

## GENERAL

**BMS 1000** Series is a flange type Electromagnetic Flowmeter ideal for conductive liquids. It comes in sizes from 6 to 2000mm. The BMS1000 is widely used for tap-water, waste water, food & beverage Pulp & Paper and many other applications. BMS1000 Series magmeter could be used in compact or separate model with BMC Series converter of electromagnetic Flowmeter.

## FEATURES

- Various liner can be selected that satisfies most industrial applications
- Flow Velocity range:0-12 m/s, with good results for low flow applications
- It comes any flanges such as ,ANSI, DIN, JIS... Etc
- It excellent for high pressure application
- Protection class: IP68 is available, and the sensor can sink into the water
- FEP Liner suitable in vacuum tube
- High accuracy of +/-0.5% of reading(or+/-0.2% of reading)
- With Forward/Reverse flowrate measure function

## SPECIFICATION

- Size : 6,10,15,20, 25,32,40,50,65,80,100,125  
150,200,250,300,350,400,450,500,600  
700,800,900,1000,1200,1400,1600  
1800,2000 mm
- Measuring Range : Velocity 0 - 0.25 m/s min.  
0 - 12 m/s max.
- Material
  - Measuring Tube : Stainless Steel 304
  - Flange : Carbon Steel (standard)  
: Stainless Steel 304(Optional)  
: Stainless Steel 316(Optional)
  - Coil Housing : Carbon Steel (standard)  
: Stainless Steel 304(Optional)  
: Stainless Steel 316(Optional)
- Liner : Polyurethane(25-600 mm)  
: Neoprene(50-2000 mm)  
: FEP(6-300 mm)  
: PTFE(25-800 mm)  
: PFA(6-300 mm)
- Protection : IP 68  
: IP 68 (Submersible)
- Conductivity : to be more then 5 uS/cm
- Explosion Proof : Exd(ib)ibqIBT5  
(with BMC3100 only)
- Electrode & Grounding : Stainless Steel 316L  
: Hastelloy B  
: Hastelloy C  
: Titanium  
: Tantalum  
: Platinum  
: Tungsten Carbide
- Cable Entry : 2 X PG11
- Ambient Temperature : -25 to +60 Deg. C
- Process Connection : Flange
- Flanges Type : JIS 10K / JIS 20K / JIS 40K  
ANSI 150# / ANSI 300# / ANSI 600#  
DIN PN 10 / PN 16 / PN25 / PN 40
- Grounding Resistance : Must be less then 10 Ω
- Accuracy : +/-0.5% of reading (Velocity>=0.5 m/s)  
: +/-0.0025 m/s (Velocity < 0.5 m/s)  
: +/-0.2% of Reading  
(suitable for BMC3100 Converter only)
- Temperature : -10 ~ +60 °C (Polyurethane)  
: -20 ~ +70 °C (Neoprene)  
: -40 ~ +180 °C (FEP)  
: -40 ~ +180 °C (PTFE/PFA)
- Max. Pressure : 350 Kg/cm2

