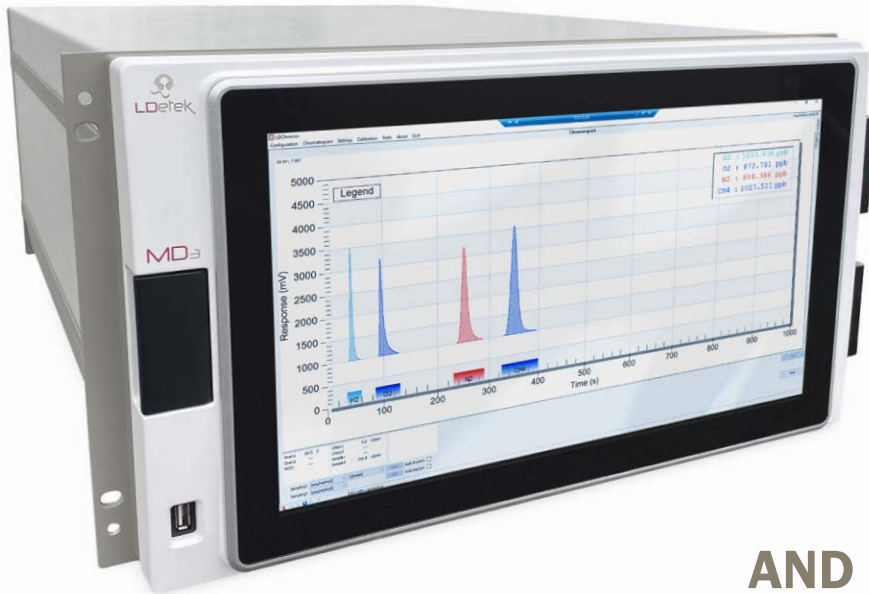


# MMD<sub>3</sub>

MULTIDETEK3



## COMPACT GAS CHROMATOGRAPH FOR INDUSTRIAL AND LAB APPLICATIONS

The MultiDetek3 is the latest development of our popular range of compact industrial gas chromatographs. It is more than a simple gas chromatograph: it's a modular process GC instrument, that combines the functionality of two GCs in one with the ability to also monitor trace moisture and oxygen online. The instrument has been completely redesigned and features an extra-large 15.6" touch screen for easy visibility and operation. It has a dual sample inlet and online modules which allow simultaneous stream analysis of trace moisture and oxygen together with trace impurities. It is temperature controlled for improved stability and performance. The software interface is our latest LDChroma+, which offers more sophisticated data management and a planning platform.

### FEATURES & DESIGN:

- One chassis configuration (6U Rackmount)
- Multiple GC analysis methods capacity
- GC can be configured with PED/TCD/FID detectors
- Up to 6 isothermal or 3 programmable oven combination
- Up to 5 high purity proportional diaphragm valves (carrier-sample)
- Easy maintenance with our modular design
- ppt, ppb, ppm and % gas analysis
- Built in PC with 15.6" with wide touchscreen
- Up to 10 high performance diaphragm valves
- Ethernet connectivity for remote control
- Serial/Profibus/Modbus communication protocols
- Fast parallel chromatography
- LDChroma+, LDCS, LDreport user friendly interfaces
- 2 GCs in one with 2 sample inlet ports & simultaneous analysis
- First GC having online sensors built in for trace moisture and oxygen analysis
- Temperature controlled process GC



### TWO TRAINS DESIGN

2 sample inlets to analyse 2 streams independently in parallel. Replace 2 GCs per one MD3 unit for cost saving.

