

Ultra Zero Air. HiQ® Ultra Zero Air Generator.



Background Pure air is commonly used in the chromatographic world mainly as fuel for flames in detectors such as Flame Ionisation Detectors (FIDs) and Flame Photometric Detectors (FPDs). The advantage with the HiQ® Ultra Zero Air series is that it helps creating a truly flat baseline. The pure air can be delivered in classic gas cylinders or be produced on site from oil-free compressed air. Designed with safety and convenience in mind, this system will generate purified and hydrocarbon-free air from an existing in-house oil-free compressed air supply.

Description The HiQ® Ultra Zero Air generators reduce total hydrocarbons (THC) to less than 0.1 ppm, CO and NO_x pollutants to less than 0.05 ppm, CO₂ to less than 5 ppm and removes particles down to 0.1 micron. In the lab, they provide several advantages. Eliminating the need to use and store high-purity air in cylinders saves valuable laboratory floor space. Using an on-site gas generator also eliminates the need to purge systems or recalibrate instruments after replacing empty cylinders with full ones. The operation of the generator requires low levels of electrical power. This complete turnkey system is engineered with the highest quality components, is easy to install, and requires only minimal annual maintenance. The log file can easily be downloaded to a PC via the USB interface to make the traceability and diagnostics more efficient.

With a small footprint of 16 x 35 cm (3 to 6 L/min models), the HiQ® Ultra Zero Air generator saves space. It is compatible to all major voltages and power supplies.

Functioning Air Principle The HiQ® Ultra Zero Air generator models utilise a multi-stage process to purify ambient air into high-purity analytical grade air. Supplied air is initially passed through highly efficient pre-filtration to remove both moisture and particles greater than 5 microns. After filtration, the air is passing through a dual-column pressure swing absorption (PSA) air-dryer to remove any remaining moisture and carbon dioxide. The air is then channelled into a stainless steel catalyst chamber to remove background hydrocarbons and carbon monoxide. The chamber is filled with a highly efficient platinum + palladium catalyst which has been heated to very high temperature to ensure final hydrocarbon removal to less than 0.1 ppm. An additional high-grade filter is also used to remove 99.99% of particles greater than 0.5 microns.

Laboratory Applications With its small size, trouble free operational and low maintenance environment, the HiQ® Ultra Zero Air generator is the preferred source of air fuel gas for GC-FID, GC-FPD and THC analysers. It helps creating a truly flat baseline to any chromatograph on the market. With its low hydrocarbon content (less than 0.1 ppm), CO and NO_x pollutants (less than 0.05 ppm), CO₂ (less than 5 ppm) and removal of particles down to 0.1 micron, the HiQ® Ultra Zero Air generator is also ideal for zero air to THC, total organic compounds (TOC) and total sulphur analysers.

Specifications

HiQ® Ultra Zero Air-3000	Flow rate: 3000 ml/min*
HiQ® Ultra Zero Air-6000	Flow rate: 6000 ml/min*
HiQ® Ultra Zero Air-15000	Flow rate: 15000 ml/min*
HiQ® Ultra Zero Air-30000	Flow rate: 30000 ml/min*

* need external oil-free compressed Air

Delivery pressure:	Up to 5 barg (75 Psig) (depending on the inlet pressure)
Air purity:	<0.1 ppm Total Hydrocarbons <0.05 ppm CO / <5 ppm CO ₂ / <0.05 ppm NO _x / <-50°C DP (-58°F)
Particle filtration level:	<0.1 µm
Fittings:	Inlet Air 1/4" Swagelok / Outlet Air 1/8" Swagelok for models 3000 to 6000 Inlet Air 1/4" Swagelok / Outlet Air 1/4" Swagelok for models 15000 to 30000
User interface:	Pressure setting, system status, user parameter / Touch screen / LCD graphic display
Remote command:	USB / download of the logfile possible
Power requirements:	230V/50Hz - 230V/60Hz - 115V/60Hz - 100V/60Hz

Air flow rate (NL/min) (max):	3	6	15	30
Casing type:	table top	table top	floor	floor
Dimensions (cm) (WxDxH):	16x35x39	16x35x39	36x64x67	36x64x67
Shipping Dim (cm) (WxDxH):	41x51x50	41x51x50	45x80x80	45x80x80
Net weight (kg):	14	14	30	35
Shipping weight (kg):	18	18	34	39
Power consumption (Watt):	285	285	450	500

Spare Parts and Consumables for maintenance

Set of filters (coalescent/dust filter)
Refill of specific scrubbers
Set of specific scrubbers (aluminium filter already filled)
Replacement catalysis oven

HiQ® Ultra Zero Air generator in principle

