

METAL TUBE FLOW METER BR250S – SPRING TYPE

Technical Data

BR250S for high flows of gas, liquid, steam and oil

Case Material: Aluminum alloy case with paint; SS316 available
Body Wetted Parts Material: SS316, others on request, indication via magnetic coupling (no sealed)

Lens Material: Safety Glass

Scales Calibrated: in l/h, m³/h, kg/h, %, etc.

Flow Rates For:

– Water: 30 l/h up to 250,000 l/h (special ranges on request)

– Air: 0.8 Nm³/h up to 1,200 Nm³/h (special ranges on request)

Connection Type: Thread Type, Flange Type or others available

Connection Size: ¼"~6"

Mounting: Vertical and Horizontal available

Mounting Length: 250mm standard for size ¼"~5",

300mm standard for size 6"; Special length is on request

Protection Class: Weather Proof IP66 / IP68 or Explosion proof available

Accuracy: ±2.5% F.S (±2.0% F.S option)

Max. Pressure: 40 kg/cm² (standard); Option: up to 100 kg/cm²

Working Temperature: -50°C to +200°C (standard); up to 400°C on request

Option: Switch available (Micro switch 5A/125VAC, 5A/250VAC, 2A/30VDC); Adjustable Reed alarm switch available (form A bistable type, N.O. type); Adjustable Inductive alarm switch available; 4~20mA (2-wires) analog output available

LCD Display:

– Totalizer 10 Digital (Top) / Flow Rate 8 Digital (Bottom)

– Analog Output Available: 4~20mA (2-wires)

– Power Supply: 24 VDC

***HART® Communication:** available

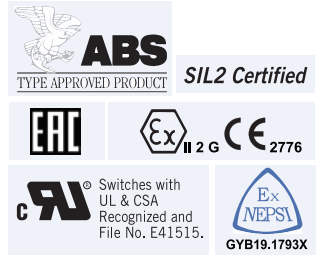
Two Wire Transmitter with HART® Protocol: 

–Galvanic Isolation

–Suitable for application in SIL 2 installations



Approvals:



Patent No.

Taiwan: M338981/M332936
 China: 1187801

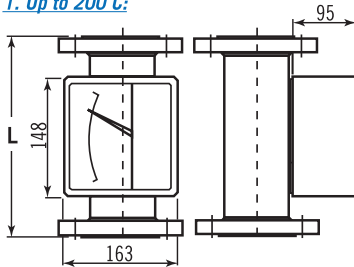


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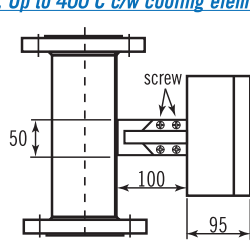
Dimensions-mm

IP66 Case Type: (A-1) Rectangle Bolt Tight Type
Housing Material: Aluminum alloy case with paint

1. Up to 200°C:



2. Up to 400°C c/w cooling element:

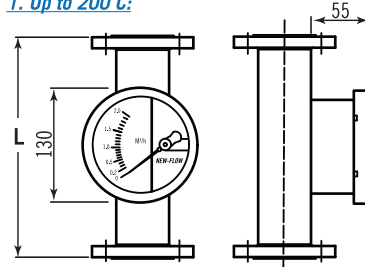


| (A1) | ½" | ¾" | 1" | 1½" | 2" | 2½" | 3" | 4" | 5" | 6" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 300 |

• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customized L length is on request.

IP68 Case Type: (B-1) Round Bayonet Ring Type (only for indicating)
Housing Material: SS316

1. Up to 200°C:

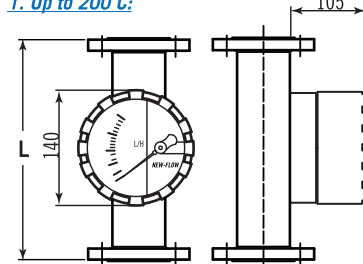


| (B1) | ½" | ¾" | 1" | 1½" | 2" | 2½" | 3" | 4" | 5" | 6" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 300 |

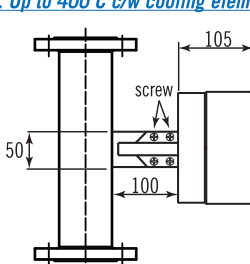
• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customized L length is on request.

