# **Mitutoyo**



Since 1934



# Fall Promo 2014



# **Precision Tools & Instruments**

Prices effective September 8 – December 12, 2014

www.mitutoyo.com



293-330-30

• New electromagnetic ABSOLUTE sensor - Improved resistance to

• New Anti-slip finish for improved grip while taking measurements

Ratchet thimble

 Fully compatible with existing Mitutoyo Digimatic peripherals (SPC Cables, U-Wave wireless transmitters, DP1-VR...etc) – SPC output enabled IP65 Models

**Ratchet Thimble** 

New ratchet thimble models improve one-hand operability

• Function-lock system prevents inadvertent setting changes

• Long battery life – 2.4 years under normal operation

environmental conditions such as dirt, oil and water that can cause

**Features** 

false readings



### Dear Valued Customers,

With our 50th Anniversary celebration behind us at Mitutoyo America Corporation, we are now assisting our parent company, Mitutoyo Corporation, in the celebration of their 80th Anniversary. Throughout the year there will be special promotions, events, and other activities occurring to publicize the anniversary.

It is important for us to take this opportunity to personally thank the companies and individuals who partner with us, for their continued support and commitment as we help Mitutoyo Corporation celebrate 80 years of excellence.

The Fall Promotion is our second large scale Precision Tool Promotion of 2014 and will be effective from September 8, through December 12, 2014.

Please check our website at www.mitutoyo.com to watch for other exciting events developing at Mitutoyo during our year of celebration.

Sincerely,



Shigeyuki Sasaki President, Mitutoyo America Corporation



speeder

Improved operability with

293-335-30

MDC Lite

293-832-30

Order No.	Range	Resolution Remarks		List Price	Sale Price
IP65 - With SI	C Output				
<b>293-330-30</b> 0-1"/0-25.4mm .00005		.00005"/0.001mm	Ratchet Stop,	\$240.00	\$228.00
293-335-30	0-1"/0-25.4mm	.00005″/0.001mm	Friction Thimble	\$240.00	\$228.00
293-331-30	1-2"/25.4-50.8mm	.00005″/0.001mm	Ratchet Stop w/Standard	\$283.00	\$268.85
IP65 - Non-SP	C Output				
293-340-30	0-1"/0-25.4mm	.00005″/0.001mm	Ratchet Stop	\$178.00	\$169.10
293-344-30	<b>293-344-30</b> 0-1"/0-25.4mm .00		Ratchet Thimble	\$178.00	\$169.10
293-348-30	<b>293-348-30</b> 0-1"/0-25.4mm .(		Friction Thimble	\$178.00	\$169.10
293-349-30	0-1"/0-25.4mm	.0001"/0.001mm	Ratchet Thimble	\$178.00	\$169.10
293-341-30	1-2"/25.4-50.8mm	.00005″/0.001mm	Ratchet Stop w/Standard	\$243.00	\$230.85
293-345-30	1-2"/25.4-50.8mm	.00005"/0.001mm	Ratchet Thimble w/Standard	\$243.00	\$230.85
MDC Lite Mic	rometers				
293-831-30	0 - 1" / 0 - 25.4mm	.00005" / 0.001mm	Ratchet Stop	\$135.00	\$128.25
293-832-30	0 - 1" / 0 - 25.4mm	.00005" / 0.001mm	Friction Thimble	\$139.00	\$132.05

Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85





# QuantuMike

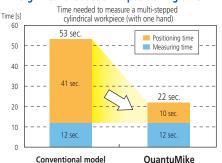
**Coolant Proof Micrometer** 



### Features

- Faster measurement with 2mm travel per revolution instead of the standard 0.5mm
- A patented ratchet thimble mechanism helps ensure repeatability
- A Function lock helps prevent error
- IP-65 protection level
- Certificate of inspection is provided

### Significant reduction in positioning time



Order No.	Range	Resolution	List Price	Sale Price
293-180*	0-1"/0-25mm	.00005″/0.001mm	\$262.00	\$248.90
293-181*	1-2"/25-50mm	.00005″/0.001mm	\$300.00	\$285.00
293-185	0-1″/0-25mm	.00005″/0.001mm	\$226.00	\$214.70
293-186	1-2"/25-50mm	.00005″/0.001mm	\$258.00	\$245.10

\*with SPC Output

Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85
			<b>•</b>

# **Micrometer Stand**

The micrometer stand is designed to provide the convenience of a benchtop tool with hand micrometers or other gages.

Order No.	Description	List Price	Sale Price
156-101-10	Micrometer Stand	\$110.00	\$99.00

# **MDH Micrometer**

**High-Accuracy Sub-Micron Digimatic Micrometer** 



### Features

- Enabling .000005"/ 0.1 $\mu$ m resolution measurement, this micrometer is ideal for customers who need to make highly accurate measurements with a hand-held tool.
- The ABS (absolute) rotary sensor also eliminates the need to perform origin setting each time the power is turned on, letting you start measuring straight away. With no possibility of overspeed errors, the High-Accuracy Digimatic Micrometer also delivers a higher level of reliability.

Order No.	Range	Resolution	Accuracy	List Price	Sale Price
293-100	0 - 25mm	0.0001mm/ 0.0005mm (switchable)	±0.5µm	\$1,630.00	\$1,467.00
293-130	0 - 1" 0 - 25.4mm	.000005"/.00002" 0.0001mm/0.0005mm (switchable)	±.00002"	\$1,630.00	\$1,467.00

Order No.	Description	List Price	Sale Price
05CZA662	Cable(1m)	\$83.80	\$79.60
05CZA663	Cable (2m)	\$92.45	\$87.85



For micrometers ranging in size .5" - 4" Micrometer sold separately



Function lock



www.mitutoyo.com



# **Digimatic Uni-Mike**

### Features

- Measures tube thickness, shoulder-edge distance, rivet head height, etc. with interchangeable anvils (flat anvil, rod anvil, V-anvil).
- Supplied with flat anvil and rod anvil.

Order No.	Range	LCD Resolution	Accuracy	Remarks	List Price	Sale Price
317-351	0-1"/0-25mm	.00005″/0.001mm	±.0002"	Interchangeable Anvils	\$529.00	\$476.10
317-352	1-2"/25-50mm	.00005″/0.001mm	±.0002"	IP-65 with SPC output	\$538.00	\$484.20

Order No.	Description	List Price	Sale Price	
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60	
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85	

### Uni-Mike

317-351

### **Features**

- Measures tube thickness, shoulder-edge distance, rivet head height, etc. with interchangeable anvils (flat anvil, rod anvil, V-anvil).
- Supplied with flat anvil and rod anvil.

-	
	117-107
• (Materia)	

Order No.	Range	Graduations	Remarks	List Price	Sale Price
117-107	0-1″	.0001″		\$208.00	\$187.20
117-108	1-2″	.0001″	w/1" standard	\$244.00	\$219.60

# **Digit Outside Micrometers**

**(P)**65

### Features

- Mechanical digit counter with .001" reading for quick and error-free reading.
- Supplied in fitted plastic case.

Order No.	Range	Graduations	Remarks	List Price	Sale Price
193-211	0-1″	.0001″	Friction Thimble	\$186.00	\$176.70
193-212	1-2″	.0001″	Friction Thimble w/standard	\$219.00	\$208.05
193-213	2-3″	.0001″	Ratchet Stop w/standard	\$245.00	\$232.75
193-214	3-4″	.0001″	Ratchet Stop w/standard	\$271.00	\$257.45

# **Tool Kits**



The very basic measuring instruments recommended for vocational students and machinist apprentices are supplied in this tool kit.

64PKA069

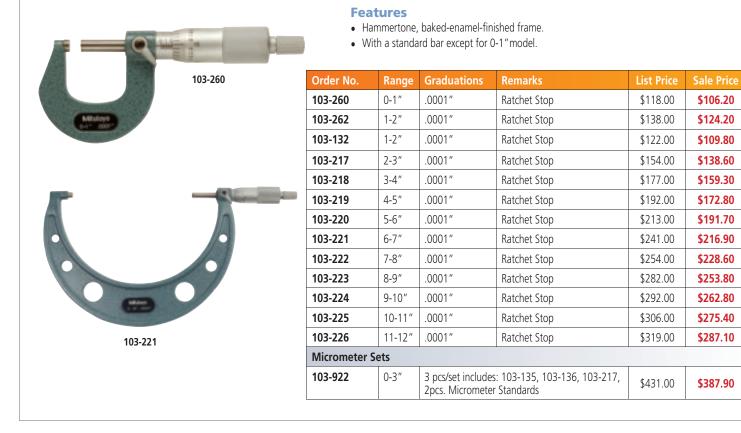


Order No.	Includes t	ludes these Items		Sale Price
	103-135	Outside Micrometer (Friction Thimble Type) (Range: 0–1", Graduation: .0001")		
	182-202	6" Full-Flexible Rule (16R)		
64PKA069	513-518T	Test Indicator Set (Range: .04", Graduation: .001")	\$410.00	\$389.50
	505-675	675 Dial Caliper (Range: 0–6", Dial Graduation: .001")		
	050501	Mahogany Case		



# Micrometers

# **Outside Micrometers — Inch Models**



# **Outside Micrometers**



### **Features**

- Improved repeatability for both "expert" and novice users
- Constant force device allows easy one-handed
- operationFull wrap heat insulation cover (102 Series)
- Certificate of Inspection provided
- Speeder for quick thimble rotation
- Carbide measuring faces

Order No.	Range	Graduations	Accuracy	List Price	Sale Price				
With Ratchet Stop									
101-113	0-1″	.0001″	±.0001"	\$162.00	\$145.80				
101-114*	1-2″	.0001″	±.0001"	\$162.00	\$145.80				
101-119*	2-3″	.0001″	±.0001"	\$177.00	\$159.30				
101-120*	3-4″	.0001″	±.00015"	\$195.00	\$175.50				
With Frictio	on Thimb	le							
101-117	0-1″	.0001″	±.0001"	\$133.00	\$119.70				
101-118*	1-2″	.0001″	±.0001"	\$162.00	\$145.80				
* Standard Inclu	ded								

### Mitutoyo Micrometer Production

Mitutoyo micrometers begin at our automated casting facility in Gohara. This facility provides many cast products to various Mitutoyo manufacturing plants for further processing into world- class measuring tools and instruments.

Once the raw castings are completed they are transferred to one of our manufacturing facilities at Shiwa. Here they are machined converting them into a finished high quality rigid frame required to ensure high accuracy. The frames are then combined with the other components produced in Shiwa such as spindles, anvils, thimbles, etc. to complete the production.

The process does not stop here. Each instrument is quality inspected and tested to ensure full compliance to Mitutoyo and other world standards. Automatic inspection systems employed to provide a full inspection certificate for each tool, which is then packaged and prepared to be shipped to one of our many global Mitutoyo locations.







### **Features**

- .028"/ 0.7mm (1mm: models over 100mm) edge thickness to enter narrow recesses.
- With Ratchet Stop for constant force.
- With SPC output
- Supplied in fitted plastic case. (Over 100mm models supplied wooden cases)

Order No.	Range	Resolution	Accuracy	List Price	Sale Price
323-350	0 - 1"/0 - 25.4mm	.00005"/ 0.001mm	±.0002"	\$499.00	\$474.05
323-351	1 - 2"/25.4 - 50.8mm	.00005″/0.001mm	±.0002"	\$560.00	\$532.00
323-352	2 - 3"/50 - 76.2mm	.00005″/0.001mm	±.0003"	\$632.00	\$600.40
323-353	3 - 4"/76.2 - 101.6mm	.00005"/0.001mm	±.0003"	\$669.00	\$635.55



Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85

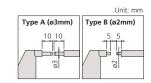


# Spline Micrometers

### **Features**

- IP65 water/dust protection (Series 331).
- The anvil and spindle have a small diameter for measuring splined shafts, slots, and keyways.
- With Ratchet Stop for constant force.
- With SPC output (Series 331).
- With a standard bar except 0-1" and 0-25mm model.
- Supplied in fitted plastic case.

