

Catalog Supplement 2200-A

Inch/Metric Version



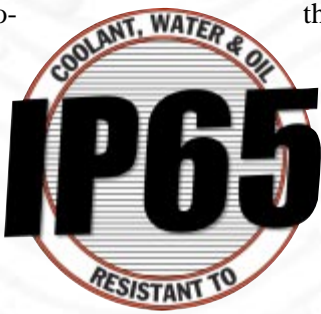
Fowler

Quality Measuring Instruments & Precision Tools



The **WORLD'S ONLY** IP65 Electronic Caliper that is Fluid Resistant **WITH OR WITHOUT** its SPC cable inserted!

Featuring a robust electronics package that is protected to IP65, Fowler's new Ultra-Cal Mark IV is the perfect caliper for use in harsh environments. Fast, accurate and easy-to-use, the core of the Mark IV is Sylvac of Switzerland's new inductive measuring system. The Sylvac system is impervious to errors caused by coolant, dust and grit that would cripple lesser electronic calipers! The Mark IV's superior features don't end there. From the hardened stainless steel frame to the .0005"/.01mm resolution and repeatability that is easily read in true inch or metric on a high contrast



LCD, to the SPC RS232 output that makes connecting it to a computer or printer a breeze, add a FIVE YEAR warranty and you'll begin to see how the Mark IV out classes the competition. It also has a superfast measuring speed of 60"per second, an Auto-off function and an average battery life of 3000 hours of continuous use. Combine its durability with all these features and you get one of the best values for an electronic caliper of this type in the world.

Part Number	Range	Price
54-100-444	0-6"/150mm	\$169.00
54-100-448	0-8"/200mm	280.00
54-100-412	0-12"/300mm	590.00
54-115-333	Computer Connect Kit	99.50

(C-3)

Ultra-Cal IV

Electronic Micrometers



- Large LCD Display.
- Automatic switch off.
- Resolution: .00005"/.001mm.
- Direct RS232 output.
- Sizes over 1" supplied with standards.

Part Number	Range	Price
54-850-001	0—1"	\$80.00
54-850-002	1—2"	95.00
54-850-003	2—3"	110.00
54-850-004	3—4"	125.00
54-850-005	4—5"	140.00
54-850-006	5—6"	158.00
54-850-103	0—3" set	285.00
54-850-104	0—4" set	410.00
54-850-106	0—6" set	708.00
54-115-777	Computer Connect Kit	99.50

(C-3)

Electronic Micrometers

Coolant, Water and Oil Resistant to IP54



Water, oil and fluid
resistant to **IP54**

- Protected to IP54 specifications.
- Large LCD Display.
- Automatic switch off.
- Resolution: .00005"/.001mm.
- Direct RS232 output.
- Sizes over 1" supplied with standards.

Part Number	Range	Price
54-860-103	0—3" set	315.00
54-860-104	0—4" set	475.00
54-860-106	0—6" set	765.00
54-860-112	0—12" set	2195.00
54-860-612	6—12" set	1375.00
54-115-777	Computer Connect Kit	99.50

(C-3)

Part Number	Range	Price
54-860-001	0—1"	\$90.00
54-860-002	1—2"	105.00
54-860-003	2—3"	120.00
54-860-004	3—4"	135.00
54-860-005	4—5"	150.00
54-860-006	5—6"	168.00
54-860-007	6—7"	\$185.00
54-860-008	7—8"	\$198.00
54-860-009	8—9"	\$210.00
54-860-010	9—10"	\$225.00
54-860-011	10—11"	\$249.00
54-860-012	11—12"	\$260.00

(C-3)

Electronic Micrometer Head

Coolant, Water and Oil Resistant to IP54

- Protected to IP54 specifications.
- True inch/metric conversion.
- Resolution: .00005"/.001mm.
- Large LCD display.
- Direct RS232 output.



Water, oil and fluid
resistant to **IP54**

Part Number	Range	Price
54-220-777	0-1"/25mm	\$78.00
54-115-777	Computer Connect Kit	99.50

(C-3)

Fowler

Digital Outside Micrometers



- Digital counter.
- Resolution: .0001" (using vernier)
- Microfine graduations on satin chrome.
- Carbide tipped measuring faces.
- Positive locking nut on spindle.
- Sizes over 1" supplied with standards.

Part Number	Range	Price
52-224-001	0—1"	\$75.00
52-224-002	1—2"	79.00
52-224-003	2—3"	90.00
52-224-004	3—4"	99.00
52-224-103	0—3" set	250.00
52-224-104	0—4" set	340.00

(C-1)

Economy Depth Micrometer



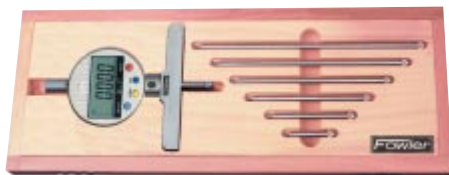
- 4" base.
- Satin chrome finish.
- Base surface hardened and ground.
- Ratchet thimble.
- Locking clamp.
- .001" Graduation.
- Includes wooden case.

Part Number	Range	Price
52-225-114	0—4"	\$88.00
52-225-116	0—6"	105.00

(C-1)

0—22" Electronic Depth Gage

- Bottom surface of the base is hardened and ground.
- Full 22" capacity.
- Resolution .0005"/.01mm.
- Hold feature.
- 4" Base.
- Includes fitted case.



Part Number	Capacity	Price
54-125-777	0—22"	\$195.00

(C-3)

Shockproof Measuring Set



Includes:

- 0-6" shockproof caliper, .100" range per revolution with .001" reading dial face.
- 0—1" micrometer with .0001" graduations and ratchet thimble.
- 6" flexible rule with 32nds, 64ths, 10ths & 100ths graduations.
- Complete in "Shop Hardened" Case.

