

FOOD FLOW METER

SPECIFICATIONS

SSV17151 23.11

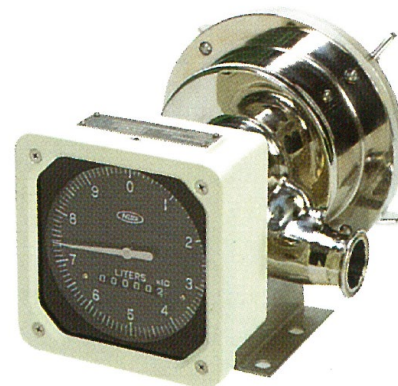
1. Outline

The most important thing for the flow meter for food is easy structure to disassemble, to wash, and to sterilize for its sanitation. This flow meter is rotary piston type flow meter of which is widely used as flow meter for food. It has sanitary structure and high accuracy.

2. Features

- Its structure makes easy to disassemble, to wash, and to assemble.
- It is hard to stay the liquid inside due to its less pocket portion.
Using stainless steel for main body and measuring chamber, and ultra- glossy finishing for the sanitary
- Special plastic rotor is higher strength
- Available for selecting the counting unit from several kind depend on the application
- Available for using measurement and control of various kind of edible liquid

e.g) Raw milk, Lactice acid beverage, Undiluted ice cream, Mayonnaise, Alcohol, Beer, Sake, Western liquor, Coke, Fruit juice, Perfume,
Yeast solution, Syrup, Milk truck, etc. And measurement, charge, discharge, filling, and proportional mixing of various , liquid.



3. Specifications

Specifications of measuring unit

Nominal size symbol	025	040	050	065	080
Measured fluid	Food liquids				
Nominal size	25A	40A	50A	65A	80A
Liquid viscosity	1~500 mPa·s (Special 1~30,000 mPa·s)				
Liquid temperature	0~80℃				
Liquid pressure	0.5MPa or under				
Measuring accuracy	Within ±0.5%				
Standard connection	IDF/ISO connection Ferrule, Screw				
	1S	1½S	2S	2½S	3S
Material	Main body:SCS13, SCS14, Rotor:PPS, GC				
	SCS13, SCS14:Stainless steel casting, PPS: Special plastic, GC: Carbon				

Specifications of counter unit

Specifications of counter unit				025	040	050	065	080
Nominal size symbol								
Types				Pointer type (A0), Zero resettable register type (Z8), Large-size drum counter type (V0), Printer zero resettable register type (P0), Electronic type (E0)				
Indication	Pointer type (A0)	Pointer Dial plate	Dial unit	0.1 L		1 L		
			Volume per rev.	10 L		100 L		
		Total counter	Dial unit	10 L		100 L		
			Number of digits	6 (999,999 x 10L)		6 (999,999 x 100L)		
	Zero resettable register type (Z8)	Zero-reset counter	Dial unit	0.1 L		1 L		
			Number of digits	4 (9,999 L)		4 (9,999 x 10L)		
		Continuous total counter	Dial unit	1 L		10 L		
			Number of digits	7 (9,999,999 L)		7 (9,999,999 x 10L)		
	Large-size drum counter type (V0)	Zero-reset counter	Dial unit	—	1 L			
			Number of digits	—	5 (99,999 L)			
		Continuous total counter	Dial unit	—	1 L			
			Number of digits	—	8 (99,999,999 L)			
	Printer zero resettable register type (P0)	Zero-reset counter	Dial unit	—	1 L			
			Number of digits	—	5 (99,999 L)			
		Continuous total counter	Dial unit	—	1 L			
			Number of digits	—	8 (99,999,999 L)			
Electronic type (E0)				Un totaled				

Nominal size symbol				025	040	050	065	080		
Output	Pulse output	Unit pulse (A0,Z8,V0,P0)	Type of signal	(Note) Either one of (1) voltage no-contact signal (high frequency type, photoelectric type), or (2) reed switch contact signal.						
			Output unit	No-contact pulse output : See "No-contact pulse output" table.						
		Contact pulse output : See "Contact pulse output" table.								
		Unitless pulse (E0)	Type of signal	Voltage no-contact output or open collector output Voltage no-contact : Signal level H: Approx. equal to voltage of external power (at no load) L:0.5V or less (at no load) Output resistance : Approx. 2.3kΩ Amplifier box FSES is including. Cable between the flowmeter - amplifier box. Length:3m Open collector : Voltage & current : 27V DC, 30mA Voltage at ON : 0.5V or less						
				Unit ※1	21.8mL	46.0mL	123.8mL	123.8mL	275.5mL	
				Pulse width	Approx. 3.5msec					
	Analogue output		Direct output impossible (DA converter required outside)							
Power source	Unit pulse (A0,Z8,V0,P0)	The following external power sources are required, for outputting voltage no-contact signals: (1) High frequency type pulse generator: 6~26.4VDC , 23mA(at 24V DC) ,17 mA(at 12V DC) (2) Photoelectric type pulse generator: 12VDC, 50mA								
	Unitless pulse (E0)	Voltage no-contact : DC12~24V, 20mA(at 24V DC) 25mA(at 12V DC) Open collector : DC12~24V, 12mA								
Ambient temperature				-10~60℃						
Material				Aluminum die casting Electric counter (Type E0) has only signal output part						