Order No.	Range	Resolution	Accuracy	Remarks	list Price	Sale Price
331-351	0 - 1"/	00005″/	±.0001"	Type A	\$470.00	\$446.50
331-361	0 - 25.4mm	0.001mm	±.0001"	Туре В	\$470.00	\$446.50
331-352	1 - 2"/	00005″/	±.0001"	Туре А	\$527.00	\$500.65
331-362	25.4-50.8mm	0.001mm	±.0001"	Туре В	\$527.00	\$500.65
331-353	2 - 3" /	.00005″ /	±.0001"	Туре А	\$571.00	\$542.45
331-363	50.8-76.2mm	0.001mm	±.0001"	Туре В	\$549.00	\$521.55
331-354	3 - 4" /	.00005″ /	±.00015"	Туре А	\$661.00	\$627.95
331-364	76.2-101.6mm	0.001mm	±.00015"	Туре В	\$577.00	\$548.15





1	Order No.	Description	List Price	Sale Price	
0 Quality	05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60	
	05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85	

Mitutoy



Order No.	Range	Resolution	Accuracy	Point	List Price	Sale Price
342-351	0 - 1"/	00005" /	±.0001"	15°	\$462.00	\$438.90
342-361	0 - 25.4mm	0.001mm	±.0001"	30°	\$451.00	\$428.45
342-352	1 - 2"/	00005″/	±.0001"	15°	\$515.00	\$489.25
342-362	25.4-50.8mm	0.001mm	±.0001"	30°	\$504.00	\$478.80
342-353	2 - 3" /		±.0001"	15°	\$537.00	\$510.15
342-363	50.8-76.2mm		±.0001"	30°	\$527.00	\$500.65
342-354	3 - 4" /	.00005″ /	±.00015"	15°	\$561.00	\$532.95
342-364	76.2-101.6mm	0.001mm	±.00015"	30°	\$571.00	\$542.45

Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85





### **Features**

- .028"/ 0.7mm (1mm: models over 100mm) edge thickness to enter narrow recesses.
- With Ratchet Stop for constant force.
- With SPC output
- Supplied in fitted plastic case.



90 6.5

Order No.	Range	Resolution	Accuracy	Remarks	List Price	Sale Price
422-330	0 - 1 "/0 - 25.4mm	.00005"/ 0.001mm	±.00015"	Туре А	\$780.00	\$702.00
422-331	1 - 2"/25.4 - 50.8mm	.00005″/0.001mm	±.00015"	Туре А	\$835.00	\$751.50
422-332	2 - 3"/50 - 76.2mm	.00005″/0.001mm	±.00015"	Туре А	\$883.00	\$794.70
422-333	3 - 4"/76.2 - 101.6mm	.00005"/0.001mm	±.0002"	Туре А	\$920.00	\$828.00



Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85



# **Micrometer Heads**



148 Series Small Size Standard Style Micrometer Heads

Standard small size make these mic heads convenient for many gage fixtures.



148 Series Ultra-Small/Small Size Style Micrometer Heads

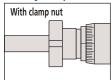


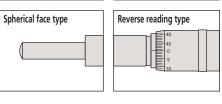
150 Series Mid Size Standard Style Micrometer Heads

The longer range make these mic heads great for wide range adjustment applications.

Order No.	Graduation	Range	Stem Dia.	Stem	Spindle Face	Remarks	List Price	Sale Price
Common Si	ze Small Type	Micrometer	Heads					
148-811	.001″	05″	.375″	Plain	Spherical (SR4)		\$66.05	\$59.45
148-502	.001″	05″	.375″	w/clamp nut & Spindle Lock	Flat		\$68.40	\$61.55
148-801	0.01mm	0-13mm	9.5mm	Plain	Spherical (SR4)		\$66.05	\$59.45
148-121	0.01mm	0-13mm	9.5mm	Plain with Spindle Lock	Flat	-	\$70.25	\$63.25
Ultra-Small	Small Size Mic	rometer He	eads					
148-202	.001″	0250"	.250″	Plain	Flat	-	\$62.85	\$56.60
148-206	.001″	0250"	.250″	Plain	Spherical (SR3)	-	\$64.70	\$58.25
148-208	.001″	0250"	.250″	with Clamp Nut	Spherical (SR3)	-	\$66.05	\$59.45
148-201	0.01mm	0-6.5mm	6mm	Plain	Flat	-	\$62.85	\$56.60
148-205	0.01mm	0-6.5mm	6mm	Plain	Spherical (SR3)	-	\$64.70	\$58.25
148-207	0.01mm	0-6.5mm	6mm	with Clamp Nut	Spherical (SR3)	-	\$66.05	\$59.45
150 Series I	Mid Size Standa	ard Style M	icrometer He	ads				
150-208	.001″	0-1″	.375″	Plain	Flat (Carbide Tip)	-	\$75.20	\$67.70
150-812	.001″	0-1″	.375″	with Clamp Nut	Spherical (SR4)	-	\$80.70	\$72.65
150-802	0.01mm	0-25mm	10mm	with Clamp Nut	Spherical (SR4)	-	\$80.70	\$72.65

### **Variety of Specifications**





Spindle lock





### Prices effective September 8 through December 12, 2014

Extra small size make these mic heads fit where larger mic heads won't.

# **ABSOLUTE Coolant Proof Calipers**

Order No.	Range	List Price	Sale Price
Non-Output St	yle		
500-752-10	0-6"/0-150mm	\$209.00	\$198.55
500-753-10	0-8"/0-200mm	\$280.00	\$266.00
500-754-10	0-12"/0-300mm	\$484.00	\$459.80
SPC Output Sty	/le		
500-762-10	0-6"/0-150mm	\$248.00	\$235.60
500-763-10	0-8"/0-200mm	\$312.00	\$296.40

Order No.



### It's sealed housing is IP-67 rated, meaning it's immune to the coolants, dirt, grit and chips found in many manufacturing environments.

 .0005"/0.01mm resolution with ±.001" accuracy for 6" models and 8" models.

Sale Price

• Certificate of inspection provided (4"/6"/8" models).

**List Price** 





05CZA	<b>05CZA624</b> 40" IP Caliper Cable		\$93.90	\$89.20
05CZA	625 80" IP Ca	aliper Cable	\$95.35	\$90.60

Description

**ABSOLUTE Digimatic Calipers** 



# **ABSOLUTE**

Order No.	Range	Remarks	List Price	Sale Price	
No SPC Output Style					
500-195-30	0-4"/0-100mm	.075" Round depth bar	\$144.00	\$136.80	
500-196-30	0-6"/0-150mm		\$156.00	\$148.20	
500-197-30	0-8"/0-200mm		\$224.00	\$212.80	
500-193	0-12"/0-300mm		\$450.00	\$427.50	
With SPC Ou	tput Style				
500-170-30	0-4"/0-100mm	.075" Round depth bar	\$172.00	\$163.40	
500-171-30	0-6"/0-150mm		\$183.00	\$173.85	
500-172-30	0-8"/0-200mm		\$241.00	\$228.95	
500-173	0-12"/0-300mm		\$525.00	\$498.75	
500-505-10	0-18"/0-450mm	Without Thumb Roller	\$819.00	\$778.05	
500-506-10	0-24"/0-600mm	Without Thumb Roller	\$900.00	\$855.00	
500-507-10	0-40"/0-1000mm	Without Thumb Roller	\$1740.00	\$1,653.00	

Order No.	Description	List Price	Sale Price	
959149	40" Caliper Cable	\$49.25	\$46.80	
959150	80" Caliper Cable	\$55.20	\$52.45	



AOS: Advanced Onsite Sensor

A new series of digimatic calipers derived from 30 years of accumulated Mitutoyo technologies. Equipped with the electromagnetic induction type absolute encoder and AOS (Advanced Onsite Sensor) applied for ABS coolant-proof calipers.

### **Features**

- Electromagnetic inductive sensor improves environmental resistance
   against dirt, water and oil
- A battery life of approximately 3.5 years has been achieved under normal use through the adoption of Mitutoyo's ABSOLUTE scale.
- The slider configuration features an ergonomic, thumb-friendly shape.
- Step-measurement capable.
- Carbide-tipped jaw models are ideally suited to the measurement of rough-machined workpieces, castings, grindstones, etc.
- The data output function allows integration into statistical process control and measurement systems.
- Display character height: 9mm

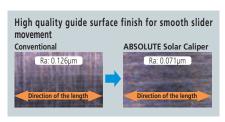


# **ABSOLUTE Solar Calipers**

Order No.	Range	Description	List Price	Sale Price
500-474	0-6"/0-150mm	w/o output	\$195.00	\$185.25
500-475	0-8"/0-200mm	w/o output	\$254.00	\$241.30

### **Features**

- Absolute Encoder Technology
- No battery needed
- Works in low lighting conditions above 60 lux
- 0.0005"/0.01mm resolution
- Supplied in fitted plastic case



\$241.50	Supplied in fitted plastic case
ť	

ABSOLUTE

Order No.	Description	List Price	Sale Price	
959149	40" Caliper Cable	\$49.25	\$46.80	
959150	80" Caliper Cable	\$55.20	\$52.45	



# **Digimatic Carbon Fiber Calipers**

### **Features**

- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam and jaws.
- Highly durable and easy to handle.
- Direct readout of ID measurements from the LCD. (Offset value can be set easily by pressing the Offset key.)
- Preset function for setting a desired starting point.
- With SPC data output.
- Special models available with ceramic jaws which are suitable for measuring abrasive and magnetic products.
- Supplied in fitted wooden case.
- .0005"/0.01mm Resolution



Order No.	Range	List Price	Sale Price
552-314-10	40"/1000mm	\$1,890.00	\$1,701.00
552-315-10	60"/1500mm	\$2,260.00	\$2,034.00
552-316-10	80"/2000mm	\$3,540.00	\$3,186.00

	Order No.	Description	List Price	Sale Price
	05CZA624	40" IP Caliper Cable	\$93.90	\$89.20
<i>.</i>	05CZA625	80" IP Caliper Cable	\$95.35	\$90.60

# Features • Economically priced • Large LCD digits • 001 "/0.1mm resolution • Accuracy: ±.005 "/±.0.2mm

Order No.	Range	List Price	Sale Price
700-113-10	0-6"/0-150mm	\$116.00	\$92.80
700-123-10	0-8"/0-200mm	\$178.00	\$142.40

### **Mitutoyo Caliper Production**

Mitutoyo's high quality calipers are designed and built in our Utsunomiya, Japan factory. These tools begin as specially developed stainless steel sheets, which are then laser cut to the general shape seen in the finished part. The frames and sliders, once laser cut, are machined to final size permitting assembly in our highly automated production facility. Once completed, each caliper is thoroughly inspected and tested to ensure the high precision and quality a Mitutoyo customer deserves. Each caliper is packaged with it's own unique certificate of inspection as further proof of its quality.



# Calipers

# **Dial Calipers**

505-677



### **Features**

- Stainless Steel
- Mitutoyo has improved the durability of it's calipers by using a TiN coating on the sliding surfaces of the 6" and 8" main beam.
- .001" graduations
- New designed dial movement for ultra smooth sliding and high shock protection.
- Titanium Nitride (TiN) coating is applied to the sliding surface to increase wear resistance (except for 0 - 12" and 0 - 300mm model).
- Lock screw for dial bezel and for holding the sliding jaw position.
- Can measure OD, ID, depth, and steps.
- Models available with carbide-tipped OD and ID jaws.
- Supplied in fitted plastic case.

Order No.	Range	Remarks	List Price	Sale Price
505-674	4" .100"/rev.		\$103.00	\$92.70
505-675	6" .100"/rev.		\$121.00	\$108.90
505-675-51	6" .100"/rev.	Blue Face	\$121.00	\$108.90
505-675-55	6" .100"/rev.	Orange Face	\$121.00	\$108.90
505-675-66	6" .100"/rev.	Black Face w/ Ratchet Stop	\$130.00	\$117.00
505-689	6" .100"/rev.	Extra Smooth Movement	\$153.00	\$137.70
505-712	6" .100"/rev.	Carbide Tipped Jaws	\$207.00	\$186.30
505-717	6" .200"/rev.		\$111.00	\$99.90
505-676	8" .100"/rev		\$177.00	\$159.30
505-690	8" .100"/rev	Extra Smooth Movement	\$202.00	\$181.80
505-677	12" .100/rev		\$281.00	\$252.90
505-720	12" .200/rev		\$261.00	\$234.90

# **Vernier Caliper**

### **Features**

- Can measure OD, ID, depth and steps
- The small vernier face angle (14°) provides easy reading.
- Dual reading scales on vernier..
- Lock screw for holding the sliding jaw position.
- Carbide-tipped jaw type calipers are also available.
- Supplied with vinyl holster in fitted carton. Except 24" / 600mm models are carton only. 40" / 1000mm supplied in wooden case.

