metal plates and roller surfaces in line with DIN EN 10049 (SEP)
Ident. No. 540: Skid-type probe for logging surface roughness, e.g. in grooves, recesses etc.
Ident. No. 550: Skid-type probe for logging surface roughness on convex and/or concave shapes.
Ident. No. 630: Extension 80 mm for skid-type probes and free tracers

Ident. No. 500

Ident. No. 510

Ident. No. 520

Ident. No. 530

Ident. No. 540

Ident. No. 550

Ident. No. 630

Type		Standard tracer PHT 6-350	Bore probe PHT 3-350	Tooth flank probe PHTF 0.5–100	Dual-skid probe PT 50	Groove probe PHT 11-100	Convex and concave probe PHTR-100	Tracer extension PHT (80)
47100...	Ident. No.	500 ●	510 ○	520 ○	530 ○	540 ○	550 ○	630 ●

Prod. Gr. 307

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

MSHN measuring stand

For DIAVITE roughness measuring devices

Execution:
- Hard stone base plate

Technical data:
- Type: Measuring stand MSHN
- Plate length x plate width: 400 x 300 mm
- Plate height: 50 mm
- Column height: 250 mm

44805...	Ident. No.	591
		●

Prod. Gr. 445

Fig. Measuring stand + VHF feed unit + mini-vice + cross table

Surface-roughness reference samples

For the six most common machining processes

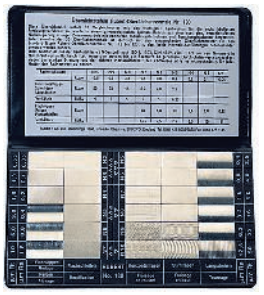
Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1. Machining method: Horizontal milling, face milling, longitudinal milling, reaming, flat grinding, lapping

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz
- Extract from machining methods such as horizontal and face milling, longitudinal turning, reaming, flat grinding and lapping

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
Set of surface-roughness reference samples for all machining methods: Horizontal milling, face milling, longitudinal milling, reaming, flat grinding, lapping

Technical data:
- Machining method: Horizontal milling | Front milling | Longitudinal turning | Flat grinding | Lapping | Grinding
- Model: 130
- Number of comparative patterns: 30 PCS
- ISO surface roughness categories: N2-N10
- Board width: 90 mm
- Board length: 120 mm



44810...	Ident. No.	010
		●

Prod. Gr. 445

Surface-roughness reference samples

for metal cutting machining processes

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1.

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
In a case

Machining method	Hand-polishing	Longitudinal turning	Face turning	Front milling	Flat grinding	Cylindrical grinding	Electrical discharge machining
Model	336	320	319	321	315	316	331
Number of comparative patterns (PCS)	5	8	8	8	8	8	8
Min. Ra comparison range (µm)	0.0125	0.4	0.4	0.4	0.025	0.025	0.4
Max. Ra comparison range (µm)	0.2	50	50	50	3.2	3.2	50
Min. Rz comparison range (µm)	0.25	1.6	1.6	1.6	0.25	0.25	2.5
Max. Rz comparison range (µm)	1.6	160	160	160	16	1.6	160
Min./max. Rz comparison range	0.25-1.6 µm	1.6-160 µm	1.6-160 µm	1.6-160 µm	0.25-16 µm	0.25-1.6 µm	2.5-160 µm
ISO surface roughness categories	N0-N4	N5-N12	N5-N12	N5-N12	N1-N8	N1-N8	N5-N12
Board width (mm)	60	60	60	60	60	60	60
Board length (mm)	130	130	130	130	130	130	130
44810... Ident. No.	**050**	**070**	**076**	**080**	**100**	**110**	**120**
	○	●	●	●	●	●	○

Prod. Gr. 445

Source: Hahn+Kolb Werkzeuge GmbH
Technical data subject to change.
Availability subject to country specific rules and regulations.

Reference board with surface reference samples

For metal cutting machining processes

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1.

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz
- Complete surface-roughness reference samples for machining methods flat and round grinding, facing and longitudinal turning, end and horizontal milling, reaming, boring and planing.

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
In a case

Model		314
Number of comparative patterns (PCS)		64
ISO surface roughness categories		VDI12-45
44810...	Ident. No.	200
		○

Prod. Gr. 445

Surface-roughness reference samples

for metal cutting machining processes

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with DIN ISO 4287, DIN ISO 4288, BS 2634 and ANSI B 46.1.

