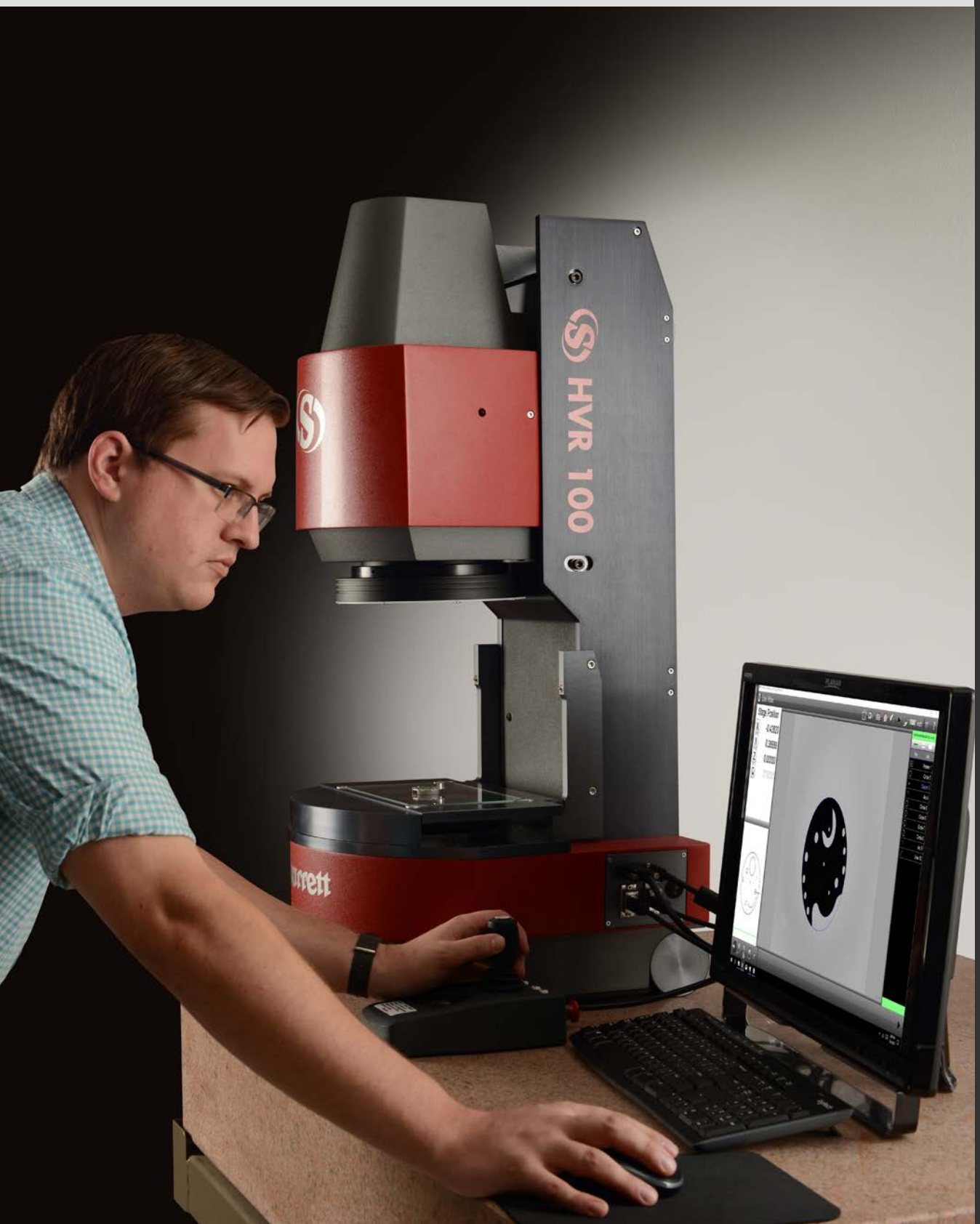
Starrett®

QUALITY SUPPLY

OPTICAL COMPARATORS AND VISION SYSTEMS



METROLOGY SOLUTIONS

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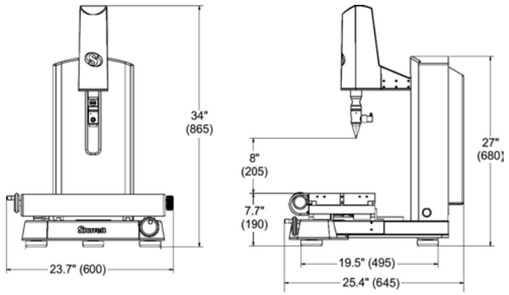
METROLOGY SOLUTIONS