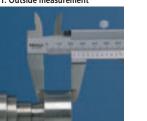
530-104 Order No. **Vernier Graduation** Range Lower Scale **Upper Scale** 0 - 150mm / 0 - 6" 0.05mm 1/128"

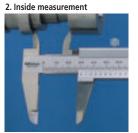


\* Graduation 0.02mm

### 1. Outside measurement

Measurement **Applications** 

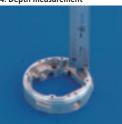








4. Depth measurement



# **Inside Measurement**

# **Inside Micrometers**







145-193 Caliper Type Inside Micrometer

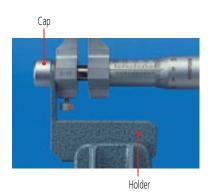
141-208 Inside Micrometer

Order No.	Range	Graduations	Style	List Price	Sale Price
141-208	2-8″	.001″	Inside Micrometer	\$195.00	\$175.50
145-193	.2-1.2″	.001″	Caliper Type Inside Micrometer	\$244.00	\$219.60



### **Optional Accessories**

	SPC cable with data switch 1m / 40" SPC cable with data switch 2m / 80"
300401: 300400:	Setting ring Cap for stand holder Stand holder



Mitutoyo Corporation 80th Anniversary Since 1934

# **Bore Gages**

### **Features**

- Most popular Bore Gages.
- Carbide-tipped contact points for durability.
- The dial indicator is fully protected by a rugged cover.
- Optional extension rods can be attached for measuring deep holes.

Order No	Range	Graduation (Indicator)	List Price	Sale Price
511-751	.7 - 1.4″		\$411.00	\$369.90
511-752	1.4 -2.5″		\$401.00	\$360.90
511-753	2.0 - 6.0"		\$438.00	\$394.20
511-754	4.0 - 6.5″	.0001" (2923SB-10)	\$579.00	\$521.10
511-755	6.5 - 10″		\$652.00	\$586.80
511-756	10 -16"		\$776.00	\$698.40

### **Optional Accessories**

953549:	125mm / 4.92" Extension rod
	for 18-35mm / .7 -1.4" models
953552:	125mm / 4.92" Extension rod
	for 35-160mm / 1.4 - 6.5" models
953557:	
90500/:	125mm / 4.92" Extension rod
	for 160-400mm / 6.5 - 16" models
953550:	250mm / 9.84" Extension rod
555550.	for 18-35mm / .7 - 1.4" models
953553:	250mm / 9.84" Extension rod
	for 35-160mm / 1.4 - 6.5" models
952361:	250mm / 9.84" Extension rod
952501.	
	for 160-400mm / 6.5 - 16" models
953551:	500mm / 19.69" Extension rod
	for 18-35mm / .7 - 1.4" models
050554	
953554:	500mm / 19.69" Extension rod
	for 35-160mm / 1.4 - 6.5" models
953558:	500mm / 19.69" Extension rod
555550.	for 160-400mm / 6.5 - 16" models
953555:	750mm / 29.53 "Extension rod
	for 35-160mm / 1.4 - 6.5" models
953559:	750mm / 29.53" Extension rod
555555.	
	for 160-400mm / 6.5 - 16" models
953556:	1000mm / 39.37" Extension rod
	for 35-160mm / 1 4 - 6 5" models
052560.	
953560:	1000mm / 39.37" Extension rod
	for 160-400mm / 6.5 - 16" models

511-751

# **Holtest Sets**

### **Complete Unit Sets**

• Each set includes complete gages (micrometer head units and measuring heads for each size).

### **Features**

- TiN-coated measuring contact points (over 6mm / .275" range models) provide excellent durability and impact resistance and allow the instrument to measure to the bottom of a blind hole (up to 100mm / 4" models).
- Highly durable because of carbide-tipped contact points (anvils up to 12mm / .5" models).
- Can measure deep holes using an Extension rod (optional) which is available on models over . 6mm (.275") measuring range.
- With Ratchet Stop for constant force.
- Setting Rings for zero point adjustment are optional.
- Supplied in fitted plastic case up to 100mm / 4". Over 100mm / 4" supplied in wooden case. •



Order No.	Range	Individual Range	Setting Rings Included	Remarks	List Price	Sale Price
368-917	.5″8″	.565", .658"	.65" DIA.		\$1,490.00	\$1,341.00
368-918	.8″ - 2″	.8-1", 1-1.2", 1.2- 1.6", 1.6-2"	1″ DIA., 1.6″ DIA.	With Extension Rod	\$3,410.00	\$3,069.00
368-919	2" - 4"	2-2.5", 2.5-3", 3-3.5", 3.5-4"	2.5" DIA., 3.5" DIA.		\$4,860.00	\$4,374.00
368-920	4" - 8"	4-5", 5-6", 6-7", 7-8"	5" DIA., 7" DIA.		\$7,440.00	\$6,696.00

# **Borematic Sets**

GO/NO-GO judgment function.

### **Complete Unit Sets**

• Each set includes complete gages (micrometer head units and measuring heads for each size).

### **Features**

- TiN-coated measuring contact points provide excellent durability and impact resistance and allow the instrument to measure to the bottom of a blind hole.
- Large LCD digits of 8.5mm height for error-free reading.
- 330-degree rotatable display unit for easy reading at any angle. •
- The ABSOLUTE linear encoder eliminates over-speed errors. •
- With SPC data output.

•

Supplied in fitted wooden case.

- Setting rings for origin point setting are optional. •
- Can measure deep holes by attaching an optional extension rod.
- Measurement can be taken closer to the bottom of a blind bore.



Order No.	Range	Display Unit	Setting Rings Included	List Price	Sale Price
568-928	.275"5" / 6.985 - 12.7mm		177-179 (.35" DIA.) 177-283 (.425" DIA.)	\$2,230.00	\$2,007.00
568-929	.5" - 1" /12.7 - 25.4mm	568-015	177-182 (.65" DIA.) 177-287 (.8" DIA.)	\$2,530.00	\$2,277.00
568-930	1″ - 2″ /25.4 - 50.8mm	200-012	177-289 (1.2" DIA.) 177-291 (1.6" DIA.)	\$3,080.00	\$2,772.00
568-936	2" - 4" /50.8 - 101.6mm		177-315 (2.5" DIA.) 177-319 (3.5" DIA.)	\$4,440.00	\$3,996.00

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-3	568-928	

Order No.	Description	List Price	Sale Price
905338	40" SPC Cable	\$40.05	\$38.05
905409	80" SPC Cable	\$47.75	\$45.35



www.mitutoyo.com



368-917

# **Inside Measurement**

# **Digimatic Holtest**

### **Features**

- TiN-coated measuring contact points provide excellent durability and impact resistance and allow the instrument to measure to the bottom of a blind hole ( up to 100mm / 4" models).
- Large LCD readout.
- Functions available: Presetting, Zero/ABS, Auto power On/Off, Data hold, Data output, Error alarm, Battery replacement alarm.
- With Ratchet Stop for constant force.
- Can measure deep holes by attaching an Extension rod (optional).
- Setting rings for origin point setting are optional.
- Supplied in fitted plastic case up to 100mm / 4". Over 100mm / 4" supplied in wooden case.





Order No	Range	Accuracy	List Price	Sale Price
468-261	.27535" / 6.925 - 8.89mm	±.0001"	\$1,110.00	\$999.00
468-262	.35425" / 8.89 - 10.795mm	±.0001"	\$1,110.00	\$999.00
468-263	.4255" / 10.795 - 12.7mm	±.0001"	\$1,120.00	\$1,008.00
468-264	.565" / 12.7 - 16.51mm	±.0001"	\$1,220.00	\$1,098.00
468-265	.658" / 16.51 - 20.32mm	±.0001"	\$1,220.00	\$1,098.00
468-266	.8 - 1" / 20.32 - 25.4mm	±.00015"	\$1,250.00	\$1,125.00
468-267	1 - 1.2" / 25.4 - 30.48mm	±.00015"	\$1,250.00	\$1,125.00
468-268	1.2 - 1.6" / 30.48 - 40.64mm	±.00015"	\$1,280.00	\$1,152.00
468-269	1.6 - 2" / 40.64 - 50.8mm	±.00015"	\$1,290.00	\$1,161.00
468-270	2 - 2.5" / 50.8 - 63.5mm	±.00015"	\$1,400.00	\$1,260.00
468-271	2.5 - 3" / 63.5 - 76.2mm	±.00015"	\$1,400.00	\$1,260.00
468-272	3 - 3.5" / 76.2 - 88.9mm	±.00015"	\$1,420.00	\$1,278.00
468-273	3.5 - 4" / 88.9 - 101.6mm	±.00015"	\$1,440.00	\$1,296.00
468-274	4 - 5″ / 101.6 - 127mm	±.00025"	\$1,880.00	\$1,692.00
468-275	5 - 6" / 127 - 152.4mm	±.00025"	\$1,930.00	\$1,737.00
468-276	6 - 7" / 152.4 - 177.8mm	±.00025"	\$2,050.00	\$1,845.00
468-277	7 - 8" / 177.8 - 203.2mm	±.00025"	\$2,140.00	\$1,926.00
468-278	8 - 9" / 203.2 - 228.6mm	±.00025"	\$2,280.00	\$2,052.00
468-279	9 - 10" / 228.6 - 254mm	±.00025"	\$2,330.00	\$2,097.00
468-280	10 - 11" / 254 - 279.4mm	±.00025"	\$2,410.00	\$2,169.00
468-281	11 - 12" / 279.4 - 304.8mm	±.00025"	\$2,520.00	\$2,268.00

Order No.	Description	List Price	Sale Price
05CZA662	40" IP65 Mic Cable	\$83.80	\$79.60
05CZA663	80" IP65 Mic Cable	\$92.45	\$87.85



04AZB157:	: Mounting plate for stand
156-101-10	): Stand
952322:	Extension rod 100mm / 3.94"
	For range 6-12mm / .2755" models
952621:	Extension rod 150mm / 5.9"
	For range 12-20mm / .5"8" models
952622:	Extension rod 150mm / 5.9"
	For range 20-50mm / .8" - 2" models
952623:	Extension rod 150mm / 5.9"
	For range 50-300mm / 2" - 12" models

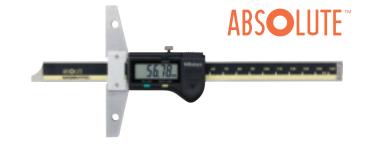




# **Digimatic Depth Gage**

### **Features**

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available. (up to 18"/450mm range models)
- With SPC data output.



Description

40" Depth Gage Cable

80" Depth Gage Cable

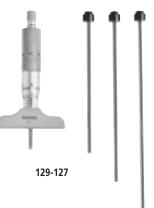
Order No.	Range	List Price	Sale Price
571-212-20	0-8"/0-200mm	\$426.00	\$404.70
571-213-10	0-12"/0-300mm	\$492.00	\$467.40

# **Depth Micrometers**

### **Features**

- Interchangeable rods, with lapped measuring end, provide a wide measuring range.
- The rod length can be interchanged in 1" increments.
- With ratchet stop for constant force.
- With measuring rod clamp.
- Supplied in fitted plastic case.

Order No.	Range	Graduations	Remarks	List Price	Sale Price
129-127	0-4″	.001″	2.5" Base	\$187.00	\$168.30
129-131	0-4″	.001″	4" Base	\$207.00	\$186.30
129-128	0-6″	.001″	2.5" Base	\$226.00	\$203.40
129-149	0-12″	.001″	2.5" Base	\$398.00	\$358.20
129-150	0-12″	.001″	4" Base	\$416.00	\$374.40



\$49.25

\$55.20

\$46.80

\$52.45

### **Tire Tread Depth Gage Features** • Specially Designed to measure tire tread depth Plastic construction for light-2406 weight use • 001"/0.1mm resolution • Accuracy: ±.008" Order No. Range 700-105 0-1"/0-25 4mm \$75.20 \$71.45



# **Quick Mini**

Order No.

