

# SONIMIX 2106-X

## PORTABLE PROGRAMMABLE GAS DIVIDER

The binary gas divider from 0 to 100% in fixed steps, model **LNI SONIMIX 2106** is based on the principal of gas stream through sonic nozzles and is built according to the ISO 6145/6 normalisation.

This device can be configured as follow :

- **10** fixed dilution steps + zero (with 10% resolution)
- **16** fixed dilution steps + zero (with 6% resolution)
- **64** fixed dilution steps + zero (with 2% resolution)
- **128** fixed dilution steps + zero (with 1 % resolution)
- **1024** fixed dilution steps + zero (with 0.1% resolution)
- **2x10** 2 ranges of 10 steps + Zero (0, 1%, 2%,... 10%, + 10%, 20%,... 100%)
- **3x10** 3 ranges of 10 steps + Zero (0, 0.1%, 0.2%.... 1% + 1%, 2%,... 10%, + 10%, 20%,... 100%)

**The accuracy of the mixture is better than 0.6% relative.**

The **SONIMIX 2106-X portable gas divider** major functions are controlled by microprocessor excepted the gas flow regulations which are mechanical. This enables the user to avoid setting mistakes and is easy to use due to the menus and submenus visualised by the electroluminescent display and selected by the keyboard. The RS232-C serial interface and the AK protocol of communication allow to drive and interrogate the instrument on remote control. The parameters such as the type and composition of alimending gases, the working units (% ,ppm, ppb) are introduced and memorised. The dilution steps are computed with the flow values of nozzles, (in N2), and the alimending gases. The flow data in N2 are memorised and cannot be modified by the user.

The precision, stability and the reproducibility of the generated mixtures are due to the joint use of critical orifices and the high stability of mechanical pressure regulators.

**It's portable casing is specially designed to transport the calibration system on site or from one analyser to another.**



- ✓ **High accuracy and stability**
- ✓ **Portable**
- ✓ **Long life**
- ✓ **No maintenance**

### Options and accessories :

#### Option and accessories Description

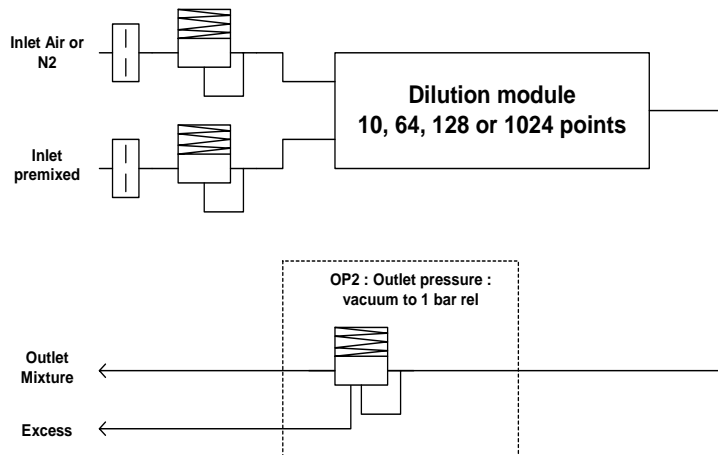
SONIMIX 2106-10	Portable gas divider / 10 dilution points / P outlet : atm
SONIMIX 2106-16	Portable gas divider / 16 dilution points / P outlet : atm
SONIMIX 2106-64	Portable gas divider / 10 dilution points / P outlet : atm
SONIMIX 2106-128	Portable gas divider / 10 dilution points / P outlet : atm
SONIMIX 2106-1024	Portable gas divider / 10 dilution points / P outlet : atm
SONIMIX 2106-2x10	Portable gas divider / 2 ranges of 10 steps / P outlet : atm
SONIMIX 2106-3x10	Portable gas divider / 3 ranges of 10 steps / P outlet : atm
SONIMIX 2106-XOP1.1	OPTION : Total outlet flow 5 L/min (in stead of the standard 2.5L/min)
SONIMIX 2106-XOP3	OPTION : 4 additional inlet for premixed gas (diluted line)
SONIMIX 2106-XOP2	OPTION : Special outlet pressure : vacuum to 1 bar rel
SONIMIX 2106-XOP9-x	OPTION : RS232 remote command, protocole ASCII or AK (Op9.1 or 9.2)
GasCal	PC Software to increase the SONIMIX functionalities (see specific documentation)



## TECHNICAL DATA

Gas Alimentation Diluted line	Pure or premixed dry gases such as CO, CO <sub>2</sub> , NO, SO <sub>2</sub> Or low concentrated < 500 ppm corrosive gases : HCl, NH <sub>3</sub> , H <sub>2</sub> S, NO <sub>2</sub> ,...in AIR or N <sub>2</sub>
Carrier Line	dry AIR and N <sub>2</sub> from a cylinder, a Zero Air Generator or from a SONIMIX 3057
Dilution Range	0 to 100 % of the premixed gas
	<p>Mono Range : <b>10 steps</b> (SONIMIX 2106-10) (1 step every 10%)  <b>16 steps</b> (SONIMIX 2106-16) (1 step every 6.6%)  <b>64 steps</b> (SONIMIX 2106-64) (1 step every 0.5%)  <b>128 steps</b> (SONIMIX 2106-128) (1 step every 1%)  <b>1024 steps</b> (SONIMIX 2106-1024) (1 step every 0.1%)</p> <p>Multi Range : <b>2 ranges of 10 points</b> (0, 1%,2%,...10% + 10%, 20%,...100%)  SONIMIX 2106-2x10  <b>3 ranges of 10 points</b> (0, 0.1%, 0.2%,...1% + 1%,2%,...10% + 10%, 20%,...100%) SONIMIX 2106-3x10</p>
Total flow	2500 Nml/min of mixture (Op1.2), (N <sub>2</sub> equivalent) 5000 NmL/min ( Op1.1), other flow upon request adjustable by the by-pass valve and visualised by the flow-meter
Accuracy of the concentration Repetability Influence of external parameters	<b>Better than 0.5% relative</b> <b>Better than 0.2% relative</b> effects of temperature changes from -5 to 35°C, and atmospheric pressure variations from 800 to 1200 mbar included in the repeatability.
Stabilisation time Calibration Inlet pressure Pressure of the mixture	<b>&lt; 20 seconds</b> by volumetric means, traceable to most National Standards from 2.7 to 3.3 bar relative from 0 to 150 mbar relative (vacuum to 1 bar rel as option)
Alarms Setting and communication Modes * <b>local</b> with keyboard+display * <b>remote</b> by standard interface communication protocol	monitoring of the alimenting and mixture pressures local or remote display VFD of 2x20 characters, keyboard with 18 keys, settings by menus RS-232, 1200 to 9600 bauds, other parameters 100% adjustable standard : AK, other protocols available see OP4
Voltage and Power consumption Fittings and Tightness	50W 230VAC/50Hz or 60Hz ; 50W 117VAC/60Hz Swagelok 1/4" or 6mm, 316L < 10 <sup>-7</sup> mbar l/s, < 10 <sup>-7</sup> , verified by He detection
Casing and Net weight	L :28cm; H15cm; deep :34cm / 10 à 20 Kg depending on model

## PRINCIPLE DIAGRAM



MD Scientific is authorized distributor in Denmark for LNI-Schmidlin  
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