NITTOSEIKO
Taking new steps forward together

FOOD FLOW METER

SPECIFICATIONS

SSV17151 25.07

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			Edible liquids, Other 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	1 1/2S	2S	2 1/2S	3S
Material	Material symbol	PL （For edible liquids）	Main body:SCS13, Rotor:PPS				
			SCS13:Stainless steel casting, PPS: Special plastic				
		S7 （For other liquids）	Main body:SCS13, Rotor:PPS, GC				
			SCS13:Stainless steel casting, PPS: Special plastic, GC: Carbon				

Specifications of counter unit

Nominal size symbol				025	040	050	065	080
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)			

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.				
	Analog 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				
Ambient temperature				-10～60℃				
Material				Aluminum die casting				

※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
025	10L	●	○	○	○	—	—
040	10L	—	●	○	○	—	—
050	100L	—	●	○	○	○	—
065	100L	—	●	○	○	○	—
080	100L	—	●	○	○	○	—

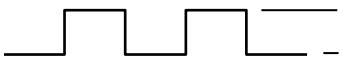
Contact output pulse unit table (○:Reed switch)

Nominal size symbol	One rev. of pointer	Pulse unit					
		1mL/P	10mL/P	100mL/P	1L/P	10L/P	100L/P
025	10L	—	—	—	○	○	—
040	10L	—	—	—	○	○	—
050	100L	—	—	—	—	○	○
065	100L	—	—	—	—	○	○
080	100L	—	—	—	—	○	○

● High frequency pulse generator (Symbol : M)

Output signal : Voltage no-contact pulse

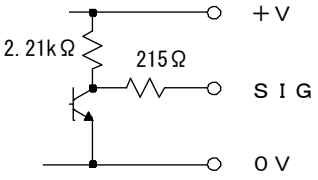
Approximate rectangular wave



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

Output resistance : Approx. 2.4kΩ

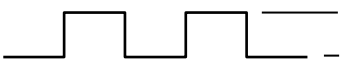
Output circuit



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

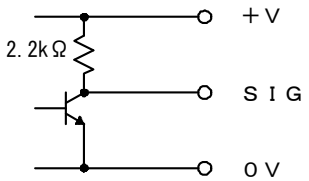
● Photoelectric pulse generator (Symbol : K)

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



Output resistance : Approx. 2.2kΩ

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	0.06Ω	5P/s
MR506	No-voltage contact pulse	50V DC	250mA	15W	0.1Ω	5P/s

4. Range of flow rate (L/h)

Pointer type(A0)、Zero resettable register type(Z8)

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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	8,000 ～ 35,000	6,400 ～ 40,000	4,800 ～ 40,000	3,600 ～ 40,000

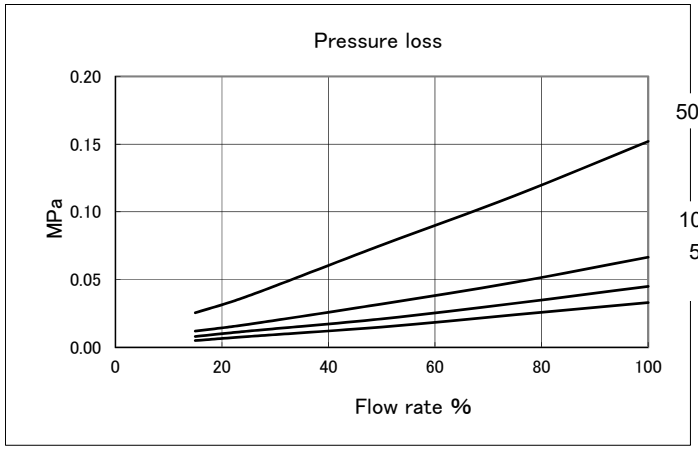
Printer zero resettable register type(P0)

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
	Intermitten	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
	Intermitten	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
	Intermitten	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
	Intermitten	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



