

# MODEL 16H HORIZONTAL BEAM

This extremely accurate and versatile measurement instrument features our proven cast iron "ultra precision" stage system. Integrated fiber optic surface illumination, and an electronic rotary screen protractor combine to make this the most accurate and versatile horizontal benchtop comparator available at any price.

Available with  
Dorsey Duralume  
Patented 15 year light source

## FEATURES:

- 16" (400mm) Vertical screen for optimum viewing
- Erect profile image with fully corrected surface reflection image or optional fully corrected image
- High resolution ground glass screen with calibration reticle, 90 degree cross lines and chart clips
- Machined chart ring with vernier protractor, 1 minute graduation
- Output for electronic rotary screen protractor with selectable 1 minute or 1/100 of a degree resolution
- Coated telecentric parfocal optics
- Quick change single lens mount
- Fiber optic surface illumination
- Integrated hood
- Nickel plated, completely cast iron workstage
  - Triple axes solid crossed roller stage system
  - Twin universal dovetails
  - 18" x 5" overall size
  - 10" X axis travel with "glide release"
  - 6" Y axis travel ( rise & fall )
  - 150 lbs. capacity
  - $\pm 15$  degree true parfocal helix table adjustment, with 5 minute vernier
- Available with 3 axes of measurement
- Optional 20" extended stage travel on "X" axis
- Available with internal or external edge sensing
- Optional swing away lamp house arm
- Optional motorized CNC full computer controlled readout systems
- NIST traceable calibration certificate
- Harsh Environment package
- 2 Year limited warranty



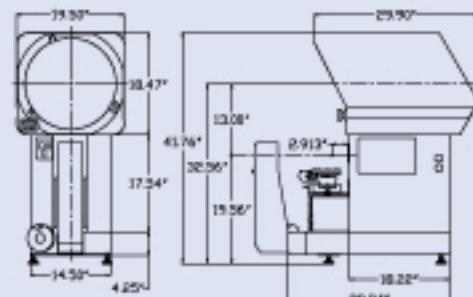
*This ultra precision system utilizes an integrated zero backlash, high resolution scale, and a free state, normalized zero stress stage. These features combine to attain inherent accuracy and repeatability values as high as .000010" without electronic compensation*

### TECHNICAL SPECIFICATIONS

|                           |  |
|---------------------------|--|
| Illumination              | Profile: Built-in 24V/150W direct collimated halogen<br>Surface: Built-in 24V/250W via fiber optics        |
| Screen size               | 16" (400mm) Ground glass with cross-lines  |
| Workstage                 | Cast iron, nickel plated, 18" x 5", twin dovetail  |
| Workstage travel          | X - 10" (250mm)<br>Y - 6" (150mm)<br>Focus - 2" (50mm)<br>Surface: Built-in 24V/250W via fiber optics (x2) |
| Workstage options         | Optional increase of stage travel to 20" on X axis (500mm)   |
| Workstage accuracy        | Within +/- 0.004mm +{(L/20).001}   |
| Linear scale resolution   | Standard: 0.001mm/.00005"<br>Optional: 0.0005mm/.000020"   |
| Repeatability             | +/- 1 Scale count (0.001mm/.00005")  |
| Coated telecentric lenses | 5x, 10x, 20x, 25x, 31.25x, 50x, 62.5x, 100x  |
| Optical accuracy          | Within +/- .10% Profile, +/- .15% Surface  |
| Power requirements        | 120V or 240V AC, 50/60 Hz, 10 Amp  |
| Weight                    | 460 lbs./210 kg.   |

### DIMENSIONS

Proudly made in the USA



# VAN WERT

G.E. VAN WERT CO., INC.  
461 BOSTON ST. TOPSFIELD, MA.  
(978)-887-3389, GEVANWERT.COM



# THE DORSEY ADVANTAGE

## CONSTRUCTION FEATURES OF OUR MODEL 16H

### Focus travel is always "optically coaxial"

Unique design features an intermediate plate that allows the focus axis to travel independently of the X axis

### Ultra Precision Cast Iron Stage

Large capacity 10" x 6" - 150 lbs. stage system  
Optional 20" X axis travel  
Solid cast iron - no aluminum

Lens is mounted to cast iron stage - not to sheet metal case

Y Axis glass scale has zero backlash and is mounted on lens center line to greatly increase accuracy

3 axis measurement available

Single hand quick release on X axis

Stage is mounted to independent base fabrication not sheet metal case

Both profile and surface illumination bulbs are located in lamphouse

Solid rail crossed roller bearings in all axes

Case fabrication is powder coated not painted

Y axis drive is located directly under the center of gravity, and uses a composite steel/Delrin bevel gear set for accurate and silent operation

Base is fabricated from cast composite granite

X Axis glass scale has zero backlash and is mounted directly under focal plane to greatly increase accuracy

Weight bearing stage base is longer than stage top

### Available with internal edge sensing ("IED")

This feature provides automatic edge detection without the viewing obstruction of a plexiglass arm on the screen. The IED target is aligned directly behind the screen crossline.