Part Number	Range	Price
52-004-239	Shockproof Measuring Set	\$95.00

(C-1)

Electronic Caliper and EZ-READ Micrometer Kit

Includes:

- 6"/150mm digital electronic caliper, .0005"/.01mm resolution with patented ceramic chip.
- Caliper includes automatic shut-off and large LCD display.
- 0—1" digital micrometer .0001" resolution without a vernier scale.
- Complete in fitted case.



Part Number	Range	Price
54-004-201	Electronic Caliper & EZ-Read Micrometer Kit	\$133.00

(C-3)

Electronic Caliper and Micrometer Kit



- 6"/150mm digital electronic caliper, .0005"/.01mm resolution with patented ceramic chip.
- 0—1"/25mm digital electronic micrometer .00005"/.001mm resolution.
- Both units include automatic shut-off and large LCD display.
- Complete in fitted case.

Part Number	Range	Price
54-004-850	Electronic Caliper and Micrometer Kit	\$172.00

(C-3)

Waterproof Measuring Set

Oil, Water & Coolant Resistant to IP54

- The perfect electronic measuring kit for a demanding environment.
- Caliper protected to IP65 and micrometer protected to IP54 standards to be water, oil and coolant resistant.
- Ultra-Cal Mark IV; 0-6"/150mm range; .0005"/.01mm resolution.
- Electronic Micrometer; 0-1" range; .00005"/.001mm resolution.
- 5R Steel rule.
- Complete in fitted case.
- SPC compatible.



Part Number	Range	Price
54-004-854	Waterproof Measuring Set	\$275.00

(C-3)

Electronic Calipers



- Patented ceramic capacitive sensor.
- Direct inch/metric conversion.
- Resolution: .0005"/.01mm.
- Accuracy: .001"/.02mm
- Large easy-to-read LCD display.
- Includes fitted case.

Part Number	Range	Accuracy	Price
54-100-004	0-4"/100mm	.001"/.02mm	\$84.00
54-100-000	0-6"/150mm	.001"/.02mm	98.00
54-100-008	0-8"/200mm	.0015"/.03mm	115.00

(C-3)

Long Range Electronic Calipers

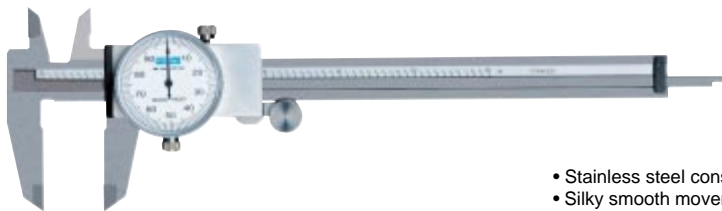


- Resolution: /0005"/.01mm.
- Direct inch/metric conversion.
- Large, high contrast LCD display.
- Absolute/incremental measurement.
- Fast tracking speed of 60" per second.
- Price includes deluxe fitted case.

Part Number	Range	Accuracy	Price
54-100-024	0—24"	± .003"/.08mm	\$240.00
54-100-042	0—40"	± .004"/.1mm	995.00

(C-3)

Shockproof Dial Calipers

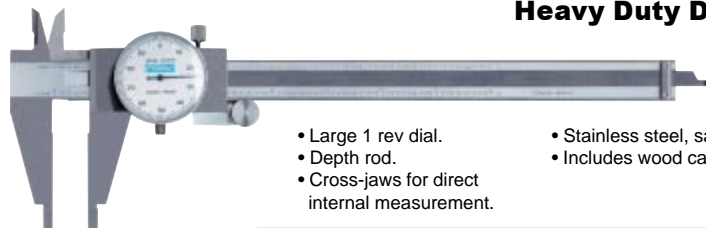


Part Number	Range	Price
52-008-706	6"	\$59.95
52-008-708	8"	75.00
52-008-712	12"	99.50

(C-1)

- Stainless steel construction.
- Silky smooth movement throughout.
- .100" range per revolution.
- .001" reading dial face.
- Shockproof design.
- Supplied in molded case.

Heavy Duty Dial Calipers



- Large 1 rev dial.
- Depth rod.
- Cross-jaws for direct internal measurement.

- Stainless steel, satin chrome finish.
- Includes wood case.

Part Number	Range	Jaw Length	Price
52-025-108	0—8"	2.5"	\$110.00
52-025-112	0—12"	2.875"	160.00

(C-1)

Centerline Accessory Sets



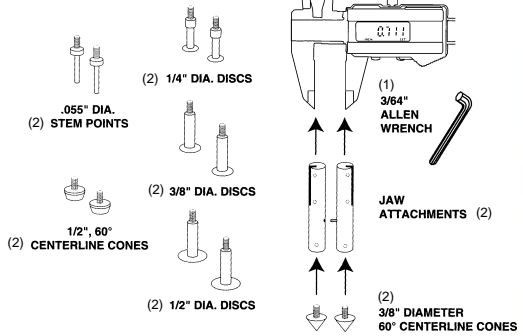
• 52-010-125

Euro-Cal III Electronic Caliper

- Resolution: .0005"/.01mm.
- Accuracy: .001"/.02mm
- True Inch/Metric conversion.
- 4-way measuring

Accessory Set

- Interchangeable centerline cones.
- 4-48 threaded holes in accessory jaws allow use of any AGD Standard Point with 4-48 threads.
- Allows measurement of hard to reach places including undercuts, grooves, webs and shoulders.
- Black oxide plated to protect against corrosion.
- Jaw attachments feature an alignment pin and set screws to insure proper fit.



• 52-010-100

Part Number	Description	Price
52-010-100	Accessory Set	\$93.80
52-010-125	Accessory Set w/ Caliper	256.90

(C-1)



Micrometer Inspection Set

Includes a 0—1"/25mm IP54 fluid resistant electronic micrometer (54-860-001), a compact, folding micrometer stand with a unique locking mechanism that positions the micrometer for perfect use and viewing (52-247-005) and two each .200" ball attachments for special inspection applications (52-285-005). All packaged in a durable wooden case.

