Variable Reflective ND Filter
Rotating Variable Reflective ND Filter Holder

VND
NDHN

RoHS
RoHS

VND

Catalog Code W3100

The VND is a reflective ND filter. The reflectivity and the transmittance vary by rotation. They are used mainly for light intensity adjustment in vision or illumination experiments.

- Possible to adjust the intensity by rotation continuously or select light intensity position.
- The transmittance light can be adjusted logarithmically, it makes dynamic light intensity adjustment possible.
- Thin and space saving, it is easy to be placed in a narrow optical test set up.
- The VND-U model is adaptable for use at Ultraviolet bandwidth made of fused silica.

Specifications

Circle	
Material	VND: BK7 VND-U: Synthetic fused silica
Coating	Cr (Chrome)
Transmittance	0.1 – 92%
Surface flatness of substrate	λ (Measurement area: ϕ30mm)
Parallelism	<1′
Surface Quality (Scratch–Dig)	60–40
Rectangle	
Material	Soda Lime Glass
Coating	Cr (Chrome)
Wavelength Range	400 – 700nm
Transmittance	1 – 92%
Surface flatness of substrate	Both side: glossy surface (no polishing)
Surface Quality (Scratch–Dig)	80–50

Guide

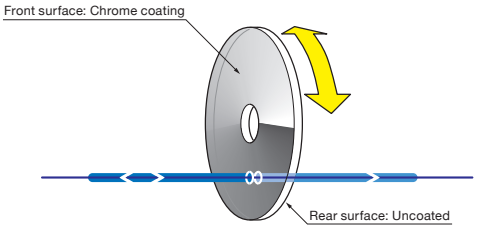
- For AOI (Angle of Incident) changing, the transmittance can be also changed. We recommand to use with the VBS, Variable Beam Splitter. Reference B062

Attention

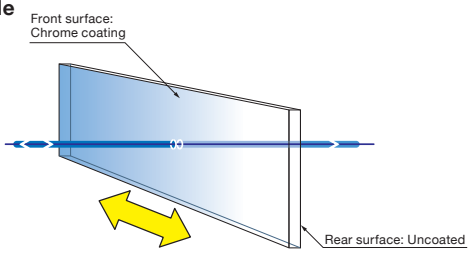
- The round shape variable ND filter is very fragile. The bore is made of glass. Do not force on one surface of the bore when fixed in a holder, it could be broken. For a compatible ND filter holder (NDHN) for your optics replacement on to the holder, please contact our Sales Division for assistance.
- The Chromium film coating is absortive, please avoid to use with high power laser.
- High power laser light can have themal lens effects, please use (VBS) Variable Beam Splitter for high power and high energy laser applia-tions. Reference B062
- The reflected laser light beam is dangerous for eyes, the user must be aware and be prapared to use unreflective tools at the end of the laser beam.
- The normal incident of the laser beam may produce optical feed-back, to avoid this sutation please use it with a small incident angle.
- Incident light with large beam onto the Variable ND can produce a laser strength inside of the beam. Use incident light to the filter with a narrow beam.

Schematic

●Circle



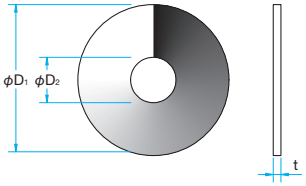
●Rectangle



Outline Drawing

(in mm)

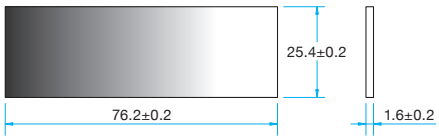
●Circle



●Tolerance

ϕ50	
Diameter	$\phi D_{1}{}^{+0}_{-0.1}$
Inner diameter	$\phi D_{2}{}^{+0.1}_{-0}$
Thickness	t ±0.1
ϕ100	
Diameter	$\phi D_{1}{}^{+0}_{-0.2}$
Inner diameter	$\phi D_{2}{}^{+0.1}_{-0}$
Thickness	t ±0.2

●Rectangle

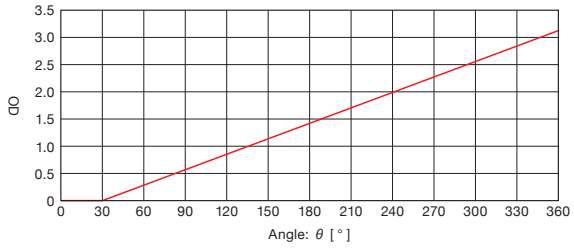


Circle				
Part Number	Wavelength Range [nm]	ϕD_1 [mm]	ϕD_2 [mm]	t [mm]
VND-50	400 – 2000	ϕ50	ϕ15	2
VND-100	400 – 2000	ϕ100	ϕ20	3
VND-50U	200 – 2000	ϕ50	ϕ15	2
VND-100U	200 – 2000	ϕ100	ϕ20	3

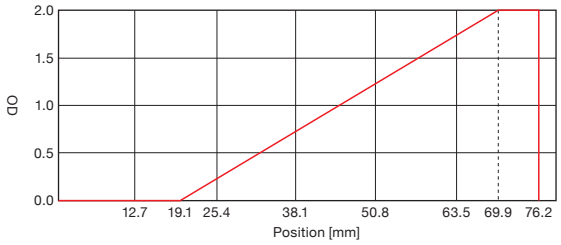
Rectangle	
Part Number	**VND-13**

Optical Density (Reference data) OD: Optical density

Circle



Rectangle

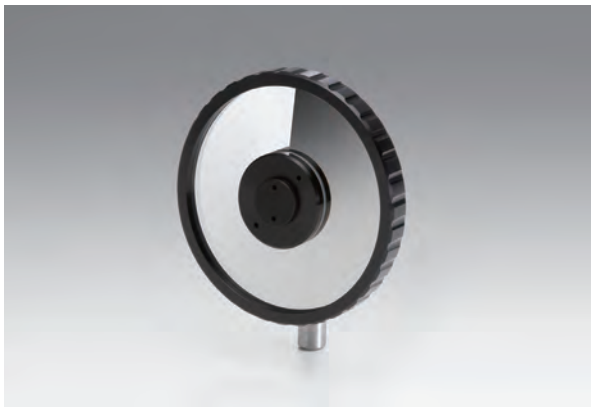


NDHN

Catalog Code W3101

Round shape variable reflective ND filter is mounted with its holder.
The glass part to the metal part is safely mounted and ready to be used.

- The adjusted position can be fixed with a clamp
- The filter can be turned in 360 degres without break
- NDHN-U is used with VND-U, the Ultraviolet ND filter.



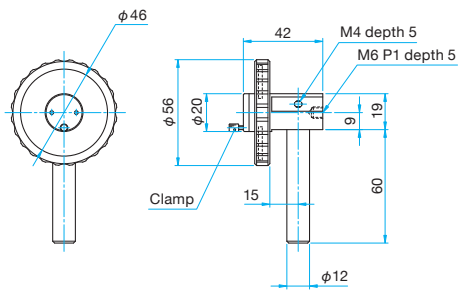
Attention

▶For ND filter change, please contact our Sales Divsion.

Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	ND filter parts number	Weight [kg]
NDHN-50	VND-50	0.09
NDHN-100	VND-100	0.2
NDHN-U50	VND-50U	0.09
NDHN-U100	VND-100U	0.2

Outline Drawing (in mm)

NDHN-50/U50 M6 P1



NDHN-100/U100 M6 P1