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 400,000 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"~8"
Mounting: Vertical and Horizontal available
Mounting Length: 250mm standard for size ¼"~4", 300mm standard for size 5~10"; 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:

ABS TYPE APPROVED PRODUCT
CE 2810 (PED: 2014/68/EU)
SIL2 Certified
Ex II 2 G CE 0539
c UL us Switches with UL & CSA Recognized and File No. E41515.
Ex NEPSI GYB25.1445X

Patent No.

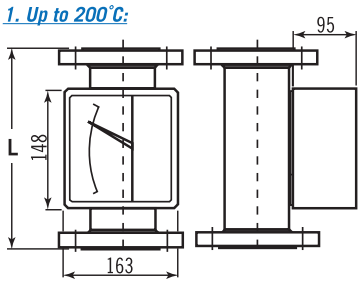
Taiwan: M338981/M332936
China: 1187801

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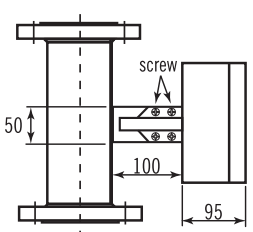
Dimensions-mm

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

1. Up to 200°C:



2. Up to 400°C c/w cooling element:

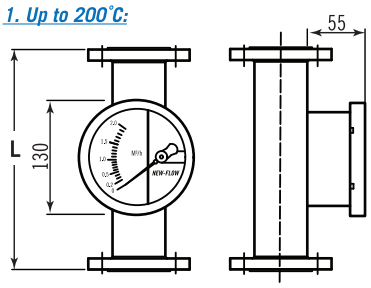


(A1)	Body Size									
	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	250	250	300	300

• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customed 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:

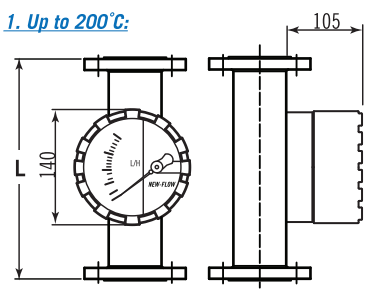


(B1)	Body Size									
	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	250	250	300	300

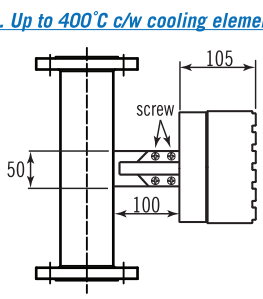
• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customed L length is on request.

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:

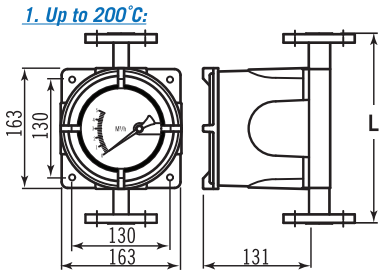


(A2) (B2)	Body Size									
	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	250	250	300	300

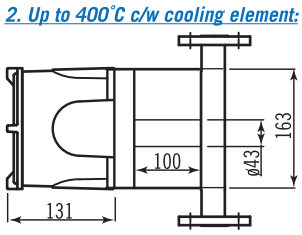
• Flange rating is ANSI 150LB; please consult with the manufacturer for others flange rating and customed L length is on request.

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:



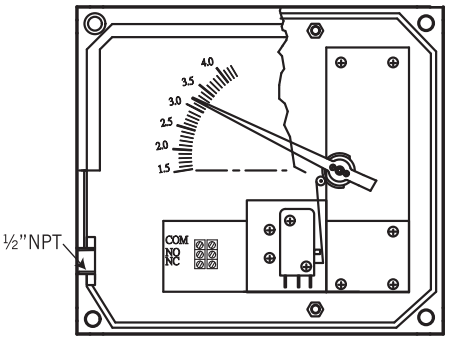
(C)	Body Size									
	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	300	300	300	300

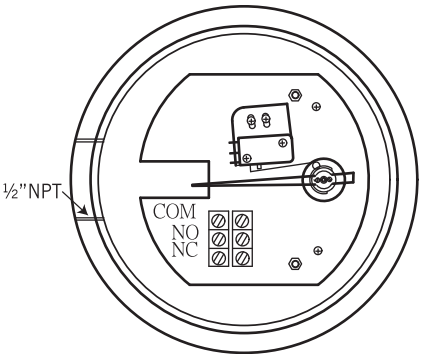
(D) (D1)	Body Size									
	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	250	250	300	300

