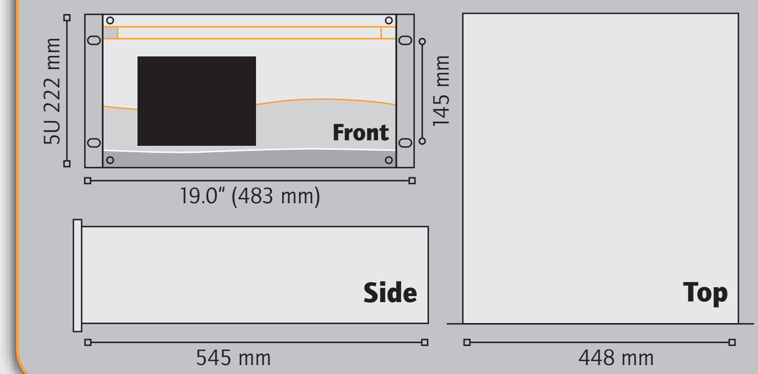
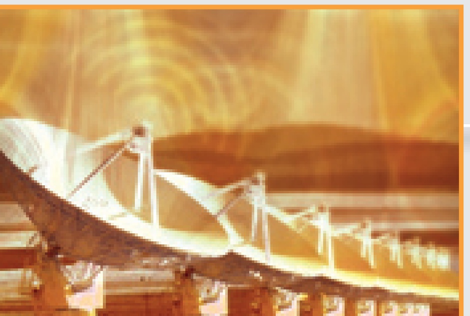
SPECIFICATIONS DID

Accuracy	<1 % of the reading scale or depends on LDL
Drift	<1 % of the reading scale over 24 hours
Temperature drift	<1 % of the reading scale per degree
Operating temperature	~20°C without wide variations of temperature
Sampling gas	**He, N_2, H_2, O_2, Ar**
Sample gas connection	1/8" Swagelok SS or VCR
Sample flow rate	Approximately 3 to 5 l/h
Sample pressure	Lower than 100 mBarg
Carrier gas	**Helium**
Carrier gas connection	1/8" Swagelok SS or VCR
Carrier gas pressure	Depending on the application
Carrier gas flow rate	4 l/h
Recommended quality	Minimum 6.0 or purified Helium
Power supply	220 Vac, 50-60 Hz
Power consumption	420 VA
4-20 mA output	Eight configurable outputs depending on the application.
Digital output	Optional RS232, Modbus, Profibus
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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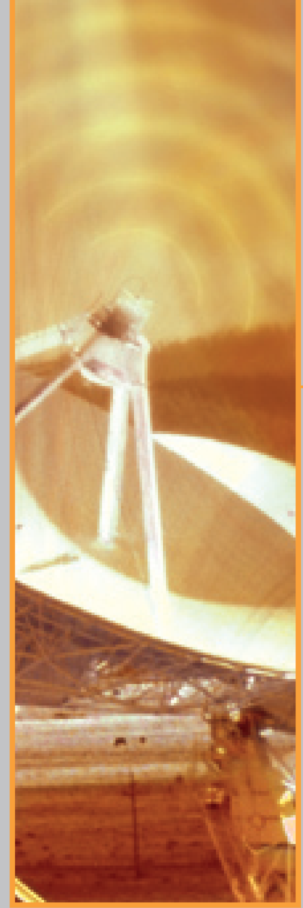


A new generation of intelligent detectors

ORTHOPURE DID

Analysis of **H2/NE/O2+AR/N2/KR/CH4/CO/CO2** and **XE** in **PPM** or **PPB** level

ORTHODYNE
GAS CHROMATOGRAPHY

ORTHOPURE DID

The DID is an analytical system that measures H_2, Ne, O_2 +Ar, N_2, Kr, CH_4, CO, CO_2 and Xe, in Helium, Argon, Hydrogen, Nitrogen and Oxygen.

PRINCIPLE

The DID detector has been designed to make use of the variations in electrical conductibility 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.

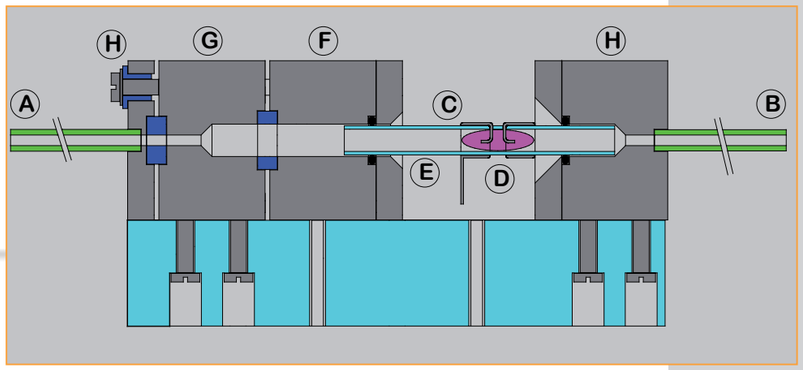
This gas can also serve to purge and clean all the valves.

