

# Starrett®



## OPTICAL COMPARATORS

HDV300

HE400

HB400

HD400

HF600

HF750

VB300

VB400

VF600

METROLOGY  SOLUTIONS



# STARRETT OPTICAL COMPARATORS

RUGGED, ACCURATE & EASY TO USE

Starrett optical comparators provide a time-tested, cost-effective solution for non-contact measurement. In this easy-to-learn technology, the image of a part is projected on a screen at a precisely known magnification. Measurements can then be taken from the part image by moving the system's X-Y stage, or the image can simply be compared to a transparent overlay.

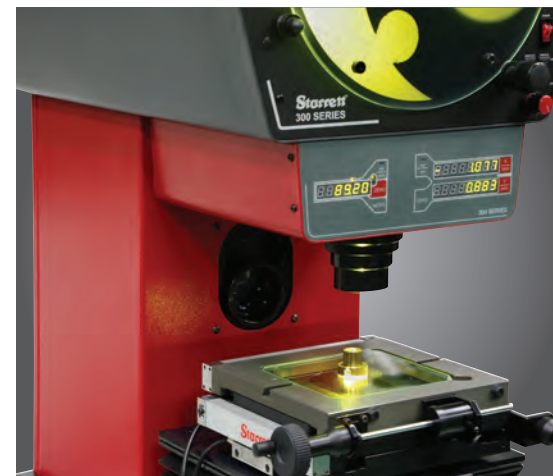
Starrett optical comparators combine mechanical stability with precision optics and versatile lighting to produce bright, sharp images and exceptional accuracy. The vertically positioned VB300 Optical Comparator models are available with a choice of digital readouts or touchscreen PCs, measuring software options, manual workstage travel, projection lens magnifications from 10x to 50x, and optional Edge Detection capability. Our proven mechanical designs are now enhanced with the latest metrology software for unmatched flexibility and productivity.



# VERTICAL BENCHTOP OPTICAL COMPARATOR

The VB300: High performance at a low price.

This vertical bench-top optical comparator has been designed to meet the demands of modern industry. The VB300 is ideal for the rapid inspection of small light weight components, pressings, plastic moldings, electronic components, small turned parts, etc.



## FEATURES AND SPECIFICATIONS

- Available with a simple integrated LED readout display (as shown) or choice of the new MetLogix™ or Quadra-Chek® geometric readout systems
- Fully usable 12" (300mm) diameter upright screen with precision cross hairs and overlay clips
- Measuring travel: 4" (100mm) X-axis, 4" (100mm) Y-axis
- Fast traverse, quick release mechanism on X-axis and Y-axis
- High precision workstage with 9 x 9" (225 x 225mm) top plate, with two dove-tail slots for easy fixturing
- Stage weight capacity: 11lbs (5kg) (evenly distributed)
- LED profile lighting and LED surface illumination are standard
- Exceptionally stable, all metal construction for optimum performance, accuracy, and reliability
- 10x, 20x, 25x, and 50x magnification lenses available
- Screen driven Q-axis
- Power supply 110/120/230/240/250V AC 50/60Hz

## OPTIONS

- 0.001mm resolution linear scales
- Automatic Edge Detection option
- Purpose built 23" Cabinet Stand available as an option

All Starrett Optical Comparators have lens magnifications set and calibrated to the following accuracies:

- Profile:  $\pm 0.05\%$
- Surface Illumination:  $\pm 0.10\%$





### M1 TOUCHSCREEN READOUT

The MetLogix™ M1 touchscreen readout offers a rich graphics display, large icon buttons and intuitive operation. Easy part alignment and datum functions plus coordinate displays for X and Y linear axes and Q angular values for screen rotation. MetLogix M1™ operates on an Android operating system and uses a Bluetooth connection to the host optical comparator.

### M2 TOUCHSCREEN READOUT

The MetLogix™ M2 readout has a broad range of powerful, user-friendly functions on a compact, icon based touchscreen PC interface in place of the traditional control.

### QUADRA-CHEK® READOUTS

Quadra-Chek® readouts are considered an industry standard for the precision measurement and inspection of geometric components. Their design reflects a deep understanding of user needs, with an intuitive user interface and simple, meaningful visual displays; innovations that improve operator productivity, reduce errors and save time and money.



