

# ATR PROBE

- ✓ **Very Economical**
- ✓ **High Throughput**
- ✓ **Rugged Construction**
- ✓ **300°C, 1,200 psi**
- ✓ **Compatible with all CDI Spectrographs**



Our low cost, rugged, ATR (Attenuated Total Reflection) Probe is ideal for use in an industrial process environment. It is capable of operating at temperatures from -50°C to 300°C and at pressures up to 1,200 psi. This outstanding performance is achieved by using Kalrez O-ring seals. The ATR Probe is a three-bounce design, which affords a total path length of approximately 1.5 microns with a sapphire crystal. Sapphire allows response down to 2200nm in samples with an index of refraction up to 1.5, as well as offering excellent resistance to chemical attack. Cubic zirconia may be used in samples with an index of refraction up to 1.9. The optical fiber is 400-micron core fused silica and is clad in stainless steel armor. If needed, the armor can be sealed with Teflon to provide a barrier to the environment. A four inch extension tube is added to the rear of the probe to allow direct insertion into a process stream. The extension tube can be adapted to the customer's process connection requirements.

The ATR Probe is constructed such that it requires no internal optical elements other than the ATR crystal. This makes the probe simpler to manufacture and more rugged than is possible with a complex optical design. This design produces a more stable, flatter baseline and more linear response.

## Specifications:

### OPTICAL

Path Length _____	3 bounce (~1.5 microns) Also available 1, 2, 4 & 5 bounce
Lens/Window Material* _____	Sapphire (220nm to 2200nm) Cubic Zirconia (380nm to 2200nm)
Maximum Sample Index of Refraction _____	1.5 (Sapphire) 1.9 (Cubic Zirconia)
Efficiency _____	Typical: 30% at 500nm Guaranteed: 15% at 500nm
Fiber Optic Terminations _____	SMA 905
Fiber Optic Type _____	400/440 Silica on Silica
Fiber Optic Cable Type** _____	Armored Duplex
Fiber Optic Cable Length _____	3 mtrs. to 200 mtrs.

### PHYSICAL

Body Materials _____	316 Stainless Steel
Body Length# _____	1.75 "
Diameter _____	0.5"
Seal Type _____	O-Ring
Seal Material*** _____	Kalrez
Temperature Range _____	-50° C to 300° C
Maximum Pressure _____	1,200 psi

Control Development Inc. reserves the right to change specifications without notice.

\* Specify UV or NIR grade Fused Silica - UV grade 200nm to 900nm - NIR grade 350nm to 2200nm

## Efficiency measured relative to direct fiber connection between light source and detector using 400 micron core fiber optic.

\*\*\* Other materials available upon request - allow 8 weeks for delivery of special materials.

# Four-inch probe extension tube standard - other lengths up to 1 meter available.

\*\* Optional Teflon seal available for armor.

## Very Affordably Priced At \$4,725.00

Control Development also manufactures integrated spectroscopy systems for:  
UV-VIS, NIR, RAMAN and OEM customers



**CONTROL DEVELOPMENT**  
THE PRICE PERFORMANCE LEADER . . .

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