

# 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, m<sup>3</sup>/h, kg/h, %, etc.

**Flow Rates For:**

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

– Air: 0.8 Nm<sup>3</sup>/h up to 1,200 Nm<sup>3</sup>/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 or Explosion proof available

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

**Max. Pressure:** 40 kg/cm<sup>2</sup> (standard); Option: up to 100 kg/cm<sup>2</sup>

**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:

**ABS**  
TYPE APPROVED PRODUCT

**ATEX** **Ex** **II 2GD** **CE** **2503**

**UL** **CSA**  
Switches with UL & CSA Recognized and File No. E41515.

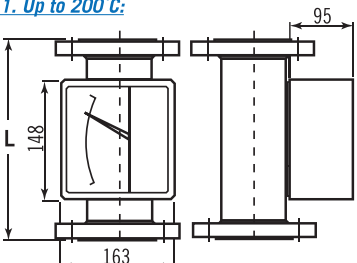
**TD0400TJ**  
工電(2015)第00151號  
(ITRI)2017第07-00302號

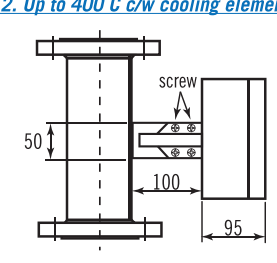
### Patent No.

Taiwan: M338981/M332936  
China: 1187801

## Dimensions-mm

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

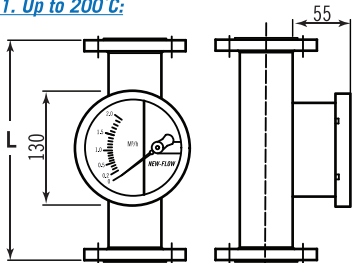
**1. Up to 200°C:** 

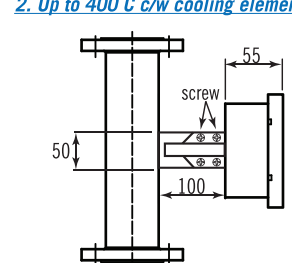
**2. Up to 400°C c/w cooling element:** 

(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.

**IP66 Case Type:** (B-1) Round Bayonet Ring Type (only for indicating)  
**Housing Material:** SS316

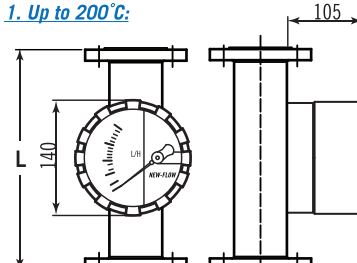
**1. Up to 200°C:** 

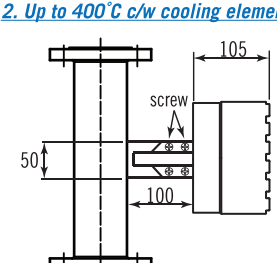
**2. Up to 400°C c/w cooling element:** 

(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.

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

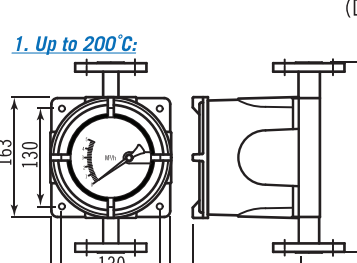
**1. Up to 200°C:** 

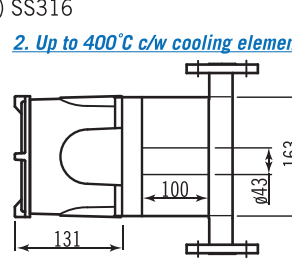
**2. Up to 400°C c/w cooling element:** 

(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:** 

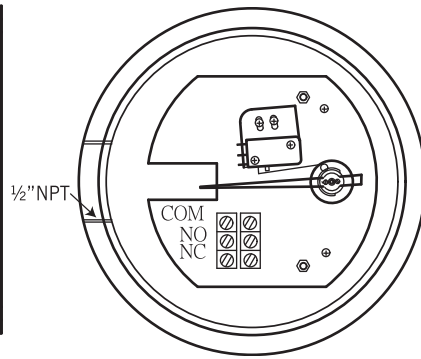
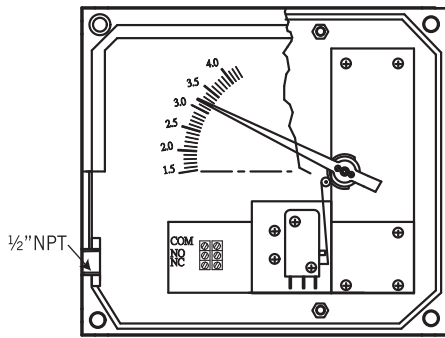
(C)	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	300	300	300	300

(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.

