

Metal-body purgometer for measuring large flow rates
of liquids and gases

P-510 Purgometer

OUTLINE

The P-510 is a purgometer for large flow rates with the same face-to-face dimension as the P-200 for small flow rates.

MAJOR APPLICATIONS

General purpose (large flow rate)

STANDARD SPECIFICATIONS

| | | |
|--|--|---|
| Measuring fluid | Gases Liquids | |
| Measuring range | Air | Min. 2.5 to 25 L/min (nor) Max. 60 to 600 L/min (nor) |
| | Water | Min. 0.1 to 1 L/min Max. 3 to 30 L/min |
| • When selecting a flow range, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001). • When selecting a flow range, refer to the standard flow rate table | | |
| Range ability | 10 : 1 | |
| Indication accuracy | ±5% F.S. | |
| Fluid pressure | Max. 0.8MPa | |
| Fluid temperature | Max. 120°C (Depends on the gasket material) | |
| Material | Wetted part | SCS14/SUS304, SCS14/SUS316 |
| | Tapered tube | Heat-resistant glass |
| | Gasket | Nitrile rubber (NBR) (Max. 80°C) Chloroprene rubber (CR) (Max. 80°C) Fluoro rubber (Max. 120°C) Ethylene-propylene rubber (EPDM) (Max. 80°C) |
| | | • The maximum fluid temperature for each gasket material may vary depending on usage and ambient conditions. |
| Mounting plate | SPCC, C2801P, SUS304 | |
| Cover | Acryl | |
| Process Connection | Rc | : 3/8"(Standard), 1/2", 3/4", 1" |
| | NPT | : 3/8", 1/2", 3/4", 1" |
| Mounting | SW | : 3/8" |
| | VCR | : 3/8", 1/2", 3/4" |
| | Flange | : 10A, 15A, 20A, 25A |
| | Screw (M3) mount on panel front (Standard) Lock nut mount on panel front (Standard) Bezel mounting Panel embedded mounting Flange connection With stand | |
| Mass | approx. 1.6 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 (OMPa,0°C) | Pressure loss(kPa) ^{☆1} | Water | |
| 2.5 to 25 L/min (nor) | 3 or less | | |
| 3 to 30 L/min(nor) | 3 or less | 0.1 to 1 L/min | |
| 5 to 50 L/min (nor) | 5 or less | 0.2 to 2 L/min | |
| 10 to 100 L/min (nor) | 16 or less | 0.3 to 3 L/min | |
| 20 to 200 L/min (nor) | 15 or less | 0.5 to 5 L/min | |
| 30 to 300 L/min (nor) | 16 or less | 1 to 10 L/min | |
| 40 to 400 L/min (nor) | 25 or less | 1.5 to 15 L/min | |
| 50 to 500 L/min (nor) | 40 or less | 2 to 20 L/min | |
| 60 to 600 L/min (nor) | 60 or less | 3 to 30 L/min ^{☆3} | |

| For Alarm output codes of A to D | | | | |
|-----------------------------------|----------------------------------|------------------------|------------------------------|---------------------|
| Air (OMPa,0°C) | Pressure loss(kPa) ^{☆1} | Alarm setting range | Water | Alarm setting range |
| 5 to 50 L/min (nor) ^{☆2} | 3 or less | 10 to 40 L/min (nor) | 0.2 to 2 L/min ^{☆2} | 0.4 to 1.6 L/min |
| 10 to 100 L/min (nor) | 5 or less | 20 to 80 L/min (nor) | 0.3 to 3 L/min | 0.6 to 2.4 L/min |
| 20 to 200 L/min (nor) | 15 or less | 40 to 160 L/min (nor) | 0.5 to 5 L/min | 1 to 4 L/min |
| 30 to 300 L/min (nor) | 16 or less | 60 to 240 L/min (nor) | 1 to 10 L/min | 2 to 8 L/min |
| 40 to 400 L/min (nor) | 25 or less | 80 to 320 L/min (nor) | 1.5 to 15 L/min | 3 to 12 L/min |
| 50 to 500 L/min (nor) | 40 or less | 100 to 400 L/min (nor) | 2 to 20 L/min | 4 to 16 L/min |
| 60 to 600 L/min (nor) | 60 or less | 120 to 480 L/min (nor) | 3 to 30 L/min ^{☆3} | 6 to 24 L/min |

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

Low pressure loss type of production and I are available. Contact us for details.

Pressure loss of liquid, please contact.

