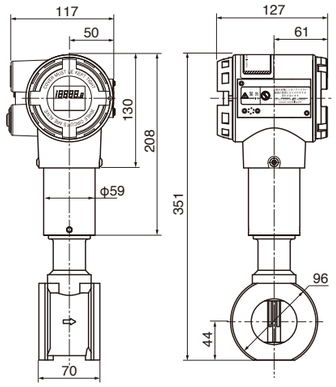
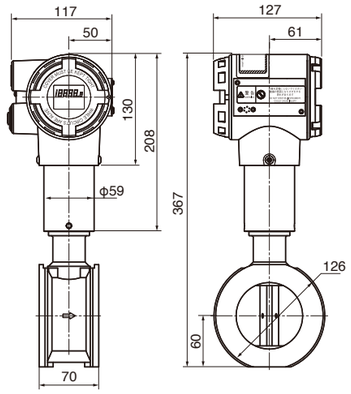
◎Dimensions

(Unit : mm)

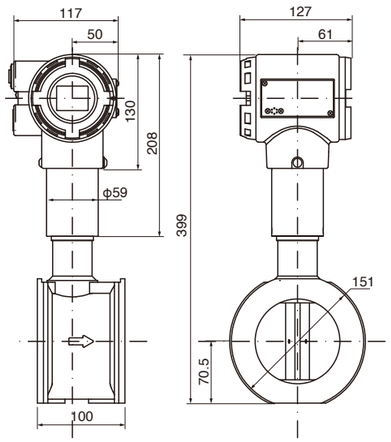
MVF050□C



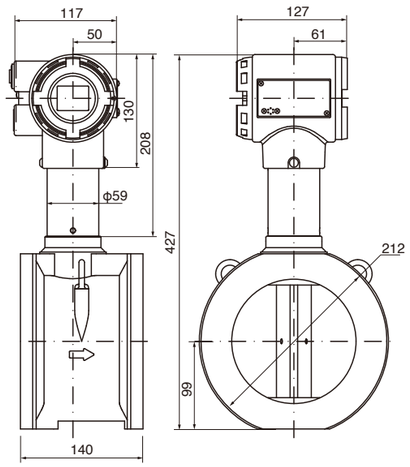
MVF080□C



MVF100□C



MVF150□C



Please, read 'Terms and Conditions' from following URL before the order and use.

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Azbil Corporation
Advanced Automation Company

Yamatake Corporation changed its name to Azbil Corporation on April 1, 2012.

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan
URL: http://www.azbil.com

1st Edition : Sept. 2011-MO
3rd Edition: Mar. 2016-SK

CP-PC-1409E

azbil

Micro Flow Vortex Gas Flowmeter

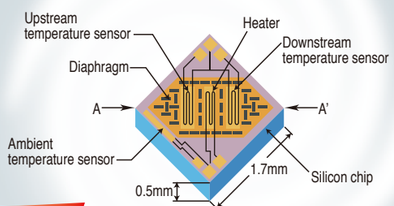
CE

Achieves a 100:1 measurement range!

MVF Series flowmeters use a azbil
Micro Flow (μF) sensor in the detector unit, allowing them to realize a wide measurement range that conventional vortex flowmeters cannot match.

azbil's unique design uses a Micro Flow sensor in the detector.

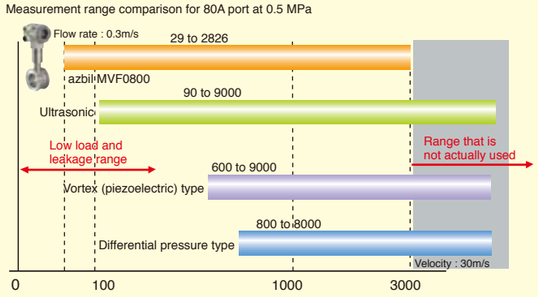
Micro Flow sensor chip



Detector

A next-generation flowmeter that can help reduce installation costs!

Measurement range comparison for 80A port at 0.5 MPa



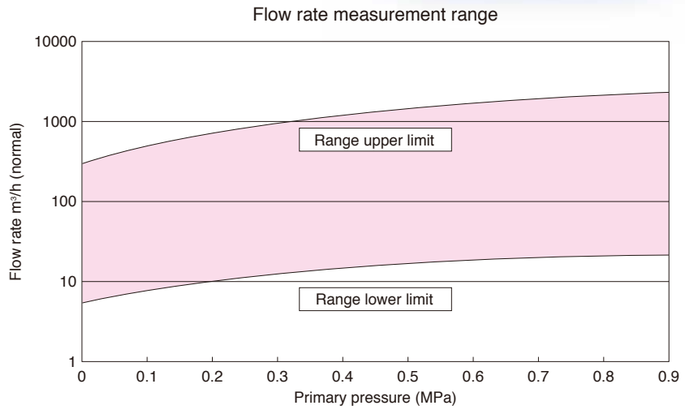
Excellent for low flow rates. Wide coverage of ranges actually used!

