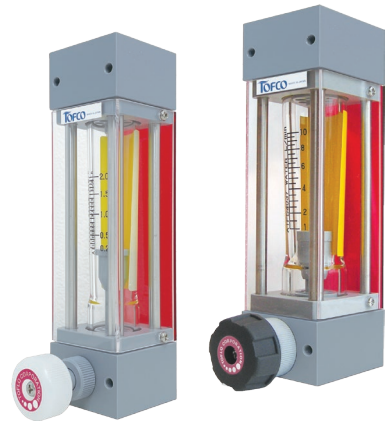


面積式流量計

FM-PF (Custom type) カスタムタイプ



- ガラステーパ管仕様。
- 純水/薬液対応。
- 警報接点取付可能です。
- Glass tapered tube specification.
- Corresponds to purified water / chemicals.
- Alarm contact can be installed.

型式 Model number selection

| 規格 Std. | バルブ Valve | 警報 Alarm | 流体名 Fluids | 流量単位 Units | 最大流量 Max. flow | 接続口径 Connection size | 特殊項目 For specialized item | | | | | | | | | | | | | | | | |
|------------|--|-------------|----------------------|---------------|-------------------|-------------------------|--|------|--|----|---|----|---|----|---|---|---|---|---|---|---|---|------------------------------|
| FM - PF | [] | [] | [] | [] | [] | [] | [] | | | | | | | | | | | | | | | | |
| | | | | | | | <table border="1"> <tr><td>01</td><td>Rc 1/4</td></tr> <tr><td>02</td><td>Rc 3/8</td></tr> <tr><td>03</td><td>Rc 1/2</td></tr> <tr><td>04</td><td>Rc 3/4</td></tr> </table> | 01 | Rc 1/4 | 02 | Rc 3/8 | 03 | Rc 1/2 | 04 | Rc 3/4 | | | | | | | | |
| 01 | Rc 1/4 | | | | | | | | | | | | | | | | | | | | | | |
| 02 | Rc 3/8 | | | | | | | | | | | | | | | | | | | | | | |
| 03 | Rc 1/2 | | | | | | | | | | | | | | | | | | | | | | |
| 04 | Rc 3/4 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | <table border="1"> <tr><td>Max.</td><td>下記測定範囲の最大流量を記入 Max. flow rate selected from the available flow range below</td></tr> <tr><td>B</td><td>L/min</td></tr> <tr><td>Z</td><td>特殊 For specialized unit * 1</td></tr> </table> | Max. | 下記測定範囲の最大流量を記入 Max. flow rate selected from the available flow range below | B | L/min | Z | 特殊 For specialized unit * 1 | | | | | | | | | | |
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| B | L/min | | | | | | | | | | | | | | | | | | | | | | |
| Z | 特殊 For specialized unit * 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | <table border="1"> <tr><td>1</td><td>水 Water</td></tr> <tr><td>9</td><td>特殊 For specialized fluid * 1</td></tr> </table> | 1 | 水 Water | 9 | 特殊 For specialized fluid * 1 | | | | | | | | | | | | |
| 1 | 水 Water | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 特殊 For specialized fluid * 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | <table border="1"> <tr><td>0</td><td>スイッチ無し With no switch</td></tr> <tr><td>1</td><td>リードスイッチ後A接点 Reed switch of contact A, but no PF45 * 2</td></tr> <tr><td>2</td><td>リードスイッチ後B接点 Reed switch of contact B, but no PF45 * 2</td></tr> <tr><td>A</td><td>磁気スイッチ NPN出力A接点 Magnetic switch of NPN output contact A * 2</td></tr> <tr><td>B</td><td>磁気スイッチ NPN出力B接点 Magnetic switch of NPN output contact B * 2</td></tr> <tr><td>C</td><td>磁気スイッチ PNP出力A接点 Magnetic switch of PNP output contact A * 2</td></tr> <tr><td>D</td><td>磁気スイッチ PNP出力B接点 Magnetic switch of PNP output contact B * 2</td></tr> <tr><td>9</td><td>特殊 For specialized alarm * 1</td></tr> </table> | 0 | スイッチ無し With no switch | 1 | リードスイッチ後A接点 Reed switch of contact A, but no PF45 * 2 | 2 | リードスイッチ後B接点 Reed switch of contact B, but no PF45 * 2 | A | 磁気スイッチ NPN出力A接点 Magnetic switch of NPN output contact A * 2 | B | 磁気スイッチ NPN出力B接点 Magnetic switch of NPN output contact B * 2 | C | 磁気スイッチ PNP出力A接点 Magnetic switch of PNP output contact A * 2 | D | 磁気スイッチ PNP出力B接点 Magnetic switch of PNP output contact B * 2 | 9 | 特殊 For specialized alarm * 1 |
| 0 | スイッチ無し With no switch | | | | | | | | | | | | | | | | | | | | | | |
| 1 | リードスイッチ後A接点 Reed switch of contact A, but no PF45 * 2 | | | | | | | | | | | | | | | | | | | | | | |
| 2 | リードスイッチ後B接点 Reed switch of contact B, but no PF45 * 2 | | | | | | | | | | | | | | | | | | | | | | |
| A | 磁気スイッチ NPN出力A接点 Magnetic switch of NPN output contact A * 2 | | | | | | | | | | | | | | | | | | | | | | |
| B | 磁気スイッチ NPN出力B接点 Magnetic switch of NPN output contact B * 2 | | | | | | | | | | | | | | | | | | | | | | |
| C | 磁気スイッチ PNP出力A接点 Magnetic switch of PNP output contact A * 2 | | | | | | | | | | | | | | | | | | | | | | |
| D | 磁気スイッチ PNP出力B接点 Magnetic switch of PNP output contact B * 2 | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 特殊 For specialized alarm * 1 | | | | | | | | | | | | | | | | | | | | | | |
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| 2 | 上側ニードルバルブ付 With upper needle valve | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 特殊 For specialized shape * 1 | | | | | | | | | | | | | | | | | | | | | | |
| 規格 Std. | 測定範囲 Measuring range | スイッチ Switch | 接続口径 Connection size | 材質 Material | | | | | | | | | | | | | | | | | | | |
| 45 | 0.1~1L/min | × | Rc 1/4 | PVC | | | | | | | | | | | | | | | | | | | |
| | 0.2~2L/min | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 0.3~3L/min | ○ | Rc 3/8 | | | | | | | | | | | | | | | | | | | | |
| | 0.4~5L/min | | | | | | | | | | | | | | | | | | | | | | |
| | 1~10L/min | | | | | | | | | | | | | | | | | | | | | | |
| | 2~20L/min | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 3~30L/min | ○ | Rc 1/2 | | | | | | | | | | | | | | | | | | | | |
| | 4~50L/min | | | | ○ | Rc 3/4 | | | | | | | | | | | | | | | | | |

