

Reduced Bore Electromagnetic Flow Meter



Description

VMF-R reduced bore electromagnetic flow meter is ideal for these applications with zero upstream or downstream piping as they can better handle distorted velocity flow profiles arising from the pipe networks, allowing total flexibility in installation for demanding applications compared with full bore magnetic flow meter. It can increase velocity and flow if it's low flow.



Industries

Textile Processing Industries	Effluent Treatment Plant	Sewage Treatment Plant Water Supply Scheme
Steel & Aluminum Industries	Food & Drug Industries	Chemical & Fertilizer Industries



Applications



Features

01

No need straight pipe in the upstream and downstream.

02

It can increase velocity and flow if it's low flow.

03

Self-diagnosis, empty pipe alarm, exciting alarm, high and low flow alarm.

04

Measure forward flow, reverse flow and net flow.

05

It has multiple output signals for choose, 4~20 mA+Pulse + RS485 Modbus are standard signal, HART, Profibus, GPRS are optional.



Battery reduced bore



Compact reduced bore



Remote reduced bore

Reduced Bore Electromagnetic Flow Meter



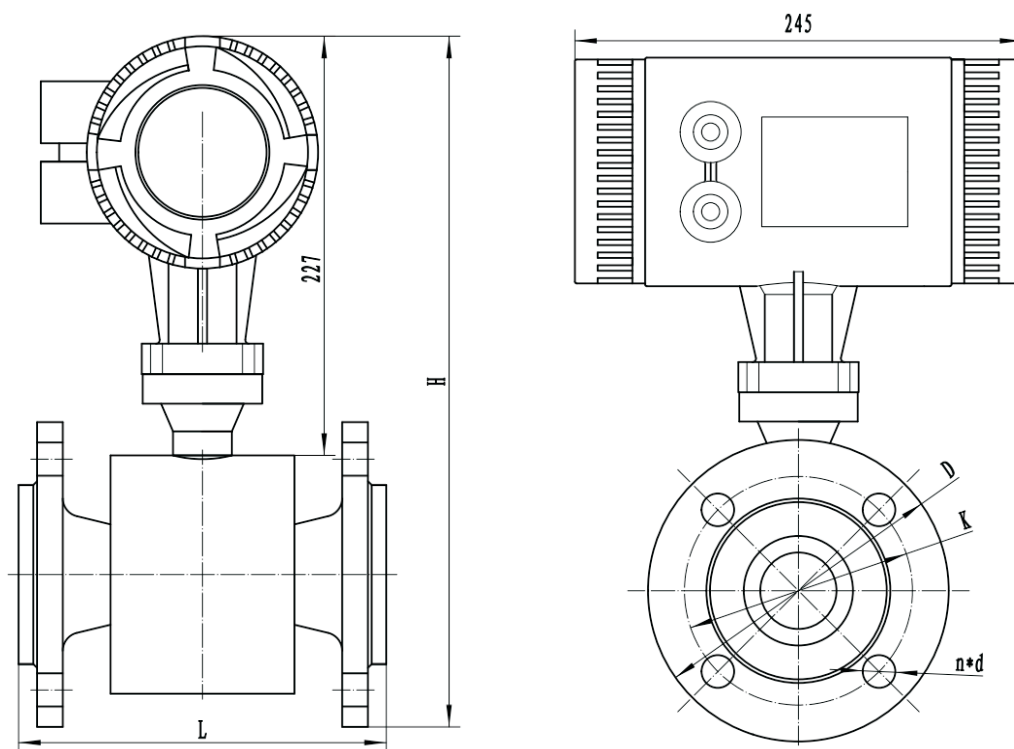
Technical Data

Size	DN50-DN300 (2"-12")	
Sensor	Reduced bore, U0+D0, don't need any straight pipe in the upstream and downstream	
Accuracy	$\pm 0.5\%$ of reading at flow velocity $\geq 0.5\text{m/s}$, $\pm 0.2\%$ optional at flow velocity $\geq 0.5\text{m/s}$	
Velocity	0.1~15 m/s	
Repeatability	$\leq 0.17\%$	
Structure	Compact / remote, cable length 10m standard, 100m max	
Conductivity	$> 5 \mu\text{S/cm}$, demineralized water $> 20 \mu\text{S/cm}$	
