



1030 nm to 1090 nm

Focusing Units

High-Power Beam Delivery

The Coherent focusing units are available from 60 mm up to 500 mm focal length in D25 and D50 assemblies. All focal lengths are offered in both air cooled and water cooled designs. The D50 design is also offered in a z-adjustable version. The lenses are pre-aligned during assembly to minimize variation between units. Small outer dimensions and simple mechanical interface make the focusing units easy to integrate.

FEATURES & BENEFITS

- Up to 12 kW (CW)
- Air- or water-cooled
- High-quality lenses
- Compact dimensions
- Factory aligned
- Z-adjustable version

APPLICATIONS

- Welding
- Cutting
- Surface Treatment
- Cladding
- 3D Additive Manufacturing



SPECIFICATIONS	Water-Cooled	Air-Cooled
Maximum Power CW (kW)		
D25	10	3
D50	12	5
Wavelength (nm)	1030 to 1090	
Focal Length (mm)		
D25	60, 100, 150, 200, 250, 300, 400, 500	
D50	100, 120, 160, 200, 250, 300, 400, 500	
Focal Shift ($\Delta z/z_R$)/kW ¹	Typical <0.1	
Optics Material	Synthetic fused silica	
Optics Diameter (mm)	25 and 50	
Optics Surface Quality, Scratch/Dig	40/20, U.S. Standard MIL-PRF-13830B Section 3.5	
Z-adjustment Range ² (mm)	N/A	±5
COOLING		
Cooling Method	Water	Air (passive)
Flow Rate (l/min)	2.0	N/A
Pressure Drop (bar at 2 l/min.)		N/A
D25	1.6	
D50	1.3	
Water Temperature (°C)	15 to 35 (non-condensing)	N/A
DIMENSIONS & WEIGHT		
Dimensions	See page 3 and 4	
Weight (kg)		
D25	0.3	0.1
D50	0.6	0.4 or 0.6 (z-adj.)
ENVIRONMENTAL CONDITIONS		
Humidity (% RH)	<80	
Operating Temperature (°C)	5 to 50 (non-condensing)	
Storage Temperature (°C)	-10 to 70	
COMPLIANCE INFORMATION		
RoHS	Directives 2011/65/EU and 2015/863/EU	
REACH	Directive EC no 1907/2006	

¹ In combination with collimating unit.

² Only available as D50 version.

