

Long Working Distance Objective Lenses

VML-45

RoHS

Catalog Code W3086

With its long working infinity correction function; this objective lens can be used for a laser system and coaxial observation. The objective will allow user to focus a visible laser or microscopic observation of objects from a distance.

- Chromatic aberration is corrected in the visible range (400 – 700nm).
- Two types of parfocal distance are available, 45mm and 90mm.
- This parfocal 95mm lens has a long working distance and a corrected field curvature. Its natural observation image is obtained to the periphery of the visual field.
- It is possible to improve the response speed in the driving mechanism of the 45mm parfocal objective lens (SFS-OBL/ SFAI-OBL); with a lightweight auto focusing solution.



Guide

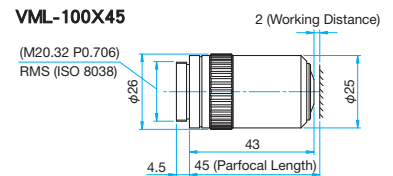
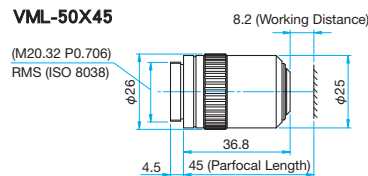
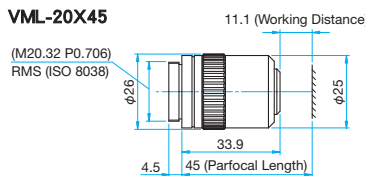
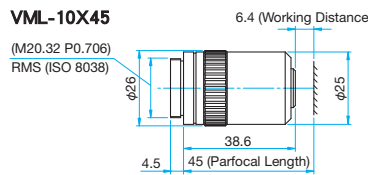
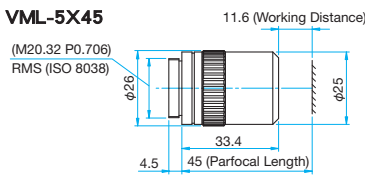
- ▶ Available fixed objective lens holder (LHO-20.32).
[WEB Reference](#) [Catalog Code](#) W4024
- ▶ When the objective lens is fixed to a 2 axis holder, please consult our Sales Division.
- ▶ For laser processing, we offer a dichoric block (DIMC) and for laser unit with coaxial illumination and observation (OUCI-2).
[WEB Reference](#) [Catalog Code](#) W2041

Attention

- ▶ When an objective lens is used in laser processing, use the diameter of the incident beam to extend to a size of half the pupil diameter ($1/e^2$). A small light spot cannot be achieved when the incident beam is too narrow. Please note if there is a laser energy density increase, there will be a high possibility of damage to the objective lens.
- ▶ The surface of an objective lens can be contaminated by debris during processing. To avoid this, please have sufficient working distance (WD) and insert a thin protective glass on the objective.
- ▶ Magnification is the value when using the imaging lens $f=200\text{mm}$. When used in a microscope lens barrel from other manufacturers there may be different magnifications. The actual magnification should be calculated from the ratio of the focal length of the objective lens and the focal length of the imaging lens to verify the focal length of the imaging lens barrel to be used.

Outline Drawing

(in mm)

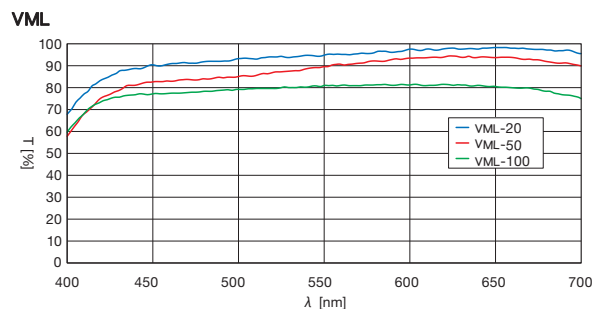
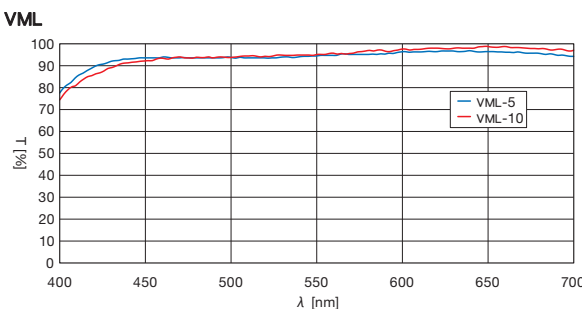


Specifications

Part Number	Magnification	Numerical aperture (NA)	Working distance (WD) [mm]	Focal length f [mm]	Resolution [μm]	Focal depth [μm]	Pupil diameter [mm]	Real field of view		Weight [kg]
								(Eyepiece φ24mm)	(Imaging device 1/2-inch)	
VML-5X-45	5	0.13	11.6	40	2.1	±16.3	φ10.4	φ4.8	0.96×1.28	0.085
VML-10X-45	10	0.30	6.4	20	0.9	±3.1	φ12.0	φ2.4	0.48×0.64	0.085
VML-20X-45	20	0.40	11.1	10	0.7	±1.7	φ8.0	φ1.2	0.24×0.32	0.085
VML-50X-45	50	0.55	8.2	4	0.5	±0.9	φ4.4	φ0.48	0.10×0.13	0.095
VML-100X-45	100	0.80	2.0	2	0.3	±0.4	φ3.2	φ0.24	0.05×0.06	0.105

Typical Transmittance Data

T: Transmission



Compatible Optic Mounts

LHO-26