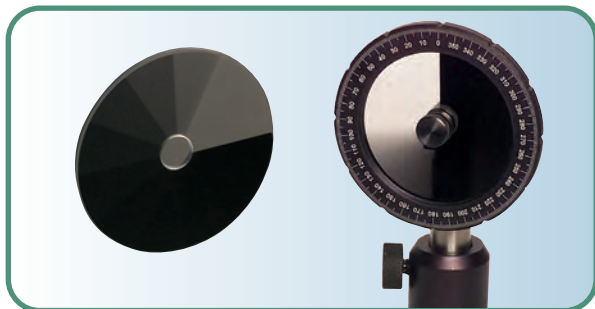


# Round Variable Metallic ND Filters: 300 - 1100 nm

## Specifications

- **Substrate:** UV Fused Silica
- **Coating:** Inconel (Front Surface Only)
- **Optical Density Tolerance:** ±5% at 633 nm
- **Surface Quality:** 60-40 Scratch-Dig
- **Irregularity (per cm<sup>2</sup>):** <math>\lambda</math>
- **Wedge:** <math><3</math> arcmin
- **Chamfer:** 0.2 x 0.2 mm
- **Substrate Thickness:** 2 mm



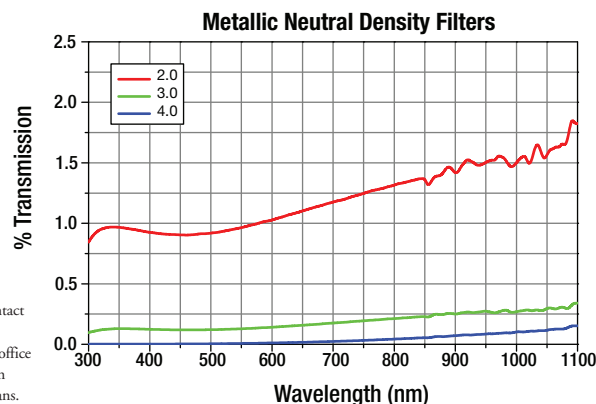
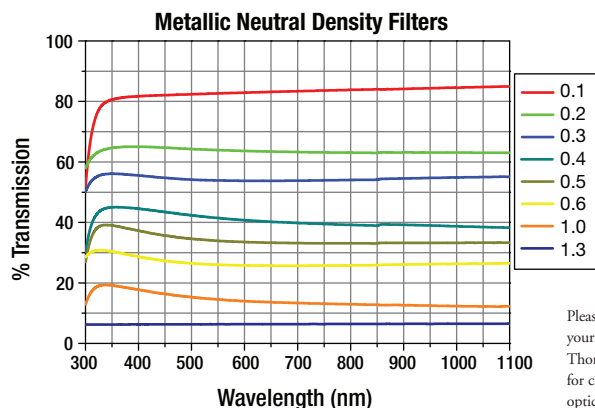
Variable metallic neutral density filters provide the versatility of a filter set in the convenience of a single optical element.

The round, mounted, metallic ND filters have an outer ring with engraved angular graduations and an axle about which the filter can rotate. The axle comes with two adapters, one with #8-32 threading and the other with M4 x 0.7 threading, which allows the filter to be mounted easily onto a Ø1/2" TR series post (see page 88).