※1 Output pulse unit of unitless pulse shows nominal value output from this meter.

Output pulse unit table (Optional)

No-contact output pulse unit table (●: Photoelectric type, ○: High frequency type,

Nominal size symbol	One rev. of pointer	Pulse unit					
		1mL/P	10mL/P	100mL/P	1L/P	10L/P	100L/P
0 2 5	10L	●	○	○	○	—	—
0 4 0	10L	—	●	○	○	—	—
0 5 0	100L	—	●	○	○	○	—
0 6 5	100L	—	●	○	○	○	—
0 8 0	100L	—	●	○	○	○	—

Contact output pulse unit table (○: Reed switch)

Nominal size symbol	One rev. of pointer	Pulse unit					
		1mL/P	10mL/P	100mL/P	1L/P	10L/P	100L/P
0 2 5	10L	—	—	—	○	○	—
0 4 0	10L	—	—	—	○	○	—
0 5 0	100L	—	—	—	—	○	○
0 6 5	100L	—	—	—	—	○	○
0 8 0	100L	—	—	—	—	○	○

• High frequency pulse generator (Symbol : M)

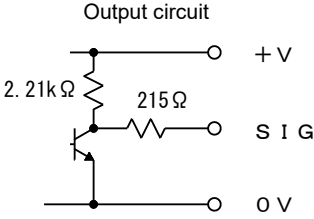
Output signal : Voltage no-contact pulse
Approximate rectangular wave



H : 17V or more (10 k Ω load)
(+V = 24VDC)
H : 8V or more (10 k Ω load)
(+V = 12VDC)
L : 0.5V or less (10 k Ω load)

Output resistance : Approx. 2.4k Ω

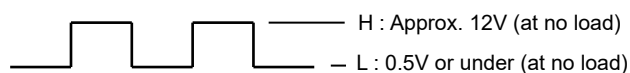
Output circuit



Max. generated pulse : 140P/sec
Power source : 6~26.4VDC
Power consumption : 23 mA or less (+V = 24VDC)
: 17 mA or less (+V = 12VDC)

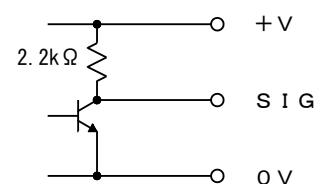
• Photoelectric pulse generator (Symbol : K)

Output signal : Voltage (12V) no-contact pulse
proximate rectangular wave



Output resistance : Approx. 2.2k Ω

Output circuit



Max. generated pulse : 1,400P/s
Power source : 12VDC 50mA

• Reed switch pulse generator (Symbol : R)

Type	Output signal	Max. voltage	Max. current	Switch capacity	Contact resistance	Max. generated pulse
DRR-5	No-voltage contact pulse	200V AC·DC	1A	25W	0.06 Ω	5P/s
MR506	No-voltage contact pulse	50V DC	250mA	15W	0.1 Ω	5P/s

4. Range of flow rate (L/h)

Pointer type(AO), Zero resettable register type(Z8), Electronic type(E0)

