TESA-VISIO 300

Manual or automatic video-based machines with unique design for non-contact measurement.

The manual version comes with TESA-VISTA – the software for metrology applications in the world of industry . Made simple to use, this machine version can also be equipped with PC-Dmis that provides Users with a powerful tool for 2D or 3D part inspection.

Running the PC-DMIS-Vision software, the DCC machine version is capable to operate automatically. This variant is one the most cost-effective machines of this kind available today on the market.

Key Features

- Small-sized vision machine with ergonomic design, whether manually operated or motor driven.
- Motorised zoom with magnifications from 20x up to 130x or even more depending on the size of the viewing screen.
- Light sources through LEDs so that the measured values are not affected.
- Incident light (episcopic) through a dual line consisting of 24 LEDs fragmented into 4 segments (Fresnel lens), each programmable individually. Also with brightness adjustable over the software. Coaxial illumination available as an option.
- Transmitted light (diascopic) through a green LED with adjustable brightness.
- Laser pointer (class 1) for locating the measurement area.
- Coordinate stage equipped with incremental glass scales, opto-electronic. Resolution to 0,05 µm.
  – Measuring volume X = 300 mm, Y = 200 mm, Z = 150 mm.
  – Quick release system in both X and Y axes (manual version).
  – Possible displacement in the two X and Z coordinate directions for right hand and left hand operator.
  – Max. permissible workload: 16 kg.
- TFT monitor 17”
- TESA-VISTA or PC-Dmis application software with edge detector.

Main vision machine

✓

All aluminium rigid construction

Measuring system with incremental, glass scales, opto-electronic. Resolution to 0,05 µm.

In one coordinate direction:

Manual version
X/Y-axes (3+10•L/1000) µm,
Z-axis (3+2•L/100) µm*

DCC version
X/Y-axes (2,4+4•L/1000) µm,
Z-axis (3+1•L/100) µm*
L in mm

* Accuracy was obtained at highest magnification on a textured surface.
Also with an evenly distributed workload of 3 kg at glass plate level.

Measuring volume:
X = 300 mm,
Y = 200 mm, Z = 150 mm
CCD colour camera, analogue
PAL 640 x 480 pixels

Resolution 0,001 mm

Transmitted light through green LED, brightness adjustable over the software

10°C to 40°C

20°C

80%, non-condensing

115 to 230 Vac ±10%, 50 to 60 Hz

72 kg (manual)
80 kg (DCC)

IP40

EN 61010-1
EN 60204
EN 61336-1
EN 60825-1

Identification number

Inspection report with a declaration of conformity

Provided fully assembled

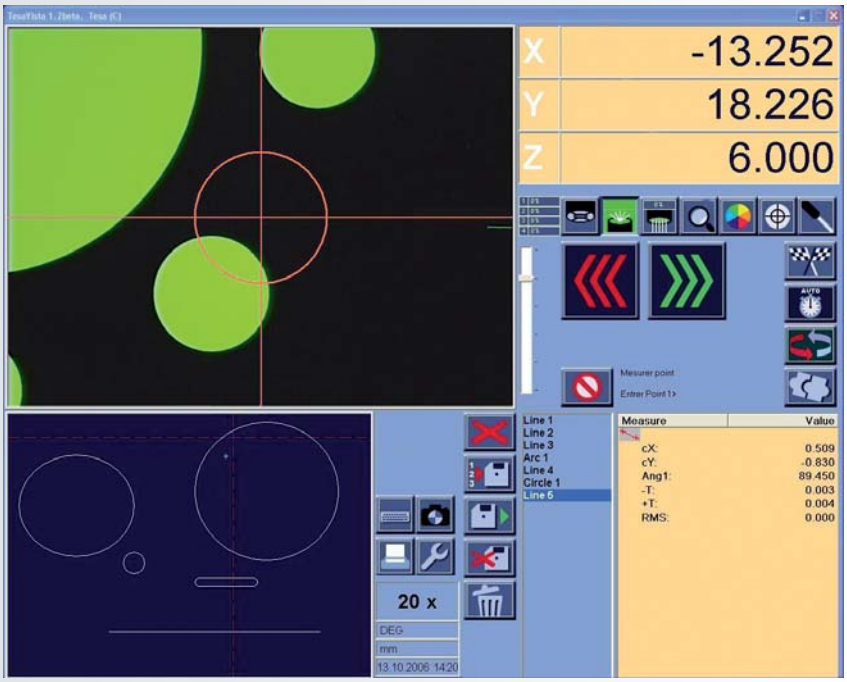
Shipping packaging

TESA-VISTA Application Software

Easy-to-use, user-friendly metrology software. Lets you measure the widest number of geometric elements quickly and precisely.

