

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 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)

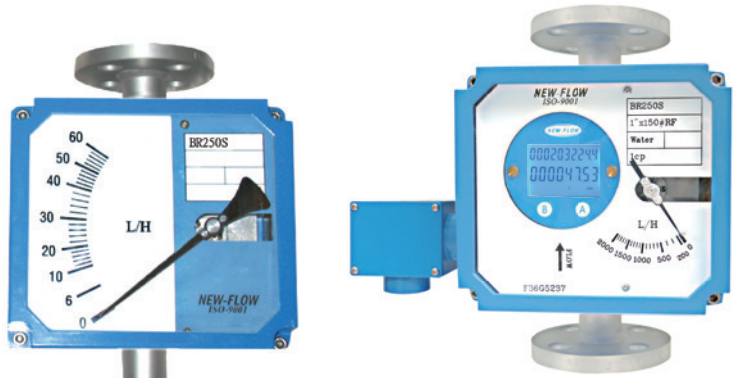
– Power Supply: 24 VDC

***HART® Communication:** available

Two Wire Transmitter with HART® Protocol: 

–Galvanic Isolation

–Suitable for application in SIL 2 installations



Approvals:

ABS
TYPE APPROVED PRODUCT

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

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

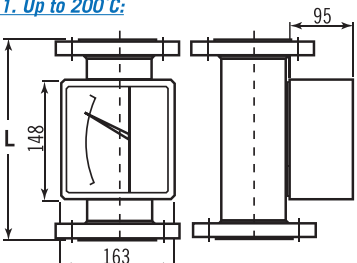
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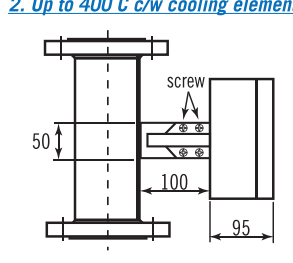
Patent No.

Taiwan: M338981/M332936
China: 1187801

Dimensions-mm

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

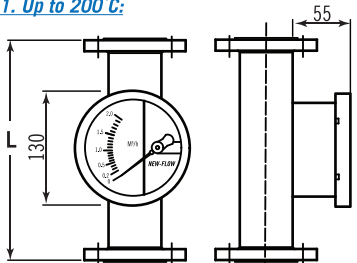
1. Up to 200°C: 

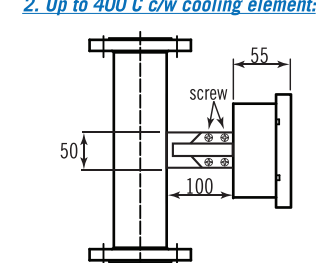
2. Up to 400°C c/w cooling element: 

(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

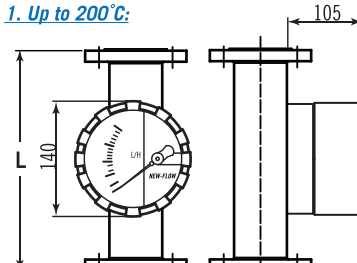
1. Up to 200°C: 

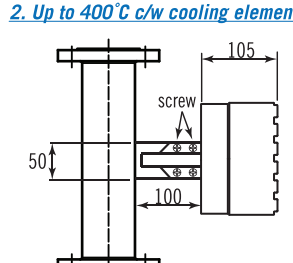
2. Up to 400°C c/w cooling element: 

(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

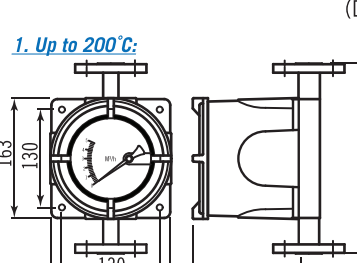
1. Up to 200°C: 

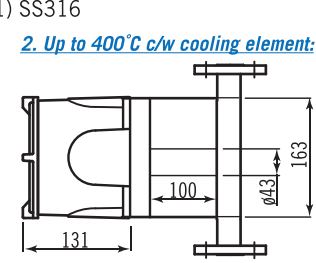
2. Up to 400°C c/w cooling element: 

(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: 