959149

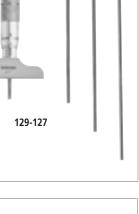
959150

Quick Mini is a convenient snap-action pocket thickness gage offering LCD digital readout. Quick Mini is ideal for rapid checking of a wide variety of materials including metal, paper, plastics and wood.





Order No.	Range	Resolution	List Price	Sale Price
700-118-20	05"/0-12.7mm	.0005″/0.01mm	\$118.00	\$106.20



# **Series One Dial Indicators**

Mitutoyo's Dial Indicators now offer users more stability and longer life, thanks to advances to the inner workings of the rack and pinion gear system. Shock resistance is increased with a more robust gear train, while contamination resistance has been dramatically increased over other indicators of this type with a tighter seal around the bezel and frame, and the elimination of a lifting lever screw.



Order No.	Graduation	Range	Accuracy	Dial Face	List Price	Sale Price
1410S	.001″	.25″	±.001"	0-100	\$108.00	\$97.20
1410S-10**	.001″	.25″	±.001"	0-100	\$112.00	\$100.80
1410SB*	.001″	.25″	±.001"	0-100	\$108.00	\$97.20
1506S	.0005″	.125″	±.0005"	0-50	\$99.80	\$94.80
1507S	.0005″	.125″	±.0005"	0-25-0	\$99.80	\$94.80

\* with flat back \*\* jeweled

# **Series Two Dial Indicators**

Order No.	Graduation	Range/Rev	Туре	Dial Reading	Accuracy First 2.5 Rev/Overall	Force	List Price	Sale Price
2358S-10	.0001″	.5" / .01"	w/lug	0-10	.0001 / .0008	2.0N or less	\$220.00	\$209.00
2046S	0.01mm	10mm/1mm	w/lug	0-100	0.013mm	1.4N or less	\$114.00	\$108.30
2416S	.001″	1"/.1"	w/lug	0-100	.001 / .002	1.8N or less	\$119.00	\$113.05
2416S-10	.001″	1"/.1"	w/lug	0-100	.001 / .002	1.8N or less	\$141.00	\$133.95
2424S-19	.001″	2"/1"	w/lug	0-100	.001 / .003	2.5N or less	\$220.00	\$209.00
27765	.0005″	1" / .05"	w/lug	0-50	.0005 / .002	2.5N or less	\$142.00	\$134.90



# "Quick-Set" Test Indicators

The most direct gear train design ever applied to Test Indicators means- higher levels of sensitivity, reliability, repeatability and accuracy throughout tool life.

### **Features**

- Anti-magnetic
- Jeweled bearings
- No-clutch structure
- Water and dust resistar
- Glare-free crystal with scratch-resistant coating
- Metric dial faces in yellow
- Measuring force 0.3N or less

	Order No.	Graduation	Range	Dial Face	Remarks	List Price	Sale Price
	513-402	.0005″	.030″	0-15-0	Anti Magnet, Jeweled	\$130.00	\$123.50
stant	513-402T	.0005″	.030″	0-15-0	Set	\$154.00	\$146.30
th	513-412	.0005″	.030″	0-15-0	Long Point	\$186.00	\$176.70
nting	513-412T	.0005″	.030″	0-15-0	Long Point Set	\$215.00	\$204.25
vellow N or less	513-403	.0001″	.008″	0-4-0	Basic	\$169.00	\$160.55
	513-403T	.0001″	.008″	0-4-0	Anti Magnet, Full Set, Jeweled	\$198.00	\$188.10

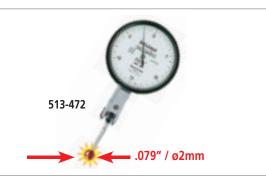


# **Ruby Stylus Test Indicator**

- **Features**
- Wear characteristic improved by 50%.
- Non-magnetic and non-conductive material, enable its use in EDM operation

Contact Point diameter: .079" Stem diameter: Ø3/8"

Order No.	Graduation	Range	Force	Accuracy	List Price	Sale Price
513-472	.0005″	.03″	.072N or less	±.0005"	\$145.00	137.75

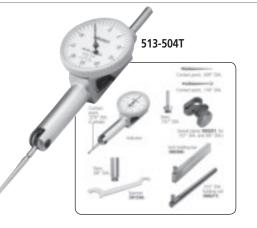


# Pocket Type Test Indicator

### **Features**

- Jeweled bearings
- Reversible measuring direction
- Contact points adjustable within 220°
- Two holding bars supplied

Order No.	Graduation	Range	Dial Face	Accuracy	List Price	Sale Price
513-504T	.0001″	01″	0-5-0	±.0002"	\$176.00	\$167.20
513-512T**	0005″	.02″	0-10-0	±.0005"	\$182.00	\$172.90
513-518T	.001″	.04″	0-20-0	±.001"	\$138.00	\$131.10



7011BN

\* Compact Style, \*\* Long Point

# **Magnetic Stands**

Mitutoyo Magnetic Stands accept all AGD-type dial indicators, test indicators and probes having .375", 6mm or 8mm diameter shanks and/or lug back with 1/4" diameter mounting hole. The On/Off switch offers instant mounting and dismounting without any adverse effect to the indicators or work surface.

Mitutoyo Magnetic Stands have 132 Lbf of magnetic force to help prevent damage to indicators and probes due to accidental base fall-over.

Order No.	Decription	List Price	Sale Price
70105	Magnetic Stand w/6" Rod & Universal Clamp	\$131.00	\$124.45
7011BN	Magnetic Stand w/6" Adjustable Rod & Universal Clamp	\$149.00	\$141.55
7012-10	Flexible Magnetic Stand	\$202.00	\$191.90
7033B	Universal Magnetic Stand	\$194.00	\$184.30

# **Dial Gage Stands**

Order No.	Max. Ht. Capacity	Anvil Type	List Price	Sale Price
7007-10	3.54″	Serrated Anvil	\$554.00	\$526.30
7001-10	4.0″	Serrated Anvil	\$554.00	\$526.30
7002-10	4.0″	Flat Anvil	\$554.00	\$526.30

The compact and versatile Dial Gage Stands are commonly used general-purpose stands for comparison measurements, 4" maximum height capacity. They feature a wide fine adjusting range for zero-setting gage heads.



7012-10

7010S

# **IDC Digimatic Indicators**

### **Features**

- Absolute Encoder ensures all settings and readings maintained for the life of the battery (even when the power is turned off)
- Preset, Zero-Set, inch/mm, +/- direction and GO/±NG functions
- Face rotates 330° for use at various angles
- Stem diameter: .375"
- Immune to overspeed error
- SPC output provided
- Average battery life 7,000 hours using SR-44 battery (541980)

Order No.	Range	Remarks	List Price	Sale Price
.0005"/0.01	mm Resolution			
543-402	.500"/12.7mm	Lug Back	\$310.00	\$294.50
543-402B	.500"/12.7mm	Flat Back	\$310.00	\$294.50
543-476B	1″/25mm	Flat Back	\$454.00	\$431.30
543-496B	2″/50mm	Flat Back	\$597.00	\$567.15
.00005"/.00	01"/.0005"/0.001	mm/0.01mm Reso	olution	
543-392	.500"/12.7mm	Lug Back	\$424.00	\$402.80
543-392B	.500"/12.7mm	Flat Back	\$424.00	\$402.80
543-472B	1″/25mm	Flat Back	\$568.00	\$539.60
543-492B	2"/50mm	Flat Back	\$713.00	\$677.35



Models available with selectable resolutions: .00005"/.0001"/.0005"/0.001mm/0.01mm

Order No.	Description	List Price	Sale Price
905338	40" Cable for Indicators	\$40.05	\$38.05
905409	80" Cable for Indicators	\$47.75	\$45.35

### Three large buttons

The popular three-large button design, which is used in products such as the ABS coolant proof Digimatic indicators ID-N/B, makes buttons easier to press and operations easier to perform.



### Power switch Data output (when connected to an external device) Data hold (when no external device is connected)

Switches between the ABS (preset) and INC (zeroset)

measurement modes

### Parameter setting mode

mm conversion

Count direction switching, tolerance judgment setting, resolution switching, scale factor setting, and function lock setting • inch/mm conversion (inch/mm models)

### 330° rotary display

The display can be rotated 330°, allowing use at a position where you can easily read the measurement value





# **IDS Digimatic Indicators with Absolute Encoder**

	_					
Order No.	Range	Resolution		Remarks	List Pri	ce Sale Price
543-793	05"/0-12.7mm	.0001″/0.001m	ım	Lug Back	\$273.0	0 <b>\$259.35</b>
543-793B	05"/0-12.7mm	.0001″/0.001mm		Flat Back	\$273.0	0 <b>\$259.35</b>
543-792	05"/0-12.7mm	.00005″/0.001	mm	Lug Back	\$273.0	0 <b>\$259.35</b>
543-792B	05"/0-12.7mm	.00005″/0.001	00005"/0.001mm		\$273.0	0 <b>\$259.35</b>
543-783	05"/0-12.7mm	.00005″/0.001	mm	Lug Back	\$177.0	0 <b>\$168.15</b>
543-783B	05"/0-12.7mm	.00005″/0.001	mm	Flat Back	\$177.0	0 <b>\$168.15</b>
Functions		Order No.	Desci	ription	List Price	Sale Price
	oset, ± Counting,	905338	40″ C	able for Indicators	\$40.05	\$38.05
Power UN/OF	Power ON/OFF Data output, inch/		00" C	able for Indicators	¢17.75	¢/15 25

80" Cable for Indicators

\$47.75

\$45.35

905409

# **QM-Height High Precision ABSOLUTE Digital Height Gage**

The new world standard in height measurement!

### **Features**

- New generation high accuracy / high resolution ABSOLUTE linear encoder for position detection
- New higher accuracy  $\pm(2.4 + 2.1L/600)\mu m$
- New pneumatic flotation system / positioning grip allows for smooth movement along surface plate (select models)
- New large, stationary display panel with user friendly icon control keys and GO/NG LED indicator
- Digital and USB Output (New) Supports Mitutoyo wireless SPC Output
- Long battery life with standard AA batteries (4) Up to 300 hours (80 hours with regular use of pneumatic flotation function)
- Fully compatible with existing Mitutoyo Digimatic peripherals (SPC Cables, U-Wave wireless transmitters, multiplexers, etc.



# Go/±NG judgment by LED (red, orange, green) and measurement examples

• LEDs are activated at the time of tolerance judgment – green for Go, red for +NG, and orange for –NG. "-NG", "GO" and "+NG" also appear on the LCD.







Order No.	Range	Accuracy	Resolution	Remarks	List Price
PROMO003	0 - 14"/ 0 - 350mm				\$3,990.00
PROMO004	0 - 24"/ 0 - 600mm	±(2.4+2.1L/600)µm	0.001mm / 0.0005mm		\$4,490.00
PROMO005	0 - 14"/ 0 - 350mm	L = Measuring length (mm)	/.00005" / .0001"	Pneumatic Floatation System	\$4,490.00
PROMO006	0 - 24"/ 0 - 600mm			Pneumatic Floatation System	\$4,990.00

# **Height Gages**



# **Linear Height LH-600E**

# The Mitutoyo Linear Height LH-600E offers advanced performance for reliable and easy 2D measurement.

Measuring Range (stroke) 0-38"(24") / 0-972mm(600mm)

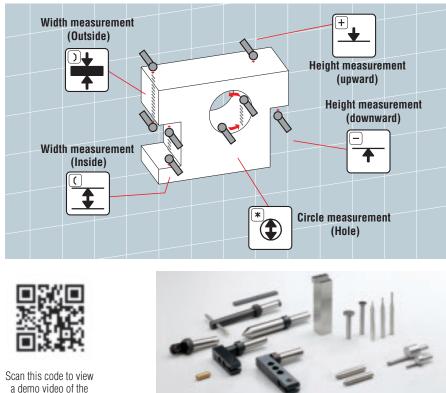
### **Features**

- True 2-D measurement
- High Accuracy: (1.1+0.6L/600)µm (L=Length of mm)
- Measuring Range (Stroke): 0-38" (24"), 0-972mm (600mm)
- Selectable Resolution: .000001"/.0001"/.0001"/.001"/0.0001mm /0.001mm/0.01mm/0.1mm
- Basic statistical functions are provided
- RS-232C / USB data output provides the option of evaluating measurement data externally with SPC software on a PC
- One-key operation for running semiautomatic measurement
- Data entry from a Digimatic tool
- Highest functionality: 21 parameters
- Accepts 7 different probes
- Pneumatic full/semi floating system
- Holds 60,000 data points
- Memory for 50 measuring points
- Bright, back-lit LCD

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Order No.	Description	List Price	Sale Price	
518-351A-21	Linear Height Gage	\$8,480.00	\$7,632.00	



Optional thermal printer

Mitutoyo Quality

### Frequently used measurements

Linear Height LH 600E

Numerous optional probes enable many types of measurement

# **Digimatic Height Gages (Multi-Function Type)**

Now with two resolutions and two value preset memory and increased character height for easier viewing.

