



PETROCHEMICAL INDUSTRIES
DESIGN & ENGINEERING CO.
PROJ. NO. : 1182

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Lural
PROJ. NO.
1.69690-10-GEM

ZAGROS MEGAMETHANOL
PROJECT

COVER SHEET



OWNER

ZAGROS PETROCHEMICAL
COMPANY (ZPC)
PROJ. NO. : 232000

DOCUMENT TITLE :

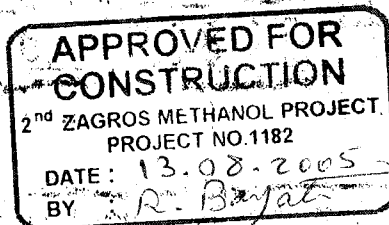
1182 / 047

862

DATA SHEET CONTROL VALVES

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(EXCLUDING COVER SHEET)



5	13.08.05	AFC(REVISED)	S.E.H	S.Ehtemam	Z. EMAMI
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0	11.06.2004	FOR PURCHASING	S.E.H	S.Ehtemam	M.Masoudi
REV.	DATE	DESCRIPTION	PREPARED	APPROVED	PROJECT

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FV-100406	X	X	X	X	X	X	X	FV-150411	X	X	X	X	X	X	LV-300202	X	X	X	X	X	X
FV-100416	X	X	X	X	X	X	X	FV-150610	X	X	X	X	X	X	LV-300203	X	X	X	X	X	X
FV-100428	X	X	X	X	X	X	X	FV-150630	X	X	X	X	X	X	LV-300305	X	X	X	X	X	X
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FV-100704	X	X	X	X	X	X	X	LV-150101A	X	X	X	X	X	X	LV-300508	X	X	X	X	X	X
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FV-100825	X	X	X	X	X	X	X	PV-150101	X	X	X	X	X	X	PV-300101	X	X	X	X	X	X
FV-100831	X	X	X	X	X	X	X	PV-150601A	X	X	X	X	X	X	PV-300303A	X	X	X	X	X	X
FV-101019	X	X	X	X	X	X	X	PV-150601B	X	X	X	X	X	X	PV-300303B	X	X	X	X	X	X
FV-101021	X	X	X	X	X	X	X	PV-150607	X	X	X	X	X	X	PV-300808	X	X	X	X	X	X
FV-101039	X	X	X	X	X	X	X	PV-150611	X	X	X	X	X	X	PV-300909A	X	X	X	X	X	X
FV-101041	X	X	X	X	X	X	X	PV-150635A	X	X	X	X	X	X	PV-300909B	X	X	X	X	X	X
FV-101122	X	X	X	X	X	X	X	PV-150635B	X	X	X	X	X	X	LV-600301	X	X	X	X	X	X
FV-101125	X	X	X	X	X	X	X	PV-150707	X	X	X	X	X	X							
FV-101229A	X	X	X	X	X	X	X	PV-150612	X	X	X	X	X	X							
FV-101229B	X	X	X	X	X	X	X	LV-200301	X	X	X	X	X	X							
FV-101432	X	X	X	X	X	X	X	LV-200403	X	X	X	X	X	X							
FV-101433	X	X	X	X	X	X	X	PV-200307A	X	X	X	X	X	X							
FV-101435	X	X	X	X	X	X	X	PV-200307B	X	X	X	X	X	X							
FV-101439	X	X	X	X	X	X	X	PV-200409	X	X	X	X	X	X							
FV-101441	X	X	X	X	X	X	X	TV-200521A	X	X	X	X	X	X							
LV-100411	X	X	X	X	X	X	X	HV-200204	X	X	X	X	X	X							
LV-100416	X	X	X	X	X	X	X	HV-200503	X	X	X	X	X	X							
LV-101602	X	X	X	X	X	X	X	HV-200214	X	X	X	X	X	X							
LV-101308	X	X	X	X	X	X	X	TV-200521B	X	X	X	X	X	X							
LV-101309	X	X	X	X	X	X	X	FV-250102	X	X	X	X	X	X							
LV-101512A	X	X	X	X	X	X	X	FV-250105	X	X	X	X	X	X							
LV-101512B	X	X	X	X	X	X	X	PV-250102A	X	X	X	X	X	X							
PV-100201	X	X	X	X	X	X	X	PV-250102B	X	X	X	X	X	X							
PV-100513	X	X	X	X	X	X	X	PV-250103	X	X	X	X	X	X							
PV-100529A	X	X	X	X	X	X	X	FV-300101	X	X	X	X	X	X							
PV-100529B	X	X	X	X	X	X	X	FV-300203	X	X	X	X	X	X							
PV-100801	X	X	X	X	X	X	X	FV-300305	X	X	X	X	X	X							
PV-101502A	X	X	X	X	X	X	X	FV-300306	X	X	X	X	X	X							
PV-101502B	X	X	X	X	X	X	X	FV-300408	X	X	X	X	X	X							
TV-100904A	X	X	X	X	X	X	X	FV-300510A	X	X	X	X	X	X							
TV-100904B	X	X	X	X	X	X	X	FV-300510B	X	X	X	X	X	X							
TV-101204A	X	X	X	X	X	X	X	FV-300611	X	X	X	X	X	X							
TV-101204B	X	X	X	X	X	X	X	FV-300920	X	X	X	X	X	X							
PCV-100181	X	X	X	X	X	X	X	LV-300101A	X	X	X	X	X	X							

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PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-100326								
1 FLUID: PURGE GAS/GAS				CRIT. PRESS (PC) BAR (ABS)				
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	
2 FLOW RATE				Sm3/hr	9200	8157	2800	
3 INLET PRESSURE				BAR (ABS)	67.9	67.9	60	
4 IN FLOW DIRECTION/AGAINST FLOW DIRECTION				BAR	14.5	19.4	17.9	
5 INLET TEMPERATURE				° C	40	40	40	
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	11.509	11.509	11.509	
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.014	0.014	0.014	
8 VAPOR PRESSURE PV				BARA				
9 *REQUI CV								
10 *TRAVEL				%				
11 ALLOWABLE/ *PREDICTED SPL				dBa	85/77	85/77	85/68	
12 COMPRESSIBILITY Z					1.004	1.004	1.004	
K=Cp/Cv, 1.349 DENSITY 0.49 kg/Sm³ @ Ope.Cond.								
13 LINE		PIPE LINE SIZE		IN 2" / 5.54	53 *TYPE PNEUMATIC/DIAPHRAGM 54 *MFR. & MODEL 3277 55 * SIZE 390MM EFF AREA 56 ON/OFF MODULATING YES 57 SPRING ACTION OPEN /CLOSE CLOSE 58 *MAX ALLOWABLE PRESSURE 59 *MIN ALLOWABLE PRESSURE 60 AVAILABLE AIR SUPPLY PRESSURE: 61 MAX. 6.0 BARG MIN. 4 BARG 62 *BENCH RANGE 1.6-2.4 BARG 63 ACT ORIENTATION 64 HANDWHEEL TYPE NO 65 AIR FAILURE VALVE SET AT 66 STROKE TIME:10 SEC./15MM			
		& WALL THICKNESS(m)		OUT 3" / 7.62				
		PIPE LINE INSULATION /SPEC.		/BD1				
16 VALVE BODY/ BONNET		* TYPE		GLOBE VALVE	67 INPUT SIGNAL H1 FOUNDATION FIELD BUS 68 *TYPE 69 *MFR. & MODEL 3787-100 70 *ON INCR SIGNAL OUTPUT INCR/DECR 71 GAUGES YES IP65 BY-PASS 72 *CAM CHARACTERISTIC 73 74 TYPE QUANTITY 75 *MFR. & MODEL 76 CONTACT/RATING 77 ACTUATION POINTS 78 TAG NO: 79 *MFR. & MODEL: NORGREN B74G-4AK-AP3-RMN 1/4" NPT. GAUGE 80 *SET PRESSURE 81 FILTER YES GAUGE YES 82 83 *HYDRO PRESURE 84 ANSI/FCI LEAKAGE CLASS VI (TSO IEC 534.4) 85 86			
		* SIZE 2" ANSI CLASS 600#/RF						
		DESIGN PRESS.BARG /TEMP.° C 88 / 100						
		*MFR. & MODEL 3251						
		*BODY/BONNET MATL. A216 GR.WCB						
		*LINER MATERIAL/ID						
		END	IN	FLANGED				
		CONNECTION	OUT	FLANGED				
		FLG FACE FINISH ANSI 600 # RF						
		END EXT/MATL.						
26 TRIM		*FLOW DIRECTION		OPEN	87 PID NO: 103A 88 LINE NO: PG-20-03-003			
		*TYPE OF BONNET		STD				
		LUBE & ISO VALVE		NO				
		*PACKING MAT. PTFE RINGS						
		*PACKING TYPE						
43 SPECIAL ACCESSORIES		RANEABILITY:50:1		89 90 91 92 93 94 95 96 97 98 99 100				
		*TYPE PARABOLIC						
		*SIZE RATED TRAVEL						
		CHARACTERISTIC LOG						
		*BALANCED/UNBALANCED						
		SELECTED CV	17				FL	XT
		*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)						
		*SEAT MATERIAL 316Ti (STELLITED)						
		*CAGE/GUIDE MATERIAL						
		*STEM MAT. 316Ti						
PLUG SEALING:LAPPED IN MATERIAL:316Ti		101 102 103 104 105 106 107 108 109 110						
ARMOURED: YES MATERIAL:STELLITE								
SOLENOID VALVE:	YES				☒	NO	☐	
MANUAL RESET:	YES				☐	NO	☒	
TAG NO: FV-100326A/B (Eexia, IIC, T6)/24 V DC/IP 65/3/2 WAY								
TWO SOLENOID VALVES TYPE: 3963-1353								
FUSIBLE LINKAGE	YES				☐	NO	☒	
BLOCK RELAY	YES				☐	NO	☒	
BOOSTER	YES				☐	NO	☒	
CARTRIDGE	YES				☐	NO	☒	
PROXIMITY SW.	YES	☐	NO	☒				
VOLUME TANK	YES	☐	NO	☒				