Main Features

- On-screen viewing in X/Y/Z coordinate directions. Resolution to 0,001 mm.
- Zero-setting of display related to selected axis with just a mouse click.
- Metric/inch conversion.
- Cartesian and polar coordinates.
- Possible storage of the video image.
- Drawing of the measured element as shown in the active window.
- Automatic edge detection.
- Z-measurement with on-screen help and guidance.



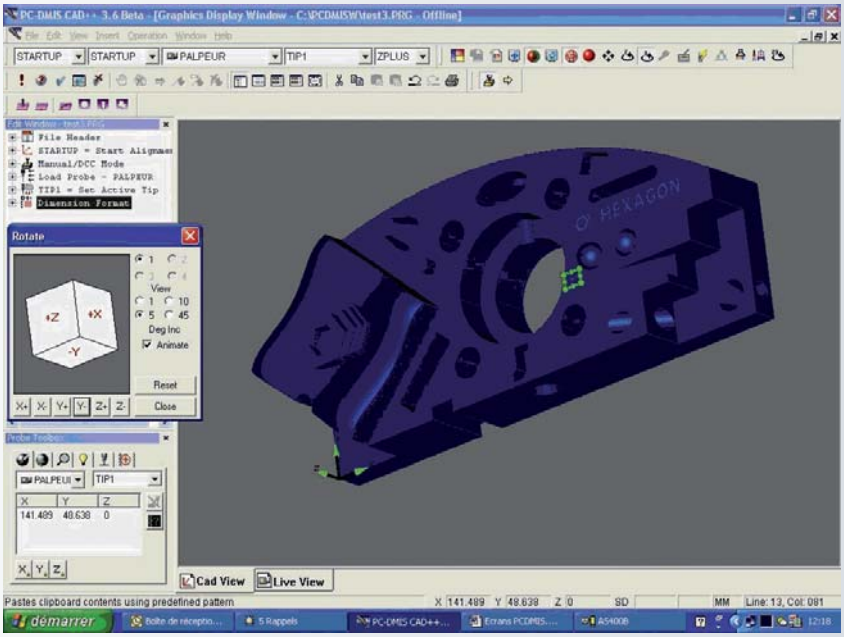
Geometric Features and Functions

- Point
- Radius
- Diameter
- Arc of circle
- Angle
- Straight line
- Distance (X/Y)
- Slot
- Z-measurement
- Alignment
- Perpendicularity
- Parallelism
- Theoretical point
- theoretical diameter
- Translation of both X and Y origin points

PC-Dmis Vision Application Software

Including many programming capabilities, this software provides a long-term solution through continuous upgrading to the most advanced technology.

All inspection reports can be defined by the Users and further output in a variety of formats to suit their specific needs.



Main Features

- Real time inspection up to the subpixel.
- Point and click programming facility.
- Automatic edge detection (eliminates positioning uncertainty of the crossline reticule, increases velocity and repeatability).
- Ability to collect a higher number of points to measure form errors even more accurately.
- Import option for CAD-files (various formats).
- Creation of programmes off-line.
- Simple programme sequences.
- Reverse engineering along with export option in CAD format.
- Automatic recognition of the used magnification, without the need for the objective to be requalified within a programming sequence.
- Automatic or manual tool control.
- Measurement in Z-axis made easier through computer-aided focusing in graph mode.
- On-screen Viewing of all measured values, including those related to the position of geometric form elements or edge detection.

Measuring Table

- Anodized aluminium
- 510 x 395 mm surface area (X/Y)
- 800 x 200 mm measuring span (X/Y)
- Max. workload capacity 16 kg

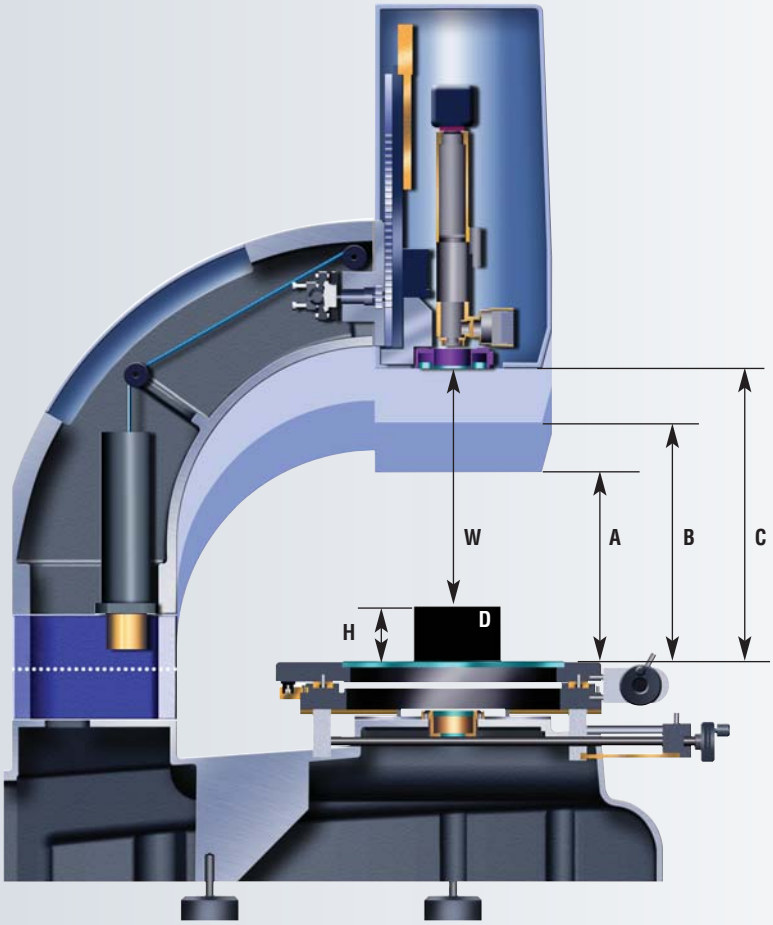
Computer (minimum requirements)