### **Features**

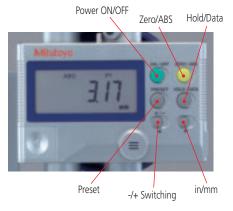
- Highly versatile multi-function type.
- Carbide-tipped long scriber is provided.
- Rigid construction ensures repeatable measurement.
- Switchable resolution.
- Coarse/fine feed switching.
- With SPC data output.
- Two preset reference height.

Order No.	Range	Resolution	Accuracy	List Price	Sale Price
192-670-10	0-12"/0-300mm		±001"	\$1,770.00	\$1,593.00
192-671-10	0-18"/0-450mm	.0005"(0.01mm)	±0015"	\$2,280.00	\$2,052.00
192-672-10	0-24"/0-600mm	[.0002"(0.005mm) Switchable)]	±0015"	\$2,920.00	\$2,628.00
192-673-10	0-40"/0-1000mm		±0025"	\$5480.00	\$4,932.00

Order No.	Description	List Price	Sale Price
905338	40" SPC Cable	\$40.05	\$38.05
905409	80" SPC Cable	\$47.75	\$45.35

### Functions include:

- Zero/ABS setting (ABS and INC modes)
- 2 Value Preset Memory
- Data hold
- ± Counting
- Inch/mm conversion



192-670-10



Mitutoyo Corporation 80th Anniversary Since 1934

# **Digimatic Height Gages (Standard Type)**

Now with two resolutions and two value preset memory and increased character height for easier viewing.

Order No.	Range	Resolution	Accuracy	List Price	Sale Price
192-630-10	0-12"/0-300mm		±.001"	\$1,540.00	\$1,386.00
192-631-10	0-18"/0-450mm	.0005″/0.01mm	±.002"	\$2,110.00	\$1,899.00
192-632-10	0-24"/0-600mm	.0002"/0.005mm	±.002"	\$2,690.00	\$2,421.00
192-633-10	0-40"/0-1000mm	*	±003"	\$5,080.00	\$4,572.00

### **Functions include:**

- Zero/ABS setting (ABS and INC modes)
- 2 Value Preset Memory
- Data hold
- ± Counting
- Inch/mm conversion

Order No.	Description	List Price	Sale Price
905338	40" SPC Cable	\$40.05	\$38.05
905409	80" SPC Cable	\$47.75	\$45.35

192-633-10

# **Height Gages**

# **ABSOLUTE Digimatic Height Gages**

### **Features**

- Built in ABSOLUTE linear encoder
- This encoder eliminates the necessity of setting the reference point at every power-on. It has improved reliability because no over-speed error will occur.
- Fine-adjustment carriage to feed the slider finely.
- Carbide-tipped scriber is provided.
- With SPC data output.

Order No.	Range	Accuracy	Resolution	List Price	Sale Price
570-244	0 - 8″ /0 - 200mm	±.001"	.0005" /0.01mm	\$636.00	\$604.20
570-248	0 - 40" /0 - 1000mm	±.003"	.0005" /0.01mm	\$3,790.00	\$3,600.50

Order No.	Range	Accuracy	Resolution	List Price	Sale Price
570-312	0 - 12″ / 0 - 300mm	±.0015"	.0005" /0.01mm	\$627.00	\$595.65
570-313	0 - 18″ / 0 - 450mm	±.002"	.0005" /0.01mm	\$880.00	\$836.00
570-314	0 - 24″ / 0 - 600mm	±.002"	.0005" /0.01mm	\$1,130.00	\$1,073.50





Large smooth slider feed wheel

Order No.	Order No. Description		Sale Price
905338	40" SPC Cable	\$40.05	\$38.05
905409	80" SPC Cable	\$47.75	\$45.35

# **Dial Height Gages**

Double-column structure ensures high measuring accuracy. Coarse/ Fine Feed switching. Carbide-tipped scriber.

### **Features**

- Easy and error-free reading with both up and down digital counters as well as a dial.
- Provided with a feed wheel for easy coarse feeding.
- Carbide-tipped scriber is provided.
- The counters and dial can be re-zeroed at any scriber position.

Order No.	Range	Graduation	List Price	Sale Price
192-150	0-12″	.001″	\$1,010.00	\$909.00
192-151	0-18″	.001″	\$1,400.00	\$1,260.00
192-152	0 - 24″	.001″	\$1,820.00	\$1,638.00
192-153	0 - 40″	.001″	\$3,990.00	\$3,591.00



Easy and secure clamping



Easy and error free reading



192-150

# **Rectangular Steel Gage Block Sets**

516-902-26

### **Gage Block Production**

Mitutoyo has been producing gage blocks for more than 70 years. Since the time when the Numata Research laboratory entered the market on a fullscale production basis, the production of Mitutoyo gage blocks now exceeds a total of 23 million pieces in 45 years, and they continue to be used all over the world. Advanced processing techniques have been cultivated by Mitutoyo over the years with its research and development advancing measurement technology and creating new products, such as new types of gage block, as well as leading-edge measuring equipment for gage block evaluation. With a reputation for innovation and reliability endorsed by history, and an extensive sales/service network stretching throughout the world, Mitutoyo continues to support manufacturing industries wherever they may be found.



Order No.	Blocks per Set	Grade	Size	Step	Qty	List Price	Sale Price	
			.10011009″	.0001″	9			
516-902-26	04	0	.101149″	.001″	49	¢1.070.00	\$1,773.00	
	81	0	.0595″	.05″	19	\$1,970.00		
			1 - 4″	1″	4			
			.10011009″	.0001″	9			
546 002 26	0.1	AC 1	.101149″	.001″	49	¢1710.00	¢4 520 00	
516-903-26	81	AS-1	.0595".	.05″	19	\$1710.00	\$1,539.00	
			1-4″	1″	4			
			.10011009″	.0001″	9			
	0.1	A.C. D	.101149″	.001″	49		¢4 205 00	
516-904-26	81	AS-2	.0595″	.05″	19	1,550.00	\$1,395.00	
			1-4″	1″	4			
			.10005″		1			
	35	0	.10011009″	.0001″	9	\$1,040.00		
			.101149″	.001″	9		\$936.00	
516-914-26			.1119″	.01″	9		\$330.00	
			.13″	.1″	3			
			.5, 1, 2, 4"		4			
			1.001-1.009mm	0.001mm	9		\$2,511.00	
546 046 26	07	0	1.01 - 1.49mm	0.01mm	49	¢0, 700, 00		
516-946-26	87	0	0.5-9.5mm	0.5mm	19	\$2,790.00		
			10-100mm	10mm	10			
			1.001-1.009mm	0.001mm	9			
546 047 26	07	A.C. 1	1.01-1.49mm	0.01mm	49	¢0.400.00	¢2 244 00	
516-947-26	87	AS-1	0.5-9.5mm	0.5mm	19	\$2,460.00	\$2,214.00	
			10-100mm	10	10			
Order No.	Blocks per Set	Grade	Blocks Incl. In Se	t Remark	s	List Price	Sale Price	
516-930-26	9	0	.0625", .100",			\$360.00	\$324.00	
		Ŭ	.125", .200", .250 , .300", .500" 1", 2	(+ _ E")	Optical parallel $(t = .5'')$			
516-931-26	9	AS-1					\$282.60	
	9	AS-1	.0625", .100", .125", .200:, .250"		Optical parallel (t = .5")		\$217.80	

# **Square Steel Gage Block Set**

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Order No.	Blocks per Set	Grade	Size	Step	Qty	List Price	Sale Price
516-402-26	81	0	.1001"1009"	0.0001"	9	\$2,820.00	\$2,538.00
			.101″149″	0.001"	49		
			.05"95"	0.05″	19		
			1″ - 4″	1″	4		

# **Mitutoyo SPC Cables**

Mitutoyo SPC cables for tools with Mitutoyo Digimatic SPC output.



Order No.	Length	Pins	For Use With	List Price	Sale Price
With Data Out Switch	I				
05CZA624	40″	—	IP66/67 Calipers	\$93.90	\$89.20
05CZA625	80″	_	IP66/67 Calipers	\$95.35	\$90.60
05CZA662	40″	_	IP65 Micrometers	\$83.80	\$79.60
05CZA663	80″	_	IP65 Micrometers	\$92.45	\$87.85
959149	40"	—	Height Gage 570 Series, Digimatic Indicator 543 and 575 Series, Digimatic Scale Unit 572 Series, Digimatic Absolute Calipers	\$49.25	\$46.80
959150	80″	—	Height Gage 570 Series, Digimatic Indicator 543 and 575 Series, Digimatic Scale Unit 572 Series, Digimatic Absolute Calipers	\$55.20	\$52.45
Without Data Out Sw	itch				
937387	40″	6	Borematic 568 Series	\$50.85	\$48.30
965013	80″	6	Borematic 568 Series	\$60.10	\$57.10
905338	40"	—	Height Gage 570 Series, Digimatic Indicator 543 and 575 Series, Digimatic Scale Unit 572 Series	\$40.05	\$38.05
905409	80″	—	Height Gage 570 Series, Digimatic Indicator 543 and 575 Series, Digimatic Scale Unit 572 Series	\$47.75	\$45.35

# Multiplexers – MIG-8USB, MIG-4USB

**MIG-8USB** 

64AAB386

8

146 x 150 x 45

540

\$1,340.00

\$1,273.00

### Features

Model No.

Order No.

Mass (g)

List Price

Sale Price

Gage Capacity

Dimension (mm) W x D x H

• A measurement data transfer device, multiplexer MIG-8USB and MIG-4USB converts digimatic output measurement data to RS-232C and outputs it to an external device such as PC.

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64AAB386 Front view



64AAB386 Back view

MeasurLink	ENABLED
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Data Management Software by Mitutoyo

# **Digimatic Mini-Processor**

Order No.	Description	List Price	Sale Price					
264-504-5A	DP - 1VR	\$506.00	\$480.70					
00								



### **Features**

**MIG-4USB** 

64AAB387

4

146 x 150 x 70

710

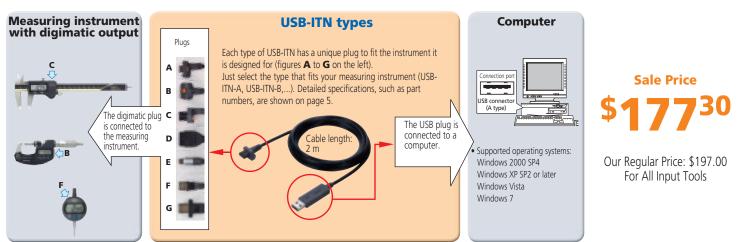
\$830.00

\$788.50

- This is a palm-sized printer used to print measurement data from the digimatic gage or to perform statistical analysis.
- This printer offers excellent functionality. You can use it not only to print measurement data, perform a variety of statistical analyses, and draw a histogram or D chart but also to perform complicated operations for X-R control chart.
- Equipped with RS-232C output and GO/NG judgment output as standard functions, this processor ensures high reliability as an advanced quality inspection machine.
- The line thermal printer enables fast and quiet printing.



# **USB Input Tool Direct**



Determine the plug type suitable for your measuring instrument (one of the seven types from A to G) in the following table, and then select the corresponding USB Input Tool Direct.

