

# TECHNICAL GUIDANCE

Circumferentially sealed, low-leakage purgometer for measuring gases and liquids

## P-810 Purgometer

### OUTLINE

The P-810 is ideal for measuring the flow rates of various gases in semiconductor production. High reliability is ensured by circumferential seals. The P-810 has a solid track record in applications with various devices. Electrolytically polished models with low leakage are also available.

### MAJOR APPLICATIONS

Gas flow measurement in semiconductor production equipment, especially for low-leakage lines

### STANDARD SPECIFICATIONS

Measuring fluid	Gases Liquid (Equivalent to water: Density 1.0 g / cm <sup>3</sup> , Viscosity 1.0 mPa·s)	
Measuring range	Air	Min. 5 to 50 mL/min (nor) Max. 6 to 60 L/min (nor)
	Water	Min. 5 to 50 mL/min Max. 0.2 to 2 L/min
	• When selecting a flow range, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).	
Range ability	10 : 1	
Indication accuracy	± 3% F.S.	
Fluid pressure	Max. 0.8 MPa	
Fluid temperature	Max. 120°C (Depends on the gasket material)	
Material	Wetted part	SCS14 (Standard), SUS316 (Electrolytically polished)
	Tapered tube	Heat-resistant glass
	Gasket	Fluoro rubber (Max. 120°C) Chloroprene rubber (Max. 80°C) • The maximum fluid temperature for each gasket material may vary depending on usage and ambient conditions.
	Mounting plate	SUS304
	Cover	Transparent PVC
Process Connection	Rc : 1/4" (Standard), 1/8" NPT : 1/4", 1/8" SW : 1/4", 3/8" VCR : 1/4", 3/8"	
Mounting	Lock nut mount on the panel front (Standard) Bezel mounting	
Mass	approx. 0.6 kg	

### ALARM CONTACT AND OUTPUT

Type	Availability
Reed switch type alarm unit	General
	UL-approved
PAU optical alarm unit	

For CE approval, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).

### STANDARD FLOW RATE TABLE

When the fluid pressure is other than 0 MPa, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).

For alarm output codes of 0 or E	
Air (0°C, 0 MPa)	Water
5 to 50 mL/min (nor)	
10 to 100 mL/min (nor)	
20 to 200 mL/min (nor)	
30 to 300 mL/min (nor)	
50 to 500 mL/min (nor)	
0.1 to 1 L/min (nor)	
0.2 to 2 L/min (nor)	5 to 50 mL/min
0.3 to 3 L/min (nor)	10 to 100 mL/min
0.5 to 5 L/min (nor)	20 to 200 mL/min
1 to 10 L/min (nor)	30 to 300 mL/min
2 to 20 L/min (nor)	50 to 500 mL/min
3 to 30 L/min (nor)	0.1 to 1 L/min
5 to 50 L/min (nor)	0.15 to 1.5 L/min
6 to 60 L/min (nor)	0.2 to 2 L/min

Although other flow rate specifications are available, some flow ranges need to be changed. Contact us for details.



### BASIC MODEL CODE

P-81	Model Code	Descriptions	Notes
Face-to-face dimension	3	Standard (224mm)	
Valve	— 0	Not provided	Refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).
	— 1	Bellevue valve at the outlet	
	— 2	Bellevue valve at the inlet	
	— 3	Needle valve at the outlet	
	— 4	Needle valve at the inlet	
	— Z	Special	
Alarm output	0	Not provided	Refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).
	E	PAU alarm unit provided	
	Z	Special	
Wetted parts material	— 6	SCS14 (Standard)	Selectable when the connection type code is V *
	— E	SUS316 (Electrolytically polished)	
	— Z	Special	
Gasket material	F	Fluoro rubber (Standard)	Select this code for ammonia gas.
	C	Chloroprene rubber (CR)	
	Z	Special	
Process connection type	— R	Rc (Standard)	Bezel mounting is available. For details, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).
	— N	NPT female	
	— S	SW	
	— V	VCR	
	— Z	Special	
Process connection size	1	1/8"	Selectable when the connection type code is R or N
	2	1/4" (Standard)	
	3	3/8"	Selectable when the connection type code is S or V
	Z	Special	

\* When connection type code V is not selected, the fitting parts cannot be electrolytically polished.

### OTHER AVAILABLE OPTIONS

You can specify the following options:  
Double graduations, special graduations, with/without a stand, built-in rubber fitting type, various fitting types, etc.  
For details, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).

