

TRUSTTEAM

Machine Tool Accessories



Darling Machine Tools Co., Ltd.



MACHINE TOOLS

ACCESSORIES

3D TASTER

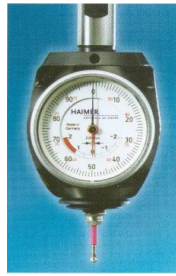


DIGITAL READOUTS & SCALES



INDEX - Measuring Tools

(A) 3D TASTER



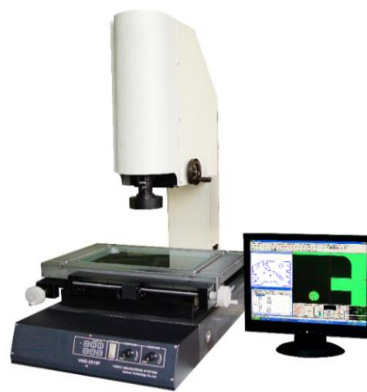
(B) TOUCH POINT SENSOR OPTICAL EDGE FINDER MECHANICAL EDGE FINDER CERAMIC EDGE FINDER



(C) DIGITAL READOUTS & SCALES



(D) Video Measuring Machine



(D)



(E)

(E) Digital Optical Comparator

Measuring Tools		
(A) 3D TASTER		
Item No.	Product Description	Product Image
1	<p>UNIVERSAL 3D-TASTER</p> <p>INCLUDING CLAMPING SHANK Ø20MM SHORT PROBE TIP</p> <p>ACCURACY : 0.01MM</p> <p>LENGTH WITHOUT CLAMPING SHANK : 113MM</p> <p>RECOMMENDED HAIMER TOOL HOLDERS</p> <p>OPTIONAL ACCESSORIES</p> <p>A. SHORT PROBE TIP 4MM, SHORT 25MM</p> <p>B. LONG PROBE TIP 8MM, LONG 65MM</p>	 <p>The image shows a photograph of the Haimer 3D Taster tool on the left, which has a black body and a silver dial. To the right is a technical drawing of the tool. The drawing includes the following dimensions: a top clamping shank with a diameter of 20 mm and a length of 65 mm; a main body with a length of 90 mm; a main body diameter of 20 mm; a main body length of 113 mm; a main body diameter of 20 mm; a main body length of 113 mm; a main body diameter of 20 mm; a main body length of 113 mm. The drawing also shows two optional probe tips: a short tip (A) with a length of 25 mm and a diameter of 4 mm, and a long tip (B) with a length of 65 mm and a diameter of 8 mm. The drawing is labeled '短 / short' and '長 / long' for the two options.</p>

