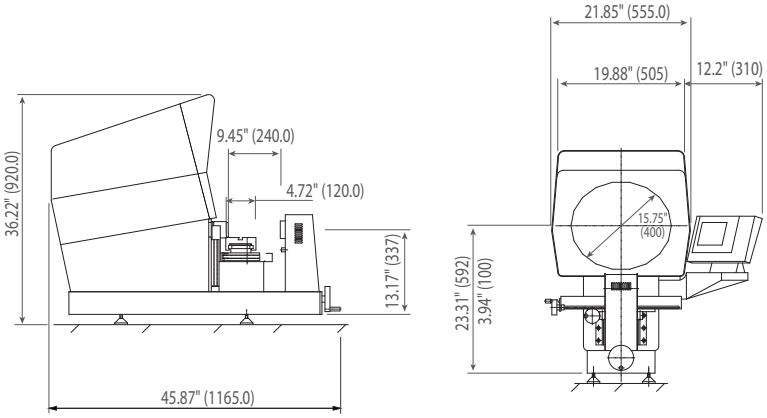
PROFILE PROJECTORS

HORIZONTAL BENCHTOP

HE400

The most economical of our benchtop horizontal comparators, this machine offers a 16" (400mm) screen, 10 x 4" (250 x 100mm), bayonet fitting lenses and Q-axis angular readout; all to improve capacity and performance. These latest horizontal projectors are fitted with either Quadra-Chek® digital readout systems or MetLogix™ M1 or M2 software as standard, making them simple to use, but having the power to satisfy the most complex measuring requirements.

The HE400 comes with a bayonet socket that can accommodate six interchangeable projection lenses to convert system operation from profile projector to video metrology system.



Features and Specifications

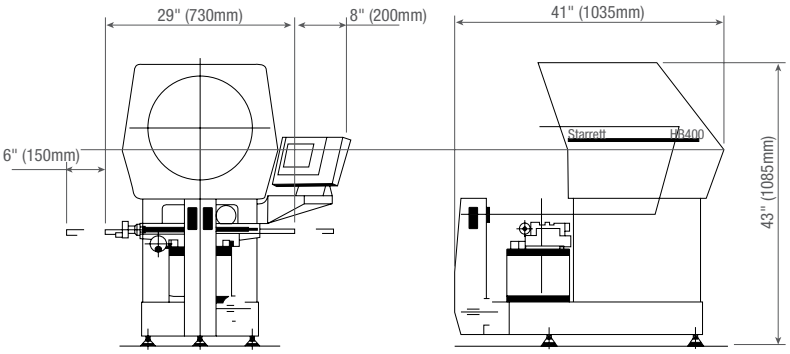
- All metal construction
- Digital protractor for accurate angle measurements: 1' resolution
- Lamphouse-mounted helix adjustment for accurate thread form inspection
- Available with MetLogix M1 tablet, M2 PC-based touch screen software or Quadra-Chek readout system
- 10" (250mm) horizontal travel
- 4" (100mm) vertical travel
- Fine adjustment on all axes, plus zero backlash, fast traverse mechanism on the X-axis
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Fully retractable duplex fiber optic surface illumination
- Optional automatic edge detection

Weight and Dimensions

	HE400
Net Weight	230lbs 105kg
Gross Weight	300lbs 135kg

HB400

The HB400 horizontal optical comparator provides exceptional performance with a fully-usable 16" (400mm) diameter viewing screen, a 21" x 5" (530 x 125mm) workstage, 12" x 6" (300 x 150mm) of stage travel, and high 110lb workload capacity. Linear glass scales provide .00002" (0.5µm) of resolution. A bayonet lens socket accepts a choice of seven lenses or an OV2 Video Adapter for video edge detection (VED). Optional optical edge detection removes operator subjectivity in locating edges.



Features and Specifications

- Digital protractor for accurate angular measurements (1' resolution) via Q-axis on readout
- Hard anodized aluminum top plate with cast iron intermediate and base plates
- 12" (300mm) horizontal travel by manual fine adjustment with quick release mechanism and 15° workstage helix adjustment
- 6" (150mm) vertical travel
- LED profile illumination
- LED fiber optic surface illumination
- Single lens mount with quick action lens change (lens not included); interchangeable and fixed 5x versions are available, call for quote
- Collimating condenser with yellow/green filter and provision to mount further accessories
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Available with MetLogix™ M1 tablet, M2 PC-based touch screen software or Quadra-Chek® readout system
- Fixed retractable fiber optic surface illumination
- Extended workstage option

Weight and Dimensions

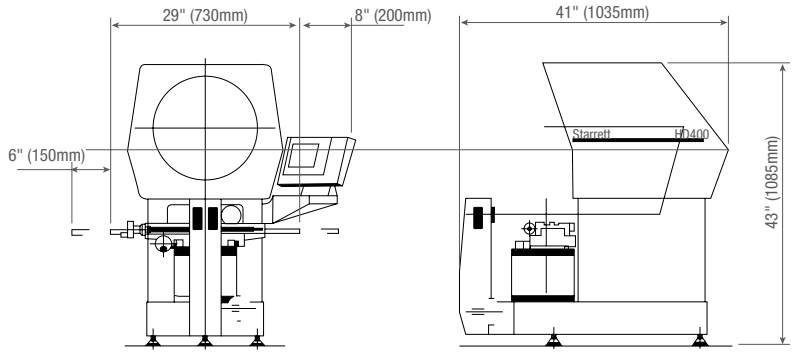
	HB400
Net Weight	320lbs 145kg
Gross Weight	385lbs 175kg

Horizontal benchtop

HD400

DUAL LENS

The HD400 is a dual lens benchtop horizontal projection comparator, with a 16" (400mm) diameter screen, a vertically correct image, 16" x 6" (400 x 150mm) of stage travel, a high 110lb workload capacity, and ultra-bright lighting. A two-lens slide allows instant switching between two magnifications. Available with fiber-optic or video edge detection, this comparator provides performance previously only available with floor-standing models.



