

# AMEE 2D VEX



## A new video extensometer combining unique design, high-end features and surprisingly low price

In cooperation with the VSB Technical University of Ostrava, we have developed the AMEE video extensometer head, which impresses with its unique design. Thanks to its compact dimensions and low weight, its installation is very simple. It is possible to use a tripod or special holders directly at the test equipment. The cooling is passive.

### Technology

Recording is taken care of by high-end industrial cameras with a choice of resolution and scanning speed. A wide range of lenses is also available. Lighting is provided by two blue lights with adjustable intensity on the AMEE VEX rear panel.

### Packaging

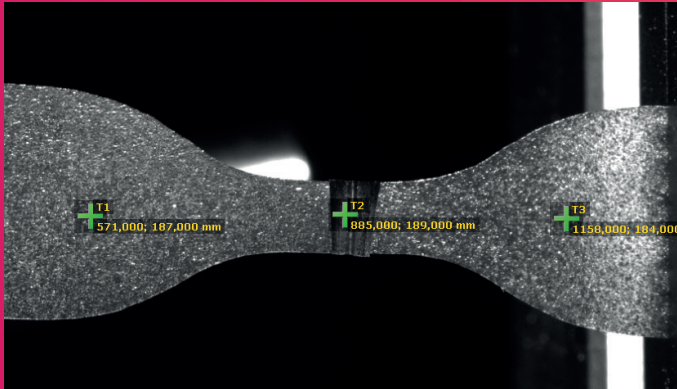
The AMEE VEX will be delivered to you in a safety carrying case. Its contents include the AMEE VEX head itself with the selected camera and lens. Also a cable to connect the USB on your computer and a power cable for the lights. USB installation and HASP key which will unlock the Mercury RT® software. A calibration grid. The AMEE head has the ability to mount to standard tripods.

### Simplicity

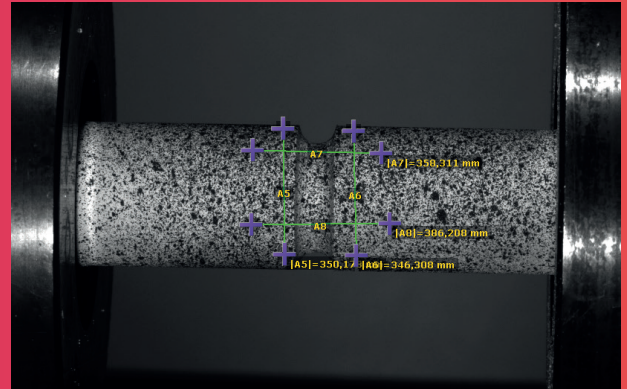
The entire system is designed to be as easy to use as possible. Simply place the AMEE VEX head on a tripod or mount, connect the power and USB cable, start the Mercury RT® software and begin measuring. Intelligent tools for focus, lighting, probe placement, etc. will help in preparing the scene. The whole process is aided by the ability to use the mobile app, where all essential tools are available. The calibration is semi-automatic and can be easily saved for further measurements. Thus, automated measurement is very easy and accessible. The Mercury RT® software is designed to guide all basic setup and measurement processes intuitively and simply and in many languages.

## VERSATILE PROBES:

- **Point Probe** tracks position, displacement, velocity and acceleration.
- **Line Probe** measures distance and calculates strain, angles and angular velocity.
- **Chain Probe** enhances precision by calculating data from the highest elongation segment.
- **Torsion Probe** measures angular twist on cylindrical specimens.
- **Area Probe** provides results such as displacement fields, strain fields, and deformation analysis within the selected area.