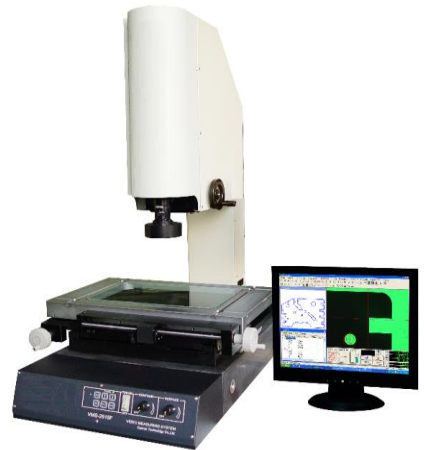
Measuring Tools (B) TOUCH POINT SENSOR (OPTICAL EDGE FINDER)		
Item No.	Product Description	Product Image
2	TOUCH POINT SENSOR (OPTICAL EDGE FINDER) MODEL: SOE-20LB	 <ul style="list-style-type: none"> Not necessary to rotate while measuring. Quickly locate work edges. Save time to find positions, for milling machine, jig borers, and other machine tools. Accuracy 0.005mm <p>IS A HIGH SENSIBLE POSITION MEASURING</p> <ul style="list-style-type: none"> Uses dry batteries to light the red lamp. The scope of application includes edge surface, inside and outside diameters and high efficiency. There is a safety spring puller which puts the ball precisely back to the positing when ball breaks away from ball seat. <p>Battery type: Um5#, 1.5V x 2pcs (SOE-20L, 32L) Um5#, 23A x 12V x 1pcs (SOE-20S, 32 / 20LB)</p>
3	TOUCH POINT SENSOR (OPTICAL EDGE FINDER) MODEL: SOE-20S	
4	TOUCH POINT SENSOR (OPTICAL EDGE FINDER) MODEL: SOE-32L	
5	TOUCH POINT SENSOR (OPTICAL EDGE FINDER) MODEL: SOE-32LB	
6	MECHANICAL EDGE FINDER MODEL : SME-1020 MATERIAL : STEEL CR-MO, ALLOY STEEL HRC: 58°	 <p>FEATURES</p> <ol style="list-style-type: none"> Ø10mm straight shank can be installed directly on milling chuck or drilling chuck. (refer to Fig.1). Press slightly on edge of sensor unit with hands to keep eccentricity at 0.5mm (refer to Fig. 2). Rotate with speed of 400-600 rpm. Make sensor unit contact to the end face of workpiece shown as Fig. 2. Then, contact and move gradually, it is going to turn into Fig. 3 and sensor unit keeps still. Furthermore, if fine feed is started, then sensor unit will move according to a specific direction. The start point of this movement is the basis position to look for. The position of end face of the workpiece is the coordinate position of sensor unit plus radius 5mm.
7	MECHANICAL EDGE FINDER MODEL : SME-420 MATERIAL : STEEL CR-MO, ALLOY STEEL HRC: 58°	
8	MECHANICAL EDGE FINDER MODEL : SME-610 MATERIAL : STEEL CR-MO, ALLOY STEEL HRC: 58°	
9	MECHANICAL EDGE FINDER MODEL : SME-420ST MATERIAL : STAINLESS STEELHRC: 60°	
10	MECHANICAL EDGE FINDER MODEL : SME-1020ST MATERIAL : STAINLESS STEEL HRC: 60°	
11	MECHANICAL EDGE FINDER MODEL : TN-10 MATERIAL : COATED SURFACE WITH NONMAGNETIC CHARACTERISTIC, THE HARDNESS IS HV 2500°	
12	MECHANICAL EDGE FINDER MODEL : TN-410 MATERIAL : COATED SURFACE WITH NONMAGNETIC CHARACTERISTIC, THE HARDNESS IS HV 2500°	
13	CERAMIC EDGE FINDER MODEL : MEP-10 (WHITE) MATERIAL IS NONMAGNETIC CHARACTERISTIC, AND THE FRONT TIP WHOLLY MADE OF CERAMIC	 <p>CER EDGE FINDER (Ceramic) MEP CERAMIC EDGE FINDER</p> <p>CER-10 (ACCURACY) : ±0.002 MEP-10 MEP-1020 MEP-420</p>

Measuring Tools**(c) Digital Readout & Scales**

Item No.	Product Description	Product Image
1	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0050(5 μ)	
2	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0100(5 μ)	
3	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0150(5 μ)	
4	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0200(5 μ)	
5	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0250(5 μ)	
6	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0300(5 μ)	
7	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0350(5 μ)	
8	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0400(5 μ)	
9	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0450(5 μ)	
10	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0500(5 μ)	
11	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0600(5 μ)	
12	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0700(5 μ)	
13	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0800(5 μ)	
14	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-0900(5 μ)	
15	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-1000(5 μ)	
16	Sealed Standard Type Linear Scale (LE series) Sealed Slim Type Linear Scale (LS series) MODEL : LS/E-1100(5 μ)	
17	Sealed Standard Type Linear Scale (LE series) MODEL : LE-1200(5 μ)-LE3000	
18	SW-4000-2 TWO-AXIS DIGITAL READOUT	
19	SW-4000-3 THREE-AXIS DIGITAL READOUT	

