



Chrysalis® II ZERO Air Generator

**Description**

The Chrysalis® II ZERO Air Generators continuously produce high purity air from plant compressed air. Matheson offers two models to choose from. The standard “GC/FID” model removes hydrocarbon and carbon monoxide impurities to less than 0.1 ppm. The high performance “Ultra” model removes hydrocarbon, carbon monoxide and NOx impurities to less than 0.1 ppm, carbon dioxide to less than 5 ppm, and moisture to less than -70°C dewpoint. Both models also efficiently remove particulates down to 0.5 micron in size.

The use of Chrysalis® II ZERO Air Generators in the lab provides several advantages. Valuable laboratory floor space is conserved by eliminating the need to use and store high purity air in cylinders. There is no need to continually buy replacement UHP grade air in cylinders. Using an onsite gas generator eliminates the need to recalibrate instruments after replacing empty cylinders with full ones.

Chrysalis® II ZERO Air Generators provide continuous flow and require low levels of air consumption and electrical power. They are easy to install and require only minimal maintenance.

The standard “GC/FID” model receives the plant compressed air through a highly efficient coalescing/particulate pre-filter that removes particulates and moisture. The air then flows through a stainless steel, heated platinum catalytic combustion module, where hydrocarbons and carbon monoxide are oxidized. After cooling, a filter at the outlet is used as a final purification step to remove any remaining moisture and residual particulate material.

The high performance “Ultra” model receives plant compressed air through a highly efficient coalescing/particulate pre-filter that removes particulates and bulk moisture. The air then enters a dual column pressure swing adsorption air dryer to remove water vapor and carbon dioxide. From the dryer, the air is channeled into a scrubber to remove NOx through an adsorption process. Next, the air flows through a stainless steel, heated platinum catalytic combustion module, where hydrocarbons and carbon monoxide are oxidized. After cooling, a filter at the outlet is used as a final purification step to remove any remaining moisture and residual particulate material.

Applications

- Fuel air for flame ionization detectors (FIDs)
- Fuel air for flame photometric detectors (FPDs)
- Fuel air for nitrogen phosphorus detectors (NPDs)

Product Features

- Compact size requires minimal space
- Wall mountable
- Built-in security lock on external housing
- Green, yellow and red indicating lights indicate power, warmup, ready and fault notification of low/high catalyst temperature, low/high inlet pressure, and life expectancy/expiration of catalyst
- Digital thermal switch automatically shuts off power to the catalyst in the event that the inlet compressed air supply is turned off, preventing catalyst damage due to overheating
- Power cord included
- CE & CSA approved

Operating and Physical Specifications

	Std GC/FID Model	H.P. Ultra Model
Product Outlet Purity		
Hydrocarbons	< 0.1 ppm	< 0.1 ppm
Carbon Monoxide	< 0.1 ppm	< 0.1 ppm
Particles > 0.5 micron	99.99 %	99.99 %
Carbon Dioxide	—	< 5 ppm (1.5, 3, 6 Lpm) < 10 ppm (15, 30 Lpm)
Nitrogen Oxides	—	< 0.1 ppm
Dewpoint	< -58°F (-50°C)	< -58°F (-50°C)
Outlet Air Temperature	Ambient + 27°F (+15°C)	Ambient + 27°F (+15°C)
Maximum Inlet Impurities		
Hydrocarbons	100 ppm	100 ppm
Carbon Monoxide	100 ppm	100 ppm
Carbon Dioxide	—	500 ppm
Nitrogen Oxides	—	50 ppm
Maximum Inlet Temperature	104°F (40°C)	104°F (40°C)
Inlet Air Pressure Range (Regulated to 100 psig)	65-145 psig	65-145 psig
Pressure Drop @ max flow	15 psig	15 psig
Maximum Outlet Pressure*	100 psig	80 psig
Maximum Flow Rate	1.5-30 Lpm	1.5-30 Lpm
Power Source	115/230 VAC	115/230 VAC
Inlet Port (compression ftg)	1/4"	1/4"
Outlet Port (compression ftg)	1/4"	1/4"
Dimensions	1.5, 3, 6, 15, 30 Lpm 18"W x 10"D x 16"H	1.5, 3, 6 Lpm 18"W x 10"D x 16"H 15, 30 Lpm 21"W x 11"D x 17"H
Weight	12-22 lbs	22-62 lbs

*Note: The outlet pressure from each model is regulated to 100/80 psig at nominal flow conditions; larger flows will create increased pressure drop and could reduce the outlet pressure below the regulated 100/80 psig levels.

Ordering Information

Model Number	Description	Capacity
ZAC-GC1500	Standard GC/FID ZERO Air Generator	1.5 Lpm
ZAC-GC3000	Standard GC/FID ZERO Air Generator	3.0 Lpm
ZAC-GC6000	Standard GC/FID ZERO Air Generator	6.0 Lpm
ZAC-GC15000	Standard GC/FID ZERO Air Generator	15.0 Lpm
ZAC-GC30000	Standard GC/FID ZERO Air Generator	30.0 Lpm

ZAC-ULT1500	High Performance Ultra ZERO Air Generator	1.5 Lpm
ZAC-ULT3000	High Performance Ultra ZERO Air Generator	3.0 Lpm
ZAC-ULT6000	High Performance Ultra ZERO Air Generator	6.0 Lpm
ZAC-ULT15000	High Performance Ultra ZERO Air Generator	15.0 Lpm
ZAC-ULT30000	High Performance Ultra ZERO Air Generator	30.0 Lpm

ZAC-FILT-HSG	Replacement External Air Filter (Housing & Element)
ZAC-EXT-CART	Replacement Cartridge for External Air Filter
ZAC-INT-CART	Replacement Cartridge for Internal Air Filter