Installation of flowmeters is required.

Product Lineup for Energy-Saving Management

We contribute to the reduction of CO₂ emissions.

OVAL supplies energy-saving sensors for overall utilities.

“To know the amount of energy currently in use” + “To confirm the amount of reduction”

How much is energy fluid currently in use?
Is waste present or not?

How much is the effect by working on energy saving?

For continuous energy-saving activities, it is essential to control (measure) the energy usage through temperature, pressure, and flow measurement. "Visualizing" the amount of saved energy and appreciating those who engaged in such activities are the keys to successful energy-saving activities. OVAL provides various flow sensors to cover all energy flow measurement needs from main pipes to fine tube ends at reasonable prices. Our hope is to help users in setting energy-saving targets and controlling specific energy consumptions by visualizing the flows of energy fluids.
Compressed air

OVAL offers “visualization” of consumed

Air flowmeter lineup

Features
- With their wide flow ranges, a single meter can measure both the leak amount and max. flowrate.
- Mass Flow Monitor: 1:50 or wider
- Hybrid Multi DELTA: Max. 1:900
- Insertion Mass Flowmeter: 1:1000 or wider
- Pressure loss minimized configuration
- Sensor susceptible to mist (oil, water) and dust
- Adaptable to from main pipes (max.: 500mm) to branch pipes (min.: 15mm) at low cost
- Motivating the sense of energy saving by the currency equivalent display (Yen, $, and CO2 amount equivalent also possible)
- Thermal flowmeters directly measure mass flowrate without temperature/pressure compensation.

Mass Flow Monitor

- Measurable from a leak as low as 10NL/min.
- Pressure loss minimized
- Sturdy sensor structure

■ Configuration

- As the sensor element is protected by stainless sheath pipe, the sensor has a structure resistant to dust, mist, etc.

Applications (installations)

General specifications

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size</td>
<td>15mm</td>
<td>20mm</td>
<td>25mm</td>
<td>40mm</td>
<td>50mm</td>
</tr>
<tr>
<td>Fluid temp.</td>
<td>0 to 50°C</td>
<td>0 to 50°C</td>
<td>0 to 50°C</td>
<td>0 to 50°C</td>
<td>0 to 50°C</td>
</tr>
<tr>
<td>Ambient temp.</td>
<td>0 to 55°C</td>
<td>0 to 55°C</td>
<td>0 to 55°C</td>
<td>0 to 55°C</td>
<td>0 to 55°C</td>
</tr>
<tr>
<td>Pressure range</td>
<td>0 to 0.7MPa</td>
<td>0 to 0.7MPa</td>
<td>0 to 0.7MPa</td>
<td>0 to 0.7MPa</td>
<td>0 to 0.7MPa</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.8% max. of full scale</td>
<td>±0.2% max. of reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.1% max. of full scale</td>
<td>±0.2% max. of reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linearity</td>
<td>±0.12% max. of full scale</td>
<td>±0.2% max. of reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Characteristics</td>
<td>±0.3% of reading / 0.1MPa max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Characteristics</td>
<td>±0.03% of reading / 0.1MPa max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>7-segment 8-digit LCD (backlighted with measurement unit indication). Display is rotatable in 90° step.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output (e1)</td>
<td>Flow rate: 4 to 20mA</td>
<td>Flow rate: 4 to 20mA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alarm: 2 points, open collector pulse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pressure loss: Within 10kPa (when flowing max. flow at 0.3MPa or over.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power supply: 24VDC±10%, 100mA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cable: 5-conductor shielded cable 3m, 4-conductor shielded cable 3m with connector, no cable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

■ Flow range

<table>
<thead>
<tr>
<th>Pressure range</th>
<th>0.3</th>
<th>0.4</th>
<th>0.5</th>
<th>0.6</th>
<th>0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>L/min (normal)</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

1: line pressure is 0.04MPa and over and max. flowrate is 800L/min (normal).
2: line pressure is 0.11MPa and over and max. flowrate is 5000L/min (normal).
3: line pressure is 0.24MPa and over and max. flowrate is 8000L/min (normal).

See GS No. GBF300 for the product’s details.
air flows and their leaks at main and branch pipes.