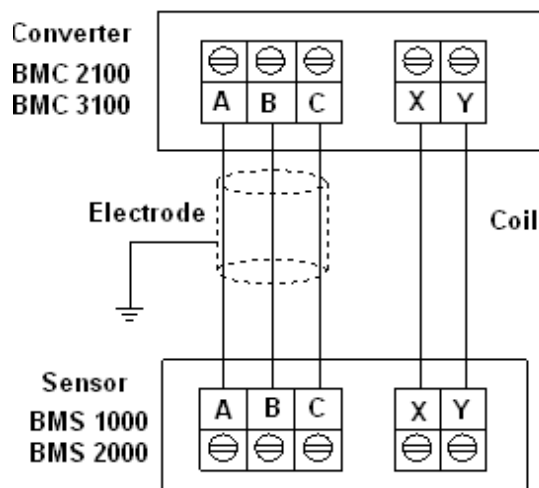


## ➤ FLOW RANGE

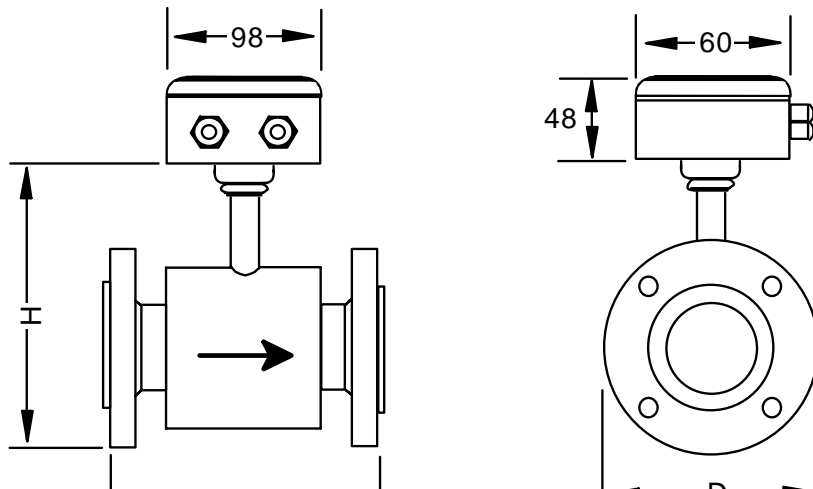
Unit: M3/Hr

Normal Size		Flow Range & Velocity Table						
mm	Inch	Min. 0 - 0.25M/S	1.0 M/S	2.0 M/S	3.0 M/S	5.0 M/S	10.0 M/S	Max. 0 - 12 M/S
6	1/4"	0 to 0.025	0.10	0.20	0.31	0.51	1.02	0 to 1.22
10	3/8"	0 to 0.071	0.28	0.57	0.85	1.41	2.83	0 to 3.39
15	1/2"	0 to 0.16	0.64	1.27	1.91	3.18	6.36	0 to 7.63
20	3/4"	0 to 0.28	1.13	2.26	3.39	5.65	11.3	0 to 13.6
25	1"	0 to 0.44	1.77	3.53	5.30	8.84	17.7	0 to 21.2
32	1-1/4"	0 to 0.72	2.90	5.79	8.69	14.5	29.0	0 to 34.7
40	1-1/2"	0 to 1.13	4.52	9.05	13.6	22.6	45.2	0 to 54.3
50	2"	0 to 1.77	7.07	14.1	21.2	35.3	70.7	0 to 84.8
65	2-1/2"	0 to 2.99	11.9	23.9	35.8	59.7	119	0 to 143
80	3"	0 to 4.52	18.1	36.2	54.3	90.5	181	0 to 217
100	4"	0 to 7.07	28.3	56.5	84.8	141.4	283	0 to 339
125	5"	0 to 11.0	44.2	88.4	133	220.9	442	0 to 530
150	6"	0 to 15.9	63.6	127	191	318.1	636	0 to 763
200	8"	0 to 28.3	113	226	339	565.5	1131	0 to 1357
250	10"	0 to 44.2	177	353	530	883.6	1767	0 to 2121
300	12"	0 to 63.6	254	509	763	1272	2545	0 to 3054
350	14"	0 to 86.6	346	693	1039	1732	3464	0 to 4156
400	16"	0 to 113	452	905	1357	2262	4524	0 to 5429
450	18"	0 to 143	573	1145	1718	2863	5725	0 to 6871
500	20"	0 to 177	707	1414	2121	3534	7068	0 to 8482
600	24"	0 to 254	1018	2036	3054	5089	10179	0 to 12214
700	28"	0 to 346	1385	2771	4156	6927	13854	0 to 16625
800	32"	0 to 452	1810	3619	5429	9048	18095	0 to 21714
900	36"	0 to 573	2290	4580	6871	11451	22902	0 to 27482
1000	40"	0 to 707	2827	5655	8482	14137	28274	0 to 33928
1200	48"	0 to 1018	4071	8143	12214	20357	40714	0 to 48857
1400	56"	0 to 1385	5542	11083	16625	27708	55417	0 to 66500
1600	64"	0 to 1810	7238	14476	21714	36190	72381	0 to 86857
1800	72"	0 to 2290	9161	18321	27482	45803	91607	0 to 109928
2000	80"	0 to 2827	11309	22619	33928	56547	113095	0 to 135714