Nominal size symbol	Working conditions	1mPa·s~	4mPa·s~	10mPa·s~	50~500mPa·s
025	Continuous	500 ~ 2,500	350 ~ 3,500	200 ~ 3,500	170 ~ 3,500
	Intermittent	500 ~ 3,500	350 ~ 5,000	200 ~ 5,000	170 ~ 5,000
040	Continuous	1,200 ~ 6,000	650 ~ 8,400	500 ~ 8,400	360 ~ 8,400
	Intermittent	1,200 ~ 8,500	650 ~ 12,000	500 ~ 12,000	360 ~ 12,000
050	Continuous	2,400 ~ 12,000	1,200 ~ 17,000	1,000 ~ 17,000	750 ~ 17,000
	Intermittent	2,400 ~ 17,000	1,200 ~ 24,000	1,000 ~ 24,000	750 ~ 24,000
065	Continuous	2,400 ~ 12,000	1,200 ~ 17,000	1,000 ~ 17,000	750 ~ 17,000
	Intermittent	2,400 ~ 17,000	1,200 ~ 24,000	1,000 ~ 24,000	750 ~ 24,000
080	Continuous	5,000 ~ 25,000	2,500 ~ 35,000	2,000 ~ 35,000	1,500 ~ 35,000
	Intermittent	5,000 ~ 35,000	2,500 ~ 50,000	2,000 ~ 50,000	1,500 ~ 50,000

Large-size drum counter type(V0)

Nominal size symbol	Working conditions	1mPa·s~	4mPa·s~	10mPa·s~	50~500mPa·s
040	Continuous	1,800 ~ 6,000	1,600 ~ 8,400	1,200 ~ 8,400	900 ~ 8,400
	Intermittent	1,800 ~ 8,500	1,600 ~ 10,000	1,200 ~ 10,000	900 ~ 10,000
050	Continuous	3,600 ~ 12,000	3,200 ~ 17,000	2,400 ~ 17,000	1,800 ~ 17,000
	Intermittent	3,600 ~ 17,000	3,200 ~ 20,000	2,400 ~ 20,000	1,800 ~ 20,000
065	Continuous	3,600 ~ 12,000	3,200 ~ 17,000	2,400 ~ 17,000	1,800 ~ 17,000
	Intermittent	3,600 ~ 17,000	3,200 ~ 20,000	2,400 ~ 20,000	1,800 ~ 20,000
080	Continuous	8,000 ~ 25,000	6,400 ~ 35,000	4,800 ~ 35,000	3,600 ~ 35,000
	Intermittent	8,000 ~ 35,000	6,400 ~ 40,000	4,800 ~ 40,000	3,600 ~ 40,000

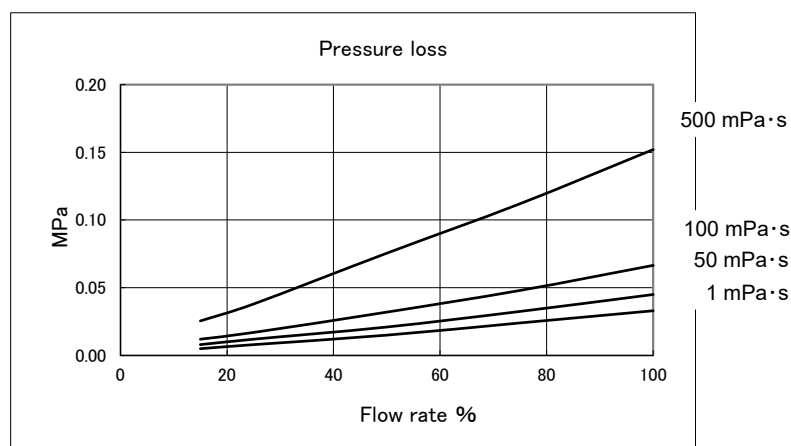
Printer zero resettable register type(P0)

Nominal size symbol	Working conditions	1mPa·s~	4mPa·s~	10mPa·s~	50~500mPa·s
040	Continuous	3,600 ~ 6,000	3,200 ~ 8,400	2,400 ~ 8,400	1,800 ~ 8,400
	Intermittent	3,600 ~ 8,500	3,200 ~ 10,000	2,400 ~ 10,000	1,800 ~ 10,000
050	Continuous	7,200 ~ 12,000	6,400 ~ 17,000	4,800 ~ 17,000	3,600 ~ 17,000
	Intermittent	7,200 ~ 17,000	6,400 ~ 20,000	4,800 ~ 20,000	3,600 ~ 20,000
065	Continuous	7,200 ~ 12,000	6,400 ~ 17,000	4,800 ~ 17,000	3,600 ~ 17,000
	Intermittent	7,200 ~ 17,000	6,400 ~ 20,000	4,800 ~ 20,000	3,600 ~ 20,000
080	Continuous	16,000 ~ 25,000	13,000 ~ 35,000	9,600 ~ 35,000	7,200 ~ 35,000
	Intermittent	16,000 ~ 35,000	13,000 ~ 40,000	9,600 ~ 40,000	7,200 ~ 40,000

(Note) 1. "Continuous" refers to a case where the daily operating time exceeds 8 hours, while "Intermittent" expresses a case where the daily operating time is no more than 8 hours.