**Hybrid Multi DELTA**

- **Vortex+Thermal**
- **Super wide flow range**

- **General specifications**
  - Model code: TV1025, TV1040, TV1060, TV1080, TV1100, TV1150
  - Nominal size: 25mm, 40mm, 50mm, 65mm, 80mm, 100mm, 150mm
  - Process connection: R1 (female), R1-1/2 (female), R2 (female)
  - JIS 10K RF flange, ASME 150
  - Fluid temp.: 0 to 50°C
  - Ambient temp.: 0 to 50°C
  - Pressure range: 0 to 0.78MPa (Option 0 to 0.98MPa)
  - Accuracy/Inclusion of linearity, pressure effects: ±0.5% of reading ±0.05% of max. flowrate
  - Reproducibility: ±2% of reading ±0.05% of max. flowrate
  - Temp. characteristic: ±0.2%/°C of reading

- **Display**
  - 7-segment 8-digit LCD (backlit with measurement unit indication)
  - Display is rotatable in 90° step
  - Instantaneous flow rate: m3/h (normal), L/min (normal), m3/h, L/min or other
  - Cumulative total: m³ (normal)
  - Temperature: °C, pressure (kPa abs)
  - Output
  - Flow pulse: open collector output, pulse width: 1ms as standard (adjustable in 1 to 240ms)
  - Flow alarm: 2 points, open collector output
  - Flow analog: 4 to 20mA (for analog output)
  - Flow pulse: open collector output, pulse width: 1ms (adjustable in 1 to 240ms)
  - Flow alarm: 2 points, open collector output
  - Flow analog: 4 to 20mA (for analog output)

- **Flow range**
  - Flow rate: m³/h (normal)
  - Pressure loss: Within 10kPa
  - Power supply: 24VDC ±10% Max150mA (except for 4 to 20mA for analog output)
  - Cable
  - 4-conductor shielded cable 3m

- **General specifications**
  - Model code: TV1150
  - Nominal size: 150mm
  - Process connection: R1-1/2 (female), R2 (female)
  - JIS 10K RF flange, ASME 150
  - Fluid temp.: 0 to 50°C
  - Ambient temp.: 0 to 50°C
  - Pressure range: 0 to 0.78MPa (Option 0 to 0.98MPa)
  - Accuracy/Inclusion of linearity, pressure effects: ±0.5% of reading ±0.05% of max. flowrate
  - Reproducibility: ±2% of reading ±0.05% of max. flowrate
  - Temp. characteristic: ±0.2%/°C of reading

- **Meter error test data (Typical example)**
  - **Nominal dia. 65mm** (at 0.6MPa pressure)
    - **Thermal sensor**
      - Changeover point
      - **Vortex sensor**
        - Flow range: m³/h (normal)
          - Pressure (MPa): 0.3, 0.4, 0.5, 0.6, 0.7
          - Flow rate: 65, 80, 100, 125, 150, 200

- **Insertion Mass Flowmeter**

- **Thermal**
- **Insertion**
- **Wide flow range**

- **General specifications**
  - Description: Insertion type (445FTB)
  - Fixed type: Screw-in or Flange type (JIS 10K, ASME150RF, ASME300RF)
  - Nominal pipe size: 65mm min.
  - Sensor support diameter: 3/4" (standard), 1/2", 1"
  - Fluid temp.: Standard: -40 to +260°C
  - High temperature: -40 to +500°C
  - Max. operating pressure: 15MPa
  - Material: Sensor: Hastelloy C276 equivalent, Sensor port: SUS316L or Hastelloy C276 equivalent
  - Accuracy: ±2% FS (±2% RD in case actual flow calibration applied)
  - Power supply: 24VDC or 85 to 265VAC 50/60Hz
  - Display: 2-line 16-digit backlit LCD
  - Temperature: °C, pressure (kPa abs)
  - Output
  - Flow alarm: 2 points, open collector output
  - Flow analog: 4 to 20mA (for analog output)
  - Flow pulse: open collector output, pulse width: 1ms (adjustable in 1 to 240ms)

- **Flow range**
  - Flow rate: m³/h (normal)
  - Pressure (MPa): 0.3, 0.4, 0.5, 0.6, 0.7
  - Flow rate: 65, 80, 100, 125, 150, 200