As the graph shows, MVF Series flowmeters can handle a wide range of flow rates, from low to the highest rates that are actually used. For that reason, they can be depended on not only for flow management, but also for leakage or low flow detection.

Can be safely used even when the flow rate is completely unknown!

Since this flowmeter cover such a wide measurement range in the service flow range, they can be used for pipes with unknown flow rate, without worrying about selecting a suitable model.
This flowmeter cover the range shown on the right.

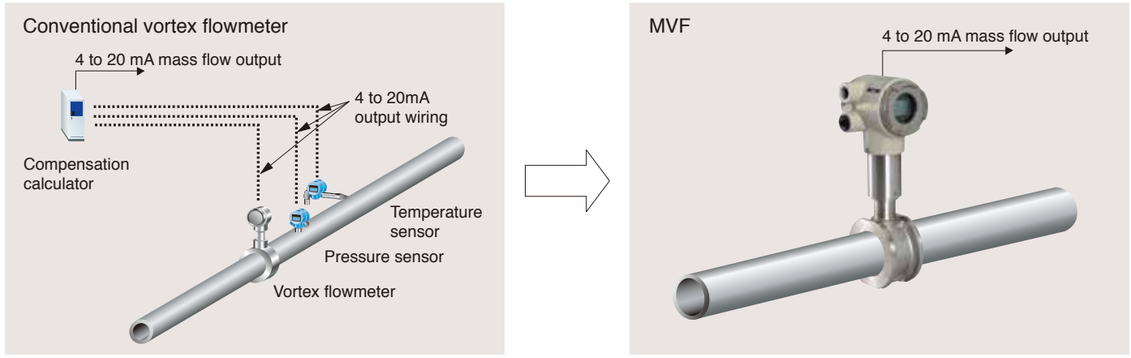
The graph on the right shows the measurement range for port size 50A. For other sizes, see the specifications on the next page.



Compensation

Separate temperature/pressure compensation is not required.

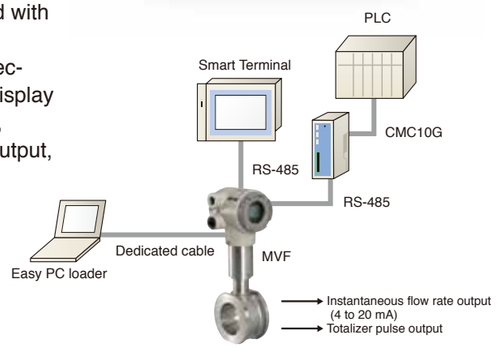
This flowmeter with built-in temperature and pressure compensation eliminate the need for separately installed pressure and temperature gauges.



Networking

Can be connected to a variety of external devices!

This flowmeter is equipped with the following as standard features for external connection: analog output, LCD display (instantaneous, converted, totalized), totalizer pulse output, RS-485 communications, 4 to 20 mA output.



Weight

Lightweight!

This flowmeter is significantly lighter than conventional flowmeters.

◎Model numbers

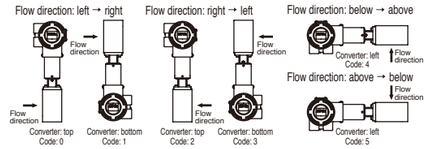
Basic model number	Port size	Type	Body material	Connection	Gas type	Output	Power	Communications	Flow & mounting directions	Option 1	Option 2	Design code	Description
MVF													Micro Flow Vortex Gas Flowmeter
	050												Port size 50A (2B)
	080												Port size 80A (3B)
	100												Port size 100A (4B)
	150												Port size 150A (6B)
		L											With temperature compensation, without pressure compensation
		0											With temperature and pressure compensation, 0 to 1 MPa range
		1											With temperature and pressure compensation, 0 to 0.1 MPa range
		3											With temperature and pressure compensation, 0 to 0.3 MPa range
			C										Body material: SCS13A
				U									JIS/ANSI wafer
				D									DIN PN10 wafer (with spacers)
				A									ANSI150 wafer (with spacers)
					N								Air/ Nitrogen/ Argon
					S								Oxygen (be sure to select the oil elimination process option)*1
					C								Carbon dioxide
					G								City gas 13A (LNG base), methane
					P								Propane
					B								Butane
						0							4 to 20 mAdc output + pulse output
							1						24 Vdc
								1					RS-485 (for use with EST, WEB100, and CMC10G)
									0				Horizontal (flow: left → right): converter on top *2
									1				Horizontal (flow: L → R): converter on bottom *2
									2				Horizontal (flow: R → L): converter on top *2
									3				Horizontal (flow: R → L): converter on bottom *2
									4				Vertical (flow: down → up): converter on left *2
									5				Vertical (flow: up → down): converter on left *2
										0			None
										1			Oil elimination process (required if the gas is oxygen*1)
											0		None
											C		Material certificate (only for Body and voltex structure
												0	Product version

When ordering, in addition to the model number be sure to specify the 4 to 20 mA span and the pulse weight. If they are not specified, we will manufacture the ordered device in accordance with the following specifications.