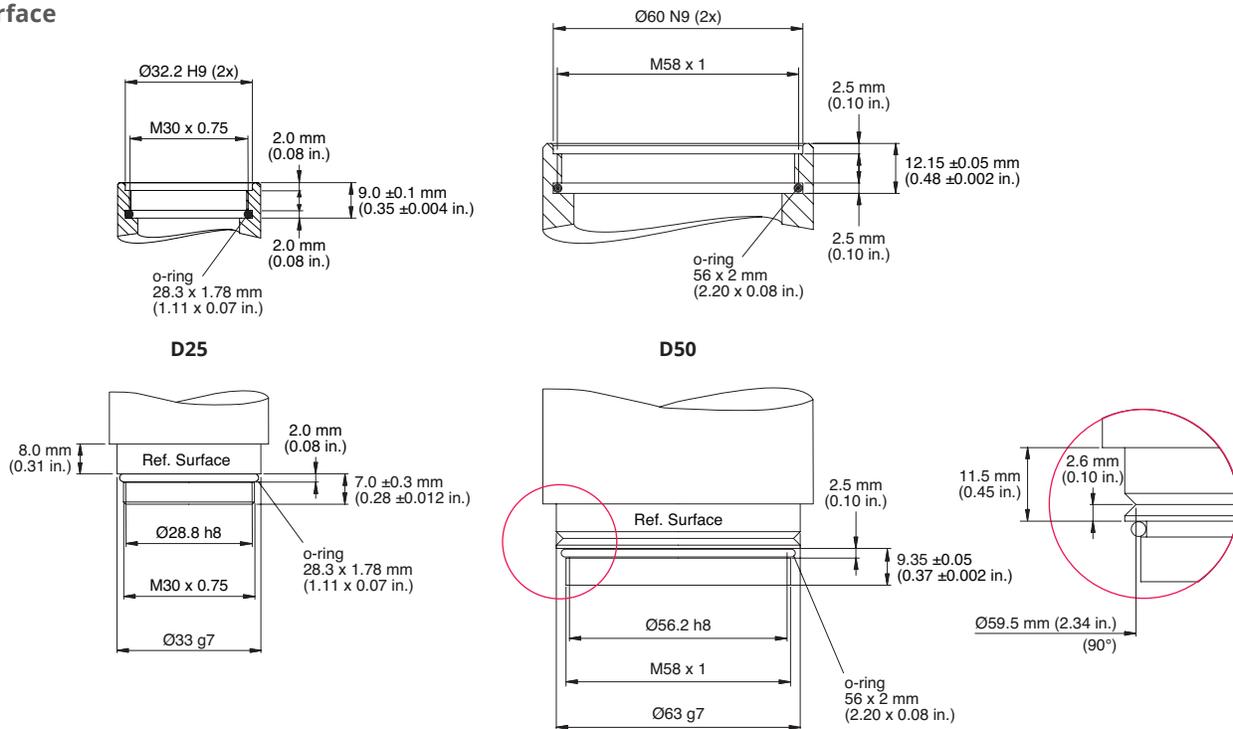
OPTICAL SPECIFICATIONS

	Design Focal Length (mm)	Effective Focal Length (mm) ¹	Z-tolerance δz_f (μm)	Radial Tolerance δr_f (μm)
D25	60	60.0 \pm 0.5%	\pm 100	\leq 100
	100	100.1 \pm 0.5%		\leq 150
	150	150.0 \pm 0.5%		\leq 200
	200	200.0 \pm 0.5%		\leq 250
	250	250.0 \pm 0.5%		\leq 300
	300	300.0 \pm 0.5%		\leq 400
	400	400.0 \pm 0.5%		\leq 500
	500	500.0 \pm 0.5%		
D50	100	100.0 \pm 0.5%	\pm 100	\leq 150
	120	119.9 \pm 0.5%		\leq 200
	160	160.1 \pm 0.5%		\leq 250
	200	200.0 \pm 0.5%		\leq 400
	250	250.0 \pm 0.5%		\leq 500
	300	300.0 \pm 0.5%		
	400	399.9 \pm 0.5%		
	500	500.0 \pm 0.5%		

¹ EFL at 1070 nm.

MECHANICAL SPECIFICATIONS

FU Interface



Reference and Clamping Surface = Ø33 g7

Reference and Clamping Surface = Ø63 g7

PART NUMBERS

D25	Focal Length	Water-Cooled	Air-Cooled
	60 mm	1389067	2-9962X01
	100 mm	1389400	1-9555X01
	150 mm	1389051	3-9400X01
	200 mm	1389401	3-9401X01
	250 mm	1389063	3-9402X01
	300 mm	1389064	3-9403X01
	400 mm	1389065	3-9404X01
	500 mm	1389066	3-9405X01

D50	Focal Length	Water-Cooled	Air-Cooled	Air-cooled, z-adj.
	100 mm	110853X01	104236X01	N/A
	120 mm	110854X01	102496X01	1-9427X01
	160 mm	110855X01	104237X01	1-9229X01
	200 mm	109030X01	102499X01	1-9230X01
	250 mm	109033X01	113105X01	109050X01
	300 mm	105207X01	104240X01	1-9261X01
	400 mm	110851X01	104241X01	1-9721X01
	500 mm	110852X01	102497X01	1-9723X01

