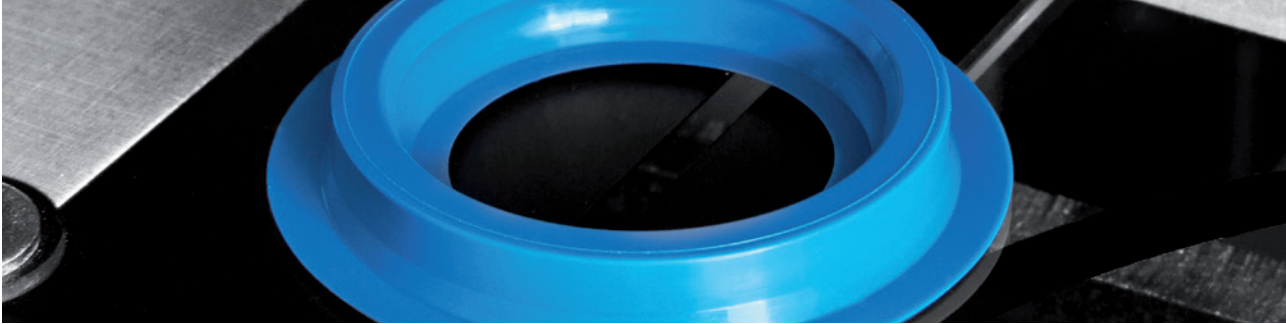




KaliX Series

VISUAL INSPECTION MACHINES
FOR THE AUTOMATIC
NO-CONTACT MEASUREMENT
OF ANY SHAPE ARTICLES

UTP VISION
VISUAL INSPECTION



KaliX and **KaliX 500** are visual inspection machines for automatic measurement of components of every shape through machine vision, so that required information are obtained directly from images acquired through industrial cameras.

Kalix series is designed to measure rubber gaskets, plastic items, metal parts and other components within the limits of the field of view. It is recommended throughout the production process, the acceptance of every working phase and for the final certification in laboratory for samples and production series.

Both KaliX and KaliX 500 are equipped with a progressive scan camera, bi-telecentric lenses with very low distortion and a collimated light that remove the effects on borders of the backlight. The support is an aluminium undercarriage with four wheels, while the measuring parts are placed on a glass sliding surface.

Typical installations are delivered with:

- PC with Windows operating system
- 17" LCD touch screen
- Printer

Version Dual Mag

KaliX is also available in DualMag version: this machine is designed for dimensional control of circular pieces and is equipped with double field of view, \varnothing 160 mm for top view and 27 mm at higher optical resolution for cut sections or for small pieces.



WINDOWS



DATABASE
INTEGRATION



STATISTICS
REPORTS

CONTROL FEATURE FOR CIRCULAR PIECES

Feature for the inspection of parts with circular profile with the following characteristics:

- Measurement of median, maximum and minimum inside and outside diameters
- Measurement of the average, max and min radial section
- Measurement of roundness
- Measurement of cross section oscillation
- Management of single or series measurement

CONTROL FEATURE FOR COMPLEX PIECES

Features for the inspection of parts with complex shape pieces with the following characteristics:

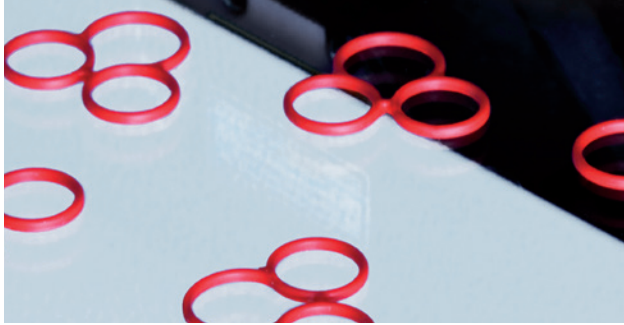
- Measurement of distances
- Radii measurement
- Angles measurement
- Holes measurement
- Management of single or series measurement

CONTROL SOFTWARE

The machines are equipped with a software for generic seals (any shape) dimensional control, with the following characteristics:

- Articles management with code and description
- Single or multipart measurement management
- Measurement of the average inner/outer diameter with tolerances
- Measurement of the average radial cross section with tolerances
- Roundness inspection
- Waviness inspection
- Measurement of distances
- Radii measurement
- Angles measurement
- Statistical histogram chart of the series ("X-bar" diagram)
- Statistical report with processing of CP and CPK factors
- Print and save management

The output values are all given according to the measurements units of the International System of Units.



OPTIONAL THICKNESS CONTROL DEVICE

Available for KaliX, it's a double laser for axial cross section control (thickness), with the following characteristics:

- Articles management with code and description
- Axial cross section measure along one section for O-Ring
- Dimensional and thickness measurement for cut section of complex shape pieces
- Statistical report with elaboration of the factors CP and CPK
- Print and save management



OPTIONAL TACTILE SENSOR AND MICRO-IRHD HARDNESS DEVICES

Available for KaliX 500 the tactile sensor is used for the measurement of the axial cross section of O-Rings and for the thickness of section orthogonal to the supporting plane.