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) Cv-VALUE HAS EFFECT ON SAFETY VALVE.

2) NOISE REDUCTION : FLOW DIVIDER I

3) ADDITIONAL ACCESSORIES: TERMINAL BOX WITH 8 TERMINALS Eex ia IP65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	
TAG NO: FV-100406							
1 FLUID: BLOWDOWN CONDENSATE/LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Kg/hr	10000	5000	1000
3 INLET PRESSURE				BAR (ABS)	44	44.9	46
4 DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION				BAR	41	41.9	43
5 INLET TEMPERATURE				° C	50	50	50
6 SPEC. WT/SPEC. GRAVITY/MOL WT				KG/KMOL	18.02	18.02	18.02
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.547	0.547	0.547
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/81	85/79	85/73
12 COMPRESSIBILITY Z							
K=Cp/Cv= DENSITY 988 kg/m³ @ Ope. Cond.							
LINE		13 PIPE LINE SIZE		IN	2" / 5.54		
VALVE BODY/ BONNET		14 & WALL THICKNESS(m)		OUT	3" / 5.49		
TRIM		15 PIPE LINE INSULATION /SPEC.		/ ND2			
SPECIAL ACCESSORIES		16 * TYPE ANGLE VALVE					
SOLENOID VALVE: YES		17 * SIZE 2" ANSI CLASS 600#/RF					
MANUAL RESET: YES		18 DESIGN PRESS.BARG /TEMP.° C 55 BARG/ 100 ° C					
TAG NO: FV-100406 (Eexi,IIC,T4)/24 V DC/IP 65/3/2 WAY		19 *MFR. & MODEL 3256					
TYPE:3963-1353		20 *BODY/BONNET MATL. A351CF8C					
FUSIBLE LINKAGE YES		21 *LINER MATERIAL/ID					
BLOCK RELAY YES		22 END IN FLANGED					
BOOSTER YES		23 CONNECTION OUT FLANGED					
CARTRIDGE YES		24 FLG FACE FINISH ANSI 600 # RF					
PROXIMITY SW. YES		25 END EXT/MATL.					
VOLUME TANK YES		26 *FLOW DIRECTION TENDS TO: CLOSE					
		27 *TYPE OF BONNET STD					
		28 LUBE & ISO VALVE NO					
		29 *PACKING MAT. PTFE RINGS					
		30 *PACKING TYPE					
		31 RANEABILITY:50:1					
		32 *TYPE PARABOLIC					
		33 *SIZE RATED TRAVEL					
		34 CHARACTERISTIC LOG					
		35 *BALANCED/UNBALANCED					
		36 SELECTED CV 5 FL XT					
		37 *PLUG/BALL/DISK MATERIAL 440B					
		38 *SEAT MATERIAL 440B					
		39 *CAGE/GUIDE MATERIAL					
		40 *STEM MAT. 440B					
		41 ARMoured: NO					
		42 PLUG SEALING:METALLIC MATERIAL:440B					
		43 SOLENOID VALVE: YES					
		44 MANUAL RESET: YES					
		45 TAG NO: FV-100406 (Eexi,IIC,T4)/24 V DC/IP 65/3/2 WAY					
		46 TYPE:3963-1353					
		47 FUSIBLE LINKAGE YES					
		48 BLOCK RELAY YES					
		49 BOOSTER YES					
		50 CARTRIDGE YES					
		51 PROXIMITY SW. YES					
		52 VOLUME TANK YES					
				ACTUATOR	*TYPE PNEUMATIC/DIAPHRAGM		
				POSITIONER	*MFR. & MODEL 3277		
				LIMIT SW.	* SIZE 390MM EFF AREA		
				AIR SET	ON/OFF MODULATING YES		
				TEST	SPRING ACTION OPEN /CLOSE CLOSE		
				*MAX ALLOWABLE PRESSURE			
				*MIN ALLOWABLE PRESSURE			
				AVAILABLE AIR SUPPLY PRESSURE:			
				MAX. 6.0 BARG MIN. 4 BARG			
				*BENCH RANGE 1.2-2 BARG			
				ACT ORIENTATION			
				HANDWHEEL TYPE NO			
				AIR FAILURE VALVE SET AT			
				STROKE TIME:<10 SEC./15MM			
				INPUT SIGNAL H1 FOUNDATION FIELD BUS			
				POSITIONER	*TYPE		
				LIMIT SW.	*MFR. & MODEL 3787-100		
				AIR SET	*ON INCR SIGNAL OUTPUT INCR/DECR		
				TEST	GAUGES YES IP65 BY-PASS		
				*CAM CHARACTERISTIC			
				QUANTITY			
				*MFR. & MODEL			
				CONTACT/RATING			
				ACTUATION POINTS			
				TAG NO:			
				*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE			
				*SET PRESSURE			
				FILTER YES GAUGE YES			
				*HYDRO PRESURE			
				ANSI/FCI LEAKAGE CLASS IV (IEC.534.4)			
				PID NO: 155			
				LINE NO: BD-15-05-004			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) CONTAINS CO2,TRACES OF CHLOR AS CORROSIVE/ERROSIVE MATTERS