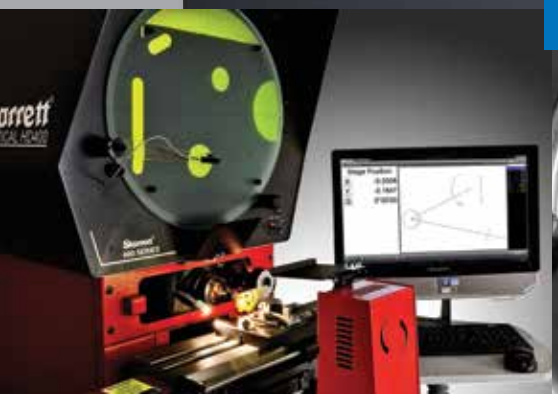
Features and Specifications

- Dual lens system
- Digital protractor for accurate angular measurements (1' resolution) via Q-axis on readout
- Hard anodized aluminum top plate with cast iron intermediate and base plates
- 16" (400mm) horizontal travel by manual fine adjustment with quick release mechanism and 15° workstage helix adjustment
- 6" (150mm) vertical travel
- LED profile illumination
- LED fiber optic surface illumination
- Single lens mount with quick action lens change (lens not included); interchangeable and fixed 5x versions are available, call for quote
- Collimating condenser with yellow/green filter and provision to mount further accessories
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Available with MetLogix™ M1 tablet, M2 PC-based touch screen software or Quadra-Chek® readout system
- Fixed retractable fiber optic surface illumination
- Extended workstage option

Weight and Dimensions

	HD400
Net Weight	320lbs 145kg
Gross Weight	375lbs 170kg

HORIZONTAL BENCHTOP



VERTICAL

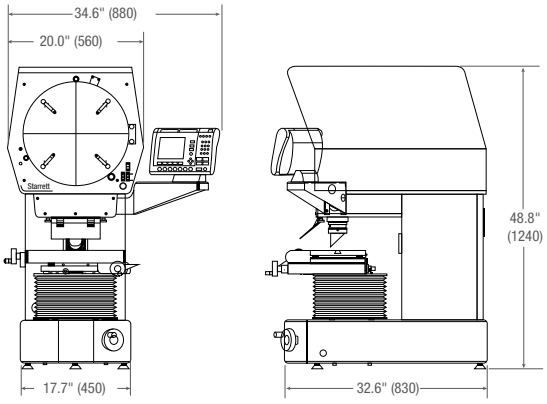
VB400

VERTICAL BENCHTOP

The VB400 vertical projection comparator allows flat parts to be simply laid on a glass insert in the workstage. Features include a 16" diameter vertical screen, ultra-bright LEDs for long-life illumination, linear encoder scales for .00002" (0.5µm) resolution, and angular readout to better than 1' resolution. Available with stages with 8" x 4" (200 x 100mm) of XY travel. Options include six projection lenses from 10x to 100x and a choice of digital interfaces.

Features and Specifications

- Exceptionally stable, all metal, design and construction for optimum performance and accuracy
- High precision workstage with 16" x 9" top plate, with machine slot for easy fixturing
- Available systems with of Quadra-Chek® readout, MetLogix™ M1 tablet or M2 software with touchscreen PC
- Digital protractor for accurate angle measurements, 1' resolution
- Fine adjustment on all axes, plus zero backlash, fast traverse mechanism on the X and Y axis
- Automatic edge detection option
- Variable LED surface illumination



VF600

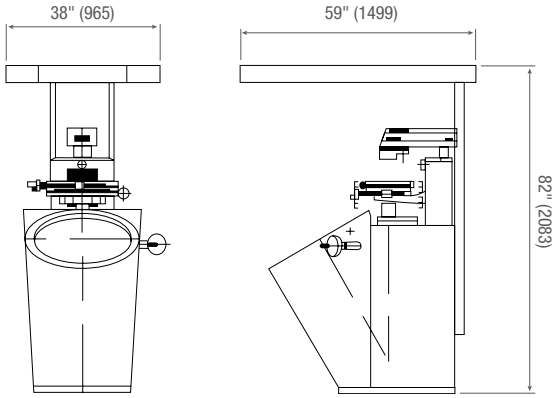
VERTICAL FLOOR STANDING

If your measuring requirements demand the use of a large screen vertical axis projector, then look no further than the Starrett VF600. A design based on 35 years of knowledge in the manufacture of high performing optical projectors, the VF600 is ideal for the larger components found in the electronics, pressings and extrusion industries.

With its helix facility, single or multiple lens turret, choice of workstages and large range of digital readout options, the VF600 is the ultimate in vertical axis profile projectors.

