Leman Instruments

TECHNICAL NOTE · EDITION 2026

Compressed Air Requirements

For Leman Instruments Nitrogen, Zero Air and Oxygen generators

EXTERNAL COMPRESSED AIR NEEDED

NITRO · SOLO LCMS · AERO · OXY · DUO LCMS · TRIO LCMS

Nitrogen, Zero Air and Oxygen generators, and the DUO and TRIO LCMS stations, need an **external compressed-air supply**.

NO COMPRESSED AIR NEEDED

GCSTATION NEO · AERO50RC · NITRO50RC · FIDSTATION50RC · HYDRO

Generators with a built-in compressor, and Hydrogen generators (which run on deionised water), do **not** need compressed air.

SECTION 1

Air quality



Oil-free, dried compressed air — **ISO 8573-1:2010 Class 3 [3:3:3]**

The standard ISO 8573-1:2010 sets limits for three contaminants: solid particles, water and oil. Leman Instruments generators require **Class 3 for all three**:

Contaminant	Class 3 — required	Class 4 — for comparison
Solid particles per m^3 of air	**0.5–1 µm: max. 90 000 particles** **1–5 µm: max. 1 000 particles**	1–5 µm: max. 10 000 particles
Water pressure dew point	**–20 °C or lower**	+3 °C or lower
Oil liquid, aerosol and vapour	**max. 1 mg/m^3**	max. 5 mg/m^3

Values at the reference conditions of the standard: 20 °C, 1 bar(a), 0 % relative humidity.

IF ONLY CLASS 4 AIR IS AVAILABLE

Fit static filters (particle, coalescing and activated carbon) and a dryer just before the generator's air inlet to reach Class 3. **Air of a lower quality than Class 3 is not covered by the warranty.**

SECTION 2

Air flow and pressure

The air flow needed is a **multiple of the gas flow** produced, and the air pressure must be **higher than the outlet pressure** of the generator.

× air flow
litres of air per litre of gas produced

+ air pressure
how much higher than the outlet pressure

10 bar
maximum inlet pressure

Generator	Air flow	Air pressure	Example
NITRO L · NITRO ELSD	× 5	+ 2 bar	50 L/min air @ 6 bar for 10 L/min N_2 @ 4 bar
NITRO50LS · NITRO ICP	× 7	+ 3 bar	70 L/min air @ 7 bar for 10 L/min N_2 @ 4 bar
NITRO65LS · NITRO60LS	× 9	+ 3 bar	90 L/min air @ 7 bar for 10 L/min N_2 @ 4 bar
NITRO20 · 30 · 40 LS2 (high flow)	up to × 4	6–10 bar inlet	400 L/min air for 100 L/min N_2
NITRO50LS2 (high flow)	× 7	+ 4 bar	700 L/min air @ 8 bar for 100 L/min N_2 @ 4 bar
NITRO65LS2 (high flow)	× 9	+ 4 bar	900 L/min air @ 8 bar for 100 L/min N_2 @ 4 bar
SOLO LCMS	× 4	+ 2 bar	140 L/min air @ 9 bar for 35 L/min N_2 @ 7 bar
AERO50 (L, LS, LS2)	× 4	+ 1.5 bar	12 L/min air @ 5.5 bar for 3 L/min Zero Air @ 4 bar
AERO FTIR · AERO TOC · AERO70	× 5	+ 2 bar	100 L/min air @ 6 bar for 20 L/min Zero Air @ 4 bar
OXY20	× 30	+ 2 bar	15 L/min air @ 6 bar for 0.5 L/min O_2 @ 4 bar
OXY50	× 50	+ 3 bar	25 L/min air @ 7 bar for 0.5 L/min O_2 @ 4 bar
DUO LCMS	× 3	+ 2 bar	180 L/min air for 30 L/min N_2 + 30 L/min Zero Air
TRIO LCMS	× 3 to 7	+ 1 bar	290 L/min air @ 9 bar for all three gases @ 8 bar

For several generators on the same line, add up their air flows.

SECTION 3

Which compressor?

Any brand of compressor will do, or the laboratory air line, as long as the quality, flow and pressure above are respected. Not sure? Send us your models — **sales@leman-instruments.com**

FOR SMALL BENCH-TOP GENERATORS

NANO COMP-20

by Leman Instruments — oil-free, 20 L/min at 7 bar