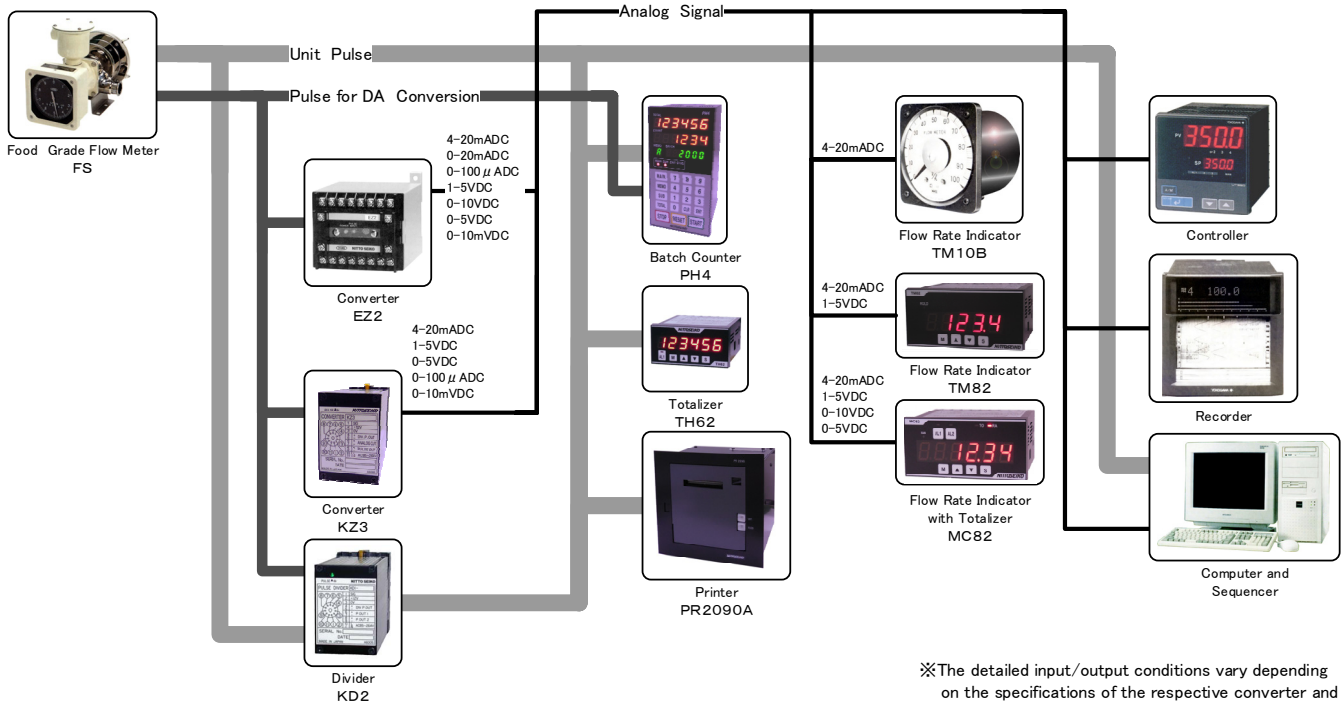
Nominal size symbol	Flow rate 100%
025	5,000L/h
040	12,000L/h
050 065	24,000L/h
080	50,000Lh

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

Nominal size symbol	IDF/ISO	
	Ferrule	Screw
025	190	190
040	210	210
050	270	270
065	270	270
080	340	340

7． Remote measurement system

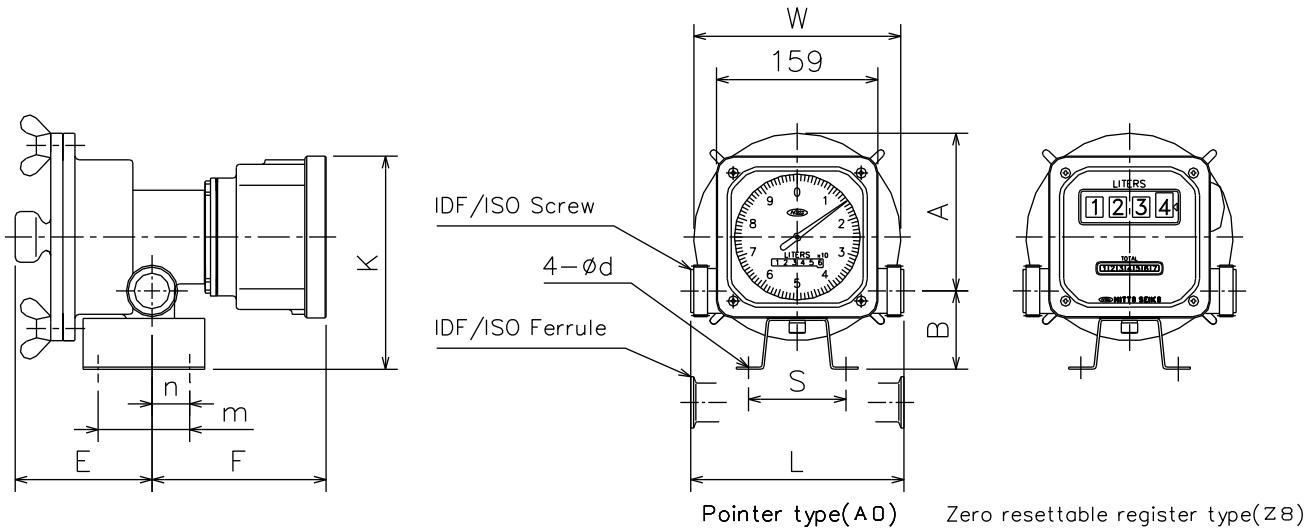
●Pointer type(A0)、Zero resettable register type(Z8)、Large-size drum counter type（V0）、
Printer zero resettable register type（P0）



※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.

