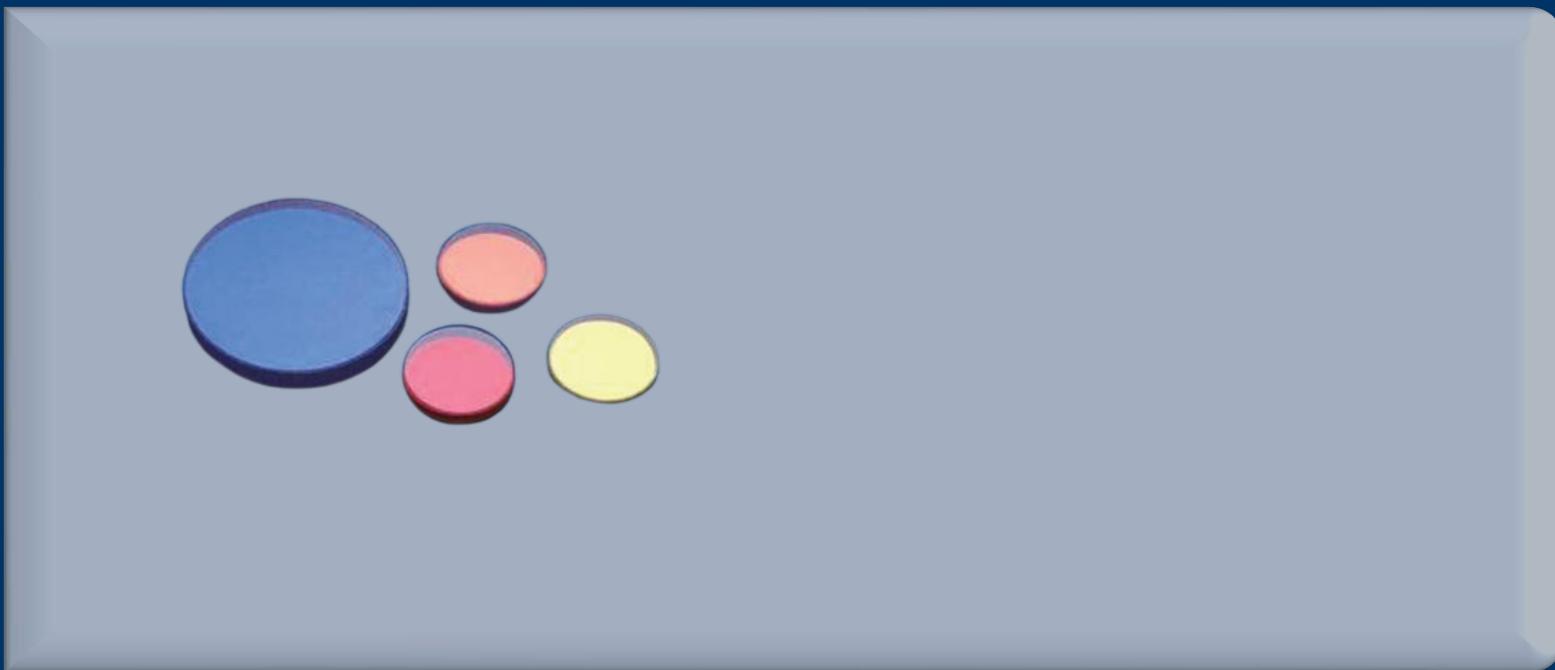


Optical Filter

Narrowband Interference Filter

A high-selectivity optical component engineered for precise wavelength isolation

- Ultra-Narrow FWHM
- High Peak Transmission
- Deep Blocking Depth/OD
- Hard-Coated & Environmental Stability



One Platform Many Possibilities

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Overview

Precision Spectral Isolation: Ultra-Narrow Bandwidth with Deep Background Suppression

Narrowband Interference Filters are critical components for high-sensitivity optical systems, specifically engineered to isolate a target Center Wavelength (CWL) from a complex spectral background. Utilizing advanced multi-layer thin-film interference technology, our filters achieve an ultra-narrow Full Width at Half Maximum (FWHM)—typically ranging from 1nm to 10nm—while providing deep out-of-band blocking up to OD4 or OD6.