Model Order No.	USB-ITN-A 06ADV380A	USB-ITN-B 06ADV380B	USB-ITN-C 06ADV380C	USB-ITN-D 06ADV380D	USB-ITN-E 06ADV380E	USB-ITN-F 06ADV380F	USB-ITN-G 06ADV380G
Whether the existence of a data switch affects usability	Incorporates a data sw whether or not the me	easuring instrument h	able regardless of as a switch.	Does not incorporate a the instrument alone. (H	data switch, so an instrum lowever, the tool can be u	ent fitted with a switch is i ised with USB-ITPAK.)	
Cable type	A Water-proof with switch	<b>B</b> Water-proof with switch	<b>C</b> With switch	<b>D</b> 10-pin plain	E 6-pin round	<b>F</b> Straight type	<b>G</b> Water-proof straight type
Illustration of the plug that connects to the measuring instrument	Data Switch	Data switch	Data switch				
Socket type on the measuring instrument		Ŵ		TOREST			0 0
Codes of major compatible measuring instruments	[Digimatic Caliper /Super Caliper] -500 series -550/551 series [Digimatic Carbon Fiber Caliper] -552 series [Digimatic Depth Gage] -571 series [Digimatic Scale Unit] -572 series [Digimatic Exclusive Caliper] -573 series	[Digimatic Micrometer, QuantuMike] -293series [Tubular Inside Micrometer] -337 series -339 series [Digimatic Micrometer Head] -350 series [Digimatic Exclusive Micrometer] (The end of the mark is- -468 series	[Digimatic Micrometer Head] -164 series [Digimatic Caliper] -500 series - 550/ 551 [Digimatic Depth Gage] -571 series [Digimatic Scale Unit] -572 series [Digimatic Exclusive Caliper] -573 series	Measuring instrument [Surface Roughness Tester] -178 series [Coating Thickness Gage] -179 series [Linear Height] -518 series [Reference Gage] -515 series [Digimatic Indicator] -543 series [Laser Scan Micrometer] -544 series [µ-checker] Digital µ-checker (Using the foot switch)	models that incorporate [Digimatic Micrometer] -121 series -164 series -227 series -293 series [Tubular Inside Micrometer] -337 series [Tubular Inside Micrometer] -339 series [Digimatic Holtest] -468 series [Reference Gage] -515 series [Borematic] -568 series [Hardness Testing Machines] -810 series	a data switch [Digimatic Height Gage] -192/570/574 series [Digimatic Caliper] -500/550/551 series [Digimatic Bore Gage] -511 series [Digimatic Indicator] -543 seires [Digimatic Depth Gage/ Digimatic Depth Gage/ Digimatic Cether Gage] -547 series Digimatic Caton Fiber Caliper] -552 series [Digimatic Scale Unit] -572 series [Portable Hardness Testing Instruments] -811 series	[Digimatic Indicator] - <b>543 series</b>
				Measuring instrument r [Digimatic Indicator] -543 series ID-F [Linear Gage/Counter] -542 series [Litematic] -318 series	nodels that do not have a No corresponding models	data switch [Digimatic Indicator] -543 series [Digimatic Depth Gage/ Digimatic Thickness Gage] -547 series Digimatic model -575 series	No corresponding models

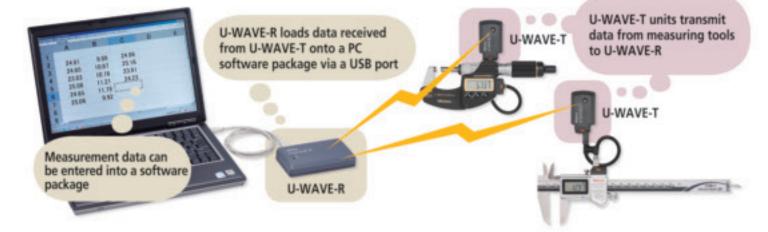
# **U-Wave Wireless Data Communication System**

The U-WAVE system enables easy wireless data communication from a measuring tool to a PC using the Digimatic protocol. Measurement efficiency is improved by eliminating long and cumbersome data cables. The user-friendly interface allows data to be loaded into any software product that accepts keyboard input, such as Excel or Notepad.

### How to "Spec" a U-Wave System:

- 1. One U-Wave-R required per system (will support up to 100 U-Wave-T): Order No. 02AZD810D
- 2. One U-Wave-T required per tool: Order No. **02AZD730D**
- Select the required connecting cable (cable length approx. 6").
   Use the convenient U-Wave Cable Selection Chart to convert your existing
- Use the convenient U-Wave Cable Selection Chart to convert your existing cable part number to the corresponding U-Wave cable order number.





# **U-Wave-R**

### **Features**

- Supports up to 100 U-Wave-T
- Comes complete with U-WavePak set-up/data input software.
- U-WavePak, standard with U-Wave-R features a keyboard interface function. This allows measurement data to be easily entered into in Excel, Notepad or other formats that accepts numeric value input via a keyboard.
- Supplied with USB connecting cable.
- MeasurLink® V6.1 Real-Time PLUS supports the U-Wave System.





# **U-Wave-T**

### **Features**

- Is IP67 rated
- IP67 cables available for your Mitutoyo waterproof tools.
- Battery life approx. 400,000 data transmissions.
- Up to 60 feet transmission range Actual range depends on the local radio transmission characteristics.

Order No.	Description	Use For Cables	List Price	Sale Price
02AZD810D	U-Wave-R		\$499.00	\$449.10
02AZD730D	U-Wave-T		\$220.00	\$198.00
02AZD790A	U-Wave Connecting Cable A	05CZA624 or 05CZA625	\$110.00	\$99.00
02AZD790B	U-Wave Connecting Cable B	05CZA662 or 05CZA663	\$110.00	\$99.00
02AZD790C	U-Wave Connecting Cable C	959149 or 959150	\$110.00	\$99.00
02AZD790D	U-Wave Connecting Cable D	936937 or 965014	\$110.00	\$99.00
02AZD790E	U-Wave Connecting Cable E	937387 or 965013	\$110.00	\$99.00
02AZD790F	U-Wave Connecting Cable F	905338 or 905409	\$110.00	\$99.00
02AZD790G	U-Wave Connecting Cable G	21EAA194 or 21EAA190	\$110.00	\$99.00

# MeasurLink

# **MeasurLink**<sup>®</sup> Real Time Data Collection Software

MeasurLink 7 Real-Time Standard Edition is designed for customers who want to acquire and analyze data in real-time and check variable and attribute inspection to maximize production and minimize defects. It has views to allow the user to create Parts, Characteristics with nominal and tolerance and Traceability lists. The data collection interface provides real-time graphics for Run charts, Control charts, Histograms and Statistics. Standard views include Datasheet (observations and charts), Classic View (chart windows), and the 2D view (part images with callouts that include charts and statistical data). Full reporting template functionality is also provided. Supported data sources include keyboard, RS232 and USB devices

MeasurLink 7 Real-Time Professional Edition enables customers to connect and acquire data from Mitutoyo Coordinate Measuring Machines, Vision and Form Measuring Systems via native integration (DDE). ASCII and QMD (xml-based) file imports are also supported. In addition to all of the features supported by MeasurLink 7 Real-Time Standard Edition, this application also supports data filters. Full reporting functionality with templates is also provided. Supported data sources include keyboard, RS232C and USB devices, native Mitutoyo integration (DDE), ASCII and QMD (xml-based) file imports.

MeasurLink 7 Real-Time Professional 3D Edition is designed for customers who wish to collect data using the Hoops 3D graphics view. Hoops 3D files can be exported from most CAD systems and provides the operator with a real view of the part. Camera angle and position can be saved for each characteristic providing for an intuitive prompted guided sequencing for the inspector. Supported data sources include keyboard, RS232C and USB devices, native Mitutoyo integration (DDE), ASCII and QMD (xml-based) file imports.

### **Database Management System (DBMS) Requirements**

MeasurLink 7 ships with a copy of Microsoft® SQL Server Express Edition 2008 R2, this can be for a standalone or a

MeasurLink 7 also supports the following Microsoft SQL Server versions:

- Microsoft<sup>®</sup> SQL Server 2008 Standard Edition
- Microsoft<sup>®</sup> SQL Server 2008 Enterprise Edition
- Microsoft<sup>®</sup> SQL Server 2005 Workgroup Edition

### **Operating System Requirements**

All MeasurLink 7 products are supported on the following Microsoft® Windows Operating System versions:

- All Windows XP SP3 versions
- All Windows Vista SP2 versions
- All Windows 7 versions

### PC (OS Specific Hardware Requirements (Network)

Windows 7	<ul> <li>1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor</li> <li>2 gigabyte (GB) RAM (32-bit)</li> <li>16 GB available hard disk space (32-bit) or 20 GB (64-bit)</li> <li>DirectX 9 graphics device with WDDM 1.0 or higher driver</li> <li>DVD-ROM drive</li> </ul>	Microsoft Partner
Windows Vista SP2	<ul> <li>1 gigahertz (GHz) 32-bit (x86) or 64-bit (x64) processor</li> <li>2 gigabyte (GB) of system memory</li> <li>40 GB hard drive with at least 15 GB of available space (20 GB for Home Basic)</li> <li>Support for DirectX 9 graphics with WDDM and 128 MB of graphics memory</li> <li>DVD-ROM drive</li> </ul>	Silver Desktop Silver Midmarket Solut
Windows XP SP3	<ul> <li>1 gigahertz (GHz) 32-bit (x86)</li> <li>1 gigabyte (GB) of system memory</li> <li>40 GB hard drive with at least 15 GB of available space</li> <li>DVD-ROM drive</li> </ul>	

Order No.	Description	List price	Sale Price
64AAB177	MEASURLINK V7.0 REAL-TIME STANDARD EDITION	\$1,195.00	\$1,075.00
64AAB178	MEASURLINK V7.0 REAL-TIME PROFESSIONAL EDITION	\$1,795.00	\$1,615.00
64AAB179	MEASURLINK V7.0 REAL-TIME PROFESSIONAL 3D EDITION	\$1,995.00	\$1,795.00

workgroup installation.

- Microsoft<sup>®</sup> SQL Server 2005 Standard Edition

- Both 32bit and 64bit operating systems supported
- \*\* Note: All product media will contain installers for both 32bit and 64bit systems



rare Vendor (5%)

an Provider



# **ABSOLUTE Digimatic Scale Units**

### **Features**

- The ORIGIN key allows setting of an absolute zero point to be used as reference in subsequent measurements. Once set, the ABS Digimatic Scale Unit is ready to show its true position whenever turned on rather than 0.00" as with standard models.
- The ZERO/ABS key allows the display to be zero-set at any slider position along the beam for incremental comparison measurements. This key will also allow return to the absolute coordinate with a display of the true position from the origin point.
- No rack, no pinion, no glass scale. Digimatic Scale Unit is safely embedded in the hardened stainless steel blade.
- Horizontal or vertical face according to the scale mounting direction.
- Special type that is provided with diameter displaying function is available for lathes.
- All units come with two mounting brackets, each located at either end of the scale.
- With SPC data output.