Measuring Tools

(D) Video Measuring Machine

Item No.	Product Description	Product Image																																																								
1	<p>Manual Type Video Measuring Machine</p> <p>■ VMM-S/D Series Specifications :</p> <table><tr><th>Model</th><th>VMM-2010S/D</th><th>VMM-3020S/D</th><th>VMM-4030S/D</th></tr><tr><td>Stage Size (mm)</td><td>404 × 228</td><td>500 × 330</td><td>606 × 466</td></tr><tr><td>Glass Size (mm)</td><td>260 × 160</td><td>350 × 250</td><td>450 × 350</td></tr><tr><td>X/Y Travel (mm)</td><td>200 × 100</td><td>300 × 200</td><td>400 × 300</td></tr><tr><td>Weight (kg)</td><td>110</td><td>140</td><td>240</td></tr><tr><td>Dimensions (mm)</td><td>540 × 560 × 860</td><td>760 × 600 × 900</td><td>970 × 670 × 940</td></tr><tr><td>Z axis travel (mm)</td><td colspan="3">200 mm</td></tr><tr><td>Z working range (mm)</td><td colspan="3">VMM-S series: 92 mm VMM-D series: 105 mm</td></tr><tr><td>Accuracy</td><td colspan="3">(3 + L/75) μm ; L: measuring length (mm)</td></tr><tr><td>Digital Display</td><td colspan="3">Digital Display : DC3000 (Optional)</td></tr><tr><td>Measuring Software</td><td colspan="3">QMS3D</td></tr><tr><td>Video System</td><td colspan="3">VMM-D series ● CCD Camera:Colour 1/3” CCD Camera ● Zoom Lens: Magnification of field lens 0.7X, 1X, 2X, 3X, 4X, 4.5X Total Magnifications 33X-195X Object View 8.1mm-1.3mm</td></tr><tr><td>Lightening System</td><td colspan="3">Adjustable LED Surface and Transmission illumination</td></tr><tr><td>Power Supply</td><td colspan="3">AC220V/110V 50/60 Hz</td></tr></table> <p>Function-enhanced options as below , please refer to accessories of video measuring machine.</p> <p>■ Standard Zoom Lens Option ■ Precision Zoom Lens Option ■ Touch Probe Option</p>	Model	VMM-2010S/D	VMM-3020S/D	VMM-4030S/D	Stage Size (mm)	404 × 228	500 × 330	606 × 466	Glass Size (mm)	260 × 160	350 × 250	450 × 350	X/Y Travel (mm)	200 × 100	300 × 200	400 × 300	Weight (kg)	110	140	240	Dimensions (mm)	540 × 560 × 860	760 × 600 × 900	970 × 670 × 940	Z axis travel (mm)	200 mm			Z working range (mm)	VMM-S series: 92 mm VMM-D series: 105 mm			Accuracy	(3 + L/75) μm ; L: measuring length (mm)			Digital Display	Digital Display : DC3000 (Optional)			Measuring Software	QMS3D			Video System	VMM-D series ● CCD Camera: Colour 1/3” CCD Camera ● Zoom Lens: Magnification of field lens 0.7X, 1X, 2X, 3X, 4X, 4.5X Total Magnifications 33X-195X Object View 8.1mm-1.3mm			Lightening System	Adjustable LED Surface and Transmission illumination			Power Supply	AC220V/110V 50/60 Hz			
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Lightening System	Adjustable LED Surface and Transmission illumination																																																									
Power Supply	AC220V/110V 50/60 Hz																																																									
	<p>● Features:</p> <ol style="list-style-type: none">1. High accuracy with fixed working table and granite pedestal;2. RS-232 interface can do communication between measuring software and computer.3. High resolution 1/3" color CCD camera and NAVITAR zoom lens with sharp images;4. The user can manage and output the graphs as bmp or DXF (AutoCad) format by connecting with PC and running the program.5. One-click edge detection.																																																									