VenusLab's narrowband filters are manufactured using Hard-Coating and Ion-Assisted Deposition (IAD) techniques. Unlike traditional soft-coated filters, our products offer superior durability and environmental stability, ensuring that the CWL does not shift due to changes in humidity or temperature. Whether for laser line cleaning, fluorescence microscopy, or industrial sensing, these filters significantly enhance the signal-to-noise ratio, allowing you to capture the most subtle optical signals with confidence.

Qualification

General Technical Specifications

Parameter	Specification (Data)
Dimensions	Ø 25.4 mm x 6.0 mm
Diameter Tolerance	+0.0 / -0.25 mm
Clear Aperture	> Ø 21.0 mm
Surface Quality	80-50 Scratch-Dig
Out-of-band Transmission	
-- Standard Grade	0.01% (OD4) @ CWL ± Range
-- High Performance	0.0001% (OD6) @ CWL ± Range

Spectral Performance & Tolerances

Nominal Bandwidth (FWHM)	FWHM Tolerance	CWL Tolerance
1 nm	± 0.2 nm	± 0.2 nm
3 nm	± 0.5 nm	± 0.5 nm
10 nm	± 2.0 nm	± 2.0 nm

Selection Chart

UV Series Ordering Guide

Item No.	Light Source	CWL (nm)	Diameter (mm)	FWHM (nm)	Peak Transmission (%)
VLNF25.4-193-15	Ar ⁺ F	193	25.4	15	> 12%
VLNF25.4-200-10	-	200	25.4	10	> 12%
VLNF25.4-214-10	Zn	214	25.4	10	> 12%
VLNF25.4-214-22	-	214	25.4	22	> 20%
VLNF25.4-220-10	-	220	25.4	10	> 12%
VLNF25.4-228-10	Cd	228	25.4	10	> 15%

VLNF25.4-228-25	-	228	25.4	25	> 20%
VLNF25.4-232-10	Ni	232	25.4	10	> 15%
VLNF25.4-239-10	Co	239	25.4	10	> 15%
VLNF25.4-239-25	-	239	25.4	25	> 20%
VLNF25.4-248-10	Kr*F	248	25.4	10	> 12%
VLNF25.4-253.7-10	Hg	253.7	25.4	10	> 12%
VLNF25.4-253.7-25	-	253.7	25.4	25	> 18%
VLNF25.4-253.7-40	-	253.7	25.4	40	> 20%
VLNF25.4-260-10	-	260	25.4	10	> 20%
VLNF25.4-265-10	Hg	265	25.4	10	> 12%
VLNF25.4-265-25	-	265	25.4	25	> 20%
VLNF25.4-270-10	-	270	25.4	10	> 12%
VLNF25.4-280-10	Hg	280	25.4	10	> 12%
VLNF25.4-280-25	-	280	25.4	25	> 20%
VLNF25.4-285-10	-	285	25.4	10	> 20%
VLNF25.4-289-10	Hg	289	25.4	10	> 15%
VLNF25.4-296.7-10	Hg	296.7	25.4	10	> 15%
VLNF25.4-300-10	-	300	25.4	10	> 15%
VLNF25.4-300-25	-	300	25.4	25	> 20%
VLNF25.4-300-40	-	300	25.4	40	> 20%
VLNF25.4-307.1-10	Zn	307.1	25.4	10	> 15%
VLNF25.4-307.1-25	-	307.1	25.4	25	> 20%
VLNF25.4-310-10	-	310	25.4	10	> 15%
VLNF25.4-313-10	Hg	313.0	25.4	10	> 15%
VLNF25.4-313-25	-	313.0	25.4	25	> 20%
VLNF25.4-320-10	-	320.0	25.4	10	> 25%
VLNF25.4-326.1-3	Cd	326.1	25.4	3	> 15%
VLNF25.4-326.1-10	-	326.1	25.4	10	> 25%

