

S-T INDUSTRIES, INC.

SCHERR-TUMICO



Total Quality
Systems Inc.

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OPTICAL COMPARATORS



See the
Quality

OVER 70 YEARS OF
Manufacturing Scherr-Tumico Precision Instruments



HORIZONTAL COMPARATORS

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The S-T Industries Story

Since 1942, S-T Industries, Inc. has been producing fine measuring instruments. From micrometers to optical comparators, the SCHERR-TUMICO name continues to be a hallmark of quality around the world. When S-T introduced the Model 1500 vertical beam optical comparator in the 1950s, it allowed companies of all sizes to afford the technology of profile projection. As we look forward, S-T Industries is committed to providing high-quality products for metrology at reasonable prices.

Quality

Every SCHERR-TUMICO optical comparator and video inspection system receives a thorough inspection and certification before it leaves our factory. This assures you there will be no surprises at your factory. These products are hand-built and tested through each step of the process to guarantee that you will receive a reliable and proven instrument.

Performance

SCHERR-TUMICO optical comparators and video inspection systems are designed to give you the best value for your investment. We have a unit for any job or budget. From small, economical machines to large, CNC measuring systems, you'll find we have just the right product to fit your needs. We'll even modify an existing system if we don't have exactly what you want.

Innovation

S-T Industries has incorporated many unique features into its products. Among them are our exclusive Gothic arch ballways, which provide the ultimate in accuracy, strength and durability. Our 30" comparators are portable. They are equipped with large casters so that one person can move the instrument. Our CNC products all have a digital positioning system that allows table movements of 1 micron. We will continue to add new ideas and technology to our products, because at S-T Industries, our design engineer is our customer.

International Operations

SCHERR-TUMICO optical comparators and video inspection systems are available throughout the industrialized world. S-T Industries maintains a service and distribution network with factory qualified sales and service representatives in the following countries. Call or write for your representative.

Australia	Canada	China	Denmark
Germany	Great Britain	Holland	Hong Kong
India	Indonesia	Ireland	Israel
Malaysia	Mexico	Norway	Pakistan
Philippines	Scotland	Singapore	South Africa
South America	South Korea	Sweden	Taiwan
Thailand	Turkey		

Service and Warranty

All S-T Industries Optical Comparators and Video Inspection Systems include a two-year warranty on parts and labor, installation and training at your facility, and a certificate to NIST. There are no additional hidden costs for this service.

SCHERR-TUMICO for Quality, Service and Value

The “3500” Series 14" benchtop horizontal beam comparator is the perfect general purpose optical comparator. Its high accuracy and compact size make it the choice of even the most demanding user. The unique, granite-like housing offers a rugged appearance to this fine instrument. The stage features hardened and precision ground bearing ways.

- High precision 4" x 10" travel measuring stage with .00005"/.001mm resolution precision glass scales. Quick release with fine adjust on X-axis. 50-lb load capacity.
- Choice of QuadraChek® or Metlogix® digital readouts.
- Quick change mount for factory preset magnification lenses.
- Hardened steel, nickel-plated workstage for long life and corrosion resistance.
- Tungsten/halogen profile illumination for bright, sharp images at all magnifications.
- Duplex fiber optic surface illumination.
- Vernier Screen Protractor reading to 5'.
- Optional digital screen protractor with readings to 1' or .01°.
- Helix +/- 6° via lamphouse displacement.
- Heavy-duty steel chassis.
- Fully useable 14" diameter screen.

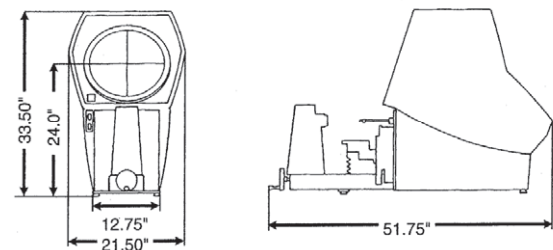


Shown with
M2 DRO

Specifications

Measuring Stage Resolution: .00005"/.001 mm
Measuring Travel: 10" (250 mm) horizontal (X), 4" (100 mm) vertical (Y), 2.5" (60 mm) focus with quick release on x-axis
Precision Measuring Stage: 5" x 16" (125 x 400 mm) nickel-plated top plate
Allowable Work Load: 50 lb (22 kg)
Digital Screen Protractor on 3550 Series: angular readings to 1 minute or .01° of arc
Duplex Fiber Optic Surface Illumination
14" Frosted Glass Screen: with 30-, 60- and 90-degree crosslines
Helix: +/- 6° via lamphouse displacement
Heavy-Duty Dust Cover

- Steel construction with Polyethylene body



- Electrical: 115/220 V, 50/60 Hz, Single Phase, 2.0 Amp
- Approx. Weight: Net 200 lb (91 kg) - Crated 330 lb (150 kg)

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 10x Magnification with long focal distance
- 20x Magnification
- 20x Magnification with long focal distance
- 25x Magnification
- 31½x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification



This is our top-of-the-line 14" benchtop horizontal beam optical comparator. The 3700 is the ultimate system for load capacity and accuracy. It features an erect image and S-T's exclusive Gothic arch bearing ways which provide the best in accuracy and longevity.

- Erect image.
- High precision 6" x 12" measuring stage travel with .00005"/.001 mm resolution precision glass scales. Quick release with fine adjust on X-axis. Optional 5" x 16" travel. 100-lb load capacity.
- Choice of QuadraChek® or Metlogix® digital readouts.
- Standard 2-lens turret system.
- Hardened steel, nickel-plated workstage for long life and corrosion resistance.
- Helix +/- 6° via lamphouse displacement.
- Heavy-duty all-steel construction.
- Fully useable 14" diameter screen.
- Standard swingaway lamphouse.
- Duplex fiber optic surface illumination.
- Digital screen protractor with readings to 1' or .01°.
- Available motorized joystick control and CNC option.

Specifications

Work Table: 5" x 20" (125 mm x 500 mm) w/2 clamping slots

Measuring Travel: 12" (300 mm) (X), 6" (150 mm) (Y),

2.5" (60 mm) Focus

Optional 16" Horiz. Travel

Measuring Stage Resolution: .00005"/.001 mm

Allowable Work Load: 100 lb (45 kg)

Two-Lens Turret

Digital Screen Protractor: 1 min/.01° arc

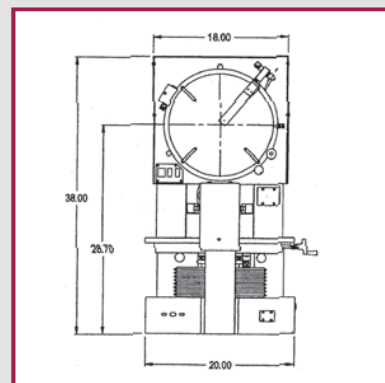
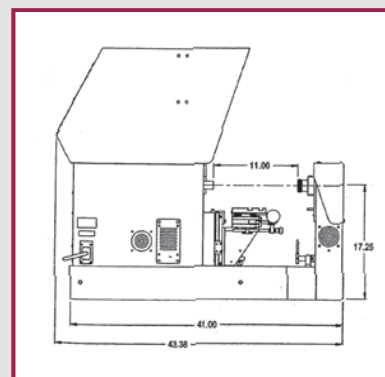
Duplex Surface Illumination

Helix: +/- 6° via lamphouse displacement

14" Frosted Glass Screen: with 30-, 60- and 90-degree crosslines

Electrical: 115/220 V, 50/60 Hz

Weight: Net 325 lb (147 kg) - Crated 465 lb (211 kg)



Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 10x Magnification with long focal distance
- 20x Magnification
- 20x Magnification with long focal distance
- 25x Magnification
- 31½x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification



Shown with M2 DRO

The "1600" Series 16" benchtop horizontal beam optical comparator sets a new world standard for 16" comparators, with extra heavy-duty all-steel construction and a large-capacity measuring stage with a superior gothic arch bearing way system.

- High precision 5" x 20" stage with 7" x 12" travel, optional 7" x 16" travel, .00005"/.001 mm resolution glass scales and a 150-lb load capacity.
- Hardened steel, nickel-plated workstage for long life and corrosion resistance.
- Digital screen protractor to 1' or .01°.
- Duplex fiber optic surface illumination.
- +/- 15° helix on stage.
- Erect image.
- Standard swingaway lamphouse.
- Long life tungsten/halogen bulbs.
- Optional 2-lens turret.
- Exclusive Gothic arch bearing ways on stage.
- Choice of QuadraChek® or Metlogix® digital readouts.
- Available motorized joystick controls and full CNC.