Features and Specifications

- Available systems with of Quadra-Chek® readout, MetLogix™ M1 tablet or M2 software with touchscreen PC
- Screen is angled 30° from horizontal for clear, easy viewing
- Glass insert is 9-1/4" x 5-1/2"
- 8" horizontal travel
- 4" vertical travel
- Projection lens turret with three lens capacity (lenses not included)
- Turret mounted condenser system complete with two lenses and yellow/green filter with provision to mount further accessories
- Erect image
- Full canopy and curtains
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Optional two-axis motorized drive via joystick and variable speed controls for fine adjustment
- Optional fully automatic CNC control available
- Interchangeable and fixed 5x versions available



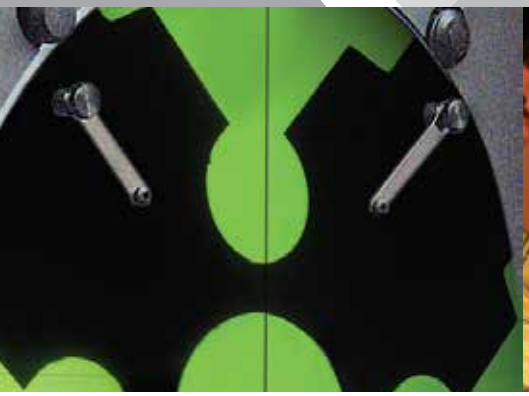
Weight and Dimensions

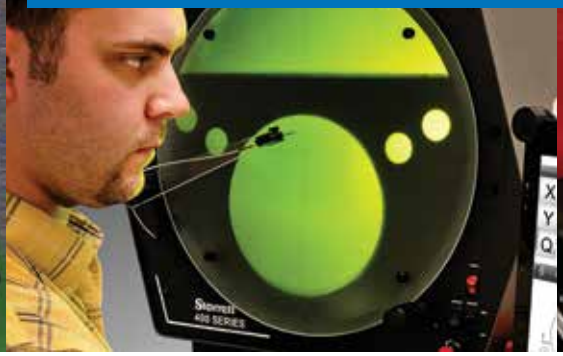
	VB400
Net Weight	423lbs 192kg
Shipping Weight	443lbs 201kg

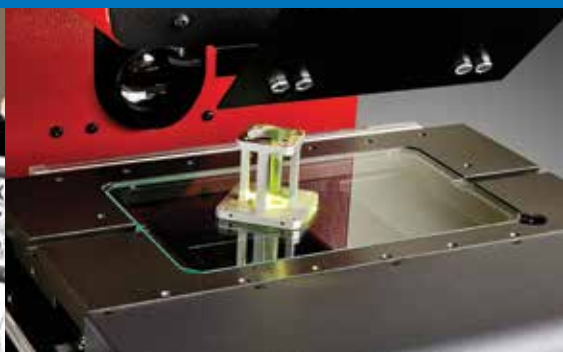
VB400

VF600

VERTICAL PROFILE PROJECTOR







HORIZONTAL FLOOR STANDING

HF600

Well known throughout the world for superior value and exceptional measuring performance across the full measuring range and at all magnifications. The HF600 sets the standard in all applications from the QC lab to the production floor, the HF600 floor-standing horizontal projection comparator features a fully usable 24" (600mm) screen and a heavy-duty workstage with 330 lb (150 kg) load capacity. It comes with a four-position lens turret for instant selection of magnification. Inserting the optional "OV2.doc" OV2 Video Adapter in place of a projection lens converts the comparator and using a readout device with video edge detection (VED) capability converts the comparator into a video metrology system.

Ideal for use over a broad spectrum of industries and applications, the HF600 and HF750 projectors are designed and built to satisfy the requirements of measuring small to large workpieces with total precision, ruggedness, and efficiency.

The HF600 runs 2D software for geometries like diameters, radius, angles, lines and points, and for skew correction. It also provides many advanced software tools such as CAD file import, CAD data export for reverse engineering, standard and custom reports, and Ethernet networking.

Features and Specifications

- Available with MetLogix™ M1 tablet, M2 PC-based touch screen software or Quadra-Chek® readout systems
- Heavy-duty corrosion and scratch-proof nickel plated precision work stage with 25" x 9" (625 x 225mm) top plate
- Two-axis power drive via joystick and variable speed control for fine adjust
- 12" (300mm) horizontal travel
- 8" (200mm) vertical travel
- 3" (75mm) focus travel
- 12V, 100W surface illumination
- 24V, 150W profile illumination
- Projection lens turret with four lens capacity (lenses not included)
- Turrett mounted condenser system complete with two lenses and yellow/green filter with provision to mount further accessories
- Erect image
- Full canopy and curtains
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Optional fully automatic CNC control
- Extended workstage available

HF750

The same exemplary build standards as the HF600, the HF750 super capacity optical comparator delivers benefits from an even larger 30" (762mm) screen. This large, fully usable screen sets a new standard for clarity and brightness.

Ideal for use over a broad spectrum of industries and applications, the HF750 projector is designed and built to satisfy the requirements of measuring small to large workpieces with total precision, ruggedness, and efficiency.

The geometric software handles diameter, radius, angle, line and point features, plus parts skewing for faster setup. The HF750 includes optical edge (E) detection and video edge detection.

Side bed models, HS600 and HS750 are also available.

Features and Specifications

- Available with MetLogix™ M1 tablet, M2 PC-based touch screen software or Quadra-Chek® readout systems
- Heavy-duty corrosion and scratch proof nickel plated precision work stage with 25" x 9" (625 x 225mm) top plate
- Two-axis power drive via joystick and variable speed controls for fine adjust
- 12" (300mm) horizontal travel
- 8" (200mm) vertical travel
- 3" (75mm) focus travel
- 12V, 100W surface illumination
- 24V, 150W profile illumination
- Projection lens turrett with three lens capacity (lenses not included)
- Turret mounted condenser system complete with two lenses and yellow/green filter with provision to mount further accessories.
- Erect image
- Full canopy and curtains
- Measurement by means of a linear encoder (glass scale) on both X and Y axes
- Optional fully automatic CNC control
- Extended workstage available.