VLNF25.4-326.1-25	-	326.1	25.4	25	> 25%
VLNF25.4-330-10	-	330.0	25.4	10	> 25%
VLNF25.4-334-10	Hg	334.0	25.4	10	> 25%
VLNF25.4-337.1-3	N2	337.1	25.4	3	> 20%
VLNF25.4-337.1-10	-	337.1	25.4	10	> 25%
VLNF25.4-340-8	-	340.0	25.4	8	> 35%
VLNF25.4-340-10	-	340.0	25.4	10	> 25%
VLNF25.4-340-25	-	340.0	25.4	25	> 25%
VLNF25.4-350-10	-	350.0	25.4	10	> 25%
VLNF25.4-350-25	-	350.0	25.4	25	> 25%
VLNF25.4-350-40	-	350.0	25.4	40	> 25%
VLNF25.4-355-10	YAG(3)	355	25.4	10	> 20%
VLNF25.4-355-40	-	355	25.4	40	> 25%
VLNF25.4-360-10	-	360	25.4	10	> 25%
VLNF25.4-365-5	Hg	365.0	25.4	5	> 20%
VLNF25.4-365-10	-	365.0	25.4	10	> 25%
VLNF25.4-365-25	-	365.0	25.4	25	> 25%
VLNF25.4-370-10	-	370.0	25.4	10	> 25%
VLNF25.4-380-12	-	380	25.4	12	> 35%
VLNF25.4-390-10	-	390	25.4	10	> 35%

Visible Light Series Ordering Guide

Item No.	Light Source	CWL (nm)	Diameter (mm)	FWHM (nm)	Peak Transmission (%)
VLNF25.4-400-10	-	400.0	25.4	10	> 50%
VLNF25.4-400-15	-	400.0	25.4	15	> 50%
VLNF25.4-400-20	-	400.0	25.4	20	> 50%
VLNF25.4-400-40	-	400.0	25.4	40	> 50%
VLNF25.4-400-70	-	400.0	25.4	70	> 50%
VLNF25.4-404.7-5	Hg	404.7	25.4	5	> 50%
VLNF25.4-404.7-10	-	404.7	25.4	10	> 50%
VLNF25.4-410-10	-	410.0	25.4	10	> 50%

VLNF25.4-415-10	-	415.0	25.4	10	> 50%
VLNF25.4-420-10	-	420.0	25.4	10	> 50%
VLNF25.4-430-10	-	430.0	25.4	10	> 50%
VLNF25.4-435.8-5	Hg	435.8	25.4	5	> 50%
VLNF25.4-435.8-10	-	435.8	25.4	10	> 50%
VLNF25.4-440-10	-	440.0	25.4	10	> 50%
VLNF25.4-441.6-1	He-Cd	441.6	25.4	1	> 50%
VLNF25.4-441.6-3	-	441.6	25.4	3	> 50%
VLNF25.4-441.6-10	-	441.6	25.4	10	> 50%
VLNF25.4-450-10	-	450.0	25.4	10	> 50%
VLNF25.4-450-20	-	450.0	25.4	20	> 50%
VLNF25.4-450-40	-	450.0	25.4	40	> 50%
VLNF25.4-450-80	-	450.0	25.4	80	> 50%
VLNF25.4-455.5-10	Cs	455.5	25.4	10	> 50%
VLNF25.4-457.9-1	Ar Ion	457.9	25.4	1	> 50%
VLNF25.4-457.9-3	-	457.9	25.4	3	> 50%
VLNF25.4-457.9-10	-	457.9	25.4	10	> 50%
VLNF25.4-460-10	-	460.0	25.4	10	> 50%
VLNF25.4-470-10	-	470.0	25.4	10	> 50%
VLNF25.4-480-10	-	480.0	25.4	10	> 50%
VLNF25.4-486.1-10	H	486.1	25.4	10	> 50%
VLNF25.4-488-2	Ar Ion	488.0	25.4	2	> 50%
VLNF25.4-488-3	-	488.0	25.4	3	> 50%
VLNF25.4-488-10	-	488.0	25.4	10	> 50%
VLNF25.4-490-10	-	490.0	25.4	10	> 55%
VLNF25.4-415-10	-	415.0	25.4	10	> 50%
VLNF25.4-420-10	-	420.0	25.4	10	> 50%
VLNF25.4-430-10	-	430.0	25.4	10	> 50%
VLNF25.4-435.8-5	Hg	435.8	25.4	5	> 50%