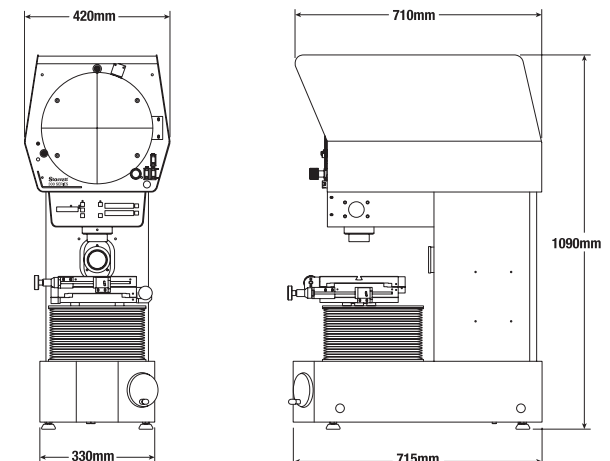
| FEATURE                                | QUADRA-CHEK®         |       |        | METLOGIX™ |     |    |     |
|--|----------------------|-------|--------|-----------|-----|----|-----|
|  | INTEGRAL LED READOUT | QC221 | QC221E | M1        | M1E | M2 | M2E |
| Touchscreen operation                  |                      |       |        | X         | X   | X  | X   |
| Angular digital measurement in readout | X                    | X     | X      | X         | X   | X  | X   |
| X-Y-Q axis digital readout             | X                    | X     | X      | X         | X   | X  | X   |
| Geometric function digital readout     |                      | X     | X      | X         | X   | X  | X   |
| On screen Optical Edge Detection       |                      |       | X      |           | X   |    | X   |

### VB300 DIMENSIONS

Gross weight: 75lbs (165kg)

Net weight: 56lbs (145kg)

Shipping dimensions: 47" x 32" 49" (120 x 81 x 125cm)

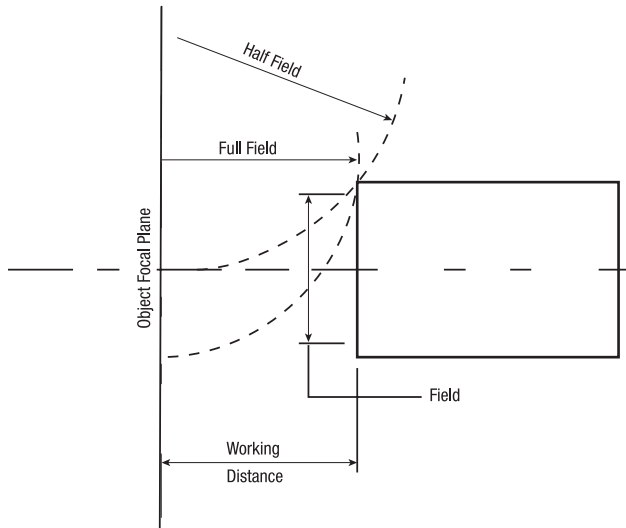




## VB300 OPTICS

### LENS SELECTION GUIDE

| MAGNIFICATION     |            | 10                                    | 20    | 25    | 50    |
|-------------------|------------|---------------------------------------|-------|-------|-------|
| Field of View     |            | 40mm                                  | 20mm  | 16mm  | 8mm   |
| Working Distance  |            | 80mm                                  | 76mm  | 62mm  | 50mm  |
| Max Work Diameter | Half Field | 140mm                                 | 140mm | 140mm | 140mm |
|                   | Full Field | 140mm                                 | 140mm | 140mm | 125mm |
| Projected Image   |            | Correct vertical; Reversed horizontal |       |       |       |



### FIELD OF VIEW TERMINOLOGY

|                      |  |
|----------------------|--|
| Working Distance:    | Is the distance between the objective lens and the component when the component is in focus.                 |
| Field Of View (FOV): | Is the viewing area of the component. A (30mm) FOV using a 10x lens would produce a screen image of (300mm). |
| Half Field View:     | Is the maximum size a component can be projected to the center of the screen before colliding with the lens. |
| Full Field of View:  | Is the maximum size a component can be projected over the full screen before colliding with the lens.        |
| Projected Image:     | Is how a component is projected onto the screen in relation to its placement on the workstage.               |

## ACCESSORIES

Starrett Optical Comparators are manufactured according to stringent quality standards. These same standards apply toward all lenses and accessories as well.

### ACCESSORIES

#### Interchangeable Lenses



#### 23" Cabinet Stand



#### Precision Centers and Vees



## Starrett Metrology Division

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## VB300

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Specifications Subject to Change