MVR

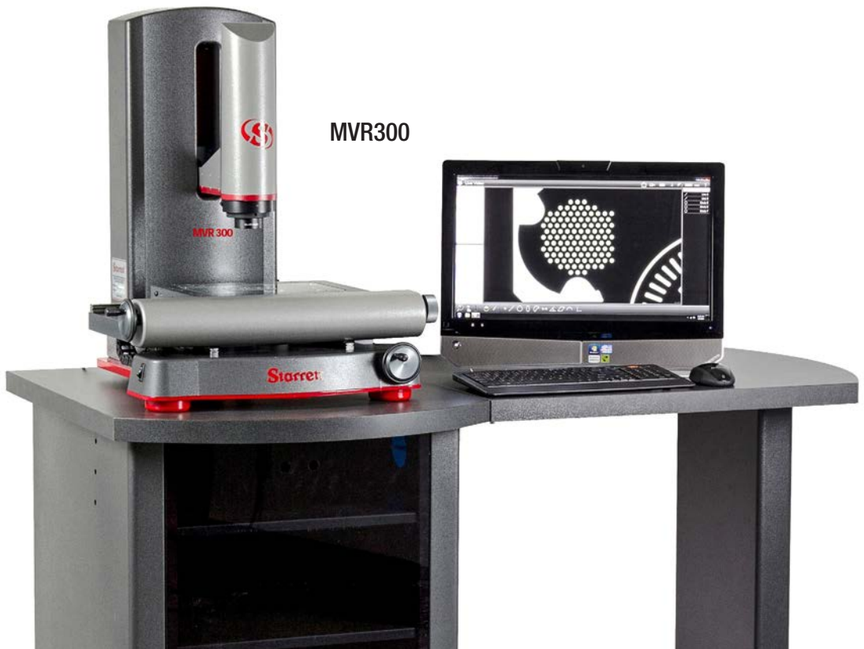
MANUAL VISION SYSTEM

The MVR Manual Vision System supports a choice of telecentric optics for high-speed field-of-view measurements, plus 6.5:1 zoom optics. Using MetLogix™ M3 software, they can import DXF CAD files over a network and make automatic Go/No-GO comparisons to an engineering design using video edge detection within the field of view, or seamlessly combine FOV measurements with stage motion.



FEATURES AND OPTIONS

- Dedicated 6.5:1 zoom optics, or interchangeable telecentric lenses
- Manual X-Y positioning via handwheels
- Motorized Z-axis positioning with variable speed control
- Color digital video camera
- X-Y travel distances
  - MVR200: 8” x 4” (200mm x 100mm)
  - MVR300: 12” x 8” (300mm x 200mm)
- LED surface and sub-stage illumination
- Granite base



MVR300

AVR

AUTOMATIC VISION SYSTEM

The AVR Automatic Vision System provides motorized travel and zoom, which can be under full software control (CNC operation), or under manual control via a joystick and trackball. Available with interchangeable telecentric lenses for field-of-view (FOV) measurements and with optical zoom, these new CNC vision metrology systems are easy to use, versatile and accurate.

FEATURES AND OPTIONS

- Dedicated 6.5:1, 12:1 CNC zoom optics, or interchangeable telecentric lenses
- Full CNC X-Y-Z positioning or motorized manual positioning using a pendant with joystick and trackball
- MetLogix™ M3 CNC metrology software with DXF auto comparison option
- Color digital video camera
- X-Y-Z tracel distances
  - AVR200: 8” x 4” x 8” (200mm x 100mm x 200mm)
  - AVR300: 12” x 8” x 8” (300mm x 200mm x 200mm)
- LED surface and sub-stage illumination
- Granite base

