

## MONOCHROMATOR DESIGN & OPERATION

Mini-Chroms are compact, in-line Fastie-Ebert monochromators with a 74 mm pathlength, applicable for general spectroscopy or for use as a component in a system. All incorporate one of a wide selection of replicated gratings from the UV to IR (ruled or holographic) and gratings are also available with aluminum or gold coatings depending upon application. All monochromators also include a set of fixed, interchangeable entrance and exit slits. Optional sets of slits are available to optimize either resolution or throughput.

The small size of the Mini-Chrom still results in resolution comparable to that of many larger, more costly, conventional monochromators.

Mini-Chroms are available in four types: Standard, Digital, Scanning and Scanning Digital. The primary differences in the four types relate to how the wavelength is selected and displayed. Each type is available in several wavelength ranges from the ultraviolet to the near infrared.

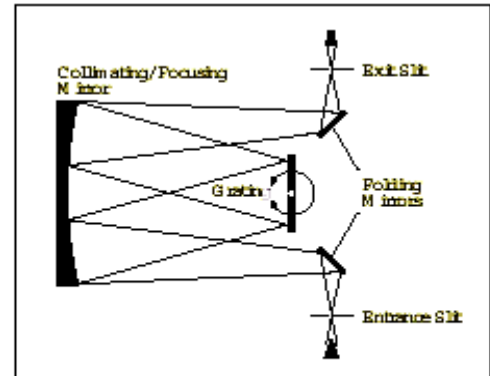
### DIGITAL MINI-CHROM

The Digital Mini-Chrom (DMC) is a manually operated monochromator that utilizes a digital counter for wavelength selection. Rotation of the dial causes, via a precision lead screw/sine bar mechanism, rotation of the diffraction grating which positions the selected wavelength at the exit slit. Wavelength is read directly in nanometers (nm) from a counter on models 01, 02, 03 and 04. Near infrared models (05 and 06) require the counter reading to be doubled, to 2 nm per division, for wavelength selection and readout. Over-all dimensions in mm: 139 x 59 x 49; Weight: 0.7 Kg (1.5 lbs).

#### WAVELENGTH READABILITY.

The wavelength on all Digital Mini-Chroms can be selected and read to 0.2 nm.

- Effective Aperture:  $f$  3.9
- Focal Length: 74mm
- Grating: 2cm square
- Damage Threshold: 100 Watt/cm<sup>2</sup> CW, 2 J/cm<sup>2</sup> pulsed @ 100nsec
- Slits: 300 $\mu$  X 4mm standard. See page 17 for additional slit sets.
- Operating Temperature: -20 °C to +80 °C
- Stability:  $\pm$  0.02 nm/ °C typical
- Wavelength Accuracy:  $\pm$  0.2%
- Reproducibility:  $\pm$  0.2%



OPTICAL DIAGRAM



DIGITAL MINI-CHROM



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