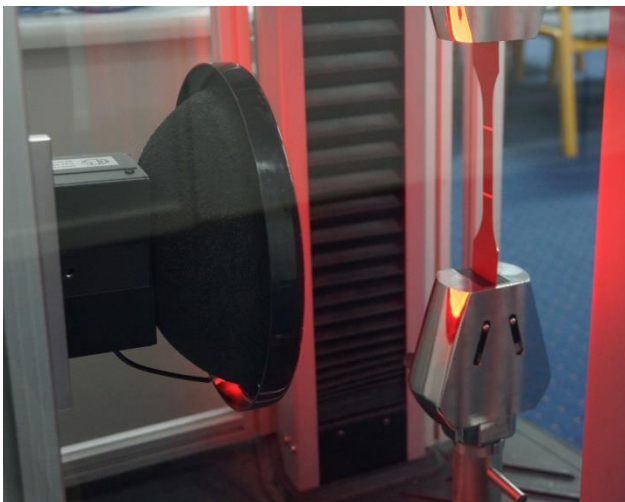
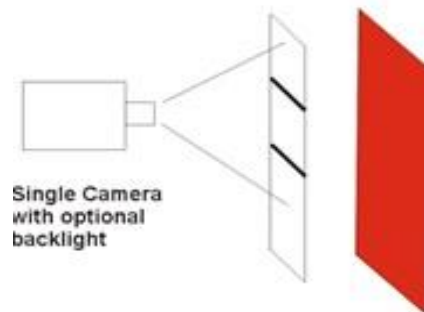




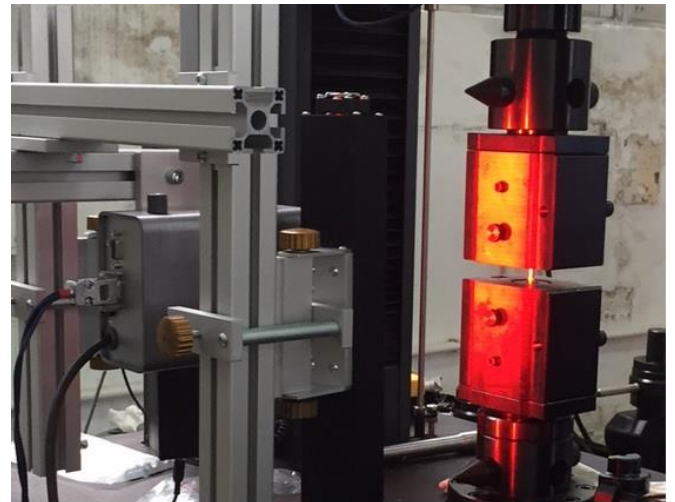
VNCX

Video Non-Contact Extensometer

Single Camera System



Single camera system with integral light source



Single camera system with LED strip light source

Range of Applications

The system comprises of a single camera and housing and is supplied with either LED lighting for reflective materials a domed light for cylindrical or flat specimens. The housing mounts on a small adjustable column and can be moved towards or away from the specimen to allow differing fields of view.



This basic system is suitable for metals, foils, composites or plastics with a field of view up to 200mm and an accuracy of class 1 or better according to ISO 9513 (or equivalent). Resolution is 1 um with a 200mm field of view.

It is suitable for measuring r & n values according to ISO 10113 and 10275 (GB/T5027 and GB/T5028 or equivalent) and offset yield, elongations at maximum force and fracture according to ISO 6892 (GB/T228 or equivalent).