## ➤ ELECTRICAL CONNECTION



## DIMENSIONS



Size (mm)	Standard Pressure Kg/cm <sup>2</sup>	Liner Material				Dimensions (mm)			Weight Kg	
		FEP / PFA	Neoprene	Polyurethane	PTFE	L	D	H		
6	40	☉				150	90	145	4.0	
10		☉					105	160	5.1	
15		☉					115	166	5.5	
20		☉					140	180	7.0	
25		☉			☉		150	190	7.7	
32		☉			☉		200	165	201	9.5
40		☉		☉	☉			185	220	11.5
50		☉	☉	☉	☉	200		235	13	
65		16	☉	☉	☉	250	220	254	16	
80			☉	☉	☉		250	284	20.5	
100	☉		☉	☉	300		314	27		
125	10	☉	☉	☉	350	340	369	44.5		
150		☉	☉	☉		395	430	53		
200		☉	☉	☉	450	445	480	71.5		
250		☉	☉	☉		505	540	75.2		
300		☉	☉	☉	500	565	600	99		
350		☉	☉	☉		615	640	207		
400		☉	☉	☉	600	670	700	237		
450		☉	☉	☉		780	800	318		
500		☉	☉	☉	700	895	910	358		
600		☉	☉	☉		1015	1020	408		
700	6		☉		900	1115	1120	457		
800			☉			1230	1230	610		
900			☉			1405	1450	1460		
1000			☉			1630	1560	2730		
1200			☉			1830	1770	3460		
1400		☉		1800	2045	2040	4860			
1600		☉			2265	2250	5800			
1800		☉								
2000		☉								

Note: ☉ Standard

Weight & Dimension D & H only for DIN flange

## Model Selection Guide

BMS1000 Series										
Example: BMS1000-P1000-BAN80-C-N										
BMS1000-	X	XXXX-	X	X	X	X	X-	XXX-	X	Description
Liner	N									Chloroprene Rubber(Neoprene)(50 ~ 2000mm, 2" ~ 80")
	F									FEP (6 ~ 300mm, 1/4" ~ 12")
	P									PTFE (25 ~ 800mm, 1" ~ 32")
	A									PFA (6 ~ 300mm, 1/4" ~ 12")
	O									Polyurethane (25 ~ 600mm, 1" ~ 24")
Size		6 ~ 2000								6 ~ 2000mm
Electrode Material	-S									Stainless Steel 316L
	-T									Titanium
	-B									Has. B
	-C									Has. C
	-A									Tantalum
	-P									Platinum
	-U									Tungsten Carbide
	-Z									Others
Connection	1									PN10
	2									PN16
	3									PN25
	4									PN40
	A									ANSI 150 #
	B									ANSI 300 #
	C									ANSI 600 #
	J									JIS 10K
	K									JIS 20K
	L									JIS 40K
	Z									Others
Grounding	N									None
	E									Grounding Electrode 3 Electrode)
	R									Grounding Ring (S.S.316)
	A									Grounding & Protection Ring (S.S.316)
	Z									Others
Protection						8				IP68
						9				IP68 (Submersible, separate with converter only)
Flange & Housing	0-									Carbon Steel (standard)
	4-									S.S.304 Flange
	6-									S.S.316 Flange
	8-									S.S.304 Flange & Housing
	9-									S.S.316 Flange & Housing
Installation & Cable length							C			Compact version
							010~300			Separate version, Cable 10M ~ 300M
Option								-N		None
								-X		Explosion Proof, Exd(ib)ibqllBT5 (with BMC3100 only)
								-T1		Pressure higher then standard
								-T2		Max. Temp. higher then 120°C

## GENERAL

BMC3100 series Converter can be used with BMS series flow tubes in both compact or separate versions.