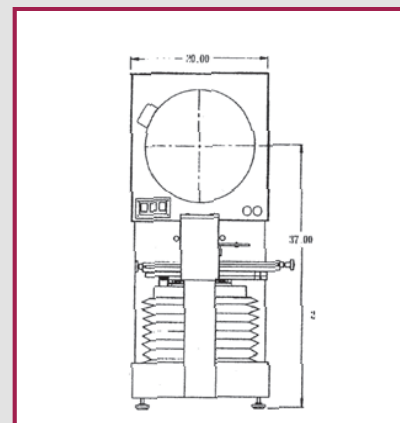
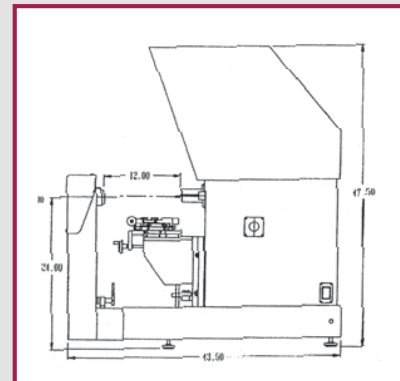
Specifications

Work Table: 5" x 20" (125 mm x 500 mm)
Measuring Range: 7" x 12" (175 mm x 300 mm)
 Optional 7" x 16" (175 mm x 400 mm)
Allowable Work Load: 150 lb (65 kg)
Illumination: Profile - 150 W, Surface - 150 W x 2
Focus Travel: 3" (75 mm)
Screen Size: 16" (400 mm)
Helix: +/- 15°, workstage vernier
Electrical: 100/240 V, 50/60 Hz
Weight: 500 lb (225 kg) - Crated 600 lb (270 kg)

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- | | |
|---------------------|----------------------|
| • 5x Magnification | • 31¼x Magnification |
| • 10x Magnification | • 50x Magnification |
| • 20x Magnification | • 62½x Magnification |
| • 25x Magnification | • 100x Magnification |





The "2450" Series 24" floor model erect image horizontal beam optical comparator features a rugged structure, an 8" x 12" travel measuring stage, a 3-position lens turret, extra heavy-duty all-steel construction and a large capacity measuring stage with an exclusive Gothic arch bearing way system.

- High precision 5" x 24" stage with 8" x 12" travel, .00005"/.001 mm resolution precision glass scales and a 200-lb load capacity, optional 8" x 16" travel.
- Hardened steel, nickel-plated workstage.
- Motorized X and Y axis with joystick controls and X-Y fine adjust jog wheels.
- Digital screen protractor to 1° or .01°.
- 3-position lens turret.
- Duplex fiber optic surface illumination.
- +/- 15° helix on stage.
- Swingaway lamphouse.
- Three 4" diameter wheels for portability.
- Choice of QuadraChek® or Metlogix® DROs.
- Long life tungsten/halogen bulbs.
- Erect image.
- Exclusive Gothic arch bearing ways on stage.
- Hood with curtains.
- CNC options available.

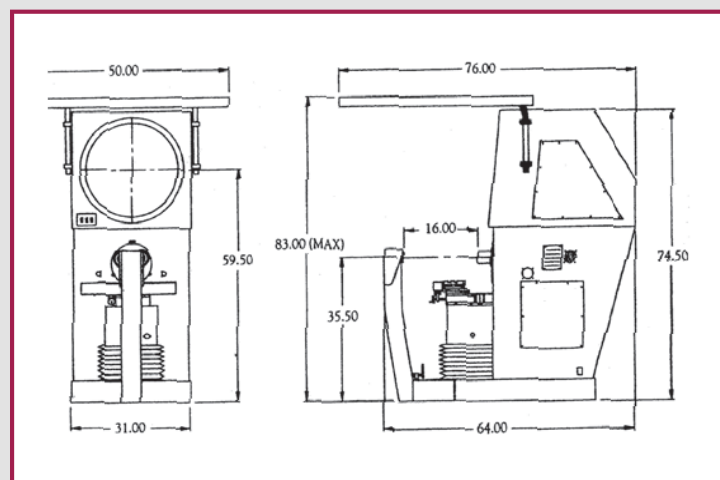
Specifications

Work Table: 5" x 24" (125 mm x 600 mm)
Measuring Range: 8" x 12" (200 mm x 300 mm)
 Optional 8" x 16" (200 mm x 400 mm)
Allowable Work Load: 200 lb (90 kg)
Helix: +/- 15°, workstage vernier
Illumination:
 Profile - 150 W
 Duplex Surface - 150 W x 2
Focus Travel: 3" (75 mm)
Screen Size: 24" (600 mm)
Floor Space: 31" x 64" (785 x 1625 mm)
Electrical: 100/240 V, 50/60 Hz
Weight: 1100 lb (500 kg) - Crated 1300 lb (590 kg)

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- | | | | |
|---------------------|---------------------|----------------------|----------------------|
| • 5x Magnification | • 20x Magnification | • 31¼x Magnification | • 62½x Magnification |
| • 10x Magnification | • 25x Magnification | • 50x Magnification | • 100x Magnification |





The "2600" Series 30" floor model horizontal beam optical comparator has been a leader in the industry for over 40 years. It offers high accuracy and weight capacity in a portable package, making it an excellent choice for an inspection room or shop floor application. It features S-T's exclusive Gothic arch bearing ways which provide the best in accuracy and longevity.

- High precision 9" x 12" measuring stage travel with .00005"/.001 mm resolution precision glass scales. Optional 7" x 20" and 7" x 24" travels available.
- Motorized X and Y axis with joystick control.
- Choice of QuadraChek® or Metlogix® digital readouts.
- Optional 6-position power lens changer.
- Hardened steel, chrome-plated workstage for long life and corrosion resistance.
- Tungsten/halogen profile illumination for bright, sharp images at all magnifications.
- Duplex adjustable surface illumination.
- Digital screen protractor with readings to 1' or .01° with rotating steel ring.
- Helix angle +/- 10° by swinging lamphouse.
- Three 7" diameter wheels for portability.
- CNC option available.

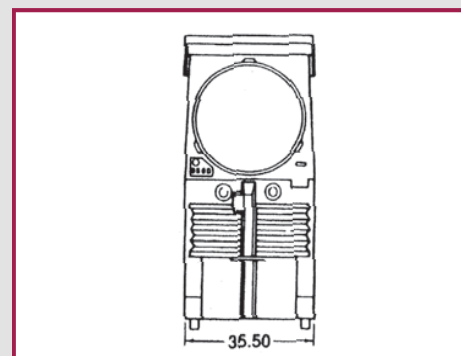
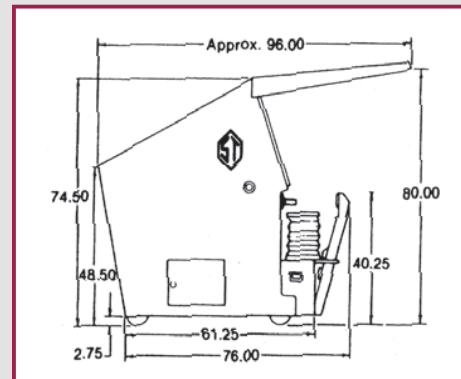
Specifications