- IED is more accurate because the image is "read directly and is not diffused through ground glass screen.
- IED is also not subject to the stability and rigidity of a plastic arm, our IED sensor can't be bumped out of alignment.
- Cross calibration is not necessary when you switch between surface illumination and IED edge detection

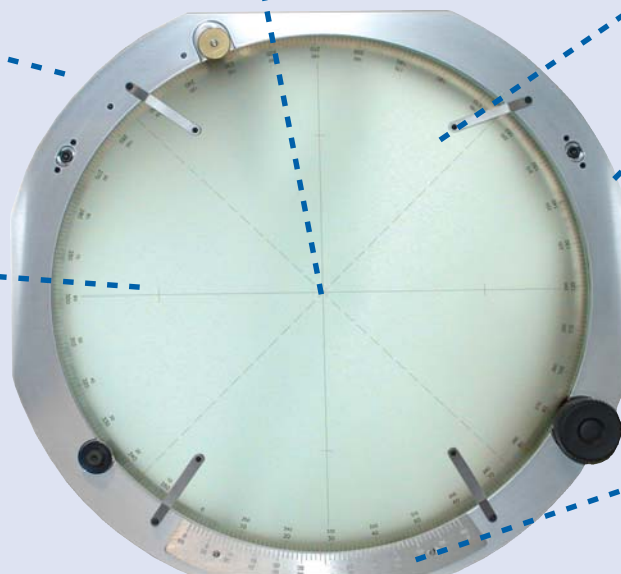
Screen is mounted in precision machined chart ring for increased rigidity, optical accuracy, and improved protractor operation

High resolution lapped glass screen

Recessed screen protects damage and eliminates contamination of internal optics

Built in calibration reticle for easy magnification verification

Large format vernier protractor with one minute graduations



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# WORK STAGE TOOLING CONTINUED



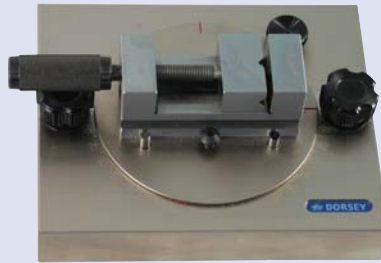
Part # ACC-BF \$105



Part # ACC-LBF \$135

## FIXTURE BANKING PLATES

- Part# ACC-BF (6" x 1")
- Part# ACC-LBF (3"x2.5")
- Precision ground steel
- Reversible for left or right bank
- Can be used on horizontal or vertical stages



Part # ACC-RV1 \$650



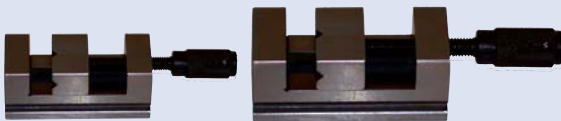
Part # ACC-RV2 \$975

## ROTARY VICE STAGE

- Part# ACC-RV1 jaw opening of 1.25"
- Part# ACC-RV2 jaw opening of 2.12"
- Precision ground steel
- Positions vice in X, Y, or Z axis
- 360 degree rotation with 1 degree graduation

Part # ACC-V1 \$175

Part # ACC-V2 \$275



Part # ACC-VB1 \$245



## PRECISION FIXTURE VICE

- Part# ACC-V1 jaw opening of 1.25"
- Part# ACC-V2 jaw opening of 2.12"
- Precision ground steel
- Vertical and horizontal V

## PRECISION V BLOCK

- Part# ACC-VB1
- Precision V block
- Hardened and ground steel
- 90 degree V 2.7" high



Part # ACC-VF7X5 \$271

## VERTICAL GLASS FIXTURE

- Part# ACC-VF7x5
- Used to mount flat parts on horizontal comparators
- 7" x 5" glass
- 2 Chart clips & V

Part # ACC-VBC2.5 \$455



Part # ACC-VBCHD \$1295



## PRECISION V BLOCK & CENTER KIT

- Part# ACC-VBC2.5
- Matched ground hardened steel
- 90 degree V
- 2.7" tall
- 1" diameter centers with interchangeable Morse taper insert

## HEAVY DUTY V BLOCK & CENTER KIT

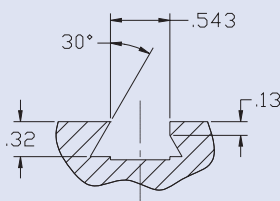
- Part# ACC-VBCHD
- Matched Ground cast iron
- 90 degree V
- 5" tall
- 1" diameter centers with interchangeable Morse taper insert

Part # ACC-RF \$1375



## PRECISION ROTARY FIXTURE

- Part# ACC-RF
- Manual or motorized versions
- Scroll chuck available
- Collet set available
- 3 Jaw chuck available
- Wooden Storage Box



Typical universal dove tail detail used on all horizontal staging

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