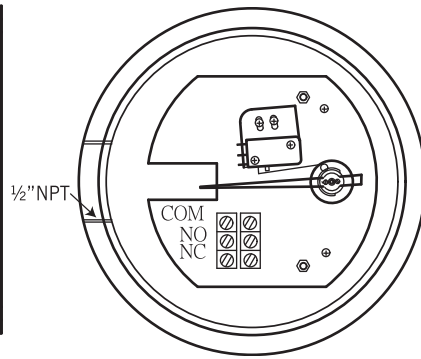
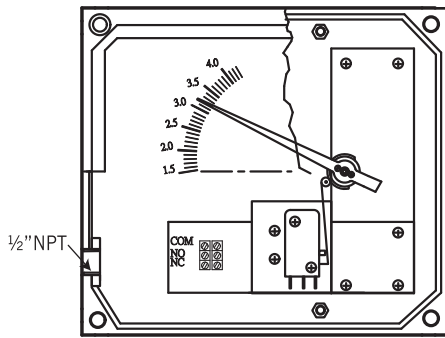
(C)	½"	¾"	1"	1½"	2"	2½"	3"	4"	5"	6"
L	250	250	250	250	250	250	300	300	300	300

(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.

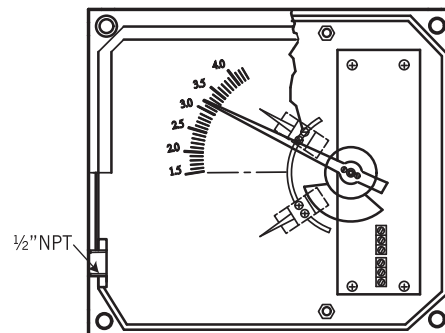
Alarm / Analog Output

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)

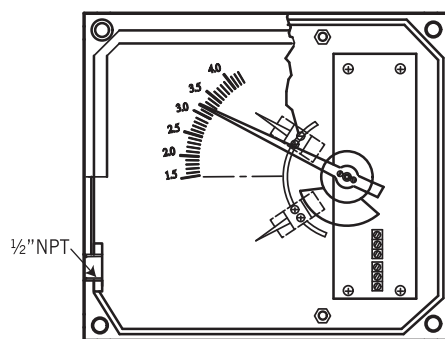


Alarm Switch: One or Two setting point, form A bistable type (N.O Type)
Hysteresis: ±10% F.S (Dead Band)
Switch Rating: AC 125V 0.5A / DC 100V 10W / Max. DC 250V < 40mA

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)



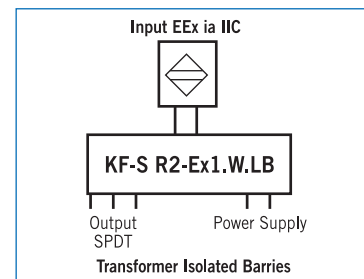
Adjustable Inductive Alarm Switch
Hysteresis: ±1% F.S (Dead Band)
Inductive Sensors Slotted Type: 3.5 mm Slot Switch

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

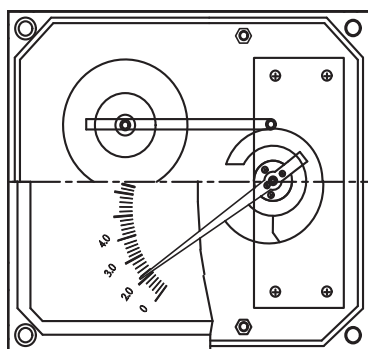
Isolated barriers output relay for inductive sensor
 – Rail Mounting
 – Control Circuit EEx ia IIC
 – EMC acc to NAMUR NE21
 – Contact Loading 250 VAC 2A SPDT 40 VDC 2A

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

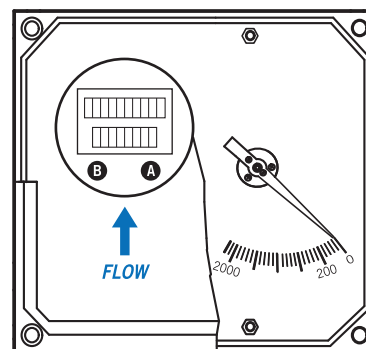


BR-250S / GT (Analog Output)