Case Type: (A-2) & (B-2) Round Screw Tight Type
Housing Material: IP66 (A-2) Aluminum alloy, IP68 (B-2) SS316

1. Up to 200°C:



2. Up to 400°C c/w cooling element:

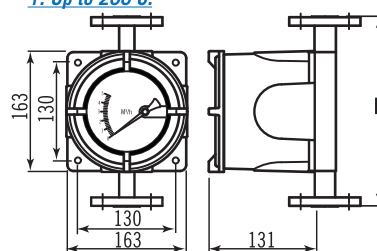


| (A2/B2) | ½" | ¾" | 1" | 1½" | 2" | 2½" | 3" | 4" | 5" | 6" |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 300 |

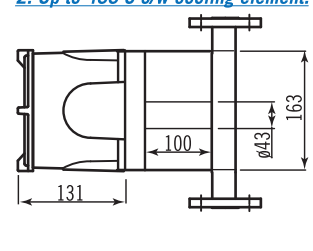
• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customized L length is on request.

Explosion Proof Case Type: (C) Explosion Proof Certificate on Housing only (D) & (D1) Taiwan Explosion Proof Certification
Housing Material: (C) Aluminum alloy, (D) Aluminum alloy, (D1) SS316

1. Up to 200°C:



2. Up to 400°C c/w cooling element:



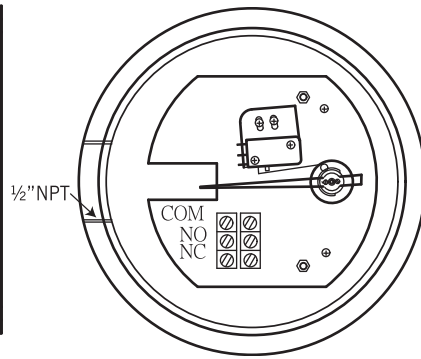
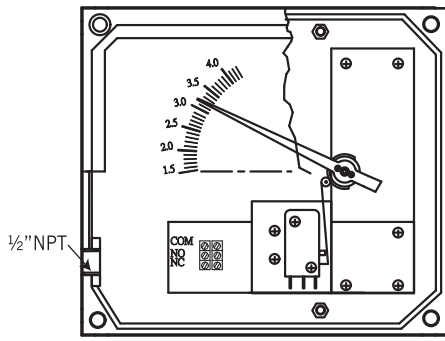
| (C) | ½" | ¾" | 1" | 1½" | 2" | 2½" | 3" | 4" | 5" | 6" |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 250 | 250 | 250 | 250 | 250 | 250 | 300 | 300 | 300 | 300 |

| (D / D1) | ½" | ¾" | 1" | 1½" | 2" | 2½" | 3" | 4" | 5" | 6" |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 300 |

• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customized L length is on request.

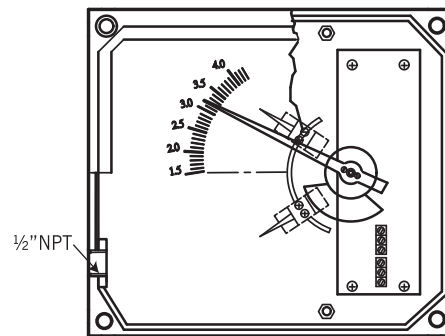
Alarm / Analog Output

BR-250S / GS-M (Micro Switch)



Adjustable Micro Switch, Series BR250S/GS-M
1 adjustable alarm contact
Load: 5A/125VAC, 5A/250VAC, 2A/30VDC
Temperature: -25°C ~ +70°C (AMB)
Hysteresis: ±10% F.S (Dead Band)

BR-250S / GS-R (Reed Switch)