HF600

HF750

HORIZONTAL FLOOR STANDING

Side Bed profile projectors

HS600

The HS600 floor-standing horizontal optical comparator has all the same features as the HF600, except it has the screen position set to the side of the workstage area allowing close, comfortable and unrestricted access to the viewing and control area. It has a 12" (300mm) X-axis (16" [400mm] optional) and 8" (200mm) Y-Axis motorized travel (CNC control optional), Q-axis digital protractor with angular measurements to 1' resolution, and your choice of powerful Quadra-Chek® or MetLogix™ software control systems. A time tested, cost-effective solution for non-contact measurement. They are simple to use, yet have excellent capacity and performance to satisfy an exceptionally wide range of dimensional inspection applications and complex measuring requirements. At the heart of these systems are precision optics, superb lighting, and a highly accurate workstage that combine to ensure bright, sharp images and exceptional accuracy.

Features and Specifications

- Accommodates components up to 330lbs (150kg)
- 24" (600mm) diameter screen
- 4 lens capacity
- Canopy and curtains standard
- Automatic edge detection option
- 20" (500mm) extended workstage available

HS750

The HS750 floor-standing horizontal optical comparator has all the same features as the HF750, except it has the screen position set to the side of the workstage area allowing close, comfortable and unrestricted access to the viewing and control area. It has an extra large 30" (762mm) screen, 12" (300mm) X-axis (16" [400mm] optional) and 8" (200mm) Y-Axis motorized travel (CNC control optional), lens turret with 3 lens capacity, Q-axis digital protractor with angular measurements to 1' resolution, powerful Quadra-Chek® or MetLogix™ software control systems, canopy and curtains. A time tested, cost-effective solution for non-contact measurement. They are simple to use, yet have excellent capacity and performance to satisfy an exceptionally wide range of dimensional inspection applications and complex measuring requirements. At the heart of these systems are precision optics, superb lighting and a highly accurate workstage that combine to ensure bright, sharp images and exceptional accuracy.

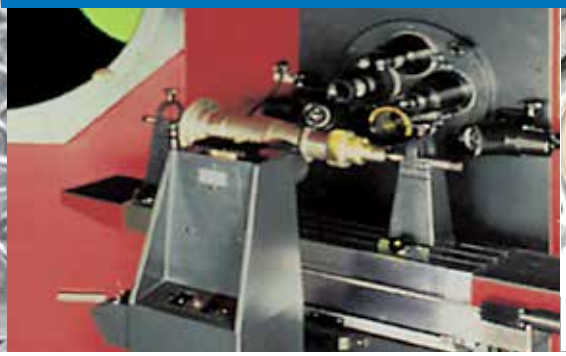
Features and Specifications

- Very rigid and inherently stable metal construction ensures optimum performance and accuracy
- Large diameter screens provide extensive field of view giving the user more component detail on the screen
- Side screen design gives the operator uninterrupted access to the screen and working area
- Large workstage, power driven on both axes, with high load capacity
- CNC workstage option
- 20" (500mm) extended travel workstage available
- Available with the full range of Quadra-Chek® or MetLogix™readout systems
- Canopy and curtains standard
- Wide range of ancilliaries and options allows specification tailoring and easy upgrading
- Accessories include alternative workstage, precision centers, vees, vices etc.

HS600

HS750

SIDE BED PROFILE PROJECTORS



OV2™ PROFILE PROJECTOR VIDEO ADAPTOR

The OV2 is a special zoom lens and video camera that can be interchanged with the lens on Starrett Optical comparators. Combined with M3 software and touchscreen PC, the result is a low cost video measuring system, expanding the versatility of your Optical Comparator!

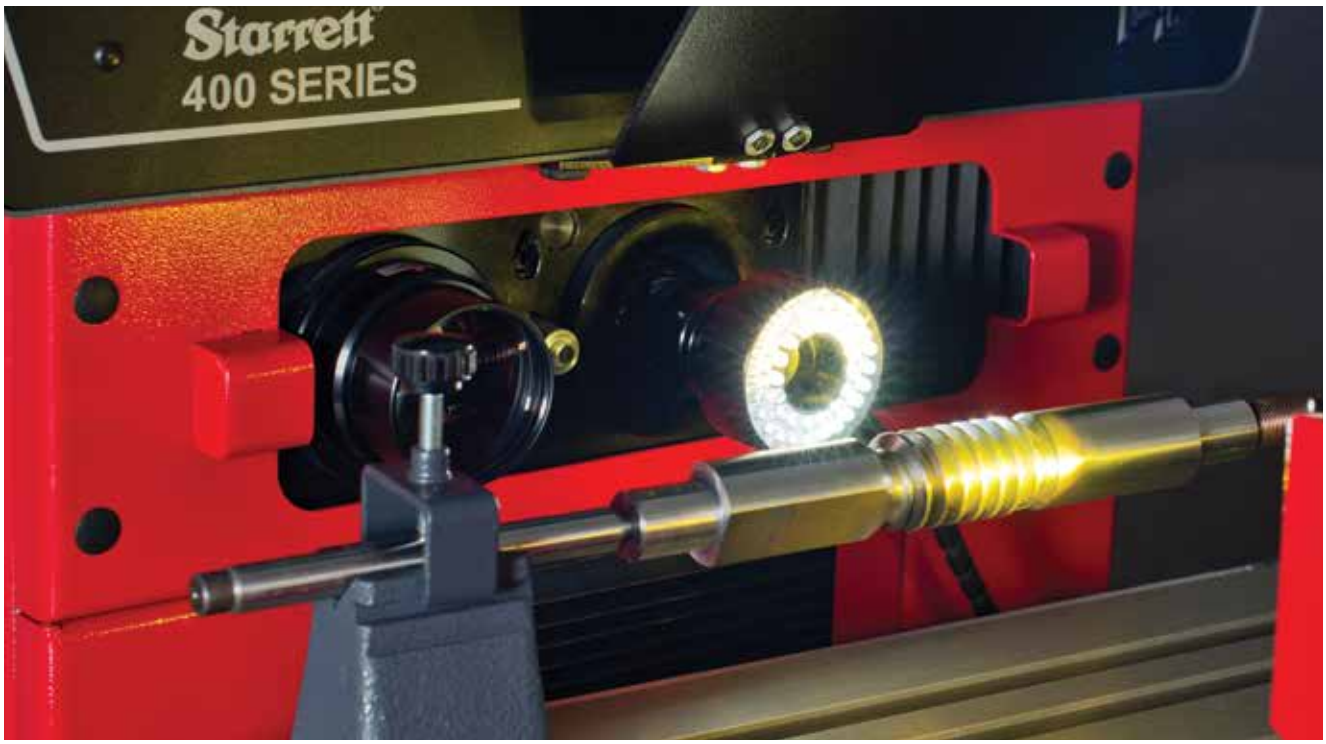
The OV2 is available as an option with new Starrett comparators and as an easy-to-install field retrofit.