* 1: 特殊項目に付いては、型式末尾に順番に明記下さい。詳細は当社にお問合せ下さい。
 * 2: A接点：設定値以上クローズ、B接点：設定値以下クローズ
 ※測定範囲は水換算 20℃(293K)条件の流量です。
 ※スイッチ設定範囲は、F.S.流量の約20~80%が使用範囲です。ただし、個々の目盛や接点方式等により使用範囲は異なります。
 * 1: For specialized items specify them at end of Model number Selection in order. For details, consult us with your specification.
 * 2: Contact A: Switch is closed as the float rises past the switch. Contact B: Switch is closed as the float falls past the switch.
 ※Measuring range shown above are ones equivalent to water at 20°C.
 ※Set point for contact range shall be within 20% - 80% of F.S. However, it varies depending on a scale and contact method of flowmeter.

仕様 Specifications

| | |
|------------------------------------|--------------------------|
| 流量精度 Flow accuracy | ±5% of F.S. |
| 使用最高圧力 Max. operating pressure | 0.5MPa(G) at 40℃ |
| 使用流体温度 Operating fluid temperature | 60℃ at 0.3MPa(G) |
| 使用環境温度 Ambient temperature | 0~40℃ (結露なきこと No dewing) |

規格寸法 A table of standard dimensions

| 規格 Std. | L | ℓ | H | h | b | D1 | D2 | D3 | d1 | 接続口径 Connection size |
|---------|-----|-----|----|----|----|----|----|----|-------|----------------------|
| 45 | 170 | 140 | 44 | 34 | 25 | 6 | 25 | M5 | Rc1/4 | |
| 55 | 182 | 150 | 60 | 4 | 42 | 34 | 6 | 32 | M5 | Rc3/8, Rc1/2 |
| 65 | 190 | 150 | 61 | 5 | 42 | 36 | 5 | 32 | M4 | Rc3/4 |

リードスイッチ仕様 Specifications on reed switch

| | |
|-----------------------|-------------------------------|
| 接点方法 Contact forms ※ | A接点/B接点 Contact A / Contact B |
| 接点容量 Contact capacity | DC 0~24V Max. 0.2A |
| ケーブル長 Cable length | 50cm(AWG 24) |