## FEATURES

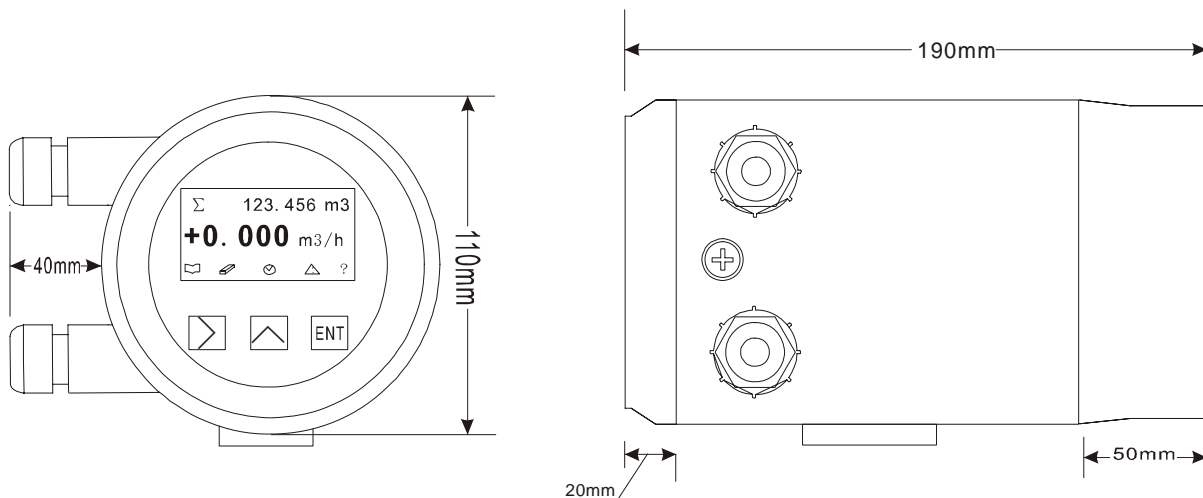
- Three line LCD display for Flow rate/Totalizer
- Accuracy of +/-0.2% of reading
- Bi-directional flow measurement, current and pulse output
- 4-20mA auxiliary Input include 4 digit display
- 99 of times Datalogger function for power on/off
- MODBUS/HART communication

