



# COMBINE NITROGEN/AIR AND NITROGEN GENERATOR THYSTER series



The THYSTER DF-MP/AES dual flow generator has been specifically designed to meet the nitrogen and dry air needs to supply a Microwave Plasma Atomic Emission Spectrometer (MP-AES) of the Agilent range.

Nitrogen is produced by pressure swing adsorption (PSA) to remove oxygen, carbon dioxide and water from compressed air and purified air is produced by using an activated alumina column.

The generators provide two continuous streams of Nitrogen and Dry Air from a single 'plug & play' unit. The model is available with an integral oil free compressor, and is extremely quiet in operation. The Generator is controlled using the latest in HMI touch screen technology to display the process in real time, inlet/outlet pressures.

## BENEFITS AND SAVINGS

**Improve analytical instruments performance :** production of a constant flow of gas improves the consistency of the analysis results and hence reproducibility.

**Improve laboratory efficiency :** The relatively high gas volumes required by MP-AES instruments make cylinder supply inappropriate for such applications. A constant, uninterrupted gas supply eliminates interruptions of analyses to change cylinders.

**Improve economy :**

- Quick return on investment < 1 years
- No gas cylinder rental bottles, no price inflation

**Improve safety :** Nitrogen and Air produced at low pressure and ambient temperature removes the hazards associated with high pressure cylinders and liquid Dewar's

## STANDARD FEATURES

- \* Complete 'Plug and Play' system specifically designed for the Agilent MP-AES
- \* **CONFIGURATION FOR ORGANICS ANALYSIS**  
**N2 : 25 L/min** at 65 psi, @ 99.7%  
**Dry Air : 36.5 L/min** at 87 psi separate in 3 way for POP, EGCM and monochromator gas
- \* **CONFIGURATION FOR DETERMINATION OF SULFUR**  
**N2 : 25 L/min** at 65 psi, **purity > 99.7%**  
**Dry Air : 36.5 L/min** at 87 psi separate in 2 way for POP and EGCM optic purge  
**N2 : 10L/min** at 65 psi @ 99.95% to supply monochromator gas
- \* **With or without integral oil free air compressor with noise reduction technology**
- \* **Auto start**
- \* **Alarm display with help menu**
- \* **Audible alarm sounder**
- \* **Outlet flow indicator**
- \* **Trend graphs for QA reporting**
- \* **Energy saving Mode**
- \* **Compressor over temperature alarm**

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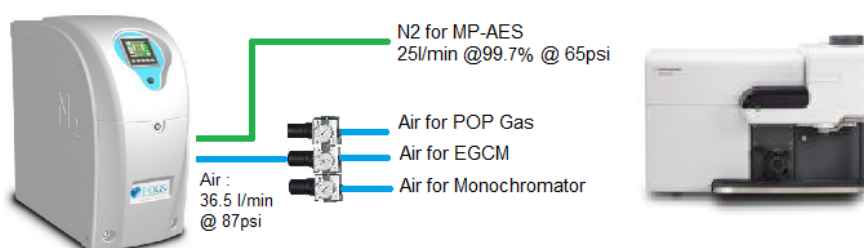
The MP/AES generator uses pressure swing adsorption technology (PSA) to produce pure gas.

This technique uses a bed of carbon molecular sieve (CMS) for N<sub>2</sub> part to selectively remove oxygen and other contaminants from atmospheric air and an alumina bed to remove particles, moisture and some hydrocarbons, resulting in a product stream of clean, dry, high purity pure air gas.

The bed alternates between purification and regeneration modes to ensure continuous N<sub>2</sub> and Air production.

The gas generator is designed to take compressed air at 8.5 barg from 2 integral oil free air compressors which is firstly pre filtered. This filtered compressed air stream is then passed to the beds currently in purification mode. Whilst passing through the bed, the oxygen, carbon dioxide, moisture and some hydrocarbons are removed from the compressed air.

### Configuration for organics analysis



### Configuration to purge the monochromator with N<sub>2</sub> to allow determination of sulfur :



### Technical Data

Ambient Temp range	5-35°C (41-95°F)
Maximum air Inlet Pressure	8.5 barg
Electrical Supply	220v a.c. / 1ph / 50-60Hz
	110v a.c. / 1ph / 50-60Hz
Outlet connections	G 1/4" (BSP) Female

Models	Flow rate				Purity		Outlet Pressure	Integral air compressor	Size H x W x D cm	Weight (Kg)
	MP-AES Gas N <sub>2</sub>	POP gas AIR	EGCM Gas AIR	Monochromator Purge gas	N <sub>2</sub>	AIR				
THYSTER-8/0-DF	25 L/min	25 l/min	1.5 l/min	Air 10 l/min	> 99.7%	Clean and dry	7 bar	No	78 x 43 x 88	110
THYSTER -8/1-DF	25 L/min	25 l/min	1.5 l/min	Air 10 l/min	> 99.7%	Clean and dry	7 bar	Yes	100 x 43 x 88	160
THYSTER -8/0	N/A	N/A	N/A	N <sub>2</sub> 10 l/min	> 99.95%	N/A	7 bar	No	78 x 43 x 77	65
THYSTER -8/1	N/A	N/A	N/A	N <sub>2</sub> 10 l/min	> 99.95%	N/A	7 bar	Yes	78 x 43 x 77	80



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