

Reducer built-in meters expand measurable low flow regions !!

Reduced Flanged EX DELTA II

■ FEATURES

- Expands the low end of EX DELTA II's flow range.
(Four line sizes: 50, 80, 100, and 150mm)
- Cost reduction in your replacement project.
Saves modification costs involving upstream and downstream straight pipes, etc. when you replace the existing meter with one size smaller one.
- Welded connection of reducer flanges eliminates leaks.



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FLOW RANGES

● Saturated steam

Units: Line size 50 (40) in kg/h;
meter size 80 (50) and above in t/h

Pressure MPa (gauge)	Process connection (mm)							
	50 (40)		80 (50)		100 (80)		150 (100)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0.049	29	250	0.04	0.42	0.08	0.95	0.14	1.60
0.098	29	326	0.05	0.55	0.09	1.23	0.16	2.08
0.196	33	475	0.06	0.80	0.12	1.80	0.21	3.03
0.294	39	620	0.07	1.04	0.15	2.35	0.25	3.95
0.392	45	764	0.08	1.29	0.17	2.89	0.28	4.87
0.490	51	906	0.09	1.53	0.19	3.43	0.32	5.78
0.588	56	1040	0.10	1.77	0.20	3.97	0.35	6.68
0.686	61	1180	0.10	2.00	0.22	4.50	0.38	7.58
0.785	65	1320	0.11	2.24	0.24	5.03	0.40	8.47
0.883	70	1460	0.12	2.48	0.25	5.57	0.43	9.36
0.981	74	1610	0.13	2.72	0.27	6.10	0.46	10.3
1.08	78	1740	0.13	2.95	0.28	6.63	0.49	11.1
1.18	82	1880	0.14	3.18	0.30	7.15	0.51	12.0
1.27	86	2020	0.15	3.42	0.31	7.67	0.53	12.9
1.37	90	2160	0.15	3.65	0.33	8.20	0.56	13.7
1.47	94	2300	0.16	3.88	0.34	8.72	0.58	14.6
1.57	98	2440	0.16	4.12	0.35	9.26	0.60	15.5
1.67	101	2580	0.17	4.35	0.37	9.78	0.63	16.4
1.77	105	2720	0.18	4.60	0.38	10.3	0.65	17.3
1.86	109	2860	0.18	4.83	0.39	10.8	0.67	18.2
1.96	112	3000	0.19	5.07	0.41	11.3	0.69	19.1
2.94	145	4410	0.24	7.45	0.52	16.7	0.90	28.1
3.92	175	5860	0.29	9.90	0.63	22.2	1.08	37.3
4.22	184	6300	0.30	10.6	0.66	23.9	1.13	40.2

Accuracy: Min. rate to 1/2 max. rate: $\pm 1\%$ of reading or better
From 1/2 max. rate to max. rate: $\pm 2\%$ of reading

● GAS

Flow ranges are shown in actual flowrate.

If flowrate is given in standard conditions, be sure to convert it to actual rate and determine the flow range or nominal size based on this table.

Nom size mm	Density kg/m ³	Min. flowrate										Max. rate
		0.38	0.7	1.2	2.0	3.6	6	11	19	34	(60)	
		Accuracy										
50 (40)	$\pm 1\%$ RD	110	57	33	20	16	13	11	9	8	6	150
	$\pm 2\%$ RD											290
	$\pm 1\%$ FS	39	29	23	19	16	13	11	9	8	6	150
	$\pm 2\%$ FS											290
80 (50)	$\pm 1\%$ RD	110	73	43	31	26	22	18	15	12	10	250
	$\pm 2\%$ RD											490
	$\pm 1\%$ FS	63	46	37	31	26	22	18	15	12	10	250
	$\pm 2\%$ FS											490
100 (80)	$\pm 1\%$ RD	200	108	80	67	56	47	38	32	26	22	550
	$\pm 2\%$ RD											1100
	$\pm 1\%$ FS	140	101	80	67	56	47	38	32	26	22	550
	$\pm 2\%$ FS											1100
150 (100)	$\pm 1\%$ RD	260	174	140	115	95	80	66	55	45	37	950
	$\pm 2\%$ RD											1850
	$\pm 1\%$ FS	240	174	140	115	95	80	66	55	45	37	950
	$\pm 2\%$ FS											1850

● LIQUID

Select the larger value from Table A (specific gravity based) and Table B (viscosity based), whichever is larger.

Table A : Specific gravity based Accuracy: $\pm 1\%$ of reading nit in m³/h

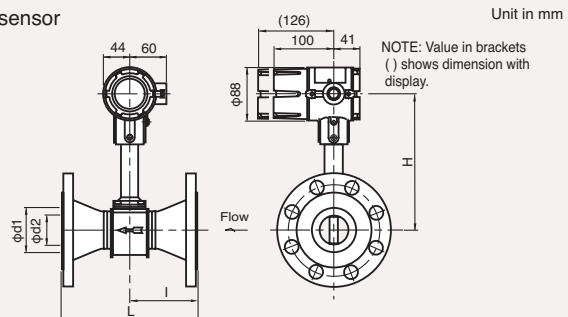
Nom. size mm	Sp. gr.	Min. flowrate							Max. rate
		0.5	0.6	0.7	0.8	0.9	1.0	1.1	
50(40)		1.7	1.5	1.4	1.3	1.3	1.3	1.2	48
80(50)		2.7	2.5	2.3	2.2	2.1	2.1	1.9	79
100(80)		6.0	5.5	5.1	4.7	4.6	4.6	4.6	172
150(100)		11	11	11	11	11	11	11	296