AVR200

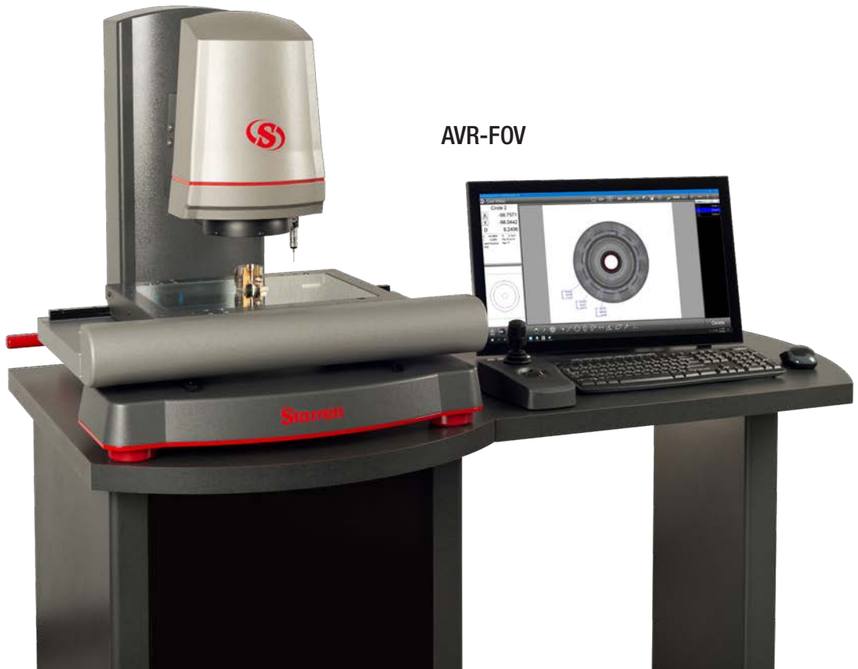
AVR-FOV

0.14 CNC FIELD OF VIEW VISION SYSTEM

The AVR-FOV CNC field of view “FOV” vision system provides the largest field of view to date via a dedicated 0.14x telecentric lens, allowing for larger parts or multiple small parts to be viewed simultaneously. The AVR-FOV offers 12” x 8” x 8” travel, optional Z-axis measuring, a powerful MetLogix™ software control system and LED illumination. These systems are rapid video-based FOV CNC measurement systems which reduce measurement time and are ideal for quality assurance, inspection labs, manufacturing, assembly, and research facilities.

FEATURES AND OPTIONS

- Dedicated 0.14x telecentric lens
- Superimage technology allows multiple images to be stitched together into one large image
- Field of view: 2.3” x 1.9” (58mm x 48mm)
- X-Y-Z travel distances:
  - AVR200-FOV: 8” x 4” x 8” (200mm x 100mm x 200mm)
  - AVR300-FOV: 12” x 8” x 8” (300mm x 200mm x 200mm)
- CNC: standard
- X-Y accuracy (µm): E2 = 3.0µm + 5L/1000
- Z accuracy (µm): E1 = 3.5µm + 5L/1000
- Scare resolution: 0.1µm
- Muti-sensor compatible: Yes
- Control system/Software: MetLogix™ M3
- Display: 24” touchscreen PC
- Digital video camera: 6.0MP monochrome
- Surface ring illumination: LED
- Transmitted Illumination: LED
- Coaxial Illumination: LED
- Rotary fixture: optional
- Renishaw touch probe: optional
- Workstation, extension and swing arm: optional



AVR-FOV

AVX550

CNC MULTI-SENSON VISION SYSTEM

The AVX550 is an all-new large format CNC multi-sensor inspection system, offering an inspection envelope of 22” x 16” x 10” (550mm x 400mm x 250mm) on the X-Y-Z axes. New to the AVX550 is the option to configure dual camera inputs, allowing the user to make measurements on both the macro and micro levels without changing lenses or recalibrating. Optics options include fixed or interchangeable large field of view telecentric lenses and dedicated 12:1 zoom optics. Ideal for use in QC labs, research, engineering, or manufacturing environments where large parts with many intricate features need inspection.

FEATURES AND OPTIONS

- Z Axis Measurement: Standard
- X-Y-Z Travel: 22” x 16” x 10” (550mm x 400mm x 250mm)
- X-Y Accuracy (µm): E2 = 2.5µm + 5L/1000
- Z Accuracy (µm): E1 = 2.5µm + 5L/1000
- Scale resolution: 0.1µm
- Multi-sensor compatible
- Control system/Software: MetLogix™ M3
- Display: 24” touchscreen PC
- Zoom optics: Standard 12:1
- Telecentric Lenses: fixed or interchangeable 0.14x (fixed), 0.3x, 0.5x, 0.8x, 1.0x, 2.0x, 4.0x
- Digital video camera: 1.3MP, 5MP lens dependent
- Surface ring illumination: LED
- Transmitted illumination: LED
- Coaxial illumination: LED
- Rotary fixture: optional
- Renishaw touch probe: optional
- Renishaw touch probe: change rack: optional