VLNF25.4-435.8-10	-	435.8	25.4	10	> 50%
VLNF25.4-440-10	-	440.0	25.4	10	> 50%
VLNF25.4-441.6-1	He-Cd	441.6	25.4	1	> 50%
VLNF25.4-441.6-3	-	441.6	25.4	3	> 50%
VLNF25.4-441.6-10	-	441.6	25.4	10	> 50%
VLNF25.4-450-10	-	450.0	25.4	10	> 50%
VLNF25.4-450-20	-	450.0	25.4	20	> 50%
VLNF25.4-450-40	-	450.0	25.4	40	> 50%
VLNF25.4-450-80	-	450.0	25.4	80	> 50%
VLNF25.4-455.5-10	Cs	455.5	25.4	10	> 50%
VLNF25.4-457.9-1	Ar Ion	457.9	25.4	1	> 50%
VLNF25.4-457.9-3	-	457.9	25.4	3	> 50%
VLNF25.4-457.9-10	-	457.9	25.4	10	> 50%
VLNF25.4-460-10	-	460.0	25.4	10	> 50%
VLNF25.4-470-10	-	470.0	25.4	10	> 50%
VLNF25.4-480-10	-	480.0	25.4	10	> 50%
VLNF25.4-486.1-10	H	486.1	25.4	10	> 50%
VLNF25.4-488-2	Ar Ion	488.0	25.4	2	> 50%
VLNF25.4-488-3	-	488.0	25.4	3	> 50%
VLNF25.4-488-10	-	488.0	25.4	10	> 50%
VLNF25.4-490-10	-	490.0	25.4	10	> 55%
VLNF25.4-500-10	-	500.0	25.4	10	> 55%
VLNF25.4-500-20	-	500.0	25.4	20	> 55%
VLNF25.4-500-40	-	500.0	25.4	40	> 55%
VLNF25.4-500-80	-	500.0	25.4	80	> 70%
VLNF25.4-508-10	-	508.0	25.4	10	> 55%
VLNF25.4-510-10	-	510.0	25.4	10	> 55%
VLNF25.4-514.5-1	Ar Ion	514.5	25.4	1	> 45%
VLNF25.4-514.5-3	-	514.5	25.4	3	> 50%
VLNF25.4-514.5-10	-	514.5	25.4	10	> 55%

VLNF25.4-520-10	-	520.0	25.4	10	> 55%
VLNF25.4-523-10	-	523.0	25.4	10	> 55%
VLNF25.4-530-10	-	530.0	25.4	10	> 55%
VLNF25.4-532-1	Nd:YAG	532.0	25.4	1	> 45%
VLNF25.4-532-3	-	532.0	25.4	3	> 50%
VLNF25.4-532-10	-	532.0	25.4	10	> 55%
VLNF25.4-535-10	Ti	535.0	25.4	10	> 55%
VLNF25.4-540-10	-	540.0	25.4	10	> 55%
VLNF25.4-544-10	-	544.0	25.4	10	> 55%
VLNF25.4-546.1-5	Hg	546.1	25.4	5	> 55%
VLNF25.4-546.1-10	-	546.1	25.4	10	> 55%
VLNF25.4-550-10	-	550.0	25.4	10	> 55%
VLNF25.4-550-20	-	550.0	25.4	20	> 55%
VLNF25.4-550-40	-	550.0	25.4	40	> 55%
VLNF25.4-550-80	-	550.0	25.4	80	> 70%
VLNF25.4-560-10	-	560.0	25.4	10	> 55%
VLNF25.4-570-10	-	570.0	25.4	10	> 55%
VLNF25.4-577-5	Hg	577.0	25.4	5	> 50%
VLNF25.4-577-10	-	577.0	25.4	10	> 55%
VLNF25.4-580-10	-	580.0	25.4	10	> 55%
VLNF25.4-589.3-10	Na	589.3	25.4	10	> 55%
VLNF25.4-590-10	-	590.0	25.4	10	> 55%
VLNF25.4-600-10	-	600.0	25.4	10	> 55%
VLNF25.4-600-40	-	600.0	25.4	40	> 55%
VLNF25.4-600-80	-	600.0	25.4	80	> 80%
VLNF25.4-610-10	-	610.0	25.4	10	> 55%
VLNF25.4-620-10	-	620.0	25.4	10	> 55%
VLNF25.4-630-10	-	630.0	25.4	10	> 55%
VLNF25.4-632.8-1	He-Ne	632.8	25.4	1	> 50%

