



Vortex Flow Monitor Eggs DELTA Pulse



- Made of PPS resin: compact, lightweight, and economical.
- Ideal for consumption management of energy-fluids or coolant, as well as end-of-process flow monitoring via installation to various equipment.
- Capable of measuring wide range of liquid and gas.
- Resistant to dust and mist. Capable of wet-gas measurement.
- Maintenance free due to absence of moving parts.
- ATEX, TIIS compliant.

■ GENERAL SPECIFICATIONS

Item		Description			
Nominal size		4mm	8mm	15mm	25mm
Flow range (L/min)	Water	0.4 to 4	1.1 to 15	2.8 to 45	8.3 to 133
	Air	7.2 to 17	18 to 90	55 to 283	167 to 850
Process connection		R male (resin), NPT male (resin), Rc female (metal)			
Enclosure		Non-explosionproof or explosionproof			
Accuracy		Liquid: ±2% of full scale or better		Gas: ±3% of full scale or better	
Max. operating pressure		0.98MPa			
Fluid temp. range		Standard: -20 to +80°C		Explosionproof: -20 to +60°C	
Ambient temp. range		-20 to +60°C			
Major Materials		Meter body, Transmitter housing: PPS resin (Polyphenylene sulfide)		O-ring: Viton	
Power supply		12 to 24VDC			
Output		Flow pulse: Open collector (Capacity: 30VDC, 20mA), Pulse width: Duty ratio 1:1 approx.			
Dusttight/waterproof rating		IP65 (※1)			
Installation location		Free from rain and water with minimal temperature variation, not exposed to the sun.			

※1: IP ratings vary according to structures.

■ UNFACTORED PULSE UNITS OF MEASUREMENT (NOMINAL VALUES)

Nominal size (mm)	Pulse units mL/P		Freq. at max. flowrate (Hz)	
	Liquid	Gas	Liquid	Gas
4	0.0890	0.890	750	320
8	0.5406	5.406	460	280
15	2.363	23.63	320	200
25	12.66	126.6	180	120

■ EXPLOSIONPROOF RATINGS

		Flowmeter	Barrier
Exp. ratings	TIIS	Exia IIB T4	(Exia) IIB
	ATEX	Exia IIB T4 Ga/Gb	(Exia Ga) IIB

※ Barrier to be installed in a nonhazardous area.

■ EMC SPECIFICATIONS

Applicable EU directives	EMC directives: 2014/30/EU
Applicable standards, etc.	EMC directives: EN61326-1 Class A

■ PRODUCT CODE EXPLANATION

Item	Code No.										Description
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	
Model	F	L	P								Eggs DELTA Pulse
Nominal size				0	4	-					4mm
				0	8	-					8mm
				1	5	-					15mm
				2	5	-					25mm
Acceptable fluids							L	1			Liquid
							G	2			Gas
Process connection								P			R (male thread) Process connection material : PPS
								S			Rc (female thread) Process connection material : SCS14A
								N			NPT (male thread) Process connection material : PPS
Version									B		Always "B"
Construction									0		Non-explosionproof
									1		TIIS Intrinsically safe enclosure: Sensor + barrier
									2		ATEX Intrinsically safe enclosure: Sensor + barrier

■ BARRIER

Item	Description
Power	12 to 24VDC
Current drain	10mA max.
Pulse output	Open collector pulse (Capacity: 30VDC, 20mA)
Operating temp. range	-20 to +50°C
Major parts material	Housing : Polycarbonate
Dusttight, waterproof enclosure	IP30

■ OUTLINE DIMENSIONS

● R/NPT Thread

Technical drawing of the R/NPT Thread connection. The drawing includes three views: front, side, and top. The front view shows a meter body with a pulse output terminal. Dimensions include: 51 (top width), 36 (side width), H2 (total height), φD (body diameter), L (body length), W (base width), H1 (base height), 39 (top flange width), 24 (flange thickness), and 4-M4 (Meter body fitting screw hole).

Nom. size (mm)	φD	R	L	W	H1	H2	Approx. weight (g)
4	8.5	R3/8 NPT3/8	80	32	29	68	270
8	13	R1/2 NPT1/2	80	32	29	68	270
15	14	R3/4 NPT3/4	85	32	29	68	280
25	24.5	R1-1/4 NPT1-1/4	120	46	46	85	410

● Metal connection

Technical drawing of the Metal connection. The drawing includes three views: front, side, and top. The front view shows a meter body with a pulse output terminal. Dimensions include: 51 (top width), 36 (side width), H2 (total height), φD (body diameter), L (body length), W (base width), H1 (base height), 39 (top flange width), 24 (flange thickness), and 4-M4 (Meter body fitting screw hole). A note states: "NOTE: Meter body fitting screws cannot be used for model FLP25."

Nom. size (mm)	φD	Rc	L	W	H1	H2	Approx. weight (g)
4	8.5	Rc1/4	91	50	29	68	650
8	10.7	Rc1/4	91	50	29	68	650
15	14	Rc1/2	91	50	29	68	650
25	24.5	Rc1	126	46	46	85	950

● Barrier

Unit: mm

Technical drawing of the Barrier connection. The drawing includes two views: side and top. The side view shows a meter body with a pulse output terminal. Dimensions include: 58 (top width), 53 (side width), 17.5+0.5 (top flange thickness), 90 (base height), 98.8 (total height), and M4 (base screw). A note states: "DIN EN 50022-35". The approximate weight is 60g.

The specification as of January, 2021 is stated in this catalog. Specifications and design are subject to change without notice.