

## Calibration gas preparation device

CGS-12

This device is a calibration gas preparation device of flow rate ratio mixing type intended for calibration of atmospheric sulfur dioxide analyzer, nitrogen oxide analyzer, carbon monoxide analyzer.

Built-in zero gas generator, suction the atmosphere and refine it to zero gas. The flow rate of the dilution gas (zero gas) is measured with a thermal flow meter, and the dilution ratio is made constant by our proprietary technology that controls the flow rate from the pressure and temperature of the component gas (standard gas). The concentration of span gas (calibration gas) can be arbitrarily set between 1/100 and 1 / 10,000 of the component gas concentration.

Moreover, it can automatically generate arbitrary time, arbitrary concentration, span gas by setting the program.

The enclosure is portable.



## Features

## ○Zero Gas Generator Built-in

The air is sucked with the built-in pump, dehumidified and purified to make it zero gas.

## ○Zero gas and span gas can be generated with a single touch

Zero gas can be generated with zero key and span gas can be generated simply by pressing span key.

## ○Span gas with good concentration can be obtained.

Set the span gas concentration. Calculation of dilution ratio is not necessary. Even if the component gas concentration is an odd value, span gas with a good concentration can be obtained.

## ○Density is displayed

Digital display of the span gas concentration being generated on the display.

## ○Gas test can be performed automatically by using three program functions.

There are three functions: step mode, linearity mode, repeat mode.

1) With step mode, any density can be generated for any time up to 10 steps.

2) With linearity mode, the maximum density is arbitrarily divided and up to zero gas is generated for an arbitrary time. Linearity test can be done automatically.

3) With repeat mode, span gas and zero gas are alternately generated for an arbitrary number of times for an arbitrary number of hours.

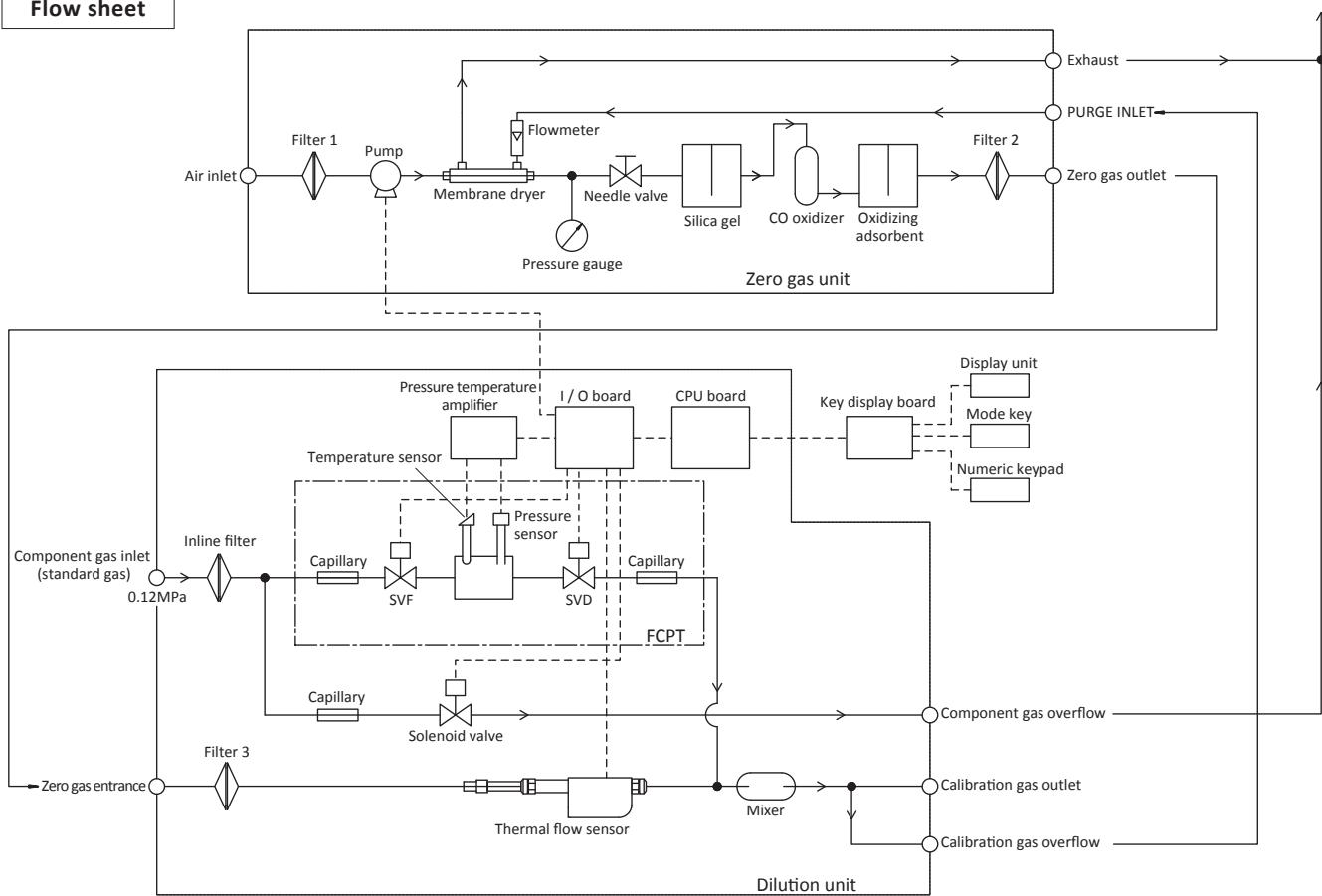
Repeatability test can be done automatically. You can set 5 programs each.