Part Number	Description	Price
54-860-777	Micrometer Inspection Set	\$159.95
52-247-005*	Micrometer Stand Only	28.00

(C-3,*C-1)

Electronic Indicator w/ Stand

Stand

- 6" square base
- Positive lock screw
- Fine adjustment knob for zero setting
- Column height is 8"
- Microscrew fingertip control

Indicator

- AGD Group II Specifications.
- Lug back and 3/8" stem diameter.
- Resolution: .0005"
- 0—1"/25mm range.
- 4-48 contact point.

Part Number	Range	Price
52-580-025	0—1"/25mm	\$258.00

(C-1)



Test indicator

- Jeweled movement.
- Graduation: .01mm.
- Auto reverse.
- Dial reading 0-.40-0.
- Includes 7/32" & 5/16" dovetail stems.
- Complete in molded case.



Part Number	Range	Price
52-563-677	± .08mm	\$55.00

(C-1)



Test Indicator

- Auto-reverse.
- Jeweled movement.
- Graduation: .0005"
- Dial reading: .0-15-0.
- Point Length: .400".
- Dial diameter: 1.125"
- Includes .080" & .040" contact points
- Universal clamp, Height gage attachment, 3/8" & 1/4" dovetail extensions in a fitted molded case.

Part Number	Range	Price
52-562-999	±.030"	\$98.00

(C-1)

Premium Dial Indicator

WITH CARBIDE CONTACT POINT!

- Popular AGD 2 series
- Jet console-black dial face with orange hand.
- 1" total travel (range)
- 0—100 continuous reading
- Solid brass housing
- Carbide contact point
- Includes certificate of calibration.



Part Number	Range	Graduation	Price
52-520-110b	0—1"	.001"	\$72.00

(C-1)



- Coolant, water & oil resistant to IP54 specifications!
- Non-contact measuring system!
- Tough carbide contact point!

54-520-680 FEATURES:

- Accuracy: .0008"/.02mm
- Resolution: .0005"/.01mm
- Range: 0—.5"/12.5mm
- High contrast LCD display

Mini-Resistant Indicator

MOISTURE RESISTANT • WEAR RESISTANT



- Floating zero
- Preset & Hold features
- Dual measuring references
- Dovetail back with lug
- 1.575" diameter bezel

Part Number	Range	Price
54-520-680	0—.5"/12.5mm	\$245.00

(C-3)

Laser Level Kits



Fowler's Laser Level Kits come complete and ready-to-use including all necessary accessories and safety equipment in a custom fitted, shop hardened case.



Ideal for both indoor and outdoor, horizontal and vertical levelling applications over a distance that surface levels cannot provide. The new Fowler Laser Levels feature an aluminum box frame design and construction that is highly durable and accurate, with easy view level vials for quick positioning.

Perfect for shop or home use, transferring heights, determining levels, taking plumb lines, contour measurements, aligning machinery and setting grades.

Home uses include installing acoustic ceilings, studs, duct work, plumbing, fencing and masonry work.

Specifications:

- Wavelength: 650nm
- Accuracy: 1mm/m
- Maximum power output: 1mw
- Power supply: 2x1.5v (AAA batteries, included)

Kits include:

- Class 2 Laser Level with horizontal and vertical vials.
- Adjustable 360° swivel base with centering spirit level with protractor.
- One line and one plumb lens.
- Tripod with 14" to 40" range.
- Laser safety goggles.
- Shop hardened case*

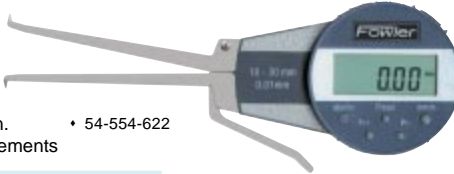
Part Number	Range	Price
52-422-716	Complete 16" Laser Level Kit	\$195.00
52-422-824	Complete 24" Laser Level Kit*	225.00

(C-1)

*24" Laser kit comes with shop hardened case for accessories & 24" nylon tote for level.

- Easy to hold.
- RS232 output.
- Rugged housing.
- Large, LCD display.
- Resolution: .0005"/.01mm.
- Accuracy: $\pm .0008"/\pm .02$ mm.
- Preset capability.
- Direct inch/metric conversion.
- Absolute/incremental measurements

Internal Caliper Gages



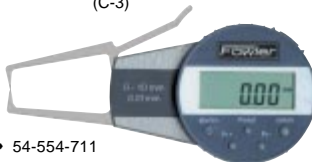
• 54-554-622

Part Number	Range	Price
54-554-611	.200"—.590"/5-15mm	\$138.00
54-554-622	.200"—1" /5—25mm	148.00
54-554-623	.400"—1.2"/10—30mm	158.00
54-554-624	.790"—1.6"/20—40mm	158.00
54-554-625	1.2"—2"/30—50mm	158.00
54-115-777	Computer Connect Kit	99.50

(C-3)



• 54-554-611



• 54-554-711

External Caliper Gages

- Easy to hold.
- RS232 output.
- Rugged housing.
- Large, LCD display.
- Resolution: .0005"/.01mm.
- Accuracy: $\pm .0008"/\pm .02$ mm.
- Preset capability.
- Direct inch/metric conversion.
- Absolute/incremental measurements

Part Number	Range	Price
54-554-711	0"—.400"/0—10mm	\$138.00
54-554-722	0"—.790"/0—20mm	148.00
54-554-723	.4"—1.2"/10—30mm	158.00
54-554-724	.790"—1.6"/20—40mm	158.00
54-554-725	1.2"—2"/30—50mm	158.00
54-115-777	Computer Connect Kit	99.50

(C-3)

Audible Edge Finders

Audible edge finders assist in assuring accuracy by releasing an audible click when the tip jumps. This allows the operator to listen as well as watch the tool.

- Available in three sizes: 1/2", 3/8" and 10mm.
- Hardened and ground on all working surfaces.