- **General specifications**
  - Description: Insertion type (454FTB)
  - Fixed type: Screw-in or Flange type (JIS 10K, ASME150RF, ASME300RF)
  - Nominal pipe size: 65mm min.
  - Sensor support diameter: 3/4" (standard), 1/2", 1"
  - Fluid temp.: Standard: -40 to +260°C
  - High temperature: -40 to +500°C
  - Max. operating pressure: 15MPa
  - Material: Sensor: Hastelloy C276 equivalent, Sensor port: SUS316L or Hastelloy C276 equivalent
  - Accuracy: ±2% FS (±2% RD in case actual flow calibration applied)
  - Power supply: 24VDC or 85 to 265VAC 50/60Hz
  - Display: 2-line 16-digit backlit LCD
  - Temperature: °C, pressure (kPa abs)
  - Output
  - Flow alarm: 2 points, open collector output
  - Flow analog: 4 to 20mA (for analog output)
  - Flow pulse: open collector output, pulse width: 1ms (adjustable in 1 to 240ms)
Saturated steam

Features

- Seven sizes from 15mm to 150mm offered
- Simple structure, inexpensive, and waterproof
- Accuracy ±2% in reading
- No need for steam density calculation using temperature.

DELTA FLOWPET-DX

City gas

Most suitable to control city gas consumption in furnaces, boilers, and air conditioners.

Features

- Measures gas flow accurately at the standard condition (0°C, 1atm).
- A simple and durable configuration: sensor protected in the sheath pipe; no moving part.

High-accuracy Mass Flow Monitor

- Pressure compensation:
  - Using signal from built-in pressure sensor, converts volume flowrate into mass flowrate.
  - Fixed factor calculation type:
    - Using pressure value (fixed) set on the transmitter, converts volume flowrate into mass flowrate.

Applications (installations)

- City gas
- Fuel oil
- Saturated steam
- Boiler

DELTA FLOWPET-DX

General specifications

- Body
  - Process connection: flange or weld
  - Max. operating temp.: 200°C
  - Max. operating pressure: 1.85MPa (with pressure compensation), 1.45MPa (fixed factor calculation)
  - Mounting posture: Pressure compensation type should be mounted in a posture where the sealant water in the capillary tube pools in it.
  - Only JIS10K or ASME/JPI 150 is applicable if pressure compensation required.

- Transmitter
  - Accuracy: ±2% of reading at 0.06 to 0.25MPa, ±3% of reading
  - Pulse output: Open collector (capacity: 30VDC, 20mA)
  - Analog output: 4 to 20mA at 0 to FS
  - Power supply: 24VDC ±10%
  - Ambient temp.: -20 to +60°C
  - Transmission distance: Max. 1km
  - Dust/waterproof: IP65
  - See GS. No. GBF301 for the product’s details.

Flow range (saturated steam)

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Nominal size</th>
<th>0.3</th>
<th>0.4</th>
<th>0.5</th>
<th>0.6</th>
<th>0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPa</td>
<td>mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td>25</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>0.5</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>0.6</td>
<td>50</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>0.7</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
</tr>
</tbody>
</table>

- See GS. No. GBF301 for the product’s details.

Applications (installations)

- City gas
- Fuel oil
- Saturated steam
- Boiler

DELTA FLOWPET-DX

General specifications

- Fluid temp.: 0 to 60°C
- Ambient temp.: 0 to 60°C (No condensation allowed)
- Pressure range: 0 to 0.7MPa (Option: 0.98MPa)
- Linearity (inclusive of reproducibility): Within ±1% of full scale
- Pressure loss: Within 1.7KPa (city gas); within 2.1KPa (air, nitrogen)
- Connection size: 25mm, 40mm, 50mm, 80mm
- Display: 7-segment 8-digit LCD (backlight with measurement unit indication).
  - Display is rotatable in 90° step.
  - Instantaneous flow rate (Nm³/h), (NL/min)
  - Resettable total, Cumulative total (Nm³)
  - LED X 2 points (turns on as alarm)
- Output:
  - Flow pulse (open collector output; capacity: 30VDC, 20mA; pulse width: adjustable in 1 to 240ms)
  - Flow analog: 4 to 20mADC, max. load resistance 500 Ω
- Power supply: 24VDC ±10%
- Cable: 4-conductor shielded cable with connector
  - 3m: Supplied with product code showing “With cable”.

City gas

Pressure sensor built-in! High accuracy with pressure compensation! Most suitable for saturated steam with pressure variation!
Industrial water

Best suited for measuring industrial water, circulating water, and cooling water.

