PlasmaDetek

Plasma Emission Detector System for Gas Chromatograph

This plasma emission detector gives the opportunity to any system integrator or GC manufacturer to integrate a plug and play philosophy detector system. With its unique design, the PlasmaDetek allows to do new techniques and existing analysis configuration based on simplicity. PPB to % analysis can be done with capillary or packed columns. With the choice of argon or helium as carrier gas, combined with the selectivity configuration, the chromatography becomes easier.

> FEATURES:

- Argon or helium carrier gas
- 4 in 1 detector
- Selective and non-selective configuration
- Wide range of applications
- Easy to interface with any GC and analyzer design
- PPB to % detection
- Very stable signal
- Maintenance free
- Fast installation and tune up
- Intelligent version based on DSP platform
- Low noise detector

> APPLICATIONS:

- Laboratory and industrial gas chromatograph
- High purity gases
- Permanent gases
- Noble and rare gases
- Petrochemical and Hydrocarbon Processing
- Air analysis
- Environmental
- Energy industries
- Greenhouse application
- Etc...

Other gas analysis possible, please contact factory.

LDetek

> SPECIFICATIONS:

CARRIER GAS	Argon and Helium
POWER	80 to 240 VAC, 50-60 Hz
GAS CONNECTIONS	1/16" (can be customized)
OPERATION OUTLET PRESSURE	Atmospheric or Vacuum
OPERATING TEMPERATURE	10°C to 50°C (in stable environment)
FILTER	10u SS particle filter on the gas inlet
DETECTOR SIGNAL OUTPUT CONNECTION	BNC Coaxial type (can be customized)
POWER CONSUMPTION	Max 10 Watts
OUTPUT VOLTAGE	0-5 Volts (can be customized)

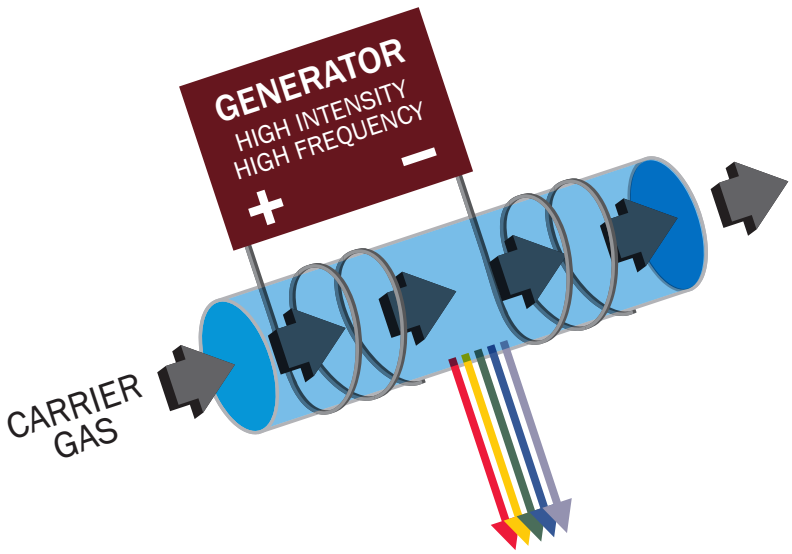
> PRINCIPLE OF PLASMA EMISSION DETECTOR (PED)

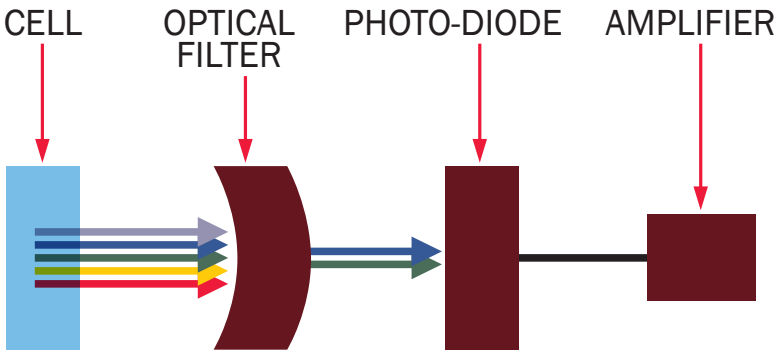
The PED is a quartz cell with a unique design submitted to a high intensity and frequency electromagnetic field.

