Starrett®

Precision, Quality, Innovation
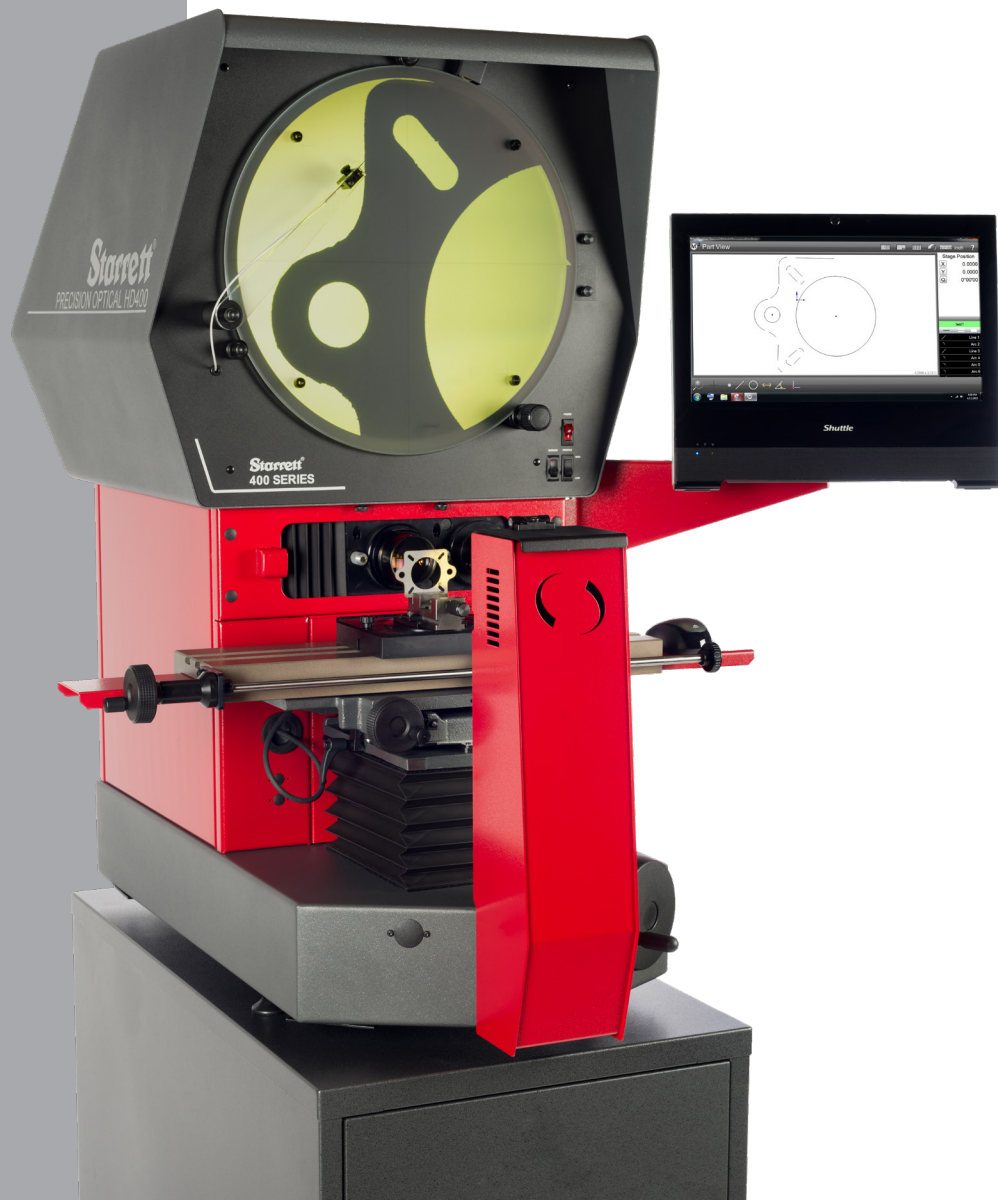
METROLOGY SYSTEMS

THE HD400
BENCHTOP OPTICAL COMPARATOR

Optical Comparators

Readouts

Software

Horizontal Bench-Top Optical Comparator HD400

DUAL LENS

The HD400 is a dual lens optical comparator offering a two-lens mount; allowing instant switching between two magnifications lenses or video camera adapter. The HD400 is equipped with a 16" (400mm) travel workstage as standard. Optional automatic edge detection or video edge detection removes operator subjectivity in locating edges of parts being measured. A bayonet style lens mounting system accepts a choice of five interchangeable lenses as well as our OV2 Zoom or TOV2 fixed telecentric magnification video camera systems. Motorized stage and swing-away lamp house are all optional features.

