

 <p>ENAR PETROTECH SERVICES (PVT.) LTD.</p>			<p align="center">CONTROL VALVE</p>						DATA SHEET NO.		0102-IDS-6089A
									SHEET NO.		1 of 3
									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	GENERAL	Tag Number	200-LCV-01			200-PCV-03			200-LCV-02		
2		Service	Test Separator to Produced Water Tank			Test Separator to Production Separator			Test Separator to Condensate Tank		
3		Line No.	2"-PW-EA4-2060			6"-RG-EA4-1078			2"-PL-EA4-2062		
4		Piping Class	EA4			EA4			EA4		
5		Pipe Size UP / Pipe Size Down	2"/2"			6"/6"			2"/2"		
6		Pipe Schedule UP / Pipe Schedule Down	XXS			160			XXS		
7		P&ID No.	0102-PB-2157			0102-PB-2157			0102-PB-2157		
8	PROCESS SERVICE CONDITIONS	Fluid									
9		State	Liquid			Gas			Condensate		
10		Condition	MIN	Operating	MAX	MIN	Operating	MAX	MIN	Operating	MAX
11		Flow Rate (lb/hr)	1136	1963	2200	6835	14240	14525	192	408	450
12		Inlet Press at Flow (psig)	200	1255	1255	200	1255	1255	200	1255	1255
13		Dp at Flow (psi)	150	1200	1200	5	5	5	150	1200	1200
14		Temperature (°F)	120 - 90			120 - 90			120 - 90		
15		Vapour Pressure (psig)	36.00			-			146.60		
16		Critical Pressure (psig)	3192			655.9			422		
17		Critical Temperature (°F)	705.1			-115.2			534		
18		Shut-off Pressure (psig)	-			-			-		
19		Gas Compressibility Factor	-			0.879			-		
20		Density Mixture at STP kg/m3	1014			-			826		
21		Density Liq. at Oper. Conditions kg/m3	996			0.9318			803		
22		Density Gas at Std. Conditions kg/m3	-			0.810			-		
23		Viscosity (cP) Gas / Liquid		0.61		0.015				1.03	
24		Vapour/Liquid (Fraction)	0	1		1		0	0	1	
25		Flow type (Choked/Flashing etc.)									
26	Sour Service (Yes / No)	Yes			Yes			Yes			
27	CP/CV MW	1.15		18.03	1.594		17.94	1.131		183.6	
28	Calculated Cv Max./Oper./Min.	0.195 (VTC)	0.125 (VTC)	0.140 (VTC)	56.688 (VTC)	49.008 (VTC)	50.426 (VTC)	0.051 (VTC)	0.030 (VTC)	0.033 (VTC)	
29	BODY	Valve Body Size / Rating	1" (VTA) /900#/RTJ			4" (VTA) /900#/RTJ			1" (VTA) /900#/RTJ		
30		Selected Cv	VTA			VTA			VTA		
31		Valve Type / Port	Globe / Single Port			Globe / Single Port			Globe / Single Port		
32		Trim / Bearing Material	316 SS compliant			316 SS compliant			316 SS compliant		
33		Body Material	A-105N Carbon Steel			A-105N Carbon Steel			A-105N Carbon Steel		
34		END Connection (Inlet/Outlet)	VTA / Flanged 900Lb. (ASME B16.5) RTJ			VTA / Flanged 900Lb. (ASME B16.5) RTJ			VTA / Flanged 900Lb. (ASME B16.5) RTJ		
35		Valve Stem Packing	Teflon / VTA			Teflon / VTA			Teflon / VTA		
36		Control Characteristic / Rangeability	Equal Percentage / VTA			Equal Percentage / VTA			Equal Percentage / VTA		
37		Plug / Seat Material Note-7	316 SS / 316 SS			316 SS / 316 SS			316 SS / 316 SS		
38		Fail (Open / Close)	Close			Open			Close		
39		Leakage Rate (Class to ANSI/FCI 70-2) Note-3	ANSI Class IV / 85 DB			ANSI Class IV / 85 DB			ANSI Class IV / 85 DB		
40		Comply to NACE Standard Note-5	Yes			Yes			Yes		
41	ACTUATOR	Actuator Type	Spring Diaphragm			Spring Diaphragm			Spring Diaphragm		
42		Actuator Size / Air Connection Size	VTA / VTA			VTA / VTA			VTA / VTA		
43		Air Supply Pressure / Available Air Supply	20 Psig / 100 Psig			20 Psig / 100 Psig			20 Psig / 100 Psig		
44		Failure Action	Fail Close			Fail Open			Fail Close		
45		Valve Duty (On/Off or Throttle)	Throttle			Throttle			Throttle		
46	POSITIONER	Type / Tag No.	Pneumatic / 200-LY-01			Pneumatic / 200-PY-03			Pneumatic / 200-LY-02		
47		Enclosure Protection / Material	IP65 / Cast Aluminum			IP65 / Cast Aluminum			IP65 / Cast Aluminum		
48		Input Signal Range / Output Signal	20 Psig / 3-15 Psig			20 Psig / 3-15 Psig			20 Psig / 3-15 Psig		
49		Air Supply Pressure / Air Connection	20 Psig / VTA			20 Psig / VTA			20 Psig / VTA		
50		Air Regulator / Manufacturer	Yes to be fitted on Valve / VTA			Yes to be fitted on Valve / VTA			Yes to be fitted on Valve / VTA		
51		Gauges	Supply & Output			Supply & Output			Supply & Output		
52		Hand wheel / Solenoid Valve/ Limit Switch	Not Required			Not Required			Not Required		
53		Electrical Classification	N/A			N/A			N/A		
54		Connection	½" NPT			½" NPT			½" NPT		
55	NOTES: *VTC = Vendor To Confirm / VTA = Vendor To Advise										
	1-	Vendor to check selection/sizing and materials of valve and actuator and to return one completed copy to purchaser with quotation.									