☆ 1 : It becomes the pressure loss during the valve fully open

☆ 2 : float material is the PVC

☆ 3 : It will be manufactured only viscosity 1.0 mPa · s



BASIC MODEL CODE

| P-51 | Model Code | | | | | | | Descriptions | Notes | |
|-----------------------|------------|-------------------------|-------------------------|---|---|---|---|--|---|--|
| | 0 | 1 | 9 | 0 | L | U | Z | | | |
| Flow direction | 0 | | | | | | | Bottom rear → Top rear (Standard) | Select this code for normal conditions | |
| | 1 | | | | | | | Bottom → Top | A valve will be installed externally | |
| | 9 | | | | | | | Special | | |
| Valve | — 0 | | | | | | | Not provided | | |
| | — L | | | | | | | Inlet (gas for atmospheric pressure scale) | Refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001). | |
| | — U | | | | | | | Outlet (gas for pressure scale or for negative pressure on the secondary side) | | |
| | — Z | | | | | | | Special | | |
| Alarm output | 0 | | | | | | | Not provided | | |
| | A | | | | | | | Reed switch (LO) | | |
| | B | | | | | | | Reed switch (LC) | | |
| | C | | | | | | | Reed switch (HO) | Refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001). | |
| | D | | | | | | | Reed switch (HC) | | |
| | E | | | | | | | PAU alarm unit provided | | |
| Wetted parts material | — 4 | | | | | | | SCS14/SUS304 (Standard) | | |
| | — 6 | | | | | | | SCS14/SUS316 | | |
| | — Z | | | | | | | Special | | |
| Gasket material | N | | | | | | | Nitrile rubber (NBR) (Standard) | | |
| | C | | | | | | | Chloroprene rubber (CR) | Select this code for ammonia gas. | |
| | F | | | | | | | Fluoro rubber | | |
| | E | | | | | | | Ethylene-propylene rubber (EPDM) | | |
| | Z | | | | | | | Special | | |
| Process connection | — R | 3 | Rc3/8 (Standard) | | | | | Screw (M3) mount on panel front or flange connection. | | |
| | | 4 | Rc1/2 | | | | | Only *1*(bottom → up) can be specified for the flow direction. | | |
| | | 5 | Rc3/4 | | | | | | | |
| | — L | 3 | Rc3/8 | | | | | | | |
| | | 4 | Rc1/2 | | | | | | Lock nut mounting on panel front. | |
| | | 5 | Rc3/4 | | | | | | | |
| | — N | 3 | 3/8NPT | | | | | | Screw (M3) mount on panel front or flange connection. | |
| | | 4 | 1/2NPT | | | | | | Only *1*(bottom → up) can be specified for the flow direction. | |
| | | 5 | 3/4NPT | | | | | | | |
| | — M | 3 | 3/8NPT | | | | | | | |
| | | 4 | 1/2NPT | | | | | | | |
| | | 5 | 3/4NPT | | | | | | Lock nut mounting on panel front. | |
| — S | 3 | 3/8SW | | | | | | | | |
| | 3 | 3/8VCR | | | | | | | | |
| | 4 | 1/2VCR | | | | | | | | |
| — V | 5 | 3/4VCR | | | | | | Screw (M3) mount on panel front or flange connection. | | |
| | — Z | 3 | Flange connection (10A) | | | | | | | |
| | | 4 | Flange connection (15A) | | | | | | | |
| 5 | | Flange connection (20A) | | | | | | Specify a standard separately. | | |
| | 6 | Flange connection (25A) | | | | | | | | |
| | Z | Special | | | | | | | | |

OTHER AVAILABLE OPTIONS

You can specify the following options:

Two-point alarm, alarm setting on the front face, length of reed switch lead wire, double graduations, special graduations, rubber joint type, other joint types, etc. For details, refer to "Index & Quick Reference for P Series Purgometers" (TG-S0001).