## STANDARD SPECIFICATION

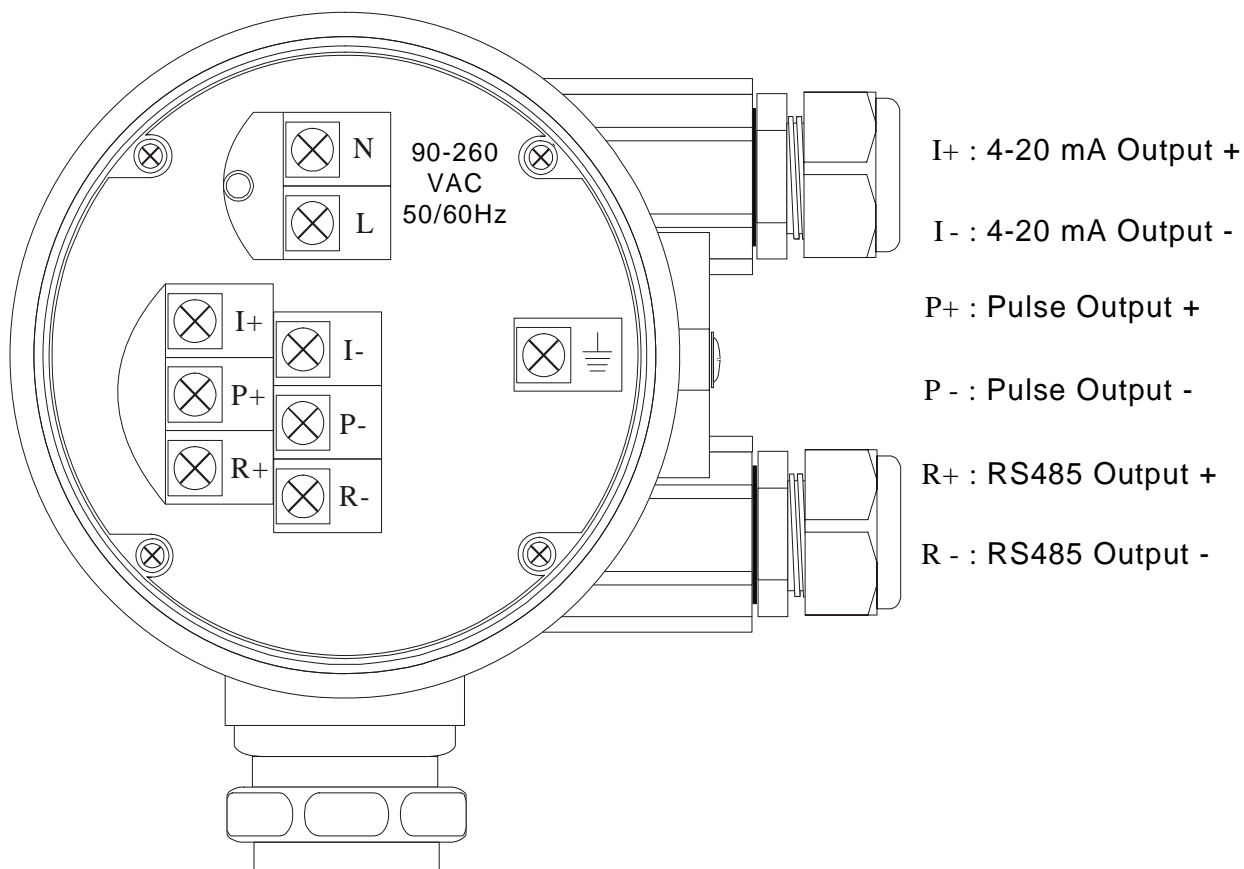
- Excitation : Square wave
- Display : 3 lines LCD with illumination
  - Line 1 : 11 digit totalizer for forward flow
  - : 11 digit totalizer for reverse flow
  - : 11 digit totalizer for difference
  - Line 2 : 5 digit flowrate / Velocity / % / mA / HZ
  - Line 3 : Parameter / Query / Clr tot / Query LOG
  - Alarm, Guidance
  - Unit : M3/H , L/H , Kg/H , T/H , L/min
  - : M3/min , GPH , GPM
- Measuring Range : Min. 0 to 0.15 m/s
- : Max. 0 to 15 m/s
- Accuracy : +/-0.2% of reading (Velocity >= 0.5 m/s)
- : +/-0.001 m/s (Velocity < 0.5 m/s)
- Repeatability : +/-0.05% of reading
- Current Output : 4-20 mA (Isolated)
- Load : Max. 600 Ω
- Pulse output : Open collector
- Rating : 3 to 30 Vdc, 20 mA Max.
- Pulse Rate : 1)Scale pulse, (Pulse/M3, Pulse/L, Other)
- : 2)Frequency, 0-5000 Hz
- Pulse Width : 50% of band width
- Alarms : High/Low with open collector output
- Rating : 3 to 30 Vdc, 20 mA Max.
- Communication : RS 485(MODBUS Protocol)
- : HART signal
- Data Storage : Operation parameters and totalization
- figures are stored by EEPROM for more
- then 10 years
- Keyboard : 3 keys from external for programming
- and display control.
- Low Flow Cutoff : 0 to 9.9 %
- Datalogger Function : 99 of times record for power on/off
- Record Data : Date/time when Power on/off
- : Flow rate when Power off
- : Totalizer when Power off
- Damping : 0 to 99 Second
- Density Setting : 0.1 to 9.99 g/cm2
- Self Diagnosis : The following error message is
- indicated when applicable
- Coil fail
- Power fail
- Output overranged
- Internal error
- Overflow
- Empty pipe
- Cable Entry : 2 X PG 11
- Protection Class : IP 67, Explosion proof,Exd(ib)ibqllBT5
- Ambient Temperature : -25 to +65 °C
- Material : Aluminum Alloy
- Power Supply : 90-260 Vac, 50/60 Hz
- : 24Vdc +/-10%(Option)
- Power Consumption : 3-17 W (depending on the sensor size)
- Weight : 4.5 Kg
- Mounting : Wall mounting
- : Bracket on 2" pipe



