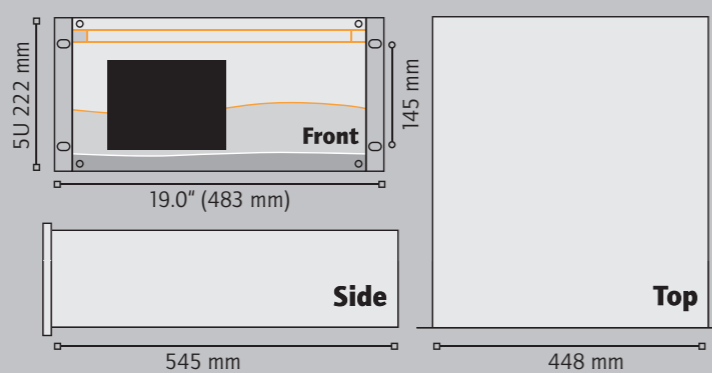


SPECIFICATIONS DID500

Accuracy	1 % of the reading scale
Drift	1 % over 24 hours
Temperature drift	1 % per degree
Operating temperature	± 20°C without wide variations of temperature
Sampling gas	He, N₂, H₂, O₂, Ar, CO₂, Kr, Xe
Sample gas connection	1/8" Swagelok OR 1/8" VCR.
Sample flow rate	Approximately 3 to 5 l/h
Sample pressure	< 100 mBar
Carrier gas	Helium
Carrier gas connection	1/8" Swagelok OR 1/8" VCR.
Carrier gas pressure	7 bar
Carrier gas flow rate	4 l/h
Recommended quality	minimum 6.0
Power supply	220 Vac, 50-60 Hz
Power consumption	420 VA
4-20 mA output	Eight configurable outputs depending on the application.
RJ-45 connection	Computerised system maintenance
Output relays (SPST 2 amperes / 250 Vac)	1 Analyser Failure Alarm contact 1 Alarm High contact 1 Alarm High High contact

Dimensions

Standard rack mount 5U
Height > 222 mm | Depth > 545 mm | Width > 483 mm



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Line 500



DID500

Analysis of **H₂/Ne/O₂+Ar/N₂/Kr/CH₄/CO/CO₂**
and **Xe** in **PPM** or **PPB** level

*A new generation
of intelligent detectors*



Rue des Technologies, 23 - B-4432 ALLEUR - BELGIUM
Phone : +32-4-247 91 06 – Fax : +32-4-263 09 79
E-Mail : sales@orthodyne.be - www.orthodyne.be

ORTHODYNE
GAS CHROMATOGRAPHY

DID500

The DID500 is an analytical system that measures H₂, Ne, O₂+Ar, N₂, Kr, CH₄, CO, CO₂ and Xe, in Helium, Argon, Hydrogen, Nitrogen, Oxygen, Carbon Dioxide, Krypton and Xenon.

PRINCIPLE

The DID detector has been designed to make use of the variations in electrical conductivity found in highly ionised gas.

The ionisation is created by a single high frequency discharge within the detector (HF Plasma), causing a high energy photon emission (24.5 eV).

This emission is capable of ionising all the gases within the cell with the exception of the Helium.

One of the biggest advantage of our DID detector is that a photo-ionised discharge is achieved without any radioactive emissions and without the need to apply excessive voltage being applied to the cell.

Another important characteristic of the DID is that the detector operates using just one gas. This one gas is used as the carrier, the flushing gas and/or the purging gas.

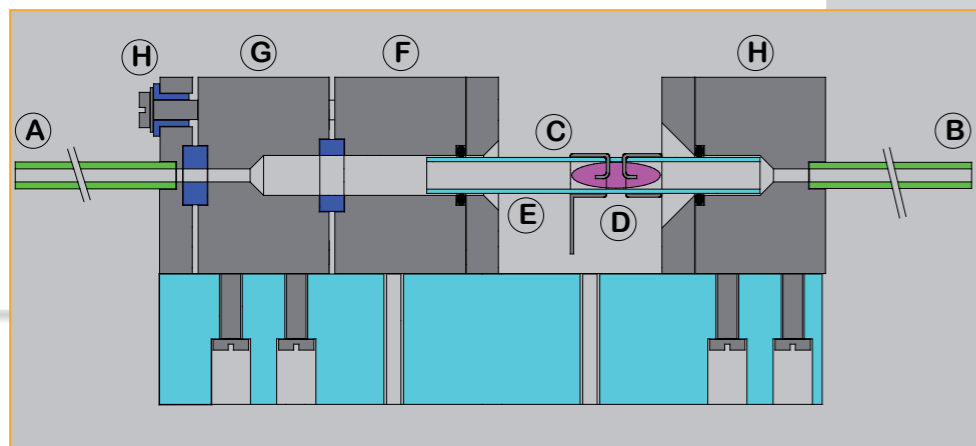
This gas can also serve to purge and clean all the valves.

The housing does not require flushing gas: no contamination of the gas circuit is possible before detection as the input connection is located directly on the cell of the DID detector.

The power setting of the high frequency oscillator allows for the adjustment of the detector sensitivity, which can reach 0.1 ppb (parts per billion).