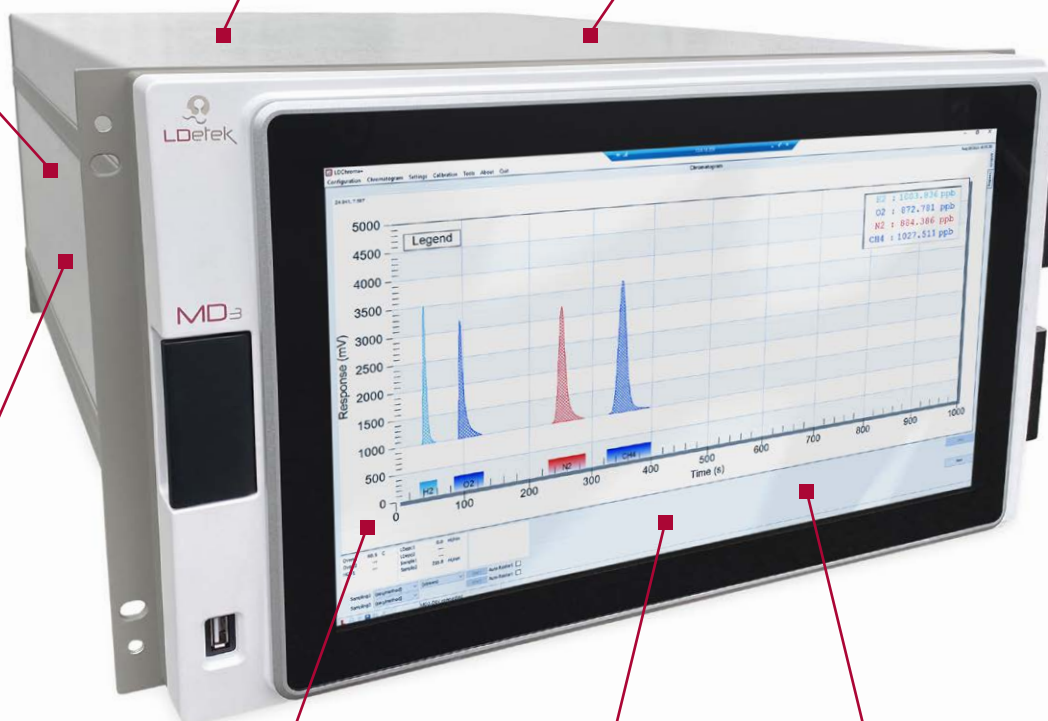


### TEMPERATURE CONTROLLED GC

for the best stability and performances. Process GC design.

