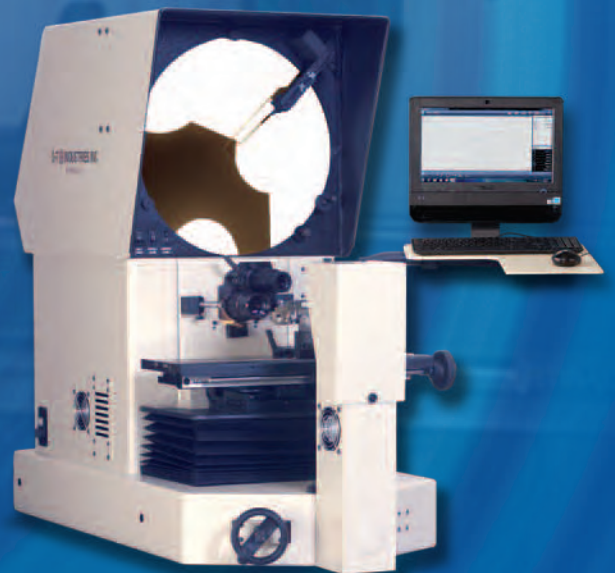


# S-T INDUSTRIES, INC.

SCHERR-TUMICO



## OPTICAL COMPARATORS



See the  
**Quality**

OVER **70** YEARS OF  
Manufacturing Scherr-Tumico Precision Instruments



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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



# 3500

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.

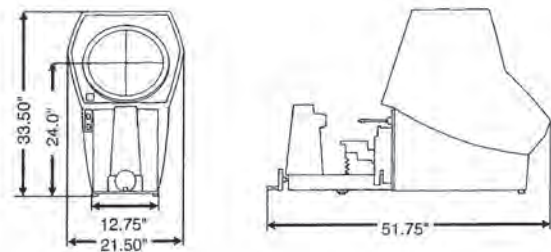


Shown with Quadra-Chek 22IE DRO

## 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

# 3700



Shown with M2E DRO

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

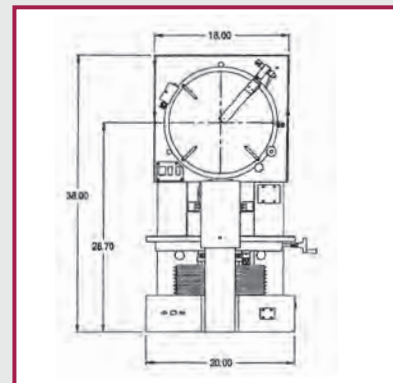
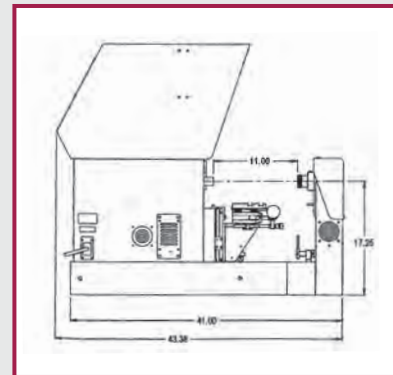
**Duplex Surface Illumination**

**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)

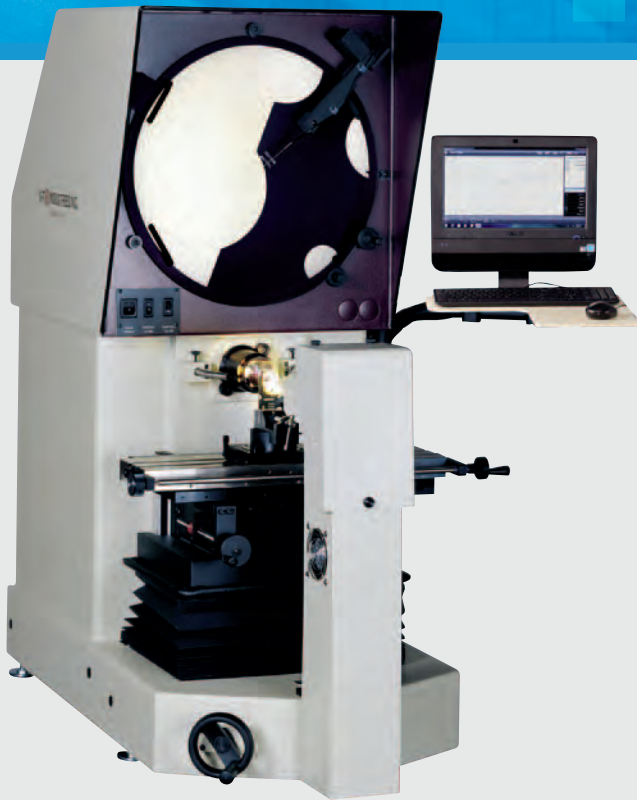


## Magnification Lenses

### OPTIONAL MAGNIFICATION LENSES

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

# 1600



Shown with M2E 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.

