

 <p><b>ENAR PETROTECH SERVICES (PVT.) LTD.</b></p>		<p align="center"><b>VORTEX FLOWMETER</b></p>		DATA SHEET NO.	0102-IDS-6066A
				SHEET NO.	1 of 1
				DATE	18-Apr-23
				REV.	1
				PREPARED BY	WAS
		CHECKED BY	SJA		
		APPROVED BY	SJA		
OWNER:		OIL & GAS DEVELOPMENT COMPANY LIMITED (OGDCL)			
PROJECT:		GAS PLANT FACILITY PROJECT			
1	Quantity		1		1
2	Tag Number		200-FQI-01		200-FQI-02
3	Service		Test Separator to Produced Water Tank		Test Separator to Condensate Tank
4	Line No.		2"-PW-EA4-2060		2"-PL-EA4-2062
5	Piping Class		EA4		EA4
6	P&ID No.		0102-PB-2157		0102-PB-2157
<b>7 PROCESS SERVICE CONDITIONS</b>					
8	Fluid		Water		Process Liquid
9	State		Liquid		Liquid
10	Maximum Condition	Flow Rate (Q)	(lb/hr)	2750	688
11		Inlet Pressure (P1)	(Psig)	1300	1400
12		Temperature (T)	(°F)	180	180
13	Operating Condition	Flow Rate (Q)	(lb/hr)	2200	550
14		Inlet Pressure (P1)	(Psig)	1255	1255
15		Temperature (T)	(°F)	140	140
16	Minimum Condition	Flow Rate (Q)	(lb/hr)	2110	250
17		Inlet Pressure (P1)	(Psig)	200	200
18		Temperature (T)	(°F)	90	90
19	Vapor Pressure (Pv)		(Psia)	187	1290
20	Critical Pressure (Pc)		(Psia)	3192	422
21	Critical Temperature (Tc)		(°F)	705	748
22	Density at Std. Conditions			63.3	53.8
23	Density at Opr. Conditions		(lb/ft³)	62.2	51.10
24	Gas Compressibility Factor			-	-
25	Viscosity		(cP)	0.46 to 0.76	0.88 to 1.075
26	Specific Heat Ratio (k)			1.15	1.17
27	Allowable Pressure Loss		(Psig)	VTA	VTA
<b>28 BODY</b>					
29	Sensor Type		Vortex Shedder Bar		Vortex Shedder Bar
29	Sensor Material		316SS		316SS
30	Body Type		Flanged		Flanged
31	Body Size	(Note - 3)	(Inches)	2" (VTC)	2" (VTC)
32	Body Material		316SS		316SS
33	Flange Size / Rating / Face Finish	(Note - 1,2)		2" Sch XXS / 900# / RTJ	2" Sch XXS / 900# / RTJ
<b>34 TRANSMITTER</b>					
35	Digital Indicator		Yes		Yes
36	Unit	(Note - 4)		Lb/hr	Lb/hr
37	Mounting		Inline		Inline
38	Calibrated Range		(Lb/hr)	0-2750	0-690
39	Measuring Range Limit		(Lb/hr)	0-3500	0-1000
40	Over Pressure Limits			Twice Max Pressure	Twice Max Pressure
41	Power Supply (Loop Powered)	(Note - 8)		24 VDC (Battery Operated)	24 VDC (Battery Operated)
42	Output Signal			4-20 mA with HART protocol	4-20 mA with HART protocol
43	Accuracy			0.075 % of Calibrated Span	0.075 % of Calibrated Span
44	Electrical Connection	(Note - 5)		M20 x 1.5	M20 x 1.5
42	Enclosure Material			Cast Aluminium	Cast Aluminium
43	Enclosure Protection Rating			IP65	IP65
44	Tropicalization			Yes	Yes
45	Electrical Classification	(Note - 6)		EEx'd IIC T4	EEx'd IIC T4
<b>46 ACCESSORIES</b>					
47	Temperature Compensation			Not Required	Not Required
48	Tag Plate			Yes - SS	Yes - SS
49	NACE Compliance	Note - 7		Yes	Yes
<b>50 NOTES:</b>					
	1- Flange construction shall be in accordance with ASME B16.5.				
	2- Vendor shall provide flanged connection as mentioned.				
	3- Vendor shall submit vortex sizing sheet for review with technical bid. Error and permanent pressure loss shall be available on the sizing sheet.				
	4- Flowmeter shall have multiple selectable standard engineering units e.g. lb/hr, MMSCFD etc.				
	5- Vendor shall provide Ex'e metallic plugs for spare electrical connection.				
	6- Approval for Electrical / Hazardous Area Classification shall be from CENELEC, ATEX, Factory Mutual (FM), IEC or Canadian Standards Association (CSA).				
	7- All wetted parts shall conform to NACE MR-0175 / ISO 15156 (latest edition).				
	8- The offered Flowmeter shall be Battery Operated.				
	N/A - Not Applicable				
	VTA - Vendor to Advise / VTC - Vendor to Confirm				