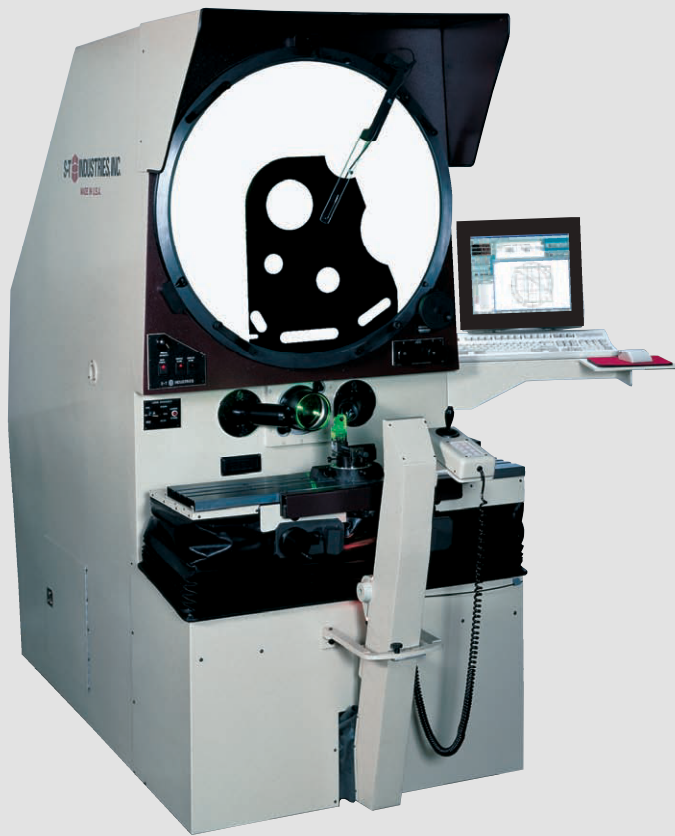
Measuring Travel: 9" x 12" (225 mm x 300 mm)
Larger travels available
Work Table: 8" x 35", hardened steel, chrome-plated
Focus Travel: 3"
Allowable Work Load: 500 lb
Gothic Arch Hardened Steel Bearing Ways
Stage Motion: Motorized 2-axis variable speed joystick
Measuring Stage Resolution: .00005"/.001 mm
Digital Screen Protractor: 1 min/.01° arc
Duplex Adjustable Surface Illumination
30" Frosted Glass Screen: with 30-, 60- and 90-degree crosslines
Helix: +/- 10° by swinging lamphouse
Mounted on Three 7" Wheels for Portability
Electrical: 115 V, 60 Hz; other voltages available.
Weight: 1700 lbs (770 kg) - Crated 200 lbs (907 kg)

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 20x Magnification
- 31¼x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification





This 30" floor model horizontal beam optical comparator provides the same performance and flexibility as our 2600, except with an erect image. The 5600 provides improved viewing due to its vertical screen. It features S-T's exclusive Gothic arch bearing ways which provide the best in accuracy and longevity.

- High precision 9" x 12" measuring stage travel with .00005"/.001 mm resolution precision glass scales. Optional 7" x 20" and 7" x 24" travels available.
- Motorized X and Y axis with joystick control.
- Choice of QuadraChek® or Metlogix® digital readouts.
- Optional 6-position power lens changer.
- Hardened steel, chrome-plated workstage for long life and corrosion resistance.
- Tungsten/halogen profile illumination for bright, sharp images at all magnifications.
- Duplex adjustable surface illumination.
- Digital screen protractor with readings to 1' or .01° with rotating steel ring.
- Helix angle +/- 10° by swinging lamphouse.
- Three 7" diameter wheels for portability.
- Available CNC option.

Specifications

Measuring Travel: 9" x 12" (225 mm x 300 mm)

Larger travels available

Work Table: 8" x 35", hardened steel, chrome-plated

Focus Travel: 3"

Allowable Work Load: 500 lb

Gothic Arch Hardened Steel Bearing Ways

Stage Motion: Motorized 2-axis variable speed joystick

Measuring Stage Resolution: .00005"/.001 mm

Digital Screen Protractor: 1 min/.01° arc

Duplex Adjustable Surface Illumination

30" Frosted Glass Screen: with 30-, 60- and 90-degree crosslines

Helix: +/- 10° by swinging lamphouse

Mounted on Three 7" Wheels for Portability

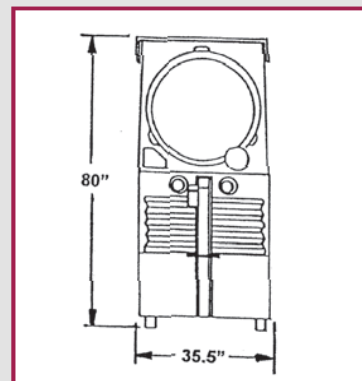
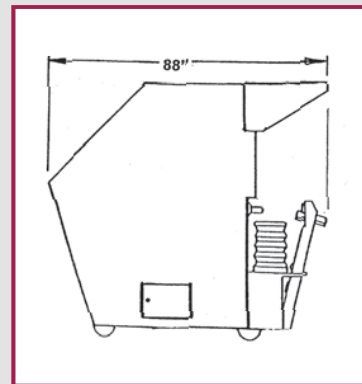
Electrical: 115 V, 60 Hz; other voltages available.

Weight: 1700 lbs (770 kg) - Crated 2000 lbs (907 kg)

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 20x Magnification
- 31½x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification





This is our top-of-the-line 14" benchtop vertical beam optical comparator. The 4600 offers a 4" x 8" measuring stage travel plus an available 4" x 12" option. It features a 3-position lens turret and S-T's exclusive Gothic arch bearing ways which provide the best in accuracy and longevity.

- High precision 4" x 8" or 4" x 12" measuring stage travel with .00005"/.001 mm resolution precision glass scales. Quick release with fine adjust on X-axis.
- Hardened steel, precision ground bearing ways
- Choice of QuadraChek® or Metlogix® digital readouts.
- Quick change mount for factory preset magnification lenses in 3-position lens turret.
- Tungsten/halogen profile illumination for bright, sharp images at all magnifications.
- Duplex fiber optic surface illumination.
- Digital screen protractor with readings to 1' or 01°.
- Available with motorized, joystick-controlled stages.
- CNC option available.

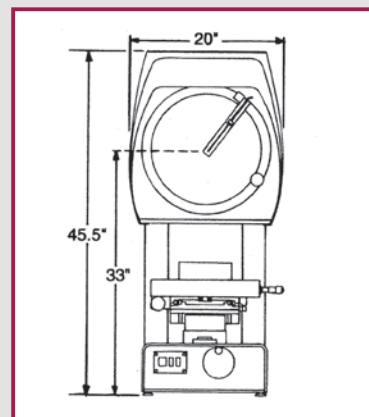
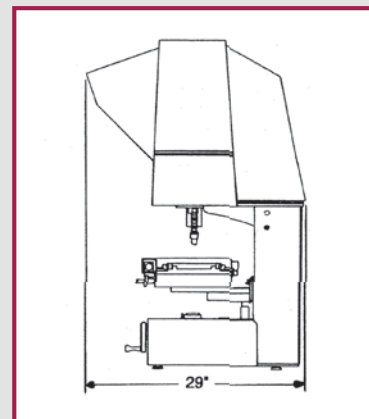
Specifications

Work Table: 10" x 14" (250 mm x 350 mm)
or 10" x 18" (250 mm x 450 mm)
Measuring Range: 4" x 8" (100 mm x 200 mm)
or 4" x 12" (100 mm x 300 mm)
with quick release on X-axis
Measuring Stage Resolution: .00005"/.001 mm
Allowable Work Load: 25 lb
Illumination: Profile - 150 W, Surface - 100 W
Focus Travel: 4"
Screen Size: 14" diameter with 30-, 60- and 90-degree crosslines
Digital Screen Protractor: 1 min./01° arc
Electrical: 100/240 V, 50/60 Hz
Weight: 280 lb (127 kg) - Crated 410 lb 186 kg

Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 10x Magnification with long focal distance
- 20x Magnification
- 20x Magnification with long focal distance
- 25x Magnification
- 31½x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification





The “2400” Series 24" floor model vertical beam optical comparator sets a new standard for quality and price. It features a heavy-duty all-steel construction with ultra bright and extremely sharp image with a built-in 3-lens turret with S-T’s exclusive Gothic arch vertical bearings.

- High precision 4" x 8", 4" x 12", 6" x 8" or 6" x 12" travel measuring stages with .00005"/.001 mm resolution precision glass scales. Quick release with fine adjust on x-axis.
- Heavy-duty all-steel construction
- Choice of QuadraChek® or Metlogix® digital readouts.
- Hardened steel bearing ways.
- 3-position lens turret.
- Curtain canopy and curtains.
- Digital screen protractor to 1' or .01°.
- Long life tungsten/halogen bulbs.
- Duplex fiber optic surface illumination.
- Available with motorized, joystick-controlled stages.
- Available CNC option.