Part Number	Description	Price
52-575-040	3/8" x .200"	11.95
52-575-045	1/2" x .200"	12.60
52-575-050	10mm/.375 x 10mm	13.85
52-575-055	10mm x 10mm	13.80
52-575-060	1/2" x .500"	12.60

(C-1)

Audible/Conventional Edge Finder Set



- contains: 3/8 x .200" combo edge & center finder
1/2 x .200" combo edge & center finder
3/8 x .200" audible edge finder
1/2 x .500" audible edge finder
- complete in fitted case.

Part Number	Description	Price
52-575-100	Edge Finder Set	\$49.95

(C-1)

12" Basic Bench Top Optical Comparator

Standard with Profile & Surface illumination

- Featuring the basics for comparative/absolute measurements.
- 1 quadrant protractor screen graduated to 10X, 20X & 40X.
- 2 each, AGD Group 2, 0—1"/25mm electronic digital indicators with .0005"/.01mm resolution.
- 10X lens is included with the unit and other lenses are available.
- T-slot stage with a travel of 6" horizontally and 2-1/2" vertically make the unit universal for many different types of set-ups.

Part Number	Description	Price
53-900-000	Optical Compator	\$1,850.00
53-900-020	20X Lens	195.00
53-900-040	40X Lens	195.00

(C-2)



10 X Pocket Optical Comparator Set

w/ Illuminator attachment included

- Interchangeable reticles allow measurement of diameters, radius, angles, thickness, etc.
- Includes 9 reticles 10X Comparator and Illuminator attachment.
- Complete in compact case

Part Number	Description	Price
52-664-609	10X Pocket Optical Comparator Set	\$117.50

(C-1)



Micrometer Calibration Sets



- 11 Pc. 9 rectangular gage blocks and two optical flats.
- Includes NIST Certificate.
- Assists in meeting both Federal specification GGG-C-105c and ISO 9000 requirements.
- Contains one block of each of the following sizes: .0625, .100, .125, .200, .250, .300, .500, 1.000 & 2.000"
- TWO OPTICAL FLATS that vary in size by .0125" which allows checking anvil faces at half revolutions of spindle for measuring flatness.
- Supplied with fitted wooden case.



Part Number	Description	Grade	Price
53-670-002	Calibration Set with Steel Blocks	2	\$195.00
53-684-002	Calibration Set with Ceramic Blocks	2	395.00
53-684-003	Calibration Set with Ceramic Blocks	3	365.00

(C-3)

Ceramic 1-2-3 Blocks



- Constructed of Zirconia Ceramic.
- Blocks feature a coefficient of expansion only $2 \times 10^{-6}/C^{\circ}$ different than steel blocks.
- Dimensions: 1" x 2" x 3"
- Flatness within .00004"
- Size accuracy within .0002"

Part Number	Description	Price
53-439-101	Ceramic 1-2-3 Block	\$240.00

(C-3)

Square Ceramic Gage Block Sets



81 pcs. in wood case. Consists of:

- 9 Blocks .1001" thru .1009" step of .0001"
- 49 Blocks .101" thru .149" step of .001"
- 19 Blocks .050" thru .950" step of .050"
- 4 Blocks 1.000" thru 4.000" step of 1.000"

36 pcs. in wood case. Consists of:

- 1 Block .1005"
- 9 Blocks .1001" thru .1009" step of .0001"
- 9 Blocks .101" thru .109" step of .001"
- 9 Blocks .110" thru .190" step of .01"
- 4 Blocks .100", .200", .300" and .500"
- 3 Blocks 1.000", 2.000", 4.000"
- 1 Block .10005"

Fowler's Square Ceramic Gage Block Sets are manufactured to the same high precision as our rectangular sets. Zirconia Ceramic Gage Blocks are available in 36 and 81 piece sets and in two grades. Square in shape, they are constructed of high grade zirconia ceramic, lapped for high accuracy... and very competitively priced with steel gage blocks.

- Ceramic Gage Blocks resist corrosion and defacement and require no protective coating.
- Blocks feature a coefficient of expansion only $2 \times 10^{-6}/C^{\circ}$ different than steel blocks. They are carefully inspected for accurate size, tolerance, length and flatness.
- Sizes are clearly etched on each block.
- Each set includes Certificate of Inspection traceable to the National Institute of Standards and Technology and a deluxe case.

Part Number	Description	Grade	Price
53-684-362	36 Pc. Set	2	1,795.00
53-684-363	36 Pc. Set	3	1,250.00
53-684-812	81 Pc. Set	2	2,495.00
53-684-813	81 Pc. Set	3	1,885.00

(C-3)

12 Piece Angle Block Set



- Precision ground hardened steel.
- Blocks = 1/4", 1/2", 1", 2", 3", 4", 5", 10", 15", 20", 25" and 30"
- Angular accuracy : ± 30 arc seconds
- Set up angles quickly and easily.
- All blocks 3" long x .25" thick.
- Complete in "Shop Hardened" Case

Part Number	Description	Price
52-666-777	12 Pc Angle Block Set	\$124.95

(C-1)

- Beams and blades are ground and lapped for straightness and parallelism.
- Hardened blade.
- Beam grooved at inner corner for clearance of burrs and dirt.
- Complete in "Shop Hardened" Case.

Blade Size	2"	3"	4"	6"	9"	12"
Beam Size	1-1/2"	2-1/2"	3"	4"	6"	8"

Part Number	Description	Price
52-432-444	2", 4" & 6" set	\$50.00
52-432-469	4", 6", 9" & 12" set	\$99.95

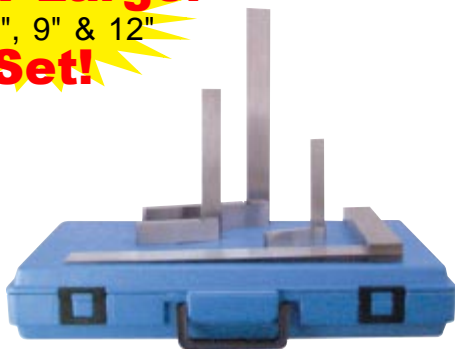
(C-1)

EZ $\frac{1}{2}$ Sine Bar Set



Steel Square Sets

NEW Larger Set!
4", 6", 9" & 12"



Simplify sine bar angle set up!

