

# Electromagnetic Flowmeter

## StaMag MF100 Series

### Introduction

Based upon Faraday's Law, Magnetic flowmeter MF100 is designed for general industrial applications. Benefit from stable performance and accurate measurement, this cost-effective unit is widely used in water treatment, power plant, chemical processing, and machine manufacturing industries.



### Characteristics

Pipe size: 3/8"…24" / DN10…DN600

Accuracy:  $\pm 0.5\%$

Liner CR, PTFE, PFA, others on request

No pressure loss

No moving parts

Bi-direction measurement.

### Applications

Water / waste water treatment

Chemical processing

Power plant

Cooling system

Irrigation

Oil field

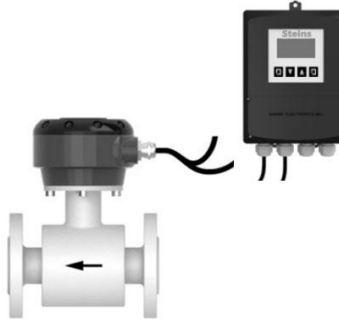
## Versions

Flange - Integrated transmitter



The most popular version.  
3/8" ... 24" / DN10...DN600

Flange - Remote transmitter



Good for mounting at higher position, or  
high temperature/high vibration  
applications.  
3/8" ... 24" / DN10...DN600

Wafer



Easy to mount.  
3/8" ... 12" / DN10...DN300

## Specifications

Measuring range	0.33...33ft/s / (0.1...10m/s); See measuring range below for details
Applicable medium	Liquid with conductivity > 5µs/cm
Nominal diameter	3/8" ... 24" / DN10...DN600 (Flange) 3/8" ... 12" / DN10...DN300 (Wafer)
Accuracy	0.5% of reading
Repeatability	±0.15% of reading
Operating voltage	24VDC / 85...265VAC
Output signal	Pulse + 4...20mA Pulse + 4...20mA with HART Optional relay output Modbus RS485
Electrode material	316 stainless steel, Hastelloy B, Hastelloy C, Titanium
Liner material	CR (Neoprene), PTFE, PFA, PUR (Polyurethane)
Body/flange material	Carbon steel Stainless steel 304 Stainless steel 316L
Medium Temperature	-4...194...266...356°F / -20...90...130...180°C (Refer to liner material)
Ambient Temperature	Sensor: -40...176°F / -40...80°C Transmitter: -22...140°F / -30...60°C
Ambient Humidity	≤85%RH (68°F / 20°C)
Power consumption	< 20W
Electrical connection	M20x1.5
Grounding	Grounding ring, grounding electrode, pipe grounding
Exproof	Exd [ia Ga] qllcT5 Gb
Process connection	Flange / Wafer / Thread
Protection class	Integrated type: IP65 Remote type: IP65(transmitter), IP68 (Sensor)

## Features

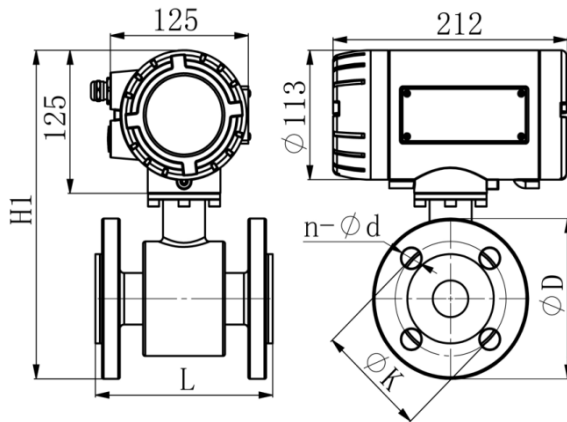
Auto "ZERO" calibration	See manual for details
Self-monitoring and diagnostic	Monitor citation circuit, electrode and transmitter malfunction
Empty and full pipe detection	Detect empty or full pipeline
Bi-directional measurement	Measuring both forward and reverse flow
Change flow direction real time	See manual for details
Flow rate unit selectable	gal/h, gal/min, m <sup>3</sup> /h, m <sup>3</sup> /min, l/h, l/m and more...
Low flow cut off	Adjustable in 0-10%, no pulse output for any signal less than settings.
Display	Instantaneous flow rate in percentage, instantaneous flow rate and total flow rate.
Totalizer reset	See manual for details
Power supply selectable	DC: 24V or AC: 85V~265V

