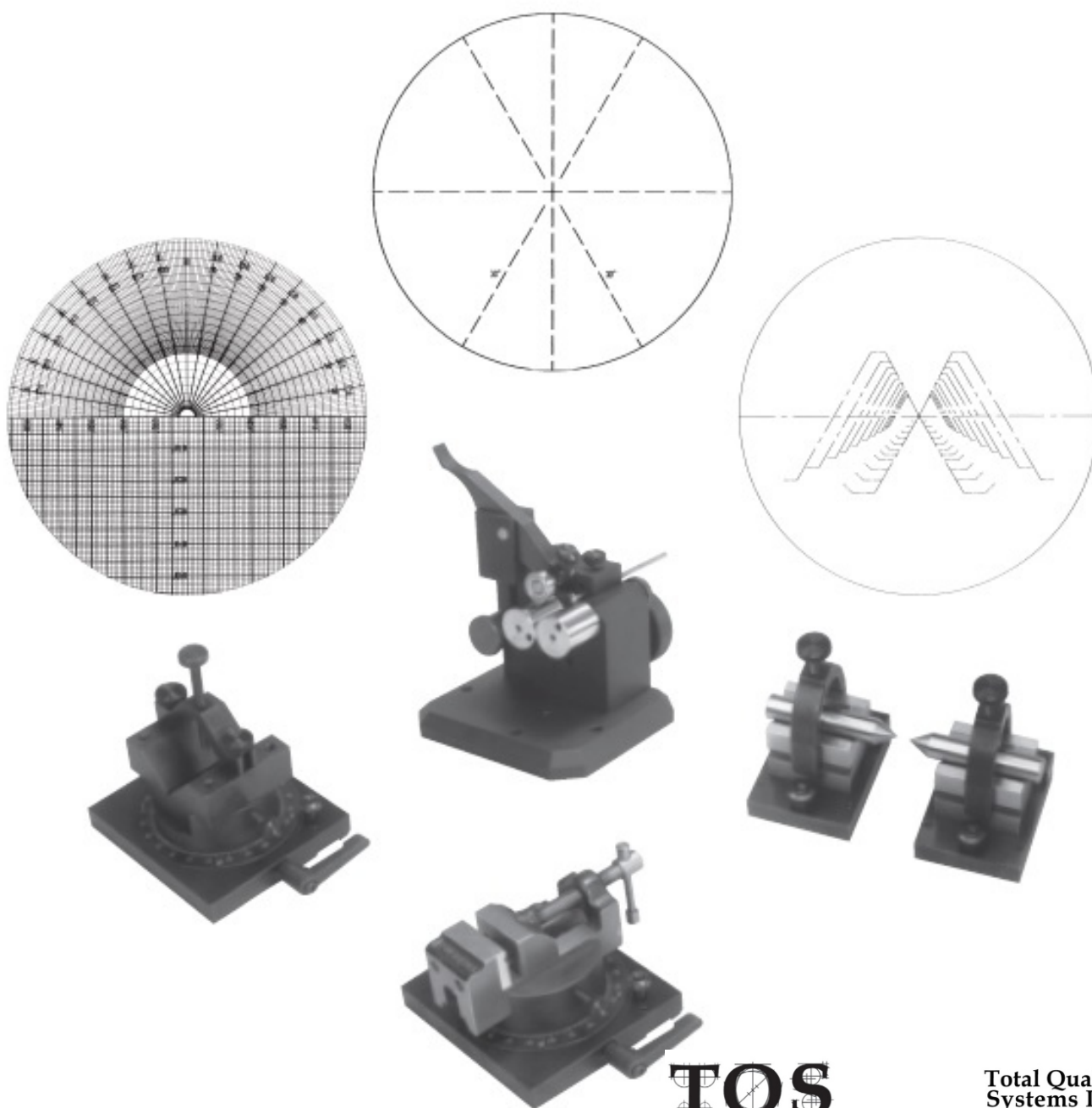




CHARTS, FIXTURES AND ACCESSORIES FOR OPTICAL COMPARATORS



TQS

**Total Quality
Systems Inc.**

1783 W. University #135
Tempe, AZ 85281
E-Mail sales@tqscorp.com

Inside Sales/Office 480-377-6422
Fax 480-377-6426
Todd direct 602-228-3863

S-T INDUSTRIES, INC.
SCHERR - TUMICO

*See the
Quality*

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.

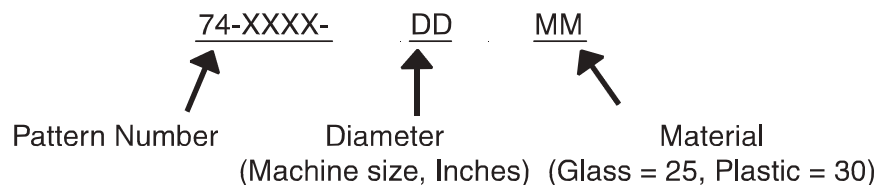
The lines on charts are made accurate to their center unless otherwise stated on the chart. Our basic line width is .004" to .005" (.1-.12mm).