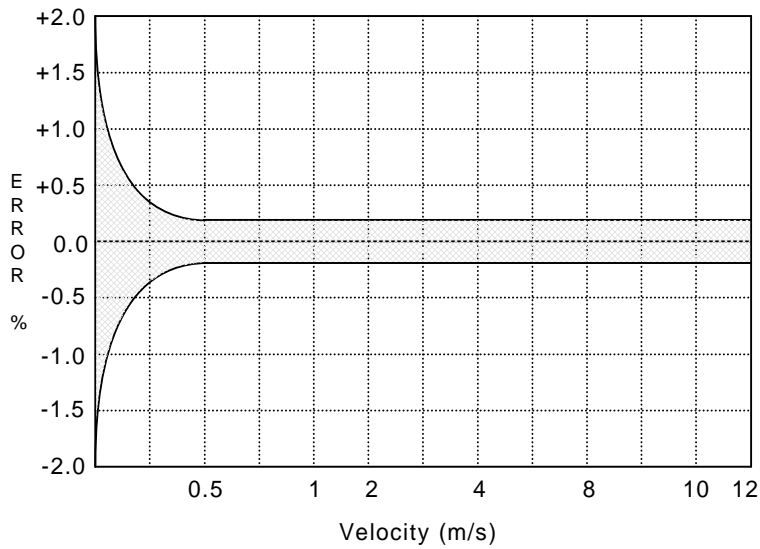
## ➤ DIMENSION



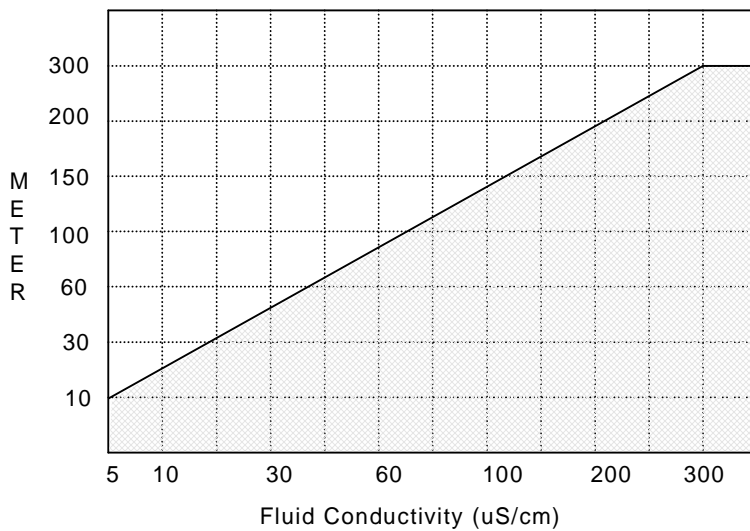
## ➤ ELECTRICAL CONNECTION



## ➤ ACCURACY



## ➤ CABLE LENGTH BETWEEN SENSOR TO CONVERTER



## ➤ MODEL SELECTION GUIDE

BMC3100 Series					
Example: BMC3100-AC-CP-EX-HT					
BMC3100-	XX-	XX-	XX-	XX	Description
Power supply	AC-				90-260 Vac, 50/60 Hz
	DC-				24Vdc, +/-10%
Mounting		CP-			Compact with Sensor
		SW-			Separate, wall mounting
		S2-			Separate, 2" mounting bracket
Enclosure		NN			IP67
		EX			Explosion Proof, Exd(ib)IIBT5
Communication			NN		RS 485(MODBUS Protocol)
			HT		HART signal