

Product Information

videoXtens 1-270 P

CTA: 148041 147790



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The videoXtens 1-270 P covers a wide measurement range and is therefore excellent for high-extension materials.

- Non-contact measurement system: No influence on the material characteristics
- No influence on sensitive specimen
- Ideal for whipping specimen - the videoXtens will not be damaged
- Through connection to the crosshead, the gauge marks are always automatically centered in the field of view (FOV)—the measurement range is optimally utilized.
- Mounting with low-vibration, stable support brackets. Easy alignment with the measurement range through the ergonomic height adjustability on the mounting.

Application examples:

Elastomer testing to ISO 37, ASTM D412 or DIN 53504

- Unobstructed view of the specimen: no blind spot from the specimen grip, due to the videoXtens central alignment and tracking
- High accuracy, even at temperature with ZwickRoell temperature chamber in the range of -55 to +250 °C

Rope testing

- Compensation of the mark movement during the clamping process: Ropes run out of the specimen grip during clamping. Through the connection to the crosshead the videoXtens is always centered; a larger field of view must be taken into account; the measurement range is optimally utilized.



videoXtens 1-270 P, detail view

Film testing to ISO 527-3

- No influence on sensitive specimen from knife edges — testing is non-contact
- Pattern recognition: Through dotting or stamping, a pattern is easily and quickly placed on the entire specimen.
- With the test re-run option and pattern recognition L_0 can be moved retrospectively and the test can be recalculated, whereby the break then lies within the L_0 —this way no specimen is wasted.
- The high extension of film specimen outside the L_0 does not limit the measurement range during the test, and therefore does not have to be taken into account (due to connection to the crosshead).
- High accuracy even at temperature with ZwickRoell temperature chamber in the range of -55 to +250 °C.

Comprehensive range of functions

- Automatic gauge-mark recognition and acquisition of initial gauge-length L_0 .
- Exact synchronization of all measurement channels.
- Specimens with structured surfaces can be measured via pattern recognition with no need for additional marks.
- The entire test sequence can be followed on-screen.
- Video capturing: Test recording synchronized with the measured curve for retrospective viewing of the test.
- Wear-free, and therefore low-maintenance system.

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Technical data

| Type Item No. | videoXtens 1-270 P 1043968 | |
|---|-----------------------------------|----------|
| Field of view (FOV) | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 270 x 215 | mm |
| With test area width 640/1040 mm [AllroundLine] | 330 x 260 | mm |
| Initial gauge length | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 5 ... 220 | mm |
| With test area width 640/1040 mm [AllroundLine] | 5 ... 260 | mm |
| Measurement travel, max. | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 260 - initial gauge length | mm |
| With test area width 640/1040 mm [AllroundLine] | 320 - initial gauge length | mm |
| Measurement travel, max. at 10 mm initial gauge length | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 250 (2500 % strain) | mm |
| With test area width 640/1040 mm [AllroundLine] | 310 (3100 % strain) | mm |
| Measurement travel, max. at 20 mm initial gauge length | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 240 (1200 % strain) | mm |
| With test area width 640/1040 mm [AllroundLine] | 300 (1500 % strain) | mm |
| Measurement travel, max. at 25 mm initial gauge length | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 235 (940 % strain) | mm |
| With test area width 640/1040 mm [AllroundLine] | 295 (1180 % strain) | mm |
| Resolution at ambient temperature | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | 0.9 | µm |
| With test area width 640/1040 mm [AllroundLine] | 1.2 | µm |
| Frame rate / measured-value acquisition rate, max. | 500 | fps / Hz |
| Test speed, max. | 1000 | mm/min |
| Dimensions | | |
| Height | 175 | mm |
| Width | 306 | mm |
| Depth | 91 | mm |
| Specimen thickness | 0 ... 20 | mm |
| Weight, approx. | 7.5 | kg |
| Accuracy class | | |
| With test area width 440 mm [AllroundLine] and zwickiLine | | |
| To EN ISO 9513 | 1 | |
| With test area width 640/1040 mm [AllroundLine] | | |
| To EN ISO 9513 | 1 from 0.24 mm measurement travel | |

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| Type | videoXtens 1-270 P | | |
|--|--------------------|--|----|
| Item No. | 1043968 | | |
| Scope of delivery | | | |
| Measuring head with digital camera | | | |
| Lens (12 mm) | | | |
| Lens correction target | 12 x 12 | | mm |
| Software for image acquisition and evaluation | | | |
| Accessory case with alignment and marking aids | | | |
| INC module (for tC: RS module) | | | |

Accessories required

Basic packages (1x required)

A basic package is required for the installation of testXpert III and operation of the videoXtens. When working with testXpert III, we recommend a second monitor.

| Description | ArticleNumber |
|--|----------------|
| Basic package Win 10 videoXtens L and videoXtens, core i7, includes PC multilingual workstation with software installation incl. in scope of delivery (testXpert III, videoXtens L, videoXtens); core i7 processor; graphics card for support of two monitors; Ethernet port for testControl II; 27" TFT monitor; Windows 10 / 64 – multilingual ¹⁾ | 1123961 |
| Basic package Win 11 videoXtens L and videoXtens, core i7, includes PC multilingual workstation with software installation incl. in scope of delivery (testXpert III, videoXtens L, videoXtens); core i7 processor; graphics card for support of two monitors; Ethernet port for testControl II; 27" TFT monitor; Windows 11 / 64 – multilingual | 1130955 |

¹⁾ Can easily be upgraded to windows 11.