2) WITH WEARING TUBE

3)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
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TAG NO: FV-100416																																																															
1	FLUID: NATURAL GAS (SATU.) / GAS			CRIT. PRESS (PC) 221		BAR (ABS)																																																									
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP																																																								
2	FLOW RATE	Kg/hr	100000	150000	150000		100000																																																								
3	INLET PRESSURE	BAR (ABS)	20.4	33.4	46		46																																																								
4	DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR	4.8	4.8	13.4	54/39	13.4																																																								
5	INLET TEMPERATURE	° C	295	290	290		400																																																								
6	SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	17.5	17.5	17.5		17.5																																																								
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.02	0.02	0.02		0.02																																																								
8	VAPOR PRESSURE PV	BARA																																																													
9	*REQUI CV																																																														
10	*TRAVEL	%																																																													
11	ALLOWABLE/ *PREDICTED SPL	dBA	85/	85/97.4	85/106																																																										
12	COMPRESSIBILITY Z		0.999	0.999	0.999																																																										
	K=C _p /C _v =1.217	DENSITY kg/Sm ³	@ Ope.Cond.	0.758	0.741	0.734	0.734																																																								
13	PIPE LINE SIZE	IN 12" / 17.48	53	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">*TYPE</td> <td colspan="2">PNEUMATIC/PISTON</td> </tr> <tr> <td colspan="2">*MFR. & MODEL</td> <td colspan="2">GP-085-385/C3</td> </tr> <tr> <td colspan="2">* SIZE</td> <td colspan="2">EFF AREA</td> </tr> <tr> <td colspan="2">ON/OFF</td> <td colspan="2">MODULATING YES</td> </tr> <tr> <td colspan="2">SPRING ACTION OPEN /CLOSE</td> <td colspan="2">CLOSE</td> </tr> <tr> <td colspan="2">*MAX ALLOWABLE PRESSURE</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">*MIN ALLOWABLE PRESSURE</td> <td colspan="2"></td> </tr> <tr> <td colspan="4">AVAILABLE AIR SUPPLY PRESSURE:</td> </tr> <tr> <td colspan="2">MAX. 6.0 BARG</td> <td colspan="2">MIN. 4 BARG</td> </tr> <tr> <td colspan="2">*BENCH RANGE 4 BARG</td> <td colspan="2"></td> </tr> <tr> <td colspan="4">ACT ORIENTATION</td> </tr> <tr> <td colspan="2">HANDWHEEL TYPE</td> <td colspan="2">NO</td> </tr> <tr> <td colspan="2">AIR FAILURE VALVE</td> <td colspan="2">SET AT</td> </tr> <tr> <td colspan="4">STROKE TIME<20 SEC.,80MM/CLOSING TIME:<5 SEC.</td> </tr> </table>				*TYPE		PNEUMATIC/PISTON		*MFR. & MODEL		GP-085-385/C3		* SIZE		EFF AREA		ON/OFF		MODULATING YES		SPRING ACTION OPEN /CLOSE		CLOSE		*MAX ALLOWABLE PRESSURE				*MIN ALLOWABLE PRESSURE				AVAILABLE AIR SUPPLY PRESSURE:				MAX. 6.0 BARG		MIN. 4 BARG		*BENCH RANGE 4 BARG				ACT ORIENTATION				HANDWHEEL TYPE		NO		AIR FAILURE VALVE		SET AT		STROKE TIME<20 SEC.,80MM/CLOSING TIME:<5 SEC.			
*TYPE		PNEUMATIC/PISTON																																																													
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14	& WALL THICKNESS(m)	OUT 12" /17.48	54																																																												
15	PIPE LINE INSULATION /SPEC.	V / BD1	55																																																												
16	* TYPE	BUTTERFLY VALVE-LUG	56																																																												
17	* SIZE	12" ANSI CLASS 600#/RF	57																																																												
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19	*MFR. & MODEL	LDE	59																																																												
20	*BODY/BONNET MATL.	A216 /WCB	60																																																												
21	*LINER MATERIAL/ID		61																																																												
22	END	IN FLANGED	62																																																												
23	CONNECTION	OUT FLANGED	63																																																												
24	FLG FACE FINISH	ANSI 600 # RF	64																																																												
25	END EXT/MATL.		65																																																												
26	*FLOW DIRECTION TENDS TO:	OPEN	66																																																												
27	*TYPE OF BONNET	INSULATION SECTION	67																																																												
28	LUBE & ISO VALVE	NO	68																																																												
29	*PACKING MAT.	GRAPHITE	69																																																												
30	*PACKING TYPE		70																																																												
31	IRREVERSIBILITY:50:1		71																																																												
32	*TYPE	60 FLAP	72																																																												
33	*SIZE	RATED TRAVEL	73																																																												
34	CHARACTERISTIC	LOG	74																																																												
35	*BALANCED/UNBALANCED		75																																																												
36	SELECTED CV	591 FL XT	76																																																												
37	*PLUG/BALL/DISK MATERIAL	316 SS (STELLITED)	77																																																												
38	*SEAT MATERIAL	316 SS (STELLITED)	78																																																												
39	*CAGE/GUIDE MATERIAL		79																																																												
40	*STEM MAT.	316 SS	80																																																												
41	PLUG SEALING:	METALLIC/316SS	81																																																												
42	ARMoured: YES	MATERIAL: STELLITE	82																																																												
43	SOLENOID VALVE: YES	NO	83																																																												
44	MANUAL RESET: YES	NO	84																																																												
45	TAG NO: FV-100416 (Eexia, IIC, T6)/24 V DC/IP 65/3/2 WAY			85																																																											
46	TYPE: 3963-1352			86																																																											
47	FUSIBLE LINKAGE YES	NO	87																																																												
48	BLOCK RELAY YES	NO	88																																																												
49	BOOSTER YES	NO	89																																																												
50	CARTRIDGE YES	NO	90																																																												
51	PROXIMITY SW. YES	NO	91																																																												
52	VOLUME TANK YES	NO	92																																																												

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE: 1) START -UP / SHUTDOWN SERVICE ONLY CASE 4 ON HOLD. 2) BOOSTER: 2625 / QUICK EXH. VALVE : 8502-0144 3) TERMINAL BOX WITH 8 TERMINALS EEXIA IP65		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">PID NO: 104</td> </tr> <tr> <td colspan="2">LINE NO: FEG-10-08-032</td> </tr> </table>	PID NO: 104		LINE NO: FEG-10-08-032	
PID NO: 104						
LINE NO: FEG-10-08-032						

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-100428							
1 FLUID: CIRCULATION WATER / LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Kg/hr	585000	486576	146000
3 INLET PRESSURE				BAR (ABS)	49	50	50.5
4 DP PRESSURE				BAR	0.6	1.8	4.5
5 INLET TEMPERATURE				° C	133	133	133
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.02	18.02	18.02
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.21	0.21	0.21
8 VAPOR PRESSURE PV				BARA	2.95	2.95	2.95
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/69.7	85/73.6	85/72.4
12 COMPRESSIBILITY Z							
K=C_p/C_v= DENSITY 929 kg/m³ @ Ope.Cond.							
LINE		13 PIPE LINE SIZE IN 12" / 8.38		53	ACTUATOR *TYPE PNEUMATIC/PISTON *MFR. & MODEL RC280SR * SIZE EFF AREA ON/OFF MODULATING YES SPRING ACTION OPEN /CLOSE OPEN / LOCK *MAX ALLOWABLE PRESSURE *MIN ALLOWABLE PRESSURE AVAILABLE AIR SUPPLY PRESSURE: MAX. 6.0 BARG MIN. 4 BARG *BENCH RANGE 4 BARG ACT ORIENTATION HANDWHEEL TYPE SIDE MOUNTED AIR FAILURE VALVE SET AT WITH MECHANICAL MIN-STOP/STROKE TIME: <20 SEC./80MM		
VALVE BODY/ BONNET		14 & WALL THICKNESS (mm) OUT 12" / 8.38		54			
		15 PIPE LINE INSULATION /SPEC. H / ND2		55			
TRIM		16 * TYPE BUTTERFLY/LUG		56			
		17 * SIZE 8" ANSI CLASS 600#/LRF		57			
		18 DESIGN PRESS.BARG /TEMP.° C 60 / 270		58			
		19 *MFR. & MODEL LDE		59			
		20 *BODY/BONNET MATL. F321/4541		60			
		21 *LINER MATERIAL/ID		61			
		22 END IN FLANGED		62			
		23 CONNECTION OUT FLANGED		63			
		24 FLG FACE FINISH ANSI 600 # LRF		64			
		25 END EXT/MATL.		65			
26 *FLOW DIRECTION OPEN		66					
27 *TYPE OF BONNET STD		67					
28 LUBE & ISO VALVE NO		68					
29 *PACKING MAT. GRAPHITE		69					
30 *PACKING TYPE		70					
31		71					
32 *TYPE 60° FLAP		72					
33 *SIZE RATED TRAVEL		73					
34 CHARACTERISTIC LOG		74					
35 *BALANCED/UNBALANCED		75					
36 SELECTED CV 1075 FL XT		76					
37 *PLUG/BALL/DISK MATERIAL 316 SS		77					
38 *SEAT MATERIAL 316 SS		78					
39 *CAGE/GUIDE MATERIAL		79					
40 *STEM MAT. 316 SS		80					
41 RANGEABILITY 50:1		81					
42 PLUG SEALING: METALLIC/316SS		82					
SPECIAL ACCESSORIES		43 SOLENOID VALVE: YES NO ✓		83			
		44 MANUAL RESET: YES NO ✓		84			
		45 TAG NO:		85			
		46		86			
		47 FUSIBLE LINKAGE YES NO ✓					
		48 BLOCK RELAY YES ✓ NO					
		49 BOOSTER YES ✓ NO					
		50 CARTRIDGE YES NO ✓					
		51 PROXIMITY SW. YES NO ✓					
		52 VOLUME TANK YES NO ✓					
INPUT SIGNAL H1 FOUNDATION FIELD BUS							
POSITIONER		71 *TYPE					
LIMIT SW.		72 *MFR. & MODEL 3787-100					
		73 *ON INCR SIGNAL OUTPUT INCR/DECR					
		74 GAUGES YES IP65 BY-PASS					
AIR SET		75 *CAM CHARACTERISTIC					
		76 TYPE QUANTITY					
		77 *MFR. & MODEL					
TEST		78 CONTACT/RATING					
		79 ACTUATION POINTS					
		80 TAG NO:					
81 *MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE							
82 *SET PRESSURE							
83 FILTER YES GAUGE YES							
84 *HYDRO PRESURE							
85 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)							
86							
PID NO: 104							
LINE NO: CIW-10-04-003							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) CONTAINS CO2 AS CORROSIVE/ERROSIVE MATTERS