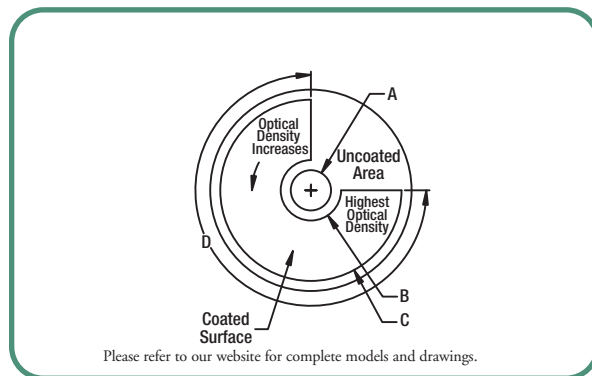
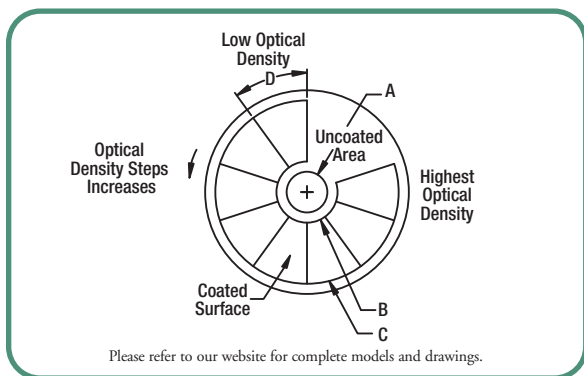
## Types

- Round, Continuously Variable, Unmounted
- Round, Continuously Variable, Mounted
- Round, Step Variable, Unmounted
- Round, Step Variable, Mounted

A metallic Inconel coating is used to attenuate the light in these filters because of its durability and flat spectral response from the visible to the near IR. However, Inconel will oxidize if used in an environment where the temperature is in excess of 100 °C. The optical density (D) is given by  $D = \log_{10} (1/T)$ , or alternatively,  $T = 10^{-D}$ .



Please contact your local Thorlabs office for custom optical scans.



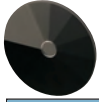
## Round, Step Variable, Metallic ND Filter Dimensions (Unmounted)

ITEM#	A	B	C	D
NDC-50S-1	7.5 mm	8 mm	48 mm	45°, 8 steps
NDC-50S-3	7.5 mm	8 mm	48 mm	45°, 8 steps
NDC-100S-4	7.5 mm	8 mm	98 mm	36°, 10 steps

## Round, Continuously Variable, Metallic ND Filter Dimensions

ITEM#	A	B	C	D
NDC-25C-2	7.5 mm	8 mm	23 mm	270°
NDC-25C-4	7.5 mm	8 mm	23 mm	270°
NDC-50C-2	7.5 mm	8 mm	48 mm	270°
NDC-50C-4	7.5 mm	8 mm	48 mm	270°
NDC-100C-2	7.5 mm	8 mm	98 mm	270°
NDC-100C-4	7.5 mm	8 mm	98 mm	270°

## Round Variable Metallic ND Filters: 300 - 1100 nm



### Unmounted, Continuously Variable, Circular, Metallic ND Filters

ITEM#	OPTICAL DENSITY* RANGE	OUTER DIAMETER	DESCRIPTION	\$	£	€	RMB
NDC-25C-2	0-2.0	25 mm	Variable, Circular, Metallic ND Filter	\$ 308.10	£ 213.60	€ 273,60	¥ 2,601.70
NDC-25C-4	0-4.0	25 mm	Variable, Circular, Metallic ND Filter	\$ 308.10	£ 213.60	€ 273,60	¥ 2,601.70
NDC-50C-2	0-2.0	50 mm	Variable, Circular, Metallic ND Filter	\$ 328.50	£ 227.80	€ 291,70	¥ 2,773.90
NDC-50C-4	0-4.0	50 mm	Variable, Circular, Metallic ND Filter	\$ 328.50	£ 227.80	€ 291,70	¥ 2,773.90
NDC-100C-2	0-2.0	100 mm	Variable, Circular, Metallic ND Filter	\$ 392.70	£ 272.30	€ 348,70	¥ 3,316.00
NDC-100C-4	0-4.0	100 mm	Variable, Circular, Metallic ND Filter	\$ 392.70	£ 272.30	€ 348,70	¥ 3,316.00