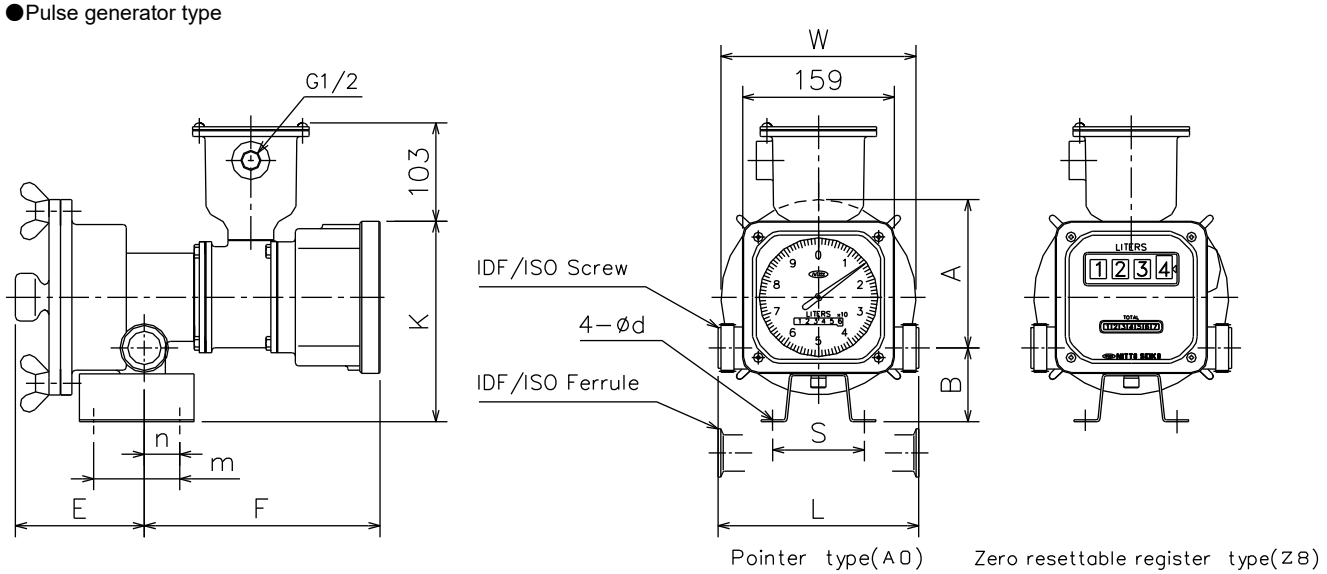
8. External dimensions (Unit : mm)

●Pointer type(A0)、Zero resettable register type(Z8)



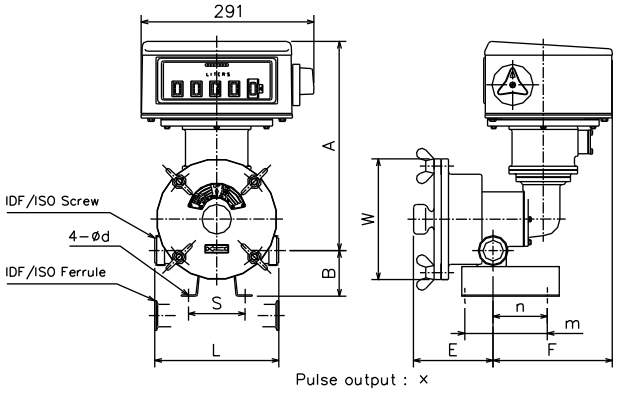
Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	K	W	S	m	n	d	Weight kg
025	25	D H	190	109	51	96	167	170	140	70	60	30	9	7.5
040	40	D H	210	155	77	135	172	210	204	96	90	37	12	17
050	50	D H	270	211	115	169	177	275	262	160	120	42	12	26
065	65	D H	270	211	115	169	177	275	262	160	120	42	12	27
080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

●Pulse generator type

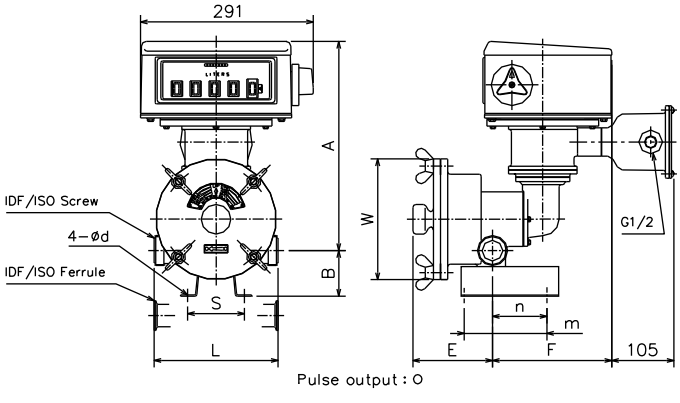


Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	K	W	S	m	n	d	Weight kg
025	25	D H	190	109	51	96	242	170	140	70	60	30	9	9.5
040	40	D H	210	155	77	135	247	210	204	96	90	37	12	19
050	50	D H	270	211	115	169	252	275	262	160	120	42	12	28
065	65	D H	270	211	115	169	252	275	262	160	120	42	12	29
080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