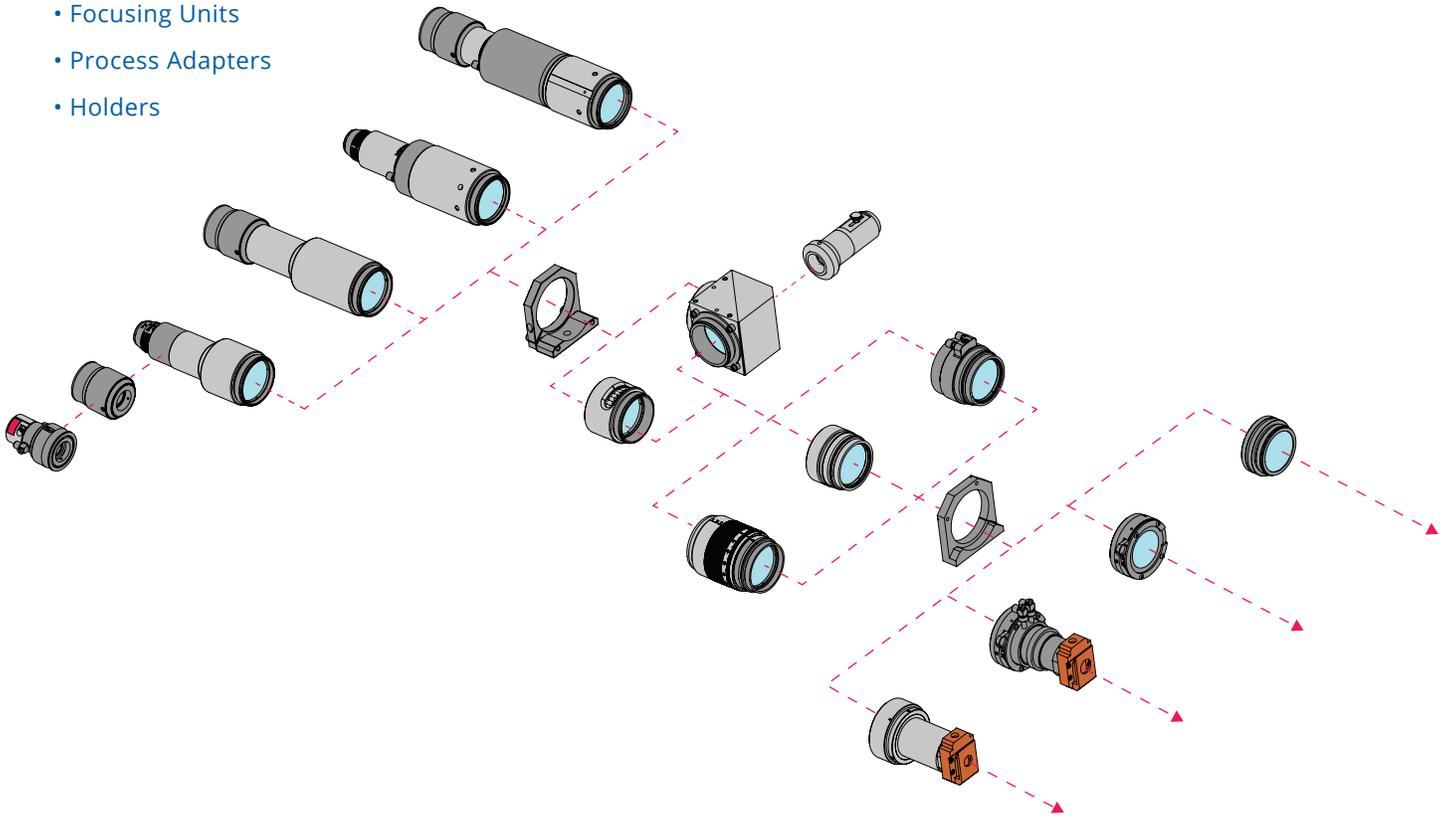
Accessories

Accessory	Part Number	Description
Focusing Unit Holder, d25	1-9562X01	Holder with reference surfaces
Focusing Unit Holder, d50	1-9321X01	Holder with reference surfaces
Cover Slide Holder, d25	3-9337X01	Including cover slide (2-1146X03)
Cover Slide Holder, d50	4-9007X01	Including cover slide (0-1010X09)
Cover Slide Holder with drawer, d50	1-9354X01	Not including cover slide

RELATED PRODUCTS

The complete product line of process optics includes:

- Collimating Units
- Intermediate Optics
- Focusing Units
- Process Adapters
- Holders



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Coherent offers a limited warranty for all Focusing Units. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-037-20-0M0121 Copyright ©2021 Coherent, Inc.