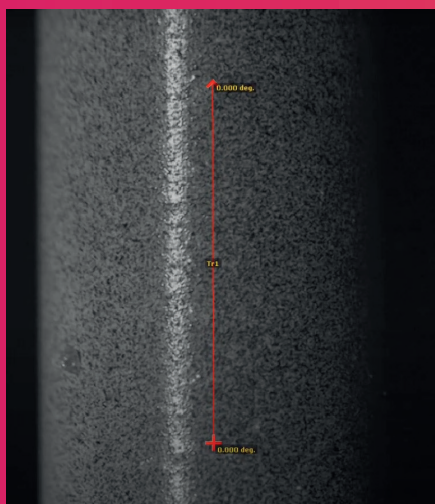
Point probe



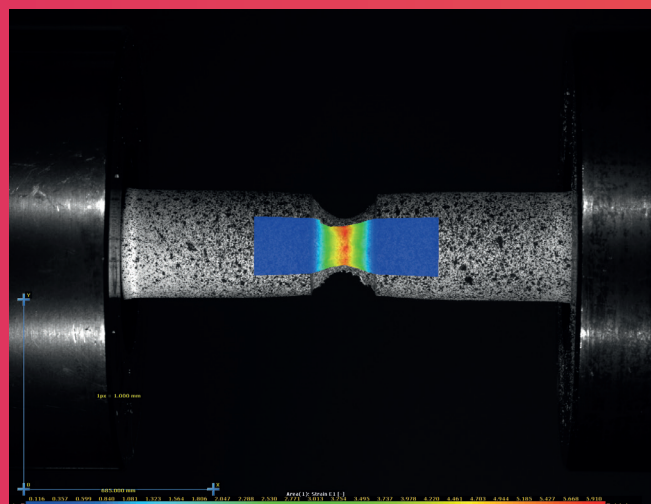
Line probe



Chain probe



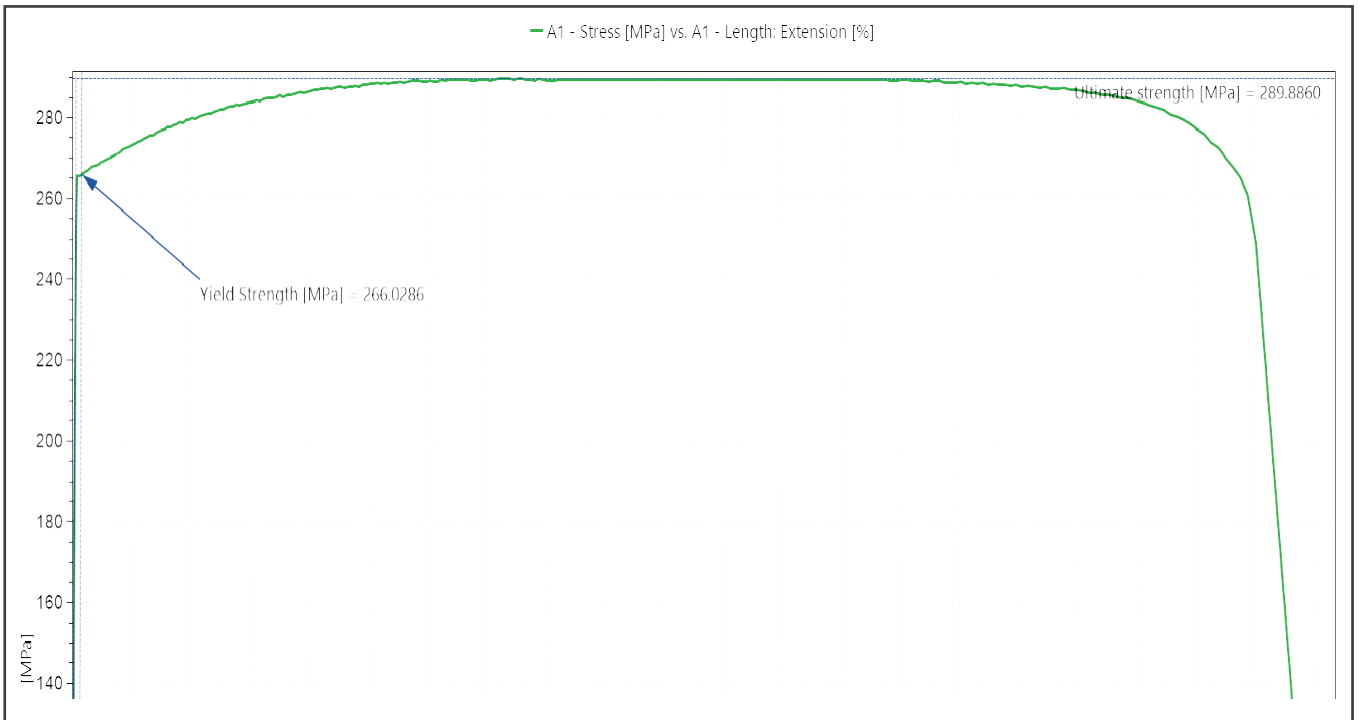
Torsion probe



