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## PRODUCTS OR MACHINERY

Faraday Rotator Glass is widely used especially in high-power optical rotator and isolator with large aperture, circulators, switches, polarimeters, magneto-optics sensor, high-power laser systems and other wanted Faraday Effect, etc. The main products as follow, please see Faraday Rotator Glass is widely used especially in high-power optical rotator and isolator with large aperture, circulators, switches, polarimeters, magneto-optics sensor, high-power laser systems and other wanted Faraday Effect, etc.

The main products as follow, please see Product Catalog for details.

\* Diamagnetic Faraday Rotator Glass. Type MR1 with very important properties, its high Verdet constant  $0.071 \sim 0.075 \text{ min/Oe} \cdot \text{cm}$  at  $632.8 \text{ nm}$ , it's independent of temperature from  $-50^\circ \sim +135^\circ$  with better thermal stability and widely used in magneto optical sensor and Magnetic-Optical Current Transducer (MOCT), etc.

\* Paramagnetism Faraday Rotator Glass/Magneto-Optical Glasses

Type MR3-2, Verdet constant  $-0.329 \text{ min/Oe} \cdot \text{cm}$  at  $632.8 \text{ nm}$  or  $-95.7 \text{ rad/T} \cdot \text{m}$  at  $632.8 \text{ nm}$

Type MR3, Verdet constant  $-0.34 \text{ min/Oe} \cdot \text{cm}$  at  $632.8 \text{ nm}$  or  $-98.9 \text{ rad/T} \cdot \text{m}$  at  $632.8 \text{ nm}$

Type MR4, Verdet constant  $-0.38 \text{ min/Oe} \cdot \text{cm}$  at  $632.8 \text{ nm}$  or  $-110 \text{ rad/T} \cdot \text{m}$  at  $632.8 \text{ nm}$

MR3 and MR4 are the highest Verdet constant in the market available exclusively from XAOT

\* Faraday Rotators Rods with high sensitive and steady which are used for all kinds of magneto optical device and instruments.

### Product Description

Faraday Rotator Glass / Magneto Optical Glass

Since glass material in high power laser system is damaged as a consequence of self-focusing, low non-linear refractive index as well as high Verdet constant are important factors for Magneto-Optical Glass

Our world-leading Magneto Optical Glass with very high Verdet factor, we supply them with the shape or size of your choice

Very large plates/disks/rods from diameter  $1.00 \text{ mm}$  to  $300 \text{ mm}$  are available

Faraday Rotator Glass / Magnetic Optical Glass mainly used in faraday rotating components, fabricating optics-isolators, faraday rotators, circulators, magneto-optical modulators, optical switches, interleavers, laser gyroscopes, goniometric devices magneto-optic storage and optical information process system, current measuring transducers for magnetic field measuring and high-voltage transmission line, new generation current sensors, wave guides, iatrolgy, spaceflight control, satellite survey and other functional devices

Faraday Rotator Glass is made with more advanced technologies, so is performance stabilization, sensitive, and inherently immune to interfere. In comparison with artificial crystal, it is inexpensive and easy to get big size block, it has been made into different types of optical fibers, so it's widely used in many fields

### Specifications

The Properties of MR3-2 Faraday Rotator Glass / Magneto-Optical Glass

At  $20^\circ$  temperature

Verdet Constant  $-0.329 \text{ min/Oe} \cdot \text{cm}$  or  $-95.7 \text{ rad/T} \cdot \text{m}$  at  $632.8 \text{ nm}$

Verdet Constant  $-0.108 \text{ min/Oe} \cdot \text{cm}$  or  $-31.4 \text{ rad/T} \cdot \text{m}$  at  $1064 \text{ nm}$

Transmission window:  $400 \text{ nm} \sim 1600 \text{ nm}$

Refractive indices

ND=1.7441  
Nd=1.7442  
NF=1.7544  
Nc=1.7400  
N1064=1.7178

Optical Quality( $\Delta n$ ) /cm <  $1 \times 10^{-6}$ .

Abbe number:

VD=51.7  
Vd=51.0

Nonlinear refractive index  $n_2$  ( $\times 10^{-13}$  e.s.u.)=2.74

Figure of merit V632.8 ( $nd/n_2$ )=0.62

Density (g/cm<sup>3</sup>):4.92

Transformation temperature Tg: 788°

Sag temperature Ts: 824°

Coeff.of linear thermal expansion:

0 - 300° ( $10^{-7}/^{\circ}$ )=62.6

100 - 300° ( $10^{-7}/^{\circ}$ )=68.2

Transparence rate T%  $\geq$  86% (Uncoated)

Transparence rate T%  $\geq$  98% (Coated)

Absorption coefficients < 0.002/cm at 1064nm.

Thermal conductivity=48.10/ °(0-100 °)

dv/dt=0.0016(0-40 °)

dv/dt=0.0006(40-80°)

Bulk laser<

Company Profile of **Xi'an Aofa OptoelectronicsTech.**

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