Features

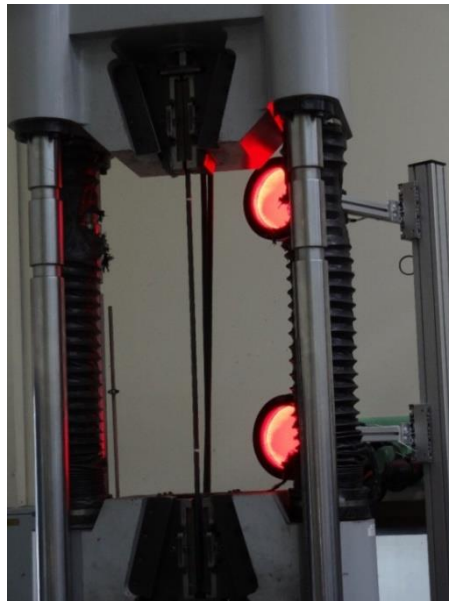
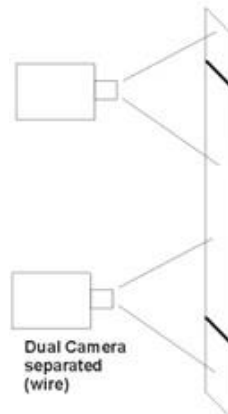
- The system presented has no influence on material characters due to the non-contact nature.
- The system is capable of both axial and transverse measurements with gauge length marking using black or white dots or lines applied with paint spray, marker pen or stick-on flags. For lines, up to 10 gauge marks may be applied representing 5 overlapping gauge lengths and up to 100 dots for length and width measurements or pseudo strain field analysis.
- Transverse measurements can be made by vertical lines, a dot array or by use the specimen edges if the backlighting option is chosen.
- A random dot pattern allows investigation of local strain distributions.
- Camera images can be recorded for off-line analysis and are displayed for the entire test.
- All measurements can be recorded internally and exported in Excel format.
- Measurements may be output by RS232 serial or by optional analog module with a measuring rate up to 500Hz.
- With an analog option, 2 channels are available for output (length and width signals) and 2 for input from external equipment that are logged at the same time as video measurements.
- Available in a stand-alone format or integrated with the Tensile Testing application with internal pseudo serial communication.
- Can be used with an environmental chamber (LED strip lighting option only).

Configurations

Description	Single Camera for Axial & Transverse Strain
Model Number	VN1001 (dome), VN1011(LED strip light)
Components	Lens and filter for required field of view
	Dome light (optional LED strip light)
	Camera enclosure
	Optional backlight
	Optional analog module
	Routine user calibration plate
	Mounting stand / bracket
	VNCX Software



Dual Camera System (Long gauge lengths)



Dual cameras system testing strand wire

Range of Application

The system comprises of two housings, one camera in each housing and is suitable for low elongation on large gauge length specimens such as wire, strand or reinforcing bar but could be used on any material with similar testing requirements. It is usually supplied with integrated dome lighting but LED lighting can be used for special solutions and mounts on a long column adjustable to any height and housing separation.



The field of view of each camera is up to 200mm and gives an accuracy of class 1 or better according to ISO 9513 (or equivalent). Resolution is 1 um with a 200mm field of view.

It is suitable for measuring modulus, offset yield, elongations at maximum force and fracture according to ASTM A1061 (ISO6934, GB/T5224 or equivalent).

Features

- Marking is usually lines applied with marking pen or stick-on flags.
- The minimum distance between cameras is 200mm which means the device can use a gauge length of 20mm or greater (typically 500 or 600mm for wire).
- Camera images can be recorded for off-line analysis and are displayed for the entire test.
- All measurements can be recorded internally and exported in Excel format.
- Measurements may be output by RS232 serial or by optional analog module with a measuring rate up to 500Hz.
- With an analog option, 2 channels are available for output (length and width signals) and 2 for input from external equipment that are logged at the same time as video measurements.
- Available in a stand-alone format or integrated with the Tensile Testing application with internal pseudo serial communication.

Configurations

Description	Dual Camera for large gauge length testing
Model Number	VN2001 (dome lighting), VN 2011 (LED strip lighting)
Components	Two Lenses and filters
	Two dome lights (optional LED light)
	Two camera enclosure boxes
	Optional analog module
	Routine user calibration plate
	Calibration stub set
	Mounting stand / brackets
	VNCX Software



Axial Measurement Specifications

Field of View (FOV)	25mm	50mm	100mm	200mm
Resolution	0.3 μm	1.0 μm	1.0 μm	1.0 μm
Accuracy	$\pm 1.5 \mu\text{m}$ or 0.5% reading	$\pm 3 \mu\text{m}$ or 1% reading	$\pm 3 \mu\text{m}$ or 1% reading	$\pm 3 \mu\text{m}$ or 1% reading
Classification to ISO9513, EN10002-4	Class 0.5	Class 1	Class 1	Class 1
Classification to ASTM E83	B-1 (G.L \geq 15mm) B-2 (G.L \geq 7.5mm)	B-1 (G.L \geq 30mm) B-2 (G.L \geq 15mm)	B-1 (G.L \geq 30mm)	B-1 (G.L \geq 30mm)

Overview of ACS VNCX Measurement Systems

Test Results	Model	
	VN10X1	VN20X1
Modulus	Yes	Yes
Proof Yield Strength	Yes	Yes
Uniform Elongation	Yes	Yes
Total Elongation at Break	Yes	Yes
r-value	Yes	

Notes: X = 0 for domed lights, 1 for 300mm LED Lighting, 2 for 600mm lighting and 3 for 900mm LED lighting.

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