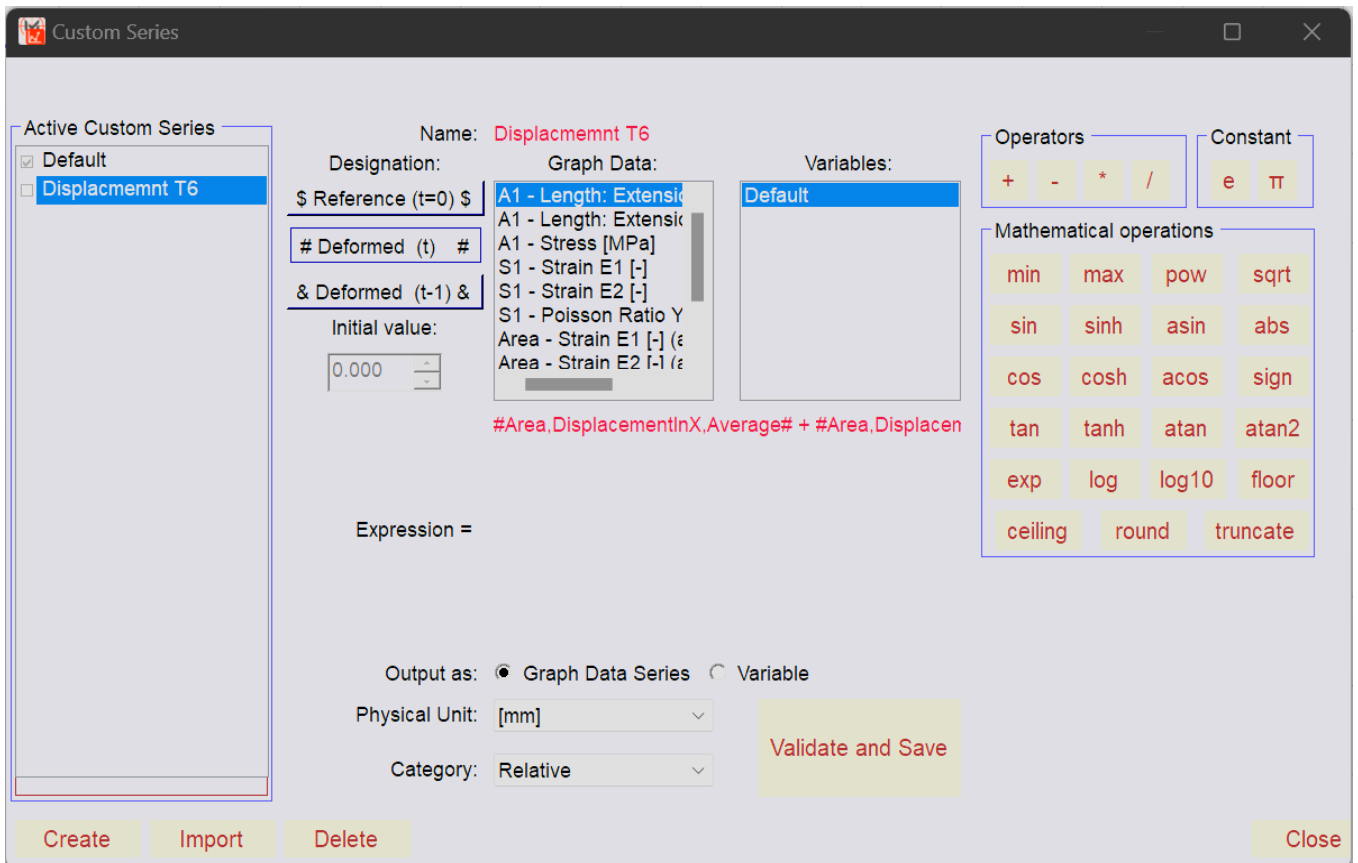
Area probe

## UNIQUE FEATURES:

- **Stress vs Strain Graph**



- **Custom Graph Series** creates personalized graphs and visualization.