Applications (installations)

- Hot Water: 0 to 130℃
- Red: -20 to +60 °C
- Heat-resistant resin, Stainless Steel

Capable of measuring both cold water and hot water (for heat management)

Unsusceptible to suspended solids in river or well water

DELTA FLOWPET-DX

- Process connection: water or flange
- Fluid temp.: -30 to +200 °C
- Max. operating pressure: 10MPa (depends on flange rating)

■ Flow range (water)

<table>
<thead>
<tr>
<th>Nominal size (mm)</th>
<th>Flow range (m³/h)</th>
<th>Std. pulse unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>0.3 to 6</td>
<td>0.001 m³/P (1/L)</td>
</tr>
<tr>
<td>25</td>
<td>0.7 to 20</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>1.3 to 48</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>2.0 to 79</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>4.6 to 172</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>11 to 296</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>33 to 645</td>
<td></td>
</tr>
</tbody>
</table>

■ General specifications

- Transmitter
  - Accuracy: ±1% of reading
  - Pulse output: Open collector
  - Analog output: 4 to 20mA at 0 to F.S.
- Ambient temp.: -20 to +60 °C
- Power supply: 24VDC±10%

■ Flow range (water)

Note) Simultaneous output of both analog and pulse signals is available.

ME METER

- Cold Water Service
- Flange Rating: JIS 10 K RF or ASME 150 RF
- Operating Temperature Range: 0 to 50℃
- Flange or wafer or flange connection:

■ General specifications

- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm

■ Flow range

Note) The flow velocity must be 0.3m/s or more with specified length of straight pipe secured.

Note) The fluid must be full of liquid and the flow velocity distribution must be ideal.

Note) Specification at the measurement of volume flow

±1% of reading (±0.010m/s at a flow velocity less than 1m/s)

±1.5% of reading (±0.015m/s at a flow velocity less than 1m/s)

±2.0% of reading (±0.020m/s at a flow velocity less than 1m/s)

±2.5% of reading (±0.025m/s at a flow velocity less than 1m/s)

Ultrasonic pulse transmission time difference system

1 beam

Factory calibration

- Number of metering beam:
- Accuracy:
- Flange Rating: JIS 10 K RF or ASME 150 RF
- Nominal Size: Up to 600mm

■ Sensor Specifications

- Standard Specifications
- Materials:
  - Internal Elements
  - Case
  - Flange:
  - Connection:
  - Piping materials:
  - Fluid temp. range:
  - Applicable fluids:

■ General specifications

- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm
- Nominal Size: 40, 50, 65, 80, 100, 125, 150, 200, 250, 300mm

■ Flow range

Note) For application to fluid other than water, contact OVAL office.

Note) The fluid must not contain bubbles. Note) Cannot measure slurry.

Note) The fluid must not contain bubbles. Note) Cannot measure slurry.

Note) The fluid must not contain bubbles. Note) Cannot measure slurry.

Note) The fluid must not contain bubbles. Note) Cannot measure slurry.

Note) The fluid must not contain bubbles. Note) Cannot measure slurry.

For industrial water, river water, ocean water, purified water, etc.) Turbidity: 10000mg/L (degree) max.

Ultrasonic wave can propagate (clean water, waste water, industrial water, river water, ocean water, purified water, etc.) Turbidity: 10000mg/L (degree) max.

Ultrasonic wave can propagate (clean water, waste water, industrial water, river water, ocean water, purified water, etc.) Turbidity: 10000mg/L (degree) max.
Dirt-resistant! No moving part! Reasonably priced! For monitoring flows in machine tools and temp. controllers

Features
- Suited for various tests and utility purposes
- High visibility achieved by orange LCD, bar-graph indicator, and large unit display
- Digital display of instantaneous flow rate (/min, /h) and total flow (L)
- Output selectable from 4-20mA analog, pulse, or simultaneous output of both
- Battery-powered type available (battery replaceable)

Fuel oil
Just the flowmeter for fuel oil measurement!

