## Single and Dual Prism Front-Surface Beam Samplers

The Prism Front-Surface Beam Sampler (PFSA) is a C-mount fixture housing a UV-Grade Fused Silica right angle prism, used for sampling the front surface reflection for high power/energy beam-profiling applications. Reflection at nominal incidence of 45°is polarization and wavelength dependent, with 532nm s-polarization reflected at 8.27%, and p-polarization at 0.68%.

The system is available as either a single prism (PFSA) or dual orthogonal prism (DPFSA) unit. The dual orthogonal prism configuration results in polarization independent reflection of 0.057% at 532nm. Other filters and attenuators can be attached using the C-mount female threads at the input end. The use of a right-angle prism to sample the incident beam guarantees that any scattered secondary beams do not interfere with measurement, as shown in the sketch.

Dual Prism Front Surface Sampler

Two Single Prism Front Surface Samplers mounted on a ATP-K Attenuator

### Specifications

| Model | PFSA | | DPFSA | |
|---|---|---|---|---|
| Wavelengths | 200nm to ~2.5µm | | 200nm to ~2.5µm | |
| Optical Material | UV-Grade Fused Silica | | UV-Grade Fused Silica | |
| Prism | Single | | Dual | |
| Surface Quality | 20-10 | | 20-10 | |
| Surface Accuracy | λ/10 | | λ/10 | |
| Angle of Incidence | 45° | | 45° | |
| Clear Aperture | 14mm x 14mm | | 14mm x 14mm | |
| Reflection at λ (nm) | P- Polarization | S- Polarization | P- Polarization | S- Polarization |
| 248.3 | 0.88% | 9.40% | 0.88% | 9.40% |
| 351.1 | 0.75% | 8.65% | 0.75% | 8.65% |
| 532 | 0.68% | 8.27% | 0.68% | 8.27% |
| 1064 | 0.64% | 8.01% | 0.64% | 8.01% |
| Laser Damage Threshold | CW> 100MW/cm$^2$ | | CW> 100MW/cm$^2$ | |
| Dimensions | 38.1mm x 32.3mm x 29.5mm | | 44.5mm x 40mm x 32.5mm | |
| Output Mounting with Brass Lock Ring | C-Mount Male (1"-32 Thread Male) | | C-Mount Male (1"-32 Thread Male) | |
| Input Mounting | C-Mount Female (1"-32 Thread Female) | | C-Mount Female (1"-32 Thread Female) | |
| **Part number** | **PH00052** | | **PH00053** | |