When used with the dual lens Starrett HD400, the OV2 allows immediate access to both Video and Optical measurement without changing the part setup.

Features

- Replaces bayonet mount comparator lens with video camera to create a video measuring system
- Changeover between normal optical mode and OV2 is easy and fast
- Lens locks into projector body and is prealigned for linear accuracy
- 6.5:1 zoom lens with up to 1.25" (32mm) of working distance allows maximum stage travel utilization
- Video magnifications up to 240x
- Utilizes M3 software and a PC for video display and touch screen control
- Maximizes existing investment to provide a low cost entry into video measurement technology
- Also available for other makes of optical comparators, please call for availability

Easily interchangable between normal optical mode and OV2 video



Accessories

Starrett offers a full range of accessories and stands designed for our Optical Systems to ensure efficient system setup and changeover for a broad range of applications.

Photo Key	Part No.	Description	For Models
A	OCN8	Large and Centers Vees	HF600, HF750
B	ORV2	2-1/32" Capacity Rotary Vise	
C	4U000	Magnification Checking Graticule	HE/HB/HD400 and VB400
	OGH1		HF600
	OGH2		HF750
D	OCN7	Small Centers and Vees	HF600, HF750
E	4G000	Centers and Vees	HB350
	7P000		HE/HB/HD400
F	9W000	Helix Center Support Fixture	VB300
	3V000		
G	6H000	Centers and Vees	VB400, VF600
H	OVH1	Vertical Glass Plate Holder	HF600, HF750
J	7U000	Vertical Glass Plate Holder	HE/HB/HD400
K	4H003	Rotary Vise with 1-1/4" Capacity	HE/HB/HD400 (also larger horizontal projectors)
M	6U003	Rotary Workstage	VB400, VF600 for use on 200mm x 100mm workstage
N	4H002	Fixed Position Vise with 1-1/4" Capacity	HE/HB/HD400 (also larger horizontal projectors)
P	4H004	Universal Vee Block on Rotary Base	
S	P-10095	32" Cabinet Base	HE400, HB400, HD400, VB400
	P-10102	23" Cabinet Base	

Horizontal Digital Video Projector

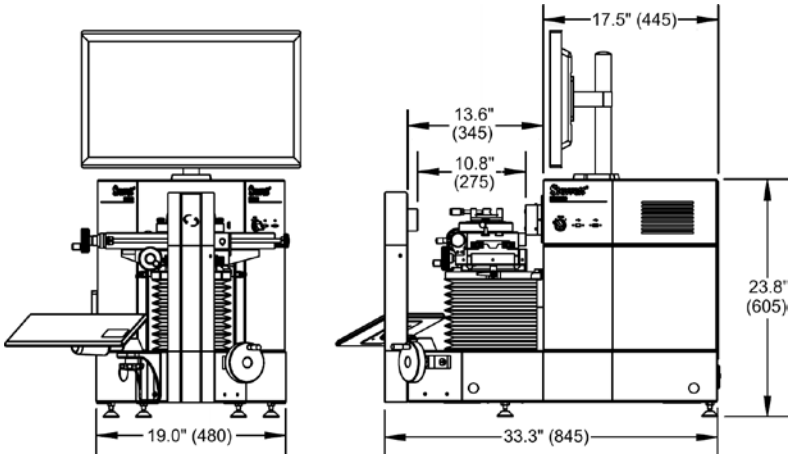
HDV

HDV300 AND HDV400

HDV300 CNC AND HDV400 CNC

The HDV horizontal digital video comparators combine the best features of a horizontal optical comparator and a vision metrology system. With a rigid steel design, they are configured like a traditional horizontal comparator. The workstage is the same as the Starrett field-proven HB400 and HD400 comparators, with a 110lb (50kg) load capacity. The heart of the system centers on a uniquely designed interchangeable lens mounting system coupled to a hi-resolution color digital video camera (patent pending). The system is available with a choice of seven telecentric lenses for micron-level resolution and optical distortion as low as 0.001% for accurate field-of-view (FOV) measurements. Lenses provide a maximun FOV of up to 2.44" x 1.85" (62mm x 47mm). Stage movement can be related to the imported file allowing part comparison up to 16" (400mm) long.