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 Deg F - (60 Deg 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 course 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**

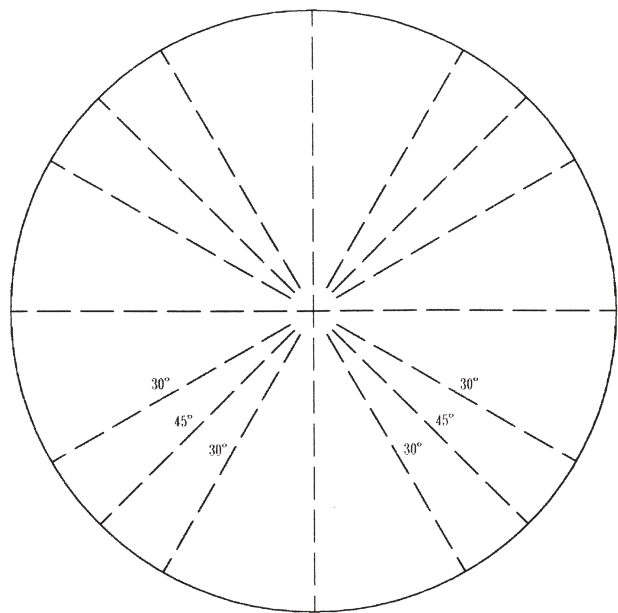
IMPORTANT - When ordering glass replacement screens, please include the model number of your optical comparator.

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

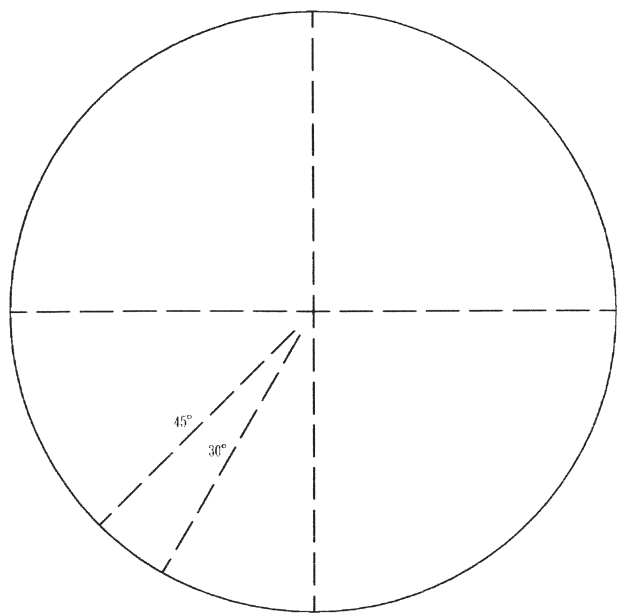
NIST CERTIFICATIONS - Accuracy certifications can be provided at an additional charge. Please request this at the time your order is placed.