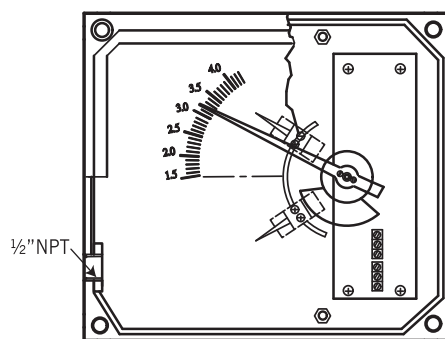


Alarm Switch: One or Two setting point, form A bistable type (N.O Type)
Hysteresis: ±10% F.S (Dead Band)
Switch Rating: AC 125V 0.5A / DC 100V 10W / Max. DC 250V < 40mA

1 adjustable alarm
 Contact setting point should be within 10% to 100% of F.S

2 adjustable alarm
 The second setting point should be a gap 40% from first setting point

BR-250S / GS-C (Inductive Switch)



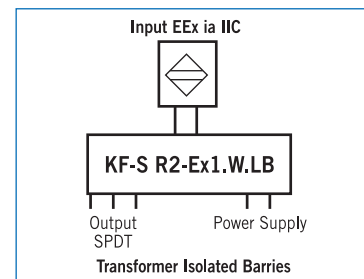
Adjustable Inductive Alarm Switch
Hysteresis: ±1% F.S (Dead Band)
Inductive Sensors Slotted Type: 3.5 mm Slot Switch

DC, voltage 2 wire's to DIN19234 (NAMUR) for use in hazardous areas
 – Power Supply: 8 VDC (Ri.approx. 1kΩ)
 – Current Consumption: Active face uncovered 3mA; Active face covered 1mA
 – Ambient Temp.: -25°C ~ +70°C

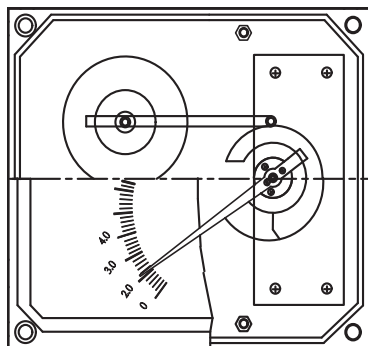
Isolated barriers output relay for inductive sensor
 – Rail Mounting
 – Control Circuit EEx ia IIC
 – EMC acc to NAMUR NE21
 – Contact Loading 250 VAC 2A SPDT 40 VDC 2A

1 adjustable alarm
 Contact setting point should be within 10% to 100% of F.S
 For
 24VDC : KFD2-SR2-Ex1.W
 115VAC: KFA5-SR2-Ex1.W
 230VAC: KFA6-SR2-Ex1.W

2 adjustable alarm
 The second setting point should be a gap 65% from first setting point
 For
 24VDC : KFD2-SR2-Ex2.W
 115VAC: KFA5-SR2-Ex2.W
 230VAC: KFA6-SR2-Ex2.W

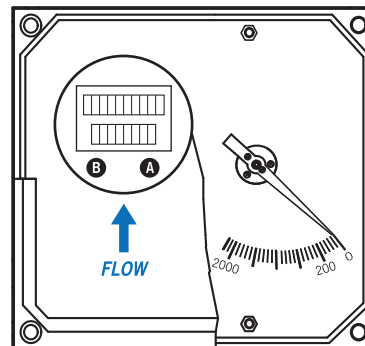


BR-250S / GT (Analog Output)



Electric Transmitter BR-250S/GT
Analog Output Available: 4~20mA (2-wires)
No Alarm Switch Available
Power Supply: 24VDC
Temperature: -25°C ~ +70°C (AMB)

LCD Display / Totalizer

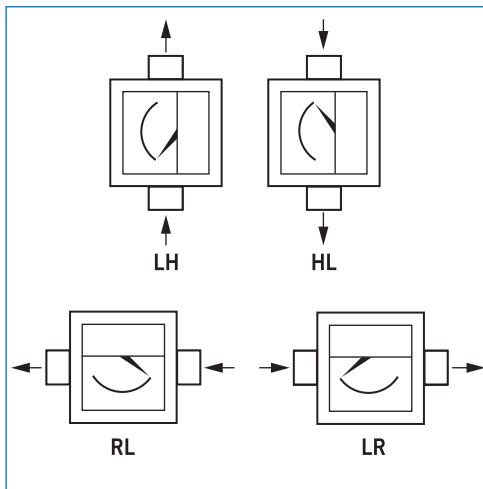


LCD Display: Totalizer 10 Digital (Top) / Flow Rate 8 Digital (Bottom)
Analog Output Available: 4~20mA (2-wires)
Power Supply: 24 VDC