The HDV systems house a powerful 64-bit PC, which runs MetLogix M3 Metrology software. With this software, DXF CAD files can be imported and 2D Go/No-Go gages can be developed directly from the CAD files. Video edge detection (VED), allows real-time interaction of the imported file with the video image of the part being inspected. Productivity, speed and accuracy are all enhanced. Systems are available in manual or CNC control.



Features

- Steel construction with hard anodized X Y stage
- 12" x 6" (300mm x 150mm) of stage travel for HDV300
- 16" x 6" (400mm x 150mm) of stage travel for HDV400
- 21.3" x 5.1" (540mm x 130mm) workstage
- 110lb (50kg) maximum load capacity
- 2" (51mm) of focus travel
- Helix angle adjustment with ±15° Vernier scale
- Manual X-Y and focus positioning via hand wheels or CNC with joystick and trackball positioning
- Heidenhain glass scales for 0.5µm (.00002") X and Y resolution
- LED illumination for surface and profile lighting
- 5 megapixel color camera (2448 x 2058 pixels)
- Ultra-low distortion to 0.001% for telecentric FOV measurements
- 64-bit Intel® Processor
- Windows® 7 Professional operating system
- MetLogix M3 software with DXF/FOV option pack
- Parts displayed on 24" (60cm) touch-screen color monitor (1920 x 1080 pixels)

Options

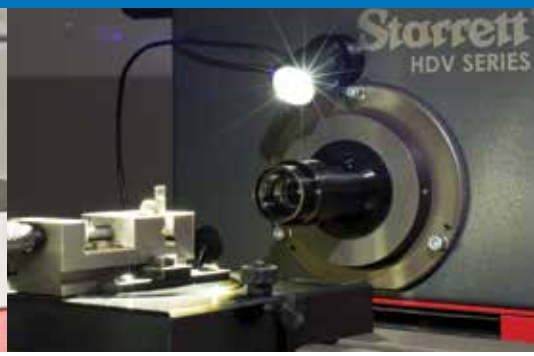
- 7 interchangeable telecentric lenses for fields of view from 2.36" x 1.77" to 0.09" x 0.07" (patent pending)
- 6.5:1 zoom optics
- 23" or 32" high cabinet stands
- Calibration standards

Weight and Dimensions

	HDV300	HDV400
Net Weight	220lbs	230lbs
	100kg	105kg
Shipping Weight	300lbs	440lbs
	100kg	200kg

HDV300

HORIZONTAL DIGITAL VIDEO PROJECTOR



Specifications and Options

Model	HE400	HB400	HD400	VB400
Bench Top System	X	X	X	X
Floor-Standing System	-	-	-	-
Part View Orientation	Horizontal	Horizontal	Horizontal	Vertical
Side Bed Version	-	-	-	-
Screen Diameter (in)	16"	16"	16"	16"
Screen Diameter (mm)	400mm	400mm	400mm	400mm
X-Y Measuring Range (in)	10" x 4"	12" (16" optional) x 6"	16" x 6"	8" x 4"
X-Y Measuring Range (mm)	250 x 100mm	300 (400mm optional) x 150mm	400 x 150mm	200 x 100mm
Linear Glass Scale Encoder on X and Y Axis	Standard	Standard	Standard	Standard
Motorized X-Y Axis	-	Optional	Optional	-
CNC Control	-	Optional	Optional	-
Focus Range (in)	1.125"	2"	2"	4"
Focus Range (mm)	30mm	50mm	50mm	100mm
Work Stage (in)	18.75" x 4.75"	21.25" x 5"	21.25" x 5"	16" x 19"
Work Stage (mm)	475 x 120mm	540 x 130mm	540 x 130mm	400 x 225mm
Load Capacity with Negligible Deflection (lbs)	15lbs	22lbs	22lbs	22lbs
Load Capacity Maximum (lbs)	55lbs	110lbs	110lbs	50lbs
Angular Measurement Resolution	1'	1'	1'	1'
Profile Illumination	Standard	Standard	Standard	Standard
Surface Illumination	Standard	Standard	Standard	Standard
Quick Change Lens Mount (lenses not included)	Single	Single	Single	Single
Collimating Condenser with Yellow/ Green Filter	Standard	Standard	Standard	Standard
Control System Software	QC100, QC200, M1, M2	QC100/QC200, QC5200, M1, M2, M3	QC200, QC5200, M1, M2, M3	QC100, QC200, M1, M2

VF600	HF600	HF750	HS600	HS750
-	-	-	-	-
X	X	X	X	X
Vertical	Horizontal	Horizontal	Horizontal	Horizontal
-	-	-	Standard	Standard
24"	24"	30"	24"	30"
600mm	600mm	750mm	600mm	750mm
8" x 4"	12" (16" optional) x 8"	12" (16" optional) x 8"	12" (16" optional) x 8"	12" (16" optional) x 8"
200 x 100mm	300 (500mm optional) x 200mm	300 (500mm) x 200mm	300 (500mm) x 200mm	300 (500mm optional) x 200mm
Standard	Standard	Standard	Standard	Standard
-	Standard	Standard	Standard	Standard
-	Optional	Optional	Optional	Standard
4"	3"	3"	3"	3"
100mm	75mm	75mm	75"	75mm
16" x 9"	25" x 9"	25" x 9"	25" x 9"	25" x 9"
400 x 225mm	630 x 230mm	630 x 230mm	630 x 230mm	630 x 230mm
22lbs	110lbs	110lbs	110lbs	110lbs
66lbs	330lbs	330lbs	330lbs	330lbs
1'	1'	1'	1'	1'
Standard	Standard	Standard	Standard	Standard
Standard	Standard	Standard	Standard	Standard
3 Lens Turret	4 Lens Turret	3 Lens Turret	4 Lens Turret	3 Lens Turret
Standard	Standard	Standard	Standard	Standard
QC200, QC5200, M1, M2, M3	QC200, QC5200, M1, M2, M3	QC200, QC5200, M1, M2, M3	QC200, QC5200, M1, M2, M3	ND1120/5200, M1, M2, M3