CENTERLINE SCREENS

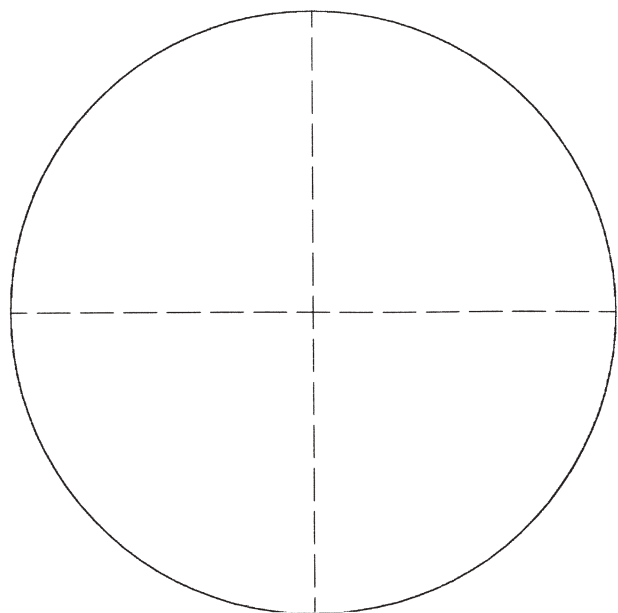
STANDARD GLASS CENTERLINE SCREENS ARE BASIC FOR ANY OPTICAL COMPARATOR



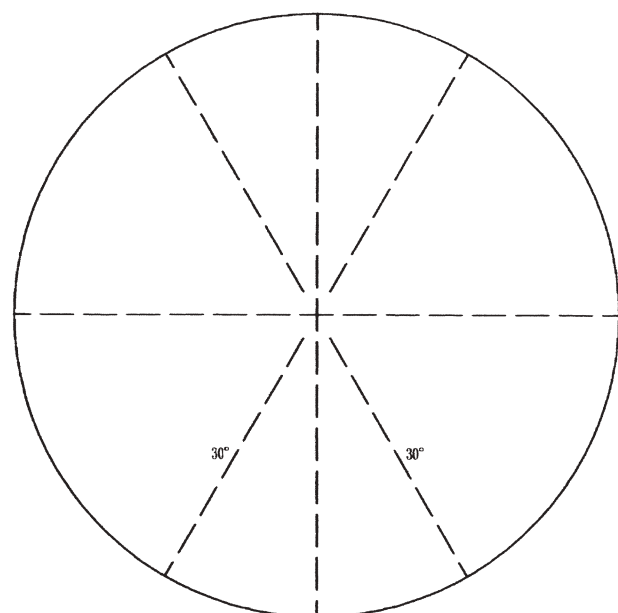
74-0073



74-0062



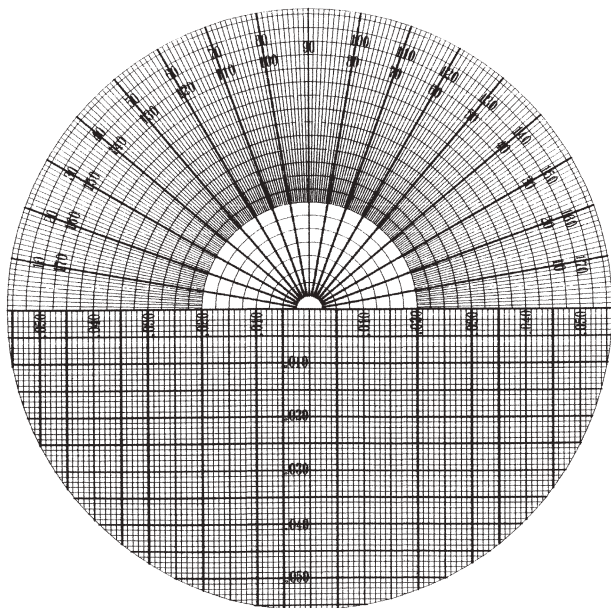
74-0060



74-0008

NOTE: Other angular line combinations are available on request.

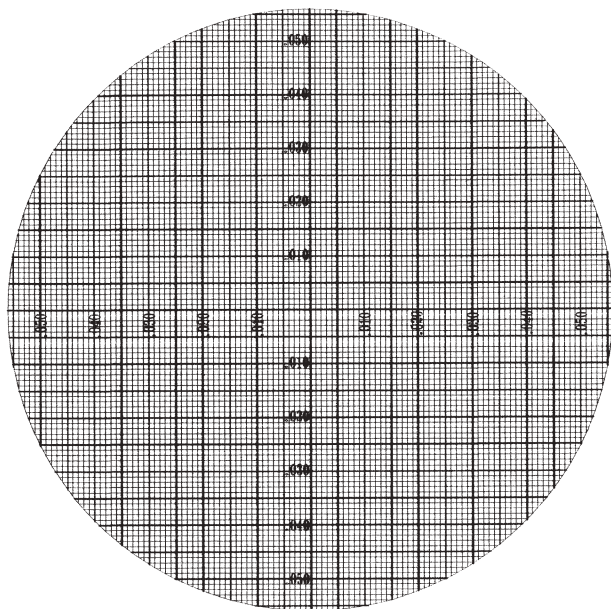
COMBINATION RADIUS-GRID CHARTS



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

Other magnifications and increments available on request.

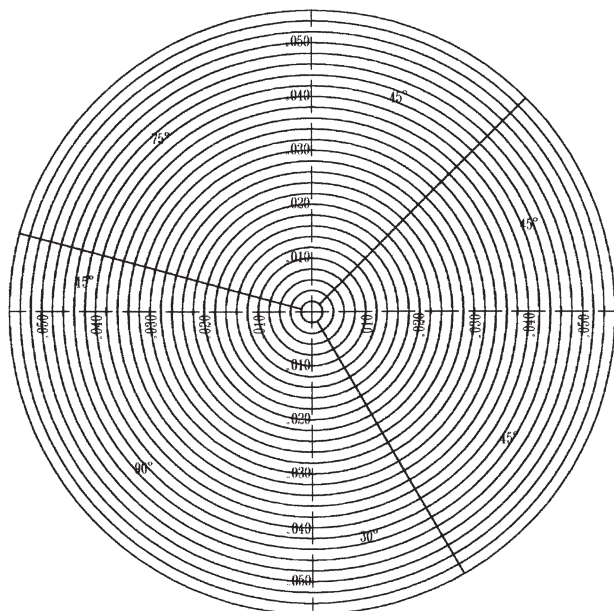
GRID CHARTS



CATALOG NO.	MAG.	INCREMENTS
74-0010	10x	.005"
74-0011	20x	.0025"
74-0013	31 ¹ / ₄ x	.002"
74-0014	50x	.001"
74-0015	62 ¹ / ₂ x	.001"
74-0016	100x	.0005"

Other magnifications and increments available on request.