Features
- High durability
- Display’s angle adjustable vertically in 165°
- Battery-powered type available (battery replaceable)

Eggs DELTA II

FLOWPET-5G

General specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Standard</th>
<th>Metal Joint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size</td>
<td>4, 8, 15, 25mm</td>
<td>Metal Rc female thread</td>
</tr>
<tr>
<td>Process connection</td>
<td>Resin R male thread or Resin NPT male thread</td>
<td>Metal Rc female thread</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±2% of full scale</td>
<td>±2% of full scale</td>
</tr>
<tr>
<td>Fluid temp.</td>
<td>-10°C to +80°C</td>
<td>-10°C to +80°C</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>0.98MPa</td>
<td>0.98MPa</td>
</tr>
<tr>
<td>Wetted parts material</td>
<td>PPS resin</td>
<td>PPS + Stainless Steel</td>
</tr>
<tr>
<td>Display</td>
<td>Instantaneous flow, total</td>
<td>Instantaneous flow, total</td>
</tr>
<tr>
<td>Power supply</td>
<td>Battery or external power source</td>
<td>Battery or external power source</td>
</tr>
<tr>
<td>Output signal</td>
<td>Flow pulse, flow analog, alarm</td>
<td>Flow pulse, flow analog, alarm</td>
</tr>
</tbody>
</table>

Flow range

<table>
<thead>
<tr>
<th>Type</th>
<th>Standard type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal size mm</td>
<td>4, 8, 15, 25</td>
</tr>
<tr>
<td>Flow range (L/min)</td>
<td>0.4 to 4, 1.1 to 15, 2.8 to 45, 8.3 to 133</td>
</tr>
</tbody>
</table>

General specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Register</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD display</td>
<td>7-segment 8-digit; letter height 14mm; flow unit indication and low battery alarm</td>
</tr>
<tr>
<td>Power supply</td>
<td>Lithium battery or external power source</td>
</tr>
<tr>
<td></td>
<td>Lithium battery: 3.6VDC; duration: 8 years (depends on operating conditions)</td>
</tr>
<tr>
<td></td>
<td>External power source: 12 to 50VDC±10V (min. 10mA required as capacity)</td>
</tr>
<tr>
<td>Display</td>
<td>Total flow or instantaneous flow (/min, /h), resettable total</td>
</tr>
<tr>
<td>Output signal</td>
<td>Open drain (equivalent of Open collector) allowable current: 20mA, max. impressed voltage: 30V</td>
</tr>
<tr>
<td></td>
<td>Factored pulse</td>
</tr>
<tr>
<td></td>
<td>Unfactored pulse</td>
</tr>
<tr>
<td></td>
<td>Pulse width: 1ms, 50ms, 100ms, 250ms</td>
</tr>
<tr>
<td></td>
<td>Pulse width: 2ms (fixed)</td>
</tr>
<tr>
<td>Alarm output</td>
<td>Open drain (equivalent of open collector) 2 points</td>
</tr>
<tr>
<td>Analog output</td>
<td>4 to 20mAADC</td>
</tr>
<tr>
<td>Ambient temp.</td>
<td>-10°C to +60°C</td>
</tr>
</tbody>
</table>

Flow range

<table>
<thead>
<tr>
<th>Model code</th>
<th>Flow range: L/h</th>
<th>Type</th>
<th>Nominal size: mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS4976</td>
<td>20</td>
<td>10 to 800</td>
<td>Kerosene</td>
</tr>
<tr>
<td>LS5076</td>
<td>20</td>
<td>150 to 1600</td>
<td>80 to 2000</td>
</tr>
<tr>
<td>LS5276</td>
<td>25</td>
<td>300 to 3000</td>
<td>150 to 3000</td>
</tr>
<tr>
<td>LS5376</td>
<td>40</td>
<td>600 to 5000</td>
<td>300 to 6000</td>
</tr>
<tr>
<td>LS5576</td>
<td>40</td>
<td>1200 to 11000</td>
<td>600 to 14000</td>
</tr>
<tr>
<td>LS5676</td>
<td>50</td>
<td>2000 to 20000</td>
<td>1400 to 24000</td>
</tr>
</tbody>
</table>

General specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid temp.</td>
<td>0°C to +120°C</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>1.18MPa (flange std. JIS10KRF)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Within ±5% of reading</td>
</tr>
</tbody>
</table>

General specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>General specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow range</td>
<td>Flow range: oil</td>
</tr>
<tr>
<td></td>
<td>Model code</td>
</tr>
<tr>
<td></td>
<td>LS4976</td>
</tr>
<tr>
<td></td>
<td>LS5076</td>
</tr>
<tr>
<td></td>
<td>LS5276</td>
</tr>
<tr>
<td></td>
<td>LS5376</td>
</tr>
<tr>
<td></td>
<td>LS5576</td>
</tr>
<tr>
<td></td>
<td>LS5676</td>
</tr>
</tbody>
</table>

See GS. No. GBB324 for the product’s details.
TOTALIZER

Offering the "recording" function on top of conventional totalization, a single unit can display accumulated total and instantaneous flowrate (/h, /min.) and output compensated pulses.