### CHOICE OF ONLINE O2 SENSOR BUILT IN

- Electrochemical
- Zirconia



### CHOICE OF ONLINE H2O SENSOR BUILT IN

- Quartz Crystal Microbalance
- Ceramic Metal-Oxide



**LDCHROMA+**  
Gas Chromatography software interface



**LDACS**  
planning and control system software



**LDREPORT 2.0**  
software for data management and storage

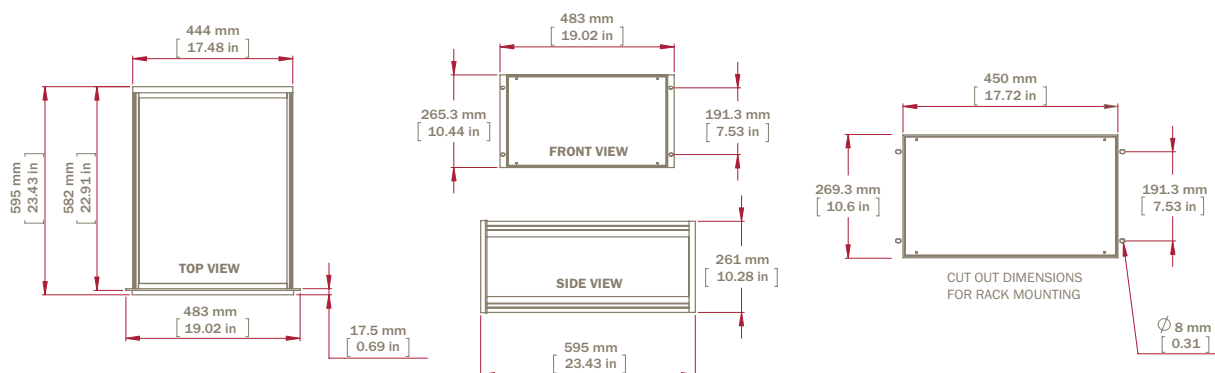
## SPECIFICATIONS

<b>GAS CHROMATOGRAPHY DETECTORS</b>	PED / TCD / FID
<b>ONLINE DETECTORS</b>	Quartz Crystal Microbalance / Ceramic Metal-Oxide / Electrochemical / Zirconia
<b>STANDARD FEATURES</b>	<ul style="list-style-type: none"> <li>• Temperature controlled process GC</li> <li>• 15,6" wide touchscreen with 1366 x 768 HD resolution (IP65)</li> <li>• Windows 10 IoT</li> <li>• Ethernet ports available for remote control and Modbus</li> <li>• Self diagnostic system with maintenance planning</li> <li>• Isothermal and/or programmable ramping ovens</li> <li>• Electronic flow control regulators for carrier &amp; sample gases</li> <li>• 4-20 mA isolated outputs</li> <li>• Alarm Historic</li> <li>• Digital system status output for remote monitoring (dry relay contact)</li> <li>• 2 alarms contact</li> <li>• High resolution Chromatogram output</li> </ul>
<b>OPTIONS</b>	<ul style="list-style-type: none"> <li>• Serial communication (RS232/485) / Profibus / Modbus / Ethernet</li> <li>• Compact purifier attached to the chassis for generating high purity carrier gas</li> <li>• Integrated stream selector system</li> <li>• Digital inputs for remote starting</li> <li>• Analog inputs for connecting external instruments</li> <li>• Remote control for stream selector (LDGSS)</li> <li>• Split/split less injector (can be heated)</li> <li>• Dual sample inlets with simultaneous analysis</li> <li>• Built in online sensor module for trace moisture: Quartz Crystal (ppb/ppm) or Ceramic (ppm)</li> <li>• Built in online sensor module for trace oxygen: Electrochemical (ppm) or Zirconia (ppm)</li> </ul>
<b>GAS CONNECTIONS</b>	1/8" or 1/4" VCR or compression fittings
<b>CARRIER PRESSURE REQUIREMENTS</b>	100 PSIG (other carrier pressure available on request)
<b>AMBIENT OPERATING TEMPERATURE RANGE</b>	10 °C - 45 °C
<b>AMBIENT TEMPERATURE CONTROL RANGE FEATURE</b>	20 °C - 40 °C (out of this range, surrounding ambient temperature must be stabilized)
<b>SUPPLY</b>	115 VAC, 50 - 60 Hz or 220 VAC, 50 - 60 Hz
<b>POWER CONSUMPTION</b>	Maximum 500W
<b>REPEATABILITY</b>	Three times the percentage of deviation (3*CV %) of each component has to be smaller than 5% on ten consecutive cycles
<b>LDL</b>	3 times noise level
<b>LOQ</b>	3 times LDL value
<b>LONG TERM STABILITY &amp; DRIFT</b>	Three times the percentage of deviation (3*CV %) of each component has to be smaller than 10% for 8 hours
<b>LINEARITY</b>	For 5 points within the measuring range, the linear curve must have its R2 at a value between 0.998 and 1.00

## CERTIFICATION

**CE & UKCA** in compliance with EMC directive IEC 61000-6-2 : 2016 (immunity) & IEC 61000-6-4 : 2018 (emission) for equipment used in industrial environment

## DIMENSIONS



## DETECTOR'S SPECIFICATIONS USED IN THE MULTIDETEK3

Detectors	PED	FID	TCD
<b>CARRIER GAS</b>	Argon/Helium/Nitrogen	Argon/Helium/Nitrogen/Hydrogen	Argon/Helium/Nitrogen/Hydrogen
<b>LDL</b>	100ppt (Helium carrier)	1ppb	1ppm
<b>SELECTIVITY/ RESPONSE</b>	Selective to photons generated by each impurity. Narrow bandpass filter optic circuit is used for each impurity. Background gas interference is blocked.	Selective to carbon by ions collection	Selective to thermal gas conductivity difference with carrier gas used
<b>IP</b>	Patent US9310308 Patent US20170254786	n/a	n/a
<b>SAFETY ADVANTAGES</b>	No fuel required	n/a	No fuel required
<b>TECHNICAL ADVANTAGES</b>	<ul style="list-style-type: none"> <li>• Maintenance free (more than 10 years)</li> <li>• Sensitivity down to ppt</li> <li>• Selectivity for most of individual impurity</li> <li>• One gas source required only</li> <li>• Inert quartz detector</li> </ul>	n/a	n/a
<b>IMPURITIES</b>	Permanent & noble gases, sulfurs, ammonia, hydrocarbons, aldehydes, btex, alcohols...	Hydrocarbons, CO-CO2	Permanent & noble gases, sulfurs, ammonia, hydrocarbons, aldehydes, btex, alcohols...
<b>APPLICATIONS</b>	<ul style="list-style-type: none"> <li>• Industrial gases</li> <li>• Energy</li> <li>• Semiconductor &amp; Electronics</li> <li>• Food &amp; Beverage</li> <li>• Environment</li> <li>• Laboratory</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial gases</li> <li>• Energy</li> <li>• Food &amp; Beverage</li> <li>• Environment</li> <li>• Laboratory</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial gases</li> <li>• Energy</li> <li>• Food &amp; Beverage</li> <li>• Environment</li> <li>• Laboratory</li> </ul>