Specifications

Work Table: 10" x 14" (250 mm x 350 mm), 10" x 18" (250 mm x 450 mm), 12" x 14" (300 mm x 350 mm) or 12" x 18" (300 mm x 450 mm)

Measuring Range: 4" x 8" (100 mm x 200 mm), 4" x 12" (100 mm x 300 mm), 6" x 8" (150 mm x 200 mm) or 6" x 12" (150 mm x 300 mm)

Allowable Work Load: 25 lb (11 kg)

Illumination: Profile - 150 W, Surface - 150 W x 2

Digital Screen Protractor: 1 min/.01° arc

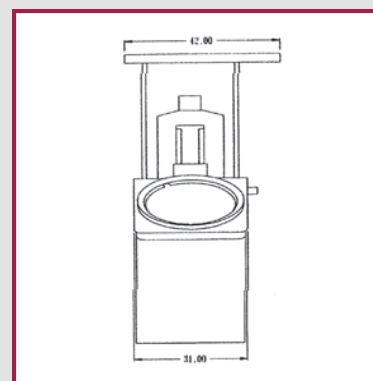
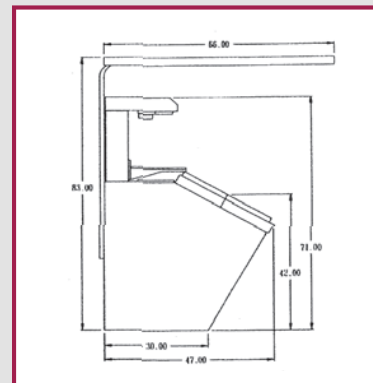
Focus Travel: 4" (100 mm)

Screen Size: 24" (600 mm) with 30-, 60- and 90-degree crosslines

Floor Space: 31" x 47" (785 mm x 1190 mm)

Electrical: 100/240 V, 50/60 Hz

Weight: 450 lb (200 kg) - Crated 830 lb (376 kg)



Magnification Lenses

OPTIONAL MAGNIFICATION LENSES

- 5x Magnification
- 10x Magnification
- 20x Magnification
- 25x Magnification
- 31¼x Magnification
- 50x Magnification
- 62½x Magnification
- 100x Magnification

Remanufactured 30" Comparators

**Let us "REMANUFACTURE" your SCHERR-TUMICO
30" Comparator for a fraction of the cost of a new one.**



Above: Actual photo of customer's 26-year-old 2600 Series 30" Comparator when received at S-T Industries to be remanufactured.



Above: Actual photo of the same 2600 Series 30" Comparator after being remanufactured at S-T Industries, ready to ship back to the customer.

When S-T Industries remanufactures your 2600 Series 30" Comparator, it is returned to you in "As New Condition" with a certificate to NIST. The remanufactured price includes installation and training at your facility and a new 2-year warranty.

Remanufactured 30" Comparators

A complete 2500/2600 remanufacture consists of the following:

The customer must send the unit to S-T freight prepaid. We completely strip down the unit, repair any damage to the body, enlarge the side door to current specs, and totally repaint the body to current paint specs. We rebuild the entire stage assembly, regrind or replace the table top and bearing ways, install new bearings, new .00005"/.001 mm Acu-Rite glass scales, new bellows, new surface illuminator assembly, new long-life tungsten halogen bulb assemblies for profile and surface illumination, new protractor ring with digital readout Q axis in DRO, new glass screen, new curtains, replace all required lenses in the lamphouse and replace all electrical components as required. Repair of the magnification lenses is not included in the rebuild.

The remanufactured 2500/2600 unit is as new—it cannot be distinguished from a new unit. The unit is returned to the customer freight collect. Price includes installation and training at the customer's facility and includes a new 2-year warranty.

REMANUFACTURED COMPARATOR AND DRO

CATALOG NO.	DESCRIPTION
21-2600-01	REMANUFACTURED 2500/2600 WITH QC-121 DRO
21-2600-02	REMANUFACTURED 2500/2600 WITH QC 221
21-2600-22	REMANUFACTURED 2500/2600 WITH M2
21-2600-03	REMANUFACTURED 2500/2600 WITH QC 221E W/EDGE DETECTION
21-2600-23	REMANUFACTURED 2500/2600 WITH M2 W/EDGE DETECTION
21-2600-04	REMANUFACTURED 2500/2600 WITH QC 321E W/EDGE DETECTION
21-2600-05	REMANUFACTURED 2500/2600 WITH QC 5215 W/EDGE DETECTION
21-2800-01	REMANUFACTURED 2500/2600 WITH QC 5215 CNC W/EDGE DETECTION

If the unit is to be upgraded from an original tippet and toggle system to the new style joystick system which includes all new electronics, motor control power boards, new lamphouse and joystick with keypad, or if the unit is upgraded with a 6-position power lens changer, see below and price list.

UPGRADE OPTIONS

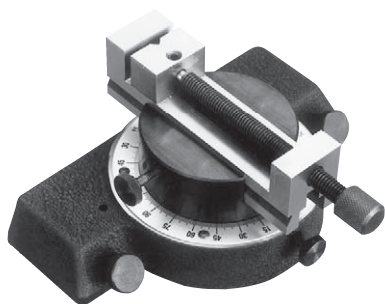
CATALOG NO.	DESCRIPTION
21-1700-00	JOYSTICK CONTROL UPGRADE
21-2140-00	6-POSITION POWER LENS CHANGER UPGRADE

NOTE: On most occasions we have remanufactured units available for sale.

NOTE: There is an extra charge to use one of our bodies.

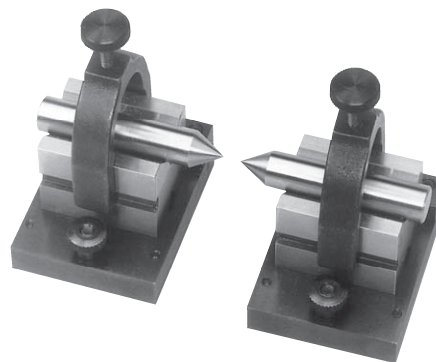
NOTE: If you have an old S-T SCHERR-TUMICO 2500/2600 Series 30" Comparator that you are not using and do not intend to use that you are interested in selling, regardless of its condition, call us at 1-800-326-2039.

Horizontal Beam Comparator **FIXTURES**



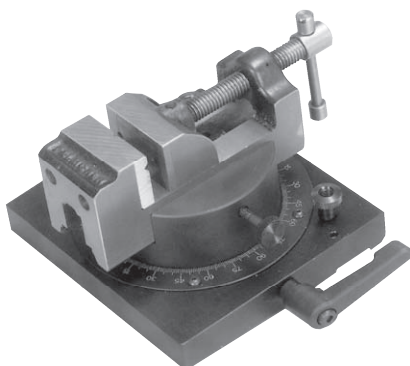
20-1005-24 Large Rotary Vise

- Rotates 360° with readings to 1°
- Vise opens to 3.0" x 5/8" deep
- High precision
- For use on 16", 24" and 30" comparators



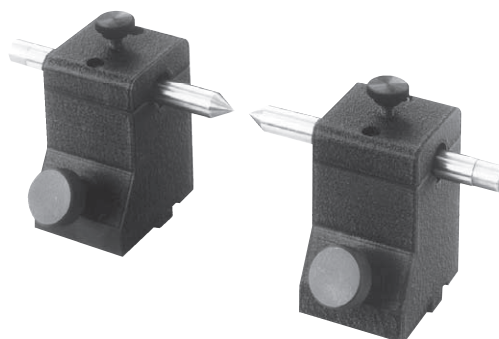
20-3633-00 Matched V-Blocks with Centers

- V-Blocks will hold parts up to 1.0" in diameter
- Centers will hold parts up to 37/16" in diameter



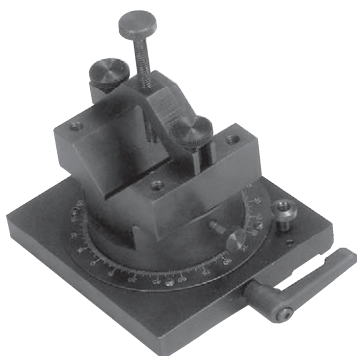
20-3631-00 Rotary Vise

- Rotates 360° with readings to 1°
- Vise opens to 1 1/2" x 1.0" deep



20-3632-00 Stage Centers

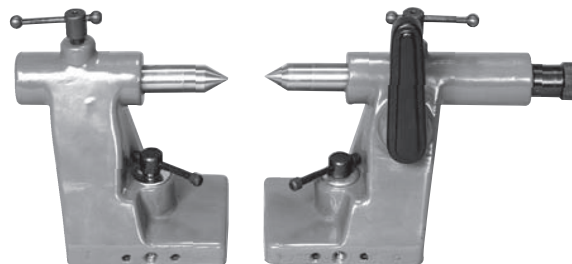
- Matched pair
- Holds parts up to 5.0" in diameter