Features and Specifications

- 16" x 6" (400mm x 150mm) X-Y travel workstage
- All metal construction with hard-anodized stage tooling plate
- 16" (400mm) diameter screen
- Dual-lens mounting system
- Collimating condenser with yellow/green filter and provision to mount further accessories
- Linear encoder (glass scale) with 20µin (0.5µm) resolution on both X and Y axes
- LED profile and surface illumination
- Fully retractable flexible duplex fiber optic surface illumination
- Digital protractor for accurate angle measurements (1' resolution) via Q-axis readout
- Helix adjustment for accurate thread form inspection
- Available with MetLogix™ M2 all-in-one touchscreen PC, M3 PC with touchscreen monitor, or Mx-Series digital readout.
- Fine adjustment on all axes
- Quick release mechanism on the X-axis

Options

- Five interchangeable fixed magnification lenses including 10x, 20x, 25x, 50x and 100x
- Automatic optical edge detection
- Automatic video edge detection (available only with OV2 or TOV2 video cameras and M3 software)
- OV2 Video Camera with 6.5:1 zoom lens
- TOV2 Telecentric Video Camera with choice of 0.3x, 0.5x, or 1.0x fixed magnification lens
- Motorized X and Y axes
- Swing-away lamp house
- Canopy and curtains
- Purpose built cabinet stand
- Extensive line of accessories

OPERATOR INTERFACE

Feature	M2	M3	Mx200
Optical edge detection (Option)	✓	✓	✓
Geometric Functions	✓	✓	✓
Graphic Based Constructions	✓	✓	✓
Tolerancing	✓	✓	✓
Data export reporting	✓	✓	✓
Part programming and playback	✓	✓	✓
Operating system	MS Windows®	Windows®	MLX Android™
Part view display	✓	✓	–
Feature annotation	✓	✓	–
Video edge detection (option)	–	✓	–
CAD file import and export option	–	✓	–
Software developer	MetLogix™	MetLogix™	MetLogix™

SPECIFICATIONS

	HD400
Horizontal Travel	16" (400mm)
Vertical Travel	6" (150mm)
Focus Travel	2" (50mm)
Top Plate*	21" x 5" (530mm x 120mm)
Image	Vertically correct

*With machined slots for easy fixturing

WEIGHT AND DIMENSIONS

	HD400
Net Weight	320lbs 145kg
Shipping Weight	385lbs 175kg
Shipping Dimensions	49" x 32" x 51" (125cm x 81cm 130cm)

Stage Position

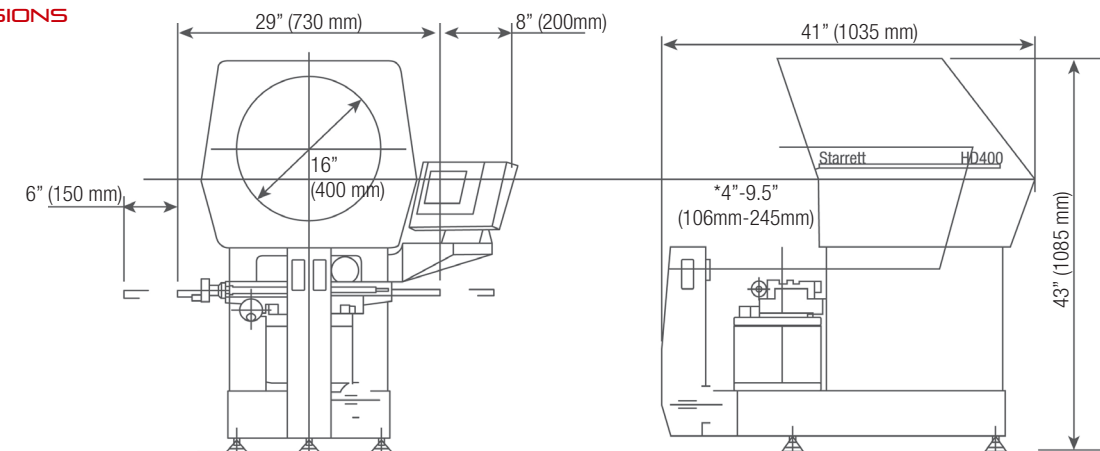|	
X	-0.5558
Y	-0.1847
Q	0°00'00

✓ DUAL LENS
✓ LED LIGHTING STANDARD
✓ VIDEO CAMERA COMPATIBLE

HAVE THE BEST OF BOTH WORLDS WITH A TRADITIONAL LENS AND AN OV2/TOV2 VIDEO CAMERA ON ONE SYSTEM. EASILY INTERCHANGEABLE WITH THE BAYONET LENS MOUNTING SYSTEM

HD400 Dimensions

29" (730 mm)   8" (200mm)   41" (1035 mm)

6" (150 mm)   16" (400 mm)   *4"-9.5" (106mm-245mm)   43" (1085 mm)

Starrett   HD400

*Distance refers to range of the maximum size a component can be projected to the center of the screen before colliding with the lens. (100X-10X)

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Accessories

Starrett offers a full range of accessories and purpose-built cabinet stands designed for our optical comparator systems to ensure efficient system setup for a broad range of applications.

Photo Key	Part No.	Description	For Models
A	4H003-1	Rotary Vise with 1-1/4" Capacity	HE400, HB400, HD400
B	4H002	Fixed Position Vise with 1-1/4" Capacity	HE400, HB400, HD400
C	4H004	Universal Vee Block on Rotary Base	
D	7P000	Centers and Vees	HE400, HB400, HD400
E	8170 8171	31" Cabinet Stand 22" Cabinet Stand	HE400, HB400, HD400
F	8276	Canopy and Curtains	HE400, HB400, HD400
G	7E010	10X Lens**	HE400, HB400, HD400
H	7E020	20X Lens	HE400, HB400, HD400
I	7E025	25X Lens	HE400, HB400, HD400
J	7E050	50X Lens	HE400, HB400, HD400
K	7E100	100X Lens	HE400, HB400, HD400
M	7T001	Iris Diaphragm	HE400, HB400, HD400
N	7U000	Glass Plate Work Holder	HE400, HB400, HD400

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