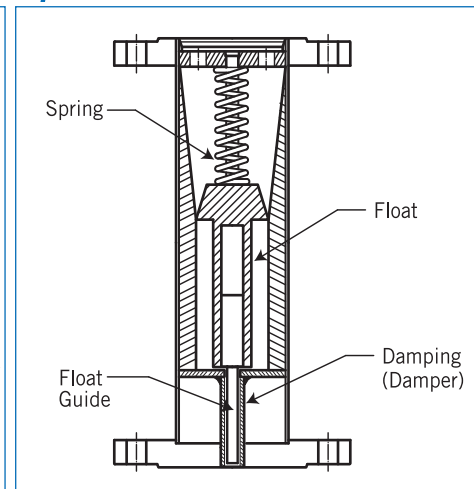
NOTE.

1. This is for the case type (A-1) only.
2. Please refer to the catalogue of D-1000 for the explosion proof type.

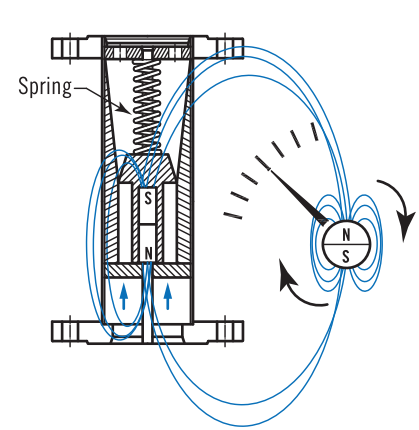
Flow Direction Type



Damping Mechanical (Option Function)