## LDchroma+ gas chromatography software for process/lab analyses

LDchroma+ software is used to control the internal components of the MultiDetek3 gas chromatograph and make the bridge with the surrounding industrial environment and the rest of the world offering a full remote control of your instrument.

### What it controls internally?

- ▶ Temperatures, flows, valves, detectors, A/D inputs, A/D outputs, streams selection, calibration, alarms

### What kind of intelligence it offers?

- ▶ Maintenance interval/cost and lifetime of components
- ▶ A choice across a multiple peak detection algorithms is automatically selected
- ▶ Secure, administrator-controlled user access and permissions to ensure data integrity
- ▶ Simplified run creation, including sequence, methods and reports

### How it communicates with the external world?

LDchroma+ can talk with automated systems using Modbus, Profibus or Profinet (other protocols available on request) depending on the requirements. It is generally used to send/receive any type of commands and results with the plant.



For the remote control of the LDchroma+ software, the Ethernet connection also allows the use of any type of remote control software compatible with Windows. It becomes easy to operate your gas analyser at distance and also select your desired method/stream and even calibrate it.



## LDreport 2.0 for data management

LDreport 2.0 can perform many different types of report format. You can customize the analysis certificate as you desire. LDreport 2.0 can save in multiple format as pdf, excel and html. You can also print it on your local printer or any printer connected on the network. Adding company logo and other custom information can be put on the report template as well.

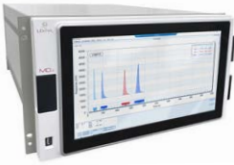
LDreport 2.0 is also used as database where you have access to all chromatograms and results from your instrument. It is very useful to compare results, trends, chromatograms by selecting any period range. LDreport 2.0 is well designed to simplified backup, searching, and trending of chromatography data.



## LDCS Control System

Planning and management software tool offering the possibility to manage and plan actions from a complete LDetek turnkey system. Including calibration routine, dilution, stream sequence, test sequence, collection of data from a third party analyser, carrier consumption & pressure monitoring and many more all built up and running in one platform. *For listing one example, what's better than having your instrument running a linearity check by itself and giving you the final results.*

# HOW OUR SOLUTION MAKES **YOUR LIFE EASIER**



## ROBUSTNESS & MODULARITY

Nothing better than showing our own gas chromatograph to demonstrate a symbol of robust and modular design offering all the gas analysis possibilities inside one compact instrument. Your application has changed, and your instrument must be re-configured? No problem! Our modularity design makes it easy to readapt the instrument to your actual need. Design by experts, for leaders.

## REMOTE ACCESS

Remote connection through network allows our experts to access your instruments for quick support. Our platform infrastructure allows to access the internal database of the instrument to know all the historic events. Years of information, access in a second.

## WORLDWIDE HIGH SKILL TECHNICAL RESSOURCES

Wherever you are located, we have high skill experts ready to help you. Our training program within our organization makes our technical resources always up to date and ready.

## WARRANTY & TRADE IN PROGRAMS

Extended warranty programs are there to make your life easier. Our high value design product gives you a residual value at its end of life to trade with our latest technology available. Let us work for you!

# HOW WE MEASURE **CONFIDENCE**



By having the demonstration of our ability to build robust solutions based on highly skilled involved employees and high quality criteria company philosophy. This is represented by long durability of our instruments being more than 11 years. At the end of this cycle, our company engagement is proud to open discussions to offer the residual value of your highly valuable analytical instrument in exchange for our latest technology device suitable for your application.

ASK US FOR OUR SERVICE  
AND WARRANTY PROGRAMS AVAILABLE



Apply your residual value  
with our trade-in program  
with latest technology

FULL WARRANTY 18 MONTHS

EXTENDED WARRANTY PROGRAM UP TO 10 YEARS

MAINTENANCE PROGRAM EVERY 3-5 YEARS



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