Mounting (1x required)

Mounting involves connection to the crosshead. This allows videoXtens to track at half crosshead speed, keeping the testing operation automatically in focus and making optimum use of the measuring range.

| Description | ArticleNumber |
|--|----------------|
| videoXtens mounting on AllroundLine testing machine | |
| Rigid mounting kit at <u>45° front left</u> on AllroundLine table-top & floor-standing testing machines with connection to crosshead | 1032724 |
| Rigid mounting kit at <u>45° rear left</u> on AllroundLine table-top & floor-standing testing machines with connection to crosshead Required for mounting with temperature chamber | 1032726 |
| videoXtens mounting on zwickiLine testing machine | |
| Rigid mounting kit at 90° left on zwickiLine, <u>with support on table</u> and connection to crosshead | 1047180 |
| Rigid mounting kit at 90° left on zwickiLine, <u>with support on floor</u> and connection to crosshead | 1071005 |

Illumination (1x required)

| Description | ArticleNumber |
|--|----------------|
| LED incident light lamp, 500 mm. ¹⁾ | 1047264 |

¹⁾ When using the TEE or the tunnel an incident light lamp IS NOT required.

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Optional accessories

Tunnel

| Description | ArticleNumber |
|---|----------------|
| Bellows tunnel, small, minimizes environmental influences (e.g. air currents, variations in light). With integrated LED lighting for optimum specimen illumination. Min./max. tunnel length 70 to 320 mm. | 1047283 |

Testing in temperature chamber

Can only be used with the current temperature chambers for AllroundLine testing machines from the series portfolio. A tunnel and tunnel adapter are required for testing in the ZwickRoell temperature chamber.

| Description | ArticleNumber |
|--|----------------|
| Tunnel adapter for connection of the videoXtens to the ZwickRoell temperature chamber | 1047285 |
| Magnetic tunnel adapter with sealing lip for videoXtens for connection to the temperature chamber glass module (view window). Only HP versions, 1-270 P and videoXtens modular system | |

Accessories for specimen marking

| Description | ArticleNumber |
|---|----------------|
| Gauge marks (strips) for room temperature (+10 to +35°C), self-adhesive, 100 pieces | 353379 |
| Gauge marks (strips) for temperature range -55 to +250°C), self-adhesive, 100 pieces | 077061 |
| Gauge marks (black dot on white background) for temperature range -55 to +250°C), self-adhesive, 100 pieces | 1015510 |
| Marker pen for temperature range -40 to +250°C | 077062 |
| Stencil for marking plastic specimens | 010406 |
| Stencil for marking metal specimens | 010407 |
| Marking spray for applying a pattern to the specimen | 057317 |

Measurement of change in width or transverse strain

| Description | ArticleNumber |
|--|---------------|
| Transverse strain software option for acquisition of transverse strain/change in width. If change in width is to be measured on the specimen edges, a backlight is required. | 013582 |

Backlight

The backlight is required for flexure tests or for measurement of the change in width directly at the specimen edge.

| Description | ArticleNumber |
|---|---------------|
| Backlight 420 x 190 mm, incl. mounting arm, required for measurement at specimen edge | 013593 |
| Backlight 840 x 190 mm, incl. mounting arm, required for measurement at specimen edge | 013596 |

Measuring plunger for determining deflection

| Description | ArticleNumber |
|--|----------------|
| Measuring plunger for videoXtens for determining deflection, i.e. on plastics, fiber-reinforced composites, wood. Installation in ZwickRoell flexure test kit; measurement of deflection by adhering strip gauge marks; maximum height from upper edge of flexure table 99 mm; maximum measurement displacement 25 mm; temperature range -70 ... +200 °C. For this flexure test, we recommend a FOV of at least 30 mm and deactivation of the connection to the crosshead. Additional information in PI 395. | 1090625 |

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Software options

| Description | ArticleNumber |
|--|----------------|
| Test re-run and strain distribution testXpert II Version 3.4 or higher is required, for which a testXpert II Master Test Program or the option Export Editor (Item No. 1035618) is needed. | 325932 |
| Option 2D DIC - Digital Image Correlation 2D DIC module for display and evaluation of strain conditions, fully integrated in testXpert III | 1018509 |
| 2D DIC test license, at not cost for a limited time of 6 months | 1055361 |
| Software option 2D dot matrix for videoXtens For determination of local strains and inhomogeneities of a level specimen surface in two axes (2D). Up to 100 measurement dots in any desired arrangement or in matrix form, measurement of the X/Y coordinates or the distances between dots Required: Channel Editor or master test program (already includes the Channel Editor) testXpert II version 3.5 or higher. Note: Only one camera is used for this function, even for videoXtens Array systems | 077059 |
| Software option Flexure test for videoXtens in 3- and 4-point flexure test Measurement of deflection in the test axis, measurement of the curve, measurement using incident light on marks on the specimen, measurement using backlight on the specimen lower edge Required: Incident lighting for measuring with marks or backlight for measuring on the specimen edge Note: Only one camera is used for this function, even for videoXtens Array systems. | 077060 |
| videoXtens software package; applicable with videoXtens, not with ProLine videoXtens. Includes the software options: transverse strain software option, test re-run and strain distribution, 2D dot matrix, flexure test | 1028367 |

Screen / uniform specimen background

- For a uniform specimen background, recommended for disruptive background contrasts or narrow specimens (for example ≤ 5 mm with videoXtens)
- Screen to shield eyes from incident light or laser light
- Two colors: white on front for dark specimens, black on back for light specimens
- Mounting directly into T-slot of the table-top or floor-standing testing machine profile

| Description | ArticleNumber |
|---|---------------|
| Screen/uniform specimen background, swivelable, white on front and black on back, dimensions 420 x 190 mm | 086060 |