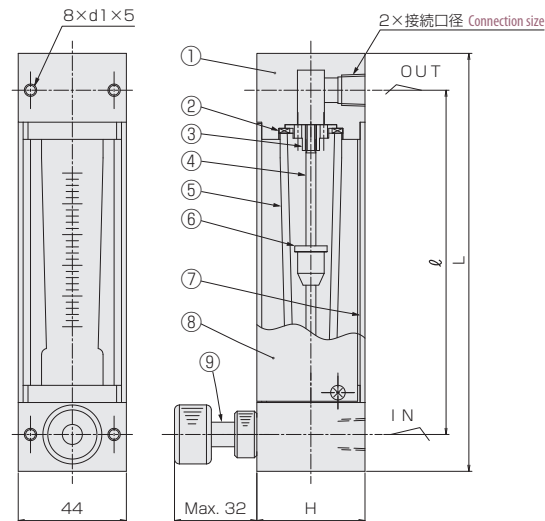
磁気スイッチ仕様 Specifications on magnetic switch

| | |
|---------------------------|--|
| 出力形態 Output form ※ | NPN出力-A接点/B接点 NPN output contact A / B PNP出力-A接点/B接点 PNP output contact A / B |
| 電源電圧 Power source voltage | DC+12~24V |
| 消費電流 Current consumption | 10mA以下 ≤ 10 mA |
| 出力 Output | オープンドレイン Open drain 耐電圧 Withstand voltage Max. DC30V 駆動電流: 100mA以下 Driving current: ≤ 100 mA |
| ケーブル長 Cable length | 2m (AWG 24) |

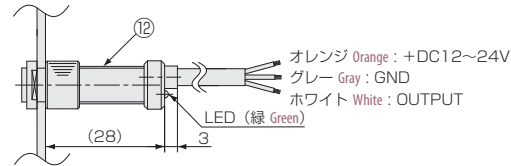
※A接点: 設定値以上クローズ ※Contact A: Switch is closed as the float rises past the switch.
B接点: 設定値以下クローズ Contact B: Switch is closed as the float falls past the switch.

構造図 Structural drawing

FM-PF45

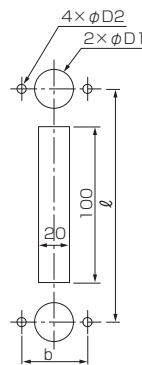


磁気スイッチ Magnetic switch

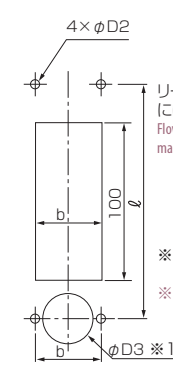


パネルカット Panel cut-out

パネル前面取付 Panel-mounted



パネル埋込取付 Panel-embedded

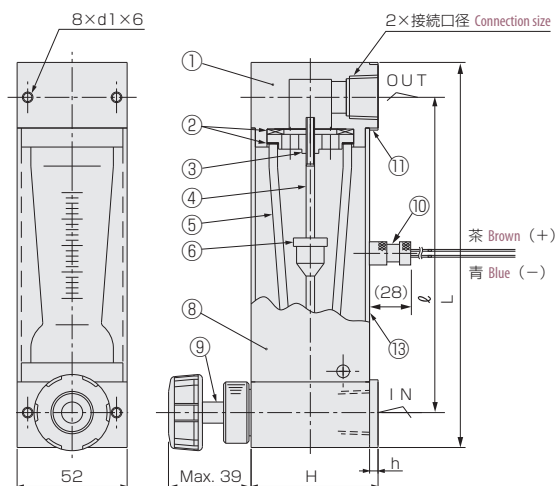


リードスイッチ付きの場合、磁性体パネルには固定できません。
Flowmeter equipped with reed-switch is uninstalleable to magnetic panel.

※1: 取付の際には一時的にハンドルを取り外してください。

※1: Remove valve handle before installing flow meter on panel.

FM-PF55/65



材質 Materials

| No. | 名称 Names of parts | 材質 Material | 備考 Remarks |
|-----|------------------------|----------------------------|--|
| 1 | フィッティング Fitting | PVC | |
| 2 | パッキン Packing | FKM | |
| 3 | ストッパー Stopper | PVC | |
| 4 | ガイドポール Guiding pole | PCTFE | |
| 5 | テーパ管 Tapered tube | 耐熱ガラス Heat-resistant glass | |
| 6 | フロート Float | PVC | マグネット密封(スイッチ付) Magnet sealed for switch |
| 7 | バックプレート Back plate | PMMA | |
| 8 | フロントカバー Front cover | PMMA | |
| 9 | ニードル Needle valve | PVC | |
| 10 | リードスイッチ Reed switch | SUS303 他 SUS303, etc. | AWG 24 |
| 11 | 補強リング Reinforced ring | SUS304 | |
| 12 | 磁気スイッチ Magnetic switch | POM 他 etc. | AWG 24 |
| 13 | スイッチプレート Switch plate | PMMA | |