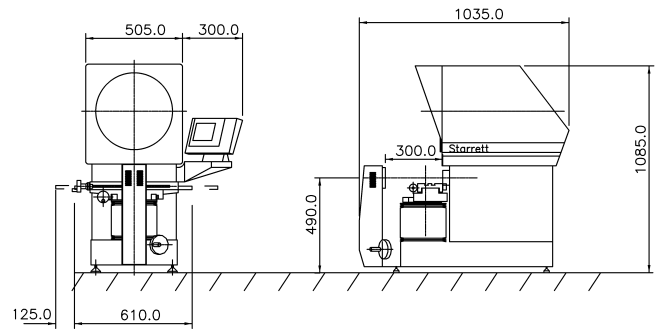


# HB400



## Horizontal Bench Top Optical Projector

A robust, very compact horizontal axis bench top projector, the leader in its class and the one all others are compared against.

The HB400 provides a vertically correct image on a fully useable 400mm (16") diameter screen. Having a significantly larger measuring capacity, this projector provides measurement previously only possible on floor standing units.

- ▶ Very rigid and inherently stable metal construction ensures optimum performance and accuracy.
- ▶ Fully usable 400mm (16") diameter screen with integral hood.
- ▶ Quick action single lens mount.
- ▶ High precision workstage with 540 x 130mm top plate, with machine slots for easy fixturing.
- ▶ Rotary workstage helix adjustment.
- ▶ Available with the full range of Quadra-Chek readout systems.
- ▶ Fine adjustment on all axes, plus zero backlash, fast traverse mechanism on the X-axis.
- ▶ Motorised and CNC workstage options.
- ▶ Fully retractable duplex fibre optic surface illumination.
- ▶ Automatic edge detection option.
- ▶ Large range of accessories available.

## Technical Specification

**Starrett®**

### Screen Diameter

400mm (16") with precision cross lines and calibration markings.

### Workstage Measuring

Top plate - 540 x 130mm (21.25 x 5").  
Travel - 305 x 152mm (12 x 6") & 405 x 152mm (16 x 6").

### Workstage Capacity

50kg (110lb) maximum.  
(Evenly distributed).

### Workstage Capacity Between Centres

415mm.

### Helix Angles

Rotary workstage  $\pm 15^\circ$  vernier scale.

### Illumination

**Profile** - Fan cooled halogen, switchable high/low intensity with yellow/green filter.

**Surface** - Fan cooled twin arm fibre optic system.

### Measurement/display systems

**Linear** - Heidenhain scales (0.001mm resolution). Quadra-Chek readout systems with edge sensing option.

**Angle** - Digital protractor (1 minute resolution). Quadra-Chek Q-Axis.

### Lenses

x10, x20, x25, x 31 $\frac{1}{4}$ , x50, x100 (x5 to special order).

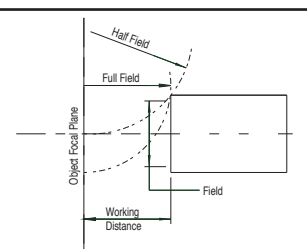
### Power Supply

110/120/230/240/250V.AC 50/60Hz.  
Consumption 5A.

Visit our Web-Site at [www.starrett-precision.co.uk](http://www.starrett-precision.co.uk)

HB400 Specification:	SR121	SR221	SR221e	SR515	SR515 CNC
Rigid steel body	●	●	●	●	●
Standard workstage 300 x 150mm travel	●	●	●	●	●
Extended workstage 400 x 150mm travel	○	○	○	○	○
Anti-corrosion nickel plated workstage top					
Rotary screen & clips	●	●	●	●	●
Handwheel X and Y drive control	●	●	●	●	
Motorised joystick control	○	○	○	○	
CNC control					●
Angular digital measurement in QC DRO	●	●	●	●	●
X-Y axis only digital readout	●				
Geometric function digital readout		●	●		
Computer with geometric s/ware readout.				●	●
On screen edge sensing			●	●	●
Internal edge sensor			○	○	○
Single interchangeable lens mount	●	●	●	●	●
Dual lens slide					
Multi lens turret					
Fibre optic surface illumination	●	●	●	●	●
On-axis surface illumination					
Single condenser	●	●	●	●	●
Dual condenser slide					
Multi condenser turret					
Yellow/green light filter	●	●	●	●	●
Available lenses (See guide below)	○	○	○	○	○
X5 magnification lens	○	○	○	○	○
X31¼ magnification lens option	○	○	○	○	○
Standard or deluxe support cabinet	○	○	○	○	○
Canopy and curtains	○	○	○	○	○
Work holding accessories	○	○	○	○	○
Magnification checking graticule	○	○	○	○	○
OV² Optical video adaptor	○	○	○	○	○
Screen overlay templates	○	○	○	○	○
Standard ● Optional ○					

Guide to Maximum Component Size (mm)						
Magnification	X5	X10	X20	X25	X50	X100
Field of View	80	40	20	16	8	4
Working Distance	135	80	76	62	50	41
Max Work Diameter	Half Field	280	245	245	263	185
	Full Field	280	180	200	250	125
Projected Image	Vertically Correct					



### 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 centre of the screen before colliding with the lens.

#### Full Field 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.