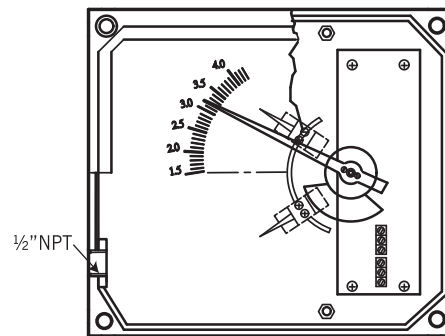
## Alarm / Analog Output

### 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)

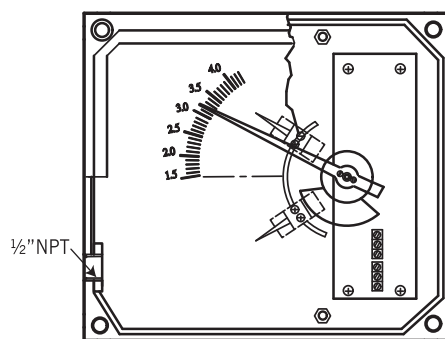


**Alarm Switch:** One or Two setting point, form A bistable type (N.O Type)  
**Hysteresis:** ±10% F.S (Dead Band)  
**Switch Rating:** AC 125V 0.5A / DC 100V 10W / Max. DC 250V < 40mA

**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)



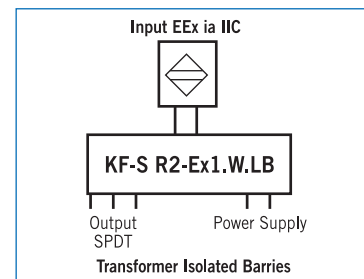
**Adjustable Inductive Alarm Switch**  
**Hysteresis:** ±1% F.S (Dead Band)  
**Inductive Sensors Slotted Type:** 3.5 mm Slot Switch

**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

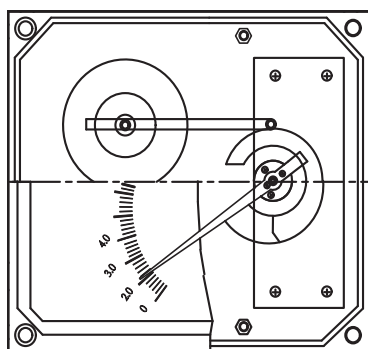
**Isolated barriers output relay for inductive sensor**  
 – Rail Mounting  
 – Control Circuit EEx ia IIC  
 – EMC acc to NAMUR NE21  
 – Contact Loading 250 VAC 2A SPDT 40 VDC 2A

**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

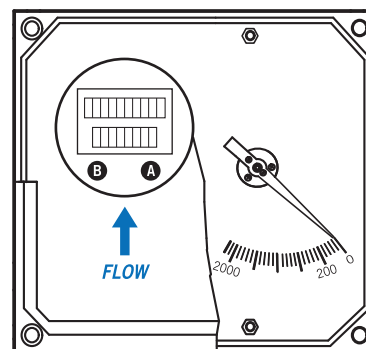


### BR-250S / GT (Analog Output)



**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

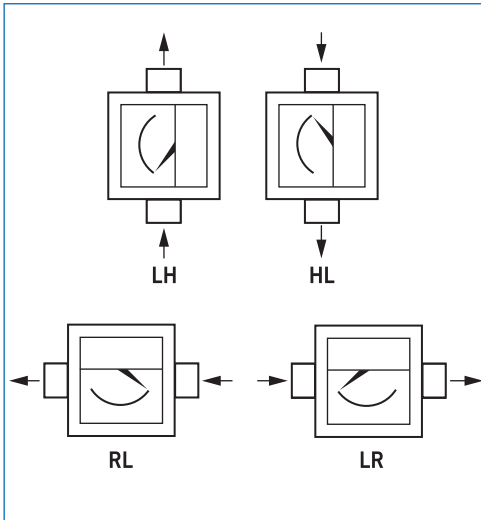


**LCD Display:** Totalizer 10 Digital (Top) / Flow Rate 8 Digital (Bottom)  
**Analog Output Available:** 4~20mA (2-wires)  
**Power Supply:** 24 VDC

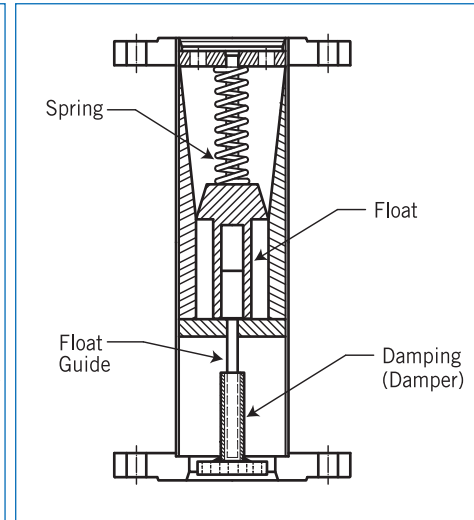
**NOTE.**

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

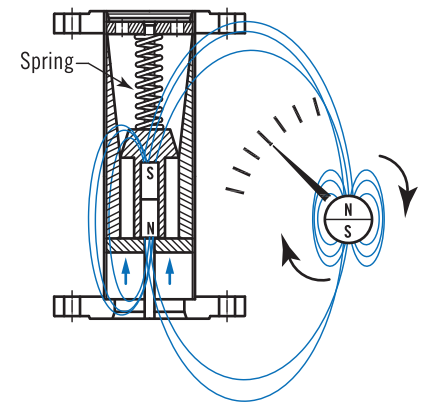
## Flow Direction Type



## Damping Mechanical (Option Function)



## Principle



## Standard Scales

Tube	L/H 20°C Water	NM <sup>3</sup> /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
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
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
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
BR250S22	2000 ~ 20000	70 ~ 700	≤3.0	2½"	±2.5% F.S
BR250S23	3000 ~ 30000	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
BR250S26	5000 ~ 50000	-----	≤3.6	4"	±2.5% F.S
BR250S27	6000 ~ 60000	-----	≤4.2	4"	±2.5% F.S
BR250S28	10000~100000	-----	≤3.8	5"	±2.5% F.S
BR250S29	12000~120000	-----	≤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.

