

Model FX-3 Industrial-Grade Widefield Stereo Microscope

The Model FX-3 from Titan Tool Supply is a high-quality industrial grade widefield stereo microscope, designed to support a variety of general-purpose manufacturing and quality assurance tasks. Typical applications include, though are not limited to, small component visual inspections, material surface quality inspections, circuit board analysis, micro and precision welding and soldering, burring, and micro drilling.

The microscope offers exceptional measurement performance, unusually long focal lengths, and extended depth of field –particularly at lower magnifications. The Model FX-3 also offers larger fields of view and greater versatility than can otherwise be found among multiple other industrial-grade widefield stereo microscopes available on the market today. This microscope may also be easily adapted for the seamless mounting of special stands onto machine tools.

Key Features:

- Unusually Long Focal Length**
 At 10X magnification, the Model FX-3 industrial grade widefield stereo microscope offers focal lengths of 20.125 inches or 7.283 inches for enhanced viewing capabilities.
- Large Fields of View**
 The Model FX-3 provides expansive fields of view at 10X magnification, extending out to 2.625 inches or 1.313 inches, for efficient observations of the test article.
- Superior Distortion-Free Vision**
 The Model FX-3 industrial-grade widefield stereo microscope excels at gathering natural light for most applications, though room lighting is typically sufficient. The microscope delivers unusually crisp and sharp imagery, surpassing what is commonly found in lower-priced stereo microscopes.
- Excellent Depth of Field**
 The Model FX-3's excellent depth of field makes it ideal for the support of manufacturing quality assurance inspections of more delicate items or smaller components, and as the microscope can provide continuous and clear viewing during micro manufacturing, assembly and visual inspection tasks. In addition, the FX-3's adjustable microscope stand can flexibly accommodate a variety of working situations and manufacturing cell setups. Special stands can also be created using 0.800-inch diameter tubing or drill rods.



Typical Applications:

- Quality Control and Inspection:** The FX-3 is ideal for inspecting and assessing the quality of smaller manufactured parts, components, and assemblies in automotive, aerospace, electronics, and photonics.
- Precision Assembly and Soldering:** Use of the microscope helps ensure more precise assembly and soldering of smaller and more delicate components, by ensuring accurate placement and solder joints.
- Micro Welding and Micro Drilling:** The FX-3 provides more precise and accurate welding and drilling of miniature parts.
- Circuit Board Analysis:** The microscope aids in the analysis and troubleshooting of circuit boards, by helping the end-user to more readily identify, by means of visual inspection, any defects, soldering issues, and component failures.
- Material Surface Inspection:** The FX-3 allows for detailed examinations of material surfaces, helping to detect imperfections, scratches, cracks, and other surface irregularities.
- Gemology and Jewelry Inspection:** The microscope assists in the examination and grading of gemstones, as well as identification of flaws, inclusions, and making determinations of gemstone authenticity.
- Trade School Education and Training:** The microscope is used by trade schools and other educational institutions for teaching and training

Model FX-3 Specifications:

Microscope Stand: The FX-3 microscope stand is designed to provide added stability and durability. It comes with an aluminum base plate measuring 5.500 inches x 6.000 inches x 0.750 inches, as well as with a 0.800-inch diameter vertical post.

Microscope Body: The FX-3 features a rack and pinion focusing arrangement which allows for adjustments of up to 9.500 inches above the base plate, and thereby enabling more precise focus.

Binocular Tube: The FX-3's binocular tube features a 45-degree incline and is equipped with diopter and variable inter-pupillary adjustment for comfortable and customizable viewing.

Eyepieces: The FX-3 widefield stereo microscope includes an extra-wide field 10X eyepiece as standard. Additionally, a 20X eyepiece may be purchased as an optional accessory. Crosshair eyepieces, in magnifications of 10X and 20X, are also available as optional accessories.

Objectives: The FX-3 microscope comes with a built-in 1X objective lens. Optional objectives, including 0.5X, 1.5X, and 2X, can be purchased separately to achieve different magnifications.

Magnification: By adding an extra set of eyepieces and additional objectives, the FX-3 industrial-grade widefield stereo microscope can provide up to six unique magnification options.

Image: The FX-3 microscope produces both right-side-up and optically correct images, ensuring accurate visualization of the test subject or article.

Lenses: FX-3 microscope lenses are hard-coated and include built-in color correction for enhanced image quality.

Weight: The FX-3 microscope weighs approximately 3.5 lbs., providing portability and ease of use

Objectives	Working Distance mm/inches	10X Eyepiece Wide Field				20X Eyepiece Wide Field			
		Mag.	Field of View	Depth of Field	Res.*	Mag.	Field of View	Depth of Field	Res.*
.5X Optional 1X Built In	511mm/ 20.125"	5X	67mm/ 2.635"	25.4mm/ 1.00"	14.3	10X	33.35mm/ 1.313	9.5mm/ .375"	36
1X Built In	185mm/ 7.28"	10X	23mm/ .9055"	3.2mm/ .125"	57	20X	12mm/ .472"	1..6mm/ .062"	71.8
1.5X External 1X Built In	130mm/ 5.12"	15X	17mm/ .6791"	1.6mm/ .062"	80.6	30X	9mm/ .354"	0.8mm/ .031"	90.5
2X External 1X Built In	85mm/ 3.35"	20X	11.5mm/ .453"	.78mm/ .031"	128	40X	7mm/ .276"	0.4mm/ .016"	144

* Resolution line pairs per millimeter.

FX-3 Part Designations and Ordering Information

FX-3	Industrial-Grade Widefield Stereo Microscope
SMOJBFX-3-0.5X	0.5X Auxiliary Objective Lens Option
SMOJBFX-3-J-1.5X	1.5X Auxiliary Objective Lens Option
SMOJBFX-3-2.0X	2.0X Auxiliary Objective Lens Option
SMEPPFX-3-20X	Pair of 20X Eyepieces Option
SMCHEPFX-3-10X	10X Cross Hair Single Eyepiece Option
SMCHEPFX-3-10X	10X Cross Hair Single Eyepiece Option
RI-FX-3	Ring Light Adapter Option

Additional Lighting Options

For customer convenience, the Titan Tool Supply Model FX-3 industrial-grade widefield stereo microscope is offered with multiple choices of lighting systems to suit specific end-user needs:

- **FOI-150** 150-Watt Halogen Fiberoptic Illuminator
- **RI-50** Fiberoptic Ring Light
- **FOI-1** Bi-Furcated Fiberoptic Light Guide
- **TFLI** Fluorescent Ring Light
- **T-40** LED Ring Illuminator