



Nitrogen. HiQ® Nitrogen WHISPER Hybrid LC/MS gas generator.



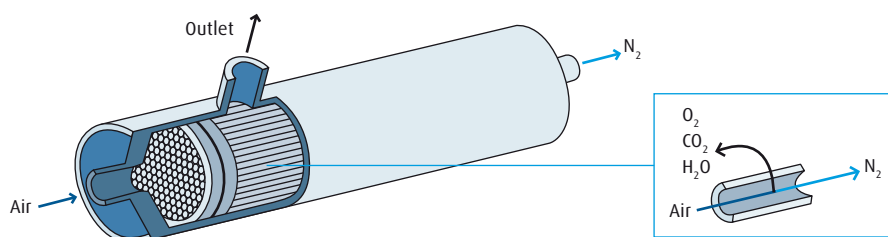
Background Nitrogen is commonly used in laboratories for different applications. Some demand higher purities, others are less purity-dependent. Such applications are typically nebulising and curtain gas for liquid chromatography coupled with mass spectrometry (LC/MS). Other areas of applications are specific solvent evaporations and low-purity purge gas requirements.

Description The HiQ® Nitrogen WHISPER Hybrid LC/MS gas generator is designed to deliver larger capacity flow rates of nitrogen and zero air required for Atmospheric Pressure Ionization (API) LC/MS instrument operation. Using the latest membrane technology, the HiQ® Nitrogen WHISPER Hybrid LC/MS generator is able to provide the required source gas (zero air) at up to 6.9 bar pressure, exhaust air at up to 4 bar pressure and also the curtain gas (nitrogen) at up to 8 bar pressure and >99% purity depending on inlet pressure and flow rate (the higher flow the lower purity and vice versa).

The HiQ® Nitrogen WHISPER Hybrid LC/MS generator include very silent integral compressors. The generator deliver up to 5 litres of nitrogen per minute, up to 26 litres of source gas (zero air) per minute and up to 10 litres of exhaust air per minute.

Functioning principle The compressed air (supplied from the integral compressor) is initially passed through a coalescent filter to remove any condensed water. The HiQ® Nitrogen WHISPER Hybrid LC/MS generator also include a specific dryer column to further dry the air. The dry air is then passed through an active charcoal filter to remove the hydrocarbons and through a particle filter. The air is then split in three different flows – the source gas (zero air), the exhaust air and the third curtain gas flow as will be purified to nitrogen by the membrane separation. The membranes separate the compressed air into nitrogen and an oxygen-enriched air stream. Finally, the source zero air, the exhaust air and the produced nitrogen are pressurised and can be connected directly to the API LC/MS application. The nitrogen can be stored in a nitrogen storage vessel. Once the pressure is reached a pneumatic control valve will stop the compressor until new nitrogen is required.

Laboratory applications The HiQ® Nitrogen WHISPER Hybrid LC/MS generator have been specially developed to meet specific requirements in terms of flow, purity and pressure in API LC/MS applications.



Specifications

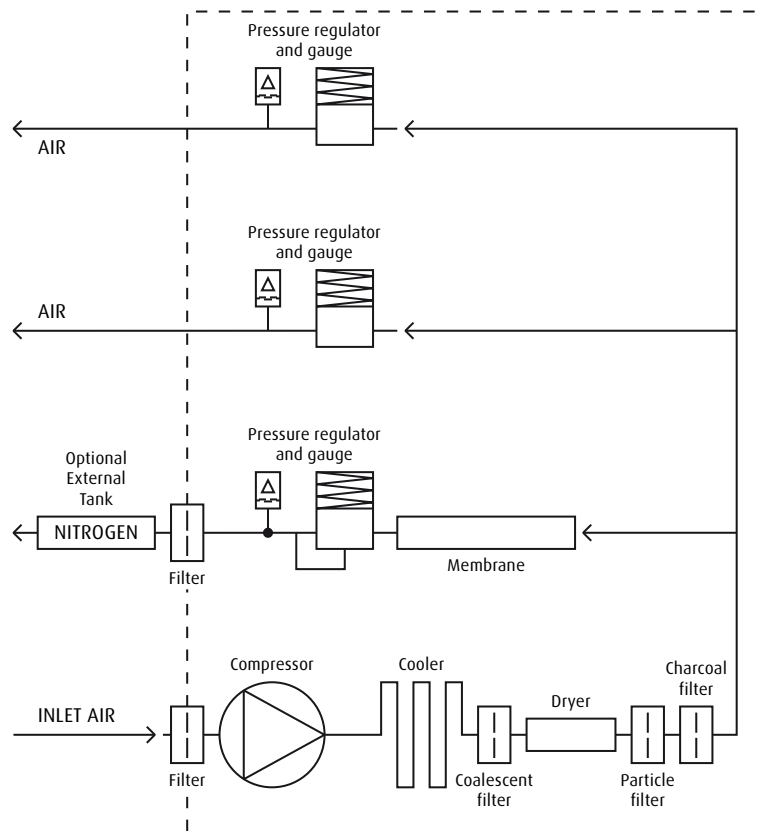
Model	HiQ® N ₂ -WHISPER Hybrid
Flow rate	Nitrogen: 5 NL/min Source zero air: 26 NL/min Exhaust air: 10 NL/min
Delivery pressure	Nitrogen: Up to 8 barg (116 Psig). Source air: Up to 6.9 barg (100 Psig) Exhaust air: Up to 4 barg (60 Psig)
Nitrogen purity	>99% depending of pressure and flow rate
Particle filtration level	< 0.01 µm
Sound level	<60 dB(A)
Fittings	G 1/4"
Power requirements	230V/50Hz - 230V/60Hz

Net weight (kg)	160
Shipping weight (kg)	190
Dimensions (cm) (WxDxH)	48x98x130
Shipping Dimensions (cm) (WxDxH)	50x100x140
Incl. compressor	2
Power consumption (kilowatt)	5

Spare parts and consumables for maintenance

- Filtering media of the coalescent filter
- Filtering media of the particle filter
- Active charcoal filter
- 4000H compressor kit
- 8000H compressor kit
- New membrane
- New dryer
- 10L tank (buffer vessel)

HiQ® Nitrogen WHISPER Hybrid LC/MS generator in principle



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