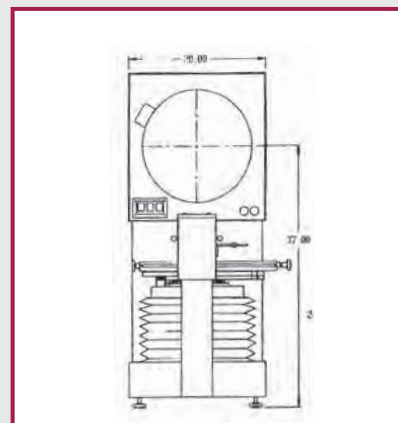
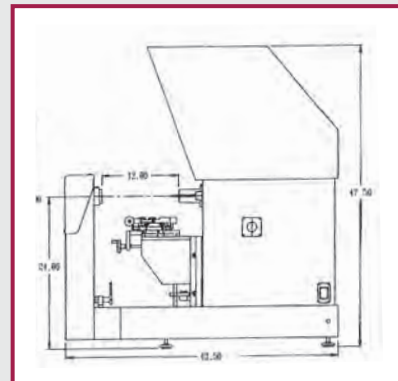
## Specifications

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





# 2450



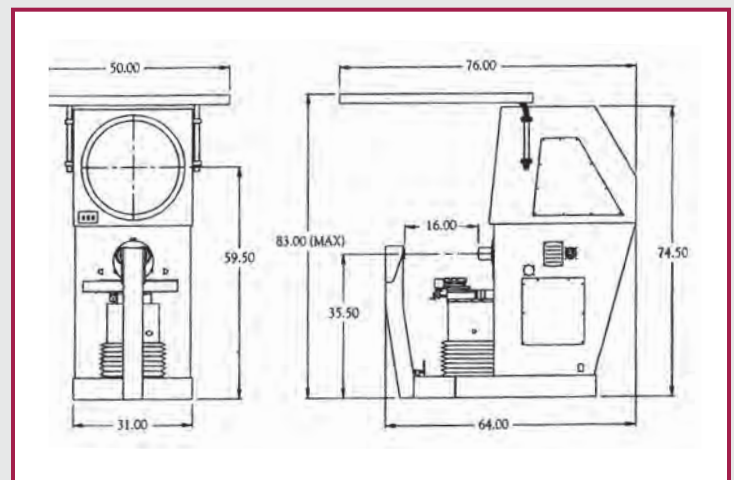
Shown with M2E DRO

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

# 2600



Shown with M2E DRO

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**

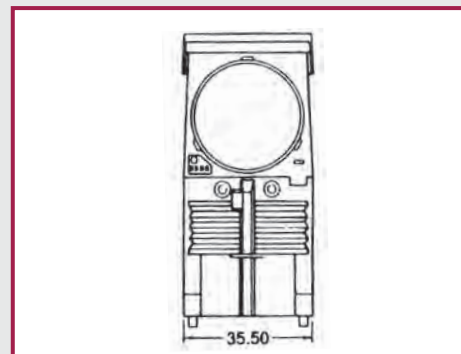
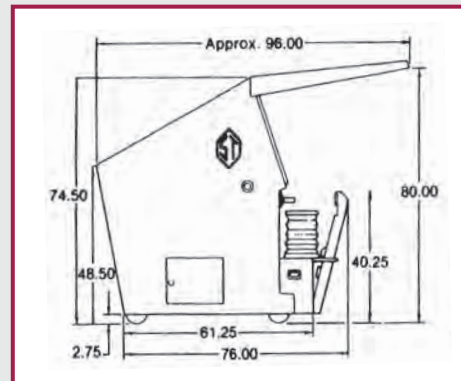
**30" Frosted Glass Screen:** with 30-, 60- and 90-degree crosslines