Specifications and Options (continued)

Model	HE400	HB400	HD400	VB400
Display (control system dependent)	QC DRO or 15.6" Touchscreen PC, M1 with 7" tablet	QC DRO, 15.6" or 21" Touchscreen PC or 24" Monitor, M1 with 7" tablet	QC DRO, 15.6" or 21" Touchscreen PC or 24" Monitor, M1 with 7" tablet	QC DRO or 15.6" Touchscreen PC, M1 with 7" tablet
Optical Edge Detection	Optional	Optional	Optional	Optional
Digital Video Camera System	-	Optional	Optional	-
Lenses - Screen Magnification (one required, not included)	10x, 20x, 25x, 31.25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x	10x , 20x, 25x, 50x
Iris Diaphragm	Optional	Optional	Optional	-
Precision Rotary Vise	Optional	Optional	Optional	-
Vee Block on Rotary Base	Optional	Optional	Optional	-
Precision Fixed Vise	Optional	Optional	Optional	-
Precision Centers and Vees	Optional	Optional	Optional	Optional
Helix Center Support System	-	-	-	Optional
Precision Rotary Work Stage	-	-	-	Optional
Glass Plate Work Holder	Optional	Optional	Optional	-
Field of View Diameter (in)	1.57", 0.79", 0.63", 0.50", 0.31", 0.16"	-	-	-
Field of View Diameter (mm)	40mm, 20mm, 16mm, 13mm, 8mm, 4mm	-	-	-
Working Distance (in)	.15", 2.60", 2.44", 2.28", 1.97", 1.61"	-	-	-
Working Distance (mm)	0mm, 66mm, 62mm, 58mm, 50mm, 41mm	-	-	-
Cabinet Stand 32"	Optional	Optional	Optional	-
Cabinet Stand 23"	Optional	Optional	Optional	Optional
Canopy and Curtains	Optional	Optional	Optional	Optional

VF600	HF600	HF750	HS600	HS750
QC DRO, 15.6" or 21" Touchscreen PC or 24"Monitor, M1 with 7" tablet	QC DRO, 15.6" or 21" Touchscreen PC or 24" Monitor, M1 with 7" tablet	QC DRO, 15.6" or 21" PC Touchscreen or 24" Monitor, M1 with 7" tablet	QC DRO, 15.6" or 21" Touchscreen PC or 24" Monitor, M1 with 7" tablet	QC DRO, 15.6" or 21" Touchscreen PC or 24" Monitor, M1 with 7" tablet
Optional	Optional	Optional	Optional	Optional
-	Optional	Optional	Optional	Optional
10x, 20x, 25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x	10x, 20x, 25x, 31.25x, 50x, 100x
-	Optional	Optional	Optional	Optional
-	Optional	Optional	Optional	Optional
-	Optional	Optional	Optional	Optional
-	Optional	Optional	Optional	Optional
Optional	Optional	Optional	Optional	Optional
Optional	-	-	-	-
Optional	-	-	-	-
-	Optional	Optional	Optional	Optional
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Optional	Standard	Standard	Standard	Standard

Specifications and Options

Model	HDV300	HDV400
Bench-Top System	X	X
Floor-Standing System	–	–
Part View Orientation	Horizontal	Horizontal
X-Y-Z Travel (in)	12" x 6"	16" x 6"
X-Y-Z Travel (mm)	300 x 150mm	400 x 150mm
Z Axis Measuring	–	–
CNC	–	–
X-Y Accuracy (µm)	E1 = 3.0µm + L33	E1 = 3.0µm + L/33
Z Accuracy (µm)	–	–
Scale Resolution	0.5µm	0.5µm
Multi-Sensor Compatible	–	–
Base	Steel	Steel
Control System/Software	M3	M3
Display	24" Touchscreen Monitor	24" Touchscreen Monitor
Zoom Optics - Standard	–	–
Zoom Optics - Optional	6.5:1	6.5:1
Optics	Choice of 4.0x, 2.0x, 1.0x, 0.80x, 0.50x and 0.30x interchangeable Telecentric Lenses Optional- 0.14X fixed	Choice of 4.0x, 2.0x, 1.0x, 0.80x, 0.50x and 0.30x interchangeable Telecentric Lenses Optional- 0.14X Fixed
Microscope Optics	–	–
Digital Video Camera	5 MP Color	5 MP Color
Surface Ring Illumination	LED	LED
Transmitted Illumination	LED	LED
Coaxial Illumination - Optional	–	–

*Includes additional 200mm dovetail slide for increased Z working distance.

Model	HDV300	HDV400
Auxiliary Lenses - Optional	–	–
Rotary Fixture	–	–
Renishaw Touch Probe	–	–
Renishaw Touch Probe Change Rack	–	–
Multi-Part Touch Probe Change Rack	–	–
Touch Probe Spotter Camera	–	–
Optimet Laser	–	–
Machine Pedestal and Point of Control Cart/Arm	–	–
Cabinet Stand	Optional	Optional
Workstation Base, Extension and Swing Arm	–	–
Part Fixturing	Optinoal	Optional
Dark Field Quadrant Illumination (LED only)	–	–
Video Pixel Calibration Standard	Optional	Optional
Calibration Standards	Optional	Optional
FOV, Linear and 2D Calibration Standards	Optional	Optional

*Includes additional 200mm dovetail slide for increased Z working distance.

