

HealthyPhoton

Model : HPHCH

High-Temperature Herriott Multi-pass Absorption Cell



Date	Note
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1. Introduction

To meet the needs of industrial customers, HealthyPhoton has launched the new High-Temperature Herriott Multi-pass Absorption Cell. The new optical design and precision machining manufacturing result in stable and reliable industrial-grade products. The high-temperature heating module stabilizes the cell body temperature up to 300°C. The laser input adopts pre-aligned fiber FC connector, which features high coupling efficiency and low temperature drift. It eliminates the need for complex coupling light alignment upon receiving the unit, reducing maintenance difficulty and cost.

This product is very suitable for the integration of industrial-grade high-precision near-IR TDLAS based gas analysis systems, which measure gas species such as NH₃, H₂O, CO, CO₂ etc. It effectively improves the sensitivity and accuracy of the system that is based on TDLAS technique and the hot-wet extractive sampling method.

2. Product Description

- Robust and reliable industrial-grade module
- Effective optical path-length up to 15 meters (others path-lengths can be customized)
- Use of material with low thermal expansion coefficient, which prevents beam walk-off caused by temperature change
- Anti-corrosion inert coatings on the inner surface that prevents molecular adsorption effect
- Steady heating from 50°C to 300°C with temperature control accuracy of 1°C
- Pre-aligned fiber input, eliminating the need for complex beam coupling and re-alignment upon receiving the unit
- (Upgrade) gas pressure monitor/control

2.1. Parameters

Effective path-length	14.5m (other path-lengths can be customized)
Beam diameter	< 3.5mm
Gas volume	0.84L (1 atm)
Peripheral dimension	0.35(L)×0.1(W)×0.15(H)m ³
Operation temperature	Room temperature ~ 300°C
Working pressure	10 Pa ~ 100 kPa
Mirror coating	Metal with oxide coating (reflection rate up to 98%)
Wavelength	0.2 ~ 12μm

Window material	Quartz, CaF ₂ , ZnSe with AR-coating
Body material	304/316 stainless steel
Gas inlet/outlet	OD φ6mm Swagelok®