**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 2000 lbs (907 kg)

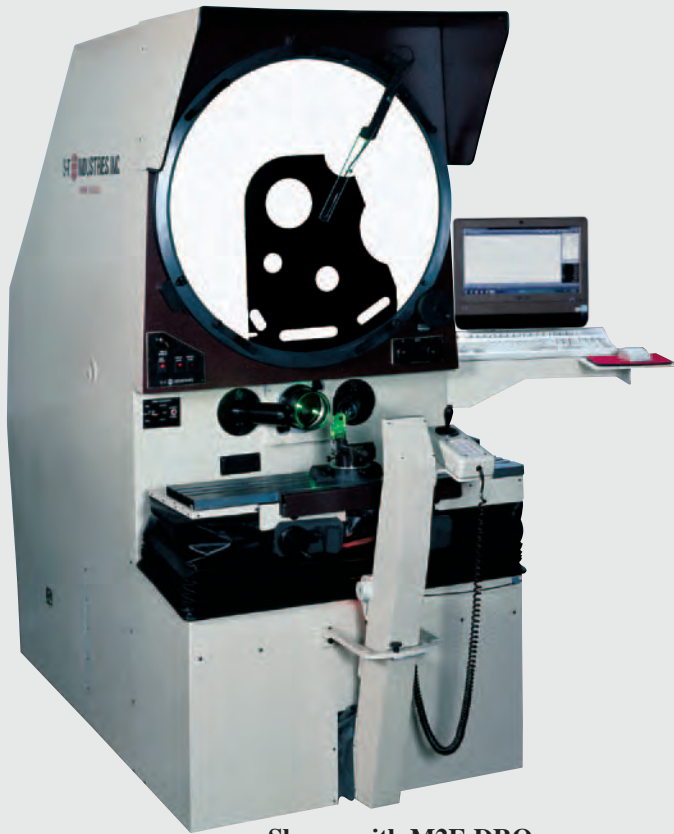


## Magnification Lenses

### OPTIONAL MAGNIFICATION LENSES

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

# 5600



Shown with M2E DRO

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**

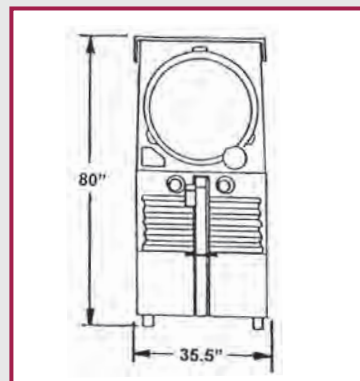
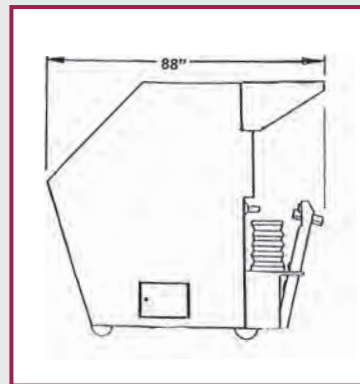
**Electrical:** 115 V, 60 Hz; other voltages available.

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

## Magnification Lenses

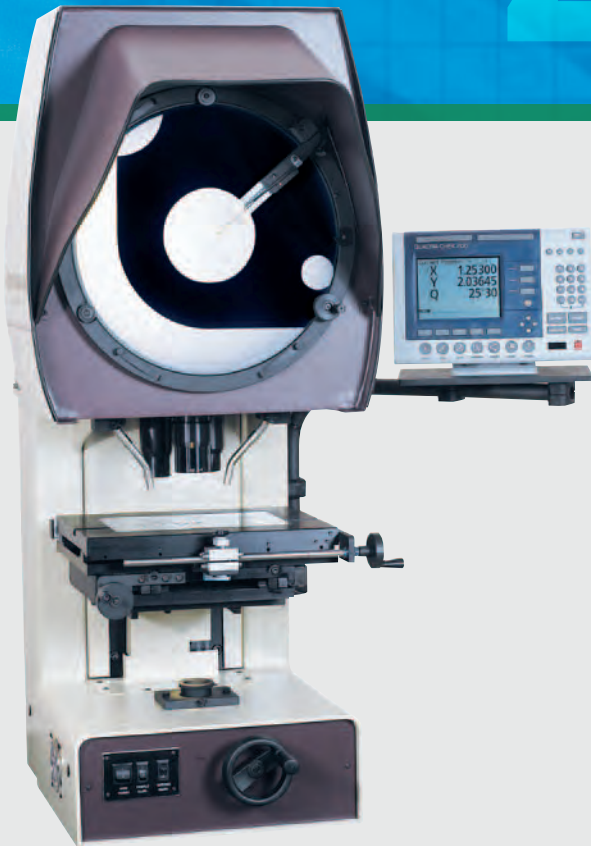
### OPTIONAL MAGNIFICATION LENSES

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





# 4600



Shown with QC-22IE DRO

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.

