



Leman Instruments

## DILUTION MULTIPOINT CALIBRATION STATION



## AIR DILUTION

### APPLICATIONS

- ✓ Air Quality Monitor Calibration
- ✓ Dilution High concentration mixture

### DESCRIPTION

LEMAN-Instruments designed the **Dilution Multipoint Calibration Station (MCS D)** product line, to fit almost any type of application which needs high precision gas mixture based on diluting high concentration mixture with integrated Zero Air generator (option).

Based on the two calibration curves of MFC1 and MFC2, as well as the pre-mixture composition, the integrated microcontroller adjusts the MFCs'outflows to reach the expected final mixture. In order to alimnet MFC1 with fresh gas, before calibration phases, a purge cycle is processed.

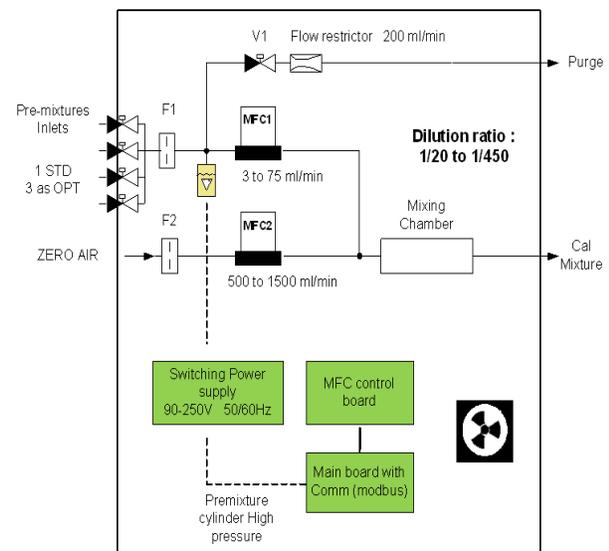
The Carrier gas, Zero Air, is generated from external source or internally (option). If it is internally, first AIR is compressed from ambient Air and then filtered from pollutants by a set of self-regenerative filters (PSA) and a catalysis oven (option).

To monitor the pre-mixture internal cylinder pressure, a high pressure sensor is attached to it and the value is read and treated by the dilutor's electronics. In case of low pressure and lack of alimneting gases, the internal controller alarms the host system.

Each instrument is equipped with high performance communication interfaces (RS485, Ethernet) to create a very flexible gas network with local or central control.

Due to the software being focused on safety, automatic regulation and intuitive and reliable communications, the **Dilution Multipoint Calibration Station (MCS D)** are easy to install, reliable, safe and pleasant to operate.

### AIR - Multipoint MFC Dilutor



# DILUTION MULTIPOINT CALIBRATION STATION

## SPECIFICATIONS

<b>Models</b>	<b>MCSD – 20/450 -- 1500</b>
Outflows @ 1013/20°C	<ul style="list-style-type: none"> <li>• 750 to 1500 Nml/min mixture during calibration phase</li> <li>• 100 to 1500 Nml/min ZERO AIR during Zeroing phase</li> </ul>
Inlet concentration range	<ul style="list-style-type: none"> <li>▪ From 1 ppm to 100ppm</li> </ul>
Dilution ratio	1/20 to 1/450, by flow variations of diluted gas
Precision of concentration	Better than +/- 1% relative
Repeatability	Better than +/- 0.7% relative
Output Pressure	Atmospheric pressure
Input Diluted gas pressure	3 to 5 bar relative. 2 inlets as standard, 2 additional inlets as option.
Carrier gas (AIR)	Zero Air from external generator, Air purity compatible with values to measure; or internal generator with integrated compressor. Removal of CH4 and CO by catalyser oven, as option.
Gas consumption	<ul style="list-style-type: none"> <li>• Maximum 75 Nml/min mixture during calibration phase</li> <li>• 200 Nml/min during purge phase (1 minute /purge)</li> </ul>
Manual Control	Through a 4.3" TFT-LCD color display with touchpad, located on the front panel. Display of major parameters, functioning status and alarms. Intuitive navigation to functions by menus and sub menus.
Remote Control	Through : <ul style="list-style-type: none"> <li>■ MODBUS-RTU over RS485, as standard</li> <li>■ Ethernet 10/100 network (option)</li> <li>■ Log book download by USB.</li> </ul>
Inlet & outlet fittings	Inlet : Stainless steel 1/8" compression Outlet : PFA 1/4" compression
Materials in contact with mixture	Stainless steel and PFA
Power supply	Automatic switching from 90VAC to 260VAC, 47 to 63 Hz
Power consumption	max. 50W (400W with internal zero Air & catalyser options)
Dimensions	19"rack, 3U, 520mm deep
Weight (net)	25Kg (50lbs)

## ORDERING NUMBERS

Model	Article #
MCSD-20/450-1500	728110

Model	Article #
Ethernet Interface (option)	728181
Integrated ZERO AIR generator (option)	728151
CH4 & CO Scrubber (option)	728161

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