AVX550

KINEMIC KMR-200

KMR200

VIDEO MEASURING MICROSCOPE

The KineMic KMR-200-M3 video microscope includes a 200mm x 100mm (8" x 4") XY stage, 6.5:1 zoom, 21.5" all-in-one-touchscreen PC, MetLogix™ M3 software with Digital Comparator (DC) feature, LED backlight and ringlight. These video based inspection and measurement systems are ideal for receiving inspection, quality assurance, training, manufacturing assembly, research and documentation- wherever easy setup and operation is required. M3 models offer Field-Of-View measurement, powerful image processing and DXF imports for direct comparison to the work piece.

KINEMIC KMR-FOV

KMR-FOV

FIELD OF VIEW SYSTEMS

The KineMic KMR-FOV video microscopes include a color digital video camera, fixed magnification telecentric lens (0.14x, 0.30x, 0.50x, 1.0x), 21.5" all-in-one-touchscreen PC, MetLogix™ M3 software with Digital Comparator (DC) feature, LED backlight and ring light. These affordable video based inspection and measurement systems are ideal for receiving inspection, quality assurance, training, manufacturing assembly, research and documentation- wherever easy setup and operation is required. M3 models offer Field-Of-View measurement, powerful image processing and DXF imports for direct comparison to the work piece.

HDV

HORIZONTAL DIGITAL VIDEO COMPARATOR

The innovative new HDV Horizontal Digital Video comparators combine the familiar feel of a horizontal optical comparator and the speed, illumination and accuracy of a visions system. The heart of the systems center on a uniquely designed interchangeable lens mounting system coupled to a hi-resolution color digital video camera (pantent US 9,360,435 B2). The HDV systems include a powerful 64-bit PC and touchscreen monitor which runs MetLogix™ M3 metrology software. With this software, DXF CAD files can be imported and 2D Go/No-Go gauges created, similar to using a Mylar overlay chart on a comparator screen. 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.

FEATURES AND OPTIONS

- Interchangeable telecentric lenses offer medium to very large field of view
- 6.5:1 Interchangeable zoom optics (HDV300 & HDV400 models only)
- LED profile and surface illumination
- Generous X-Y travel distances
  - HDV300: 12" x 6" (300mm x 150mm)
  - HDV400: 16" x 6" (400mm x 150mm)
  - HDV500: 20" x 8" (500mm x 200mm)
- X-Y Accuracy (µm): E1= 3.0 µm +L/33
- Manual & CNC motion control (HDV500 is CNC only)
- Color touchscreen: HDV300 & HDV400

HDV300

HDV500

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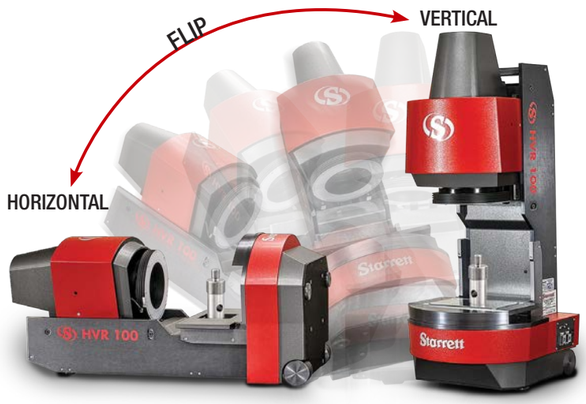
HVR100-FLIP

The “HVR-Flip” from Starrett is the latest in a line of video-based measurement systems. The HVR-Flip has the unique characteristic of being used in either a vertical or horizontal format offering termendous versatility and value.