RADIUS CHARTS

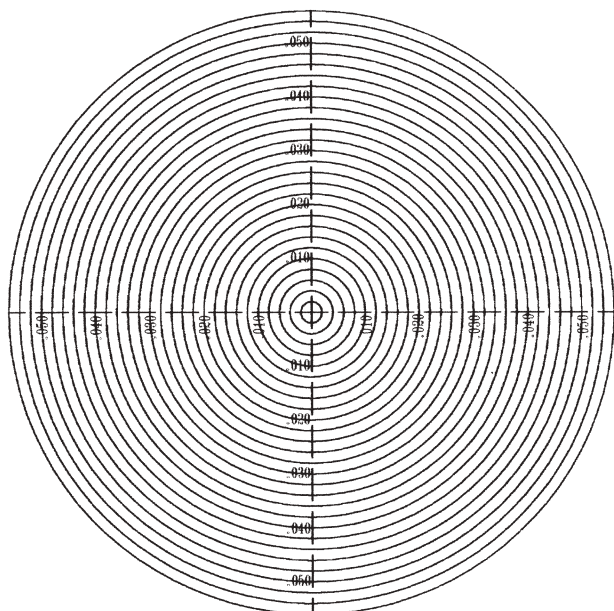


15° 30° 45° 60° 75° Angles

CATALOG NO.	MAG.	INCREMENTS
74-0133	5x	.010"
74-0100	10x	.005"
74-0101	20x	.0025"
74-0102	25x	.002"
74-0103	31 ¹ / ₄ x	.002"
74-0104	50x	.001"
74-0105	62 ¹ / ₂ x	.001"
74-0106	100x	.0005"
74-0162	10x	.10mm
74-0163	20x	.05mm
74-0164	50x	.02mm
74-0165	100x	.01mm

Other magnifications and increments available on request.

COMBINATION MAGNIFICATION- RADIUS CHARTS

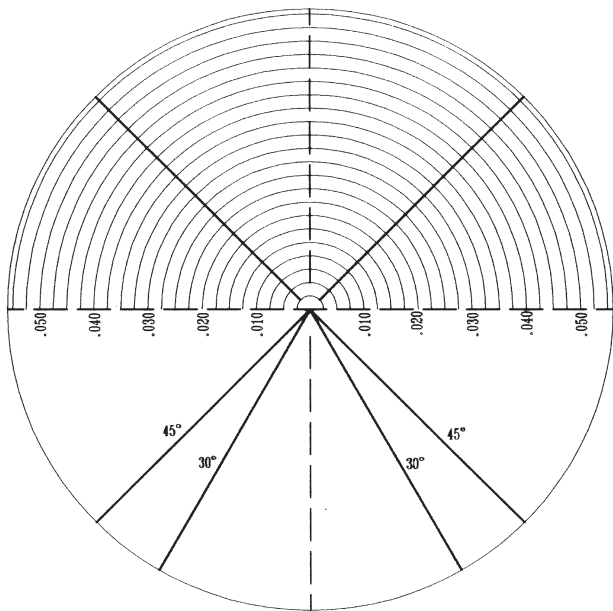


CATALOG NO.	MAG.	INCREMENTS
74-0004	10x	.005"
	20x	.0025"
	50x	.001"
	100x	.0005"
74-0009	10x	.010"
	20x	.005"
74-0002	31 ¹ / ₄ x	.002"
	62 ¹ / ₂ x	.001"

Other combinations available on request.

180° RADIUS CHARTS

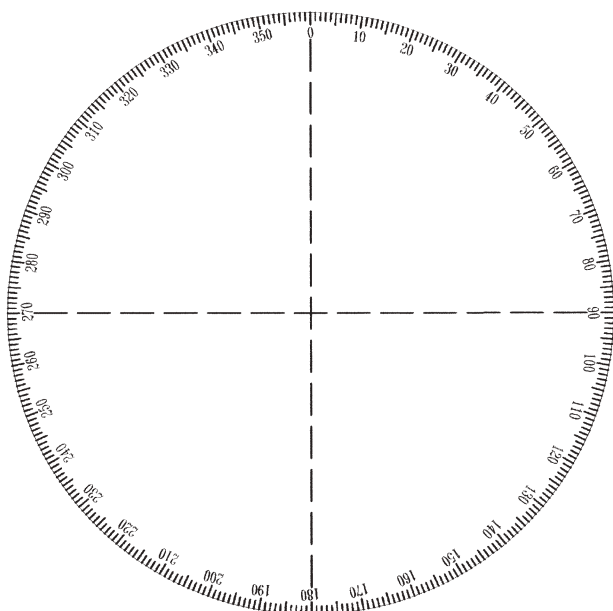
with 30° and 45° Angles



CATALOG NO.	MAG.	INCREMENTS
74-0481	10x	.010"
74-0482	20x	.005"
74-0483	25x	.004"
74-0484	31 ¹ / ₄ x	.004"
74-0485	50x	.002"
74-0486	62 ¹ / ₂ x	.002"
74-0487	100x	.001"