M1, M2 AND M3 SOFTWARE

MetLogix™ Software

M1 and M2

FOR OPTICAL COMPARATORS

Graphics rich display, large icon buttons, and intuitive operation. Coordinate display for X and Y linear axes and Q radius values for screen rotation. Easy part alignment and datum function.

Features

- Clean and simple touchscreen interface with large icon buttons and intuitive operation
- Graphics-rich display providing instant information on feature form, tolerances, and measurement data
- Coordinate display for X and Y linear axes and Q radius values for screen rotation
- Easy part alignment and datum functions
- Measure and tolerance these geometric features: point, line, angle, distance, radius, diameter
- As you measure, a part view is created in the feature view. Constructions between features such as distances and bolt hole pattern can been done by simple selections from the part view.
- For repetitive part measurement, create a part program that will visually guide operators through part measurement
- Available optical edge detection provides better throughput and removes operator subjectivity
- Four different report forms can be printed or exported to Microsoft Excel, text files, or to an SPC program
- Mounts and displays in either vertical or horizontal postition
- M2 utilizes a Windows® 7 Professional-based operating system enables flexible data export and interface capability with Windows
- Fast, easy connection to printers and networks
- M1 utilizes an Android operating system and a Bluetooth connection to the host Optical Comparator

M1 shown on HE400

M3

FOR VISION SYSTEMS

Multi-touch software control that can pan and zoom with pinch, swipe, or touch. Works with active part views and live video feeds (or use the conventional mouse interface). Custom "Eye Measure" probe captures complex edges generated by a finger path drawn on the touch screen. Measure Logic probe intelligence provides instant feature determination and measurement with a single touch.

Features

- DXF CAD file import for comparing parts being inspected to the actual design file; no need for cumbersome Mylar overlays
- "Vtouch" Probe has video touch probe functionality – just click for simple acquisition of points on a feature's edge
- Part View can generate distance and tangent lines from within the graphical part view. The "Gesture Menu" can be used for feature creation and manipulation tools.
- "Quick Annotate" allows data on several features to be displayed simultaneously with smart marquee feature selection
- Application of universal tolerance value entry according to feature resolution groupings
- Feature Detail Graphics: Individual feature views display point cloud distributions, nominal deviations, and tolerance results. Scroll through Actual, Nominal, Tolerance, Deviation and Data Fit Type information.
- Simple machine/camera calibration with popular machine and video correction methods
- Windows® 7 Professional-based, globally recognized OS for flexible data exporting and interface with Windows applications

M1, M2 and M3

MetLogix control software provides a broad range of powerful, user-friendly functions on a compact, icon-based touchscreen interface in place of the traditional control.

	MetLogix M1	MetLogix M2	MetLogix M3
Mounted to comparator arm	x	x	
Color graphics	x	x	x
Touch-screen operation	x	x	x
MS Windows® operating system		x	x
X-Y-Q (angle) measurements	x	x	x
2D geometry software with skew	x	x	x
Optical edge detection option	x	x	x
Video edge detection option			x
CAD file import and export option		x	x
CNC drive option		x	x

Quadra-Chek® Software

Modern metrology is a complex sequence of measuring, recording, analyzing and reporting dimensional data. The conceptual model underlying the Quadra-Chek digital readout design organizes the workflow to support operators at every stage of the measurement process

QC100

- Perform 2 and 3 axis measurements at very high levels of precision and accuracy
- Measurements viewed on the front panel LCD can be transmitted to a PC over a standard serial port connection, or to a printer over a parallel or serial port

QC100

QC200

Metrology DRO requires a video monitor display and crosshair generator in vision configuration. QC200 is a time-saving measurement tool with patented Measure Magic® technology. Ideal for measuring 2D features on Optical Comparators and Manual Vision Machines.

- Inch/metric conversion, toggle between incremental/ absolute and simple zero reset
- Skew function for ease of part alignment
- Integrated geometric tolerancing allowing for pass/ fail measurements
- Simple part programming with measure guide
- USB and RS232 Interface
- Linear and segmented linear error correction
- Intuitive displays
- Crisp, clear, bright black and white LCD display
- Optional optical edge for comparators

HE400

HB400, HD400

VB400, VF600

HF600, HF750

HS600, HS750

Options and Accessories

OPTICAL COMPARATORS

Profile Projectors (Optical comparators) provide a time tested cost effective, solution for non-contact measurement. They are found in lab and shop environments, often near product manufacturing activity. Optical comparators are used for an exceptionally wide range of dimensional inspection applications. In recent years, Starrett's enhanced mechanical designs have combined with an advancement in microprocessor capability to make our current products even more accurate, repeatable, efficient and easy to use.

At the heart of these systems are precision optics, superb lighting and a highly accurate workstage. They combine to ensure bright, sharp images and exceptional accuracy.

Generally, horizontal models work well with parts that need to be fixtured, held in a vise, or on centers. Vertical models provide comparable accuracy and are ideal for parts that are placed on the glass insert of the workstage.

Vertical systems work well when the parts to be measured are flexible or soft (i.e., plastic, thin stampings or electrical components).

The versatile Starrett line includes optical systems from 16", 30" (400-750mm) screen diameters, horizontal and vertical models and a wide range of special machines.

We offer many choices of optical magnification, manual, motor-driven or CNC workstage travel, with PC or LCD metrology readouts.

Starrett®

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