

## Miniature Video Microscope Zoom Lenses

- **High resolution variable objective lens**
- **High dynamic range**
- **Miniature size**
- **Variable iris for maximum depth of field**
- **Lockable focus & zoom adjust**

Converts the V-1050 or other high dynamic range video cameras into powerful video microscopes. The inspection lenses use a reversible design so that in one direction it becomes a video microscope objective and when reversed a close - up or standard zoom lens. Works with any 1/2" C-mount camera. A continuously variable iris allows increase in depth of field with increasing light levels. Outperforms microscope objectives in contrast at high magnifications. Video images up to 110x can be obtained on a 9" monitor with the V-47816MZ on a 1/2" CCD camera.



The zoom focusing system does not affect its outer dimensions while varying the magnification adjustment from min. to max.

The lenses mount easily to any "C" or "CS" mount camera. An iris adjustment allows for use with inexpensive light sources.

## SPECIFICATIONS - ZOOM LENSES

Part No.	V-48616MZ
Variable Objective	2x - 4x
Magnification	67 - 110x
Reversed Focal Length	8 - 16mm
Iris	f1.6 - close
Min. Mag on 9" monitor	67x
Max. Mag on 9" monitor	110x
Length of lens system	60mm
Working distance	14.5mm - 20mm

## Fixed Video Microscope Objectives



- **Up to 300x Magnification**

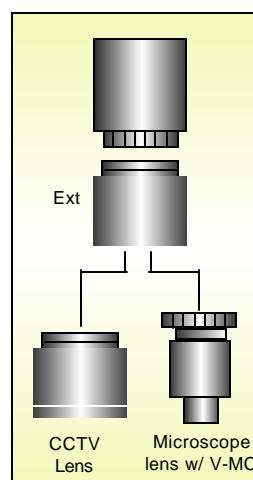
Excellent for converting video cameras into powerful microscopes for production line inspection or quality control applications. Uses extension tubes to increase magnification. Attaches directly to any "C" mount camera with the V-MC adapter ring. These lenses work best with cameras designed for replacing microscopes such as Marshall's V-1050. Since the objective lenses have no iris and small openings for maximum depth of field, it requires controlled lighting for best performance.

SPECIFICATIONS - MICROSCOPE OBJECTIVES			
Part No.	V-5004X	V-5005X	V-5010X
Objective	4x	5x	10x
Magnification	1x - 137x	2.4x - 162x	86x - 300x
Min. Mag on 9" monitor	1x	2.4x	86x
Length of lens system	25mm	25mm	49mm
Working Distance	914mm	386mm	9.4mm
Max. Mag on 9" monitor	137x	162x	300x
Length of lens system	145mm	145mm	170mm
Working distance	18mm	16mm	4mm

## Lens Adapters



Also called "extension tubes", these are used primarily for extending a lens away from the sensor to get proper focus or to get closer to the working surface in video microscope type applications. Our video microscope lenses can be mounted to any of the "C" mount extension tubes by using the V-MC adapter ring.



PART NO.	DESCRIPTION
V-4995XK	5 piece 38mm kit "C" mount extension tubes
V-4996X	5mm "C/CS" mount adapter ring
V-4997X	74mm "C" mount extension tube
V-4998X	22mm "C" mount extension tube
V-4999X	10mm "C" mount extension tube
V-5000X	0.020" extender washer
V-5001X	0.040" extender washer
V-MCX	"C" mount to microscope lens
V-2X	2x doubler