2. Please select the type of which 40~60% of Max. flow rate is as same as operation flow rate.

5. Pressure loss



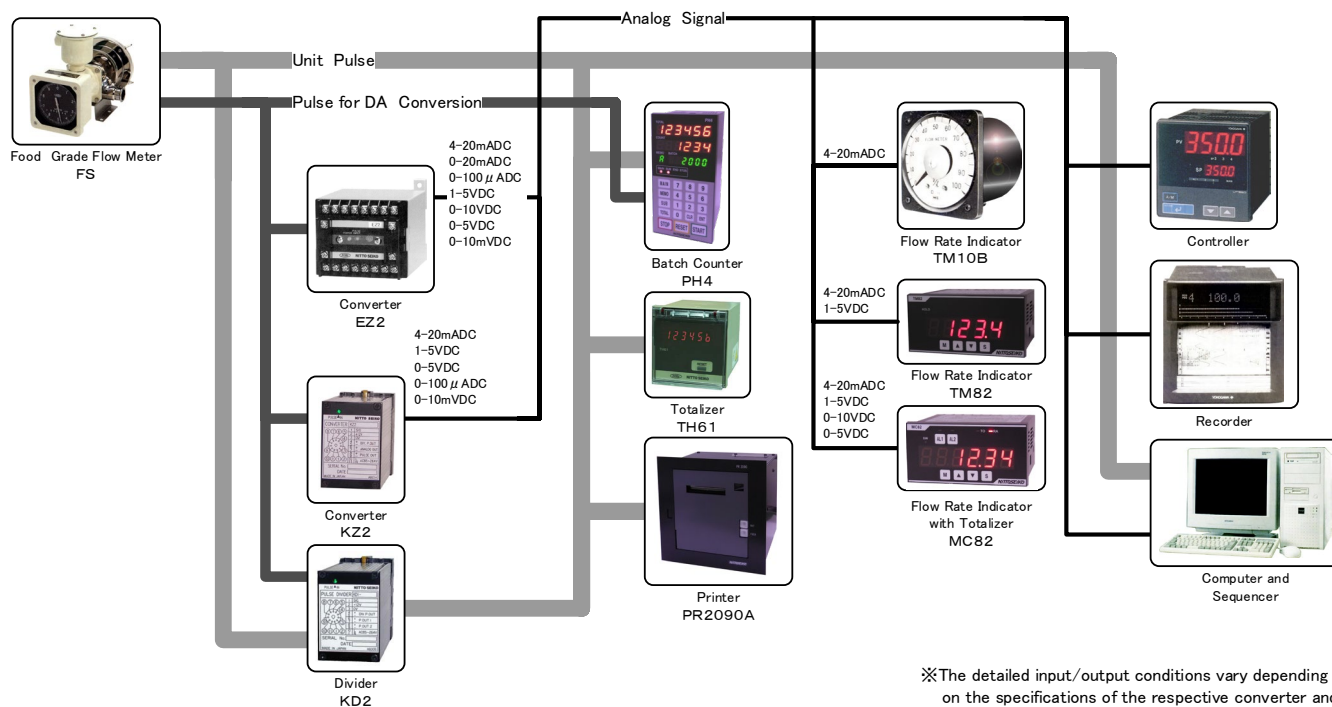
Nominal size symbol	Flow rate 100%
0 2 5	5,000L/h
0 4 0	12,000L/h
0 5 0	24,000L/h
0 6 5	24,000L/h
0 8 0	50,000Lh

6. Process connection and face-to-face dimensions (Unit : mm)

Nominal size symbol	IDF/ISO	
	Ferrule	Screw
0 2 5	190	190
0 4 0	210	210
0 5 0	270	270
0 6 5	270	270
0 8 0	340	340

