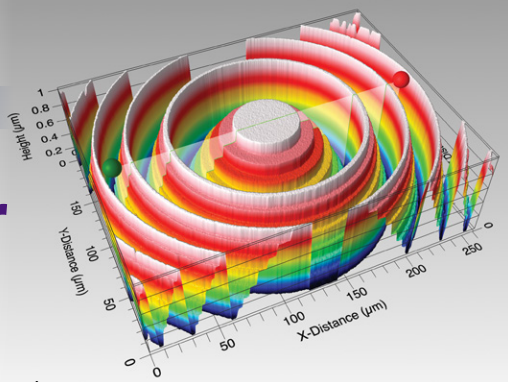

Profilm3D Optical Profiler

3D Surface Profiling at a 2D Price

Finally, a state-of-the-art 3D optical profiler at an affordable price! Our Profilm3D uses industry-standard white-light-interferometry (WLI) and optional phase-shifting-interferometry (PSI) to produce high-quality surface profiles and infinite-depth-of-field images.

Profilm3D Standard Features:

- Automated XY stage with 100mm x 100mm of motion
- Automated Z-motion with 100mm of range
- Four-position turret
- Tip-tilt stage with +/-5° of range
- Industry-leading 500µm of piezo travel
- Industry-leading 2mm-wide field-of-view with 10x objective
- 265mm maximum sample width

New!* The Profilm3D*Plus

Get all the Profilm3D has to offer, plus 200mm of XY motion and 365mm max sample width!

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Profilm3D Software Features

Profilm Desktop Analysis Software

The Profilm3D's Profilm desktop software is full-featured, intuitive, and fast. Stitching is a low-cost option. Almost all features are free, so there aren't any $10-50k software add-ons—compare this to the competition!

Partial List of Image Operators

Leveling, flattening, filtering, particle removal, cropping, FFT

Partial List of Analysis Functions

Step Height: Line, rectangle, and histogram methods; dissimilar-materials correction supported.

Roughness: By line and area, with all 47 standard ASME/EUR/ISO roughness parameters supported.

Others: Dimensions, Feature Spacings, Volume, Bearing Ratio, Particle and Grains, and much more.

Graphics Interface

Color Scale, 3D Lighting Options, Z scale control, etc.

Image Processing—Manual

Never lose the bread-crumb-trail back to your original image!

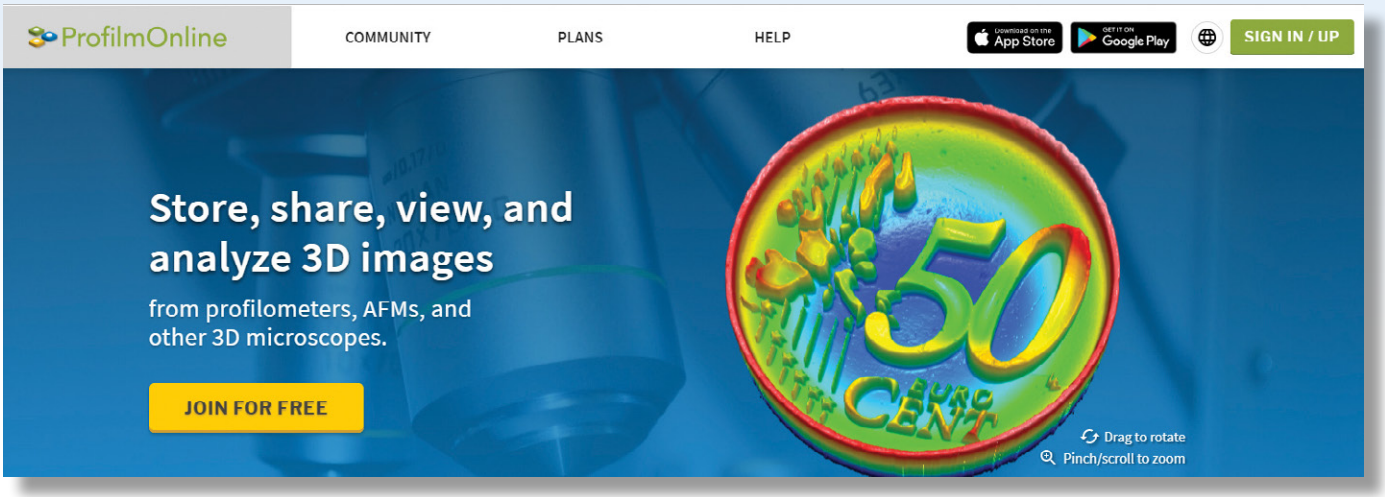
Image Processing—Automatic

User recipes perform multi-step analyses with one-click for customized measurements.