20-3630-00 Rotary V-Block

- Rotates 360° with readings to 1°
- V-Block holds parts up to 1 1/8" in diameter, including clamp

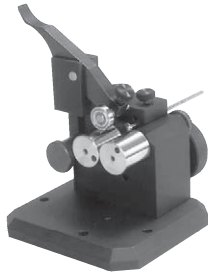
22-3706-03 V-Block w/clamp only



20-2533-00 Heavy Duty Stage Centers

- Matched pair
- Holds parts up to 8.0" in diameter
- One stage center is spring-loaded for production inspection
- For use on 24" & 30" Comparators

Horizontal Beam Comparator Fixtures



20-3623-00 Concentricity Fixture with High Precision Roller

- Rotates round parts up to 1.0" in diameter to check concentricity, accuracy to .0001"
- Includes adjustable end stop
- Can be locked to stage to check parts from side or end

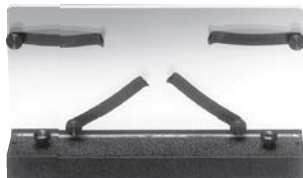
20-3624-00 Large Concentricity Fixture

- Same as above except holds parts $\frac{3}{8}$ " to 2.0" in diameter



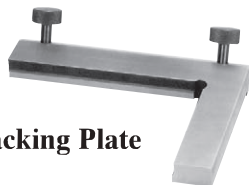
20-2540-00 Vertical Holding Fixture

- Has Plexiglass holding area with spring clips
- Holds parts up to $4\frac{1}{2}$ " x $8\frac{1}{4}$ " in diameter
- Ideal for thin, flat or flexible parts



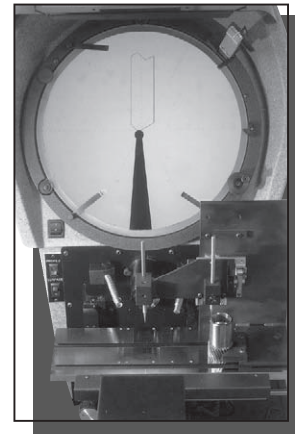
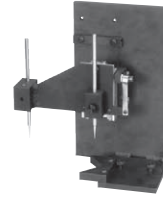
20-2541-00 Large Vertical Holding Fixture

- Has Plexiglass holding area with spring clips
- Holds parts up to 12" x 10" in diameter



20-0390-00 Right Angle Backing Plate

- For use on all Comparators

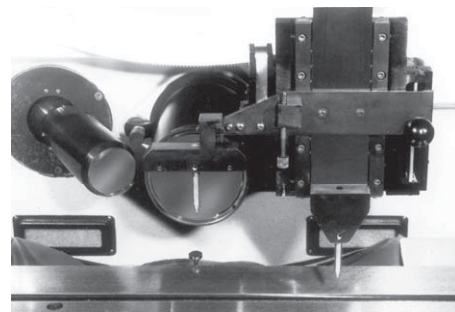


20-3523-00 Universal Tracer

- Attachment for use on all sizes of Horizontal Beam Comparators
- One stylus traces the contour of the part and the other stylus is magnified and projected onto the comparator screen and compared to a chart overlay drawing of the part
- Tracer has 2" x 2" of travel with two 0.62" diameter ball styli contacts

* Top photo is the tracer attachment only

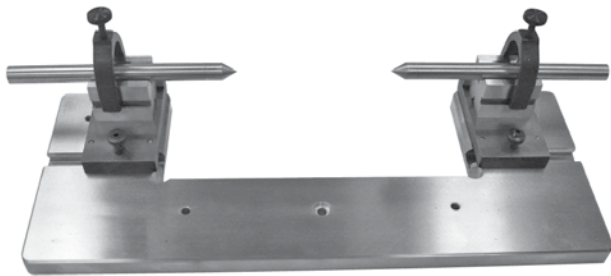
* Lower photo is the tracer attachment mounted on a "3500" Series 14" Comparator



22-2535-00 Tracer Attachment for Use on "2600" and "5600" Series 30" Comparators Only

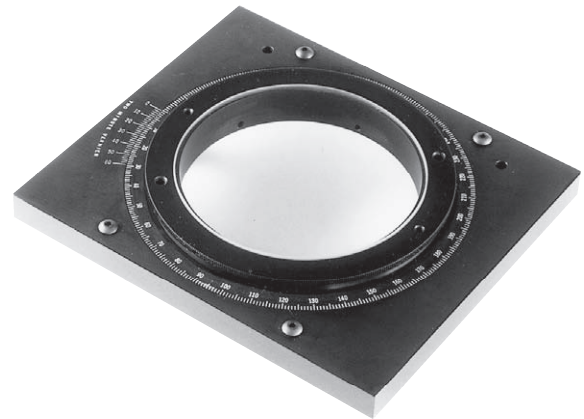
- Tracer mounts to the front of the 30" Comparator
- Tracer has 3" x 3" movement with .125" diameter ball styli contacts

Vertical Beam Comparator Fixtures



20-3633-01 Matched V-Blocks with Centers

- V-Blocks will hold parts up to 1.0" in diameter
- Centers will hold parts up to $3\frac{7}{16}$ " in diameter
- For use on all vertical beam comparators



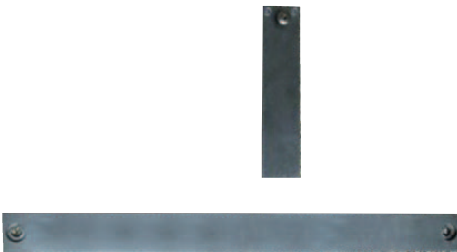
20-0222-00 Rotary Top Plate

- Graduated 360°
- Reading to 2' of arc
- For use on all stages

Combination Right Angle Backing Plate/Datum Bar



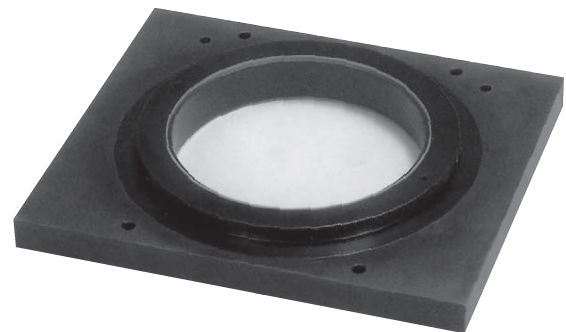
Shown above used as a right angle backing plate.



Shown above with the right angle bracket removed. The right angle bracket may also be slid to one side to use as a datum bar only.

20-8614-08 For use on 4" x 8" travel stages

20-8614-12 For use on 4" x 12"



20-0222-01 Rotary Top Plate with No Graduations

- Rotates 360°
- For use on all stages

Screens and Charts

SEALED IMAGE®

Comparator Charts and Screens

ALL CHARTS AND SCREENS FEATURE THE SEALED IMAGE PROCESS

The Sealed Image process was developed to give maximum life to our precision charts and screens. A thin sheet of vinyl plastic is laminated over the artwork, thereby protecting the image from wearing off due to use or cleaning.

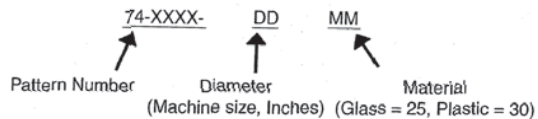
The lines on charts are made accurate to their center unless otherwise stated on the chart. Our basic line width is .004 to .005 (.1 mm to .12 mm).

Glass screens are used for new or replacement screens for optical comparators. The image is centered to the OD of the glass to .005". Glass screens are available only for 14", 16", 24" and 30" S-T Industries, Inc./SCHERR-TUMICO optical comparators. Glass screens are recommended when the artwork pattern will be used for all applications.

Plastic overlay charts are recommended when patterns will be changed frequently. Plastic charts are available in any diameter up to 30" (760 mm). The plastic material is dimensionally stable, non-flammable and resistant to oil. To avoid distortion, plastic overlay charts should not be stored above 140°F (60°C).

Cleaning - Clean Sealed Image charts and screens with glass cleaner, soap and water or isopropanol using a soft cotton cloth. Avoid harsh rubbing. Do not use paper towels or coarse cloths and do not use acetone, benzene, lacquer thinner or other strong chemicals as they will damage the surface.

To order glass and plastic charts, use this part number format:



Example: 20X Radius/Grid Glass Screen for 14" Optical Comparator = 74-0031-1425

IMPORTANT - When ordering glass replacement screens, please include the model number and serial number of your optical comparator.

