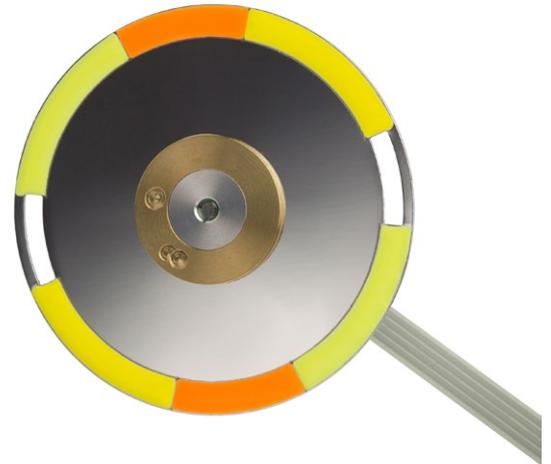




LumiWheel™

LumiWheel™ for Projection Display

As part of the solution to your total light management challenge, Materion Balzers Optics offers our reliable, high performance LumiWheel™. This design offers superb flexibility for light converting and color splitting in solid state illumination and field sequential lighting management in digital projection, video production solid state illumination and professional lighting. As the world's largest manufacturer of optical components, we provide an array of products to support your light management requirements including : color wheel, diffuser wheel, dichroic color separation filters, hot and cold mirrors, UV/IR blocking filters, solid and hollow light integrators, high reflectivity folding mirrors, cold light reflectors, AR-coatings, and light engine procurement assemblies.



Benefits

The LumiWheel™ 2x, 3x and 4x. Speed design offers a high degree of flexibility and can be customized for:

- Diameter
- Phosphor type
- Number of phosphor segments
- Reflection type or transmissive type
- Coating
- Motor speed
- Integrated timing index sensor available

Reliability and performance is assured with proven:

- Excellent efficiency performance for laser converting
- Excellent thermal conductivity
- Enhanced optical performance by coating
- Stable colors
- Motor technology
- Individual precision balancing
- Low noise characteristics

Applications

We offer various custom-configured LumiWheel™ designs for different applications including projectors, solid state illumination, head-up displays, professional lighting, etc.

- The small size LumiWheel™ meets the requirements of the new pico laser portable projectors or laser phosphor illumination system
- The large size LumiWheel™ meets the requirements of the large venue and cinema brand projectors
- Optimized for high brightness and enhanced color, the LumiWheel™ is also designed to produce high efficiency and good thermal conductivity

Technical Data

Diameter and disc construction

From 18 to 100mm (other sizes available)

Phosphor disc - different segment designs available on request

Coating

Integrated coating available as options

Operating speed

2x - 7200 rpm, 3x - 10800 rpm, 4x - 14400 rpm

Phosphor performance

According to material specifications

Multiple color phosphor type available as options

Color coordination +/-2%

Balancing

To better than G6.3 quality grade per ISO 1940 - 1986

Timing index mark

Integrated optical sensor available as option

Mass approximation

45 grams (for diameter 50 mm)

80 grams (for diameter 80 mm)

100 grams (for diameter 120 mm)

Operating temperature

0°C to 85°C (According to motor)

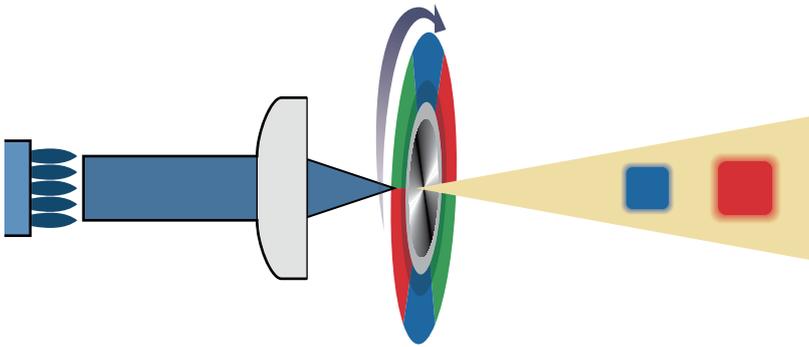
Storage temperature

-20°C to 85°C (According to motor)

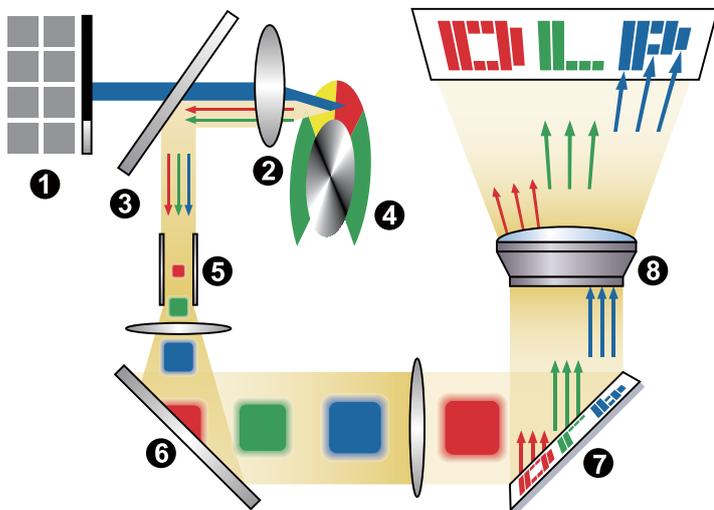
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Schematic of LumiWheel™

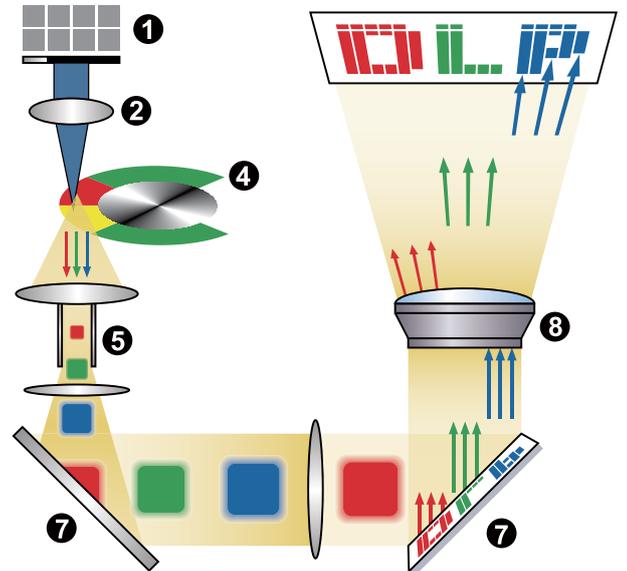


Reflection type LumiWheel™



- ① Laser
- ② Collection lens
- ③ Dichroic Filter
- ④ LumiWheel™
- ⑤ LightTunnel™
- ⑥ Silflex™ / Deflex™ Mirror

Transmission type LumiWheel™



- ⑦ DMD™ (Digital Micromirror Device™)
- ⑧ Projection Lens

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