SAFMAG DCP Electromagnetic Flowmeter

- Wide flow measurement range: 0.1m/s – 10m/s
- Bi-directional flow measurement
- Flow totaliser – positive, negative and net
- Exceptional repeatability
- High accuracy (< 0.5% error)
- Flow rate and total displayed
- Backlit LCD display
- Modbus RTU or Modbus TCP/IP
- Empty pipe detection

Example Applications

- Process control
- Pump protection
- Energy consumption and water conservation management

Example Liquids

- Water (effluent, hot water, chilled water, sea water, irrigation / raw water, potable water, etc)
- Chemicals (including aggressive media)
- Paper & Food Pulps
- Water & Sewerage Sludges

The SAFMAG DCP Pro Electromagnetic Flowmeter utilises DC pulse electromagnetic technology for the accurate measurement of conductive liquids in full pipes. The principle of measurement, Faraday's law of electromagnetic induction, is based on a theory that the voltage induced across an electrical conductor as it moves at right angles through a magnetic field is directly proportional to the velocity of that conductor through the field. This process is controlled and monitored by the signal converter/ display unit which returns the calculated data in user selected units of measurement.

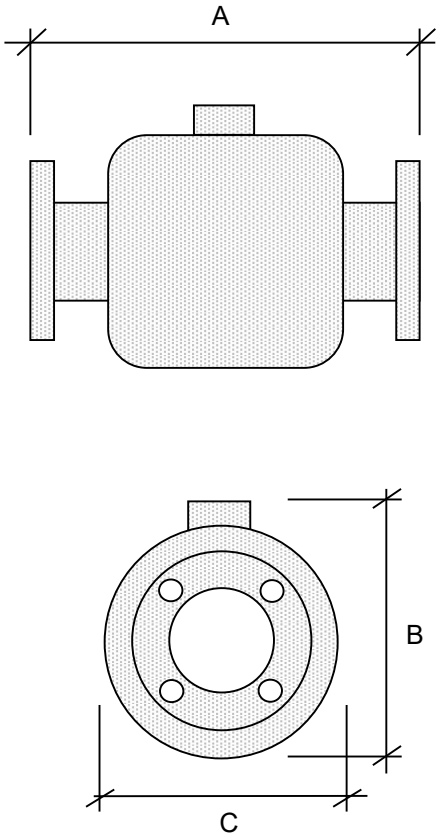
Features & Specifications

Velocity Range	0.1 to 10m/s (0.34 - 30.5ft/s) Bi-directional
Accuracy	±0.5% of Rate for velocities >0.5m/s (1.6ft/s), 0.025% of Full scale for velocities <0.5m/s
Repeatability	±0.1% of flow rate > 0.5m/s
Indication	Rate and Total (password resettable) 2-line, 16-character backlit LCD
Units	Rate units: m/s, l/s, l/m, l/hr, m^3/s, m^3/m, m^3/hr, ft/s, ft^3/s, ft^3/m, ft^3/hr, USgps, USgpm, USgph, USmgd Total units: l, ml, cl, dl, m^3,Ml,ft^3, 10^3 ft^3, 10^6 ft^3, USG, 10^3USG, 10^6USG
Programming	4 Key keypad
Response Time	6 Selectable levels of damping
Electronics enclosure	IP65 (NEMA13) 138 x 178 x 73mm HxWxD (5" x 7" x 3")
Temperature limits	Electronics -10 to 50ºC (14 to 122ºF)
Cable length	100m max, >100m consult factory
Model No.	DCP-4 85-265VAC 50/60Hz DCP-4-MODBUS
Standards	ISO 6817:1992 Magflow design
Calibration	3 Point as standard, 5 point optional
Sensors	Full bore, Flanged and wafer to suit need

Empty pipe	Active empty pipe detection
Isolated Outputs	Two 4- 20mA (<600Ω) Two OCT / pulse (24V) Relay (220VAC – 0.27A, 24VDC – 2A) Modbus RTU RS485 or RS232 (Optional) Modbus TCP/IP (Optional)
Power Supply	85VAC-265VAC 50/60Hz (7.5VA standard, 10VA Profibus DP) 12-30Vdc (<4W) e.g. 150mA @ 24V