- Eliminate constant tables for calculation.
- Select one or a combination of risers to obtain the desired angle, and your finished!

Sine Bar:

- 5" hardened and precision ground.
- 1" body size, top parallel to bottom within .0002"

Risers:

- 18 risers of the following angles: 1/2", 1 1/2" thru 15 1/2" in 1 1/2" increments, 1/4" and 1/2" to measure taper per foot.
- Exact constant within .001"

Part Number	Description	Price
52-455-050	Sine Bar Set	\$115.00

(C-1)

Gage Ball Sets



- 52-438-766 Set includes 26 pairs
- Pair sizes in inches: 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4, 13/16, 7/8, 15/16 and 1"
- 52-438-777 Set includes 25 pairs
- Pair sizes in mm: 1mm through 25mm

- Ball gages are ground and lapped chrome steel
- Hardened to 63RC.
- Grade 24 accuracy - AFBMA certificate

Part Number	Description	Price
52-438-766	52 Pc. Gage Ball Set	\$55.00
52-436-777	50 Pc. Metric Gage Ball Set	55.00

(C-1)

1/32" Parallel Set

- Made from high-grade alloy steel, hardened and ground from 1/32" stock with 2 holes in each parallel.
- 10 pairs, 6" length, 1/32" width.
- 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2" & 1-5/8"
- Height specifications relate to consistency within each pair. Absolute heights are nominal.
- Parallelism: $\pm .0001"$
- Paired in height: $\pm .0001"$

Part Number	Description	Price
52-437-031	1/32" Parallel Set	\$99.95

(C-1)



1/8" Parallel Set

- Made from high-grade alloy steel, hardened and ground from 1/8" stock with 2 holes in each parallel.
- 10 pairs, 6" length, 1/8" width.
- 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2" & 1-5/8"
- Height specifications relate to consistency within each pair. Absolute heights are nominal.
- Parallelism: $\pm .0002"$
- Paired in height: $\pm .0002"$

Part Number	Description	Price
52-437-125	1/8" Parallel Set	\$205.00

(C-1)



1/4" Parallel Set

- Made from high-grade alloy steel, hardened and ground from 1/4" stock with 2 holes in each parallel.
- 9 pairs, 6" length, 1/4" width.
- 3/4", 7/8", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8" & 1-3/4"
- Height specifications relate to consistency within each pair. Absolute heights are nominal.
- Parallelism: $\pm .0002"$
- Paired in height: $\pm .0002"$

Part Number	Description	Price
52-437-250	1/4" Parallel Set	\$245.00

(C-1)



Adjustable V Block



- Hardened and precision ground.
- 3.75" L x 1.75" W x 2" H and offers approximately 1.75" work space.
- Ideal for setup, milling, grinding and drilling applications.
- Angle accuracy ± 10 sec.
- Squareness within .0002"
- Comes complete in deluxe fitted wooden case.

Part Number	Description	Price
52-585-090	Adjustable V Block	\$119.95

(C-1)

Mini-Vee Combo Set



- Use this universal holding tool for small, miniature or intricate parts.
- Ideal for holding, grinding/indexing punches and pins, drilling, milling, EDM, inspection on optical comparators.
- Capable of holding parts as small as a paper clip.
- Capacity: .030" to 9/32"
- Furnished with bridges to straddle long workpieces, allowing top hold-down screw of V-Block clamp to be utilized.
- Hardened and high precision ground . Squareness and parallelism within .0002".
- Set contains 2 Mini-Vee Blocks, size A .030" - 5/32" cap. and size B .050" - 9/32 cap., Bridge A and B plus 5 upper prisms, 1/8", 5/32" and 3/16" cap., all in a shop hardened case.

Part Number	Description	Price
52-475-110	Mini-Vee Combo Set	\$145.85

(C-1)

20X Extended Range Microscope

Fowler's new Extended Range Microscope is ideal for viewing the surface of items that will not fit into conventional microscope plates.

Includes:

- 10X eyepieces with adjustable centers and rubber eyecups.
- 2X objective lens
- Top swiveling light source - 12 volt lamp, 110V supply.
- Positive rack and pinion focusing.
- Articulated 12" long extension arm.
- Heavy base plate insures stability and houses transformer - measures 5" x 8" x 2.5"
- Overall column with a height of 12"



Part Number	Description	Price
53-640-280	20X Microscope w/ Universal Stand	\$295.00

(C-1)

Pocket Surf

Portable Surface Roughness Tester



- Compact and economically priced
- Performs traceable surface roughness measurements on a wide variety of surfaces including small inside diameters.
- Cast aluminum housing.
- It works on both horizontal and vertical surfaces and can even be used upside down.
- Operates in four probe positions—closed, or with the probe at 90°, 180° or 270°
- Use the Pocket Surf for a variety of surface roughness measurements including flat, inside/outside diameters, sharp edges, inside "O" ring grooves, short lands and shoulders.
- Uses common 9 volt alkaline battery.
- 4 selectable measurement parameters; Ra, Ry, Rmax and Rz.

Parameters

The Pocket Surf can take measurements in any one of four selectable parameters:

- Ra Average Roughness.
- Ry Maximum Roughness Depth.
- Rmax Maximum Roughness Depth (DIN)
- Rz (Rtm) Mean Roughness Depth.

Electronic Highlights

- The digital display is conveniently located on the top of the unit for optimum visibility.
- Easy to read LCD readout presents measured roughness value in microinches or micrometers.
- Out of range (high or low) and "battery low" signals are also displayed.