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

GLASS PROTRACTOR SCREENS

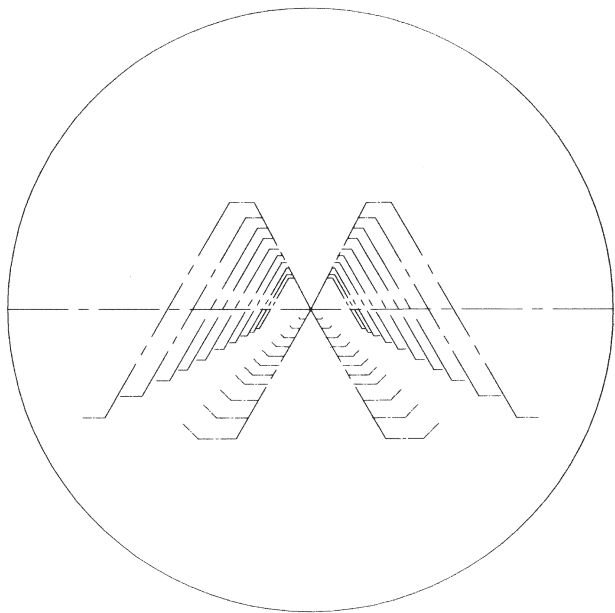


CATALOG NO.	DEGREE INCREMENTS
74-0053	0-360 degrees marked every 5 degrees, graduated every 30 minutes

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

THREAD CHARTS

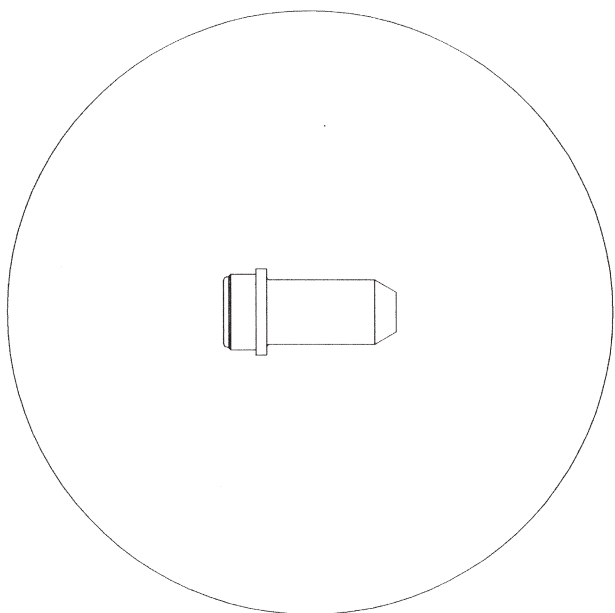
ALL THREAD CHARTS ARE FOR CHECKING THE THREAD ANGLE, ROOT AND CREST FORMS AND DEPTH



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 6.0mm 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.

SPECIAL CHARTS



Our engineering staff is available to assist you in developing special charts tailored to your specifications and 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



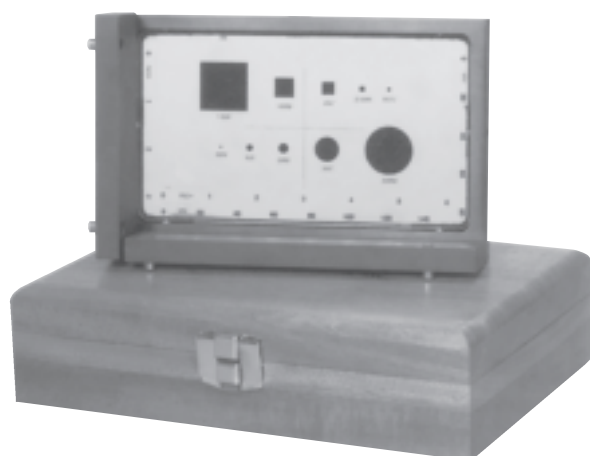
74-0321-10

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



74-0330-20

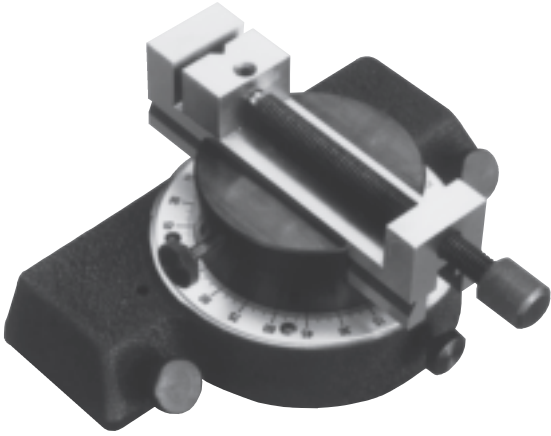
- 20" glass magnification scale
- With knobs, wood case and certificate to NIST
- For 24" and larger comparators