	2-	Vendor shall provide SS Tag attached with SS Screws or SS Wire. Tag shall contain Tag No. & Model No.									
	3-	Noise level shall not be above 85DB at 1 meter distance. Supplier shall provide noise solution for valve having noise level above 85DB.									
	4-	Vendor to calculate and verify the body size and valve Cv. The trim may be varied as per sizing condition.									
	5-	All material shall conform to NACE MR-0175 / ISO 15156. (Latest Edition)									
	6-	Approval for Electrical / Hazardous Area Classification shall be from CENELEC, ATEX, Factory Mutual (FM), IEC or Canadian Standards Association (CSA).									
	7-	For flashing service hard face trim material shall be used.									
	8-	It is preferred to select all the valves with minimum opening of 20% and maximum opening of 80%. To achieve the mentioned percentage opening body size should be revised without considering our mentioned body size in the datasheet.									
	9-	Flange construction shall be in accordance with ASME B16.5.									

 ENAR PETROTECH SERVICE (PVT.) LTD.			<h2 style="text-align: center;">CONTROL VALVE</h2>						DATA SHEET NO.		0102-IDS-6089A	
									SHEET NO.		2 of 3	
									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	GENERAL	Tag Number	1001-LCV-01			1001-LCV-02			1001-PCV-01			
2		Service	Three Phase Separator (1001-V1)			Three Phase Separator (1001-V1)			Three Phase Separator (1001-V1)			
3		Line No.	2"-PL-AA2-1082			2"-PL-AA2-1083			2"-PL-AB2-1084			
4		Piping Class	AA2			AA2			AB2			
5		Pipe Size UP / Pipe Size Down	2"/2"			2"/2"			2"/2"			
6		Pipe Schedule UP / Pipe Schedule Down	80			80			80			
7		P&ID No.	0102-PB-2135			0102-PB-2135			0102-PB-2135			
8	PROCESS SERVICE CONDITIONS	Fluid	Produced Water			Condensate			Off Gas			
9		State	Liquid			Liquid			Gas			
10		Condition	MIN	Operating	MAX	MIN	Operating	MAX	MIN	Operating	MAX	
11		Flow Rate (lb/hr)	1355	3390	13720	225	570	2529	12	28	113	
12		Inlet Press at Flow (psig)	40	40	40	40	40	40	40	40	40	
13		Dp at Flow (psi)	25	25	25	15	15	15	25	25	25	
14		Temperature (°F)	112			112			112			
15		Vapour Pressure (psia)	3.50			38.00			-			
16		Critical Pressure (psig)	3200			310			746			
17		Critical Temperature (°F)	705			795			-87			
18		Shut-off Pressure (psig)	-			-			-			
19		Gas Compressibility Factor	-			-			0.99			
20		Specific Gravity Mixture at STP	-			-			-			
21		Specific Gravity Liq. at Oper. Conditions	1			0.795			-			
22		Specific Gravity Gas at Std. Conditions	-			-			0.7047			
23		Viscosity (cP) Gas / Liquid	-	0.6		0.0118	1.658		0.012	-		
24		Vapour/Liquid (Fraction)	-	1		0	1		1	0		
25		Flow type (Choked/Flashing etc.)	-			Flashing			-			
26		Sour Service (Yes / No)	Yes			Yes			Yes			
27		CP/CV MW	1.57		18	1.168		169.1	1.29		20.41	
28	Calculated Cv	Max./Oper./Min.	0.542 (VTC)	1.355 (VTC)	5.486 (VTC)	(VTC)	(VTC)	(VTC)	0.119 (VTC)	0.277 (VTC)	1.118 (VTC)	
29	BODY	Valve Body Size / Rating	1" VTA/150#/RF			1" VTA/150#/RF			1" VTA/150#/RF			
30		Selected Cv	VTA			VTA			VTA			
31		Valve Type / Port	Globe / Single Port			Globe / Single Port			Globe / Single Port			
32		Trim / Bearing Material	316 SS compliant			316 SS compliant			316 SS compliant			