## ORDERING INFORMATION

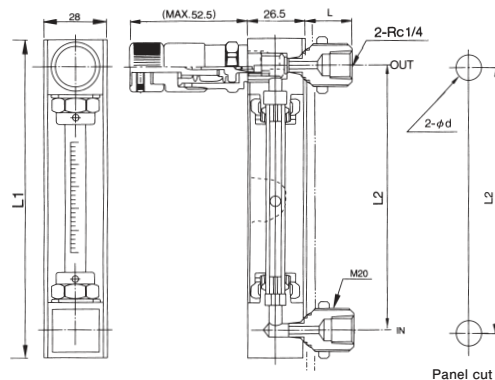
Basic model code	Items to be specified
P-813-□□-□□-□□	① Fluid name — ② Flow range — ③ Press. — ④ Temp. — ⑤ Mounting option — ⑥ Other options
(Select in the model code table.)	(Refer to "Index & Quick Reference for P Series Purgemeters" (TG-S0001).)

## DIMENSIONS

## ● Standard type

P-813-10-6F-R2

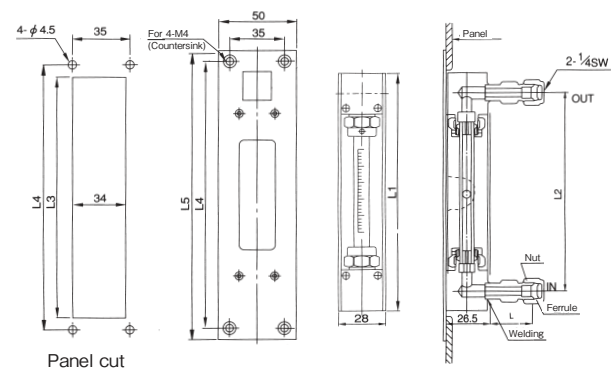
- Lock nut mounting on the panel front
- Valve at the outlet (bellows valve)



## ● Bezel mounting type

P-813-00-6F-S2

- Bezel mounting (Mounting option code: D)
- Without a valve



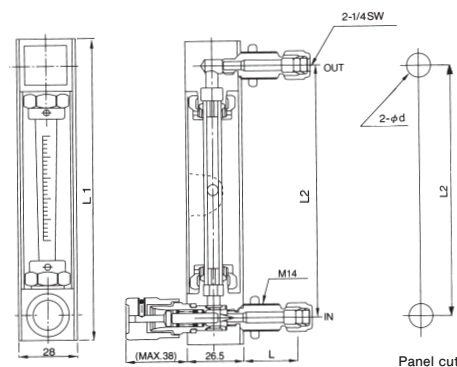
## Panel cut size

Connection size	Diameter (d) (mm)	Rear length L (mm)
Rc1/8, 1/8NPT	16	(20.5)
Rc1/4, 1/4NPT	22	(20.5)
1/4 SW	16	(28)
3/8 SW	22	(30)
1/4 VCR	22	(30)
3/8 VCR	32	(34.5)

## ● Standard type

P-813-40-6F-S2

- Lock nut mounting on the panel front
- Valve at the inlet (needle valve)



## Dimension table

Model	Dimension (mm)				
	L1	L2	L3	L4	L5
P-813	249	224	254	265	280

## ● Standard material

Parts name	Standard material	Available material
Body	○ SCS14	SUS316
Tapered tube	○ Heat-resistant glass	—
Float *	○ SUS316, Glass, Ruby	—
Packing	○ Fluoro rubber	Chloroprene rubber (CR)
Packing press	○ SUS316	—
Fitting	○ SUS316	—
Valve	○ SUS316	—
Mounting plate	SUS304	—
Cover	Transparent PVC	—

Parts marked "○" come in contact with the measuring fluid.

\* We will select a proper material for your application.

· SUS316 may be used instead of SUS304 due to production reasons.

· ASTM or AISI materials equivalent to JIS materials may be used due to production reasons.

\* Specification is subject to change without notice.

# TOKYO KEISO CO., LTD.

Head Office : Shiba Toho Building, 1-7-24 Shibakoen, Minato-ku, Tokyo 105-8558

Tel : +81-3-3431-1625 (KEY) ; Fax : +81-3-3433-4922

e-mail : overseas.sales@tokyokeiso.co.jp ; URL : https://www.tokyokeiso.co.jp