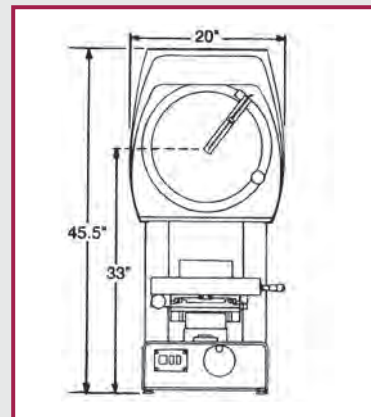
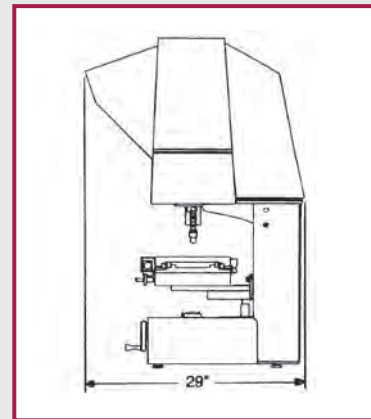
## Specifications

**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

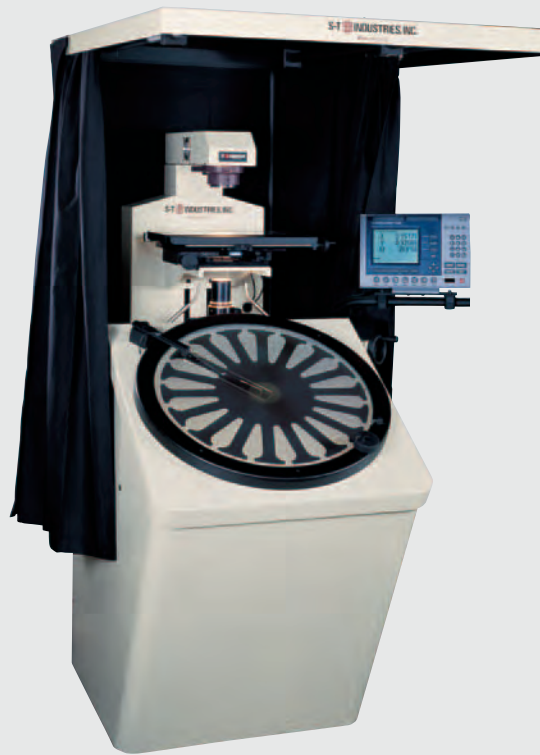
## Magnification Lenses

### OPTIONAL MAGNIFICATION LENSES

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



# 2400



Shown with QC-22IE DRO

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

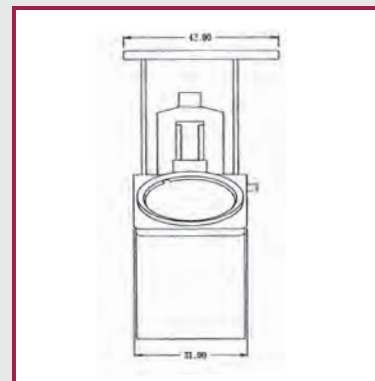
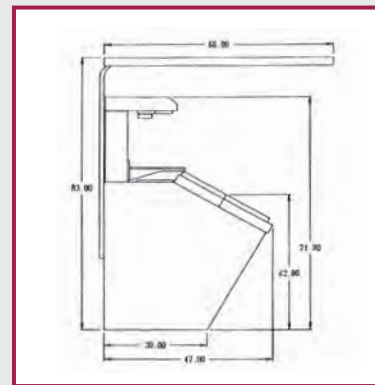
**Focus Travel:** 4" (100 mm)

**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.

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## REMANUFACTURED COMPARATOR AND DRO

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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.

