



HANDYSURF+
35 | 40 | 45

New HANDYSURF+, reborn with sophisticated design
 Portable surface texture measuring instrument for global use responding
 to diverse everyday needs

HANDYSURF+ NEW



High resolution with wide measuring range No need to set up measuring range

The previous HANDYSURF required setting of a narrow measuring range when measuring with a high resolution, but HANDYSURF+ has evolved! The instrument has the Z direction measuring range of 370 μm , which is the widest in class, and achieved a resolution as high as 0.0007 μm over the entire range.



Select from 3 HANDYSURF+ driver units, according to workpiece and measurement location



35 (Standard type)

The standard-type measurable with different attitudes including horizontal, inclined, vertical and ceiling surfaces.



40 (Retract type)

Retract-type that reduces damage to the stylus and pickup by raising the pickup while waiting for measurement or at ending. It can be used as a detector incorporated into an automatic machine.



45 (transverse trace-type)

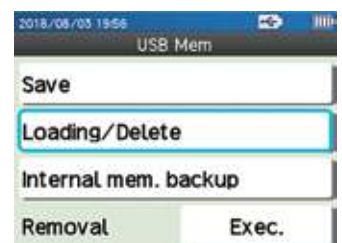
The transverse trace-type where the pickup moves sideways. Narrow areas, such as crankshaft pins and journals, that were difficult to measure before can now be measured.

Connectable to the compact printer, USB memory stick and PC with built-in USB connector

With the USB connector, it is possible to print measurement results to the optional compact printer, save measurement conditions and results on USB memory sticks and recharge the instrument from the USB port of a PC or with a USB battery.



Compact Printer (Option)



By connecting to the USB memory stick (option), it is possible to save and read measurement conditions and results.

Superior Operability

2.4 inch color LCD has significantly improved the visibility.
 Moreover, 6 buttons and newly developed UI have achieved simple and intuitive operations.



Home screen



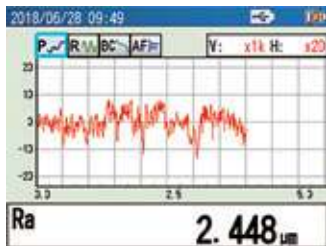
Menu screen



Measurement condition setting display

Multiple analysis capabilities

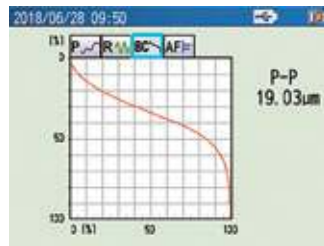
Graphic representation of measurement results enables their on-site verification with parameter and waveform. Moreover, despite being a portable instrument, it is capable of a variety of analyses including analyses of BAC, ADC, peak count and motifs. By setting the conditions in advance, OK/NG judgment can be performed automatically.



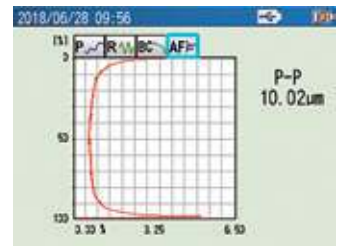
Example of surface roughness (Ra) measurement



Example of OK/NG judgment of measurement result



Example of BAC analysis



Example of ADC analysis

Display available in 20 languages Multi-language support available worldwide

20 European and Asian languages including English, German and French are provided as standard. Display language can be easily and quickly changed by menu options.