- DELL Optiplex GX620MT
- Small minitower 412 x 432 x 190 mm, black / silver grey colour
- Processor: Intel Celeron, 2,8 GHz, FSB533
- Memory capacity: dual-channel, 1 Go (2 x 512), 533 Mhz NON-ECC DDRII
- Bus extension: 2 PCI connectors 4,2 x 11", 1 PCIe connector x 16 standard height for graphic card, 1 PCIe connector x 1 standard height
- Built-in graphic card: Intel® Media Accelerator 950 with shared memory up 224 Mo. Using PC-DMIS = 128 Mo memory card.
- 40 GB hard disc SATA, 7200 rpm
- DVD / CD-ROM drives, 16x
- Integrated diskette drive, 3,5", 1,44 MB
- Integrated AC-97 Audio-Chip card
- Network card: Solution LAN Broadcom, 5751 GB, Ethernet 10/100/1000, integrated
- Hardware ports: 1x RS232, 1x Centronics, 8x USB-2 (6 at the rear plus 2 on the front face of the computer unit). RJ-45 network port.
- Keyboard with two-button mouse
- Operating system: Windows XP Professional, multilingual
- TFT flat screen, 17"

Warranty:
3-Year on-site warranty (computer and monitor only)

Additional Objectives

	0,5x	0,75x	1x	1,5x	2x
Nº	06860030	06860031	–	06860032	06860033
TESA-Visio 300 Manual					
Magnification	10x ÷ 65x	16x ÷ 97x	20x ÷ 130x	32x ÷ 195x	42x ÷ 260x
Working distance (W) mm	150	90	60	30	15
Maximum height (H) mm	0 ÷ 60	0 ÷ 120	0 ÷ 150	0 ÷ 180	15 ÷ 195
Maximum field of view mm	11,3 x 15,2	7,4 x 9,8	5,5 x 7,4	3,6 x 4,8	2,7 x 3,6
Minimum field of view mm	1,8 x 2,4	1,2 x 1,6	0,9 x 1,2	0,6 x 0,8	0,4 x 0,6
TESA-Visio 300 DCC					
Magnification	16x ÷ 85x	24x ÷ 130x	30x ÷ 175x	45x ÷270x	60x ÷ 355x
Working distance (W) mm	150	90	60	30	15
Maximum height (H) mm	0 ÷ 60	0 ÷ 120	0 ÷ 150	0 ÷ 180	15 ÷ 195
Maximum field of view mm	16,3 x 12,2	10,9 x 8,2	8,8 x 6,5	5,8 x 4,3	4,4 x 3,2
Minimum field of view mm	2,9 x 2,2	2,0 x 1,5	1,5 x 1,1	0,9 x 0,7	0,7 x 0,5



A 60 ÷ 210 mm main machine
B 135 ÷ 285 mm with a 75 mm raising block
C 210 ÷ 360 mm with a 150 mm raising block
D Work piece
H Work piece height
W Working distance (focus distance)

Sales Programme

№	TESA-Visio 300 Manual	TESA-Visio 300 DCC	Software	Episcopic illumination (Top mounted)	Coaxial light	Value sensor
06830211	●	–	TESAVISTA	4 segments x 90°	–	–
06830212	●	–	TESAVISTA	4 segments x 90°	●	–
06830214	●	–	TESAVISTA	1 segment x 360°	–	–
06830221	●	–	PC-Dmis	4 segments x 90°	–	–
06830222	●	–	PC-Dmis	4 segments x 90°	●	–
06830223	●	–	PC-Dmis + TESAVISTA	4 segments x 90°	●	–
06830231	–	●	PC-Dmis	4 segments x 90°	–	–
06830232	–	●	PC-Dmis	4 segments x 90°	●	–
06830242	–	●	PC-Dmis	4 segments x 90°	●	●