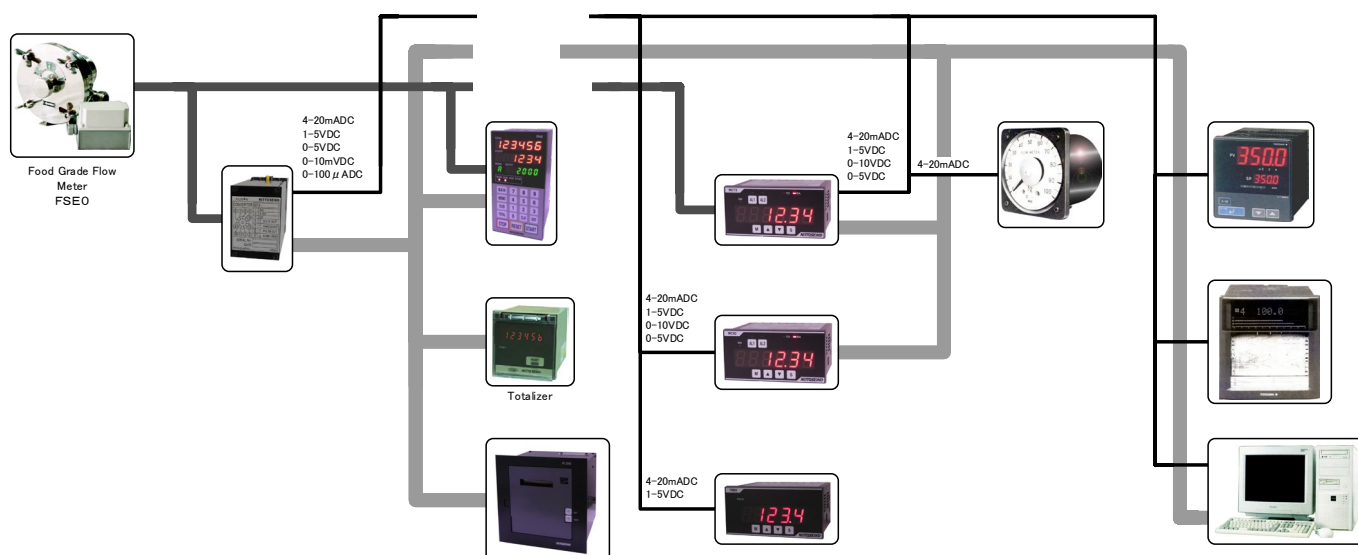
7. Remote measurement system

- Pointer type(A0)、Zero resettable register type(Z8)、Large-size drum counter type (V0)、Printer zero resettable register type (P0)



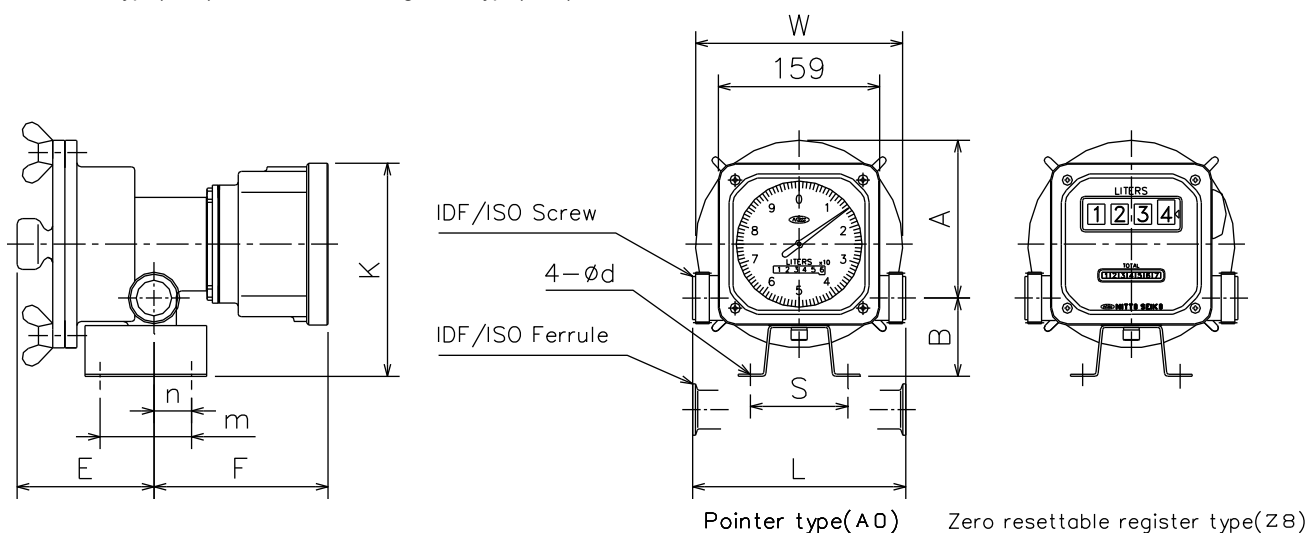
※The detailed input/output conditions vary depending on the specifications of the respective converter and receivers. Check with the specification sheet of the respective instruments.