English



German



French



Italy



Spanish



Portuguese



Czech



Polish



Hungarian



Turkish



Swedish



Dutch



Japanese



Chinese
 Traditional Chinese
 Simplified Chinese



Korean



Thai



Malay

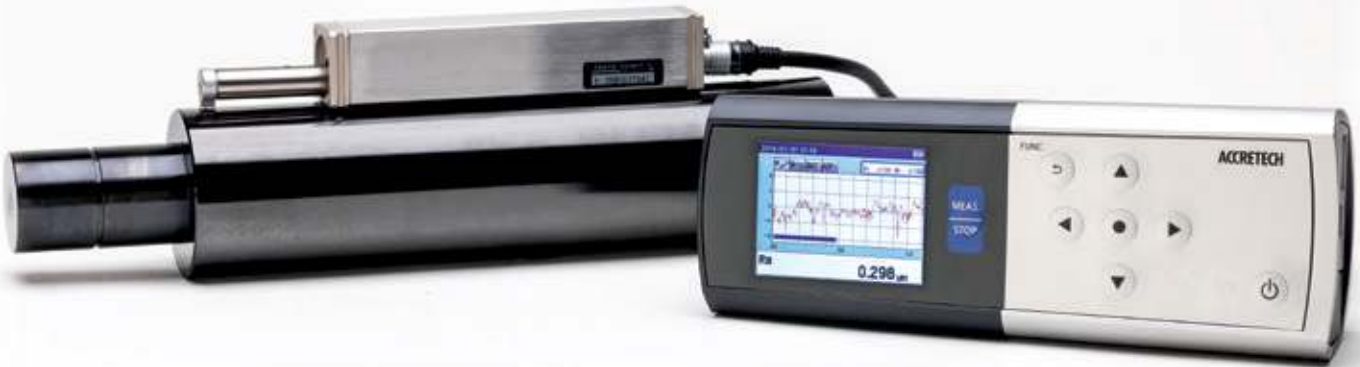


Vietnamese



Indonesian





Specifications

Model		HANDYSURF+					
		35		40		45	
		Tip radius 5 μm	Tip radius 2 μm	Tip radius 5 μm	Tip radius 2 μm	Tip radius 5 μm	
Measurement range	Z direction	-210 to +160 μm					
	Drive axis	X direction 16 mm				Y direction 4 mm	
Tracing Driver	Movement type	Standard type		Retraction type		Horizontal tracing type	
	Evaluation Length	0.2 to 16 mm				0.2 mm to 4.0 mm	
	Measurement speed	0.5, 0.6, 0.75, 1.0 mm/s				0.6 mm/s	
Pickup	Sensing type	Differential inductance					
	Measurement Method	Skid					
	Z direction resolution	0.0007 μm/-210 to +160 μm					
	Model	E-DT-SM10A	E-DT-SM49A	E-DT-SM10A	E-DT-SM49A	E-DT-SM39A	
	Stylus	Measurement force	4 mN	0.75 mN	4 mN	0.75 mN	4 mN
		Tip radius	r _{tip} = 5 μm	r _{tip} = 2 μm	r _{tip} = 5 μm	r _{tip} = 2 μm	r _{tip} = 5 μm
Tip angle		90° cone	60° cone	90° cone	60° cone	90° cone	
tip material		Diamond					
Analysis item	Calculation Standards	Comply with JIS2013/2001, JIS1994, JIS1982, ISO1997/2009, ISO13565, DIN1990, ASME2002/2009, ASME1995, CNOMO					
	Parameter	Profile Curve	Pt, Rmax, Rz, Rk, Rpk, Rvk, Mr1, Mr2, Vo, K, tp				
		Roughness Curve	Ra, Rq, Rz, Rv, Rc, Rt, RSm, RΔq, Rsk, Rku, Rmr(c), Rmr, Rδc, Rz94, R3z, RΔa, Ry, Sm, S, tp, PC, RPc JIS, RPc ISO, RPc EN, Pc, PPI, Rp, Rmax, Mr1, Mr2, Rpk, Rvk, Rk, Vo, K, A1, A2, Rpm, Δa, Δq, Htp				
		Motif	R, Rx, AR, W, Wx, AW, Rke, Rpke, Rvke, NCRX, NR, CPM, SR, SAR, Wte, NW, SAW, SW, Mr1e, Mr2e, Vo, K				
	Evaluation Curve	Profile Curve, Roughness Curve, ISO13565 Special Roughness Curve, Roughness motif curve, Waviness motif curve, Upper envelope waviness curve					
Characteristics graph	Bearing area curve, Amplitude distribution curve						
Filter	Filter type	Gaussian, 2RC (phase compensation), 2RC (non-phase compensation)					
	Cutoff value	λc	0.08, 0.25, 0.8, 2.5 mm				
		λs	None, 2.5, 8 μm				
Amplification indicator	Display	2.4-inch color liquid crystal panel					
	Data output	USB connectors for USB memory/printer connection x 1, Micro USB connector for USB communication x 1					
	Print output	Optional (external printer unit) / Thermal recording paper width: 58 mm (recording width: 48 mm)					
	Language	English, German, French, Italian, Spanish, Portuguese, Czech, Polish, Hungarian, Turkish, Swedish, Dutch, Japanese, Chinese (Traditional Chinese/Simplified Chinese), Korean, Thai, Malay, Vietnamese, Indonesian,					
Specifications	Power Supply	Charging	Built-in battery (to be charged using AC adaptor, PC USB port, USB battery), charging period: 4 hours (about 1000 measurements can be taken when fully charged)				
		Voltage, frequency	AC100 to 240 V ±10%, 50/60 Hz, Single phase (Included AC adapter)				
		Power consumption	Maximum 10 W				
	External dimensions (W x D x H) / Weight	Amplification indicator: 184.5 x 68 x 57.4 mm/about 500 g for the entire system					



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