## Measuring range

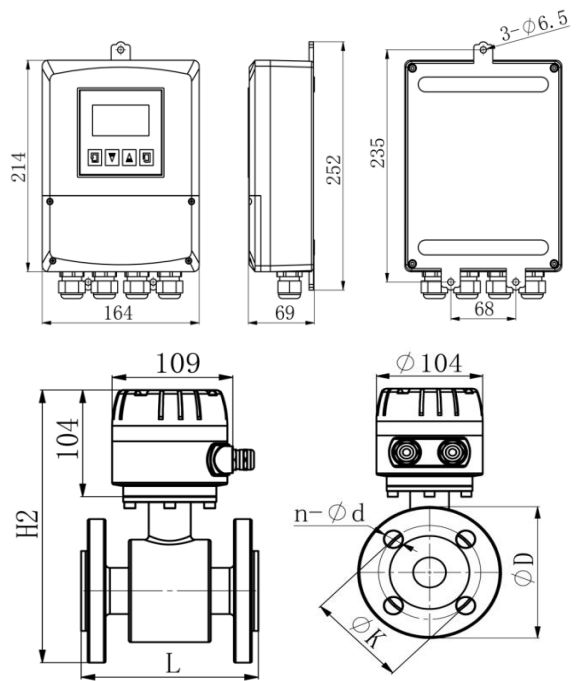
Pipe Size		Measuring range		Extended Measuring Range	
Inch	DN	gal/min	m <sup>3</sup> /h	gal/min	m <sup>3</sup> /h
3/8"	10	0.37...12.4	0.085...2.8	0.063...15	0.0142...3.391
1/2"	15	0.84...28	0.2...6.4	0.14...33	0.032...7.63
3/4"	20	1.5...49	0.34...11	0.25...59	0.06...13.56
1"	25	2.33...77	0.53...17	0.4...93	0.09...21.2
1-1/4"	32	3.9...131	0.9...30	0.64...152	0.15...34.73
1-1/2"	40	6...199	1.4...45	1...238	0.23...54.26
2"	50	9.4...311	2.2...70	1.6...373	0.36...84.78
2-1/2"	65	16...525	3.6...119	2.3...630	0.60...143.28
3"	80	24...796	5.5...181	4...955	0.91...217.03
4"	100	38...1244	8.5...283	7...1493	1.41...339.12
5"	125	59...1944	13.3...442	10...2333	2.21...529.87
6"	150	84...2800	19...636	14...3360	3.18...763
8"	200	150...4977	34...1130	25...5970	5.65...1356
10"	250	234...7775	53...1766	39...9330	8.83...2119
12"	300	336...11196	76...2543	56...13438	12.72...3052
14"	350	458...15238	104...3461	77...18290	17.31...4154
16"	400	598...19906	136...4521	100...23886	22.61...5425
18"	450	756...25194	172...5722	126...30235	28.62...6867
20"	500	934...31107	212...7065	156...37328	35.33...8478
24"	600	1344...44791	305...10173	224...53751	50.87...12208