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

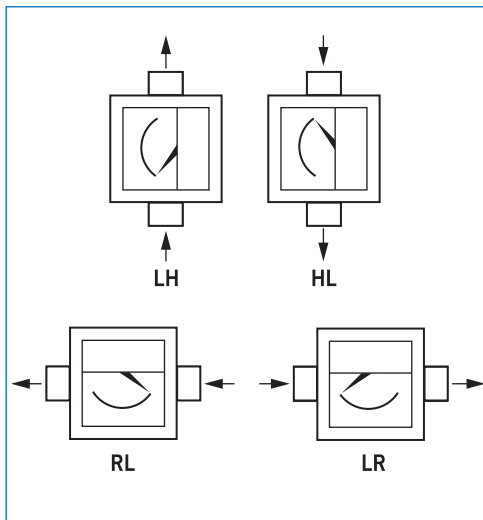


LCD Display: Totalizer 10 Digital (Top) / Flow Rate 8 Digital (Bottom)
Analog Output Available: 4~20mA (2-wires)
Power Supply: 24 VDC

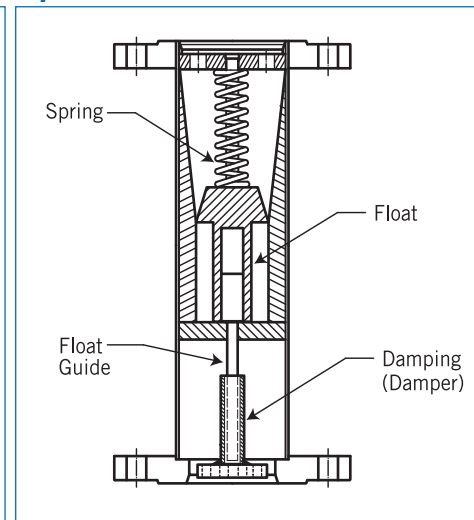
NOTE.

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

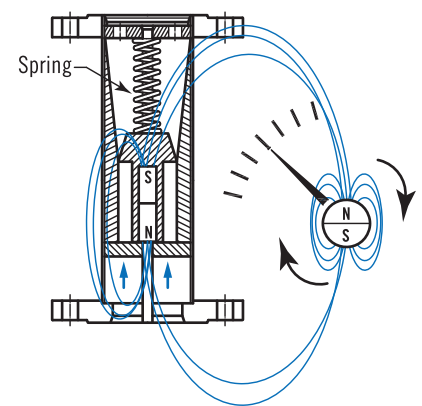
Flow Direction Type



Damping Mechanical (Option Function)



Principle



Standard Scales

Tube	L/H 20°C Water	NM 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
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.

Ordering Information

BR250S	Code	Type	Code	Connection Size			
	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 [4~20mA/Intrinsically Safe (EExialICT6)] (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	1¾" 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 IP66 / Round Bayonet Ring Type / SS316(indicating only)		40F	4" Flange		
		B2 IP66 / Round Screw Tight Type / SS316		50F	5" Flange		
		C (Ex. Certificate on Housing only) / Aluminum alloy Class I, Groups B, C & D; Class II, Groups E, F & G; NEMA 4, 7, 9		60F	6" Flange		
		D (Taiwan Explosion Proof Certification) / Aluminum alloy Ex d IIB + H2 T6 Gb		Code Transmitter Protection			
		D1 (Taiwan Explosion Proof Certification) / SS316 Ex d IIB + H2 T6 Gb		G IP66 (General Type)			
		X (Europe Union ATEX Certification) / Aluminum alloy II 2 G D Ex db IIB + H2 T6 Gb Ex tb IIIC T85°C Db		Ix. Intrinsically Safe (EExialICT6), IP66 (only for HART)			
				O Without Transmitter			
		Code Body & Wetted Parts Material		Code Fluid			
		A SS316, Standard	B SS316L		(G) Gas (O) Oil (L) Liquid (S) Steam		
		O Option		Code Range			
		Code Float Material		S Standard Range			
		A SS316	B SS316L		Please direct fill out the flow range in the order code.		
		O Option		Code Flow Direction			
		Code Connection Rating			(O) LH (5) HL (10) RL (20) LR		
		0 Thread Connection		Code LCD Display			
		5 JIS 5K		D0 With LCD Display IP66, for A1 case only			
		10 JIS 10K		D With LCD Display Explosion Proof, (assemble with D-1000) NOTE.1			
		20 JIS 20K		N Without			
	15 ANSI 150#		Code Damper				
	30 ANSI 300#		D With				
	60 ANSI 600#		N Without				
	90 ANSI 900#		Code Conduit				
	T Other: _____		N Without				
			1 ½" NPT(F)				
			2 ¾" NPT(F)				

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