●Electronic type (E0)



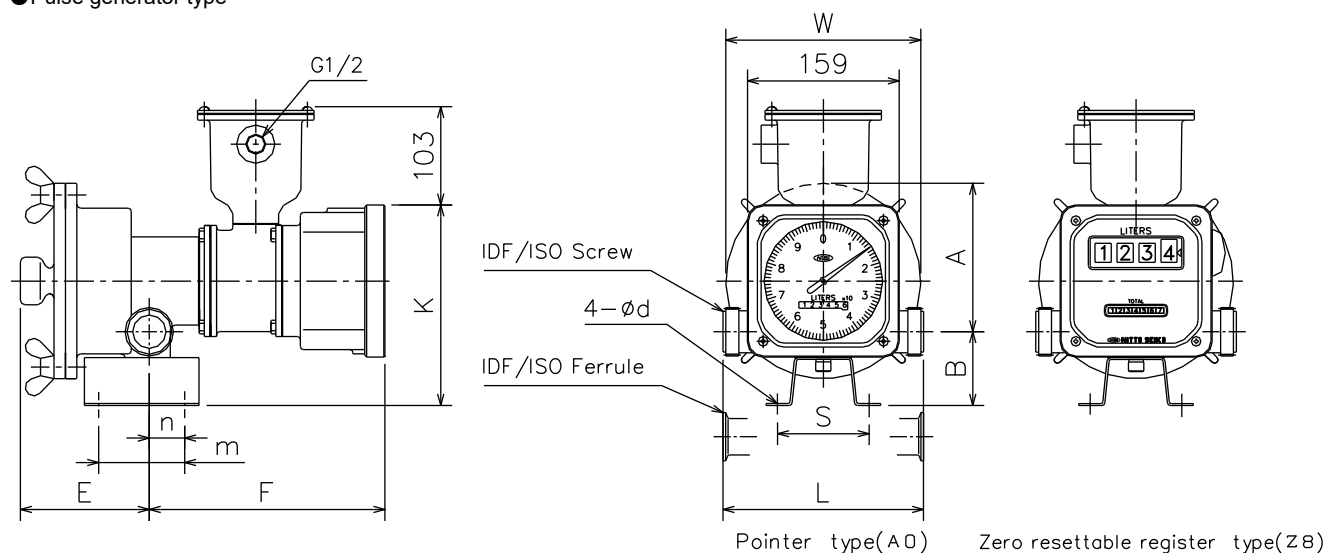
8. External dimensions (Unit : mm)

●Pointer type(A 0)、Zero resettable register type(Z 8)



Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	K	W	S	m	n	d	Weight kg
025	25	D	190	109	51	96	167	170	140	70	60	30	9	7.5
		H												
040	40	D	210	155	77	135	172	210	204	96	90	37	12	17
		H												
050	50	D	270	211	115	169	177	275	262	160	120	42	12	26
		H												
065	65	D	270	211	115	169	177	275	262	160	120	42	12	27
		H												
080	80	D	340	249	130	239	178	295	328	240	130	26	18	54
		H												