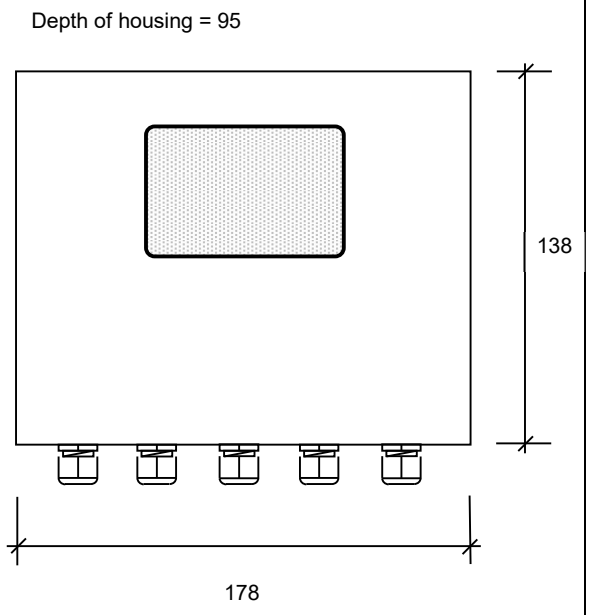
DIMENSIONS (in mm) flowtube without integral converter or terminal box				
Meter size NB	Dimensions			
	A		B	C
	MS	MX		
25	-	200	200	160
40	220	200	210	170
50	300	200	245	205
65	300	200	275	235
80	300	200	275	235
100	300	250	300	260
125	300	250	300	260
150	420	300	355	315
200	420	350	415	375
250	480	450	470	430
300	480	500	525	485
350	580	550	585	545
400	620	600	645	605
450	680	650	705	665
500	720	700	775	735
600	820	800	890	850
700	920	900	1020	980
750	980	950	1080	1040
800	1020	1000	1140	1100

MX ‘A’ Dimension size 400NB and smaller as ISO/DIS 13359 Standard

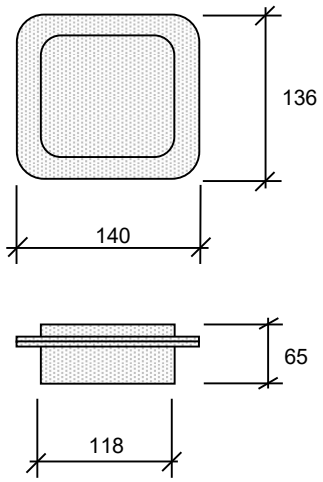


Refer to appropriate flange table for flange diameter and drilling details

Dimensions (in mm)
Remote signal converter



Dimensions (in mm)
Flowtube terminal box



PRODUCT CODE

SAMPLE	CODE	SAFMAG	150	B	4	DA	SS	R	010	2	MX

SIZE

006	6mm	W
010	10mm	W
015	15mm	W
025	25mm	W, MX
040	40mm	W, MX, MXI, MS*
050	50mm	W, MX, MXI, MS
065	65mm	MX, MXI, MS
080	80mm	W, MX, MXI, MS
100	100mm	W, MX, MXI, MS
125	125mm	MX, MXI, MS
150	150mm	W, MX, MXI
200	200mm	MX, MXI
250	250mm	MX, MXI
300	300mm	MX, MXI
350	350mm	MX, MXI
400	400mm	MX, MXI
450	450mm	MX, MXI
500	500mm	MX, MXI
600	600mm	MX, MXI
700	700mm	MX
800	800mm	MX

COIL EXCITATION (Converter)

B	Model BETA	- DC pulsed	(W, MXI)	Water & Waste water
G	Model DCP	- DC pulsed	(W, MX)	General
H	Model ACP **	- AC excited	(MS, MX)	Pulps & Mining Slurries
I	Model BATMAG	- DC pulsed	(W,MXI,MX)	Water & Waste water

SUPPLY VOLTAGE

4	90 – 250 VAC 50/60Hz	(BETA, DCP, ACP)
3	10 - 30 VDC	(BETA, DCP, ACP)
5	3.6V DC	(BATMAG)

LINING MATERIAL

NI	Nitrile rubber	(40 – 800NB)	NR	Natural rubber	(40 – 800NB)
PU	Polyurethane	(40 – 600NB)	EB	Ebonite	(40 – 800NB)
DA	Durathane rubber	(40 – 800NB)	CL	Alumina Ceramic	(consult factory)
PT	PTFE	(10 – 350NB)			
HD	HDPE	(10 – 150NB)			

Temperature limits on lining as quoted.

ELECTRODE MATERIAL

SS	316 Stainless steel	MO	Monel
HC	Hastelloy C	CR	Conductive Rubber
TA	Tantalum		
TI	Titanium		
OTHER	(consult factory)		

CONVERTER MOUNTING

R	Remote	I	Integral

CABLE LENGTH (meters)

FLANGE PATTERN

1	SABS 1123.1000/3	7	SABS 1123.6400/3
2	SABS 1123.1600/3	8	BS 10 TABLE D
3	ANSI 150#	9	OTHER
4	ANSI 300#	A	BS4504 TABLE 10/3
5	SABS 1123.2500/3	B	BS4504 TABLE 16/3
6	SABS 1123.4000/3		

SENSOR CODE

MS	MS Sensor	** ACP used with MS Sensors 40 to 100NB
MX	MX Sensor	** ACP with MX Sensors ≥150NB, DCMPU/DCP with MX Sensors 25NB to 800NB
MXI	MXI Sensor	BETA with MXI Sensors 150NB to 800NB
W	W Sensor	Wafer format - no flanges. W Sensor - 25 to100NB 25 bar max, 10 to 15NB 5 bar max. Fits between flange bolts of flanges - SABS 1123 1600, BS4505 PN16, ANSI 150#