The detection limit and any background noise are directly related to the quality of the carrier gas, so the use of ultra purity (UHP) Helium as the carrier gas is highly recommended.

DID DETECTOR EXPLANATION



- A > Helium inlet
- B > Helium outlet.
- C > Polarization electrode.
- D > Helium plasma
- E > Quartz tube
- F > Voltage polarization
- G > Measurement point
- H > Zero polarization

Type of configuration

- **DID510** : 1 Valve / 1 column
- **DID520** : 1 Valve / 2 columns
- **DID530** : 2 Valves / 1 column
- **DID540** : 2 Valves / 2 columns
- **DID550** : 2 Valves / 2 columns + external rack

Applications

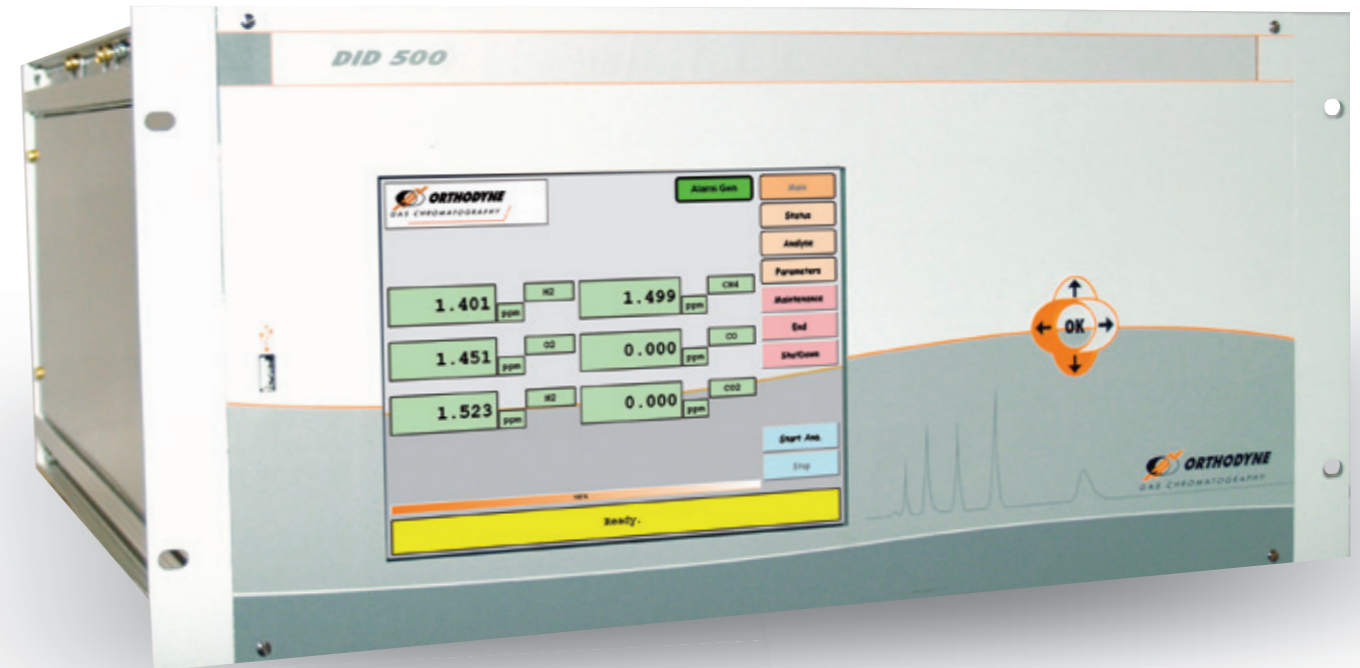
- Air separation plants
- Cryogenic truck loading station
- Specialty gas laboratories
- Process control
- Steel industry

FEATURES

- < 1 ppb resolution guaranteed. (Limit detection level)
- User-friendly software.
- GC technology used for complete separation between each impurity.
- Adjustable alarm and oven settings.
- Fast response.
- Possibility of auto-calibration programming – ideal for unmanned plant conditions.
- CE marked.

MEASUREMENT CAPABILITIES

Sample	ARGON	HELIUM	HYDROGEN	NITROGEN	OXYGEN
Type :	< 1 ppb H ₂	< 100 ppb Ne	< 1 ppb O ₂ +Ar	< 1 ppb H ₂	< 1 ppb H ₂
Orthodyne	< 1 ppb N ₂	< 1 ppb H ₂	< 1 ppb N ₂	< 1 ppb O ₂ +Ar	< 1 ppb Ar
DID	< 1 ppb CH ₄	< 1 ppb O ₂ +Ar	< 1 ppb CH ₄	< 1 ppb CH ₄	< 1 ppb N ₂
	< 1 ppb CO	< 1 ppb N ₂	< 1 ppb CO	< 1 ppb CO	< 1 ppb CH ₄
		< 1 ppb Kr			< 1 ppb CO
		< 1 ppb CH ₄			
		< 1 ppb CO			
		< 1 ppb CO ₂			
		< 5 ppb Xe			



System overview