Principle



Standard Scales

| Tube | L/H 20°C Water | NM ³ /H Air 0°C 1.013bar | Pressure Loss psig | Connection | Accuracy |
|------------|----------------|-------------------------------------|--------------------|------------|-----------|
| BR250S01 | 30 ~ 300 | 0.8 ~ 8 | ≤3.5 | 1/2" | ±2.5% F.S |
| BR250S02 | 40 ~ 400 | 1 ~ 10 | ≤3.8 | 1/2" | ±2.5% F.S |
| BR250S03 | 50 ~ 500 | 1.2 ~ 12 | ≤3.7 | 1/2" | ±2.5% F.S |
| BR250S04 | 70 ~ 700 | 1.7 ~ 17 | ≤3.6 | 1/2" | ±2.5% F.S |
| BR250S05 | 80 ~ 800 | 2 ~ 20 | ≤3.8 | 1/2" | ±2.5% F.S |
| BR250S06 | 100 ~ 1000 | 2.7 ~ 27 | ≤4.0 | 1/2" | ±2.5% F.S |
| BR250S07 | 150 ~ 1500 | 4 ~ 40 | ≤4.2 | 1/2" | ±2.5% F.S |
| BR250S08 | 180 ~ 1800 | 5 ~ 50 | ≤4.5 | 1/2" | ±2.5% F.S |
| BR250S09 | 150 ~ 1500 | 4 ~ 40 | ≤3.8 | 3/4" | ±2.5% F.S |
| BR250S10 | 200 ~ 2000 | 6 ~ 60 | ≤4.0 | 3/4" | ±2.5% F.S |
| BR250S10-1 | 270 ~ 2700 | 6 ~ 60 | ≤4.0 | 3/4" | ±2.5% F.S |
| BR250S11 | 300 ~ 3000 | 9 ~ 90 | ≤3.4 | 1" | ±2.5% F.S |
| BR250S12 | 400 ~ 4000 | 12 ~ 120 | ≤3.6 | 1" | ±2.5% F.S |
| BR250S13 | 600 ~ 6000 | 15 ~ 150 | ≤3.9 | 1" | ±2.5% F.S |
| BR250S13-1 | 1000 ~ 10000 | 15 ~ 150 | ≤3.9 | 1" | ±2.5% F.S |
| BR250S14 | 600 ~ 6000 | 15 ~ 150 | ≤3.6 | 1½" | ±2.5% F.S |
| BR250S15 | 800 ~ 8000 | 24 ~ 240 | ≤3.8 | 1½" | ±2.5% F.S |
| BR250S16 | 1000 ~ 10000 | 30 ~ 300 | ≤3.9 | 1½" | ±2.5% F.S |
| BR250S17 | 1200 ~ 12000 | 35 ~ 350 | ≤4.3 | 1½" | ±2.5% F.S |
| BR250S17-1 | 1500 ~ 15000 | 35 ~ 350 | ≤4.3 | 1½" | ±2.5% F.S |
| BR250S18 | 1200 ~ 12000 | 35 ~ 350 | ≤3.2 | 2" | ±2.5% F.S |
| BR250S19 | 1600 ~ 16000 | 50 ~ 500 | ≤3.4 | 2" | ±2.5% F.S |
| BR250S20 | 2000 ~ 20000 | 60 ~ 600 | ≤3.8 | 2" | ±2.5% F.S |
| BR250S21 | 2500 ~ 25000 | 70 ~ 700 | ≤4.1 | 2" | ±2.5% F.S |
| BR250S21-1 | 3000 ~ 30000 | 70 ~ 700 | ≤4.1 | 2" | ±2.5% F.S |
| BR250S22 | 2000 ~ 20000 | 70 ~ 700 | ≤3.0 | 2½" | ±2.5% F.S |
| BR250S23 | 3000 ~ 30000 | 80 ~ 800 | ≤3.2 | 2½" | ±2.5% F.S |
| BR250S23-1 | 3500 ~ 35000 | 80 ~ 800 | ≤3.2 | 2½" | ±2.5% F.S |
| BR250S24 | 3000 ~ 30000 | 90 ~ 900 | ≤3.4 | 3" | ±2.5% F.S |
| BR250S25 | 4000 ~ 40000 | 120 ~ 1200 | ≤3.7 | 3" | ±2.5% F.S |
| BR250S25-1 | 6000 ~ 60000 | 120 ~ 1200 | ≤3.7 | 3" | ±2.5% F.S |
| BR250S26 | 5000 ~ 50000 | ----- | ≤3.6 | 4" | ±2.5% F.S |
| BR250S27 | 6000 ~ 60000 | ----- | ≤4.2 | 4" | ±2.5% F.S |
| BR250S27-1 | 10000~100000 | ----- | ≤4.2 | 4" | ±2.5% F.S |
| BR250S28 | 10000~100000 | ----- | ≤3.8 | 5" | ±2.5% F.S |
| BR250S28-1 | 12000~120000 | ----- | ≤3.8 | 5" | ±2.5% F.S |
| BR250S29 | 12000~120000 | ----- | ≤4.3 | 5" | ±2.5% F.S |
| BR250S29-1 | 14000~140000 | ----- | ≤4.3 | 5" | ±2.5% F.S |
| BR250S30 | 15000~150000 | ----- | ≤4.5 | 6" | ±2.5% F.S |
| BR250S31 | 20000~200000 | ----- | ≤4.6 | 6" | ±2.5% F.S |
| BR250S32 | 25000~250000 | ----- | ≤4.7 | 6" | ±2.5% F.S |

NOTE

Performance Technical Data are effective with date of issue and are subject to change without prior notice.