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## UPGRADE OPTIONS

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

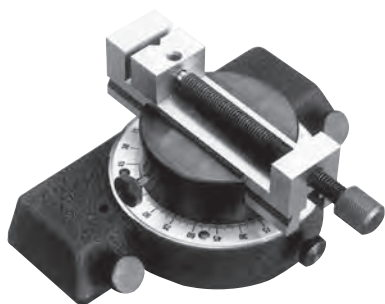
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**NOTE: On most occasions we have remanufactured units available for sale.**

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

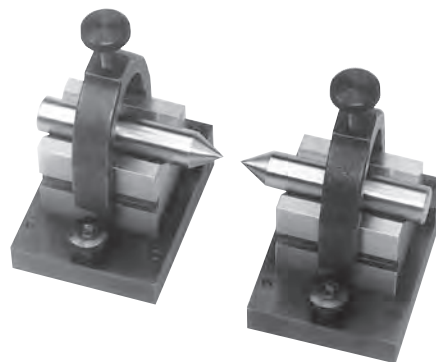
**NOTE: If you have an old S-T SCHERR-TUMICO 2500/2600 Series 30" Comparator that you are not using and do not intend to use that you are interested in selling, regardless of its condition, call us at 1-800-326-2039.**

# Horizontal Beam Comparator **FIXTURES**



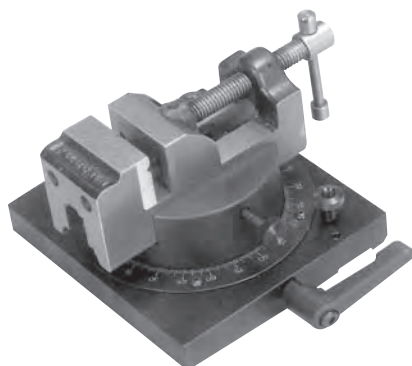
**20-1005-24 Large Rotary Vise**

- 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



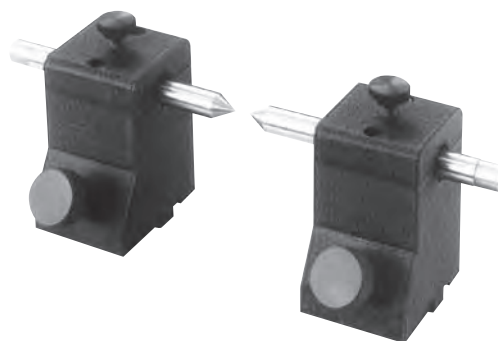
**20-3633-00 Matched V-Blocks with Centers**

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



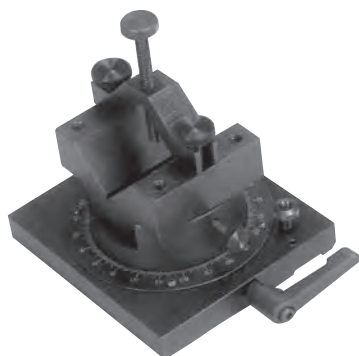
**20-3631-00 Rotary Vise**

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



**20-3632-00 Stage Centers**

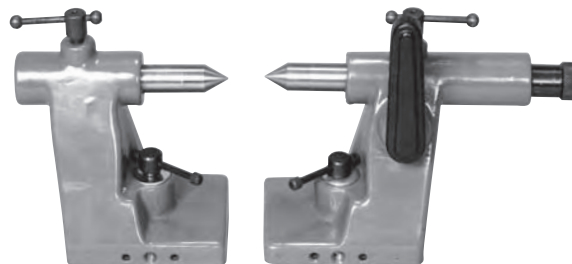
- Matched pair
- Holds parts up to 5.0" in diameter