Features
- Records accumulated total and instantaneous flowrate on the supplied microSD card.
- Works as a relay device with other peripheral devices in remote measurement.
- Pulse output and analog output functions are utilized for output to other indicators.
- Connection to alarm, indicator light, etc. is possible.
- Start and end of recording can be controlled from outside.

core1001

General specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>core1001-C-00-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Fluorescent display tube</td>
</tr>
<tr>
<td>Display item</td>
<td>Rotation display with ENT key</td>
</tr>
<tr>
<td></td>
<td>(1) 8-digit accumulated total value</td>
</tr>
<tr>
<td></td>
<td>(2) 8-digit accumulated total value and reset total value</td>
</tr>
<tr>
<td></td>
<td>(3) 8-digit accumulated total value and bar graph</td>
</tr>
<tr>
<td></td>
<td>(4) 8-digit accumulated total value and 5-digit instantaneous flowrate</td>
</tr>
<tr>
<td></td>
<td>(5) 5-digit instantaneous flowrate</td>
</tr>
<tr>
<td></td>
<td>(6) 5-digit instantaneous flowrate and bar graph</td>
</tr>
<tr>
<td></td>
<td>(7) Time</td>
</tr>
</tbody>
</table>

Recording function
Instantaneous flowrate and totalized value are saved to microSD card in CSV format.

Sampling of recording
0.1/0.2/0.5/1/2/5/10/15/20/30sec.

Power consumption
85 to 264VAC, 50/60Hz, 18VA

Weight
Approx. 500 g (including packing)

Outline dimensions
96 (W) x 48 (H) x 144 (D) mm (excluding extrusions)

EL0122

General specifications

<table>
<thead>
<tr>
<th>Power supply</th>
<th>85 to 264VAC (Power Consumption: 16VA max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse output</td>
<td>Open collector (Capacity: 30VDC, 50mA)</td>
</tr>
<tr>
<td>Analog output</td>
<td>4 to 20mADC or 1 to 5VDC</td>
</tr>
<tr>
<td>Hi/Lo alarm</td>
<td>Static relay x 2 (Capacity: 230VAC/340VDC, 200mA)</td>
</tr>
<tr>
<td>Power supply for combination flowmeters</td>
<td>13.5VDC or 24VDC 50mA</td>
</tr>
<tr>
<td>Weight</td>
<td>3.4kg approx.</td>
</tr>
</tbody>
</table>

- Supplying the power to the Mass Flow Monitor, Hybrid Multirange Delta, Insertion type Mass Flowmeter and High-accuracy Mass Flow Monitor listed in this catalog is not feasible due to the insufficient power supply capacity. Provision of an external power source is required.

- See GS. No. GED713 for the product's details.

- See CAT. No. CEE100 for the product's details.

Applications (installations)

The amount of water supply and drainage in a factory can be recorded in the microSD card and the data can be used for daily and monthly reporting.

Data of flow measurement can be recorded/monitored by the combination of digital panel recorder and flowmeter.

Counter Display

- Accrued total
- Instant flowrate
- Instant flowrate
- Resettable total

The amount of water supply and drainage in a factory can be recorded in the microSD card and the data can be used for daily and monthly reporting.
| 1. Process fluid (1) | Name: ___________________________ | SPgr: _____________ | Viscosity: _____________ |
| 2. Flow range | Max. _____________ Normal _____________ |
| 3. Fluid temperature | Max. _____________ °C Normal _____________ °C Min. _____________ °C |
| 4. Operating pressure | Max. _____________ MPa Normal _____________ MPa Min. _____________ MPa |
| 5. Ambient temperature | Max. _____________ °C Min. _____________ °C |
| 6. Nominal size | _____________ mm |
| 7. Required accuracy | ± _____________ % of reading ± _____________ % of full scale |
| 8. Process connection | □ Flanged connection _____________ | □ Ferrule connection | □ Screw connection |
| 9. Explosionproof | |
| 10. Power supply | _____________ V □ AC □ DC |
| 11. Output, Other | |

1: Special fluids, such as of high viscosity or slurries, should be stated precisely and in detail.

For technical questions about products, inquiries for quotation, data sheet requests or the like, contact by e-mail is also most welcomed.