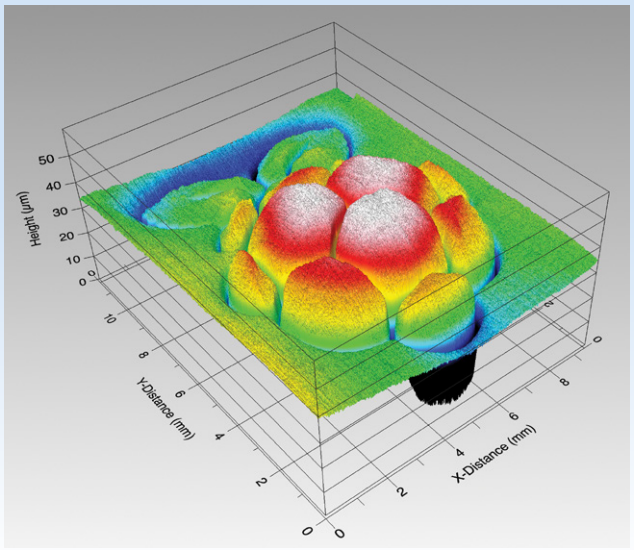
ProfilmOnline: Free Web-Based 3D Image Viewing & Analysis Program

Virtually all of Profilm's desktop image-viewing and analysis functions—including stitching—are available at low- or no-cost at www.ProfilmOnline.com. ProfilmOnline is the place to share, store, view, and analyze 3D images, whether you're on your desktop or mobile device (free Android and iOS apps are available). A wide variety of file formats, including AFM, are accepted. (There are even SPM-specific image-correction and analysis functions!)

Image-encryption capability is provided, so your images are completely safe and confidential. Or, if you have images you'd like to share, you can post them in our Public Gallery. You can also interact with the 3D-imaging community in our online Forum.



Profilm3D Optional Features



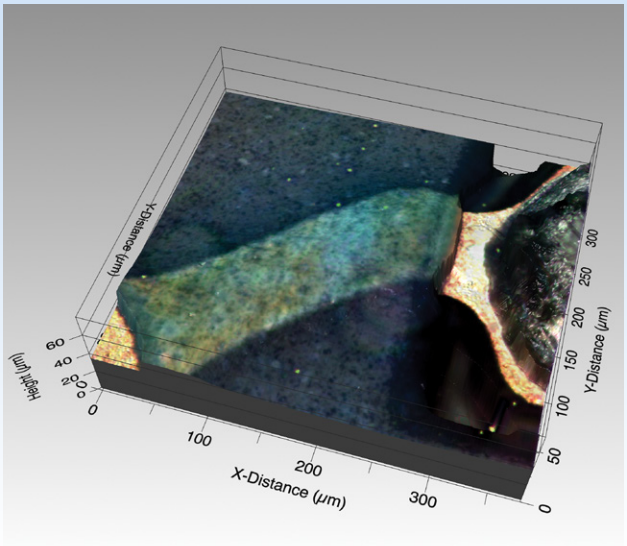
Logo from Raspberry Pi circuit board. Click on image to view interactively.

TotalFocus: Infinite Depth-of-Field Imaging

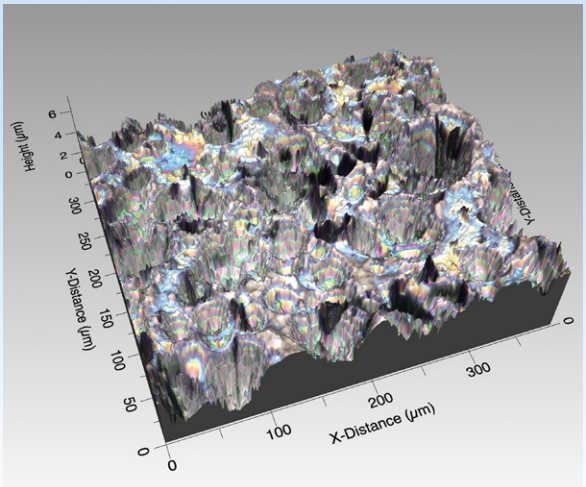
High-magnification imaging (50x and above) is often difficult, due to the <1µm depth-of-field of these lenses. This means you often can't make heads or tails of a sample image because nothing's in-focus at the same time. The Profilm3D makes this problem a thing of the past! Because the Profilm3D knows the height of all points of your surface, it knows when each point is in-focus and that's what gets displayed when using its optional TotalFocus mode! (TotalFocus is an easy software field upgrade on every Profilm3D ever shipped.)

True-Color Imaging

Full true-color 3D images are available on every Rev. 5 Profilm3D as a simple low-cost software upgrade.



Solder joint and solder mask on printed circuit board. Click on image to view interactively.