2) BOOSTER TYPE 8523-0084 LOCK-UP RELAY 3709-1

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5				
TAG NO: FV-100429										
1 FLUID:PROCESS CONDENSATE/LIQUID					CRIT. PRESS (PC) 221		BAR (ABS)			
					UNITS		MAX. FLOW		NORM FLOW	
					MIN. FLOW		SHUT OFF		START UP	
2 FLOW RATE					Kg/hr		29000		26316	
3 INLET PRESSURE					BAR (ABS)		50		51	
4 DP PRESSURE					BAR		1.8		3.0	
5 INLET TEMPERATURE					° C		151		151	
6 SPEC. WT/SPEC.GRAVITY/MOL WT							18.02		18.02	
7 VISCOSITY/SPEC HEAT RATIO					mPas		0.179		0.179	
8 VAPOR PRESSURE PV					BARA		4.9		4.9	
9 *REQUI CV										
10 *TRAVEL					%					
11 ALLOWABLE/ *PREDICTED SPL					dBa		85 /51		85 /54	
12 COMPRESSIBILITY Z										
K=C_p/C_v=					DENSITY 915 kg/m³		@ Ope.Cond.			
13 PIPE LINE SIZE					IN 3" / 5.49		53 *TYPE		PNEUMATIC/DIAPHRAGM	
14 & WALL THICKNESS(m)					OUT 3" / 5.49		54 *MFR. & MODEL		3277	
15 PIPE LINE INSULATION /SPEC.					H / NE1		55 * SIZE		390MM	
16 * TYPE GLOBE VALVE							56 EFF AREA			
17 * SIZE 2" ANSI CLASS 900# / RF							57 ON/OFF		MODULATING YES	
18 DESIGN PRESS.BARG /TEMP.° C 69 / 270							58 SPRING ACTION OPEN /CLOSE		CLOSE	
19 *MFR. & MODEL 3251							59 *MAX ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A351 / CF8C							60 *MIN ALLOWABLE PRESSURE			
21 *LINER MATERIAL/ID							61 AVAILABLE AIR SUPPLY PRESSURE:			
22 END IN FLANGED							62 MAX. 6.0 BARG MIN. 4 BARG			
23 CONNECTION OUT FLANGED							63 *BENCH RANGE 2.4-3.6 BARG			
24 FLG FACE FINISH ANSI 900 # RF							64 ACT ORIENTATION			
25 END EXT/MATL.							65 HANDWHEEL TYPE		TOP MOUNTED	
26 *FLOW DIRECTION TENDS TO: OPEN							66 AIR FAILURE VALVE		SET AT	
27 *TYPE OF BONNET STD							67 STROKE TIME:<10 SEC/30MM			
28 LUBE & ISO VALVE NO							68 INPUT SIGNAL		H1 FOUNDATION FIELD BUS	
29 *PACKING MAT. GRAPHITE							69 *TYPE			
30 *PACKING TYPE							70 *MFR. & MODEL 3787-100			
31							71 *ON INCR SIGNAL OUTPUT INCR/DECR			
32 *TYPE PARABOLIC							72 GAUGES YES BY-PASS			
33 *SIZE RATED TRAVEL							73 *CAM CHARACTERISTIC			
34 CHARACTERISTIC LOG							74 TYPE		QUANTITY	
35 *BALANCED/UNBALANCED							75 *MFR. & MODEL			
36 *SELECTED CV 47 FL XT							76 CONTACT/RATING			
37 *PLUG/BALL/DISK MATERIAL 316Ti							77 ACTUATION POINTS			
38 *SEAT MATERIAL 316Ti							78 TAG NO:			
39 *CAGE/GUIDE MATERIAL							79 *MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE			
40 *STEM MAT. 316Ti							80 *SET PRESSURE			
41 RANGEABILITY 50:1							81 FILTER YES GAUGE YES			
42 PLUG SEALING: METALLIC/316Ti							82			
43 SOLENOID VALVE: YES NO							83 *HYDRO PRESURE			
44 MANUAL RESET: YES NO							84 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)			
45 TAG NO:							85			
46							86			
47 FUSIBLE LINKAGE YES NO							PID NO: 104			
48 BLOCK RELAY YES NO							LINE NO: PCH-10-15-005			
49 BOOSTER YES NO										
50 CARTRIDGE YES NO										
51 PROXIMITY SW. YES NO										
52 VOLUME TANK YES NO										

NOTE: INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

1)LIQUID CONTAINS DISSOLVED GASES

2)CONTAINS CO2 AS CORROSIVE/ERROSIVE MATTERS

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5		
TAG NO: FV-100512								
1 FLUID:NATURAL GAS FUEL/GAS					CRIT. PRESS (PC)		BAR (ABS)	
					UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
					SHUT OFF	START UP		
2 FLOW RATE					Sm3/hr	14500	2729	1500
3 INLET PRESSURE					BAR (ABS)	5.8	5.8	5.8
4 DP PRESSURE					BAR	3.8	2.3	4.6
5 INLET TEMPERATURE					° C	20	20	20
6 SPEC. WT/SPEC.GRAVITY/MOL WT					KG/KMOL	16.827	16.827	16.827
7 VISCOSITY/SPEC HEAT RATIO					mPas	0.011	0.011	0.011
8 VAPOR PRESSURE PV					BARA			
9 *REQUI CV								
10 *TRAVEL					%			
11 ALLOWABLE/ *PREDICTED SPL					dBA	85/81	85/68	85/68
12 COMPRESSIBILITY Z						0.995	0.995	0.995
K=C_p/C_v 1.3 DENSITY 0.71 kg/Sm³ @ Ope.Cond.								
13 LINE					53			
PIPE LINE SIZE IN 12" / 9.53					54			
& WALL THICKNESS(mm) OUT 12" / 9.53					55			
PIPE LINE INSULATION /SPEC. AA2					56			
16 VALVE BODY/ BONNET					57			
* TYPE GLOBE VALVE					58			
* SIZE 6" ANSI CLASS 300# / RF					59			
DESIGN PRESS.BARG /TEMP.° C 8 / 100					60			
*MFR. & MODEL 3241					61			
*BODY/BONNET MATL. A216 GR.WCB					62			
*LINER MATERIAL/ID					63			
END IN FLANGED					64			
CONNECTION OUT FLANGED					65			
FLG FACE FINISH ANSI 300 # RF					66			
END EXT/MATL.					67			
*FLOW DIRECTION TENDS TO OPEN					68			
*TYPE OF BONNET STD					69			
LUBE & ISO VALVE NO					70			
*PACKING MAT. PTFE RINGS					71			
*PACKING TYPE					72			
32 TRIM					73			
*TYPE PARABOLIC					74			
*SIZE RATED TRAVEL					75			
CHARACTERISTIC LOG					76			
*BALANCED/UNBALANCED					77			
SELECTED CV 290 FL XT					78			
*PLUG/BALL/DISK MATERIAL 316Ti					79			
*SEAT MATERIAL 316Ti					80			
*CAGE/GUIDE MATERIAL					81			
*STEM MAT. 316Ti					82			
RANGEABILITY 50:1					83			
PLUG SEALING: LAPPED IN/316Ti					84			
43 SPECIAL ACCESSORIES					85			
SOLENOID VALVE: YES NO ✓					86			
MANUAL RESET: YES NO ✓								
TAG NO:								
FUSIBLE LINKAGE YES NO ✓								
BLOCK RELAY YES NO ✓								
BOOSTER YES NO ✓								
CARTRIDGE YES NO ✓								
PROXIMITY SW. YES NO ✓								
VOLUME TANK YES NO ✓								
					PID NO: 105			
					LINE NO: FG-10-05-001			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: NOISE REDUCTION: FLOWDIVIDER I