Ordering Information

| BR250S | Code | Type | Code | Connection Size | | | | |
|-----------------------|------------|--|---|-----------------|---|---------------------------------|------------|------------|
| SIL2 Certified | G | Indicating Only | 4B | ¼" BSP (Female) | 4N | ¼" NPT (Female) | | |
| | GS | Indicating + Switch | 2B | ½" BSP (Female) | 2N | ½" NPT (Female) | | |
| | GT | Indicating + 4~20mA (no alarm switch available) | 6B | ¾" BSP (Female) | 6N | ¾" NPT (Female) | | |
| | GTA | Hall Sensor Type / Indicating + 4~20mA (no alarm switch available) | 10B | 1" BSP (Female) | 10N | 1" NPT (Female) | | |
| | GTH | HART Type / Indicating + HART (no alarm switch available) | 2F | ¼" Flange | | | | |
| | | Code | Alarm | 4F | ½" Flange | | | |
| | | O | Without Alarm Switch | 6F | ¾" Flange | | | |
| | | C1 | One Inductive Alarm Switch | C2 | Two Inductive Alarm Switches | | 10F | 1" Flange |
| | | M1 | One Micro Switch | 12F | 1½" Flange | | | |
| | | R1 | One Reed Switch | R2 | Two Reed Switches | | 14F | 1¼" Flange |
| | | Code | Housing Protection / Case Type / Material | | 20F | 2" Flange | | |
| | | A1 | IP66 / Rectangle Bolt Tight Type / Aluminum alloy | | 22F | 2½" Flange | | |
| | | A2 | IP66 / Round Screw Tight Type / Aluminum alloy | | 30F | 3" Flange | | |
| | | B1 | IP68 / Round Bayonet Ring Type / SS316(indicating only) | | 40F | 4" Flange | | |
| | | B2 | IP68 / Round Screw Tight Type / SS316 | | 50F | 5" Flange | | |
| | | C | <i>(Ex. Certificate on Housing only)</i> / Aluminum alloy Class I, Groups B, C & D; Class II, Groups E, F & G; NEMA 4, 7, 9 | | 60F | 6" Flange | | |
| | | D | <i>(Taiwan Explosion Proof Certification)</i> / Aluminum alloy Ex d IIB + H2 T6 Gb | | Code | Transmitter Type, 4~20mA | | |
| | | D1 | <i>(Taiwan Explosion Proof Certification)</i> / SS316 Ex d IIB + H2 T6 Gb | | G | General Type | | |
| | X | <i>(Europe Union ATEX Certification)</i> / Aluminum alloy II 2 G Ex db IIB + H2 T6 Gb Ta -20°C to +60°C | | O | Without Transmitter | | | |
| | G | <i>(China Explosion Proof Certification)</i> / Aluminum alloy Ex d IIB + H2 T6 Gb | | Code | Fluid | | | |
| | | | | | (G) Gas (O) Oil (L) Liquid (S) Steam | | | |
| | | | | Code | Range | | | |
| | | | | S | Standard Range | | | |
| | | | | | Please direct fill out the flow range in the order code. | | | |
| | | | | Code | Flow Direction | | | |
| | | | | | (O) LH (5) HL (10) RL (20) LR | | | |
| | | | | Code | LCD Display | | | |
| | | | | D0 | With LCD Display IP66, for A1 case only | | | |
| | | | | D | With LCD Display Explosion Proof, (assemble with D-1000) NOTE.1 | | | |
| | | | | N | Without | | | |
| | | | | Code | Damper | | | |
| | | | | D | With | | | |
| | | | | N | Without | | | |
| | | | | Code | Conduit | | | |
| | | | | N | Without | | | |
| | | | | 1 | ½" NPT(F) | | | |
| | | | | 2 | ¾" NPT(F) | | | |
| | | | | Code | Body & Wetted Parts Material | | | |
| | | | | A | SS316, Standard | | | |
| | | | | B | SS316L | | | |
| | | | | O | Option | | | |
| | | | | Code | Float Material | | | |
| | | | | A | SS316 | | | |
| | | | | B | SS316L | | | |
| | | | | O | Option | | | |
| | | | | Code | Connection Rating | | | |
| | | | | 0 | Thread Connection | | | |
| | | | | 5 | JIS 5K | | | |
| | | | | 10 | JIS 10K | | | |
| | | | | 20 | JIS 20K | | | |
| | | | | 15 | ANSI 150# | | | |
| | | | | 30 | ANSI 300# | | | |
| | | | | 60 | ANSI 600# | | | |
| | | | | 90 | ANSI 900# | | | |
| | | | | T | Other: _____ | | | |

NOTE:

1. Custom-made flow range and flange size upon request.
2. Please fill in the ordering information and service condition, and fax this sheet along with your inquiry to 886-7-8225588.

Special Instruction, if any:

Service Condition:

Fluid name: _____

Sp. Gr. (Density): _____

Viscosity: _____

Press.: _____

Temp.: _____

Full Scale: _____

NOTE.1 LCD Display:

Assemble with D-1000 Series