**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

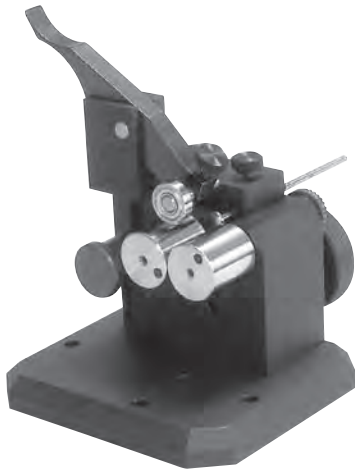
**22-3706-03 V-Block w/clamp only**



**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



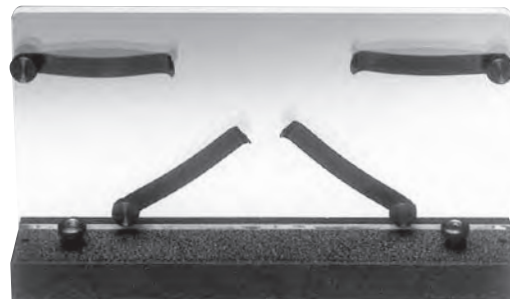
## 20-2540-00 Vertical Holding Fixture

- 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



## 20-0390-00 Right Angle Backing Plate

- For use on all Comparators

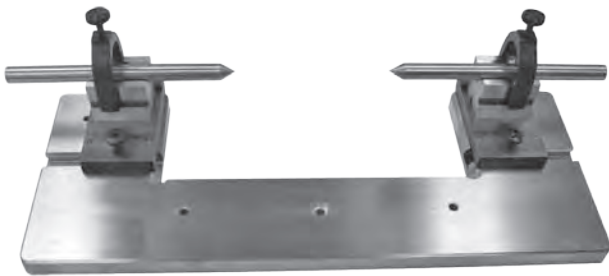


## 20-2541-00 Large Vertical Holding Fixture

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



# 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.

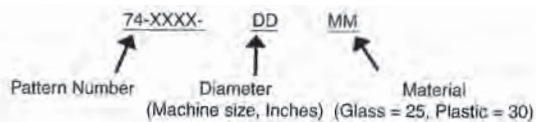
The lines on charts are made accurate to their center unless otherwise stated on the chart. Our basic line width is .004 to .005 (.1 mm to .12 mm).

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.

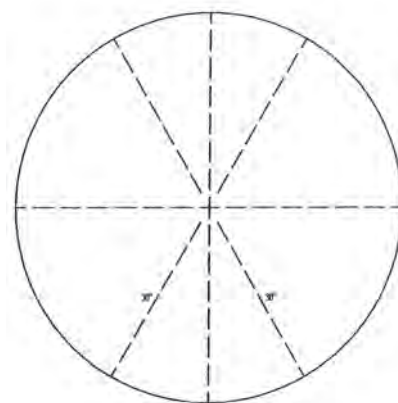
**SPECIAL ARTWORK** - Custom artwork is available on request. We can combine standard patterns or produce custom artwork scaled from your drawings.

**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

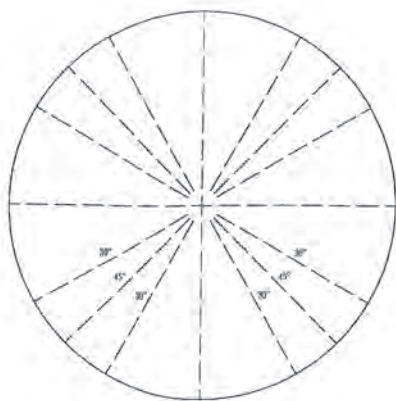
STANDARD GLASS CENTERLINE SCREENS ARE BASIC FOR ANY OPTICAL COMPARATOR.



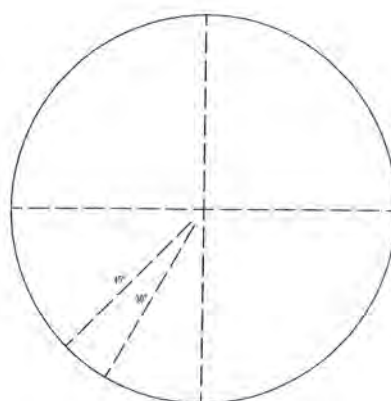
74-0008

## CENTERLINE SCREENS

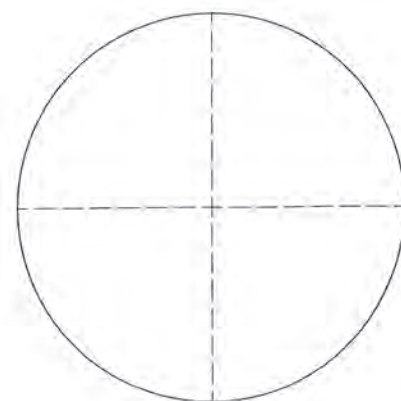
STANDARD GLASS CENTERLINE SCREENS ARE BASIC FOR ANY OPTICAL COMPARATOR.