●Large-size drum counter type（V0）



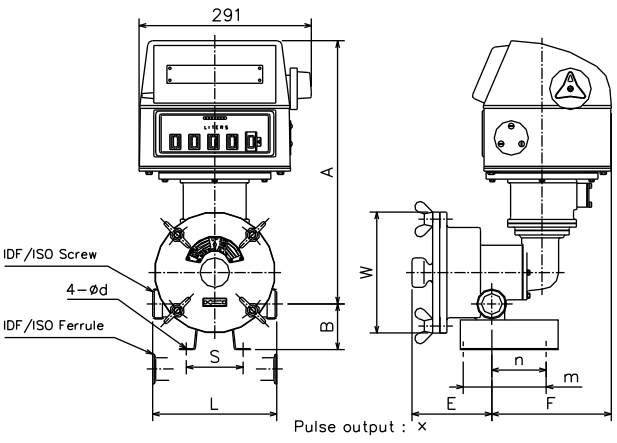
●Pulse generator type　Large-size drum counter type（V0）



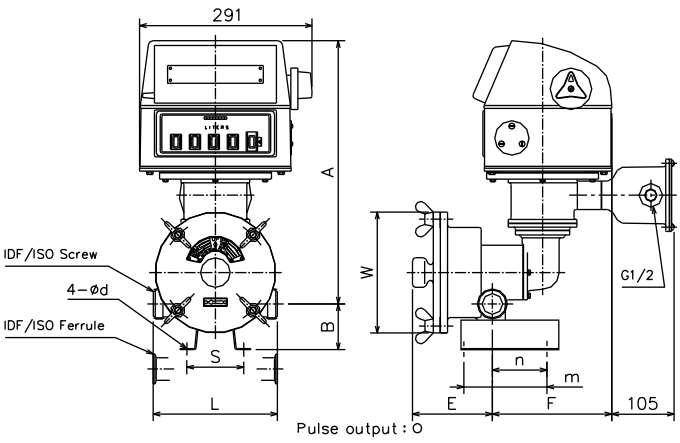
Nominal size symbol	Nominal size	Connection symbol	L	A	B	E	F	W	S	m	n	d	Weight kg
040	40	D / H	210	354	77	135	202	204	96	140	92	12	26
050	50	D / H	270	381	115	169	207	262	160	170	97	12	35
065	65	D / H	270	381	115	169	207	262	160	170	97	12	36
080	80	D / H	340	386	130	239	209	328	240	170	66	18	63

Note）Shown weight is for without pulse output.

●Printer zero resettable register　type（P0）



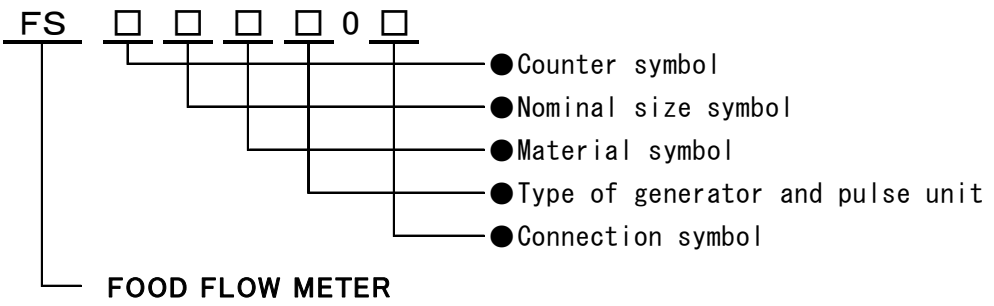
●Pulse generator type　Printer zero resettable register　type（P0）



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.

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	×	○	○	○	○
Nominal size symbol	025		Nominal size: 25A	●				
	040		Nominal size: 40A		●			
	050		Nominal size: 50A			●		
	065		Nominal size: 65A				●	
	080		Nominal size: 80A					●
Material symbol	PL		Main body: SCS13, Rotor: PPS (For edible liquids)	●	●	●	●	●
	S7		Main body: SCS13, Rotor: PPS , GC (For other liquids)	○	○	○	○	○
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.

NITTOSEIKO CO.,LTD.

Control System Division Global Sales Section 【Website】 【Inquiry Form】
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