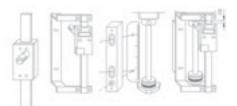
Order No	Model	Range	Accuracy	Resolution	Туре	List Price	Sale Price
572-210-20	SD-4"DX	0-4" / 0-100mm	.001" / 0.03mm	.0005" / 0.01mm	Horizontal single-function	\$235.00	\$223.25
572-211-20	SD-6"DX	0-6" / 0-150mm	.001" / 0.03mm	.0005" / 0.01mm	Horizontal single-function	\$249.00	\$236.55
572-212-20	SD-8"DX	0-8" / 0-200mm	.001" / 0.03mm	.0005i" / 0.01mm	Horizontal single-function	\$290.00	\$275.50
572-213-10	SD-12"D	0-12" / 0-300mm	.002" / 0.04mm	.0005" / 0.01mm	Horizontal single-function	\$559.00	\$531.05
572-310-10	SD-6"D	0-4" / 0-100mm	.001" / 0.03mm	.0005" / 0.01mm	Vertical single function	\$260.00	\$247.00
572-311-10	SD-6"D	0-6" / 0-150mm	.001" / 0.03mm	.0005" / 0.01mm	Vertical single-function	\$276.00	\$262.20
572-312-10	SD-8"D	0-8" / 0-200mm	.001" / 0.03mm	.0005" / 0.01mm	Vertical single function	\$320.00	\$304.00
572-313-10	SD-12"D	0-12" / 0-300mm	.002" / 0.04mm	.0005" / 0.01mm	Vertical single function	\$616.00	\$585.20
572-474	SD-18"E	0-18" / 0-450mm	.002" / 0.04mm	.0005" / 0.01mm	Horizontal multi-function	\$782.00	\$742.90
572-475	SD-24"E	0-24" / 0-600mm	.002" / 0.04mm	.0005" / 0.01mm	Horizontal multi-function	\$867.00	\$823.65
572-476	SD-32"E	0-32" / 0-800mm	.0025" / 0.06mm	.0005" / 0.01mm	Horizontal multi-function	\$1380.00	\$1,311.00
572-477	SD-40"E	0-40" / 0-1000mm	.0025" / 0.06mm	.0005" / 0.01mm	Horizontal multi-function	\$1500.00	\$1,425.00
572-574	SDV-18"E	0-18" / 0-450mm	.002" / 0.04mm	.0005" / 0.01mm	Vertical multi-function	\$782.00	\$742.90
572-575	SDV-24"E	0-24" / 0-600mm	.002" / 0.04mm	.0005" / 0.01mm	Vertical multi-function	\$867.00	\$823.65
572-576	SDV-32"E	0-32" / 0-800mm	.0025" / 0.06mm	.0005" / 0.01mm	Vertical multi-function	\$1380.00	\$1,311.00
572-577	SDV-40"E	0-40" / 0-1000mm	.0025" / 0.06mm	.0005" / 0.01mm	Vertical multi-function	\$1500.00	\$1,425.00



**Easy Installation Fits Most Vertical Knee Mills** 

### **Features**

- Easy to read LCD with resolution of .0005"/0.01mm. 0 -6" Travel inch/mm
- Push button controls for inch/mm, Zero-Set and On/Off.
- Powered by a single SR-44 Battery which lasts about 1 year with normal use.
- SPC Output for data transmission to Data Processors or a Remote Display.



Order No.	Description	List Price	Sale Price
053906B	Digimatic Quill Kit complete with brackets & scale for Bridgeport Type machines.	\$306.00	\$275.40



# ABSOLUTE



The Mitutoyo Quill Kit mounted on a vertical mill.

### 00 00

**ABSOLUTE** 

# **Digital Readout**

Purchase any DRO Package and Receive a <u>Free</u> Dial Test Indicator & Flexible Magnetic Stand!\*





\*To receive your free Test Indicator and Stand log on to www.mitutoyo.com and select About->Contacting MAC->Product Registration. Fill out and submit the form and a Test Indicator and Stand will be shipped to you.



Order No.	Description	X Travel	Y Travel	Z Travel	X Axis type	Y Axis type	Z Axis type	List Price	Sale Price
64PKA058	12" X 30" DRO Mill Pkg	30″	12″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA059	12" X 36" DRO Mill Pkg	36″	12″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA060	14" X 30" DRO Mill Pkg	30″	14″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA061	14" X 40" DRO Mill Pkg	40″	14″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA062	16" X 36" DRO Mill Pkg	36″	16″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA063	16" X 40" DRO Mill Pkg	40″	16″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA064	18" X 40" DRO Mill Pkg	40″	18″		AT715	AT715		\$1,490.00	\$1,341.00
64PKA065	12' x 30" x 6" Mill Pkg	30″	12″	6″	AT715	AT715	AT715	\$2,220.00	\$1,998.00
64PKA066	12' x 36" x 6" Mill Pkg	36″	12″	6″	AT715	AT715	AT715	\$2,220.00	\$1,998.00
64PKA067	16' x 36" x 6" Mill Pkg	36″	16″	6″	AT715	AT715	AT715	\$2,220.00	\$1,998.00
64PKA035	6" X 28" Lathe Pkg	6″		28″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA036	6" X 30" Lathe Pkg	6″		30″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA037	6" X 36" Lathe Pkg	6″		36″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA038	6" X 40" Lathe Pkg	6″		40″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA039	8" X 40" Lathe Pkg	8″		40″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA040	8" X 44" Lathe Pkg	8″		44″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA041	8" X 48" Lathe Pkg	8″		48″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA042	10" X 40" Lathe Pkg	10″		40″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA043	10" X 44" Lathe Pkg	10″		44″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA044	10" X 48" Lathe Pkg	10″		48″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA045	10" X 60" Lathe Pkg	10″		60″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA046	12" X 40" Lathe Pkg	12″		40″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA047	12" X 44" Lathe Pkg	12″		44″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA048	12" X 48" Lathe Pkg	12″		48″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA049	12" X 52" Lathe Pkg	12″		52″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA050	12" X 60" Lathe Pkg	12″		60″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA051	12" X 72" Lathe Pkg	12″		72″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA052	14" X 40" Lathe Pkg	14″		40″	AT116		AT715	\$1,680.00	\$1,512.00
64PKA053	14" X 44" Lathe Pkg	14″		44″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA054	14" X 48" Lathe Pkg	14″		48″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA055	14" X 52" Lathe Pkg	14″		52″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA056	14" X 60" Lathe Pkg	14″		60″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA057	16" X 60" Lathe Pkg	16″		60″	AT116		AT715	\$2,040.00	\$1,836.00
64PKA026	6" X 12" Grinder Pkg		12″	6″		AT116	AT116	\$1,620.00	\$1,458.00
64PKA027	6" X 14" Grinder Pkg		14″	6″		AT116	AT116	\$1,620.00	\$1,458.00
64PKA028	8" X 12" Grinder Pkg		12″	8″		AT116	AT116	\$1,620.00	\$1,458.00
64PKA029	8" X 14" Grinder Pkg		14″	8″		AT116	AT116	\$1,620.00	\$1,458.00
64PKA030	8" X 16" Grinder Pkg		16″	8″		AT116	AT116	\$1,620.00	\$1,458.00
64PKA031	10" X 18" Grinder Pkg		18″	10		AT116	AT116	\$1,620.00	\$1,458.00
64PKA032	10" X 24" Grinder Pkg		24″	10		AT116	AT116	\$1,620.00	\$1,458.00
64PKA033	12" X 18" Grinder Pkg		18″	12		AT116	AT116	\$1,620.00	\$1,458.00
64PKA034	12" X 20" Grinder Pkg		20″	12		AT116	AT116	\$1,620.00	\$1,458.00

www.mitutoyo.com

# **Profile Projectors**



# **PH-A14 Horizontal Profile Projector**

### Features

- Mitutoyo's lens technology and workmanship combine to provide a bright, crisp image for error free inspection
- 8" x 4" floating-type workstage incorporates linear scales for fast, accurate measurement
- The workstage provides high accuracy and can handle a workload of up to 100 lbs.
- 10x objective lens and fiber illuminator are standard accessories



Order No.	Description	List Price	Sale Price
64PKA087	PH-A14 Profile Projector w/QM Data (Arm Mount)	\$8,290.00	\$7,875.00
64PKA086	PH-A14 Profile Projector w/KA counter & tray	\$6,380.00	\$6,061.00
64AAA129B	PHA14 Stand (optional)	\$707.00	\$671.65

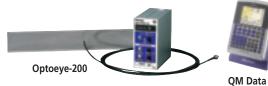
# **PV-5110 Profile Projector**

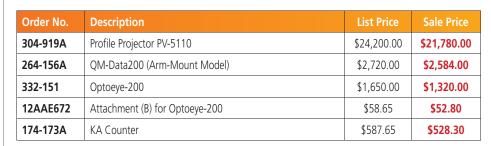
### **Features**

- Large 500mm screen
- Floor model that uses a downward illumination system.
- Digital readout protractor screen (including zero-setting, ABS/INC coordinate switching functions) for easy and error-free angle measurement.
- Angled screen allows projected images to be easily traced or compared with a template.
- The oblique surface illumination system provides clear and bright images, allowing easy
  inspection of non-reflective workpieces such as plastic parts or printed materials.

### **Standard Accessories**

- 200x100mm (8" x 4") stage
- 10x projection lens set
- Surface illumination unit
- Counter stand for KA counter
- Power cord, halogen bulb, fuse, grounding wire, allen wrench, vinyl cover







PV-5110 with optional KA counter



# **Profile Projectors**

# **PH-3515F Horizontal Profile Projector**

### **Features**

- Heavy-Duty, bench-top model with horizontal optical system
- Erect image on Day-bright screen
- 14" (356mm) dia. protractor screen with crosshair line for easy alignment
- Floating-type workstage incorporates linear scales for fast, accurate measurement
- Suitable for thread pitch measurements free from blurred or distorted images when the workpiece is angled

Order No.	Description	List Price	Package Price
64PKA088A	PH-3515F Profile Projector w/QM Data (Arm Mount)	\$13,500.00	\$12,825.00
64PKA089A	PH-3515F Profile Projector w/KA counter & tray	\$11,600.00	\$11,020.00
64AAB176	PH-3515 Stand (optional)	\$687.00	\$652.65



# **PJ-A3000 Vertical Profile Projector**



PJ-A3010F-200

### **Features**

- A series of midsize profile projectors featuring bright, 12.40" (315mm) diameter screens and easy-tooperate XY measurement tables.
- A floating table makes measuring quicker and easier.
- Easy-to-read digital counters are located near the projection screen, thereby minimizing strain associated with excessive movement.
- For edge sensing capabilities, order the Optoeye-200, part number 332-151

Order No.	Description	XY Range	List Price	Sale Price
302-701A	PJ-A3010F-200	8" x 4"	\$13,600.00	\$12,240.00
302-703A	PJ-A3010F-100	3.94" x 3.94"	\$10,800.00	\$9,720.00

### **Optional Accessories**

Order No.	Description	List Price	Sale Price
264-156A	QM-Data 200	\$2,720.00	\$2,584.00
332-151	Optoeye 200	\$1,650.00	\$1,320.00
64PMI167	Stand for PJ-A3000	\$688.00	\$653.60
12AAA807	RS-232C Cable	\$54.30	\$51.60
12AAE671	Attachment board (A)	\$40.80	\$36.70



### **Vertical Profile Projectors**

The main advantage of a vertical profile projector is the ability to place flexible parts such as gaskets directly on the stage glass allowing "gravity" to hold the part in place.



### **Horizontal Profile Projectors**

The chief advantage of a horizontal projector is the ability to measure larger/heavier parts than could be measured on a vertical comparator.

# **Bench Top Non-Contact Measuring System**

### **Features**

- Integrated display and measuring unit into one unit
- Ideal for bench-top measurement in an inspection room
- Statistical calculation mode
- RS-232C interface, I/O interface, and SPC output interface are provided as standard
- Includes Quicktool\*, a free software package that makes operation of LSM setting simple and easy \*For use with customer supplied PC and RS-232C cable

Order No.	Description	Range	Resolution	List Price	Sale Price
544-116-1A	LSM-9506 Bench Top Laser Micrometer	.020" - 2.36"/0.5mm - 60mm	.000002"005"/0.00005 - 0.1mm	\$8,940.00	\$8,046.00

# **High Accuracy Non-Contact Measuring Systems**

### **Features**

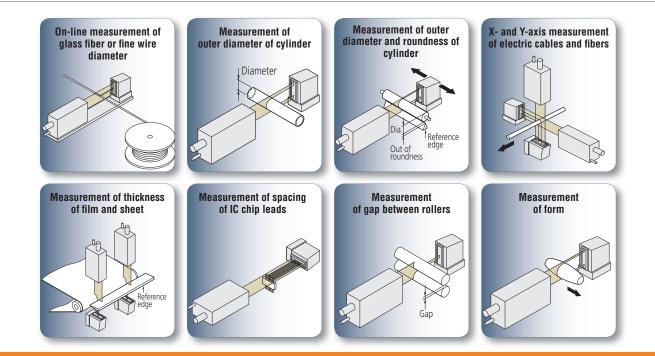
- Excellent linearity: down to +/- 0.3 microns
- High speed scanning capable: 3200 scans per second
- Various ranges available for selecting the best laser for your application
- Statistical calculation mode
- Includes Quicktool\*, a free software package that makes operation of LSM setting simple and easy

\*For use with customer supplied PC and RS-232C cable

### LSM-6200 Display Unit Included!

It's memory function has been increased to allow storage of up to 100 programs and includes a built in program to measure odd fluted drills and endmills.