FEATURES AND OPTIONS

- Field of view (FOV) size: 3.65” x 3”
- Working distance of 10”
- Measure a singe feature, an entire part, or multiple parts
- MetLogix™ M3 software allows for easy one-touch feature measurement
- Auto-detect part recognition
- DXF Import- Electronic overlay for quick part comparison
- Export features to DXF
- Compare complex profiles with discreet data points and comparison to CAD
- Graphic based “Part View” constructions
- Geometric tolerancing
- Flexible report content and formatting
- Multi-language support
- Optional software modules:
  - -Profile fitting
  - -Wire insulation
  - -Thread measurement
- System can be converted from a vertical format to a horizontal format measuring system

HVR100

HE400

HORIZONTAL OPTICAL COMPARATOR

FEATURES AND OPTIONS

- Screen Diameter: 16”
- X-Y Measuring Range: 10” x 4”
- 1.25” Focus Travel
- LED profile illumination (rated for 50,000 hours)
- LED fiber optic surface illumination (rated for 50,000 hours)
- Work stage (in.): 18.75” x 4.75”
- Load capacity with negligible deflection (lbs): 15
- Load capacity maximum (lbs): 55
- Quick change lens mount (single)
- Lenses (one required, 10X included): 10X, 20X, 25X, 31.25X, 50X, 100X
- Control System: MX100, MX200, M1, M2
- Optical edge detection: optional

HE400

	MetLogix™ M1	MetLogix™ M2	MetLogix™ MX100	MetLogix™ MX200
Mounted to Comparator Arm	✓	✓	✓	✓
Color Graphics	✓	✓	✓	✓
Touch-screen Opertaion	✓	✓	✓	✓
Operating System	Android™	Windows®	MLXAndroid™	MLXAndroid™
X-Y-Q (Angle Measurements)	✓	✓	✓	✓
2D Geometry Software with Skew	✓	✓	X	✓
Optical Edge Detection Option	✓	✓	X	✓
CAD File Import and Export Option	X	✓	X	X
CNC Drive Option	X	✓	X	X

HB400

HORIZONTAL OPTICAL COMPARATOR

FEATURES AND OPTIONS

- Screen Diameter: 16”
- X-Y Measuring Range: 16” x 6”
- 2” Focus Travel
- LED profile illumination (rated for 50,000 hours)
- LED fiber optic surface illumination (rated for 50,000 hours)
- Work stage (in.): 21.25” x 5”
- Load capacity with negligible deflection (lbs): 22
- Load capacity maximum (lbs): 110
- Quick change lens mount (single)
- Lenses (one required, not included): 10X, 20X, 25X, 31.25X, 50X, 100X
- Control System: MX100, MX200, M1, M2
- Optical edge detection: optional

HB400

New MX100 and MX200 Controllers. Call for more details.

ACCESSORIES

ACCESSORIES

Starrett offers a full range of accessories and purpose-built cabinet stands designed for our optical comparators and vision systems to ensure efficient system setup for a broad rage of applications. Contact us for a full list of accessories and compatibility options.

LENSES AND LENS ACCESSORIES

CENTERS AND VEES

VISES

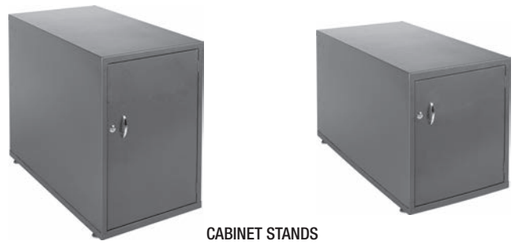
GLASS PLATE HOLDERS

WORK STAGES

ROTARY INDEXERS

TOUCH PROBES AND ACCESSORIES

CANOPY AND CURTAINS



CABINET STANDS

SOFTWARE SOLUTIONS

OPTICAL COMPARATORS

	MetLogix™ M1	MetLogix™ M2	MetLogix™ MX100	MetLogix™ MX200	MetLogix™ M3
Mounted to Comparator Arm	✓	✓	✓	✓	✓
Color Graphics	✓	✓	✓	✓	✓
Touch-screen Opertaion	✓	✓	✓	✓	✓
Operating System	Android™	Windows®	MLXAndroid™	MLXAndroid™	Windows®
X-Y-Q (Angle Measurements)	✓	✓	✓	✓	✓
2D Geometry Software with Skew	✓	✓	X	✓	✓
Optical Edge Detection Option	✓	✓	X	✓	✓
CAD File Import and Export Option	X	✓	X	X	✓
CNC Drive Option	X	✓	X	X	✓
Video Edge Detection Option	X	X	X	X	✓
CAD File Import and Export Option	X	X	X	X	✓

MetLogix™ M1

MetLogix™ MX100

MetLogix™ MX200

MetLogix™ M2

MetLogix™ M3

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