TECHNICAL GUIDANCE

Standard type purgemeter for measuring liquids and gases

P-100
Purgemeter

■ OUTLINE

P-100 is a standard type purgemeter suitable for measuring both liquids and gases, covering a wide range from built-in use for equipment to purging industrial processes, and is widely used in various industries. PTFE packing is available.

■ MAJOR APPLICATIONS

Built-in use for general-purpose equipment (small flow rate)

■ STANDARD SPECIFICATIONS

Measuring fluid		Liquids and gases	
Measuring range	Air	Min. 0.5 to 5 mL/min (nor) Max. 5 to 50 L/min (nor)	· Air at 0°C, 0 MPa (1 atm) · When selecting a flow range, see the standard flow rate table.
	Water	Min. 5 to 50 mL/min Max. 0.4 to 2 L/min	· When the operating pressure is other than 0 MPa, see Index & Quick Reference for P Series Purgemeters (TG-S0001).
Range ability		10:1	10:2 for some models
Indication accuracy		±5% F.S.	
Fluid pressure		Max. 0.8 MPa	Up to 0.5 MPa for models with a PTFE packing
Fluid temperature		Max. 80°C (120°C)	Depending on packing material
Material	Wetted part	SUS304	SUS316 available
	Tapered tube	Heat-resistant glass	
	Packing	NBR (max. 80°C)	FPM (max. 120°C), CR (max. 80°C), PTFE (max. 120°C), EPDM (max. 80°C) available
	Support	Aluminum	
	Cover	Polycarbonate	
Connection	Standard	Rc1/4	Rc1/8, NPT1/4, NPT1/8 available
Mounting	Standard	Lock nut mount on the panel front	See ordering information for details. Panel-rear installation, bezel installation, or installation with a stand can be specified.
Mass (standard type)		0.5 kg	

* The maximum operating temperature for each material may vary depending on usage and ambient conditions.

■ ALARM CONTACT AND OUTPUT

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

For CE approval, see Index & Quick Reference for P Series Purgemeters (TG-S0001).

■ STANDARD FLOW RATE TABLE

When the operating pressure is different from 0 MPa, see Index & Quick Reference for P Series Purgemeters (TG-S0001).

For alarm output codes of 0 or E		For alarm output codes of A to D			
Air (0 MPa, 0°C)	Water*5	Air (0°C, 0 MPa)	Alarm setting range	Water*5	Alarm setting range
0.5 to 5 mL/min (nor)					
1 to 10 mL/min (nor)					
2 to 20 mL/min (nor)					
3 to 30 mL/min (nor)					
5 to 50 mL/min (nor)					
10 to 100 mL/min (nor)					
20 to 200 mL/min (nor)*4					
30 to 300 mL/min (nor)					
50 to 500 mL/min (nor)					
0.1 to 1 L/min (nor)*3	5 to 50 mL/min				
0.2 to 2 L/min (nor)	10 to 100 mL/min				
0.3 to 3 L/min (nor)	20 to 200 mL/min				
0.5 to 5 L/min (nor)	30 to 300 mL/min				
1 to 10 L/min (nor)	50 to 500 mL/min	1 to 10 L/min (nor)*2	2 to 8 L/min (nor)	50 to 500 mL/min	100 to 400 mL/min
2 to 20 L/min (nor)	0.1 to 1 L/min*1	3 to 15 L/min (nor)	3 to 12 L/min (nor)	0.1 to 1 L/min	0.2 to 0.8 L/min
3 to 30 L/min (nor)	0.3 to 1.5 L/min	6 to 30 L/min (nor)	6 to 24 L/min (nor)		
5 to 50 L/min (nor)	0.4 to 2 L/min	8 to 40 L/min (nor)	8 to 32 L/min (nor)		

Although other flow rate specifications are available, some flow ranges need to be changed. Contact us for details.
*1 For flow rates over 1 L/min, rangeability will be 10:2.
*2 For flow rates over 10 L/min (nor), rangeability will be 10:2.
*3 For purgemeters with PTFE packing for flow rates of less than 1 L/min (nor), models with a valve are not available.
*4 For flow rates of less than 150 mL/min (nor), models with the alarm code E are not available.
*5 The viscosity of liquid is up to 1.0 mPa·s.

■ BASIC MODEL CODE

Flow direction	Valve	Alarm output	Wetted parts material	Packing material	Connection type	Connection size	Code	Description
P-10	0	-L	0	-4	N	-R	2	
							1	1/8
							2	1/4 (Standard)
							Z	Special
						R		Rc thread (Standard) — Lock nut mounting on a panel front.
						N		NPT thread — For other mounting options, see Index & Quick Reference for P Series Purgemeters (TG-S0001).
						Z		Special
					N			NBR (Standard)
					C			CR — Select this for ammonia gas.
					F			FPM
					E			EPDM
					T			PTFE — Only for models with an SUS316 wetted part
					Z			Special
				4				SUS304 (Standard)
				6				SUS316
				Z				Special
			0					Not provided
			A					Reed switch alarm (LO)
			B					Reed switch alarm (LC)
			C					Reed switch alarm (HO) — See Index & Quick Reference for P Series Purgemeters (TG-S0001).
			D					Reed switch alarm (HC)
			E					PAU alarm unit provided
			Z					Special
		0						Not provided
		L						Bottom (gas for atmospheric pressure scale) — See Index & Quick Reference for P Series Purgemeters (TG-S0001).
		U						Top (gas for pressure scale or for negative pressure on the secondary side)
		Z						Special
	0							Bottom rear → Top rear (Standard) — Select this code for normal conditions.
	1							Bottom-top — A valve will be installed externally.
	9							Special

