Expansion Objectives

History

Building on a collaboration begun with multi-immersion objectives, Applied Scientific Instrumentation (ASI) worked with Special Optics to develop dipping objective lenses for expansion samples. The key feature includes a very long WD while keep good NA and large FOV. We also minimized the profile of the mechanical tip given the NA/FOV. The first objective will be available around September 2026, and other designs are expected to follow.

ASI is the sole distributor of these objectives but will sell them freely to anyone interested, including home builders and companies.

57-15-8 Specifications

Specification	Value	Comments
Numerical Aperture	1.0	water dipping, **not** multi-immersion
Effective Focal Length	7.49 mm	26.7x with 200 mm TL, 24x with 180 mm TL
Working Distance	5.45 mm	
Field of View	1.1 mm Ø	diffraction-limited, slightly larger for some wavelengths
Corrections	plan apo	optimized for 500 – 750 nm
Transmission	~85%	Internal coatings 400 – 1300 nm
Parfocal length	83 mm	
Threads	M32x0.75	
Mechanical Angle	53.1° / 48°	measured from front of FOV to limiting point / slope of body