



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

## Reduced Flanged EX DELTA II



### FEATAURES

- 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.

### 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: $\pm 1\%$ of RD or $\pm 1\%$ of FS (depending on operating conditions) Gas and steam: <ul style="list-style-type: none"> <li>• <math>V \leq 30</math> m/s: <math>\pm 1\%</math> of RD or <math>\pm 1\%</math> of FS (depending on operating conditions)</li> <li>• <math>V &gt; 30</math> m/s: <math>\pm 2\%</math> of RD or <math>\pm 2\%</math> of FS (depending on operating conditions)</li> </ul> where V: Max. flow velocity in the center of meter body	
Major parts materials		Flanges: SUS316    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 45VDC
	Battery type	Display	Instantaneous flow rate, Instantaneous flow rate bar graph, Resettable counter, Totalizing counter, Low battery alarm, switch operation, alarms, key lock
		Output	None
		Power supply	Dedicated battery: 3.6 V lithium battery TL-5930/F made by TADIRAN
Configuration		Explosionproof or Non-explosionproof	

## 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)								Pressure MPa (gauge)	Process connection (mm)							
	50 (40)		80 (50)		100 (80)		150 (100)			50 (40)		80 (50)		100 (80)		150 (100)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
0.049	29	250	0.04	0.42	0.08	0.95	0.14	1.60	1.18	82	1880	0.14	3.18	0.30	7.15	0.51	12.0
0.098	29	326	0.05	0.55	0.09	1.23	0.16	2.08	1.27	86	2020	0.15	3.42	0.31	7.67	0.53	12.9
0.196	33	475	0.06	0.80	0.12	1.80	0.21	3.03	1.37	90	2160	0.15	3.65	0.33	8.20	0.56	13.7
0.294	39	620	0.07	1.04	0.15	2.35	0.25	3.95	1.47	94	2300	0.16	3.88	0.34	8.72	0.58	14.6
0.392	45	764	0.08	1.29	0.17	2.89	0.28	4.87	1.57	98	2440	0.16	4.12	0.35	9.26	0.60	15.5
0.490	51	906	0.09	1.53	0.19	3.43	0.32	5.78	1.67	101	2580	0.17	4.35	0.37	9.78	0.63	16.4
0.588	56	1040	0.10	1.77	0.20	3.97	0.35	6.68	1.77	105	2720	0.18	4.60	0.38	10.3	0.65	17.3
0.686	61	1180	0.10	2.00	0.22	4.50	0.38	7.58	1.86	109	2860	0.18	4.83	0.39	10.8	0.67	18.2
0.785	65	1320	0.11	2.24	0.24	5.03	0.40	8.47	1.96	112	3000	0.19	5.07	0.41	11.3	0.69	19.1
0.883	70	1460	0.12	2.48	0.25	5.57	0.43	9.36	2.04	115	3140	0.20	5.30	0.42	11.8	0.71	20.0
0.981	74	1610	0.13	2.72	0.27	6.10	0.46	10.3	2.14	118	3280	0.21	5.53	0.43	12.3	0.73	20.9
1.08	78	1740	0.13	2.95	0.28	6.63	0.49	11.1	2.24	121	3420	0.22	5.76	0.44	12.8	0.75	21.8

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

Unit: m³/h

Nom. size mm	Density kg/m³ Accuracy	Min. flowrate										Max. rate
		0.38	0.7	1.2	2.0	3.6	6	11	19	34	(60)	
50 (40)	±1%RD	110	57	33	20	16	13	11	9	8	6	150
	±2%RD	110	57	33	20	16	13	11	9	8	6	290
	±1%FS	39	29	23	19	16	13	11	9	8	6	150
	±2%FS	39	29	23	19	16	13	11	9	8	6	290
80 (50)	±1%RD	110	73	43	31	26	22	18	15	12	10	250
	±2%RD	110	73	43	31	26	22	18	15	12	10	490
	±1%FS	63	46	37	31	26	22	18	15	12	10	250
	±2%FS	63	46	37	31	26	22	18	15	12	10	490
100 (80)	±1%RD	200	108	80	67	56	47	38	32	26	22	550
	±2%RD	200	108	80	67	56	47	38	32	26	22	1100
	±1%FS	140	101	80	67	56	47	38	32	26	22	550
	±2%FS	140	101	80	67	56	47	38	32	26	22	1100
150 (100)	±1%RD	260	174	140	115	95	80	66	55	45	37	950
	±2%RD	260	174	140	115	95	80	66	55	45	37	1850
	±1%FS	240	174	140	115	95	80	66	55	45	37	950
	±2%FS	240	174	140	115	95	80	66	55	45	37	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: ±1% of reading

Unit: 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	1.2	
50 (40)	1.7	1.5	1.4	1.3	1.3	1.3	1.2	1.1	48	
80 (50)	2.7	2.5	2.3	2.2	2.1	2.1	1.9	1.8	79	
100 (80)	6.0	5.5	5.1	4.7	4.6	4.6	4.6	4.6	172	
150 (100)	11	11	11	11	11	11	11	11	296	

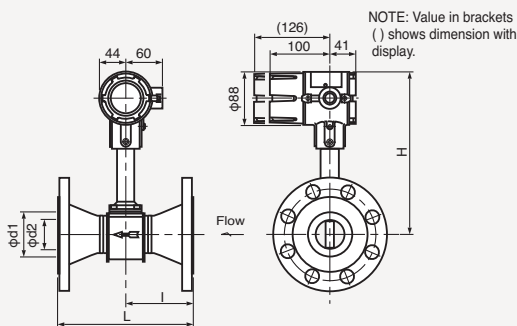
Table B : viscosity based

Unit: m³/h

Nom. size mm	Kin. visc. mm²/s Accuracy	Min. flowrate				
		1	2	3	5	10
50 (40)	±1% RD	2.4	4.7	7.0	12	24
	±1% FS				2.8	6.5
80 (50)	±1% RD	3.0	6.0	9.0	15	30
	±1% FS				3.6	7.1
100 (80)	±1% RD		8.9	14	23	45
	±1% FS					11
150 (100)	±1% RD		12	18	29	58
	±1% FS					14

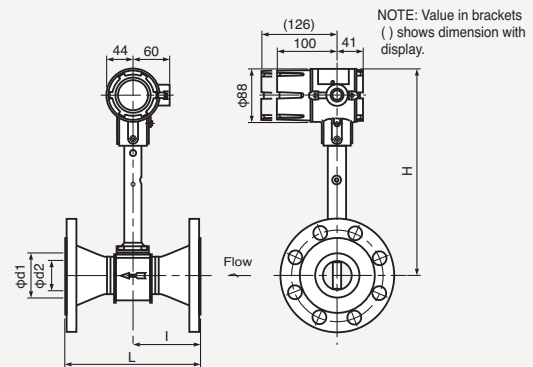
## PRODUCT CODE EXPLANATION (Transmitter Smart Type)

### (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

The specification as of January, 2020 is stated in this catalog. Specifications and design are subject to change without notice.



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