



DESIGN AND PRODUCTION  
OF LABORATORY  
GAS GENERATORS



**ZEFIRO** series  
NITROGEN GENERATORS  
WITH INTEGRATED COMPRESSOR

The constant and completely  
autonomous supply of nitrogen flux



# Nitrogen for LC-MS application



## ZEFIRO LC/MS 20-25-35-40

ZEFIRO Nitrogen Generator is designed specifically as a stand-alone system to provide nitrogen to single LC/MS applications which require a constant and autonomous supply of nitrogen flux.

The Nitrogen generator uses pressure swing adsorption technology (PSA) to produce nitrogen gas. This system uses carbon molecular sieve (CMS) which selectively adsorbs oxygen and water vapor molecules under high pressure, while allowing Nitrogen to pass through. The alternation between purification and regeneration of the sieve bed pressure Vessels ensure continuous nitrogen flow production.

## Application

LC/MS

## Technical data

	ZEFIRO LC/MS 20-25		ZEFIRO LC/MS 35-40	
	20 l/min at STP	25 l/min at STP	35 l/min at STP	40 l/min at STP
STANDARD NITROGEN FLOW RATE	20 l/min at STP	25 l/min at STP	35 l/min at STP	40 l/min at STP
OUTLET PRESSURE	up to 8 bar (116 psi)		up to 8 bar (116 psi)	
STANDARD PURITY	99,0% at STP		99,0% at STP	
INPUT VOLTAGE	230 V - 50 or 60 Hz		230 V - 50 or 60 Hz	
WEIGHT	140 Kg		140 Kg	
POWER CONSUMPTION	1800 W		1800 W	
PRESSURE ACCURACY	0.1 bar (± 0.5 %)		0.1 bar (± 0.5 %)	
MICROPROCESSOR CONTROLLED DISPLAY	Graphic display, 128 x 64 px		Graphic display, 128 x 64 px	
INDEX OF PROTECTION	IP20		IP20	
TEMPERATURE	5°C to +30°C		5°C to +30°C	
RELATIVE HUMIDITY	0-80%, non condensing		0-80%, non condensing	
SOUND PRESSURE LEVEL	50 dB(A)		50 dB(A)	
OUTPUT PORT	G 1/4		G 1/4	
CASE DIMENSIONS	width 48 cm, height 70 cm, length 84 cm		width 48 cm, height 70 cm, length 84 cm	



## ▶ HYSTORY

Cinel Strumenti Scientifici was founded in Padua in the 70's with a technical partnership of INFN LNL Legnaro Laboratory on particle accelerator projects and since then has been involved in some of the most challenging projects all over Europe.

Nowadays, CINEL has reached a long experience on mechanical design and manufacture of apparatuses in several scientific and research fields such as Synchrotron Light Sources (monochromators, fully integrated front ends and beam lines, experimental chambers), as well as accelerator components (vacuum chambers, accelerating cavities, radiofrequency quadrupole cavities). Cinel has acquired skilled experience in the field of cryogenics, superconductivity, astrophysics and bio-mechanics collaborating with well-known institutions as a qualified partner in the mechanical, thermal and control system design and it can now propose turnkey solutions with high level standardization.

A new activity branch has been started in 2005 profiting from the expertise gained in years of R&D programs finalized to high precision mechanics in several research fields; a complete range of analytical gas supply generators has been devolved (nitrogen, hydrogen and zero air) widening the business area to the laboratory analytical instrumentation. Since the beginning the new division has been devoted to the design and production of analytical gas generators which have been rapidly renowned in Italy first than in Europe and outside Europe.

Thanks to the positive impact and to the very promising results on the market, the analytical gas generators branch activity in the end of 2014 was separated from the main company "Strumenti Scientifici Cinel" and the new company "CINEL SRL Gas Generators Technology" has been founded.

## ▶ PATENT

ITALIAN PATENT  
Number 0001397254

INTERNATIONAL PATENT  
Application Number EP10814714.1

## ▶ CERTIFICATIONS



Azienda con sistema di qualità certificato ISO 9001:2008

“Design and production  
of laboratory  
gas generators”

