

// BALZERS OPTICS

ColorWheel [™]

Color Wheel[™] for Projection Display

When you require enhanced resolution and high brightness, with very low noise level, our flexible ColorWheelTM will meet your digital projection, video production, and photo imaging needs. As the world's largest manufacturer of color wheels, we have an unmatched heritage in offering a variety of total light management solutions including dichroic color separation filters, UV/IR filters, solid and hollow light integrators, high reflectivity folding mirrors, AR-coating, light engine procurement assembly and testing.



Benefits

Our ColorWheel™ design offers a high degree of flexibility and can be customized for:

- Diameter
- Number of filter segments
- Motor speed
- Timing index mark
- Integrated timing index sensor available
- Expert spectral tuning
- High transmission

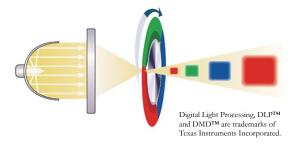
Reliability and performance is assured with proven:

- Motor technology
- Individual precision balancing
- Stable colors from sputter deposition coating
- Patented construction (U.S. Patent #5,868,482)
- Low noise characteristics

Applications

The small size ColorWheel[™] will meet the needs of the new family of ultra-ultra portable DLP[™] brand projects. Materion Balzers Optics also offers various custom-configured ColorWheel[™] designs for different applications. Optimized for enhanced resolution and high brightness the ColorWheel[™] also designed for very low noise.

Schematic of ColorWheelTM



Technical Data

Diameter

from 35mm to 250mm (other sizes available)

Operating speed

 2×7200 rpm, 2.5×9000 erpm, 4×14400 rpm

Special temperature stability

<0.3%, typical from 20° C to 100°C

Filter segments

Special designs available on request

Spectral performance

According to customer specification

(Cut-on/cut-off wavelength +/-1% typical)

Balancing

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

Timing index mark

Integrated optical senser available as option

Mass

Approx.45 grams (for available 50mm)

80 grams (for diameter 80mm)

100 grams (for diameter 120mm)

operating temperature	0°C to 85°C
storage temperature	-20°C to 85°C

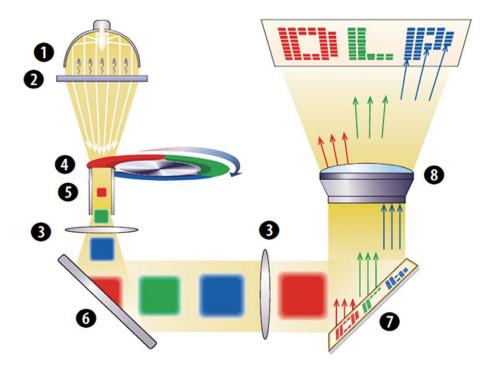
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Schematic of DLPTM front projector



- 1 Lamp with Cold Light Reflector
- ${f 2}$ UV-Guard Filter
- 3 Illumination optics
- $\textbf{4} \; \mathrm{ColorWheel}^{\mathrm{TM}}$
- **⑤** LightTunnel™
- **6** Silflex TM / Deflex TM Mirror
- \bigcirc DMDTM (Digital Micromirror DeviceTM)
- 8 Projection Lens

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