Protection Grade	Transmitter: IP65 standard, IP67 optional	
	Sensor: IP65 standard, IP68 (submersible, only available for remote type)	
Electrode	SS316L, Hastelloy C, Hastelloy B, Titanium, Tantalum, Platinum-iridium	
Power Supply	85~250 VAC (50/60 Hz), 8~36 VDC, 3.6V lithium battery	
Power Consumption	$< 20\text{W}$	
Signal Output	Analog	4~20mA (load resistor 0~750 Ω)
	Frequency	Forward & reverse flow output with a frequency range of 1~5000Hz
	Alarm	Two isolated open collector transistor (OCT) outputs for alarm signals
Communication	RS485 MODBUS standard, HART, GPRS, PROFIBUS optional	
Display	LCD Display, 128X128mm, three lines, 4 buttons	
Ambient Temperature	$-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$	
Fluid Temperature	Compact: $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$, Remote: $-20^{\circ}\text{C} \sim 120^{\circ}\text{C}$	
Liner Material	Neoprene, hard rubber	
Process connection	Flange	
Sensor Material	Measuring tube: SS304	
	Flange & housing: carbon steel (standard), SS304 / SS316 optional	
Transmitter Material	Aluminium alloy with epoxy painting	
Display	Instantaneous flow, total flow, flow velocity	
Function	High and low alarm, empty pipe alarm, exciting alarm, self-diagnosis	
Totalizer	Three built-in totalizers: forward flow, reverse flow and net flow	
Display Unit	L/s, L/m, L/h, m^3/s , m^3/m , m^3/h , UKG, USG, gal/s, gal/m, gal/h, kg/s, kg/m, kg/h, t/s, t/m, t/h	
Language	English, Chinese, Italian, Portuguese, French, Spanish, Korean	

Reduced Bore Electromagnetic Flow Meter



Dimension



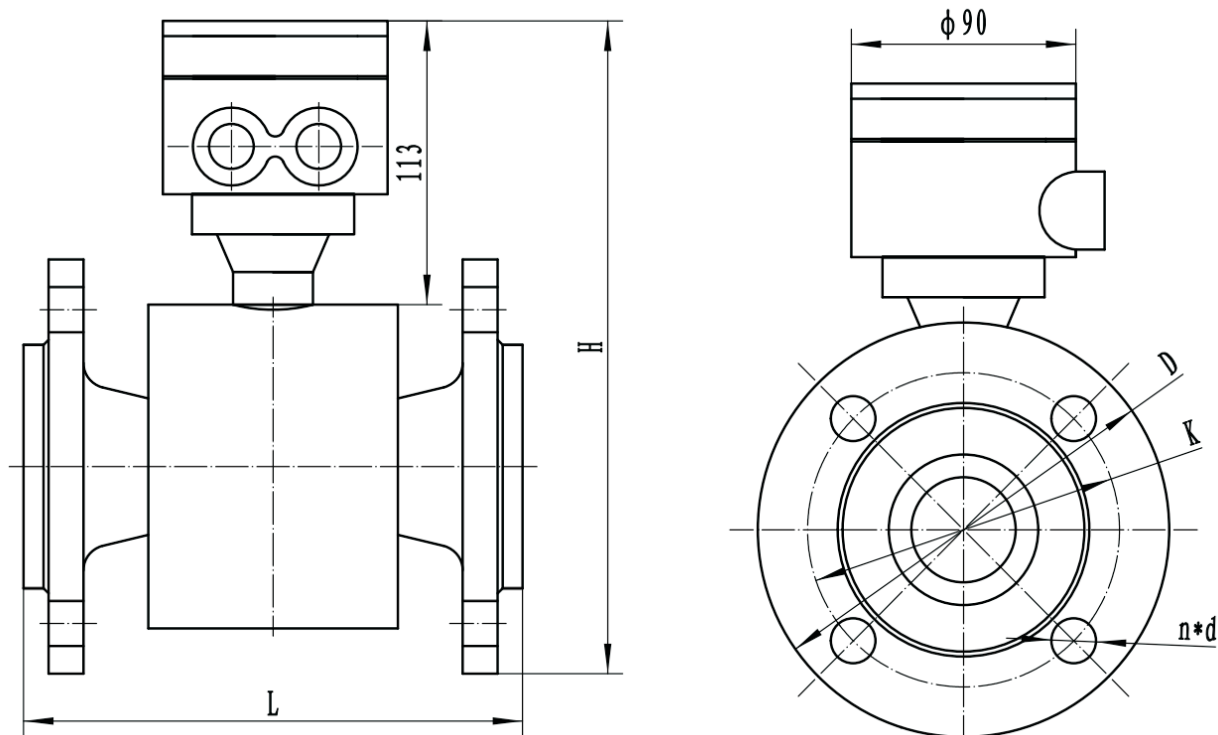
DN50-DN300 Compact Reduced Bore Magnetic Flow Meter DIN PN16 Drawing