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-100704							
1 FLUID: SUPERHEATED PROCESS STEAM/STEAM				CRIT. PRESS (PC) BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Kg/hr	60000	52326	10000
3 INLET PRESSURE				BAR (ABS)	44	44	44
4 DP PRESSURE				BAR	1	1.7	11
5 INLET TEMPERATURE				° C	490	490	490
6 SPEC. WT/SPEC. GRAVITY/MOL WT				KG/KMOL	18.016	18.016	18.016
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.028	0.028	0.028
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/62	85/67	85/84
12 COMPRESSIBILITY Z					0.97	0.97	0.97
K=Cp/Cv 1.25 DENSITY 12.98 kg/m³ @ Ope. Cond.							
13 PIPE LINE SIZE IN 10" / 15.09				53	*TYPE PNEUMATIC/DIAPHRAGM		
14 & WALL THICKNESS(m) OUT 10" / 15.09				54	*MFR. & MODEL 3271		
15 PIPE LINE INSULATION /SPEC. H / DE1				55	* SIZE 530MM EFF AREA		
16 * TYPE GLOBE				56	ON/OFF MODULATING YES		
17 * SIZE 8" ANSI CLASS 900# / RF				57	SPRING ACTION OPEN /CLOSE CLOSE / LOCK		
18 DESIGN PRESS BARG /TEMP. ° C 54 / 500				58	*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL 3254				59	*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A 217 GR WC6				60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/ID				61	MAX. 6.0 BARG MIN. 4 BARG		
22 END IN FLANGED				62	*BENCH RANGE 1.4-2.7 BARG		
23 CONNECTION OUT FLANGED				63	ACT ORIENTATION		
24 FLG FACE FINISH ANSI 900 # RF				64	HANDWHEEL TYPE NO		
25 END EXT/MATL.				65	AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION TENDS TO: OPEN				66	CLOSING TIME: <5 SEC/STROKE 60MM, <20 SEC.,		
27 *TYPE OF BONNET INSULATION SECTION				67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)		
28 LUBE & ISO VALVE NO				68	*TYPE		
29 *PACKING MAT. GRAPHITE				69	*MFR. & MODEL 3780-100		
30 *PACKING TYPE				70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31 RANGEABILITY: 50:1				71	GAUGES YES IP65 BY-PASS		
32 *TYPE PARABOLIC				72	*CAM CHARACTERISTIC		
33 *SIZE RATED TRAVEL				73	QUANTITY		
34 CHARACTERISTIC LOG				74	*MFR. & MODEL		
35 *BALANCED/UNBALANCED BALANCED				75	CONTACT/RATING		
36 *SELECTED CV 735 FL XT				76	ACTUATION POINTS		
37 *PLUG/BALL/DISK MATERIAL 410(STELLITED)				77	TAG NO:		
38 *SEAT MATERIAL 410(STELLITED)				78	*MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE		
39 *CAGE/GUIDE MATERIAL				79	*SET PRESSURE		
40 *STEM MAT. 410				80	FILTER YES GAUGE YES		
41 ARMoured: YES MATERIAL: STELLITE				81	*HYDRO PRESURE		
42 PLUG SEALING: METALLIC MATERIAL: 410				82	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)		
43 SOLENOID VALVE: YES ☒ NO ☐				83			
44 MANUAL RESET: YES ☐ NO ☒				84			
45 TAG NO: FV-100704A/B (Eexia, IIC, T6) / 24 V DC/IP65/3/2 WAY				85			
46 TYPE: 3963-1353				86			
47 FUSIBLE LINKAGE YES ☐ NO ☒				PID NO: 107			
48 BLOCK RELAY YES ☒ NO ☐				LINE NO: PS-10-14-003			
49 BOOSTER YES ☒ NO ☐							
50 CARTRIDGE YES ☐ NO ☒							
51 PROXIMITY SW. YES ☐ NO ☒							
52 VOLUME TANK YES ☐ NO ☒							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) During start-up/shut-down ,valve shall be operated with import steam at lower pressure

2) PTFE PRESSURE BALANCING RING.

3) WITH BOOSTER TYPE 8523-0084, QUICK-EXH. VALVE: 8502-0144, LOCK-UP RELAIS.: 3709-1

4) TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-100805							
1 FLUID: PREREFORMER FEED GAS/GAS			CRIT. PRESS (PC)		BAR (ABS)		
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
			N2 START UP				
2 FLOW RATE			Sm3/hr	150000	141599	56000	20000
3 INLET PRESSURE			BAR (ABS)	46.5	45.4	45.4	10
4 DP PRESSURE			BAR	1.4	1.5	11.4	54
5 INLET TEMPERATURE			° C	400	400	400	150
6 SPEC. WT/SPEC.GRAVITY/MOL WT			KG/KMOL	17.227	17.227	17.227	28
7 VISCOSITY/SPEC HEAT RATIO			mPas	0.023	0.023	0.023	
8 VAPOR PRESSURE PV			BARA				
9 *REQUI CV							
10 *TRAVEL			%				
11 ALLOWABLE/ *PREDICTED SPL			dBA	85 / 87	85/86.2	85/90.7	
12 COMPRESSIBILITY Z				0.99	0.99	0.99	
K=Cp/Cv, 1.208			DENSITY	0.73/1.185(for N2 START-UP) KG/SM3			
13 PIPE LINE SIZE			IN	14" / 19.05			
14 & WALL THICKNESS(m)			OUT	12" / 17.48			
15 PIPE LINE INSULATION /SPEC.			H / BD1				
16 * TYPE BUTERFLY VALVE/LUG							
17 * SIZE 10" ANSI CLASS 600# / LRF							
18 DESIGN PRESS.BARG /TEMP.° C			54 / 420				
19 *MFR. & MODEL LDE							
20 *BODY/BONNET MATL. A216 / WCB							
21 *LINER MATERIAL/ID							
22 END IN FLANGED							
23 CONNECTION OUT FLANGED							
24 FLG FACE FINISH ANSI 600 #L RF							
25 END EXT/MATL.							
26 *FLOW DIRECTION TENDS TO OPEN							
27 *TYPE OF BONNET INSULATION SECTION							
28 LUBE & ISO VALVE NO							
29 *PACKING MAT. GRAPHITE							
30 *PACKING TYPE							
31 RANGEABILITY:50:1							
32 *TYPE 60° FLAP							
33 *SIZE RATED TRAVEL							
34 CHARACTERISTIC LOG							
35 *BALANCED/UNBALANCED							
36 SELECTED CV 1705 FL XT							
37 *PLUG/BALL/DISK MATERIAL 316 SS (STELLITED)							
38 *SEAT MATERIAL 316 SS (STELLITED)							
39 *CAGE/GUIDE MATERIAL							
40 *STEM MAT. 316 SS							
41 ARMoured: YES MATERIAL:STELLITE							
42 PLUG SEALING: METALLIC MATERIAL:316SS							
43 SOLENOID VALVE: YES ☒ NO ☐							
44 MANUAL RESET: YES ☐ NO ☒							
45 TAG NO:FV-100805A,B(EEXa,IIc,T6)/24VDC/IP65/3/2WAY							
46 TYPE:3963-1352							
47 FUSIBLE LINKAGE YES ☐ NO ☒							
48 BLOCK RELAY YES ☐ NO ☒							
49 BOOSTER YES ☒ NO ☒							
50 CARTRIDGE YES ☐ NO ☒							
51 PROXIMITY SW. YES ☒ NO ☐							
52 VOLUME TANK YES ☐ NO ☒							
53			*TYPE PNEUMATIC/ /PISTON				
54			*MFR. & MODEL GP-085S-385/C3				
55			* SIZE EFF AREA				
56			ON/OFF MODULATING YES				
57			SPRING ACTION OPEN /CLOSE CLOSE				
58			*MAX ALLOWABLE PRESSURE				
59			*MIN ALLOWABLE PRESSURE				
60			AVAILABLE AIR SUPPLY PRESSURE:				
61			MAX. 6.0 BARG MIN. 4 BARG				
62			*BENCH RANGE 4				
63			ACT ORIENTATION				
64			HANDWHEEL TYPE NO				
65			AIR FAILURE VALVE SET AT				
66			STROKE 80MM IN TIME:20 SEC./CLOSING TIME:<5 SEC.				
67			INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)				
68			*TYPE				
69			*MFR. & MODEL 3780-120				
70			*ON INCR SIGNAL OUTPUT INCR/DECR				
71			GAUGES YES IP65 BY-PASS				
72			*CAM CHARACTERISTIC				
73							
74			TYPE PROXIMITY NAMUR EEXI QUANTITY 1				
75			*MFR. & MODEL				
76			CONTACT/RATING				
77			ACTUATION POINTS CLOSE				
78			TAG NO:FZSL-100805				
79			*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE				
80			*SET PRESSURE				
81			FILTER YES GAUGE YES				
82							
83			*HYDRO PRESURE				
84			ANSI/FCI LEAKAGE CLASS VI(TSO IEC 534.4)				
85							
86							
PID NO: 108							
LINE NO: FEG-10-08-016							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)CV-VALUE HAS EFFECT ON SAFETY VALVE

2)MECHANICALSTOPER IS NEEDED. (CV=1200)

3)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

4)VALVE SHOULD BE EQUIPPED WITH SILENCER 10"/12"(FV100805S)