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

Alarm / Analog Output

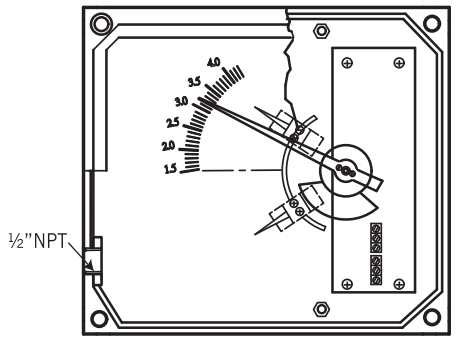
BR-250S / GS-M (Micro Switch)





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)

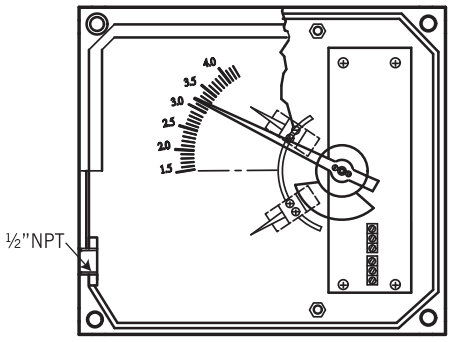


Alarm Switch: One or Two setting point, form A bistable type (N.O Type)
Hysteresis: ±10% F.S (Dead Band)
Switch Rating: AC 125V 0.5A / DC 100V 10W / Max. DC 250V < 40mA

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)



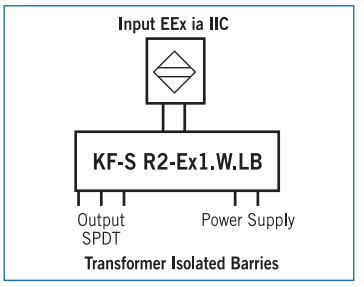
Adjustable Inductive Alarm Switch
Hysteresis: ±1% F.S (Dead Band)
Inductive Sensors Slotted Type: 3.5 mm Slot Switch

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

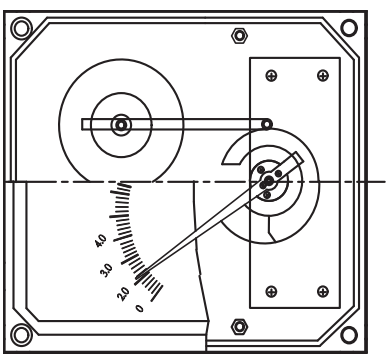
Isolated barriers output relay for inductive sensor
– Rail Mounting
– Control Circuit EEx ia IIC
– EMC acc to NAMUR NE21
– Contact Loading 250 VAC 2A SPDT 40 VDC 2A

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

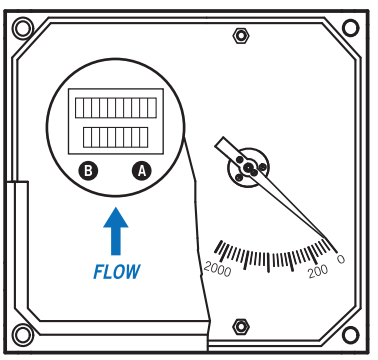


BR-250S / GT (Analog Output) / GTA (Hall Sensor)



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

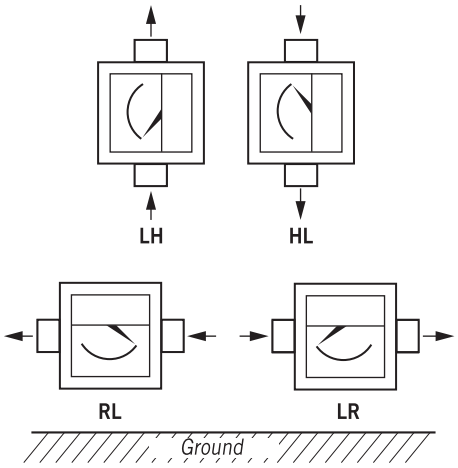
LCD Display / Totalizer



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.