## ○The enclosure is narrow, and portable with a handle.

## Standard specification

Product name	: Calibration gas preparation device	Influence of power	: Concentration fluctuation within $\pm 1\%$
Model name	: CGS-12	supply voltage	against 10% voltage fluctuation
Measurement method	: Zero gas... Atmosphere refining method Calibration gas... Flow rate ratio mixed method	fluctuation	
Gases subject to dilution	: SO <sub>2</sub> , NO, CO (With respect to	Influence of ambient	: Density fluctuation within $\pm 2\%$ against
Zero gas purity	: SO <sub>2</sub> ... 0.001 ppm or less [ zero environmental NOx... 0.001 ppm or less [ standard gas with CO ..... 0.05 ppm or less JCSS) H <sub>2</sub> O... dew point 0 °C. or less	temperature	temperature change of 10 °C
Dilution ratio	: 1/100 to 1 / 10,000	Ambient temperature	: 5 to 35 °C
Generated concentration	: 2 ppm or less (CO; 50 ppm or less)	Power supply	: AC 100 V, 50/60 Hz
Generated flow rate	: 3.0±0.3L/min	Power consumption	: about 150 VA
Display method	: Digital display of generated density	Piping port	: Component gas inlet; PTFE $\varphi$ 3 fitting or Rc 1/8
Minimum unit of generated concentration	: 0.001 ppm		Calibration gas outlet; PTFE $\varphi$ 6 fitting or Rc 1/8
Response time	: Within 60 seconds (90% response)		Component gas exhaust; PP $\varphi$ 3 fitting or $\varphi$ 8 fitting or Rc 1/8
Stability	: Within $\pm 1\%$ / h		Exhaust; $\varphi$ 8 fitting
Linearity	: Within $\pm 2\%$		Atmospheric inlet; $\varphi$ 6 fitting
Repeatability	: within $\pm 1\%$		
Influence of component gas pressure fluctuation	: Concentration fluctuation within $\pm 1\%$ against 10% pressure fluctuation		

## Flow sheet

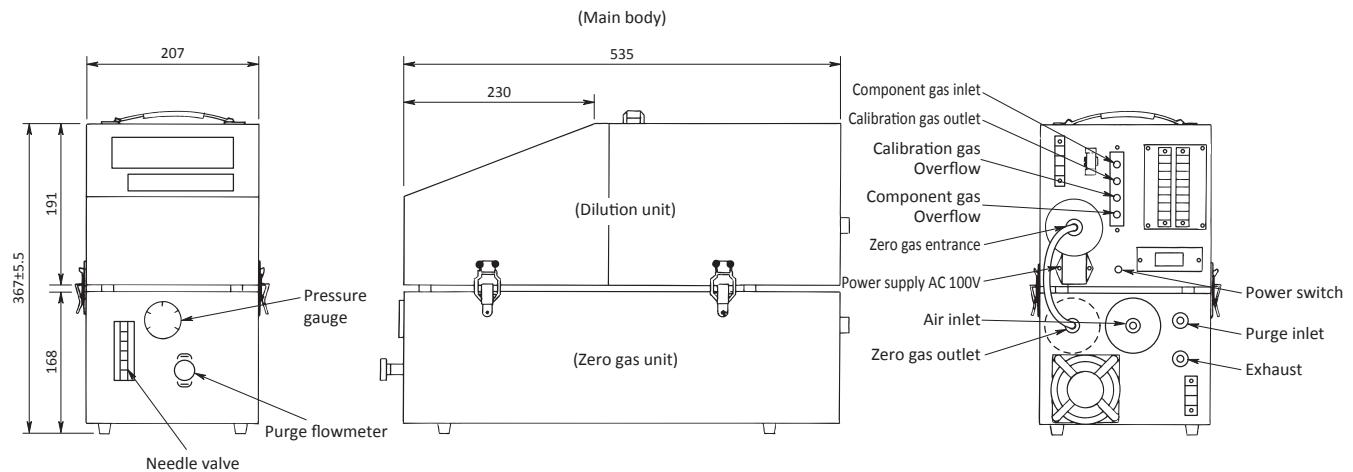


----- Electric wiring

— Gas piping

**Dimensions**

Unit : mm

**Product code**

CGS12-1-□□

	Power supply
1	AC 100V 50/60Hz
9	Special
	Language
A	Japanese (Standard)
B	English
Z	Other

Note: If the power supply voltage is other than 100 V, please order a step-down transformer separately. (Not built-in)

## Standard accessories

No.	Code	Product	Diagram	Quantity	Remarks
1	-----	Explanation		1	
2	-----	Inspection pass certificate		1	
3	118C009	Power Code		1	
4	118C504	Adapter (for power code)		1	
5	116D003	Teflon tube (φ2×φ3 white)		5m	
6	116D012	Teflon Tube (φ4×φ6 white)		5m	
7	116E022	Hyplen tube (φ7×φ11)		10m	
8	60318500	Plug (φ3)		1	At shipment Built-in main unit
9	60318600	Plug (φ6)		4	At shipment Two built-in main unit
10	60318700	Plug (φ8)		4	At shipment One built-in main unit
11	6105360K	Exhaust tube Assy		1	At shipment Buuilt-in main unit
12	117B014	Different diameter union (φ6-φ3)		1	



**DKK-TOA CORPORATION**



Please read the operation manual carefully  
before using producuts.

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