Custom Series

Active Custom Series:

- Default
- Displacemnt T6

Name: **Displacemnt T6**

Designation: \$ Reference (t=0) \$

# Deformed (t) #

& Deformed (t-1) &

Initial value: 0.000

Graph Data:

- A1 - Length: Extensio
- A1 - Length: Extensio
- A1 - Stress [MPa]
- S1 - Strain E1 [-]
- S1 - Strain E2 [-]
- S1 - Poisson Ratio Y
- Area - Strain E1 [-] (ε
- Area - Strain E2 [-] (ε

Variables: Default

Operators: +, -, \*, /

Constant: e, π

Mathematical operations:

- min, max, pow, sqrt
- sin, sinh, asin, abs
- cos, cosh, acos, sign
- tan, tanh, atan, atan2
- exp, log, log10, floor
- ceiling, round, truncate

Expression =

Output as:  Graph Data Series  Variable

Physical Unit: [mm]

Category: Relative

Validate and Save

Create Import Delete Close

- **Unlimited Probes:** Use of various probes in a single test.

Mobile application is used for easy setup of the measurement scene. Mercury RT® software is very often installed on a fixed computer that is remote from the test equipment. The live image transmission from the camera to the tablet app. solves this issue.

The app includes the following key features:

- Shutter setup
- Invert colors
- Show clippings
- Pseudo colours
- Focus tool
- You can start and stop measurements from the app.
- Virtual calibration grid - suitable for teaching or general testing (not for precise measurements)

## TECHNICAL SPECIFICATIONS:

- Resolution Options: 9MPx, 5MPx, 2MPx systems.
- Frame Rates: Up to 48 fps, 75 fps, 160 fps.
- Pixel Size and Resolution: Various options for precision.
- Light Optics: 50W blue lights with adjustable focus modes.
- Dimensions: 200 x 120 mm, diameter 140mm
- Weight: 1 kg

Component	9MPx System	5MPx System	2MPx System
FPS	Up to 48 fps	Up to 75 fps	Up to 160 fps
Resolution	4096 x 3000 pixels	2448 x 2048 pixels	1920 x 1200 pixels
Pixel Size	2.4 µm x 2.4 µm	3.45 µm x 3.45 µm	3.45 µm x 3.45 µm
Resolution	~0.034 mm/pixel	~0.0395 mm/pixel	~0.049 mm/pixel
Classification to ISO 9513	Class 0.5, 1, 2, -	Class 0.5, 1, 2, -	Class 0.5, 1, 2, -
Classification to ASTM E 83	Class B-1	Class B-1	Class B-1
Gauge Range	0.01-10 %	0.01-10 %	0.01-10 %
Analogue IO service	200 kS/s, 16-bit, 16-ch Multifunction	200 kS/s, 16-bit, 16-ch Multifunction	200 kS/s, 16-bit, 16-ch Multifunction
Digital output	TCP/IP	TCP/IP	TCP/IP
Test rig connectivity	DOLI DoPE/ Custom	DOLI DoPE/ Custom	DOLI DoPE/ Custom
Light	50W - 30° and 60° LED lenses	50W - 30° and 60° LED lenses	50W - 30° and 60° LED lenses
Light Optic Diffusers	30%, 50% & 70%	30%, 50% & 70%	30%, 50% & 70%

In cooperation with:

 VSB TECHNICAL  
UNIVERSITY  
OF OSTRAVA

FACULTY  
OF MECHANICAL  
ENGINEERING

DEPARTMENT  
OF APPLIED  
MECHANICS

HEAD QUARTERS

<https://www.mercury-dic.com>



MERCURY<sup>RT</sup>



Developed in the Czech Republic

Oct 2024