74-0073



74-0062

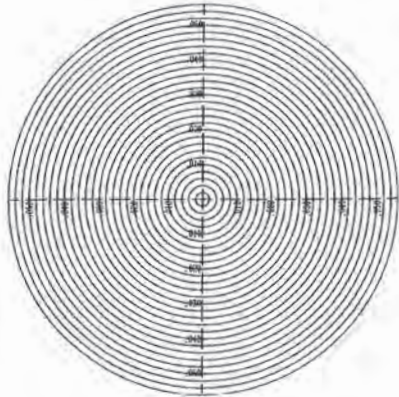


74-0060

**NOTE:** Other angular line combinations are available on request.

# Screens and Charts

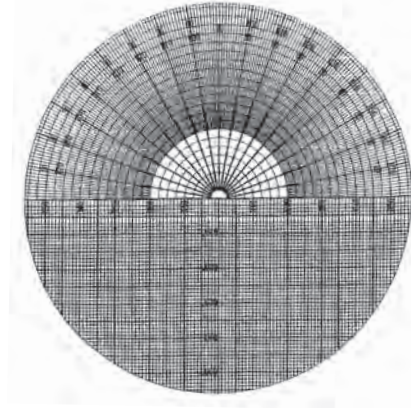
## COMBINATION MAGNIFICATION-RADIUS CHARTS



CATALOG NO.	MAG.	INCREMENTS
74-0004	10x	.005"
	20x	.0025"
	50x	.001"
	100x	.0005"
74-0009	10x	.005"
	20x	.0025"
74-0002	31½x	.002"
	62½x	.001"

Other combinations available on request.

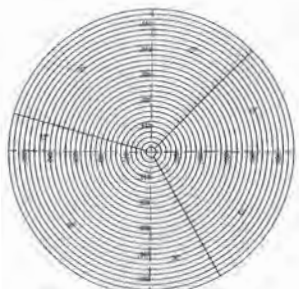
## COMBINATION RADIUS-GRID CHARTS



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

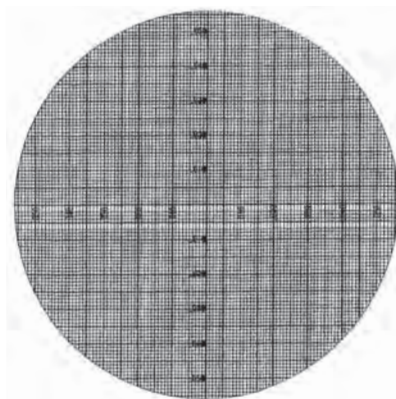


15° 30° 45° 60° 75° Angles

CATALOG NO.	MAG.	INCREMENTS
74-0133	5x	.010"
74-0100	10x	.005"
74-0101	20x	.0025"
74-0103	31½x	.002"
74-0104	50x	.001"
74-0105	62½x	.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



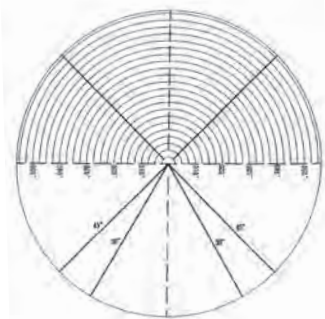
CATALOG NO.	MAG.	INCREMENTS
74-0010	10x	.005"
74-0011	20x	.0025"
74-0013	31½x	.002"
74-0014	50x	.001"
74-0015	62½x	.001"
74-0016	100x	.0005"

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 1/2x	.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

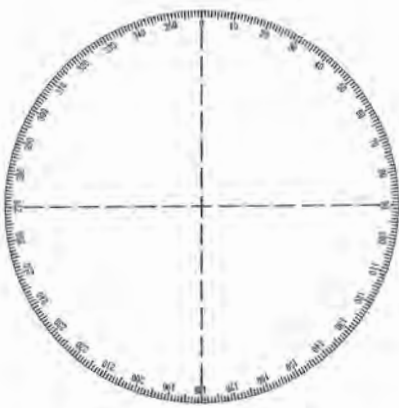
ALL THREAD CHARTS ARE FOR CHECKING THE THREAD ANGLE, ROOT AND CREST FORMS AND DEPTH.



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.