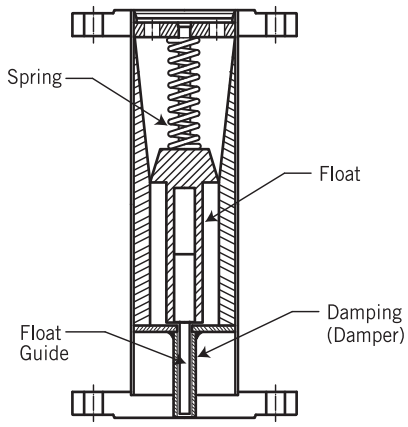
LCD Display: Totalizer 10 Digital (Top) / Flow Rate 8 Digital (Bottom)
Analog Output Available: 4~20mA (2-wires)
Power Supply: 24 VDC

Flow Direction Type

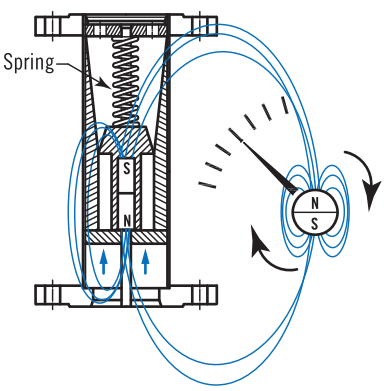


SPECIAL NOTE.
1. No minimum length requirement for straight pipe.
2. For horizontal installation, "Do Not" place the scale panel face to sky or ground.

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
BR250S33	20000~200000	----------	≤4.6	8"	±2.5% F.S
BR250S34	30000~300000	----------	≤4.7	8"	±2.5% F.S
BR250S35	35000~350000	----------	≤4.7	8"	±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
	G	Indicating Only
	GS	Indicating + Switch
SIL2 Certified	GT	Indicating + 4~20mA (no alarm switch available)
	GTA	**Hall Sensor Type** / Indicating + 4~20mA (no alarm switch available)
	GTH	**HART Type** / Indicating + HART (no alarm switch available)

Code	Alarm		
O	Without Alarm Switch		
C1	One Inductive Alarm Switch	C2	Two Inductive Alarm Switches
M1	One Micro Switch		
R1	One Reed Switch	R2	Two Reed Switches

Code	Housing Protection / Case Type / Material
A1	IP66 / Rectangle Bolt Tight Type / Aluminum alloy
A2	IP66 / Round Screw Tight Type / Aluminum alloy
B1	IP68 / Round Bayonet Ring Type / SS316(indicating only)
B2	IP68 / Round Screw Tight Type / SS316
C	***(Ex. Certificate on Housing only)*** / Aluminum alloy Class I, Groups B, C & D; Class II, Groups E, F & G; NEMA 4, 7, 9
D	***(Taiwan Explosion Proof Certification)*** / Aluminum alloy Ex d IIB + H_2 T6 Gb
D1	***(Taiwan Explosion Proof Certification)*** / SS316 Ex d IIB + H_2 T6 Gb
X	***(Europe Union ATEX Certification)*** / Aluminum alloy II 2 G Ex db IIB + H_2 T6 Gb Ta= -20°C to +60°C
G	***(China Explosion Proof Certification)*** / Aluminum alloy Ex d IIB + H_2 T6 Gb

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	15	ANSI 150#
10	JIS 10K	30	ANSI 300#
20	JIS 20K	60	ANSI 600#
		90	ANSI 900#
		150	ANSI 1500#
		250	ANSI 2500#
T	Other: _____		

Code	Connection Size		
4B	¼"BSP (Female)	2F	¼" Flange
2B	½"BSP (Female)	4F	½" Flange
6B	¾"BSP (Female)	6F	¾" Flange
10B	1"BSP (Female)	10F	1" Flange
4N	¼"NPT (Female)	12F	1½" Flange
2N	½"NPT (Female)	14F	1¼" Flange
6N	¾"NPT (Female)	20F	2" Flange
10N	1"NPT (Female)	22F	2½" Flange
		30F	3" Flange
		40F	4" Flange
		50F	5" Flange
		60F	6" Flange
		80F	8" Flange
		100F	10" Flange

Code	Transmitter Type, 4~20mA
G	General Type
O	Without Transmitter

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
	(0) 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)

CE ***Mark Request :***
If stamp the CE2810 mark is necessary, please consult with the manufacturer.

BR250S [ ][ ][ ][ ][ ][ ] + [ ][ ][ ][ ][ ][ ][ ][ ]

NOTE:
1. Custom-made flow range and flange size upon request.

NOTE.1 LCD Display:
Assemble with D-1000 Series