Table B : viscosity based nit in m³/h

Nom. size mm	Accuracy	Kin. visc. mm ² /s	Min. flowrate				
			1	2	3	5	10
50	$\pm 1\%$ RD		2.4	4.7	7.0	12	24
(40)	$\pm 1\%$ FS					2.8	6.5
80	$\pm 1\%$ RD		3.0	6.0	9.0	15	30
(50)	$\pm 1\%$ FS					3.6	7.1
100	$\pm 1\%$ RD			8.9	14	23	45
(80)	$\pm 1\%$ FS						11
150	$\pm 1\%$ RD			12	18	29	58
(100)	$\pm 1\%$ FS						14

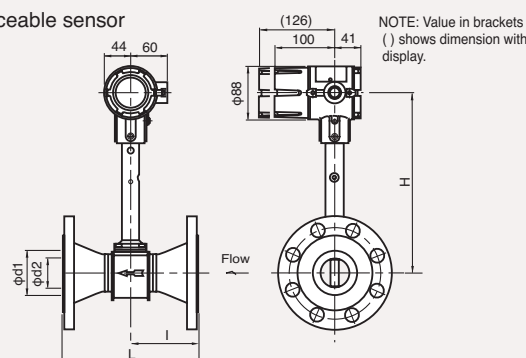
OUTLINE DIMENSIONS

(1) Fixed sensor



Nom pipe size (mm)	Nom. meter size (mm)	Flange rating	L	I	φd1 (Flange I.D.)	φd2 (Meter body I.D.)	H
50 (2")	40 (1-1/2")	JIS10K	173	86.5	49.5	37.6	261
80 (3")	50 (2")		219	109.5	73.9	48.5	265
100 (4")	80 (3")		250	102.5	97.1	72.4	281
150 (6")	100 (4")		322	126.5	143.2	95.2	301

(2) Replaceable sensor



Nom pipe size (mm)	Nom. meter size (mm)	Flange rating	L	I	φd1 (Flange I.D.)	φd2 (Meter body I.D.)	H
50 (2")	40 (1-1/2")	JIS10K	173	86.5	49.5	37.6	342
80 (3")	50 (2")		219	109.5	73.9	48.5	346
100 (4")	80 (3")		250	102.5	97.1	72.4	362
150 (6")	100 (4")		322	126.5	143.2	95.2	382

PRODUCT CODE EXPLANATION

Item	Product Code																Description
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	
Model	V	X															EX DELTA II
Meter body style	F																Flange type fixed sensor
	R																Flange type replaceable sensor
Application	4																Reducer connection
Meter body size	0	4	0	—													40mm (nom. pipe size : 50mm)
	0	5	0	—													50mm (nom. pipe size : 80mm)
	0	8	0	—													80mm (nom. pipe size : 100mm)
	1	0	0	—													100mm (nom. pipe size : 150mm)
Major parts material	N																Flanges: SUSF316, Meter body: SCS14A
Flange rating	1																JIS 10K
Probe configuration	1																Standard (integral with sensor)
Acceptable fluid	G	—															Gas and steam : Temperature below 300°C
	L	—															Liquid : Temperature below 300°C
Transmitter configuration	1																Integrally mounted type
	2																Separately mounted type
Explosionproof rating	0																Non-explosionproof
	1																TIIS flameproof (Smart type)
	3																Totalizer and digital indicator
Display	0																None (Smart type)
	1																Totalizer and digital indicator
Output	0																None (Battery powered)
	4																Unfactored pulse (Current pulse)
	5																Factored pulse (Current pulse)
	6																Analog
	D																Unfactored pulse (open collector pulse)
	E																Factored pulse (open collector pulse)
Version code	B																Battery powered
	C																External power

The specification as of March, 2015 is stated in this catalog. Specifications and design are subject to change without notice.

GENERAL SPECIFICATIONS

Item			Description
Sensor configuration			Fixed or replaceable sensor
Nom. line size (nom. meter size), mm			50 (40), 80 (50), 100 (80), and 150 (100)
Process connection			Flange (RF is standard.)
Flange rating			JIS 10K
Operating temp. range			-30 to +300°C (Models that withstand temperatures above 300°C also available. Consult factory.)
Max. operating pressure			Below 220°C: 1.18MPa 220°C to 300°C: 0.98MPa
Accuracy			Liquid: ±1% of RD or ±1% of FS (depending on operating conditions) Gas and steam: • $V \leq 30$ m/s: ±1% of RD or ±1% of FS (depending on operating conditions) • $V > 30$ m/s: ±2% of RD or ±2% of FS (depending on operating conditions) where V: Max. flow velocity in the center of meter body
Major parts materials			Flanges: SUSF316 Meter body: SCS14A
Transmitter (Integral with, or separate from, meter)	Smart type	Display	Less display or instant / total flow display
		Output	Current pulse, open collector pulse, analog (4 to 20mA)
		Functions	Communication (Correction factor calculations using the HART protocol)
		Power supply	12 to 45V DC
	Battery type	Display	Instant rate / total flow display
		Output	None
		Power supply	3.6V lithium battery
	Configuration		Non-explosionproof, TIIS flameproof (Smart type), TIIS intrinsic safety (battery powered type)

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