Technical features:

- Possibility to measure in several points
- Automatic sensor positioning of the sample thanks to the software
- Contact force can be adjusted directly on the software
- Statistical report with CP and CPK management
- Print and save management

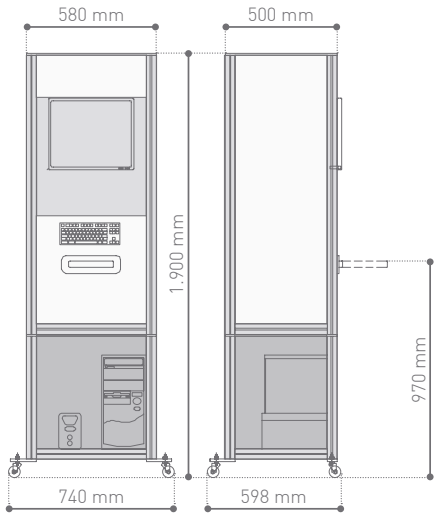
Designed specially for KaliX 500, the Micro-IRHD hardness device is used for the measurement of single pieces hardness.

Technical features:

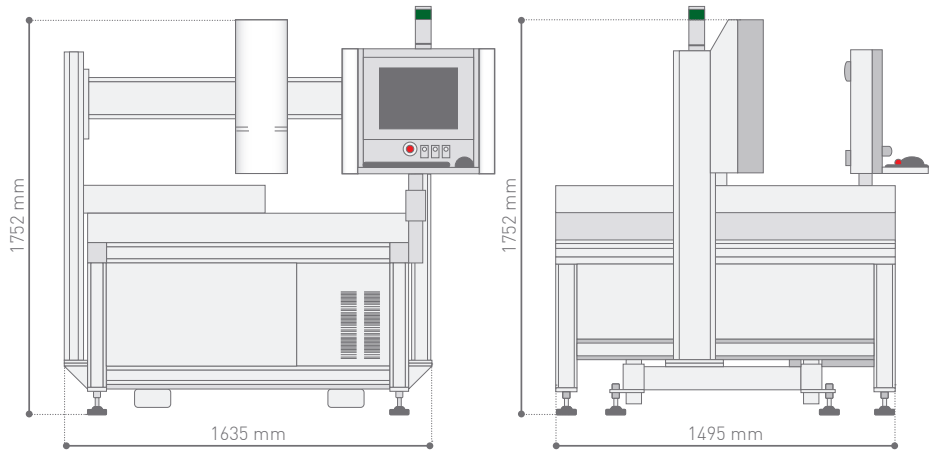
- Automatic sensor positioning of the sample
- Possibility to measure in several points
- Statistic report with the factors CP and CPK
- Management of printing and saving



KALIX



KALIX 500



KaliX

SPECIFICATIONS

TECHNICAL SPECIFICATIONS	40	70	155	DUALMAG	
Camera	B/W	B/W	B/W	B/W	B/W
Field of view (mm)	51x40	Ø72	Ø160	Ø160	Ø27
Max. sample Outside Diameter (mm)	38	70	155	155	25
Min. sample Outside Diameter (mm)	0.8	1.2	3.2	3.2	0.8
Min. sample Inside Diameter (mm)	0.4	0.6	1.6	1.6	0.4
Min. cross section (mm)	0.2	0.3	0.8	0.8	0.2
Max. sample thickness (mm)	2	10	10	10	1
Dimensional resolution (mm)	0.001	0.001	0.001	0.001	0.001
Optical resolution (mm/px)	0.022	0.060	0.078	0.078	0.013
MPE Inside Diameter (mm)	0.009	0.010	0.012	0.012	0.009
MPE Outside Diameter (mm)	0.008	0.010	0.011	0.011	0.008

OPTIONALS

DIFFERENTIAL LASER STATION	10 MM	20 MM
Measuring range (mm)	10	20
Maximum height (mm)	9.5	19
Dimensional resolution (mm)	0.001	0.001
Accuracy of measurement (mm)	±0.005	±0.005
Repeatability ($\pm 2\sigma$) (mm)	±0.005	±0.005
Min. internal diameter (mm)	5	9
Max. sample surface slope	±60°	±60°

The technical data and images contained herein are indicative only. UTPVision reserves the right to modify its products at any time without prior notice.

KaliX 500

SPECIFICATIONS

TECHNICAL SPECIFICATIONS	500
Camera	B/W
Field of view (mm)	Ø 500
Max. sample outside diameter (mm)	500
Min. sample outside diameter (mm)	1.8
Min. sample inside diameter (mm)	0.8
Min. cross section (mm)	0.5
Max. sample thickness (mm)	10
Dimensional resolution (mm)	0.001
Optical resolution (mm/px)	0.036
MPE inside diameter for samples measured in one-shot mode FOV 70 mm (mm)	0.013
MPE outside diameter for samples measured in one-shot mode FOV 70 mm (mm)	0.011
MPE inside diameter for samples measured in multi-shot mode FOV 500 (mm)	0.039
MPE outside diameter for samples measured in multi-shot mode FOV 500 (mm)	0.035
Cycle time for the full field of view	90 s

OPTIONALS

TACTILE SENSOR	500
Max. samples height (mm)	30
Field of view (mm)	490x465
Resolution (mm)	0.002
Measurement accuracy (mm)	±0.008
Repeatability ($\pm 2\sigma$) (mm)	±0.005
Cycle time for each point	3 s
MICRO-IRHD HARDNESS DEVICE	500
Maximum height (mm)	30
Field of view (mm)	460x440
Compliant to	ISO 48 ASTM D 1415 DIN 53 519-1/2
Test results	hardness at 30 sec.
Resolution	0.1 hardness point
Cycle time for each point	40 s

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