### OUTLINE

The P-510 is a purgemeter 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

<table>
<thead>
<tr>
<th>Measuring fluid</th>
<th>Gases</th>
<th>Liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>Air</td>
<td>Min. 2.5 to 25 L/min (nor) Max. 60 to 600 L/min (nor) Air at 0°C, 0 MPa (1atm)</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>Min. 0.1 to 1 L/min Max. 3 to 30 L/min Water with a density of 1.0 g/cm(^2) and viscosity of 1.0 mPa s</td>
</tr>
</tbody>
</table>

- When selecting a flow range, refer to "Index & Quick Reference for P Series Purgemeters" (TG-S0001).
- When selecting a flow range, refer to the standard flow rate table.

<table>
<thead>
<tr>
<th>Range ability</th>
<th>10:1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication accuracy</td>
<td>±5% F.S.</td>
</tr>
<tr>
<td>Fluid pressure</td>
<td>Max. 0.8MPa</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>Max. 120°C (Depends on the gasket material)</td>
</tr>
</tbody>
</table>

**Material**

- Wetted part: SCS14/SUS304 (Standard), 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**


**Mounting**

- Screw (M3) mount on panel front (Standard)
- Lock nut mount on panel front
- Bezel mounting
- Panel embedded mounting
- Flange connection
- With stand

**Mass**: approx. 1.6 kg

### STANDARD FLOW RATE TABLE

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

<table>
<thead>
<tr>
<th>Air (OMPa,°C)</th>
<th>Pressure loss (kPa)</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 to 25 L/min (nor)</td>
<td>3 or less</td>
<td></td>
</tr>
<tr>
<td>3 to 30 L/min (nor)</td>
<td>3 or less</td>
<td>0.1 to 1 L/min</td>
</tr>
<tr>
<td>5 to 50 L/min (nor)</td>
<td>5 or less</td>
<td>0.2 to 2 L/min</td>
</tr>
<tr>
<td>10 to 100 L/min (nor)</td>
<td>16 or less</td>
<td>0.3 to 5 L/min</td>
</tr>
<tr>
<td>20 to 200 L/min (nor)</td>
<td>15 or less</td>
<td>0.5 to 5 L/min</td>
</tr>
<tr>
<td>30 to 300 L/min (nor)</td>
<td>16 or less</td>
<td>1 to 10 L/min</td>
</tr>
<tr>
<td>40 to 400 L/min (nor)</td>
<td>25 or less</td>
<td>1.5 to 15 L/min</td>
</tr>
<tr>
<td>50 to 500 L/min (nor)</td>
<td>40 or less</td>
<td>2 to 20 L/min</td>
</tr>
<tr>
<td>60 to 600 L/min (nor)</td>
<td>60 or less</td>
<td>3 to 30 L/min</td>
</tr>
</tbody>
</table>

**Alarm output codes of 0 or E**

- Air (OMPa,°C) | Pressure loss (kPa) | Alarm setting range | Water | Alarm setting range |
- 5 to 50 L/min (nor) | 3 or less | 10 to 40 L/min (nor) | 0.2 to 2 L/min | 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 | 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

### ALARM CONTACT AND OUTPUT

<table>
<thead>
<tr>
<th>Type</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reed switch type alarm unit</td>
<td>General ○</td>
</tr>
<tr>
<td>UL-approved</td>
<td>○</td>
</tr>
<tr>
<td>PAU optical alarm unit</td>
<td>○</td>
</tr>
</tbody>
</table>

For CE approval, refer to "Index & Quick Reference for P Series Purgemeters" (TG-S0001).
### BASIC MODEL CODE

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Descriptions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-51</td>
<td>Bottom rear → Top rear (Standard)</td>
<td>Select this code for normal conditions.</td>
</tr>
</tbody>
</table>

**Valve**

- G: Not provided
- L: Inlet (gas for atmospheric pressure scale)
- U: Outlet (gas for pressure scale or for negative pressure on the secondary side)

**Alarm output**

- 0: Not provided
- A: Reed switch (LO)
- B: Reed switch (LC)
- C: Reed switch (HO)
- D: Reed switch (HC)
- E: PAU alarm unit provided

**Wetted parts material**

- 4: Nitrile rubber (NBR) (Standard)
- 6: SCS14/SUS316

**Gasket material**

- N: Nitrile rubber (NBR) (Standard)
- C: Chloroprene rubber (CR)
- F: Fluoro rubber
- E: Ethylene-propylene rubber (EPDM)