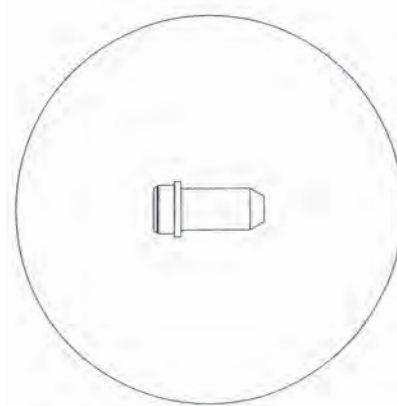
## GLASS PROTRACTOR SCREENS



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



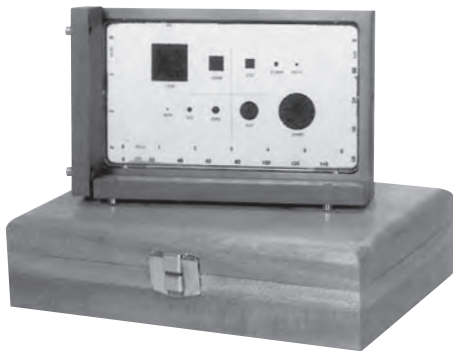
## 74-0321-10

- 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**

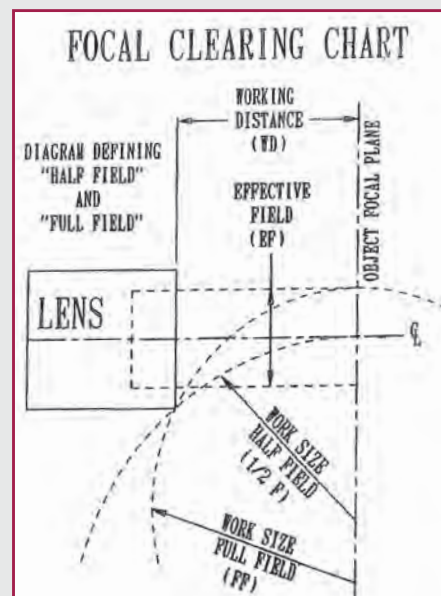
Optional Locking Drawer Can be easily installed at a later date.

## 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)



# M2 Touch Screen Controls



Includes keyboard and mouse. Monitor is approximately 15" measured diagonally.

## M2 Metrology Software

### Windows based Touchscreen Control

M2 metrology software running on a Windows based, touchscreen computer provides a powerful, intuitive and affordable solution for geometric measurement with an optical comparator. Icons direct user through easy to use measuring and reporting functions. There are no complicated or hidden menus to navigate through. The M2 from Metlogix is available on all S-T Optical Comparators.

## Features

- Measure features with crosshair or with optical edge detection.

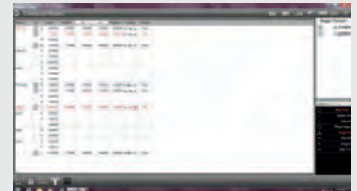


Large, clear display window

- Several reporting formats

Data can be printed or exported

Tolerances can be edited in a report form



All reports can be exported as a text file

- Interact with part view to build constructions

Select features by touching or clicking to measure distances, angles, points and circles. Features can be named for better identification.



Part view dynamically fills window

- Program record and playback

Program is always being recorded when a part is measured

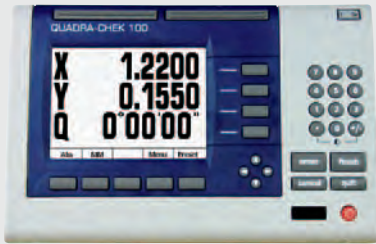
Operator is directed through program by visual target



Easy to follow on-screen target

- Available in manual or CNC configuration

# 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

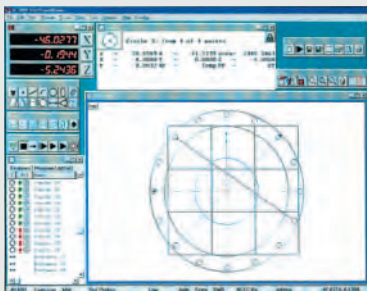
This powerful digital readout provides fast geometric computations in a simple, easy-to-use format.

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
<b>WORKSTAGES</b>								
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"
<b>WORKSTAGE TRAVEL</b>								
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°
<b>OPTIONAL STAGES</b>								
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"
<b>WORKSTAGE TRAVEL</b>								
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
<b>READOUTS</b>								
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
<b>OPTIONS</b>								
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
<b>MAGNIFICATION LENSES</b>								
Full Range of Mag. Lenses 10X, 20X, 25X, 31 <sup>1</sup> / <sub>4</sub> X, 50X 62 <sup>1</sup> / <sub>2</sub> X, 100X								
5X Magnification Lens	0	0	0	0	0	0	0	0
<b>ACCESSORIES</b>								
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



# S-T INDUSTRIES, INC.

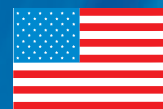
## SCHERR-TUMICO

### VIDEO INSPECTION SYSTEMS



See the  
**Quality**

OVER **70** YEARS OF  
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