74-0500-00

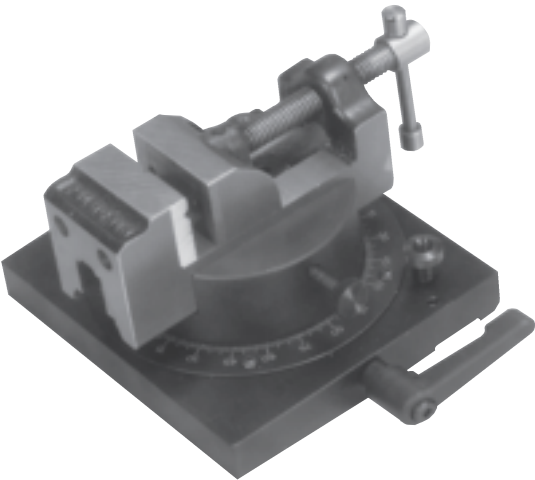
- Stage calibration master for checking X & Y linear accuracy and squareness of stage
- Includes wood case and certificate to NIST
- For all sizes and types of comparators

FIXTURES FOR HORIZONTAL **BEAM COMPARATORS**



20-1005-24 Large Rotary Vise

- Rotates 360 degrees with readings to 1 degree
- Vise opens to 3.0" x $\frac{5}{8}$ " deep
- High precision
- For use on 16", 24" and 30" comparators



20-3631-00 Rotary Vise

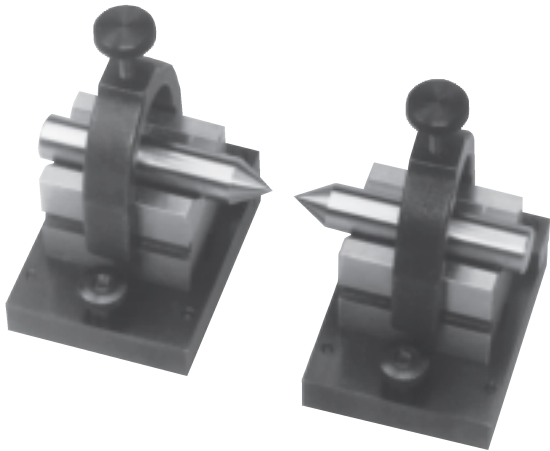
- Rotates 360 degrees with readings to 1 degree
- Vise opens to 1½" x 1.0" deep



20-3630-00 Rotary V-Block

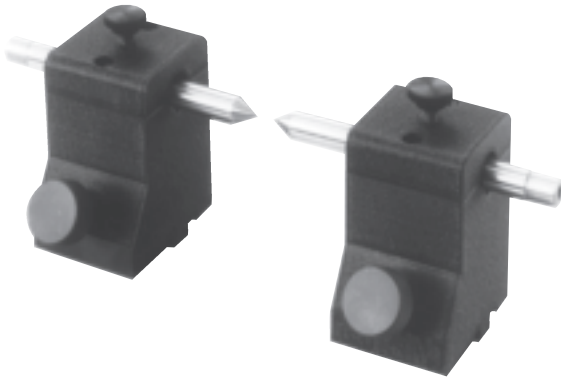
- Rotates 360 degrees with readings to 1 degree
- V-Block holds parts up to 1½" in diameter, including clamp

FIXTURES FOR HORIZONTAL **BEAM COMPARATORS**



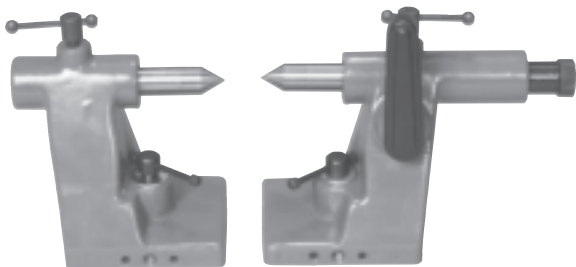
20-3633-00 Matched V-Blocks with Centers

- V-Blocks will hold parts up to 1.0" in diameter
- Centers will hold up to $3\frac{7}{16}$ " in diameter parts