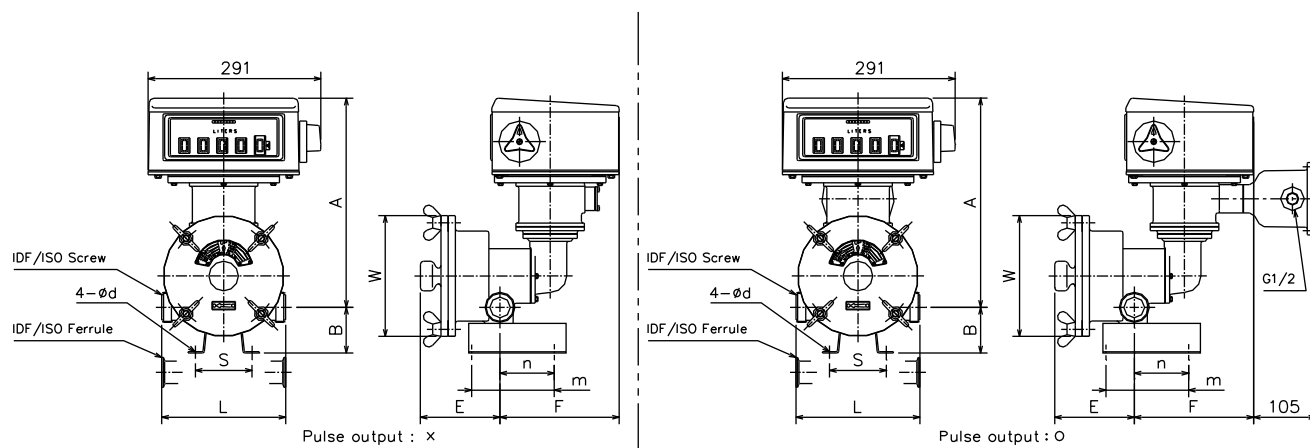
●Pulse generator type



Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	K	W	S	m	n	d	Weight kg
025	25	D	190	109	51	96	242	170	140	70	60	30	9	9.5
		H												
040	40	D	210	155	77	135	247	210	204	96	90	37	12	19
		H												
050	50	D	270	211	115	169	252	275	262	160	120	42	12	28
		H												
065	65	D	270	211	115	169	252	275	262	160	120	42	12	29
		H												
080	80	D	340	249	130	239	253	295	328	240	130	26	18	56
		H												

●Large-size drum counter type (V0)

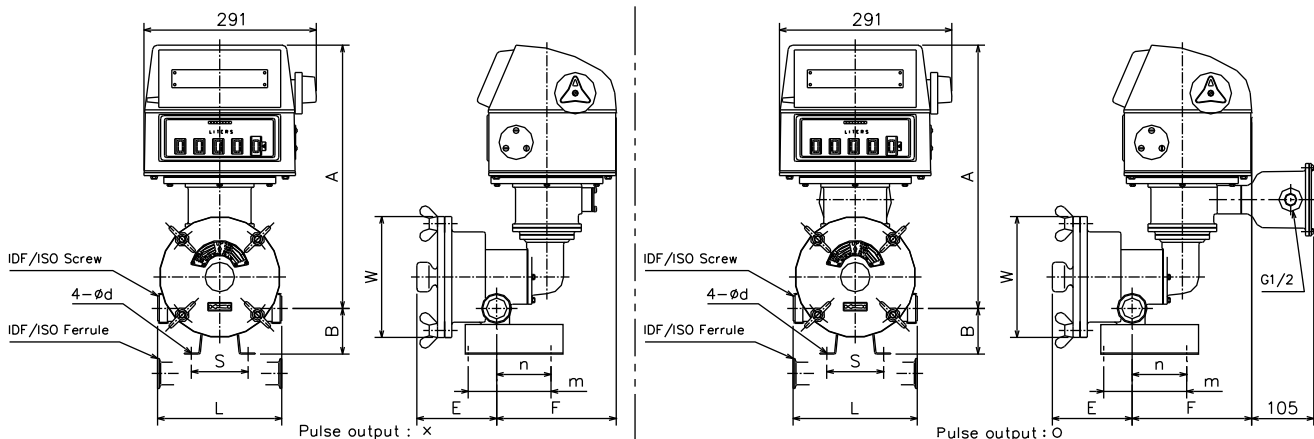
●Pulse generator type Large-size drum counter type (V0)



Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	W	S	m	n	d	Weight kg
040	40	D	210	354	77	135	202	204	96	140	92	12	26
		H											
050	50	D	270	381	115	169	207	262	160	170	97	12	35
		H											
065	65	D	270	381	115	169	207	262	160	170	97	12	36
		H											
080	80	D	340	386	130	239	209	328	240	170	66	18	63
		H											

Note) Shown weight is for without pulse output.

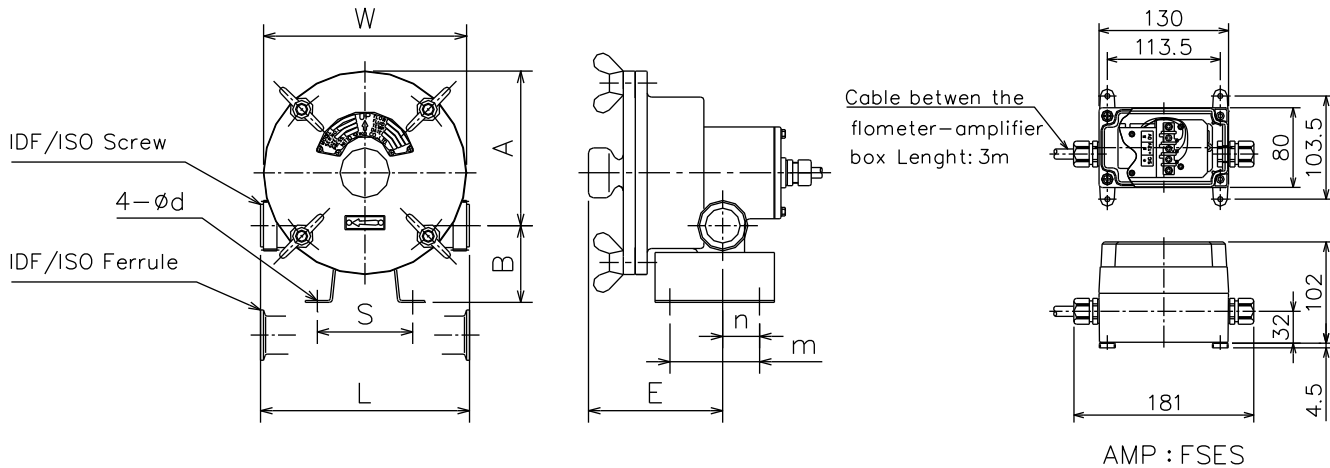
●Pulse generator type Printer zero resettable register type (P0)



Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	W	S	m	n	d	Weight kg
040	40	D H	210	444	77	135	202	204	96	140	92	12	34
050	50	D H	270	471	115	169	207	262	160	170	97	12	43
065	65	D H	270	471	115	169	207	262	160	170	97	12	44
080	80	D H	340	476	130	239	209	328	240	170	66	18	71

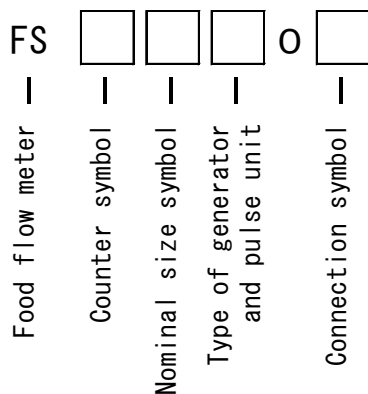
Note) Shown weight is for without pulse output.

●Electronic type (E0)



Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	W	S	m	n	d	Weight kg
025	25	 	190	109	51	96	140	70	60	30	9	4
040	40	 	210	155	77	135	204	96	90	37	12	13
050	50	 	270	211	115	169	262	160	120	42	12	22
065	65	 	270	211	115	169	262	160	120	42	12	23
080	80	 	340	249	130	239	328	240	130	26	18	50

9. Product code



●: Standard; ○: Manufacturable; ×: Non-manufacturable

Type	Specification code	Specifications	025	040	050	065	080
FS		Food flow meter	●	●	●	●	●
Counter symbol	A0	Pointer and direct-reading type	●	●	●	●	●
	Z8	Zero resettable register type	○	○	○	○	○
	V0	Large-size drum counter type	×	○	○	○	○
	P0	Printer zero resettable register type	×	○	○	○	○
	E0	Electronic type	○	○	○	○	○
Nominal size symbol	025	Nominal size: 25A	●				
	040	Nominal size: 40A		●			
	050	Nominal size: 50A			●		
	065	Nominal size: 65A				●	
	080	Nominal size: 80A					●
Type of generator and pulse unit	12	Without pulse output	●	●	●	●	●
	R4	Reed switch (contact) pulse 1L/p	○	○	×	×	×
	R5	Reed switch (contact) pulse 10L/p	○	○	○	○	○
	R6	Reed switch (contact) pulse 100L/p	×	×	○	○	○
	RX	Reed switch (contact) pulse Other than above	○	○	○	○	○
	M2	High frequency (no-contact) pulse 0.01L/p	○	×	×	×	×
	M3	High frequency (no-contact) pulse 0.1L/p	○	○	○	○	○
	M4	High frequency (no-contact) pulse 1L/p	○	○	○	○	○
	M5	High frequency (no-contact) pulse 10L/p	×	×	○	○	○
	MD	High frequency (no-contact) pulse DA conversion pulse	○	○	○	○	○
	MX	High frequency (no-contact) pulse Other than above	○	○	○	○	○
	K1	Photoelectric (no-contact) pulse 0.001L/p	○	×	×	×	×
	K2	Photoelectric (no-contact) pulse 0.01L/p	×	○	○	○	○
	KX	Photoelectric (no-contact) pulse Other than above	○	○	○	○	○
	XX	Electric counter (Voltage no-contact output or open collector output) pulse	○	○	○	○	○
Connection symbol	D	IDF/ISO Screw	●	●	●	●	●
	H	IDF/ISO Ferrule	●	●	●	●	●

◆◆◆ Matters to be specified at the time of ordering ◆◆◆

1. Type and specification code
2. Name of measured liquid, viscosity, temperature
3. Flow direction of fluid, mounting position

▼The contents given here are subject to change without notice.

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