Probe Variety

Easily interchangeable, a variety of probes are available to expand the Pocket Surf's use to a wide range of applications. These applications include flats, OD's, ID's (including small bores), sharp edges, inside "O" ring grooves, short lands and shoulders.

Digital Output

Designed for SPC applications the Pocket Surf will work with most SPC/SQC data collection systems via its RS232 port.

Power Supply

For added convenience the Pocket Surf has been designed so that its power is supplied via a common 9 volt alkaline battery.

Portable Vee Fixture

#54-400-421

The Portable Vee Fixture (complete with a setting pin) is used for simplifying the measurement of small outside diameter parts up to 1" (25mm)

Height Gage Stand

#54-400-496

Portable and convenient, the optional height gage fixture with bracket is perfect for holding the Pocket Surf. The height stand holds the Pocket Surf both vertically and horizontally, perfect for taking easy measurements on any suitable flat working surface.

Swivel Fixture

#54-400-500

Use the Swivel Fixture to move and lock the Pocket Surf at any angle. Including a T-bar attachment fixture, Swivel Fixture can be used with most standard column gages and height stands.

Height Stand with Swivel Fixture

#54-400-596 &

#54-400-496 (regular stand)

A fully functioning holding fixture for the Pocket Surf, the Height Stand and Swivel Fixture will allow you to position the gage at any angle - horizontally or vertically

All Pocket Surf Kits include:

- Pocket Surf unit
- General purpose probe
- 125 μ (3.2 μ m) (nominal) Certified specimen
- Standard 9 Volt alkaline battery
- Riser plate, for calibrating the gage with the certified specimen.
- Storage case



Part Number	Description	Price
54-400-311	Pocket Surf furnished with a .0004" probe for ANSI, MIL & ISO.	\$1,850.00
54-400-321	Pocket Surf furnished with a .0002" probe for DIN & ISO	\$1,850.00

For more information on the complete Pocket Surf line call 1-800-788-2353

(C-2)

Universal Dial Protractor

- Easy to read, each dial graduation = 5'.
- Wide spaced graduations.
- Hardened stainless steel construction with a satin chrome finish.
- Includes lock and acute angle attachment.
- Supplied with 6" and 12" blades.
- Price includes fitted case.



Part Number	Description	Price
52-440-777	Universal Dial Protractor	\$140.00

(C-1)



TiN Coated Magnetic Base w/ Fine Adjustment

- All purpose magnetic base with 180lbs of pulling power.
- Titanium Nitrate coated post and arm
- Fine adjustment clamping rod
- Base can be mounted vertically as well as horizontally, V-bottom base allows mounting on cylindrical surfaces.

Part Number	Description	Price
52-585-185	TiN Coated Mag. Base	\$65.00

(C-1)

Universal Dual Micrometer Stand

This convenient fixture can convert conventional and indicating micrometers into a dual inspection station. The stand can be used for inspection sampling of repetitive batch measurements.

Part Number	Description	Price
52-245-825	Universal Dual Micrometer Stand	\$199.50

(C-1)



* Micrometers shown not included.

Miniature Shop/Hobby Set

Satisfy just about all of your miniature hand tool requirements. This set includes jeweler screwdrivers, Philips screwdrivers, hex key wrenches, nut drivers and open-end wrenches.



All sets are packed individually in their own separate cases!

**30
Tools!**

Description	Sizes
Set of 6 jeweler's screwdrivers	1/32", 3/64", 5/64", 3/32"
	1/8", 9/64"
Set of 4 Philip's screwdrivers	#00, #0, #1, #2
Set of 10 hex wrenches	1/16", 5/64", 3/32", 1/8", 5/32"
	3/16", 7/32", 1/4" 5/16", 3/8"
Set of 5 nut drivers	5/64", 3/32", 7/64" 1/8", 5/32"
Set of 5 open end wrenches	1/8", 5/32", 3/16", 1/4", 5/16"

Part Number	Description	Price
52-490-500	Complete 30 Piece Miniature Tool Set	\$49.95

(C-1)



DIRECT READING TO .0001" without a vernier!

EZ-Read Standard Digital Micrometer



- Accuracy: .00016" on 1" & 2" sizes
- Carbide tipped measuring faces.
- Insulated steel frame.
- Meets or exceeds Federal accuracy specs.
- Sizes over 1"/25mm include standards.

Part Number	Range	Graduation	Price
metric:			
52-222-225	0—25mm	.001mm	65.00
52-222-250	25—50mm	.001mm	68.00
52-222-275	50—75mm	.001mm	72.00
sets:			
52-222-333	0—3" set	.0001"	175.00
52-222-444	0—4" set	.0001"	235.00

(C-1)

Part Number	Range	Graduation	Price
52-222-201	0—1"	.0001"	\$45.00
52-222-202	1—2"	.0001"	50.00
52-222-203	2—3"	.0001"	55.00
52-222-204	3—4"	.0001"	60.00
52-222-205	4—5"	.0001"	70.00
52-222-206	5—6"	.0001"	85.00
52-222-207	6—7"	.0001"	110.00
52-222-208	7—8"	.0001"	125.00
52-222-209	8—9"	.0001"	135.00
52-222-210	9—10"	.0001"	148.00
52-222-211	10—11"	.0001"	160.00
52-222-212	11—12"	.0001"	175.00

(C-1)

EZ-Read Digital Ball Micrometer



Measure dimensions from inside of circular holes to outside edges and obtain accurate dimensions easily read to .0001" on digit counter.

- Spindle, thread & measuring face hardened & ground.
- Carbide tipped measuring face.
- Accuracy to .00016"
- Meets or exceeds Federal accuracy specifications.
- Available in both single & double ball anvil models.
- Sizes over 1"/25mm include standards.