Item		MVF***1 (0 to 0.1MPa)	MVF***3 (0 to 0.3MPa)
4 to 20 mA span	50A	0 to 500 m³/ h (normal)	0 to 1000 m³/ h (normal)
	80A	0 to 1000 m³/ h (normal)	0 to 2000 m³/ h (normal)
	100A	0 to 1600 m³/ h (normal)	0 to 3000 m³/ h (normal)
	150A	0 to 3000 m³/ h (normal)	0 to 7000 m³/ h (normal)
Pulse weight		1m³p/ ulse	

※For details, contact one of our branch offices or sales offices.

*1 For oxygen gas use, be sure to select the oil elimination option.
*2 For the flow direction, see the illustration below.



◎Brief specifications <When selecting a model, refer to spec sheet CP-SS-1831E or CP-SS-1849E (low-medium pressure model).>

Item		Description			
		MVF050 (50A port)	MVF080 (80A port)	MVF100 (100A port)	MVF150 (150A port)
Flow rate measurement range (Range can be preset at the factory.)	Pressure: 0.1 MPa	8 to 428 m³/ h (normal)	11 to 946 m³/ h (normal)	15 to 1457 m³/ h (normal)	32 to 3135 m³/ h (normal)
	Pressure: 0.3 MPa	9 to 855 m³/ h (normal)	19 to 1886 m³/ h (normal)	30 to 2904 m³/ h (normal)	63 to 6250 m³/ h (normal)
	Pressure: 0.5 MPa	13 to 1280 m³/ h (normal)	29 to 2826 m³/ h (normal)	44 to 4352 m³/ h (normal)	94 to 9364 m³/ h (normal)
	Pressure: 0.7 MPa	18 to 1706 m³/ h (normal)	38 to 3765 m³/ h (normal)	58 to 5799 m³/ h (normal)	125 to 12479 m³/ h (normal)
	Pressure: 0.9 MPa	22 to 2132 m³/ h (normal)	48 to 4705 m³/ h (normal)	73 to 7246 m³/ h (normal)	156 to 15593 m³/ h (normal)
Applicable gases		Air, nitrogen, argon, oxygen (choose oil elimination option), carbon dioxide, natural gas (13A), methane, propane, butane, and other inert gases and mixed gases outside the explosion limits			
Volumetric flow rate accuracy (for air)		±2 % rdg at 13 m³ or more	±2 % rdg at 20 m³ or more	±2 % rdg at 28 m³ or more	±2 % rdg at 51 m³ or more
		Differs according to operating pressure and flow range. For details, refer to the specification sheets.			
Accuracy after temperature and pressure compensation		Pressure: 0.5 MPa	Pressure: 0.5 MPa	Pressure: 0.5 MPa	Pressure: 0.5 MPa
		±3.5 % rdg at 71 m³/h (normal) or more	±3.5 % rdg at 106 m³/h (normal) or more	±3.5 % rdg at 150 m³/h (normal) or more	±3.5 % rdg at 276 m³/h (normal) or more
		Differs according to model, operating pressure, and flow range. For details, refer to the specification sheets.			
Minimum measurable flow rate (at 0.1 MPa)		8 m³/ h (normal)	11 m³/ h (normal)	15 m³/ h (normal)	32 m³/ h (normal)
Operating temperature range		–15 to + 60 °C			
Operating pressure range		MVF★★★O and MVF★★★L: 0 to less than 1.0 MPa/ MVF★★★1: 0 to 0.1 MPa / MVF★★★3: 0 to 0.3 MPa			
Operating humidity range		10 to 90 % RH (without condensation)			
Flow rate calculation/output update cycle		100ms			
Rated supply voltage		DC24V			
Power consumption		100 mA (max.)			
Output signal (1 output)		Instantaneous flow rate output: 4 to 20 mAdc (max. allowable load resistance 600 Ω). Max. current: 23.2 mA			
Integrated pulse output (1 output)		Pulse weight: 0.1 m³/ pulse, 1 m³/ pulse, 10 m³/ pulse (customer can specify a weight to be preset at the factory)			
Communication function 1		RS-485 interface, 3-wire type, 300 m max. wire length			
Display	Flow rate	Instantaneous flow rate indication: LCD, 5+.1 digits Integrated flow rate indication: LCD, 8 digits			
	Instantaneous flow rate	50/80/100A port: *****.* m³/ h (to 1 decimal place); 150A port: ***** m³ (no decimal point)			
	Totalized flow	50A port: ********.* m³/ h (to 1 decimal place); 80/100/150A port: ******** m³ (no decimal point)			
Gas-contacting material		Flow passage: SCS13A, SUS304. µF sensor: silicon, gold O-ring: type 4D (Viton)			
Converter case material		Aluminum alloy (ADC12)			
Mounting position		Horizontal or vertical			
Connection rating		Wafer connection			
Wiring connection port		Two wiring ports, G1/2 female thread, 2 waterproof glands included			
IP rating		IP67 (based on JIS C 0920 and IEC 529; waterproof structure made for outdoor installation)			
Mass (kg)		6.3	6.6	9	17