VEpioneer® MACRO

PRODUCT OVERVIEW

COMPREHENDING THE INVISIBLE



Fast. Non-destructive. Comprehensive. VEpioneer® MACRO is the versatile multi-purpose Hyperspectral Vision system for macroscopic inspection. Built for production-scale quality assurance, the system adapts to virtually any flat sample: from small components to large-format specimens. Enabled by a highly flexible sample stage with extensive adjustment options.

PVA TePla

HYPERSPECTRAL VISION FOR ALL SURFACES

WE DON´T GUESS.
WE SEE.

Even the smallest deviation from specification means scrapped parts or costly rework. Yet most inspection methods are slow, complex, or even destructive.
The **VEpioneer® MACRO** changes that by enabling 100 % inspection of virtually any flat sample.

One button operation. Full surface insight
Fully automated inspection from start to result – no complex setup, no prior expertise required.

Non-destructive inspection
Optical spectroscopy leaves samples completely intact – ideal for production-critical parts.

Fast measurement
Performs a single scan in less then 10 seconds.

Layer thickness from 1 nm to 500 µm
Precisely inspects ultra-thin to thick layers across a wide range of materials and substrates.

Compatible with virtually any material
Metals, glass, polymers, semiconductors, ceramics – the VEpioneer® MACRO handles them all.

Comprehensive analysis
100 % sample information in just one run.



TECHNICAL PARAMETERS

Every detail matters. The VEpioneer® MACRO is engineered for precision, speed, and versatility – here is what it delivers.

SPECIFICATIONS	
Measurement Mode	Reflectance
Measurement Time	< 10 s (typical)
Wavelength Range	VNIR 400–1000 nm / SWIR 900–1700 nm
Spectral Resolution	VNIR 1.34 nm / SWIR 3.5 nm
Field of View (FOV)	300 mm (Standard) [2]
Spatial Resolution	VNIR 300 µm / SWIR 470 µm [1]
Max. Sample Size	up to 360 × 360 mm, max. height 10 mm [2]
Lighting	VEluminise® – adjustable halogen broadband source, LED broadband or UV-LED excitation
Software	VEsolve® PRO
Connectivity	RJ45 (Ethernet)
ENVIRONMENT	
Power Requirements	230 VAC (115 V optional), 50 Hz, 170 W
System Dimensions	1002 × 530 × 331 mm (L × W × H)
System Weight	58 kg
Certifications	CE, RoHS, UKCA
Operating Conditions	+ 5 °C to + 40 °C (non-condensing)
SUBSTRATES & LAYERS	
Substrates	Metals, glass, polymers & foils, semiconductors (Si, SiC), ceramics, and many more
Layers	Oxides, nitrides, carbides, polymers, and many more
Layer Thickness Range	1 nm – 500 µm (material dependent)
Surface Information	■ Cleanliness ■ Contaminations ■ Defects ■ Surface states ■ Custom target parameters

[1] High-resolution scan-modes available. | [2] Further customisation available.





WANT TO FIND OUT MORE?
CONTACT US FOR INFORMATION!

PVA TePla AG | Vision
Im Westpark 10–12 | 35435 Wettenberg

+49 (0)641 686 90-0
explore-vision@pvatepla.com
www.pvatepla.com

Disclaimer
The technical data, illustrations, and descriptions contained in this document are non-binding. They are intended solely for general information purposes and do not constitute a legally binding offer. We reserve the right to make technical changes in the interest of progress, as well as the right to correct errors. The exclusively applicable specifications are those valid at the time of order placement.

07/2026 | © 2026 PVA TePla AG. All rights reserved.