Order No	Model	Range Inch	Range mm	Repeatability	Linearity	Scanning Rate	List Price	Sale Price
64PKA117	LSM-500S	.0002"08"	0.005~2mm	±0.03µm	±0.3µm	3,200 scans/sec	\$10,370.00	\$9,333.00
64PKA118	LSM-501S	.002"4"	0.05~10mm	±0.04µm	±0.5µm	3,200 scans/sec	\$9,330.00	\$8,397.00
64PKA119	LSM-503S	.012" - 1.18"	0.3~30mm	±0.11µm	±1.0µm	3,200 scans/sec	\$10,110.00	\$9,099.00
64PKA120	LSM-506S	.04" - 2.36"	1~60mm	±0.36µm	±3µm	3,200 scans/sec	\$11,480.00	\$10,332.00
64PKA121	LSM-512S	.04" - 4.72"	1~120mm	±0.85µm	±6µm	3,200 scans/sec	\$17,680.00	\$15,912.00
64PKA122	LSM-516S	.04" - 6.30"	1~160mm	±1.4µm	±7µm	3,200 scans/sec	\$28,480.00	\$25,632.00







# Litematic and Litematic Head High-resolution Measuring Unit

### **Features**

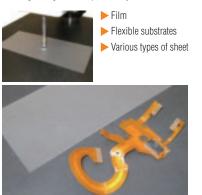
- The Litematic is designed for measuring easily-deformed workpieces and high-precision parts such as pin gages, thin-wall bearings, plastic parts, and springs.
- Extra-low measuring force of 0.01N (1gf).
- Hands free operation with optional foot switch.
- Ceramic anvil is free from corrosion and easy to maintain.
- The Litematic Head unit can be mounted onto fixtures or an optional stand to allow great flexibility of use.
- With SPC output.



Order No.	Resolution	Range	Accuracy (at 20°C)	List Price	Sale Price
318-221A	.5µinch, 5µinch, 50µinch, 0.01µm,		(0.5 + L / 100)µm L=Measured length (mm)	\$8,480.00	\$7,208.00
318-226A	0.1µm, 1µm		(0.5+L/100)µm L=Measured length (mm)	\$8,490.00	\$7,208.00
957460	Dedicated Stand for	ated Stand for Model 318-226A*		\$4,370.00	\$3,714.00



If the workpiece flexes, making accurate measurement impossible, using a type with a larger measuring force or adding a weight to the spindle may be effective.



### Rubber and plastic

If the workpiece is soft the risk of indentation may be reduced by replacing the standard contact point with one of larger radius, such as an optional carbide-ball type.



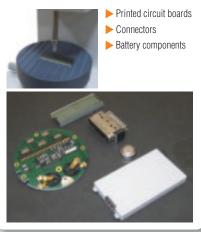
### Precision components

The Litematic can be used as a high-precision displacement gage.



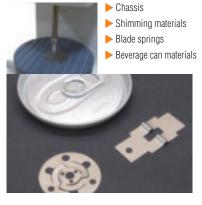
### Electronic components

For this type of workpiece the smallest measuring force available is recommended.



### Thin sheet metal

Because the measuring force is small, deformation of the workpiece can be minimized.



### Medical and pharmaceutical products

If the workpiece is soft the risk of indentation may be reduced by replacing the standard contact point with one of larger radius, such as an optional carbide-ball type.



# Rockwell Hardness Tester

### With Real-Time Electronic Test Force Control



### Features

- Closed-loop control of testing forces
- Primary and final forces (loads) are applied with unparalleled accuracy and repeatability
- Extended indenter arm reaches inside diameters and hard to reach surfaces at eye level, allowing the operator to easily see where the indenter addresses small or hard to reach parts
- Automatic setting of preliminary test force and application of total test force
- Indenter escape function allows automatic removal of preliminary test force at end of test cycle
- Touch screen operation with a back-lit LCD graphic display
- Hardness scale is set automatically via the touch screen
- Cylindrical and spherical surface compensation
- Auto conversion to all hardness scales or tensile strength

Order No.	Description	List Price	Sale Price
810-202-03A	Rockwell Hardness Tester	\$15,000.00	\$13,950.00

# **Rockwell Hardness Testers**



### Model: HR-210MR

- RockwellMotorized test force
- controlTest force selection
- manual by weight

### Model: **HR-320MS** • Rockwell/Rockwell

- Superficial
- Motorized test force control
- Test force selection manual by weight

### Model: **HR-430MR** • Rockwell

Order No.

Force Control

Console/Display Unit

Test Force Selection

Table up/down drive

Maximum Specimen Height

Maximum Specimen Depth

**Display Indication Functions** 

Load Duration

Data Output

Mass

Dimensions (W x D x H)

Test Force

Preliminary Test Force

Rockwell

Rockwell

Superficial

Brinell

- Motorized test force control
- Dial a weight test force selection
- Auto brake/start

# rce

810-202-03A

29.42N (3kgf), 98.07N (10kgf)

with closed loop feed back

0 to 120 sec. (1 sec. step)

memory (max 1024 data)

RS-232C, SPC, Centronics

Histogram, x-R chart

60kg

Manual (w/Auto-brake mechanism)

tolerance judgement, statistical processing result

Cylindrical/spherical surface compensation, data offset Hardness conversion (HV, HK, HRA/B/C/D/F/

9.84" x 26.38" x 23.82" (250 x 670 x 605mm)

By touch screen

8.1" (205mm)

5.9" (150mm)

588.4N (60kgf), 980.7N (100kgf), 1471N (150kgf)

Automatic control (unloading/duration/unloading)

Touch screen operation with back-lit LCD graphic display

Hardness value. Converted hardness value. Test conditions. OK/NG

Rockwell/Rockwell superficial hardness testing. Continuous testing.

G/15T/30T/45T/15N/30N/45N, HS, HB, HBW, tensile strength)

SPC calculation (No. of data, max/min/mean values, range, upper/

lower limit values, standard deviation, No. of passing/defective)

OK/±NG tolerance judgement, measured data editing, data

147.1N (15kgf), 294.2N (30kgf), 441.3N (45kgf)

1839N (187.5kgf) (for use with 2.5mm ball)

### Model: HR-430MS

- Rockwell/Rockwell
   Superficial
  - Motorized test force
     control
- Dial a weight test force selection
- Auto brake/start

			•		
Model <b>Order No.</b>	HR-210MR <b>963-220-10A</b>	HR-320MS 963-231-10A	HR-430-MR <b>963-240-10A</b>	HR-430MS <b>963-241-10A</b>	
Rockwell	*	+	+	+	
Rockwell Superficial	_	+		*	
Light Force Brinell	Optional	Optional	Optional	Optional	
Display Unit	Analog	Digital: Hardness value, Scale display, Timer setting, Conversion, GO/NG judgment, Offset setting			
Data Output	_	RS-232C SPC (Digimatic)			
Dial a Weight	_	_	+	*	
Motorized Test Force Control	+	+	+	+	
Automatic Brake/Start	_	_	+	*	
List Price	\$6,100.00	\$8,740.00	\$9,000.00	\$10,000.00	
Sale Price	\$4,990.00	\$6,990.00	\$7,990.00	\$8,990.00	

### Mitutoyo is proud to introduce the new 963 Series of Hardness Testers.

Four new features packed yet economical Rockwell and Rockwell Superficial Hardness Testers cover a large range of testing applications. These testers meet the current international requirements such as ASTM E18 and are designed for years of accurate results.



HH-411

810-298

L-Value (ASTM A956)

Model

Order No.

Hardness Range

# **Impact Type Portable Hardness Tester**

				Detector	Input device D (car	rbide ball)	
ind type portable	e hardness tester featuring			Display	Hardness	Range	Resolution
	se of operation on large				HL	1-999 HL	1 HL
	and can be conveniently				HV	43-950 HV	1 HV
	or out in the field.				HB	20-894 HB	1 HB
a into the shop t	or out in the new.				HRC	19.3-68.2 HRC	0.1 HRC
					HRB	13.5 - 101.7 HRB	0.1 HRB
			C 201		HS	13.2 - 99.3 HS	0.1 HS
			DCULIE		HTN	499 - 1996 Mpa	1 Mpa
				Functions	Conversions: HL,H	V, HB, HRC, HRB, HS, HTN	l
					Judgment: OK/NG		
			SAME		Offsetting		
					Memory: 1,800 da	ita	
		COLUMN 1		Output	RS-232C, SPC		
				Power supply	Alkaline AA Batter	y 2pcs.	
	Туре	List Price	Sale Price	Dimensions	Detector: (Dia. X H	ł) 1.10" x 6.89" (28 x 175	imm)
Order Ne	VOE	List Price	Sale Price		Display: (W x D x H	H) 2.76" x 4.33" x 1.38"(7	70 x 110 x 35mm)
Order No.	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
Order No. 810-298	HH-411 Hardmatic	\$4,980.00	\$4,482.00	Mass	Detector: .26lbs 2	0g) Display: .44lbs (200g)	)

# **Stereo Microscopes with Continuous 1X - 4X Magnification**

Traditional binocular/Trinocular stereo microscopes for industrial, medical, and classroom applications. It is ideal for electrical small part inspection, assembly, and medical/biological dissection.

### Features

- Continuous 1X 4X magnification
- The image is always in focus throughout zoom range
- Crisp, erect images with high resolution and excellent stereoscopic effect
- Stereo-tube can be rotated a full 360°, for viewing at any angle
- Bilateral zoom control knob adds convenience and increases operator effi ciency
- Diopter adjustment for both eyepieces
- Binocular Tube Inclination: 45°
- Focusing Range: 1.46" (37mm)
- Interpupillary Adjustable Range: 2.12" 2.99" (54mm 76mm)

Order No.	Description	List Price	Sale Price
377-972A	Binocular Stereo Microscope	\$1,150.00	\$1,092.00



### **Toolmaker's Microscope**



The TM-505D/510D is a compact microscope well suited for measuring dimensions and angles of machined metals. It can also be used to check the shape of screws and gears by attaching an optional reticle. Its compact body makes it ideal for use on shopfloors with limited space!

- The eyepiece section of the optical tube incorporates a vernier protractor. Angle measurement is performed easily by turning the protractor to align the cross-hair reticle with the workpiece image.
- Complete selection of interchangeable reticles are available.
- Both the transmitted and reflected illumination intensity can be adjusted to obtain the optimal illumination intensity for the workpiece.

Order No.	Description	List Price	Sale Price
176-808A	TM-505 With Mic Heads, 2 X 2" Stage	\$5,490.00	\$4,941.00
176-809A	TM-510 With Mic Heads, 4 X 2" Stage	\$7,320.00	\$6,588.00
937387	40" Mic Head Cable	\$50.85	\$48.30
965013	80" Mic Head Cable	\$60.10	\$57.10
64AAB214	LED Variable Ring Light	\$190.00	\$180.50

• Two XY stages with different travel ranges, 2" x 2" (50mm x 50mm) and 4" x 2" (100mm x 50mm), are available.



### Gold Care is Back Based on Customer Demand

Your ultra-precise part inspection process demands the best. But the cost of ownership issues drives a strong bottom line focus as well. Our Gold Care Program lets you achieve both. Simply it's the packaging of our industry leading Coordinate Measuring Machines and Vision Measuring Systems paired with productivity enhancing products and services. Packages are valued at up to \$20,000 and bundled at our base machine price. To learn more visit MITUTOYO.COM/GETGOLD or call 888-MITUTOYO.

### Included in the Gold Care Program:

- A "Second Year" Extended Warranty
- A Five-year Extended Warranty for Manual CMM's
  Two-year "Bronze" Calibration Agreement\*
- · Five-year Software Technical Phone Support
- One seat at Mitutoyo Institute of Metrology Class
- MeasurLink<sup>®</sup> Pro Edition Quality Data Management Software\*
   MITUTOYO Eco-Fix<sup>®</sup> or Opti-Fix<sup>®</sup> Starter Fixture Kit
- MITUTOYO Starter Stylus Kit (Included with Touch Probe Machines)
- MITUTOYO Fixture Builder Software\*\*

Qualifying machines include CRYSTA APEX S 500/700/900/1200, CRYSTA-PLUS MANUAL 500/700, QV-APEX 302/404/606 and QV-APEX 302TP/404TP/606T

\* Not included with the CRYSTA-PLUS MANUAL 500/700 \*\* CRYSTA-APEX S 500/700/900/1200

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Vision Measuring Systems
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Optical Measuring
Sensor Systems
Testing Equipment and Seismometer
Digital Scale and DRO Systems
Small Tool Instruments and Data Management

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