20-3632-00 Stage Centers

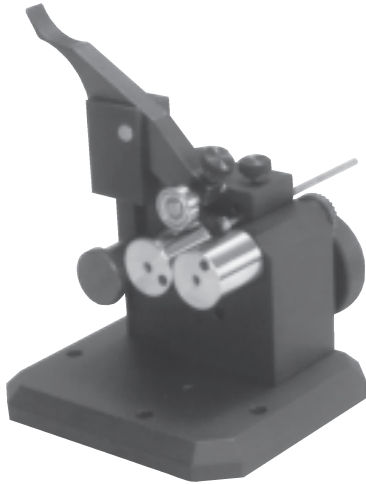
- Matched pair
- Holds parts up to 5.0" in diameter



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

FIXTURES FOR HORIZONTAL **BEAM COMPARATORS**



20-3623-00 Concentricity Fixture with High Precision Roller

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

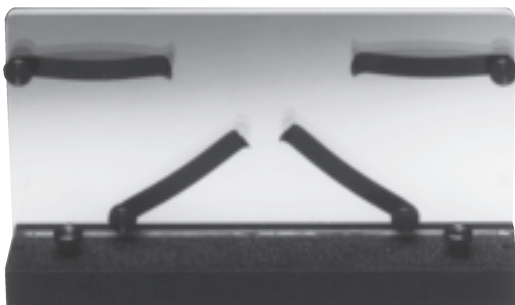
20-3624-00 Large Concentricity Fixture

- 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

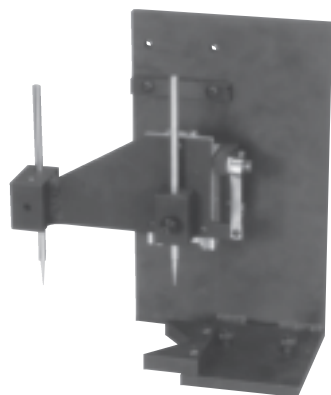


20-2541-00 Large Vertical Holding Fixture

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

TRACER ATTACHMENTS FOR HORIZONTAL BEAM

COMPARATORS



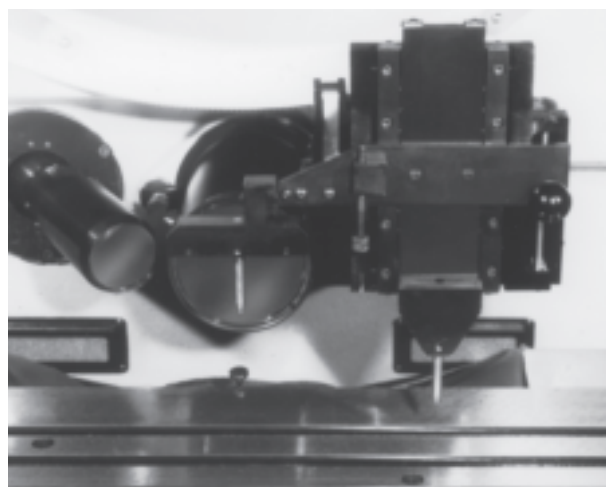
20-3523-00 Universal Tracer

- Attachment for use on all sizes of Horizontal Beam Comparators
- One styli traces the contour of the part and the other styli 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 .062" diameter ball styli contacts



Photo above left is the tracer attachment only

Photo lower left is the tracer attachment mounted on a "3500" Series 14" Comparator

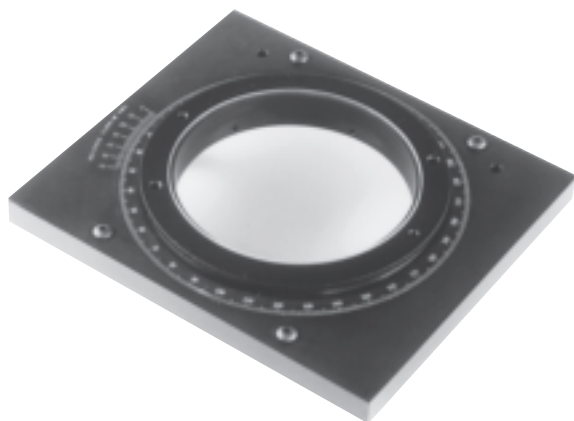


22-2535-00 Tracer Attachment for Use on "2600" and 5600" Series 30" Comparators Only

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

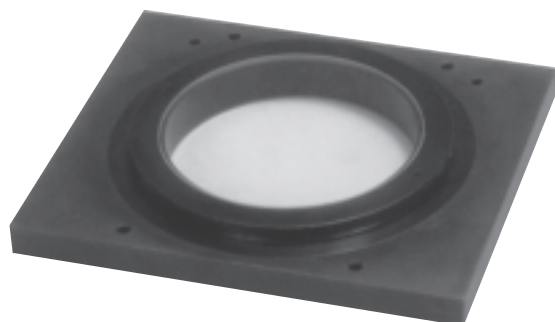
FIXTURES FOR VERTICAL BEAM

COMPARATORS



20-0222-00 Rotary Top Plate

- Graduated 360 degrees
- Reading to 2 minutes of arc
- For use on 2" x 2", 2" x 6", 4" x 8" and 4" x 12" travel stages