Measuring Tools

(E) Digital Optical Comparator

Item No.	Product Description	Product Image																																																																																																													
1	<p>Vertical Standard Type Digital Optical Comparator</p> <p>PV-3000 series (Reverse image)</p> <p>PV-3000E series (Erect image)</p> <p>■ PV-3000(E) Series Specifications:</p> <table><tr><td>Model</td><td colspan="2">PV-3010(E)</td><td colspan="2">PV-3015(E)</td></tr><tr><td>Stage size (mm)</td><td colspan="2">306 x 152</td><td colspan="2">340 x 152</td></tr><tr><td>Glass table size (mm)</td><td colspan="2">175 x 100</td><td colspan="2">196 x 96</td></tr><tr><td>X-axis travel (mm)</td><td colspan="2">100</td><td colspan="2">150</td></tr><tr><td>Y-axis travel (mm)</td><td colspan="2">50</td><td colspan="2">50</td></tr><tr><td>Z-axis travel (mm)</td><td colspan="2">90 (for focusing)</td><td colspan="2">90 (for focusing)</td></tr><tr><td>Measuring accuracy (μm)</td><td colspan="2">3.0 + L/50 L: measuring length (mm)</td><td colspan="2">4.0 + L/25 L: measuring length (mm)</td></tr><tr><td>Resolution (X/Y-axis)</td><td colspan="4">0.5 μm</td></tr><tr><td rowspan="3">Projector Screen</td><td>Size (mm)</td><td colspan="3">12" (Ø312) , usable range > Ø300</td></tr><tr><td>Rotation range</td><td colspan="3">0 ~ 360°</td></tr><tr><td>Angle resolution</td><td colspan="3">1' or 0.01°</td></tr><tr><td rowspan="4">Objective Lens</td><td>Magnification</td><td>10X(Standard)</td><td>20X(Opt.)</td><td>50X(Opt.)</td><td>100X(Opt.)</td></tr><tr><td>Object view (mm)</td><td>Ø30</td><td>Ø15</td><td>Ø6</td><td>Ø3</td></tr><tr><td>Working Dist. (mm)</td><td>77.7</td><td>44.3</td><td>38.4</td><td>25.3</td></tr><tr><td>Max. work-piece height (mm)</td><td>80</td><td>80</td><td>80</td><td>80</td></tr><tr><td>Data processing system</td><td colspan="4">DC-3000 multi-function data processing system : Coordinate skew, mm/inch conversion, ABS/INC conversion, Zero setting, ½ calculation, 0° 90° 270° 360° conversion, linear compensation, RS-232 data output</td></tr><tr><td>Illumination</td><td colspan="4">Transmission and reflection light source : 24V/150W-halogen lamp</td></tr><tr><td>Power</td><td colspan="4">110V/220V(AC) , 50/60Hz , 400W total power</td></tr><tr><td>Light source cooling</td><td colspan="4">Forced air cooling</td></tr><tr><td>Instruments dimension (mm)</td><td>770 x 550 x 1100</td><td colspan="2">770 x 550 x 1100</td><td>770 x 550 x 1100</td></tr><tr><td>Weight (kg)</td><td>120</td><td colspan="2">125</td><td>130</td></tr><tr><td>Option</td><td colspan="4">Rotary table, swivel center support, edge detector and so on, please refer to accessories of optical comparator for more detail.</td></tr></table>	Model	PV-3010(E)		PV-3015(E)		Stage size (mm)	306 x 152		340 x 152		Glass table size (mm)	175 x 100		196 x 96		X-axis travel (mm)	100		150		Y-axis travel (mm)	50		50		Z-axis travel (mm)	90 (for focusing)		90 (for focusing)		Measuring accuracy (μm)	3.0 + L/50 L: measuring length (mm)		4.0 + L/25 L: measuring length (mm)		Resolution (X/Y-axis)	0.5 μm				Projector Screen	Size (mm)	12" (Ø312) , usable range > Ø300			Rotation range	0 ~ 360°			Angle resolution	1' or 0.01°			Objective Lens	Magnification	10X(Standard)	20X(Opt.)	50X(Opt.)	100X(Opt.)	Object view (mm)	Ø30	Ø15	Ø6	Ø3	Working Dist. (mm)	77.7	44.3	38.4	25.3	Max. work-piece height (mm)	80	80	80	80	Data processing system	DC-3000 multi-function data processing system : Coordinate skew, mm/inch conversion, ABS/INC conversion, Zero setting, ½ calculation, 0° 90° 270° 360° conversion, linear compensation, RS-232 data output				Illumination	Transmission and reflection light source : 24V/150W-halogen lamp				Power	110V/220V(AC) , 50/60Hz , 400W total power				Light source cooling	Forced air cooling				Instruments dimension (mm)	770 x 550 x 1100	770 x 550 x 1100		770 x 550 x 1100	Weight (kg)	120	125		130	Option	Rotary table, swivel center support, edge detector and so on, please refer to accessories of optical comparator for more detail.				
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■ Vertical Standard Type Digital Optical Comparator

PV-3000 series (Reverse image)

PV-3000E series (Erect image)

● Features:

1. Excellent optical measuring system to project precisely magnified image.
2. Accuracy of the contour measuring is under 0.08%.
3. Equipped with Mini-printer and DC-3000 data processing system and foot-switch for measuring.
4. Erect image measuring for different requirements.

TRUSTTEAM

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