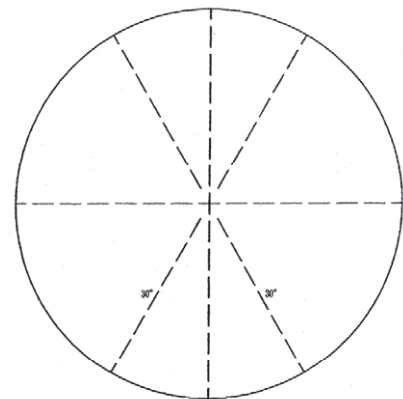
SPECIAL ARTWORK - Custom artwork is available on request. We can combine standard patterns or produce custom artwork scaled from your drawings.

NIST CERTIFICATIONS - Accuracy certifications can be provided at an additional charge. Please request this at the time your order is placed.

NOTE: Glass screens are only available for optical comparators manufactured by S-T Industries/SCHERR-TUMICO.

CENTERLINE SCREENS

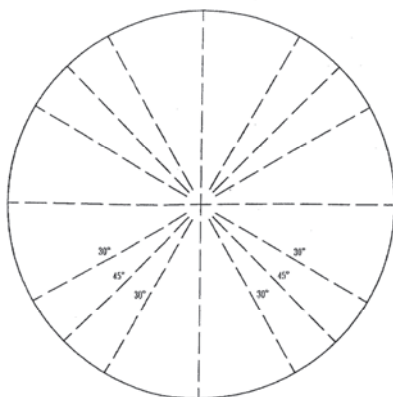
STANDARD GLASS CENTERLINE SCREENS ARE BASIC FOR ANY OPTICAL COMPARATOR.



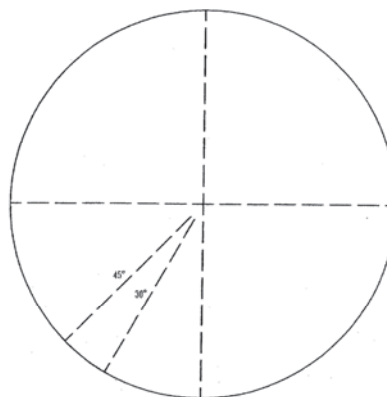
74-0008

CENTERLINE SCREENS

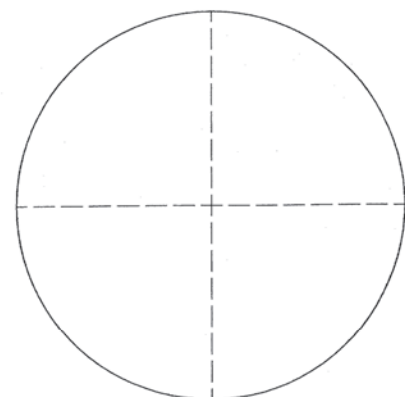
STANDARD GLASS CENTERLINE SCREENS ARE BASIC FOR ANY OPTICAL COMPARATOR.



74-0073



74-0062

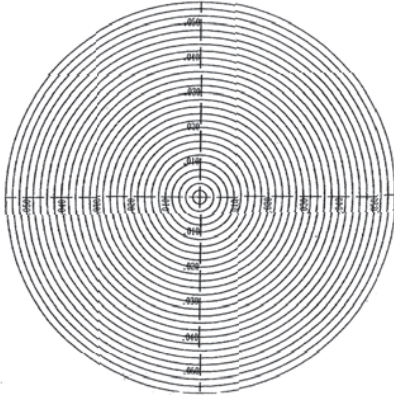


74-0060

NOTE: Other angular line combinations are available on request.

Screens and Charts

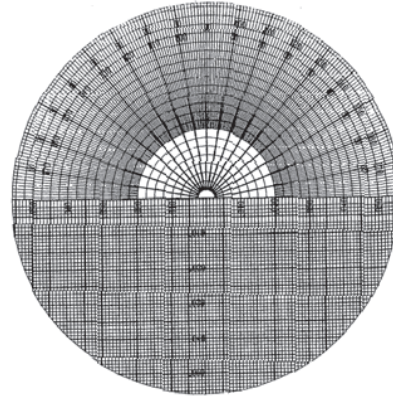
COMBINATION MAGNIFICATION-RADIUS CHARTS



CATALOG NO.	MAG.	INCREMENTS
74-0004	10x	.005"
	20x	.0025"
	50x	.001"
	100x	.0005"
74-0009	10x	.005"
	20x	.0025"
74-0002	31 1/2x	.002"
	62 1/2x	.001"

Other combinations available on request.

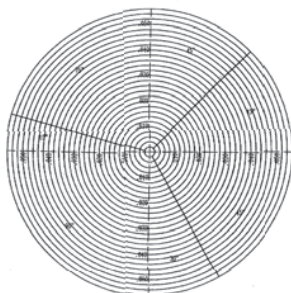
COMBINATION RADIUS-GRID CHARTS



CATALOG NO.	MAG.	INCREMENTS
74-0030	10x	.005"
74-0031	20x	.0025"
74-0131	20x	.002"
74-0034	50x	.001"
74-0036	100x	.0005"

Other magnifications and increments available on request.

RADIUS CHARTS

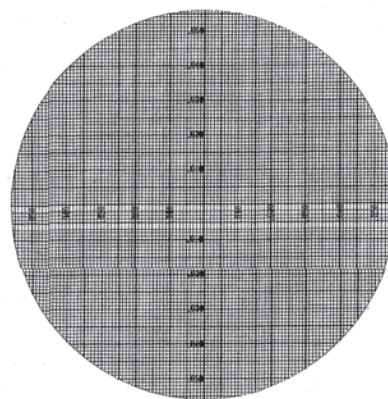


15° 30° 45° 60° 75° Angles

CATALOG NO.	MAG.	INCREMENTS
74-0133	5x	.010"
74-0100	10x	.005"
74-0101	20x	.0025"
74-0103	31 1/2x	.002"
74-0104	50x	.001"
74-0105	62 1/2x	.001"
74-0106	100x	.0005"
74-0162	10x	.10mm
74-0163	20x	.05mm
74-0164	50x	.02mm

Other magnifications and increments available on request.

GRID CHARTS

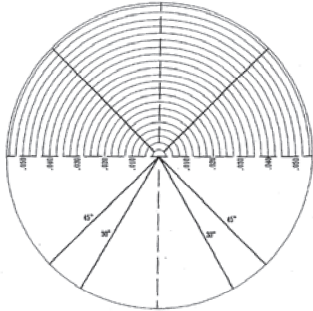


CATALOG NO.	MAG.	INCREMENTS
74-0010	10x	.005"
74-0011	20x	.0025"
74-0013	31 1/2x	.002"
74-0014	50x	.001"
74-0015	62 1/2x	.001"
74-0016	100x	.0005"

Other magnifications and increments available on request.

Screens and Charts

180° RADIUS CHARTS with 30° and 45° Angles



CATALOG NO.	MAG.	INCREMENTS
74-0481	10x	.010"
74-0434	10x	.005"
74-0482	20x	.005"
74-0483	25x	.004"
74-0484	31 1/4x	.004"
74-0485	50x	.002"
74-0497	50x	.001"
74-0487	100x	.001"

Other angle lines, increments and combination magnifications available on request.

THREAD CHARTS

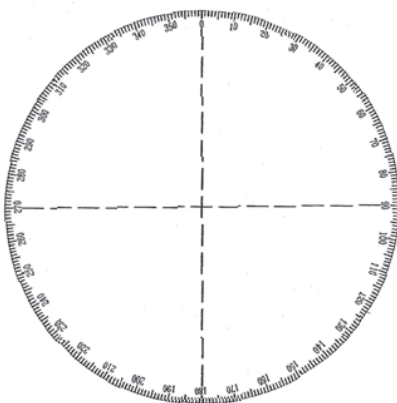
ALL THREAD CHARTS ARE FOR CHECKING THE
THREAD ANGLE, ROOT AND CREST FORMS AND DEPTH.



CATALOG NO.	THREAD TYPE
74-0488	American National, 4 to 80 pitch threads
74-0489	Unified basic, 4 to 80 pitch threads
74-0490	ISO Metric, .25 to 6.0 mm pitch threads
74-0491	UNJ Basic, MIL., Spec 8879A 4 to 80 pitch threads
74-0493	American National Taper pipe threads

NOTE: You must specify magnification lens
being used on your comparator.