### Dimensions in mm (Flange)

**Integrated transmitter**



**Remote transmitter**



**Flange ASME B16.5 (class 150)**

Inch	L	H1	H2	D	K	n-Ød	C	Flange Class (lb)
3/8"	160	257	236	90	60.5	4-Ø16	11.5	Class 150
1/2"	160	257	236	90	60.5	4-Ø16	11.5	
3/4"	160	262	241	100	70	4-Ø16	13	
1"	160	267	246	110	79.5	4-Ø16	14.5	
1-1/4"	160	279	258	120	89	4-Ø16	16	
1-1/2"	200	289	268	130	98.5	4-Ø16	17.5	
2"	200	307	286	150	120.5	4-Ø18	19.5	
2-1/2"	200	332	316	180	139.5	4-Ø18	22.5	
3"	200	344	323	190	152.5	4-Ø18	24	
4"	250	374	353	230	190.5	8-Ø18	24	
5"	250	402	386	255	216	8-Ø22	24	
6"	300	432	416	280	241.5	8-Ø22	25.5	
8"	350	495	474	345	298.5	8-Ø22	29	
10"	400	554	533	405	362	12-Ø26	30.5	
12"	500	619	598	485	432	12-Ø26	32	
14"	500	674	653	535	476	12-Ø29.5	35	
16"	600	735	714	600	540	16-Ø29.5	37	
18"	600	776	755	635	578	16-Ø32.5	40	
20"	600	837	816	700	635	20-Ø32.5	43	
24"	600	945	924	815	749.5	20-Ø35.5	48	

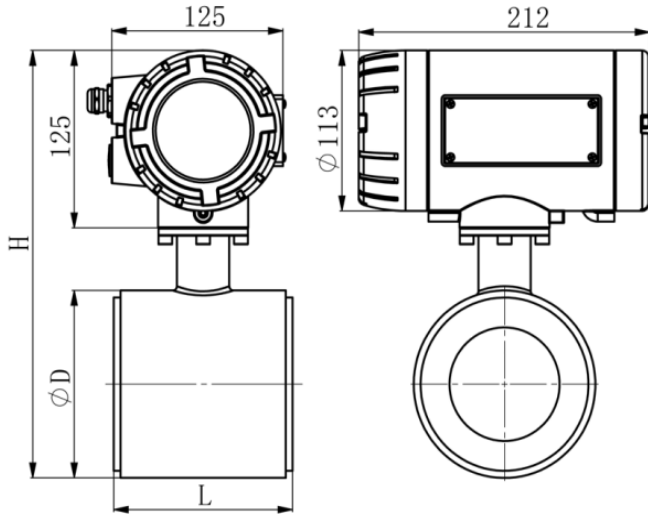
**Flange ASME B16.5 (class 300)**

Inch	L	H1	H2	D	K	n-Ød	C	Flange Class (lb)
3/8"	160	260	239	95	66.5	4-Ø16	14.5	Class 300
1/2"	160	260	239	95	66.5	4-Ø16	14.5	
3/4"	160	272	251	120	82.5	4-Ø18	16	
1"	160	275	254	125	89	4-Ø18	17.5	
1-1/4"	160	287	266	135	98.5	4-Ø18	19.5	
1-1/2"	200	302	281	155	114.5	4-Ø22	21	
2"	200	315	294	165	127	8-Ø18	22.5	
2-1/2"	200	337	321	190	149	8-Ø22	25.5	
3"	200	354	333	210	168.5	8-Ø22	29	
4"	250	387	366	255	200	8-Ø22	32	
5"	250	415	399	280	235	8-Ø22	35	
6"	300	452	436	320	270	12-Ø22	37	
8"	350	513	492	380	330	12-Ø26	41.5	
10"	400	574	553	445	387.5	16-Ø29.5	48	
12"	500	637	616	520	451	16-Ø32.5	51	
14"	500	699	678	585	514.5	20-Ø32.5	54	
16"	600	760	739	650	571.5	20-Ø35.5	57.5	
18"	600	814	793	710	628.5	24-Ø35.5	60.5	
20"	600	875	854	775	686	24-Ø35.5	63.5	
24"	600	995	974	915	813	20-Ø42	70	