33		Body Material	A-105N Carbon Steel			A-105N Carbon Steel			A-105N Carbon Steel			
34		END Connection (Inlet/Outlet)	VTA / Flanged 150Lb. (ASME B16.5) RF			VTA / Flanged 150Lb. (ASME B16.5) RF			VTA / Flanged 150Lb. (ASME B16.5) RF			
35		Valve Stem Packing	Teflon / VTA			Teflon / VTA			Teflon / VTA			
36		Control Characteristic / Range ability	Equal Percentage / VTA			Equal Percentage / VTA			Equal Percentage / VTA			
37		Plug / Seat Material	316 SS / 316 SS			316 SS / 316 SS			316 SS / 316 SS			
38		Fail (Open / Close)	Close			Close			Close			
39		Leakage Rate (Class to ANSI/FCI 70-2)	ANSI Class IV / 85 DB			ANSI Class IV / 85 DB			ANSI Class IV / 85 DB			
40		Comply to NACE Standard	No			No			No			
41	ACTUATOR	Actuator Type	Spring Diaphragm			Spring Diaphragm			Spring Diaphragm			
42		Actuator Size / Air Connection Size	VTA / VTA			VTA / VTA			VTA / VTA			
43		Air Supply Pressure / Available Air Supply	20 Psig / 100 psig			20 Psig / 100 psig			20 Psig / 100 psig			
44		Failure Action	Fail Close			Fail Close			Fail Close			
45		Valve Duty (On/Off or Throttle)	Throttle			Throttle			Throttle			
46	POSITIONER	Type / Tag No.	Smart Electro-Pneumatic / 1001-LY-01			Smart Electro-Pneumatic / 1000-LY-02			Smart Electro-Pneumatic / 1001-PY-01			
47		Enclosure Protection / Material	IP65 / Cast Aluminum			IP65 / Cast Aluminum			IP65 / Cast Aluminum			
48		Input Signal Range / Output Signal	HART 4-20mA at 24 VDC			HART 4-20mA at 24 VDC			HART 4-20mA at 24 VDC			
49		Air Supply Pressure / Air Connection	20 Psig / VTA			20 Psig / VTA			20 Psig / VTA			
50		Air Regulator / Manufacturer	Yes to be fitted on Valve / VTA			Yes to be fitted on Valve / VTA			Yes to be fitted on Valve / VTA			
51		Gauges	Supply & Output			Supply & Output			Supply & Output			
52		Hand wheel / Solenoid Valve/ Limit Switch	Not Required			Not Required			Not Required			
53		Electrical Classification	EExd IIC T4			EExd IIC T4			EExd IIC T4			
54		Connection	M20 x 1.5			M20 x 1.5			M20 x 1.5			
55	NOTES: *VTC = Vendor To Confirm / VTA = Vendor To Advise											
	1-	Vendor to check selection/sizing and materials of valve and actuator and to return one completed copy to purchaser with quotation.										
	2-	Vendor shall provide SS Tag attached with SS Screws or SS Wire. Tag shall contain Tag No. & Model No.										
	3-	Noise level shall not be above 85DB at 1 meter distance. Supplier shall provide noise solution for valve having noise level above 85DB.										
	4-	Vendor to calculate and verify the body size and valve Cv. The trim may be varied as per sizing condition.										
	5-	All material shall conform to NACE MR-0175 / ISO 15156. (Latest Edition)										
	6-	Approval for Electrical / Hazardous Area Classification shall be from CENELEC, ATEX, Factory Mutual (FM), IEC or Canadian Standards Association (CSA).										
	7-	For flashing service hard face trim material shall be used.										
	8-	It is preferred to select all the valves with minimum opening of 20% and maximum opening of 80%. To achieve the mentioned percentage opening body size should be revised without considering our mentioned body size in the datasheet.										
	9-	Flange construction shall be in accordance with ASME B16.5.										