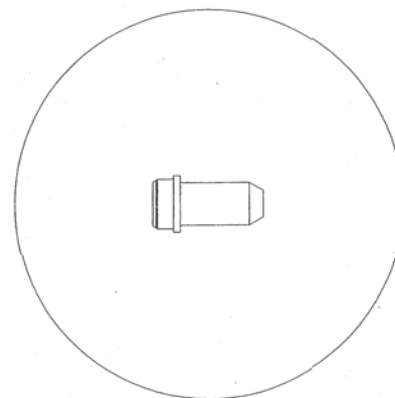
GLASS PROTRACTOR SCREENS



CATALOG NO.	DEGREE INCREMENTS
74-0053	0-360 degrees marked every 5 degrees, graduated every 30 minutes

Available in other increments and available in
combination of radius, grid, combination
radius-grid or thread charts on request.

SPECIAL CHARTS



Our engineering staff is available to
assist you in developing special charts
tailored to your specifications. They can
be printed in any size or configuration.

Comparator Calibration Kits



74-0413-00

- Master magnification ball checker
- In wood case and certificate to NIST
- For use on all sizes and types of comparators



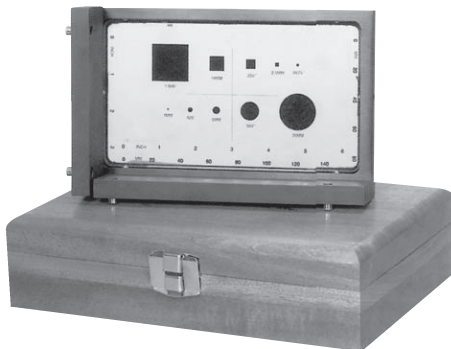
74-0321-10

- 10" glass magnification scale
- With knobs, wood case and certificate to NIST
- For 12" through 16" comparators



74-0330-20

- 20" glass magnification scale
- With knobs, wood case and certificate to NIST
- For 24" and larger comparators



74-0500-00

- Stage calibration master for checking X & Y linear accuracy and squareness of stage
- Includes wood case and certificate to NIST
- For all sizes and types of comparators
- Measuring range, 4" x 6", English and metric



74-0501-00

- 12" long, English and metric
- Stage calibration master for checking linear stage accuracy
- Includes wood case and certificate to NIST
- For use on all comparators

Console Bases & Lens Focal Clearing Chart

STANDARD CONSOLE BASE FOR 3500, 3700 AND 4600 SERIES OPTICAL COMPARATORS



20-1411-00

All-steel construction with laminated top and four adjustable leveling pads.

20-1412-00

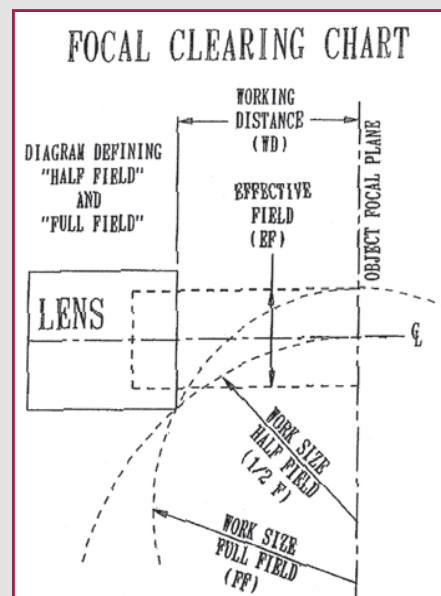
Optional Locking Drawer Can be easily installed at a later date.

HEAVY-DUTY CONSOLE BASE FOR 3500, 3700, 1600 AND 4600 SERIES OPTICAL COMPARATORS



20-1406-00

Heavy-duty all-steel console with front door and four adjustable leveling pads.



ALL 14" COMPARATORS

MAG.	WD	EF	DIA 1/2F	DIA FF
5X	1.80" (45.7 mm)	2.80" (71.1 mm)	3.60" (91.4 mm)	3.60" (91.4 mm)
10X	2.70" (68.6 mm)	1.40" (35.6 mm)	8.30" (210.8 mm)	6.00" (152.4 mm)
*10X				
20X	1.25" (31.8 mm)	0.70" (17.8 mm)	3.20" (81.3 mm)	2.60" (66.0 mm)
*20X	3.13" (79.5 mm)	0.70" (17.8 mm)	6.79" (172.5 mm)	4.84" (122.9 mm)
25X	2.75" (69.9 mm)	0.56" (14.2 mm)	5.14" (130.6 mm)	4.07" (103.4 mm)
31 1/4X	2.00" (50.8 mm)	0.87" (22.1 mm)	2.90" (73.7 mm)	2.23" (56.6 mm)
50X	2.50" (63.5 mm)	0.28" (7.1 mm)	9.20" (233.7 mm)	8.40" (213.4 mm)
62 1/2X	2.90" (73.7 mm)	0.22" (5.6 mm)	9.20" (233.7 mm)	9.20" (233.7 mm)
100X	1.00" (25.4 mm)	0.14" (3.6 mm)	3.20" (81.3 mm)	2.80" (71.1 mm)

*SPECIAL 10X AND 20X LENS WITH EXTRA LONG WORKING DISTANCES

ALL 16" COMPARATORS

MAG.	WD	EF	DIA 1/2F	DIA FF
5X				
10X	3.15" (80 mm)	1.6" (41 mm)	9.7" (246 mm)	7.0" (178 mm)
20X	3.23" (82 mm)	0.8" (20 mm)	14.0" (356 mm)	9.9" (251 mm)
25X	2.76" (70 mm)	0.64" (16 mm)	10.4" (264 mm)	7.9" (201 mm)
31 1/4X				
50X	2.09" (53 mm)	0.32" (8 mm)	7.9" (201 mm)	6.5" (165 mm)
62 1/2X				
100X	1.69" (43 mm)	0.16" (4 mm)	5.4" (137 mm)	4.9" (124 mm)

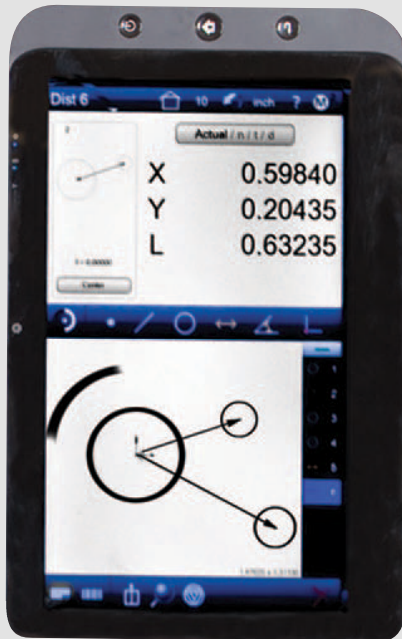
ALL 24" COMPARATORS

MAG.	WD	EF	DIA 1/2F	DIA FF
5X				
10X	5.4" (137 mm)	2.4" (61 mm)	18.3" (465 mm)	13.8" (351 mm)
20X	5.4" (137 mm)	1.2" (30 mm)	17.9" (455 mm)	17.9" (455 mm)
25X	4.7" (119 mm)	1.0" (25 mm)	18.3" (465 mm)	15.0" (381 mm)
31 1/4X				
50X	3.9" (99 mm)	0.5" (13 mm)	16.6" (422 mm)	14.9" (378 mm)
62 1/2X				
100X	1.9" (48 mm)	0.24" (6 mm)	5.6" (142 mm)	5.0" (127 mm)

ALL 30" COMPARATORS

MAG.	WD	EF	DIA 1/2F	DIA FF
5X	4.8" (122 mm)	6.0" (152 mm)	10.1" (256 mm)	9.9" (251 mm)
10X	6.5" (165 mm)	3.0" (76 mm)	20.3" (516 mm)	15.5" (394 mm)
20X	4.4" (112 mm)	1.5" (38 mm)	15.4" (391 mm)	13.5" (343 mm)
31 1/4X	3.2" (81 mm)	1.0" (25 mm)	10.0" (254 mm)	7.9" (201 mm)
50X	2.4" (61 mm)	0.6" (15 mm)	8.0" (203 mm)	6.3" (160 mm)
62 1/2X	2.1" (53 mm)	0.5" (13 mm)	6.4" (163 mm)	5.3" (135 mm)
100X	1.8" (46 mm)	0.3" (8 mm)	6.4" (163 mm)	5.4" (137 mm)

New M2 Touch Screen Controls



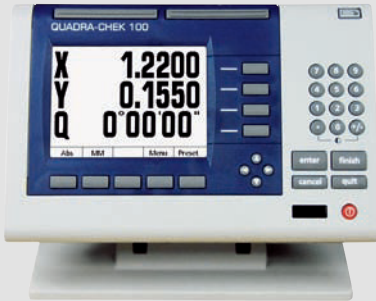
M2 Touch Pad Dimensional Measurement Digital Readout For Optical Comparators with the Windows® 7 Operating System.