VLNF25.4-632.8-3	-	632.8	25.4	3	> 50%
VLNF25.4-632.8-10	-	632.8	25.4	10	> 55%
VLNF25.4-636.2-10	Zn	636.2	25.4	10	> 60%
VLNF25.4-640-10	-	640.0	25.4	10	> 60%
VLNF25.4-647.1-2	Kr	647.1	25.4	2	> 50%
VLNF25.4-647.1-3	-	647.1	25.4	3	> 50%
VLNF25.4-647.1-10	-	647.1	25.4	10	> 60%
VLNF25.4-650-10	-	650.0	25.4	10	> 55%
VLNF25.4-650-20	-	650.0	25.4	20	> 55%
VLNF25.4-650-40	-	650.0	25.4	40	> 50%
VLNF25.4-650-80	-	650.0	25.4	80	> 70%
VLNF25.4-656.3-1	H	656.3	25.4	1	> 45%
VLNF25.4-656.3-3	-	656.3	25.4	3	> 50%
VLNF25.4-656.3-10	-	656.3	25.4	10	> 55%
VLNF25.4-660-10	-	660.0	25.4	10	> 55%
VLNF25.4-670-10	Diode	670.0	25.4	10	> 55%
VLNF25.4-671-10	-	671.0	25.4	10	> 55%
VLNF25.4-675-20	-	675.0	25.4	20	> 55%
VLNF25.4-680-10	-	680.0	25.4	10	> 55%
VLNF25.4-690-10	-	690.0	25.4	10	> 55%
VLNF25.4-694.3-1	Ruby	694.3	25.4	1	> 45%
VLNF25.4-694.3-3	-	694.3	25.4	3	> 50%
VLNF25.4-694.3-10	-	694.3	25.4	10	> 55%
VLNF25.4-700-10	-	700.0	25.4	10	> 55%
VLNF25.4-700-20	-	700.0	25.4	20	> 55%
VLNF25.4-700-40	-	700.0	25.4	40	> 50%
VLNF25.4-700-80	-	700.0	25.4	80	> 65%

NIR & SWIR Series Ordering Guide

Item No.	Light Source	CWL (nm)	Diameter (mm)	FWHM (nm)	Peak Transmission (%)
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VLNF25.4-710-10	-	710.0	25.4	10	> 55%
VLNF25.4-720-10	-	720.0	25.4	10	> 55%
VLNF25.4-730-10	-	730.0	25.4	10	> 50%
VLNF25.4-750-10	-	750.0	25.4	10	> 50%
VLNF25.4-750-20	-	750.0	25.4	20	> 50%
VLNF25.4-750-40	-	750.0	25.4	40	> 40%
VLNF25.4-750-100	-	750.0	25.4	100	> 65%
VLNF25.4-760-10	-	760.0	25.4	10	> 50%
VLNF25.4-766.5-10	K (Potassium)	766.5	25.4	10	> 50%
VLNF25.4-770-10	-	770.0	25.4	10	> 50%
VLNF25.4-780-10	Diode	780.0	25.4	10	> 50%
VLNF25.4-780-20	-	780.0	25.4	20	> 50%
VLNF25.4-790-10	-	790.0	25.4	10	> 50%
VLNF25.4-794.7-10	Rb (Rubidium)	794.7	25.4	10	> 50%
VLNF25.4-800-10	-	800.0	25.4	10	> 50%
VLNF25.4-810-10	Diode	810.0	25.4	10	> 50%
VLNF25.4-810-20	-	810.0	25.4	20	> 50%
VLNF25.4-820-10	-	820.0	25.4	10	> 50%
VLNF25.4-830-10	Diode	830.0	25.4	10	> 50%
VLNF25.4-830-20	-	830.0	25.4	20	> 50%
VLNF25.4-840-10	-	840.0	25.4	10	> 50%
VLNF25.4-850-10	-	850.0	25.4	10	> 50%
VLNF25.4-850-20	-	850.0	25.4	20	> 50%
VLNF25.4-850-40	Diode	850.0	25.4	40	> 50%
VLNF25.4-850-100	-	850.0	25.4	100	> 65%
VLNF25.4-860-10	-	860.0	25.4	10	> 50%
VLNF25.4-870-10	-	870.0	25.4	10	> 50%
VLNF25.4-880-10	-	880.0	25.4	10	> 50%
VLNF25.4-890-10	-	890.0	25.4	10	> 50%