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

Applications

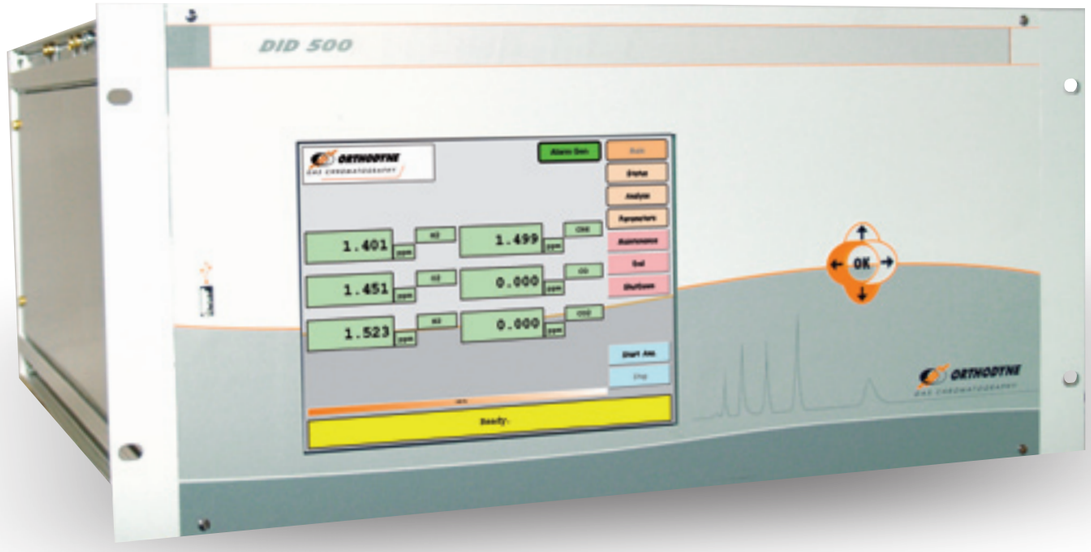
- Air separation plants
- Cryogenic truck loading station
- Specialty gas laboratories
- Process control
- Steel industry

FEATURES

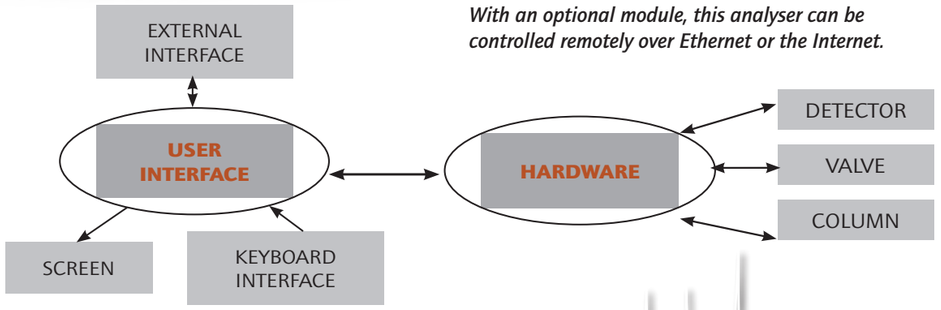
- < 1 ppb resolution guaranteed. (Based on Method of Detection Limit of EPA 40 CFR Part 136 Appendix B-Revision 1.11)
- User-friendly software.
- GC technology used for complete separation between each impurity.
- Adjustable alarm and oven settings.
- Fast response.
- Possibility of auto-calibration programming – ideal for unmanned plant conditions.
- CE marked.

MEASUREMENT CAPABILITIES

Sample	ARGON	HELIUM	HYDROGEN	NITROGEN	OXYGEN
Type : Orthodyne **DID**	< 1 ppb H2 < 1 ppb N2 < 1 ppb CH4 < 1 ppb CO	< 100 ppb Ne < 1 ppb H2 < 1 ppb O2+Ar < 1 ppb N2 < 1 ppb Kr < 1 ppb CH4 < 1 ppb CO < 1 ppb CO2 < 5 ppb Xe	< 1 ppb O2+Ar < 1 ppb N2 < 1 ppb CH4 < 1 ppb CO	< 1 ppb H2 < 1 ppb O2+Ar < 1 ppb CH4 < 1 ppb CO	< 1 ppb H2 < 1 ppb Ar < 1 ppb N2 < 1 ppb CH4 < 1 ppb CO



System overview



With an optional module, this analyser can be controlled remotely over Ethernet or the Internet.