20-0222-01 Rotary Top Plate with No Graduations

- Rotates 360 degrees
- For use on 2" x 2", 2" x 6", 4" x 8" and 4" x 12" travel stages

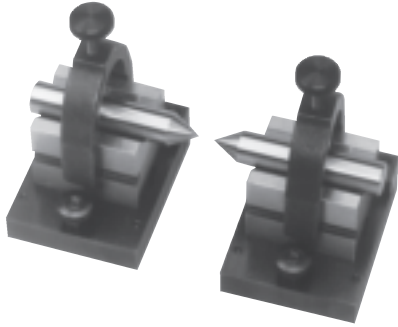


20-0650-00 Universal Clamping Fixture

- Spring loaded clamp with adjustable end stop
- For use on 2" x 6" travel stages

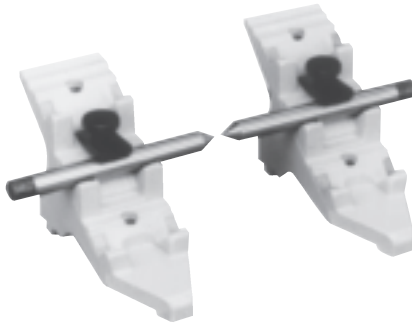
FIXTURES FOR VERTICAL BEAM

COMPARATORS



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 4" x 8" and 4" x 12" travel stages



20-0410-00 Stage Centers

- For use on 2" x 6" travel stages
- Will hold parts up to 6.0" in diameter and 12.0" long

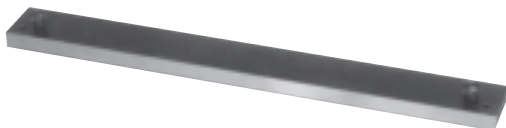


20-0389-01 Right Angle Backing Plate

- For use on 2" x 6" travel stages to position parts square to the stage

20-0389-02 Right Angle Backing Plate

- For use on 3500, 3700, 1600, 2450, 2660 and 5600 series comparators



20-8614-00 Datum Bar

- For use on 4" x 8" & 6" x 8" travel stages to position parts square to the stage

20-8614-05 Datum Bar

- Same as above except for 4" x 12" & 6" x 12" travel stages

S-T INDUSTRIES OPTICAL COMPARATOR FAMILY

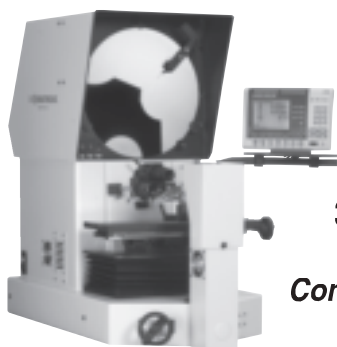
3550
14"
Comparator



4400
14"
Comparator



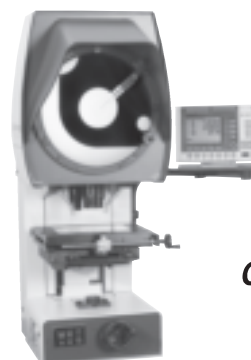
3700
14"
Comparator



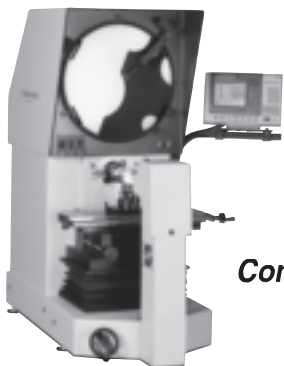
5600
30" Comparator



4600
14"
Comparator



1600
16"
Comparator



9600
Video Inspection
System



2450
24"
Comparator



2600
30" Comparator



2400
24"
Comparator





See^{the}
Quality

The S-T Industries Story

For more than 60 years, 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 1950's, it allowed companies of all sizes to afford the technology of profile projection. As we look forward to the 21st century, 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. Also, our 30" comparators are portable. They are equipped with large casters so that one person can move the instrument. And, our CNC products all have a digital positioning system that allows table movement 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	Thailand	Spain	South Africa	Portugal
France	Belgium	Turkey		South America
Holland	Germany	Canada	Sweden	
Ireland	Hong Kong	Great Britain	China	Taiwan
Mexico	Israel	India	Greece	Denmark
Scotland	Norway	Italy	Indonesia	Philippines
South Korea	Singapore	Pakistan	Malaysia	

SCHERR-TUMICO for Quality, Service and Value



Manufacturers of SCHERR-TUMICO Precision Measuring Tools



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