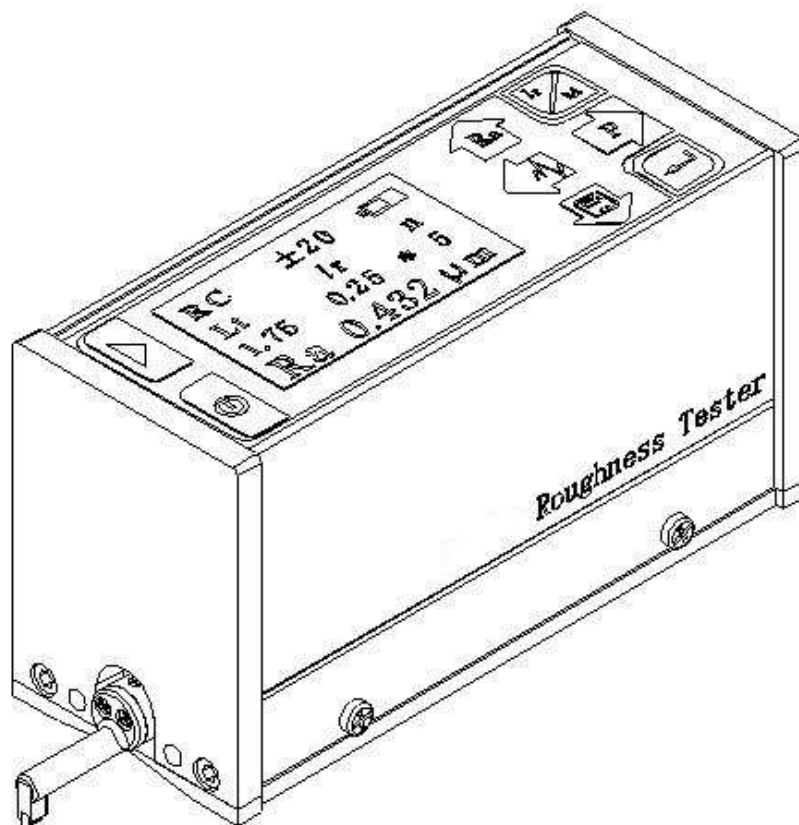


SK1R

SURFACE ROUGHNESS MEASURING INSTRUMENT



1.1 Outline of the SK1R

The SK1R surface roughness measuring instrument is suitable for shop floor use and mobile measurement. It is a small handheld instrument, with simple operation, overall good function, fast measurement, accuracy stability, and convenience. The SK1R is capable of evaluating surface textures with a variety of parameters according to various national standards and international standards. The measurement results are displayed digitally/graphically on the LCD, and output to the printer.

1.2 Measurement principle

When measuring the roughness of a part's surface, the pickup is placed on the surface of the part and then traces the surface at a constant rate. The pickup

acquires the surface roughness by the sharp stylus in pickup. The roughness causes displacement of pickup which results in change of inductive value of induction coils thus generate analogue signal which is in proportion to surface roughness at output end of phase-sensitive rectifier. This signal enters data collection system after amplification and level conversion. After that, those collected data are processed with digital filtering and parameter calculation by DSP chip and the measuring result can be read on LCD, printed through printer and communicated with PC.

2 Technical parameters

Name		Content
Measuring range	Z Axis (Vertical)	160 μ m
	X Axis (Horizontal)	17.5mm
Resolution	Z Axis (Vertical)	0.01 μ m/ \pm 20 μ m
		0.02 μ m/ \pm 40 μ m
		0.04 μ m/ \pm 80 μ m
Measurement item	Parameters	Ra, Rq, Rz, Rt, Rp, Rv, RS, RSm, Rz(JIS), Ry(JIS), RSk, R3z, Rmax, Rpc, Rmr ;
	Standard	ISO,ANSI,DIN,JIS
	Graphic	Roughness profile, Material ratio curve, Direct profile
Filter		RC,PC-RC,Gauss,D-P
Sampling length (l_r)		0.25,0.8,2.5mm
Assessment length (l_n)		$l_n = l_r \times n$ $n=1\sim 5$
Pickup	principle	Differential inductance
	Stylus	Natural Diamond, 90B cone angle, 5 μ m tip radius
	Force	<4mN
	Skid	Ruby, Longitudinal radius 40mm
	Traversing speed	$l_r=0.25$, $V_t=0.135$ mm/s
		$l_r=0.8$, $V_t=0.5$ mm/s
$l_r=2.5$, $V_t=1$ mm/s		
	Return $V_t=1$ mm/s	
Accuracy		Less than or equal to $\pm 10\%$
Repeatability		Less than or equal to 6%
Power supply		Built-in Lithium ion battery, AC adapter 8.4V,800mA

LxWxH	119x47x65mm
Mass	approximately 380g