VLNF25.4-900-10	-	900.0	25.4	10	> 50%
VLNF25.4-900-20	DPSS	900.0	25.4	20	> 50%
VLNF25.4-900-40	-	900.0	25.4	40	> 50%
VLNF25.4-900-100	-	900.0	25.4	100	> 60%
VLNF25.4-905-1	GaAs	905.0	25.4	1	> 45%
VLNF25.4-905-3	-	905.0	25.4	3	> 45%
VLNF25.4-905-10	-	905.0	25.4	10	> 50%
VLNF25.4-910-10	-	910.0	25.4	10	> 50%
VLNF25.4-920-10	-	920.0	25.4	10	> 50%
VLNF25.4-930-10	-	930.0	25.4	10	> 50%
VLNF25.4-940-10	-	940.0	25.4	10	> 50%
VLNF25.4-950-10	-	950.0	25.4	10	> 50%
VLNF25.4-950-20	-	950.0	25.4	20	> 50%
VLNF25.4-950-40	-	950.0	25.4	40	> 50%
VLNF25.4-950-100	-	950.0	25.4	100	> 60%
VLNF25.4-960-10	-	960.0	25.4	10	> 50%
VLNF25.4-970-10	-	970.0	25.4	10	> 50%
VLNF25.4-980-10	Diode	980.0	25.4	10	> 50%
VLNF25.4-990-10	-	990.0	25.4	10	> 50%
VLNF25.4-1000-10	-	1000.0	25.4	10	> 50%
VLNF25.4-1000-20	-	1000.0	25.4	20	> 50%
VLNF25.4-1000-40	-	1000.0	25.4	40	> 50%
VLNF25.4-1000-100	-	1000.0	25.4	100	> 60%
VLNF25.4-1014-10	-	1014	25.4	10	> 45%
VLNF25.4-1046-10	-	1046	25.4	10	> 45%
VLNF25.4-1050-10	-	1050	25.4	10	> 45%
VLNF25.4-1064-1	Nd:YAG	1064	25.4	1	> 40%
VLNF25.4-1064-3	-	1064	25.4	3	> 45%
VLNF25.4-1064-10	-	1064	25.4	10	> 40%
VLNF25.4-1150-10	-	1150	25.4	10	> 40%

VLNF25.4-1200-10	-	1200	25.4	10	> 35%
VLNF25.4-1250-10	-	1250	25.4	10	> 35%
VLNF25.4-1300-10	Diode	1300	25.4	10	> 35%
VLNF25.4-1300-20	-	1300	25.4	20	> 35%
VLNF25.4-1350-10	-	1350	25.4	10	> 35%
VLNF25.4-1400-10	-	1400	25.4	10	> 35%
VLNF25.4-1500-10	Diode	1500	25.4	10	> 30%
VLNF25.4-1500-20	-	1500	25.4	20	> 30%
VLNF25.4-1535-10	-	1535	25.4	10	> 90%
VLNF25.4-1550-10	Diode	1550	25.4	10	> 30%
VLNF25.4-1550-20	-	1550	25.4	20	> 30%
VLNF25.4-1550-10-H	-	1550	25.4	10	> 90%
VLNF25.4-1570-10	-	1570	25.4	10	> 90%

Explore Series

Model	Diameter (mm)	FWHM (nm)	CWL (nm)	Peak Transmission (%)
VLNF25.4-355-10	25.4	10	355	> 20%
VLNF25.4-488-10	25.4	10	488	> 50%
VLNF25.4-532-10	25.4	10	532	> 55%
VLNF25.4-632.8-10	25.4	10	632.8	> 55%
VLNF25.4-1064-10	25.4	10	1064	> 40%
VLNF25.4-1550-10	25.4	10	1550	> 30%

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

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