### Mounted, Continuously Variable, Circular, Metallic ND Filters

ITEM#	OPTICAL DENSITY* RANGE	OUTER DIAMETER	DESCRIPTION	\$	£	€	RMB
NDC-25C-2M	0-2.0	1.25"	Mounted, Variable, Circular, Metallic ND Filter	\$ 392.70	£ 272.30	€ 348,70	¥ 3,316.00
NDC-25C-4M	0-4.0	1.25"	Mounted, Variable, Circular, Metallic ND Filter	\$ 392.70	£ 272.30	€ 348,70	¥ 3,316.00
NDC-50C-2M	0-2.0	2.5"	Mounted, Variable, Circular, Metallic ND Filter	\$ 414.20	£ 287.20	€ 367,80	¥ 3,497.60
NDC-50C-4M	0-4.0	2.5"	Mounted, Variable, Circular, Metallic ND Filter	\$ 414.20	£ 287.20	€ 367,80	¥ 3,497.60
NDC-100C-2M	0-2.0	4.5"	Mounted, Variable, Circular, Metallic ND Filter	\$ 573.30	£ 397.50	€ 509,00	¥ 4,841.00
NDC-100C-4M	0-4.0	4.5"	Mounted, Variable, Circular, Metallic ND Filter	\$ 573.30	£ 397.50	€ 509,00	¥ 4,841.00



### Unmounted, Step Variable, Circular, Metallic ND Filters

ITEM#	OPTICAL DENSITY* STEPS	OUTER DIAMETER	DESCRIPTION	\$	£	€	RMB
NDC-50S-1	0.04, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, and 1.0	50 mm	Stepped, Circular, Metallic Neutral Density Filter	\$ 838.50	£ 581.30	€ 744,50	¥ 7,080.40
NDC-50S-3	0.04, 0.2, 0.4, 0.6, 0.8, 1.0, 2.0, and 3.0	50 mm	Stepped, Circular, Metallic Neutral Density Filter	\$ 838.50	£ 581.30	€ 744,50	¥ 7,080.40
NDC-100S-4	0.04, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 1.0, 2.0, and 3.0	100 mm	Stepped, Circular, Metallic Neutral Density Filter	\$ 888.50	£ 616.00	€ 788,90	¥ 7,502.60



### Mounted, Step Variable, Circular, Metallic ND Filters

ITEM#	OPTICAL DENSITY* STEPS	OUTER DIAMETER	DESCRIPTION	\$	£	€	RMB
NDC-50S-1M	0.04, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, and 1.0	2.5"	Mounted, Stepped, Circular, Metallic Neutral Density Filter	\$ 898.50	£ 622.90	€ 797,70	¥ 7,587.00
NDC-50S-3M	0.04, 0.2, 0.4, 0.6, 0.8, 1.0, 2.0, and 3.0	2.5"	Mounted, Stepped, Circular, Metallic Neutral Density Filter	\$ 898.50	£ 622.90	€ 797,70	¥ 7,587.00
NDC-100S-4M	0.04, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 1.0, 2.0, and 3.0	4.5"	Mounted, Stepped, Circular, Metallic Neutral Density Filter	\$ 1,030.00	£ 714.10	€ 914,50	¥ 8,697.40

\*Nominal Quick reference: Optical Density of 2 = 1% Transmission, and an Optical Density of 4 = 0.01% Transmission (See Page 712 for Equation that relates optical density to Transmission)

**Linear Variable ND Filters**  
See Next Page for Details

## Post Mount Assembly for Round, Unmounted Neutral Density Filters

**NEW**  
versions



- Post Mount Step or Continuously Variable Filters
- Minimal Effect on the Filter's Clear Aperture
- Adapters for #8-32 and M4 x 0.7 Mounting Holes Included

ITEM#	\$	£	€	RMB
NDC-PM	\$ 45.90	£ 31.90	€ 40,80	¥ 387.60

NDC-PM Shown with  
NDC-25C-2 (Post Sold Separately)