The easiest and fastest to use Digital Readout System for optical comparators on the market today.

Features of the M2 Measuring Solution

- **Designed for Multi-Touch software control:** In addition to conventional mouse interface, the expanded Multi-Touch logic allows for versatile pan and zoom of the active part view with a pinch, swipe, or press.
- **Advanced crosshair probe toolbox:** For Optical Edge enabled systems, both “simple” and “auto edge” crosshair probes are available. The “auto edge” probe captures points on edges automatically. The M2’s industry first **EdgeLogic™** system (Optical Edge enabled systems only) enables gesture driven control of start and end measurement commands. Start and finish measurements quickly, without the need for direct software interaction.
- **Graphics-based “Part View” constructions:** Generate popular construction types, like Distances and Tangent Lines, from within the graphical part view itself.
- **Industry-leading support for additional tolerance conventions:** Tolerances can be applied in the standard feature to feature fashion, or by using a more traditional “place tolerancing” system. Engineering drawings may indicate that all features reported to 2 significant digits will get one tolerance value, where all features reported to 3 digits will get another. The M2 software allows for the entry and application of universal tolerance values according to these feature resolution groupings.
- **Feature Detail Graphics:** Individual feature views provide informative drawings displaying point cloud distributions, as well as nominal deviations, and tolerance results. Scroll through your measured features list from this view for a feature by feature display of Actual, Nominal, Tolerance, Deviation and Data Fit Type information.
- **Report Generation:** Flexible reporting capability supports a range of application requirements, from simple to complex. Custom report headers, footers, and printout graphics can all be included as part of easily generated program playback routines, or simply printed, or exported as data files, on the fly.
- **Support for all current industry standard software methodologies for Stage and Optics calibration:** Simple machine/optic calibration can be achieved using popular machine and optic correction methods. (LEC, SLEC, NLEC, Distance Calibration).
- **Industry leading Operating System platform:** The Windows® 7 operating system represents the current enterprise solution for personal computer based software operating systems. You gain the performance and reliability of a globally recognized software solution as part of your measuring machine package.

Quadra Chek® Digital Readouts



STANDARD DIGITAL READOUT

QUADRA-CHEK® 120 (100)

The Standard digital readout features absolute/incremental, IN/MM conversion, random zeroing, RS232C output and linear error compensation.



Quadra-Chek® 220

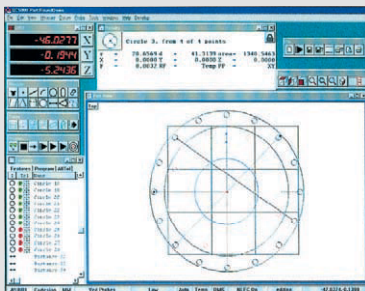
This powerful digital readout provides fast geometric computations in a simple, easy-to-use format.

Functions include point, line, circle, distance, angle, skew alignment and Measure Magic. Other features include Inch/MM, Cartesian/Polar, nearest/farthest distance, complementary angles, serial and parallel ports and 200-feature memory. Large, high-contrast LCD screen graphically displays measurement features and construction. Housing tilts backward or forward for best angle of operation.



Quadra-Chek® 320

The QC 320 features a touch screen, high-resolution color display. Its functions include all the same standard geometric features as QC-220 Series; part programming and reporting.



Quadra-Chek® 5000

PC computer-based geometric readout system is mouse-driven with on-screen graphic representation of part or part segment as it is measured. Simple CAD interface simplifies constructions and part programming. Unlimited part and feature memory. Includes computer with Microsoft® Windows®, fiber optic edge sensor and all functions found in the Quadra-Chek 200.

Specifications

S-T OPTICAL COMPARATOR SPECIFICATION GUIDE

Standard Series No.	3500	3700	1600	4600	2400	2450	2600	5600
CNC Series No.	N/A	3788	1680	4800	2480	2488	2800	5800
SCREEN DIAMETER	14"	14"	16"	14"	24"	24"	30"	30"
PROFILE ILLUMINATION	Horizontal	Horizontal	Horizontal	Vertical	Vertical	Horizontal	Horizontal	Horizontal
IMAGE	Inverted	Erect	Erect	Erect	Erect	Erect	Inverted	Erect
WORKSTAGES								
Workstage Size	5" x 16"	5" x 20"	5" x 20"	10" x 14"	10" x 14"	5" x 24"	8" x 35"	8" x 35"
WORKSTAGE TRAVEL								
X-Axis	10" (250 mm)	12" (300 mm)	12" (300 mm)	8" (200 mm)	8" (200 mm)	12" (300 mm)	12" (300 mm)	12" (300 mm)
Y-Axis	4" (100 mm)	6" (150 mm)	7" (175 mm)	4" (100 mm)	4" (100 mm)	8" (200 mm)	9" (225 mm)	9" (225 mm)
Stage Workload Capacity	50 lb	100 lb	150 lb	25 lb	25 lb	200 lb	500 lb	500 lb
Helix Adjustment	+/- 6°	+/- 6°	+/- 15°	N/A	N/A	+/- 15°	+/- 10°	+/- 10°
OPTIONAL STAGES								
Workstage Size	N/A	5" x 20"	5" x 24"	10" x 18"	10" x 18"	5" x 24"	8" x 35"	8" x 35"
WORKSTAGE TRAVEL								
X-Axis	N/A	16"	16"	12"	12"	16"	20" or 24"	20" or 24"
Y-Axis	N/A	5"	7"	4"	6"	8"	7"	7"
Stage Workload Capacity	N/A	100 lb	150 lb	15 lb	15 lb	150 lb	500 lb	500 lb
READOUTS								
QC 120	S	S	S	S	S	S	S	S
M2 and M2E	0	0	0	0	0	0	0	0
QC 220/221	0	0	0	0	0	0	0	0
QC 220E/221E w/edge sensor	0	0	0	0	0	0	0	0
QC 321E w/edge sensor	0	0	0	0	0	0	0	0
QC 5215 w/edge sensor	0	0	0	0	0	0	0	0
OPTIONS								
Surface Illumination	S	S	S	S	S	S	S	S
Digital Screen Protractor	0	S	S	S	S	S	S	S
Power X-Y Axis/Joystick	N/A	0	0	0	0	S	S	S
Turret Lens Changer	N/A	S	0	S	S	S	0	0
Iris Diaphragm	0	0	0	0	0	0	S	S
Green Filter	0	0	0	0	0	0	S	S
MAGNIFICATION LENSES								
Full Range of Mag. Lenses								
10X, 20X, 25X, 31 ¹ / ₄ X, 50X								
62 ¹ / ₂ X, 100X	0	0	0	0	0	0	0	0
5X Magnification Lens	0	0	0	0	0	0	0	0
ACCESSORIES								
Stage Centers	0	0	0	0	0	0	0	0
Rotary Vise	0	0	0	N/A	N/A	0	0	0
V-Blocks w/Centers	0	0	0	0	0	0	0	0
Rotary V-Blocks	0	0	0	N/A	N/A	0	0	0
Rotary Top Plate	N/A	N/A	N/A	0	0	N/A	N/A	N/A
Glass Plate Workholder	0	0	0	N/A	N/A	0	0	0
Tracer Attachment	0	0	0	N/A	N/A	0	0	0

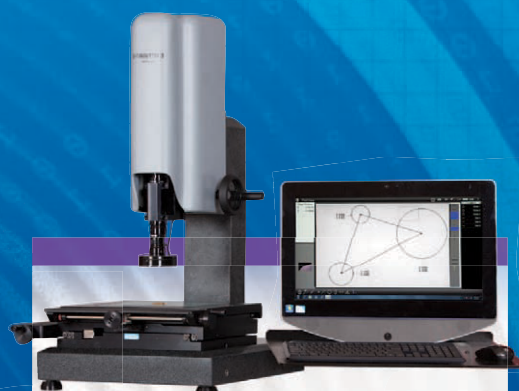
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