Size		Flange	Nominal Pressure (MPa)	L (mm)	D (mm)	H (mm)	K (mm)	n*d (mm)
mm	Inch							
DN50	2"	DIN	1.6	200	165	374	125	4*φ18
DN65	2½"	DIN	1.6	200	185	377	145	4*φ18
DN80	3"	DIN	1.6	200	200	392	160	8*φ18
DN100	4"	DIN	1.6	250	220	419	180	8*φ18
DN125	5"	DIN	1.6	250	250	434	210	8*φ19
DN150	6"	DIN	1.6	300	285	462	240	8*φ22
DN200	8"	DIN	1.6	350	340	504	295	12*φ22
DN250	10"	DIN	1.6	450	405	567	355	12*φ26
DN300	12"	DIN	1.0	500	445	630	400	12*φ22
		DIN	1.6	500	460	638	410	12*φ26

Reduced Bore Electromagnetic Flow Meter



Dimension



DN50-DN300 Remote Reduced Bore Magnetic Flow Meter DIN PN16 Drawing

Size		Flange	Nominal Pressure (MPa)	L (mm)	D (mm)	H (mm)	K (mm)	n*d (mm)
mm	Inch							
DN50	2"	DIN	1.6	200	165	260	125	4* ϕ 18
DN65	2½"	DIN	1.6	200	185	263	145	4* ϕ 18
DN80	3"	DIN	1.6	200	200	278	160	8* ϕ 18
DN100	4"	DIN	1.6	250	220	305	180	8* ϕ 18
DN125	5"	DIN	1.6	250	250	320	210	8* ϕ 19
DN150	6"	DIN	1.6	300	285	348	240	8* ϕ 22
DN200	8"	DIN	1.6	350	340	390	295	12* ϕ 22
DN250	10"	DIN	1.6	450	405	453	355	12* ϕ 26
DN300	12"	DIN	1.0	500	445	516	400	12* ϕ 22
		DIN	1.6	500	460	524	410	12* ϕ 26

Reduced Bore Electromagnetic Flow Meter



Selection Table

VMF/R		x	x	x	x	x	x	x	x	x
Caliber size	DN50-DN300 (2"-12")									
Structure	Compact		1							
	Remote		2							
	Compact with explosion proof		3							
	Remote with explosion proof		4							
Accuracy	±0.5%		1							
	±0.2%		2							
	Others		3							
Lining Material	Neoprene			1						
	Hard Rubber			2						
Electrode Material	SS316L				1					
	Hastelloy B				2					
	Hastelloy C				3					
	Titanium				4					
	Tantalum				5					
	Platinum-iridium				6					
	Stainless steel covered with tungsten carbide				7					
	Others				8					
Sensor Material	Carbon Steel					1				
	SS304					2				
	SS316					3				
Power Supply	20~36 VDC						G			
	85~265 VAC						E			
	9~36 VDC solar power						SD			
	Others						X			
Signal Output /Communication	4~20 mA + Pulse + RS485 MODBUS							A		
	4~20 mA + HART							B		
	4~20 mA + Profibus							C		
	GPRS							D		
Flange Standard	DIN D10: DIN PN10, D16: DIN PN16, D25: DIN PN25, D40: DIN PN40								D**	
	ANSI A15: ANSI 150#, A30: ANSI 300#, A60: ANSI 600#								A**	
	JIS J10: JIS 10K, J20: JIS 20K, J30: JIS 30K								J**	
	Others								O	