Part Number	Range	Type	Graduation	Price
52-244-601	0—1"	Single Ball Anvil	.0001"	\$50.00
52-244-602	1—2"	Single Ball Anvil	.0001"	56.00
52-244-621	0—1"	Double Ball Anvil	.0001"	50.00
52-244-622	1—2"	Double Ball Anvil	.0001"	56.00
52-244-625	0—25mm	Single Ball Anvil	.001mm	50.00
52-244-725	0—25mm	Double Ball Anvil	.001mm	50.00

(C-1)

EZ-Read Digital Disc Micrometer



Features extra large diameter discs which easily enter hard-to-reach narrow grooves, slots & recesses.

- Anvil & spindle hardened, ground and micro-lapped.
- Meets or exceeds Federal specs.
- Accuracy: .00016" on 1" & 2" sizes
- Flatness: .00004"
- Disc diameter: .790"
- Sizes over 1"/25mm include standards

Part Number	Range	Graduation	Price
52-250-021	0—1"	.0001"	\$70.00
52-250-022	1—2"	.0001"	80.00
52-250-023	2—3"	.0001"	90.00
52-250-024	3—4"	.0001"	135.00
52-250-025	0—25mm	.001mm	70.00
52-250-050	25—50mm	.001mm	80.00

(C-1)

EZ-Read 15° & 60° Point Micrometer



Perfect for quick comparisons of thread accuracy, measurement of small flutes or recesses, grooved wires, keyways & other hard-to-reach areas.

- Accuracy: .00016"
- Anvil & spindle hardened, ground and micro-lapped.
- Meets or exceeds Federal specs.
- Sizes over 1"/25mm include standards.

Part Number	Degree	Range	Graduation	Price
52-226-661	15°	0—1"	.0001"	\$70.00
52-226-662	15°	1—2"	.0001"	75.00
52-226-665	15°	0—25mm	.001mm	70.00
52-226-650	15°	25—50mm	.001mm	75.00
52-226-641	60°	0—1"	.0001"	70.00
52-226-640	60°	0—25mm	.001mm	70.00

(C-1)

EZ-Read Digital Blade Micrometer



Use for measuring the outside diameters of workpieces with narrow grooves, t-slots & other dimensions blocked by shoulders or lands inaccessible by standard micrometers.

- Anvil & spindle hardened, ground and micro-lapped.
- Non-rotating spindle.
- Blade dimension .030" x .256"
- Meets or exceeds Federal specs.
- Accuracy: .00016" on 1" & 2" sizes.
- Sizes over 1"/25mm include standards.

Part Number	Range	Graduation	Price
52-246-121	0—1"	.0001"	\$120.00
52-246-122	1—2"	.0001"	125.00
52-246-123	2—3"	.0001"	130.00
52-246-124	3—4"	.0001"	145.00
52-246-125	0—25mm	.001mm	120.00
52-246-150	25—50mm	.001mm	125.00

(C-1)

EZ-Read Digital Spline (Pin) Micrometer



- Measure recesses, grooves & splines.
- Precision ground measuring faces.
- Pin size of .118"Ø x .394" length
- Accuracy: .00016"
- Sizes over 1"/25mm include standards.

Part Number	Range	Graduation	Price
52-218-721	0—1"	.0001"	\$70.00
52-218-722	1—2"	.0001"	75.00
52-218-725	0—25mm	.001mm	70.00
52-218-750	25—50mm	.001mm	75.00

(C-1)

EZ-Read Digital Tube Micrometer



- Accuracy: .00024"
- Anvil & spindle hardened, ground and micro-lapped.
- Meets or exceeds Federal accuracy specs.
- Sizes over 1"/25mm include a standard.

Part Number	Range	Graduation	Price
52-611-011	0—1"	.0001"	\$56.00
52-611-012	1—2"	.0001"	62.00
52-611-025	0—25mm	.001mm	56.00
52-611-050	25—50mm	.001mm	62.00

(C-1)

EZ-Read Digital Multi-Anvil Micrometer



Supplied with both a flat anvil and a round anvil rod for measuring tubing and other difficult to measure workpieces.

- Carbide tipped spindle face.
- Anvil rod: 1" long x .120" diameter
- Flat anvil: 1" long x .058"
- Accuracy: .00016"
- Meets or exceeds Federal accuracy specs.
- Sizes over 1"/25mm include a standard.

Part Number	Range	Graduation	Price
52-252-211	0—1"	.0001"	\$110.00
52-252-212	1—2"	.0001"	125.00
52-252-025	0—25mm	.001mm	110.00
52-252-050	25—50mm	.001mm	125.00

(C-1)

EZ-Read Digital Interchangeable Anvil Micrometer

Useful for measuring large workpieces with various dimensions. Each anvil can be quickly interchanged and locked into position.

- Adjusting collar fitted on each anvil to set overall dimensions.
- Spindle and thread hardened & ground.
- Supplied with 6 anvils.
- Accuracy: 0—6"/.00024"; 6—12"/.00035"
- Meets or exceeds Federal accuracy specs.
- Sizes over 1"/25mm include a standard.



Part Number	Range	Graduation	Price
52-401-206	0—6"	.0001"	\$140.00
52-401-207	6—12"	.0001"	175.00
52-401-150	0—150mm	.001mm	140.00
52-401-300	150—300mm	.001mm	175.00

(C-1)

EZ-Read Digital Micrometer Head



Exceptionally useful on precision stages for microscopes or for use in fixtures where precise travel is necessary. Accurate, easy to read and simple to use.

- Accurate to .0001" (.003mm)
- Shoulder clamping diameter: .472"
- Shoulder length: .670"
- Overall length: 4.92"
- Carbide tipped measuring face.
- Meets or exceeds Federal accuracy specifications.

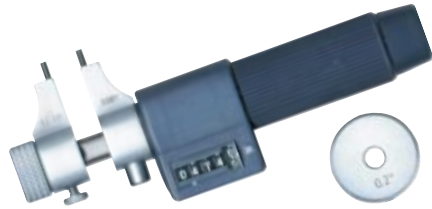
Part Number	Range	Graduation	Price
52-222-708	0—1"	.0001"	\$52.00
52-222-738	0—25mm	.001mm	52.00

(C-1)

EZ-Read Digital Inside Micrometer

Allow internal measurement of a small part in a uniform and stabilized way. Extremely accurate measurements can be made with these instruments.

