

Air Gas Purifier for Gas Chromatograph

# AGE-1000

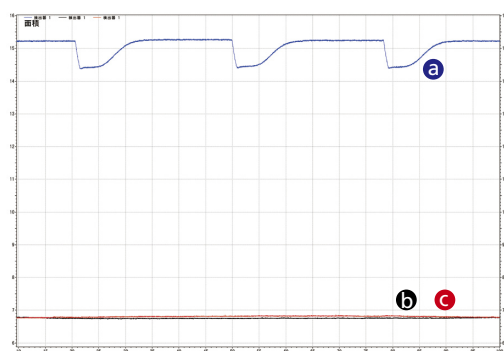
Compressed air becomes applicable to high-sensitivity capillary FID analysis  
 Refining high-purity air lower than  
 50ppb hydrocarbon concentration

## Taking Advantage of the World's Highest Sensitivity FID

If compressed air from an inexpensive compressor is used as a supporting gas for flame ionization detectors (FID) used in gas chromatographs, it not only increases background levels, but also causes baseline fluctuations that are synchronous with the compressor switching ON or OFF. Even though Shimadzu GC detectors offer high sensitivity, using this type of compressed air makes it difficult to achieve high-sensitivity analysis using a capillary column. However, an AGE-1000 air gas purifier can be used to remove hydrocarbons from compressor air in order to generate compressed air with hydrocarbon levels lower than Grade 1 high-purity gas (hydrocarbon concentration of 100 ppb). By reducing the hydrocarbon levels in compressed air, the AGE-1000 enables high-sensitivity GC-FID analysis equivalent to using expensive compressed air cylinders.



Comparison of baseline



### Evaluation Conditions

- Temperature: Oven 80 °C, FID 250 °C
- Flow Control Mode: Pressure
- FID Flow Rate: Air 400 mL/min, H2 40 mL/min, N2 30 mL/min
- FID Range: ×1
- Chromatogram Signal Output: Analog
- Response Speed: 50 msec

Note: Install a sealing plug at the FID column connection.  
 Note: The compressor startup interval is shortened.

### Connection Conditions

**a** Compressor → Silica gel filter → Air filter/regulator unit (400kPa) → High-performance GC GC-2010 Plus

**b** High-purity gas (Grade 1) → Pressure regulator (400kPa) → High-performance GC GC-2010 Plus

**c** Compressor → Air filter/regulator unit (400kPa) → Silica gel filter → High-performance GC GC-2010 Plus



## Specifications

Model	AGE-1000
Max. Air Flow Rate	1 L/min
Withstand Pressure	800 kPa
Pressure Loss	30 kPa (at maximum flow rate)
Hydrocarbon Processing Capacity	100 ppm max. (as methane)
Startup Time	Within 30 min (HC concentration: 50 ppb max.)
Safety Feature	Anti-overheating device
Pipe Connector Diameter	1/8 in. (3.17 mm) O.D., Tubing connector
Dimensions	W140 × D372 × H194 mm (excluding protrusions)
Weight	Approx. 5 kg
Power Requirements	115VAC ±10 % 50/60 Hz 3 A 220-230VAC ±10 % ±50/60 Hz 2 A

## Optional Parts

### Air Filter/Regulator

Compressed air from a compressor contains large amounts of moisture and contaminant particles. If used directly in a gas chromatograph, it can affect analytical results.

An air filter/regulator can be used to remove such water and contaminant particles from compressed air.

### Silica Gel Filter

If the compressed air supply contains high moisture levels, it can reduce the efficiency of the AGE-1000 hydrocarbon removal and lead to catalyst deterioration in the reactor. To ensure the AGE-1000 operates effectively, the compressed air must be dried using a silica gel filter.

Description	P/N
AGE-1000	221-74500-01
Compressor 100V*	221-72380
Air filter/regulator	221-56748-01
Silica gel filter	201-36688

\* Please use a transformer in areas other than 100V.

## Connection Example



Compressor



Air filter/regulator unit



Silica gel filter



AGE-1000



GC



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