5) BOOSTER TYPE :2625, QUICK VALVE :8502-0144

PETROCHEMICAL INDUSTRIES ESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	
TAG NO: FV-100807							
1 FLUID:AUTOTH. REFORMER FEED GAS/GAS				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	N2 START UP		
2 FLOW RATE				Sm3/hr	210000	195712	20000
3 INLET PRESSURE				BAR (ABS)	45.4	45.4	45.4
4 DP PRESSURE				BAR	2.4	3.4	11.8
5 INLET TEMPERATURE				° C	400	400	400
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	17.227	17.227	17.227
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.023	0.023	0.023
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBa	85/84.2	84/87.9	84/86.9
12 COMPRESSIBILITY Z					0.99	0.99	0.99
K=Cp/Cv, 1.208				DENSITY	kg/Sm³	@ Ope.Cond. 0.73/0.73/0.73/1.185 kg/Sm³	
13 LINE		PIPE LINE SIZE		IN	14" / 19.05		
14		& WALL THICKNESS(m)		OUT	16" / 21.44		
15		PIPE LINE INSULATION /SPEC.		H/BD1			
16		* TYPE		BUTTERFLY VALVE,LUG			
17		* SIZE		10"	ANSI CLASS 600#/RF		
18		DESIGN PRESS.BARG /TEMP.° C		54 / 420			
19		*MFR. & MODEL		LDE			
20		*BODY/BONNET MATL.		A216 GR.WCB			
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH		ANSI 600 # RF			
25		END EXT/MATL.					
26		*FLOW DIRECTION TENDS TO:		OPEN			
27		*TYPE OF BONNET		INSULATION SECTION			
28		LUBE & ISO VALVE		NO			
29		*PACKING MAT.		GRAPHITE			
30		*PACKING TYPE					
31		RANGEABILITY:50:1					
32		*TYPE		60° FLAP			
33		*SIZE		RATED TRAVEL			
34		CHARACTERISTIC		LOG			
35		*BALANCED/UNBALANCED					
36		SELECTED CV	1705	FL	XT		
37		*PLUG/BALL/DISK MATERIAL		316SS(STELLITED)			
38		*SEAT MATERIAL		316SS(STELLITED)			
39		*CAGE/GUIDE MATERIAL					
40		*STEM MAT.		316 SS			
41		ARMoured: YES		MATERIAL:STELLITE			
42		PLUG SEALING: METALLIC		MATERIAL:316SS			
43		SOLENOID VALVE: YES		☒	NO		
44		MANUAL RESET: YES		☐	NO	☒	
45		TAG NO:FV-100807A/B		TYPE:3963-1352			
46		(Eexia,IIC,T6)/24VDC/IP 65/3/2WAY					
47		FUSIBLE LINKAGE YES		☐	NO	☒	
48		BLOCK RELAY YES		☐	NO	☒	
49		BOOSTER YES		☒	NO		
50		CARTRIDGE YES		☐	NO	☒	
51		PROXIMITY SW. YES		☒	NO		
52		VOLUME TANK YES		☐	NO	☒	
53		*TYPE		PNEUMATIC/ PISTON			
54		*MFR. & MODEL		GP-085-335/C2			
55		* SIZE		EFF AREA			
56		ON/OFF		MODULATING YES			
57		SPRING ACTION OPEN /CLOSE		CLOSE			
58		*MAX ALLOWABLE PRESSURE					
59		*MIN ALLOWABLE PRESSURE					
60		AVAILABLE AIR SUPPLY PRESSURE:					
61		MAX.		6.0 BARG	MIN.	4 BARG	
62		*BENCH RANGE		4	BARG		
63		ACT ORIENTATION					
64		HANDWHEEL TYPE		NO			
65		AIR FAILURE VALVE		SET AT			
66		STROKE 80MM IN TIME:<20 SEC/CLOSING TIME:<5 SEC.					
67		INPUT SIGNAL		SMART 4-20 mA (HART PROTOCOL)			
68		*TYPE					
69		*MFR. & MODEL		3780-120			
70		*ON INCR SIGNAL OUTPUT INCR/DECR					
71		GAUGES		YES	IP65	BY-PASS	
72		*CAM CHARACTERISTIC					
73		TYPE		PROXIMITY	NAMUR EEXI	QUANTITY 1	
74		*MFR. & MODEL		3780-120			
75		CONTACT/RATING					
76		ACTUATION POINTS		CLOSE			
77		TAG NO:		FZSL-100807			
78		*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE					
79		*SET PRESSURE					
80		FILTER		YES	GAUGE	YES	
81		*HYDRO PRESURE					
82		ANSI/FCI LEAKAGE CLASS		VI (TSO IEC 534.4)			
83		PID NO:		108			
84		LINE NO:		FEQ-10-12-015			
85							
86							

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)Cv-value has effect on safety valve.

2)MECHANICALSTOPER IS NEEDED. (CV=1200)

3)VALVE SHOULD BE EQUIPPED WITH SILENCER 107/16"(FV100807S)

4)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

5)BOOSTER:2625,QUICK EXH. VALVE:8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-100825								
1	FLUID: COOLING STEAM, SH/STEAM			CRIT. PRESS (PC)		BAR (ABS)		
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF H2O/C	
2	SERVICE CONDITIONS	FLOW RATE	kg/hr	40000	30000	8000	30000	
3		INLET PRESSURE	BAR (ABS)	41	41	41	47	
4		DP PRESSURE	BAR	5	6	30	54 3	
5		INLET TEMPERATURE	° C	395	395	395	395	
6		SPEC. WT/SPEC. GRAVITY/MOL WT	KG/KMOL	18.016	18.016	18.016		
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.025	0.025	0.025		
8		VAPOR PRESSURE PV	BARA					
9		*REQUI CV						
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBA	85/81	85/79	85/78		
12	COMPRESSIBILITY Z		0.945	0.945	0.945			
K=Cp/Cv= 1.22 DENSITY			kg/m³ @ Ope. Cond.	13.74/ 13.74/13.74/16.34 kg/m³				
13	LINE	PIPE LINE SIZE	IN	6" / 10.97				
14		& WALL THICKNESS (mm)	OUT	6" / 10.97				
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.	H/BD1					
16		* TYPE	GLOBE VALVE					
17		* SIZE	6"	ANSI CLASS	600#/RF			
18		DESIGN PRESS. BARG /TEMP. ° C	54 / 420					
19		*MFR. & MODEL	3251					
20		*BODY/BONNET MATL.	A216 GR.WCB					
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH	ANSI 600 # RF					
25		END EXT/MATL.						
26		*FLOW DIRECTION TENDS TO	OPEN					
27		*TYPE OF BONNET	INSULATOR IN SECTION					
28		LUBE & ISO VALVE	NO					
29		*PACKING MAT.	GRAPHITE					
30		*PACKING TYPE						
31		RANGEABILITY	50:1					
32		TRIM	*TYPE	PARABOLIC				
33			*SIZE	RATED TRAVEL				
34			CHARACTERISTIC	LOG				
35	*BALANCED/UNBALANCED							
36	SELECTED CV		220	FL	XT			
37	*PLUG/BALL/DISK MATERIAL		410 (STELLITED)					
38	*SEAT MATERIAL		410 (STELLITED)					
39	*CAGE/GUIDE MATERIAL							
40	*STEM MAT.		410					
41	ARMoured: YES		MATERIAL: STELLITE					
42	PLUG SEALING: METALLIC	MATERIAL: 410						
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	☒	NO	☐		
44		MANUAL RESET:	YES	☐	NO	☒		
45		TAG NO: FV-100825A,B TYPE: 3963-1353						
46		(Exia, IIC, T6)/24 V DC/IP 65/3/2 WAY						
47		FUSIBLE LINKAGE	YES	☐	NO	☒		
48		BLOCK RELAY	YES	☐	NO	☒		
49		BOOSTER	YES	☒	NO	☒		
50	CARTRIDGE	YES	☐	NO	☒			
51	PROXIMITY SW.	YES	☐	NO	☒			
52	VOLUME TANK	YES	☐	NO	☒			

53	ACTUATOR	*TYPE	PNEUMATIC / DIAPHRAGM				
54		*MFR. & MODEL	3271				
55		* SIZE	770MM	EFF AREA			
56		ON/OFF	MODULATING				YES
57		SPRING ACTION OPEN /CLOSE	CLOSE				
58		*MAX ALLOWABLE PRESSURE					
59		*MIN ALLOWABLE PRESSURE					
60		AVAILABLE AIR SUPPLY PRESSURE:					
61		MAX.	6.0 BARG	MIN.	4 BARG		
62		*BENCH RANGE	2.8-3.8 BARG				
63	POSITIONER	ACT ORIENTATION					
64		HANDWHEEL TYPE	SIDE MOUNTED				
65		AIR FAILURE VALVE	SET AT				
66		STROKE TIME: <20 SEC, 60MM					
67		INPUT SIGNAL	SMART 4-20 mA (HART PROTOCOL)				
68		*TYPE					
69		*MFR. & MODEL	3780-100				
70		*ON INCR SIGNAL OUTPUT INCR/DECR					
71		GAUGES	YES	IP65	BY-PASS		
72		*CAM CHARACTERISTIC					
73	LIMIT SW.	TYPE	QUANTITY				
74		*MFR. & MODEL					
75		CONTACT/RATING					
76		ACTUATION POINTS					
77	AIR SET	TAG NO:					
78		*MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE					
79		*SET PRESSURE					
80		FILTER	YES	GAUGE	YES		
81	TEST	*HYDRO PRESURE					
82		ANSI/FCI LEAKAGE CLASS	IV (IEC 534.4)				
83							
84							
85	PID NO: 108						
86	LINE NO: MSS-10-08-018						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) Import steam pressure considered for control valve design.

2) Nomal pressure 47 bar abs.

3) TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

4) ST3: FLOW DIVIDER III (NOISE REDUCTION)

5) WITH DRAIN, CONNECTION 1" CL. 600#

6) BOOSTER TYPE: 2625/QUICK-EXH VALVE: 8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-100831							
1 FLUID: COOLING STEAM, SH./STEAM				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START-UP		
2 FLOW RATE				kg/hr	20000	8000	2000
3 INLET PRESSURE				BAR (ABS)	41	41	41
4 DP PRESSURE				BAR	30	30	6
5 INLET TEMPERATURE				° C	395	395	395
6 SPEC. WT/SPEC. GRAVITY/MOL WT				KG/KMOL	18.016	18.016	18.016
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.025	0.025	0.025
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/82	85/77	85/69
12 COMPRESSIBILITY Z							
K=C_P/C_V=				DENSITY	kg/m³	@ Ope. Cond.	13.74/13.74/13.74/16.34
						kg/m³	
LINE		13 PIPE LINE SIZE		IN	6" / 10.97		
VALVE BODY/ BONNET		14 & WALL THICKNESS		mm	OUT 6" / 10.97		
TRIM		15 PIPE LINE INSULATION /SPEC.		H/BD1			
SPECIAL ACCESSORIES		16 * TYPE GLOBE VALVE					
53		17 * SIZE 6" ANSI CLASS 600#/RF					
54		18 DESIGN PRESS. BARG /TEMP. ° C 54 / 420					
55		19 *MFR. & MODEL 3251					
56		20 *BODY/BONNET MATL. A216 GR.WCB					
57		21 *LINER MATERIAL/ID					
58		22 END IN FLANGED					
59		23 CONNECTION OUT FLANGED					
60		24 FLG FACE FINISH ANSI 600 # RF					
61		25 END EXT/MATL.					
62		26 *FLOW DIRECTION TENDS TO OPEN					
63		27 *TYPE OF BONNET INSULATION SECTION					
64		28 LUBE & ISO VALVE NO					
65		29 *PACKING MAT. GRAPHITE					
66		30 *PACKING TYPE					
67		31 RANGEABILITY 50:1					
68		32 *TYPE PARABOLIC					
69		33 *SIZE RATED TRAVEL					
70		34 CHARACTERISTIC LOG					
71		35 *BALANCED/UNBALANCED					
72		36 SELECTED CV 90 FL XT					
73		37 *PLUG/BALL/DISK MATERIAL 410(STELLITED)					
74		38 *SEAT MATERIAL 410(STELLITED)					
75		39 *CAGE/GUIDE MATERIAL					
76		40 *STEM MAT. 410					
77		41 ARMoured: YES MATERIAL: STELLITE					
78		42 PLUG SEALING: METALLIC MATERIAL: 410					
79		43 SOLENOID VALVE: YES ☒ NO ☐					
80		44 MANUAL RESET: YES ☐ NO ☒					
81		45 TAG NO: FV-100831A,B TYPE: 3963-1353					
82		46 (Eexia, IIC, T6)/24 V DC/IP 65/3/2 WAY					
83		47 FUSIBLE LINKAGE YES ☐ NO ☒					
84		48 BLOCK RELAY YES ☐ NO ☒					
85		49 BOOSTER YES ☒ NO ☐					
86		50 CARTRIDGE YES ☐ NO ☒					
87		51 PROXIMITY SW. YES ☐ NO ☒					
88		52 VOLUME TANK YES ☐ NO ☒					
ACTUATORE		53 *TYPE PNEUMATIC / DIAPHRAGM					
54		54 *MFR. & MODEL 3271					
55		55 * SIZE 530MM EFF AREA					
56		56 ON/OFF MODULATING YES					
57		57 SPRING ACTION OPEN /CLOSE CLOSE					
58		58 *MAX ALLOWABLE PRESSURE					
59		59 *MIN ALLOWABLE PRESSURE					
60		60 AVAILABLE AIR SUPPLY PRESSURE:					
61		61 MAX. 6.0 BARG MIN. 4 BARG					
62		62 *BENCH RANGE 2.45~3.2 BARG					
63		63 ACT ORIENTATION					
64		64 HANDWHEEL TYPE NO					
65		65 AIR FAILURE VALVE SET AT					
66		66 STROKE TIME: <20 SEC, 30MM					
INPUT SIGNAL		SMART 4-20 mA (HART PROTOCOL)					
POSITIONER		67 *TYPE					
68		68 *MFR. & MODEL 3780-100					
69		69 *ON INCR SIGNAL OUTPUT INCR/DECR					
70		70 GAUGES YES IP65 BY-PASS					
71		71 *CAM CHARACTERISTIC					
72							
73							
74		74 TYPE QUANTITY					
75		75 *MFR. & MODEL					
76		76 CONTACT/RATING					
77		77 ACTUATION POINTS					
78		78 TAG NO:					
79		79 *MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE					
80		80 *SET PRESSURE					
81		81 FILTER YES GAUGE YES					
82							
83		83 *HYDRO PRESURE					
84		84 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)					
85							
86							
PID NO:		108					
LINE NO:		MSS-10-08-019					

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) Import steam pressure considered for control valve design.

2) Normal pressure 47 bar abs.

3) WITH DRAIN, CONNECTION 1", CL 600#

4) ST3: FLOW DIVIDER III (NOISE REDUCTION)

5) BOOSTER TYPE 8523-0084

6) TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-101019							
1 FLUID: OXYGEN/GAS				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	NOTE 2		
2 FLOW RATE				SM3/HR	45000	29500	10000
3 INLET PRESSURE				BAR (ABS)	39.6	39.8	39.9
4 DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION				BAR	2.4	5.8	6.9
5 INLET TEMPERATURE				° C	20	20	20
6 SPEC. WT/SPEC. GRAVITY/MOL WT				KG/KMOL	32.015	32.015	32.015
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.02	0.02	0.02
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBa	85 /70	85/84	85 /81
12 COMPRESSIBILITY Z					0.976	0.976	0.976
K=C_p/C_v 1.358 DENSITY 1.35 kg/Sm³ @ Ope.Cond.							
LINE		13 PIPE LINE SIZE IN 10" / 6.35		53	*TYPE PNEUMATIC / DIAPHRAGM		
VALVE BODY/ BONNET		14 & WALL THICKNESS(m) OUT 10" / 6.35		54	*MFR. & MODEL 3271 TANDEM		
TRIM		15 PIPE LINE INSULATION /SPEC. / ND1		55	* SIZE 2X770MM EFF AREA		
SPECIAL ACCESSORIES		16 * TYPE GLOBE VALVE		56	ON/OFF MODULATING YES		
SOLENOID VALVE: YES		17 * SIZE 8" ANSI CLASS 600#/RF		57	SPRING ACTION OPEN /CLOSE CLOSE		
MANUAL RESET: YES		18 DESIGN PRESS.BARG /TEMP.° C 48 / 100		58	*MAX ALLOWABLE PRESSURE		
TAG NO: FV-101019A/B TYPE: 3963-1353		19 *MFR. & MODEL 3251		59	*MIN ALLOWABLE PRESSURE		
(Eexia, IIC, T6)/24 V DC/IP 65/3/2 WAY		20 *BODY/BONNET MATL. A351 / CF8C		60	AVAILABLE AIR SUPPLY PRESSURE:		
FUSIBLE LINKAGE YES		21 *LINER MATERIAL/ID		61	MAX. 6.0 BARG MIN. 4 BARG		
BLOCK RELAY YES		22 END IN FLANGED		62	*BENCH RANGE 2~2.6 BARG		
BOOSTER YES		23 CONNECTION OUT FLANGED		63	ACT ORIENTATION		
CARTRIDGE YES		24 FLG FACE FINISH ANSI 600 # RF		64	HANDWHEEL TYPE NO		
PROXIMITY SW. YES		25 END EXT/MATL.		65	AIR FAILURE VALVE SET AT		
VOLUME TANK YES		26 *FLOW DIRECTION TENDS TO: OPEN		66	OPENING/STROKE TIME: <5SEC/CLOSING TIME: <2 SEC.		
				67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)		
				68	*TYPE		
				69	*MFR. & MODEL 3780-120		
				70	*ON INCR SIGNAL OUTPUT INCR/DECR		
				71	GAUGES YES IP65 BY-PASS		
				72	*CAM CHARACTERISTIC		
				73	TYPE PROXIMITY NAMUR EEXI QUANTITY 1		
				74	*MFR. & MODEL 3780-120		
				75	CONTACT/RATING		
				76	ACTUATION POINTS CLOSE		
				77	TAG NO: FZSL-101019		
				78	*MFR. & MODEL: 2XNORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE		
				79	*SET PRESSURE		
				80	FILTER YES GAUGE YES		
				81	*HYDRO PRESURE		
				82	ANSI/FCI LEAKAGE CLASS V (TSO IEC 534.4)		
				83	PID NO: 110		
				84	LINE NO: OXC-10-10-001		
				85			
				86			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) TO BE DESIGNED FOR OXYGEN SERVICE. KEEP ALL OXYGEN WETTED PARTS FREE OF OIL AND GREASE.