The principle based on spectroscopic emission cell is not a new technique, but the characteristics of the Plasma-Detek system that make it stable and efficient are the frequency, the intensity as well as the mechanical and electrodes design.

A luminous phenomenon, called electroluminescence, is created and is used as emission technique to quantify analytes.

When the carrier gas is ionized, spectral lines are emitted and detected by an optical system including filter and photo-diode. The emission varies for each substance that is brought along with the carrier gas.

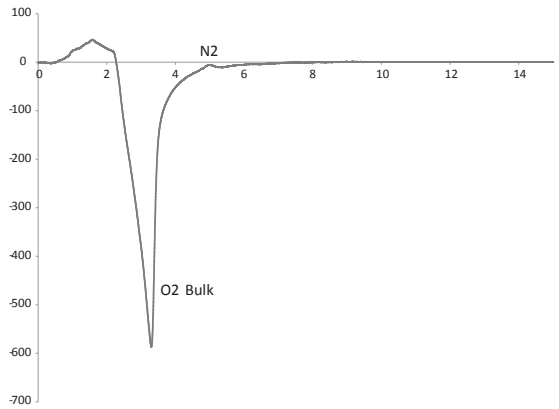




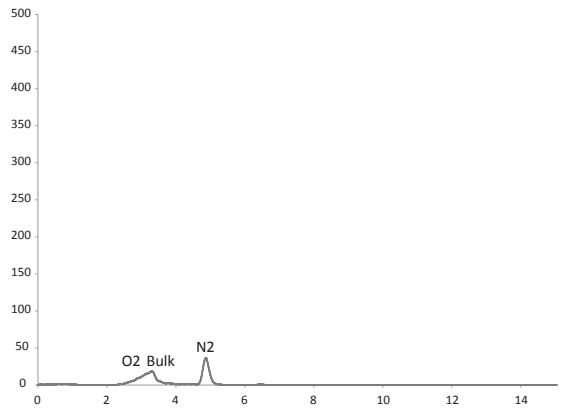
> SELECTIVITY

The selective configuration gives the possibility to be more sensitive on some impurities to make the chromatography easier and get better results. No need to add a supporting gas or other devices. The specific optical filter system is chosen for the application desired.

By having such selectivity, you can reduce analysis time and make fast chromatography. In some cases, consumables such as traps can be avoided. It becomes a cost effective solution, maintenance free system and can give better limit of detection by reducing residual background effect.



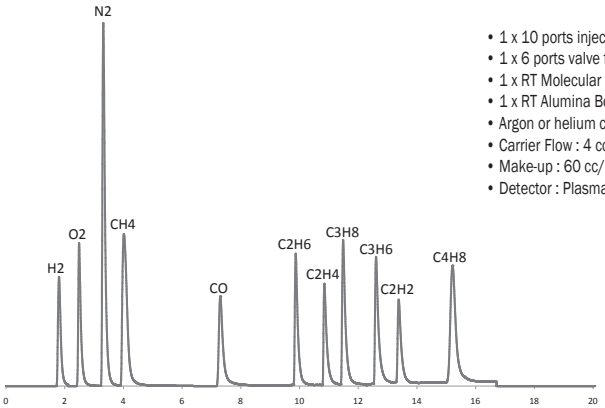
1 ppm N2 in pure O2 with non-selective detector system



1 ppm N2 in pure O2 with PlasmaDetek N2 selective configuration

> ALL IN ONE DETECTOR

The PlasmaDetek can replace many detectors and get all measurements with only one module. No need of doping gas, fuel or other support devices. Measuring permanent gases and light hydrocarbons have never been so easy. Many other gases can be detected, please contact LDetek for more information.



- 1 x 10 ports injection valve
- 1 x 6 ports valve for channel selection
- 1 x RT Molecular Sieve 5A 30m x 0.53mm
- 1 x RT Alumina Bond 30m x 0.53mm x 10mm
- Argon or helium carrier
- Carrier Flow : 4 cc/min
- Make-up : 60 cc/min
- Detector : PlasmaDetek two outputs

10ppm H2 - O2 - N2 - CH4 - CO - C2H6 - C2H4 - C3H8 - C3H6 - C2H2 - C4H8

> ARGON AND HELIUM CARRIER GAS

Having the choice of argon or helium as carrier gas brings the advantage of making easier chromatography configuration. Argon can be cost effective compared to helium in some cases.

Good sensitivity is also obtained with both carriers giving the possibility to work from ppb to % application.

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