Thin-film protective coating on stainless steel. Click on image to view interactively.

Thin-Film-Thickness Measurement

Easily measure thin films of thickness 35nm and up with our Thin-Film-Thickness option, which includes all the power of Filmetrics' FILMeasure software. Scheduled release 2019 Q4.

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Profilm3D Specifications

Performance Specifications

Thickness Range, WLI	50nm - 10mm
Thickness Range, PSI	0 - 3µm
RMS Repeatability, WLI [1]	1.0nm
RMS Repeatability, PSI [1]	0.1nm
Step-Height Accuracy [2]	0.7%
Step-Height Precision [3]	0.1%
Step-Height Stability [3]	0.15%
Sample Reflectance Range	0.05% - 100%
ISO 25178 Compliant	Yes

General Specifications – Profilm3D*Plus*

XY Stage Range	200mm x 200mm
Max Sample Width	365mm
System Size	406mm × 406mm × 550mm
System Weight	22kg

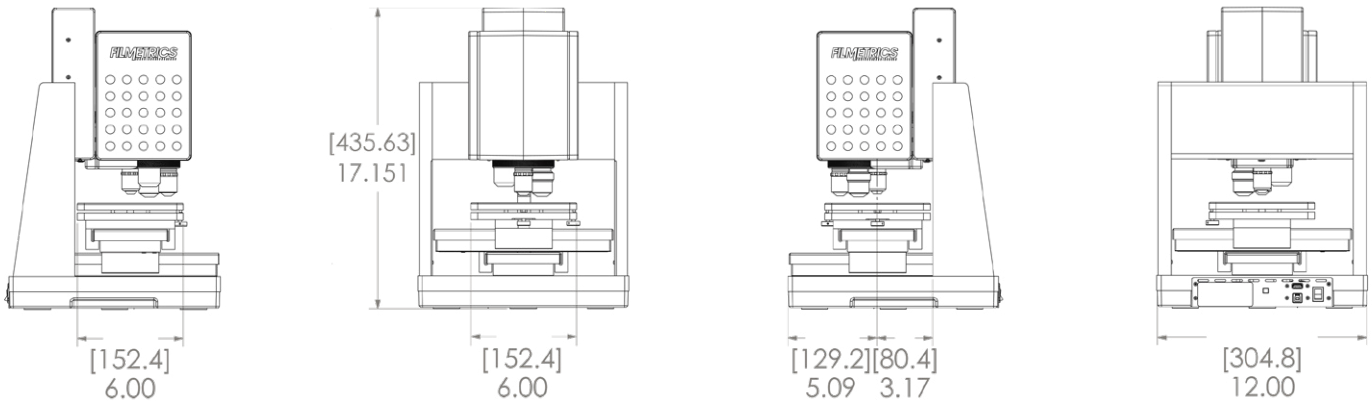
General Specifications – Profilm3D

Z Range	100mm
Piezo Range	500µm
Scan Speed, Vertical	12µm/sec
XY Stage Type	Automated
XY Stage Range	100mm × 100mm
Sample Max Width	265mm
Sample Max Weight	2.5kg
Tip-Tilt Stage	+/- 5°, Manual
Camera	2592 x 1944 (5 megapixels)
Camera Zoom [4]	1X, 2X, 4X
Color Imaging	Optional
System Size, W x D x H	305mm x 305mm x 550mm
System Weight	15kg

Objectives[5] (Nikon CF IC Epi Plan)

Magnification	5X	10X	20X	50X	100X
Field of View at 1X Zoom	4.0mm × 3.4mm	2.0mm × 1.7mm	1.0mm × 0.85mm	0.4mm × 0.34mm	0.2mm × 0.17mm
Numeric Aperture	0.13	0.3	0.4	0.55	0.7
Working Distance	9.3mm	7.4mm	4.7mm	3.4mm	2.2mm
Spatial Sampling at 4X Zoom [6]	1.76µm	0.88µm	0.44µm	0.176µm	0.088µm
Resolving Power of Lens	2.1µm	0.92µm	0.69µm	0.5µm	0.4µm
Maximum Sample Slope [7]	8.5°	14°	21°	25°	42°

[1] Typical value
[2] 8µm step
[3] Precision is 1σ of 30 measurements of a 10µm Step-Height Standard, average of 1σ over 20 successive days. Ambient stable to within 1°C. Stability is 2σ of daily average of 30 measurements of a 10µm Step-Height Standard over 20 successive days. Ambient stable to within 1°C.
[4] Digitally realized. Number of effective pixels after binning is 648 x 484 for all zooms.
[5] Sold separately
[6] Pixel size projected on sample
[7] Greater (better) for rough surfaces



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10655 Roselle St • San Diego, CA 92121 • (858) 573-9300 • www.filmetrics.com