■ OTHER AVAILABLE OPTIONS

You can specify the following options:
length of reed switch lead wire, double graduations (depending on specifications; contact us for details), special graduations, built-in check valve type, built-in valve lock mechanism type, rubber joint type, other joint types, etc. For details, see Index & Quick Reference for P Series Purgemeters (TG-S0001).
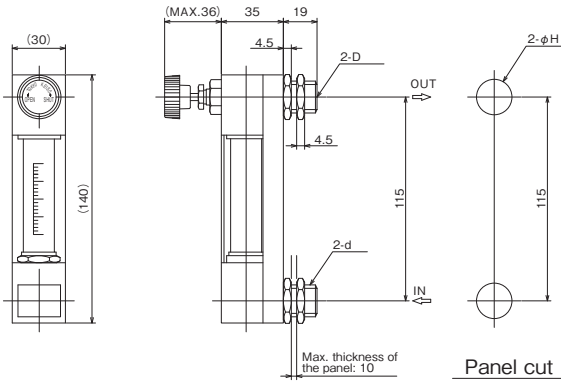
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■ ORDERING INFORMATION

Basic model code	Items to be specified					
	①	②	③	④	⑤	⑥
P -10□ - □□ - □□ - □□	Fluid name	Flow range	Press.	Temp.	Mounting option	Other options
(Select in the model code table.)	(See Index & Quick Reference for P Series Purgemeters (TG-S0001).)					

■ DIMENSIONS

● Standard type
P ─ 100 ─ U0 ─ 4N ─□□
■ Lock nut mounting on the panel front
■ Valve at the outlet

Panel cut

● Panel-rear installation type
P ─ 100 ─ U0 ─ 4N ─□□
■ Panel-rear installation (Mounting option code: C)
■ Valve at the outlet

Panel cut
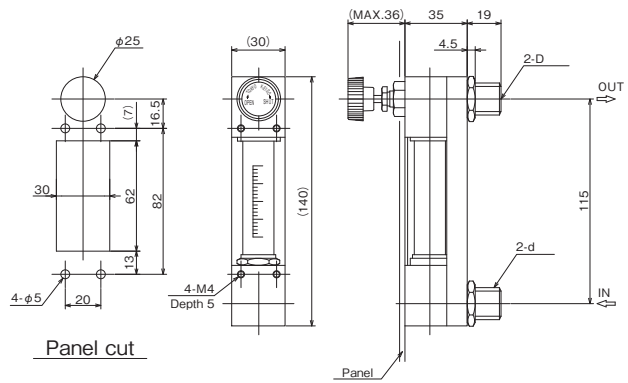
● Bezel installation type
P ─ 100 ─ L0 ─ 4N ─□□
■ Bezel installation (option code: D)
■ Valve at the inlet

Panel cut
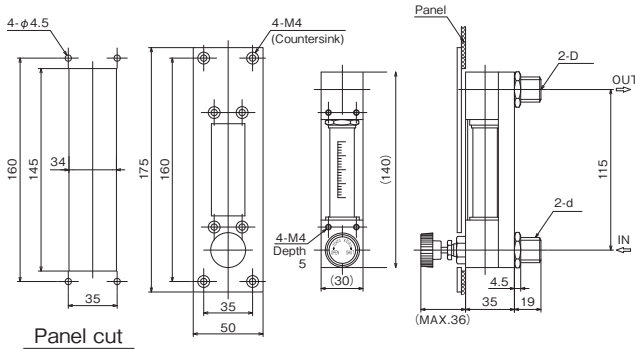
● Standard material

Parts name		Standard material	Available material
Support		Aluminum	—
Wetted part	○	SUS304	SUS316
Tapered tube	○	Heat-resistant glass	
Float*	○	SUS316, Glass, PTFE, Ruby	—
Packing	○	NBR	FPM, CR, EPDM, PTFE
Fitting	○	SUS304	SUS316
Valve	○	SUS304	SUS316
Cover		Polycarbonate	—

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 AIS materials equivalent to JIS materials may be used due to production reasons.

● Panel cut dimension

Connection size		Diameter (mm)
D	d	H
Rc 1/8	M14	16
NPT1/8	M14	16
Rc 1/4	M18	20
NPT1/4	M18	20

Note: Use non-magnetic material for the panel when the alarm output code is one of A to D.

* Specification is subject to change without notice.

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