Execution:
- Wear-resistant and non-rusting
- Evaluation parameters Ra and Rz

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
In a case

Machining method		Sandblasting | Shot-blasting
Model		329
Number of comparative patterns (flint) (PCS)		4
Number of comparative patterns (balls) (PCS)		4
Min./max. Ra comparison range (flint)		3.2-25 µm
Min./max. Rz comparison range (flint)		25-160 µm
Min./max. Ra comparison range (balls)		3.2-18 µm
Min./max. Rz comparison range (balls)		25-100 µm
Board width (mm)		60
Board length (mm)		130
44810...	Ident. No.	030
		○

Prod. Gr. 445

Surface-roughness reference samples

In line with VDI 3400 electrical discharge machining

Application:
Surface-roughness reference samples for assessing surface roughness through simple visual and tactile comparison in line with VDI 3345 and VDI 3400.

Execution:
- Wear-resistant and non-rusting
- Evaluation parameter Ra

Advantage:
- Galvanoplastic manufacturing method for high accuracy and uniformity

Delivery:
In a case

Machining method		Electrical discharge machining
Model		013
Number of comparative patterns (PCS)		12
VDI 3400 surface standard		12-45
44810...	Ident. No.	300
		●

Prod. Gr. 445

ORION® Temperature measuring instrument with universal sensor

With universal probe

Application:
For simple temperature measurements in industrial applications

Execution:
- Watertight
- HOLD function
- Auto-off
- Switch between °C/°F
- Error limit ± 1% ±1°C

Notes:
Can only be used with supplied sensor up to 550°

Min./max. temperature measuring range		-64 to 1370 °C
Digit increment (measuring instrument for temperature) (°C)		0.1
Length x width x height		78 x 43 x 20 mm
46105...	Ident. No.	200
		●

Prod. Gr. 456

ORION® Temperature measuring instruments

2-channel and 4-channel

Application:
For measuring temperature differences

Execution:
- Displays differential temperature
- USB interface
- Input for thermocouple, type K
- Digit increment 0.1°C from -199.9°..+199.9°C, otherwise 1.0°C
- **Ident. No. 220:**
  - 2 simultaneous measurements
  - Error limit ± 0.1% ±0.7°C
- **Ident. No. 240:**
  - 4 simultaneous measurements
  - Configuration via software or logger keyboard
  - Data logger function for storing 16,000 measurements
  - Backlight
  - Error limit ± 0.3% ±1.0°C

Delivery:
Ident. No. 220: Measuring instrument, battery, 2x type K thermocouple wire, length 90 cm, measuring range -50° to +200°, operating instructions
Ident. No. 240: Measuring instrument, battery, software, readout cable, 2x type K thermocouple wire, length 90 cm, measuring range -50° to +200°, operating instructions

Ident. No. 220

Ident. No. 240

Min./max. temperature measuring range			-200 to 1370 °C
Length x width x height			184 x 64 x 30 mm
46105...	2-channel	Ident. No.	220
			●
46105...	4-channel	Ident. No.	240
			●

Prod. Gr. 456

Temperature sensor

Application:
Ident. No. 310–320: For measurements in liquid, gaseous and powdery materials
Ident. No. 330–340: For measuring surface temperatures
Ident. No. 350: For measuring temperatures, e.g. in furnaces

Execution:
- NiCr-Ni sensor
- **Ident. No. 310:** Stainless steel
- **Ident. No. 320:** Flexible
- **Ident. No. 330:** Straight
- **Ident. No. 340:** Curved
- **Ident. No. 350:** Glass-fibre-insulated

Technical data:
- Cable length: 1 m

Ident. No. 310

Ident. No. 320

Ident. No. 330

Ident. No. 340

Ident. No. 350

Min./max. temperature measuring range		-40 to 400 °C	-100 to 1100 °C	-65 to 550 °C	-40 to 900 °C	-50 to 400 °C
Length (mm)		120	300	130	130	1000
Ø (mm)		3	3	10	8	1
46105...	Ident. No.	310	320	330	340	350
		●	●	●	●	●

Prod. Gr. 456