

## Optics Systems

### Product Description

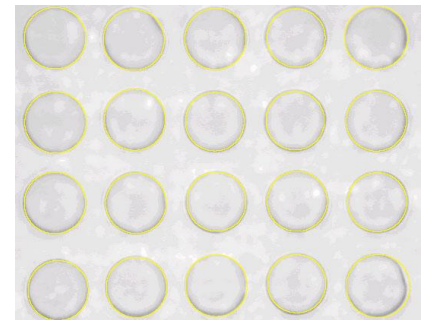
The Horizontal Optics subsystem is designed to observe formation and trajectories of droplets in flight (requires a pulsed LED or other pulsed light source for illumination). The Vertical Optics subsystem is designed for locating fiducials on substrates and for inspection of printed patterns. These two subsystems are integrated into the Jetlab<sup>®</sup> II Printing System.

The Basic Optics subsystem can be used for both drop and substrate observation, is available in multiple working distances, and is used in the Jetlab<sup>®</sup> 4 family of Printing Systems.

The Vertical & Horizontal Optics subsystems include a CCD camera with power supply, zoom lens, and fine focus module. Vertical Optics adds coaxial illumination. The Basic Optics subsystem uses a fixed magnification lens. Video capture (internal & external) is available as an option.

### Ordering Information

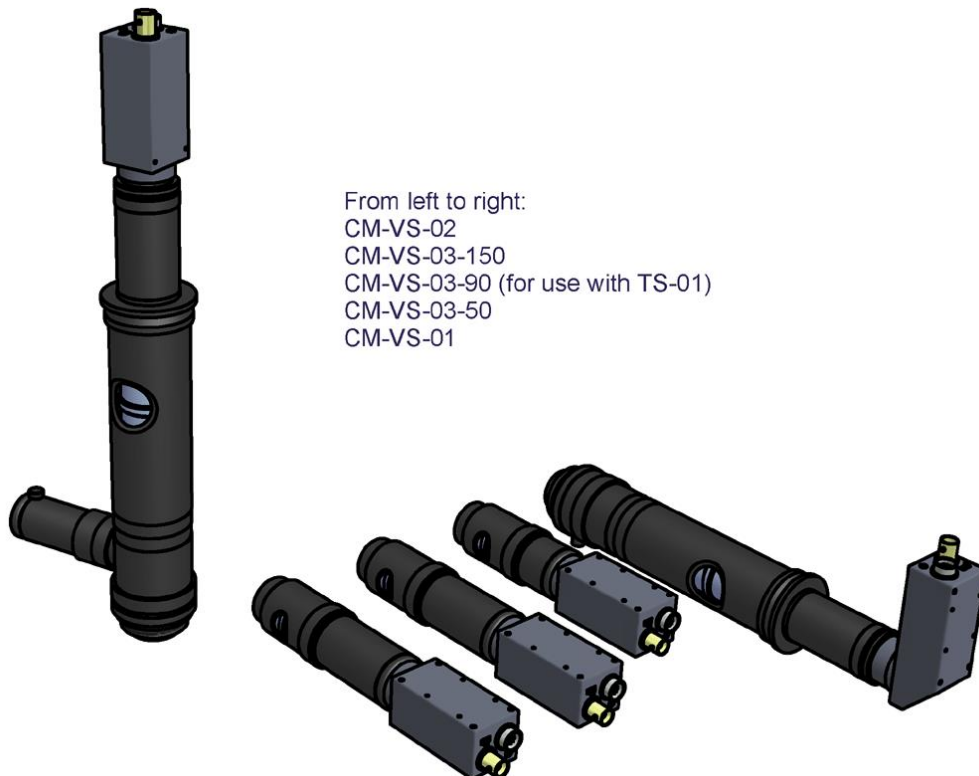
- CM-VS-01** Horizontal Optics System: CCD camera, power supply, zoom lens. Fine focus and right-angle adapter included.
- CM-VS-02** Vertical Optics System: CCD camera, power supply, zoom lens, coaxial illumination.
- CM-VS-03** Basic Optics System: CCD camera, power supply, lens, fine focus, mounting block. Specify 50, 90, or 150 mm working distance.
- CT-VC-01** Sensoray video capture board. PCI card.
- CT-VC-02** Sensoray video capture board. External USB model.



## Specifications

<b>Common, Horizontal &amp; Vertical:</b>	
Field of view, min	0.7 x 1.0 mm
Field of view, max	9.2 x 12.3 mm
Fine focus range	15 mm
Camera resolution	640 x 480 lines
<b>Horizontal Optics:</b>	
Size	96 x 305 mm (3.8 x 12")
Working distance	69 mm
<b>Vertical Optics:</b>	
Size	99 x 345 mm (3.9 x 13.6")
Working distance	114 mm
Lamp power (bulb)	150 W
Input voltage	110 or 220 V (specify)
Input power	300W

<b>Basic Optics:</b>	
Field of view:	2.1 x 2.7 mm (50)
50, 90, 150mm working distances	1.9 x 2.6mm (90) 3.1 x 4.1mm (150)
Camera resolution	640 x 480 lines
Size	36 x 167 (1.4 x 6.6") (50) 36 x 198 (1.4 x 7.8") (90) 36 x 198 (1.4 x 7.8")(150)
Working distance	50, 90, 150 mm (specify)
<b>Image Capture:</b>	
Video capture resolution	640 x 480 (NTSC)
Video capture resolution	768 x 576 (PAL)
Video capture input	BNC x 4
Video capture interface	USB
Video capture OS	Win XP



From left to right:  
 CM-VS-02  
 CM-VS-03-150  
 CM-VS-03-90 (for use with TS-01)  
 CM-VS-03-50  
 CM-VS-01