**Flange EN 1092-1**

DN	L	H1	H2	D	K	n- Ø d	C	Pressure Rating
10	160	257	236	90	60	4-Ø14	14	PN40
15	160	259	238	95	65	4-Ø14	14	
20	160	264	243	105	75	4-Ø14	16	
25	160	269	248	115	85	4-Ø14	16	
32	160	289	268	140	100	4-Ø18	18	
40	200	299	278	150	110	4-Ø18	18	
50	200	314	293	165	125	4-Ø18	20	
65	200	334	313	185	145	4-Ø18	20	PN16
80	200	349	328	200	160	8-Ø18	20	
100	250	369	348	220	180	8-Ø18	22	
125	250	399	378	250	210	8-Ø18	22	
150	300	434	413	285	240	8-Ø22	24	
200	350	492	471	340	295	12-Ø22	26	PN10
250	400	549	528	395	350	12-Ø22	26	
300	500	600	579	445	400	12-Ø22	26	
350	500	660	638	505	460	16-Ø22	28	
400	600	718	697	565	515	16-Ø26	32	
450	600	767	746	615	565	20-Ø26	36	
500	600	823	802	670	620	20-Ø26	38	
600	600	927	906	780	725	20-Ø30	42	

**Dimension in mm (Wafer)**



Size		L	H	D	Pressure Rating
DN	Inch				
3/8"	10	100	224	90	ASME class 150 or PN16
1/2"	15	100	229	95	
3/4"	20	100	234	100	
1"	25	100	244	72	
1-1/4"	32	100	249	79	
1-1/2"	40	100	259	89	
2"	50	120	274	105	
2-1/2"	65	130	294	118	
3"	80	130	309	132	
4"	100	150	324	148	
5"	125	200	354	180	
6"	150	200	384	200	
8"	200	250	434	265	
10"	250	300	484	312	
12"	300	340	534	368	

## Order Code

Example: MF100-F25ANKFC5DP0FA150

### 1. MF100-

F	Integrated transmitter
R	Remote transmitter

### 2. Pipe size

10	3/8" (DN10)
15	1/2" (DN15)
20	3/4" (DN20)
25	1" (DN25)
32	1-1/4" (DN32)
40	1-1/2" (DN40)
50	2" (DN50)
65	2-1/2" (DN65)
80	3" (DN80)
100	4" (DN100)
125	5" (DN125)
150	6" (DN150)
200	8" (DN200)
250	10" (DN250)
300	12" (DN300)
350	14" (DN350)
400	16" (DN400)
450	18" (DN450)
500	20" (DN500)
600	24" (DN600)

### 3. Output1

A	Pulse 4-20mA
H	Pulse 4-20mA with HART
R	Modbus RS485 Pulse 4...20mA

### 4. Output2

N	None
R	2 switching output (Relay)

### 5. Electrode material

K	316L Stainless steel
B	Hastelloy B
C	Hastelloy C
T	Titanium
D	Tantalum
S	Other materials on request

### 6. Liner material

C	CR (Chloroprene rubber)
F	PTFE
P	PUR (Polyurethane)
A	PFA
S	Other materials on request

### 7. Body material

C	Carbon steel
S	Stainless steel 304
L	Stainless steel 316L

### 8. Protection class

5	IP65
8	IP68 (sensor of remote type only)

### 9. Power supply

D	24VDC
T	85...265VAC

### 10. Ex-proof

P	Non-hazardous area
E	Hazardous area

### 11. Cable

0	None
33	Cable length: 33ft (10m) Cable length options: 6.5...164ft (2-50m) Applicable to remote type only

### 12. Process connection

W	Wafer (up to 12" / DN300)
FA150	Flange: ASME B16.5 (class 150)
FA300	Flange: ASME B16.5 (class 300)
FU	Flange: EN 1092-1 see dimensions for pressure rating.
TN	NPT male thread (up to 2" / DN50)
TG	G male thread (up to 2" / DN50)
S	Other connection / pressure rating on request