ORDERING INFORMATION

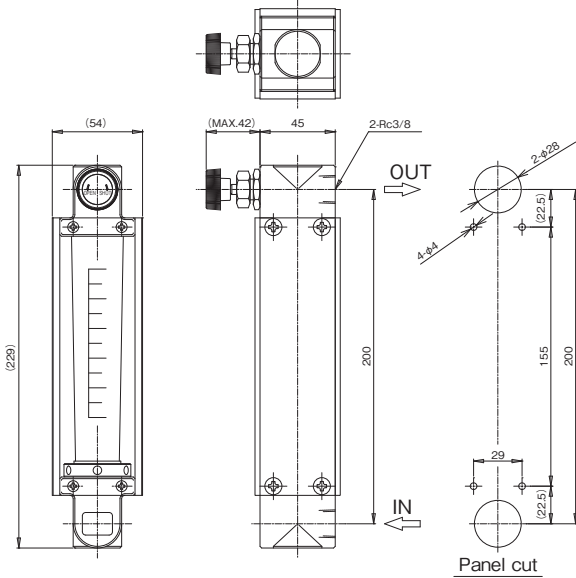
| | |
|-----------------------------------|--|
| Basic model code | Items to be specified |
| P-51 □ - □□ - □□ - □□ | ① Fluid name - ② Flow range - ③ Press. - ④ Temp. - ⑤ Mounting option - ⑥ Other options |
| (Select in the model code table.) | (Refer to "Index & Quick Reference for P Series Purgemeters" (TG-S0001).) |

DIMENSIONS

● Standard typ

P - 510 - U0 - 4N - R3

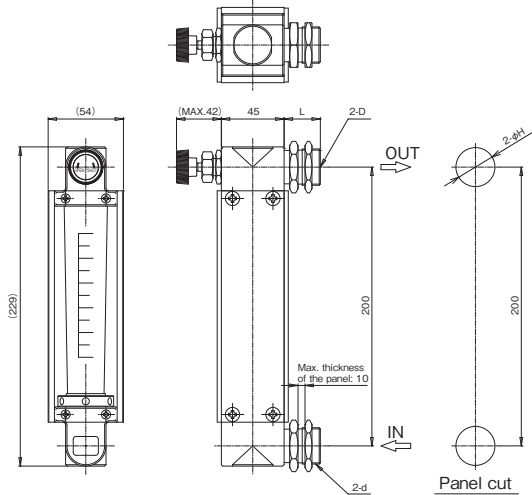
■ Screw (M3) mount on the panel front ■ Valve at the outlet



● Panel mount type

P - 510 - U0 - 4N - L3

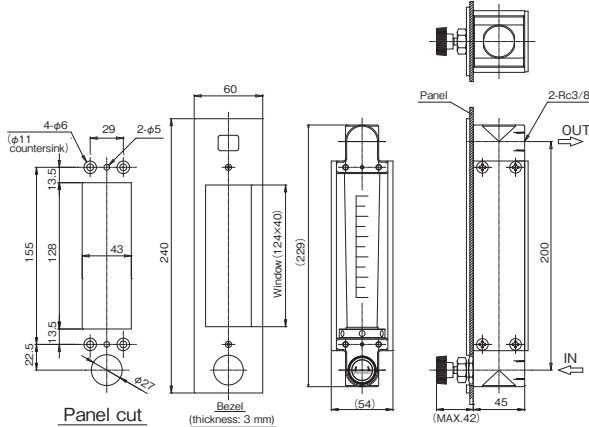
■ Lock nut mounting on the panel front ■ Valve at the outlet



● Bezel installation type

P - 510 - L0 - 4N - R3

■ Bezel installation (Mounting option code: D)
■ Valve at the inlet



● Standard material

| Parts name | Standard material | Available material |
|--------------------|------------------------|--|
| Body | ○ SCS14 | - |
| Tapered tube | ○ Heat-resistant glass | - |
| Float * 1 | ○ SUS304,PTFE | SUS316 |
| Gasket | ○ Nitrile rubber (NBR) | Fluoro rubber, Chloroprene rubber (CR), Ethylene-propylene rubber (EPDM) |
| Spindle | ○ SUS304 | SUS316 |
| Valve | ○ SUS304 | SUS316 |
| Mounting plate * 2 | SPCC | SUS304 |
| Cover | Acryl | - |

Parts marked "○" come in contact with the measuring fluid.
* 1 We will select a proper material for your application.
* 2 C2801P is used when the alarm output code is one of A to D.
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.

● Panel cut dimensions

For the panel mount type, hole diameters vary depending on connection sizes and standards. For specific dimensions, see the table below.

| Connection size | | Dia-meter | Rear length | Connection size | | Dia-meter | Rear length |
|-----------------|-----|-----------|-------------|-----------------|-----|-----------|-------------|
| D | d | H | L | D | d | H | L |
| Rc3/8 | M26 | 28 | 26 | Rc3/4 | M36 | 38 | 28 |
| 3/8NPT | M26 | 28 | 26 | 3/8SW | M20 | 22 | (34) |
| Rc1/2 | M30 | 32 | 26 | 3/8VCR | M28 | 32 | (38) |
| 1/2NPT | M30 | 32 | 26 | 1/2VCR | M28 | 32 | (38) |

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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