- Spindle & threads hardened and precision ground.
- Measuring jaws & faces fully hardened & microlapped for accuracy.
- Accurate to: .00025" (52-275-401)
- Meets or exceeds Federal accuracy specifications.
- Each gage includes appropriate setting ring.



Part Number	Range	Graduation	Price
52-275-401	2—1.2"	.0001"	\$75.00
52-275-402	1—2"	.0001"	80.00
52-275-403	2—3"	.0001"	84.00
52-275-404	3—4"	.0001"	90.00
52-275-525	5—25mm	.001mm	75.00
52-275-550	25—50mm	.001mm	80.00

(C-1)

EZ-Read Digital Deep Throat Micrometer

Used for measuring sheets of metal or plastic where depths of 2—12" are needed.

- Spindle, thread & measuring face hardened & ground.
- Carbide tipped measuring face.
- Accuracy to .00024"
- Diameter of measuring face: .256"
- Meets or exceeds Federal accuracy specifications.



Part Number	Range	Accuracy	Throat Depth	Graduation	Price
52-617-606	0—1"	.0002"	6"	.0001"	\$85.00
52-617-612	0—1"	.00024"	12"	.0001"	110.00
52-617-606	0—25mm	.005mm	150mm	.001mm	85.00
52-617-612	0—25mm	.006mm	300mm	.001mm	110.00

(C-1)

EZ-Read Digital V-Anvil Micrometer

- Extremely accurate
- 3 & 5 flute designs
- Carbide flutes
- Spindle & threads hardened & ground.
- Meets or exceeds Federal accuracy specifications.
- Each gage includes a setting piece.



Part Number	Range	Flutes	Graduation	Accuracy	Price
52-211-141	.04—.6"	3	.0001"	.0002"	\$138.00
52-211-142	.2—.8"	3	.0001"	.0002"	146.00
52-211-143	.8—1.4"	3	.0001"	.00025"	158.00
52-211-151	.2—1"	5	.0001"	.0002"	138.00

(C-1)

EZ-Read Digital Thread Micrometer

- For measuring pitch diameters of 60° unified (UNF) threads from 64 to 3.5 TPI or .4 to 7mm.
- Non-rotating spindle.
- V-anvil and conical spindle made from high grade steel, hardened and ground.
- Complete set of thread anvils.
- Accuracy: .00016" (.004mm)
- Meets or exceeds Federal accuracy specs.
- Sizes over 1"/25mm include standards.



Part Number	Range	Graduation	Price
52-219-091	0—1"	.0001"	\$130.00
52-219-092	1—2"	.0001"	138.00
52-219-825	0—25mm	.001mm	130.00
52-219-850	25—50mm	.001mm	138.00

(C-1)

EZ-Read Digital Jaw Type Micrometer

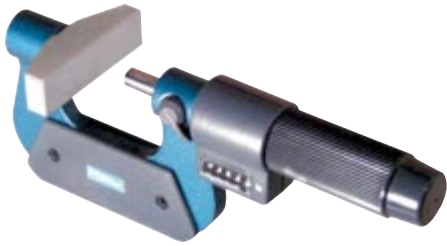
- Jaw type measuring faces.
- Non-rotating spindle.
- Meets or exceeds Federal accuracy specs.
- Includes fitted case.
- Sizes over 1"/25mm include standards.



Part Number	Range	Graduation	Price
52-251-021	0—1"	.0001"	\$120.00
52-251-022	1—2"	.0001"	135.00
52-251-025	0—25mm	.001mm	120.00

(C-1)

EZ-Read Digital Large Anvil Micrometer

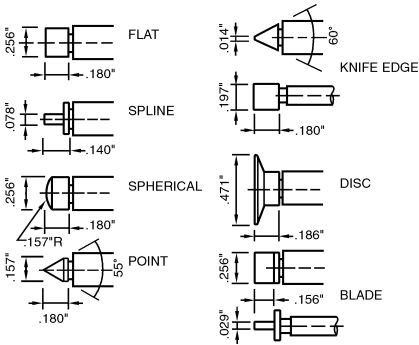


This micrometer was manufactured to measure items with staggered teeth, such as side milling cutters and saws. In place of the usual anvil, a rectangular pad has been mounted that bridges the gap between the adjacent measurement surfaces. Sizes over 1"/25mm include a standard.

Part Number	Range	Graduation	Large Anvil Dim.	Price
52-621-001	0—1"	.0001"	1.970" x .550"	\$145.00
52-621-002	1—2"	.0001"	2.360" x .550"	165.00
52-621-025	0—25mm	.001mm	50mm x 14mm	145.00

(C-1)

EZ-Read Digital Multi Interchangeable Anvil Micrometer



Replace 7 different micrometers with one tool creating up to 49 different combinations making this a truly universal tool!

- Accepts 7 pairs of individual anvils making it possible to gage a variety of dimensions unachievable with a single micrometer.
- 1-2" and 25-50mm sizes includes standard.
- Complete in wood case.
- Sizes over 1"/25mm include a standard.

Part Number	Range	Graduation	Price
52-212-351	0—1"	.0001"	\$190.00
52-212-352	1—2"	.0001"	195.00
52-212-025	0—25mm	.001mm	190.00
52-212-050	25—50mm	.001mm	195.00

(C-1)

EZ-Read Digital Gear Root Diameter Micrometer

- Wide measuring range
- Adjustable anvil
- Graduation: .0001"
- Spindle and thread precision ground
- Sizes over 1"/25mm include a standard.



Part Number	Range	Accuracy	Regular Price
52-214-081	.2—4"	.00020"	\$128.00
52-214-082	4—8"	.00028"	158.00
52-214-083	8—12"	.00036"	178.00

(C-1)



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