 ENAR PETROTECH SERVICE (PVT.) LTD.			CONTROL VALVE			DATA SHEET NO.	0102-IDS-6089A	
						SHEET NO.	3 of 3	
						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	GENERAL	Tag Number	1002-LCV-01					
2		Service	Fuel Gas Knockout Drum (1001-V1)					
3		Line No.	2"-PL-AA2-1084					
4		Piping Class	AA2					
5		Pipe Size UP / Pipe Size Down	2"/2"					
6		Pipe Schedule UP / Pipe Schedule Down	80					
7		P&ID No.	0102-PB-2139					
8	PROCESS SERVICE CONDITIONS	Fluid	Condensate					
9		State	Liquid					
10		Condition	MIN	Operating	MAX			
11		Flow Rate (lb/hr)	6.25	15	32			
12		Inlet Press at Flow (psig)	85	90	120			
13		Dp at Flow (psi)	35	50	80			
14		Temperature (°F)	112					
15		Vapour Pressure (psia)	85.00					
16		Critical Pressure (psig)	320					
17		Critical Temperature (°F)	838					
18		Shut-off Pressure (psig)	-					
19		Gas Compressibility Factor	-					
20		Specific Gravity Mixture at STP	-					
21		Specific Gravity Liq. at Oper. Conditions	0.82					
22		Specific Gravity Gas at Std. Conditions	-					
23			Viscosity (cP) Gas / Liquid	1.628				
24			Vapour/Liquid (Fraction)	0	1			
25	Flow type (Choked/Flashing etc.)		Flashing					
26	Sour Service (Yes / No)		Yes					
27	CP/CV MW		1.036	132				
28	Calculated Cv Max./Oper./Min.		(VTC)	(VTC)	(VTC)			
29	BODY		Valve Body Size / Rating	1" VTA/150#/RF				
30			Selected Cv	VTA				
31		Valve Type / Port	Globe / Single Port					
32		Trim / Bearing Material	316 SS compliant					
33		Body Material	A-105N Carbon Steel					
34		END Connection (Inlet/Outlet)	VTA / Flanged 150Lb. (ASME B16.5) RF					
35		Valve Stem Packing	Teflon / VTA					
36		Control Characteristic / Range ability	Equal Percentage / VTA					
37		Plug / Seat Material Note-7	316 SS / 316 SS					
38		Fail (Open / Close)	Close					
39		Leakage Rate (Class to ANSI/FCI 70-2) Note-3	ANSI Class IV / 85 DB					
40		Comply to NACE Standard Note-5	Yes					
41	ACTUATOR	Actuator Type	Spring Diaphragm					
42		Actuator Size / Air Connection Size	VTA / VTA					
43		Air Supply Pressure / Available Air Supply	20 Psig / 100 psig					
44		Failure Action	Fail Close					
45		Valve Duty (On/Off or Throttle)	Throttle					
46	POSITIONER	Type / Tag No.	Smart Electro-Pneumatic / 1002-LY-01					
47		Enclosure Protection / Material	IP65 / Cast Aluminum					
48		Input Signal Range / Output Signal	HART 4-20mA at 24 VDC					
49		Air Supply Pressure / Air Connection	20 Psig / ¼" NPT					
50		Air Regulator / Manufacturer	Yes to be fitted on Valve / VTA					
51		Gauges	Supply & Output					
52		Hand wheel / Solenoid Valve/ Limit Switch	Not Required					
53		Electrical Classification	EExd IIC T4					
54		Connection	M20 x 1.5					
55	NOTES: *VTC = Vendor To Confirm / VTA = Vendor To Advise							
	1-	Vendor to check selection/sizing and materials of valve and actuator and to return one completed copy to purchaser with quotation.						
	2-	Vendor shall provide SS Tag attached with SS Screws or SS Wire. Tag shall contain Tag No. & Model No.						
	3-	Noise level shall not be above 85DB at 1 meter distance. Supplier shall provide noise solution for valve having noise level above 85DB.						
	4-	Vendor to calculate and verify the body size and valve Cv. The trim may be varied as per sizing condition.						
	5-	All material shall conform to NACE MR-0175 / ISO 15156. (Latest Edition)						
	6-	Approval for Electrical / Hazardous Area Classification shall be from CENELEC, ATEX, Factory Mutual (FM), IEC or Canadian Standards Association (CSA).						
	7-	For flashing service hard face trim material shall be used.						
	8-	It is preferred to select all the valves with minimum opening of 20% and maximum opening of 80%. To achieve the mentioned percentage opening body size should be revised without considering our mentioned body size in the datasheet.						
	9-	Flange construction shall be in accordance with ASME B16.5.						