**Process connection**

- R: Screw (M3) mount on panel front or piping installation
  - 2: Rc 1/4" (With R 3/8" × Rc 1/4" adapter)
  - 3: Rc 3/8" (Standard)
  - 4: Rc 1/2" (With R 3/8" × Rc 1/2" adapter)
  - 5: Rc 3/4" (With R 3/8" × Rc 3/4" adapter)
  - 6: Rc 1" (With R 3/8" × Rc 1" adapter)
- L: Lock nut mounting on panel front
  - 2: Rc 1/4" (With R 3/8" × Rc 1/4" adapter)
  - 3: Rc 3/8"
  - 4: Rc 1/2"
  - 5: Rc 3/4"
  - 6: Rc 1" (With R 3/8" × Rc 1" adapter)
- N: Screw (M3) mount on panel front or piping installation
  - 2: NPT 1/4" (F) (With R 3/8" × NPT 1/4" (F) adapter)
  - 3: NPT 3/8" (F)
  - 4: NPT 1/2" (F) (With R 3/8" × NPT 1/2" (F) adapter)
  - 5: NPT 3/4" (F) (With R 3/8" × NPT 3/4" (F) adapter)
  - 6: NPT 1" (F) (With R 3/8" × NPT 1" (F) adapter)
- M: Lock nut mounting on panel front
  - 2: NPT 1/4" (F) (With R 3/8" × NPT 1/4" (F) adapter)
  - 3: NPT 3/8" (F)
  - 4: NPT 1/2" (F)
  - 5: NPT 3/4" (F)
  - 6: NPT 1" (F) (With R 3/8" × NPT 1" (F) adapter)
- S: Screw (M3) mount on panel front or piping installation
  - 3: 3/8" SW
  - 4: 1/2" VCR
  - 5: 3/4" VCR
- V: Special
- Z: Special

**Connection standard, rating & flange face**

- JR: JIS 10K RF
- JT: JIS 10K FF
- AA: ASME Class 150 RF
- AF: ASME Class 150 FF
- PR: JPI Class 150 RF
- PF: JPI Class 150 FF
- ZR: Special (RF)
-ZF: Special (FF)

**Connection size**

- 3: 10A
- 4: 15A (1/2)
- 5: 20A (3/4)
- 6: 25A (1)

### 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 Purgemeters" (TG-S0001).
### 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 Purgemeters" (TG-S0001).
<table>
<thead>
<tr>
<th>ORDERING INFORMATION</th>
</tr>
</thead>
</table>

### Basic model code

<table>
<thead>
<tr>
<th>Fluid name</th>
<th>Flow range</th>
<th>Press.</th>
<th>Temp.</th>
<th>Mounting option</th>
<th>Other options</th>
</tr>
</thead>
</table>

(Select in the model code table.)

(Refer to "Index & Quick Reference for P Series Purge meters" (TG-S001)).

### DIMENSIONS

#### Standard type

- **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

#### Panel cut dimensions

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

<table>
<thead>
<tr>
<th>Connection size</th>
<th>Diameter</th>
<th>Rear length</th>
<th>Connection size</th>
<th>Diameter</th>
<th>Rear length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rc3/8 M26</td>
<td>28</td>
<td>26</td>
<td>Rc3/4 M36</td>
<td>36</td>
<td>28</td>
</tr>
<tr>
<td>3/8NPT M29</td>
<td>28</td>
<td>26</td>
<td>3/8SW M20</td>
<td>22</td>
<td>(34)</td>
</tr>
<tr>
<td>Rc1/2 M30</td>
<td>32</td>
<td>26</td>
<td>1/2VCR M28</td>
<td>32</td>
<td>(38)</td>
</tr>
</tbody>
</table>

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

### Standard material

<table>
<thead>
<tr>
<th>Parts name</th>
<th>Standard material</th>
<th>Available material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>SCS14</td>
<td>-</td>
</tr>
<tr>
<td>Tapered tube</td>
<td>Heat-resistant glass</td>
<td>-</td>
</tr>
<tr>
<td>Float # 1</td>
<td>SUS304, PTFE</td>
<td>SUS316</td>
</tr>
<tr>
<td>Gasket</td>
<td>Nitrile rubber (NBR)</td>
<td>Fluoro rubber, Chloroprene rubber (CR), Ethylene-propylene rubber (EPDM)</td>
</tr>
<tr>
<td>Spindle</td>
<td>SUS304</td>
<td>SUS316</td>
</tr>
<tr>
<td>Valve</td>
<td>SUS304</td>
<td>SUS316</td>
</tr>
<tr>
<td>Mounting plate # 2</td>
<td>SPCC</td>
<td>SUS304</td>
</tr>
<tr>
<td>Cover</td>
<td>Acryl</td>
<td>-</td>
</tr>
</tbody>
</table>

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.

* Specification is subject to change without notice.

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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: http://www.tokyokeiso.co.jp