2) 50% LOAD FOR CENTRAL BURNER

3) MECHANICAL STOP: (CV=290)

4) BOOSTER : 2625X2, QUICK-EXH. VALVE: 8502-0144X2

5) TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-101021							
1 FLUID:PROCESS STEAM/STEAM				CRIT. PRESS (PC) BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				kg/Hr	7000	4500	2000
3 INLET PRESSURE				BAR (ABS)	44	44	44
4 DP PRESSURE				BAR	7	7.9	11
5 INLET TEMPERATURE				° C	395	395	395
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.016	18.016	18.016
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.024	0.024	0.024
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85 / 80	85/77	85 / 76
12 COMPRESSIBILITY Z					0.976	0.976	0.976
K=C_p/C_v 1.358 DENSITY 15.23 kg/m³ @ Ope.Cond.							
13 PIPE LINE SIZE IN 4" / 8.56				53	*TYPE PNEUMATIC / DIAPHRAGM		
14 & WALL THICKNESS(m) OUT 4" / 8.56				54	*MFR. & MODEL 3277		
15 PIPE LINE INSULATION /SPEC. H/ BD1				55	* SIZE 390MM EFF AREA		
16 * TYPE GLOBE VALVE				56	ON/OFF MODULATING YES		
17 * SIZE 2" ANSI CLASS 600#/RF				57	SPRING ACTION OPEN /CLOSE CLOSE / LOCK		
18 DESIGN PRESS.BARG /TEMP.° C 54 / 420				58	*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL 3251				59	*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A216 / WCB				60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/ID				61	MAX. 6.0 BARG MIN. 4 BARG		
22 END IN FLANGED				62	*BENCH RANGE 2.1~3.3 BARG		
23 CONNECTION OUT FLANGED				63	ACT ORIENTATION		
24 FLG FACE FINISH ANSI 600 # RF				64	HANDWHEEL TYPE NO		
25 END EXT/MATL.				65	AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION TENDS TO OPEN				66	STROKE TIME:<10SEC.,30MM		
27 *TYPE OF BONNET INSULATION SECTION				67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)		
28 LUBE & ISO VALVE NO				68	*TYPE		
29 *PACKING MAT. GRAPHITE				69	*MFR. & MODEL 3780-100		
30 *PACKING TYPE				70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31 RANGEABILITY: 50:1				71	GAUGES YES BY-PASS		
32 *TYPE PARABOLIC				72	*CAM CHARACTERISTIC		
33 *SIZE RATED TRAVEL				73	QUANTITY		
34 CHARACTERISTIC LOG				74	*MFR. & MODEL		
35 *BALANCED/UNBALANCED				75	CONTACT/RATING		
36 SELECTED CV 47 FL XT				76	ACTUATION POINTS		
37 *PLUG/BALL/DISK MATERIAL 410(STELLITED)				77	TAG NO:		
38 *SEAT MATERIAL 410(STELLITED)				78	*MFR. & MODEL NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE		
39 *CAGE/GUIDE MATERIAL				79	*SET PRESSURE		
40 *STEM MAT. 410				80	FILTER YES GAUGE YES		
41 ARMoured YES MATERIAL: STELLITE				81			
42 PLUG SEALING:METALLIC/410				82			
43 SOLENOID VALVE: YES ☒ NO ☐				83	*HYDRO PRESURE		
44 MANUAL RESET: YES ☐ NO ☒				84	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)		
45 TAG NO: FV-101021A,B TYPE:3963-1353				85			
46 (Eexia,IIC,T6)/24 V DC/IP 65/3/2 WAY				86			
47 FUSIBLE LINKAGE YES ☐ NO ☒				PID NO: 110			
48 BLOCK RELAY YES ☒ NO ☐				LINE NO: MSS-10-10-005			
49 BOOSTER YES ☐ NO ☒							
50 CARTRIDGE YES ☐ NO ☒							
51 PROXIMITY SW. YES ☐ NO ☒							
52 VOLUME TANK YES ☐ NO ☒							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) TO BE DESIGNED FOR OXYGEN SERVICE.KEEP ALL OXYGEN WETTED PARTS FREE OF OIL AND GREASE.

2) DOWN STREAM VALVE OXYGEN LINE .

3) TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

4) LOCK-UP REALY: 3709-1

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000					
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5					
TAG NO: FV-101039											
1 FLUID: OXYGEN/GAS				CRIT. PRESS (PC)		BAR (ABS)					
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW				
							SHUT OFF				
							NOTE 1				
SERVICE CONDITIONS				FLOW RATE	Sm3/Hr	59000	54800				
				INLET PRESSURE	BAR (ABS)	39.6	39.6				
				DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION:	BAR	1.1	1.2				
				INLET TEMPERATURE	° C	20	20				
				SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	32.015	32.015				
				VISCOSITY/SPEC HEAT RATIO	mPas	0.02	0.02				
				VAPOR PRESSURE PV	BARA						
				*REQUI CV							
				*TRAVEL	%						
				ALLOWABLE/ *PREDICTED SPL	dBA	85/70	85/70				
				COMPRESSIBILITY Z		0.976	0.976				
				K=C_p/C_v 1.358 DENSITY 1.35 Kg/Sm³ @ Ope.Cond.							
LINE				PIPE LINE SIZE	IN	10" / 6.35	53				
				& WALL THICKNESS(mm)	OUT	10" / 6.35	54				
				PIPE LINE INSULATION /SPEC.		/ ND1	55				
VALVE BODY/ BONNET				* TYPE GLOBE VALVE	56						
				* SIZE 8"	ANSI CLASS	600#/RF	57				
				DESIGN PRESS.BARG /TEMP.° C		48 / 100	58				
				*MFR. & MODEL		3251	59				
				*BODY/BONNET MATL.		A351/CF8C	60				
				*LINER MATERIAL/ID			61				
				END	IN	FLANGED	62				
				CONNECTION	OUT	FLANGED	63				
				FLG FACE FINISH		ANSI 600 # RF	64				
				END EXT/MATL.			65				
				*FLOW DIRECTION TENDS TO		OPEN	66				
				*TYPE OF BONNET		STD	67				
				LUBE & ISO VALVE		NO	68				
				*PACKING MAT.		GRAPHITE	69				
				*PACKING TYPE			70				
							71				
				TRIM				*TYPE	PARABOLIC		72
								*SIZE	RATED TRAVEL		73
CHARACTERISTIC	LOG		74								
*BALANCED/UNBALANCED			75								
SELECTED CV	420	FL	XT					76			
*PLUG/BALL/DISK MATERIAL		MONEL						77			
*SEAT MATERIAL		MONEL						78			
*CAGE/GUIDE MATERIAL								79			
*STEM MAT.		MONEL						80			
PLUG SEALING:LAPPED IN,MATERIAL:MONEL								81			
RANGEABILITY		50:1						82			
SPECIAL ACCESSORIES								SOLENOID VALVE:	YES	☒	NO
				MANUAL RESET:	YES	☐	NO	☒	84		
				TAG NO.FY-101039A/B	TYPE:3963-1353			85			
				(Eexia,IIC,T6)/24 V DC/IP 65/3/2 WAY				86			
				FUSIBLE LINKAGE	YES	☐	NO	☒			
				BLOCK RELAY	YES	☐	NO	☒			
				BOOSTER	YES	☒	NO	☐			
				CARTRIDGE	YES	☐	NO	☒			
				PROXIMITY SW.	YES	☒	NO	☐			
				VOLUME TANK	YES	☐	NO	☒			
								PID NO:	110		
								LINE NO:	OXC-10-10-005		

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): 50% LOAD FOR CENTRAL BURNER

2): TO BE DESIGNED FOR OXYGEN SERVICE.KEEP ALL OXYGEN WETTED PARTS FREE OF OIL AND GREASE.

3)BOOSTER:2X 2625, QUICK EXH.VALVE :2X8502-0144 4)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-101041								
1	FLUID: PROCESS STEAM/STEAM				CRIT. PRESS (PC)		BAR (ABS)	
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	SERVICE CONDITIONS	FLOW RATE		kg/Hr	10000	8400	4000	6000
3		INLET PRESSURE		BAR (ABS)	44	44	44	44
4		DP PRESSURE		BAR	7	7.9	11	54
5		INLET TEMPERATURE		° C	395	395	395	395
6		SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL	18.016	18.016	18.016	
7		VISCOSITY/SPEC HEAT RATIO		mPas	0.024	0.024	0.024	
8		VAPOR PRESSURE PV		BARA				
9		*REQUI CV						
10		*TRAVEL		%				
11		ALLOWABLE/ *PREDICTED SPL		dBa	85/80	85/79	85/76	
12	COMPRESSIBILITY Z			0.95	0.95	0.95		
				K=C _p /C _v 1.22 DENSITY 15.23 kg/m ³ @ Ope.Cond.				
13	LINE	PIPE LINE SIZE		IN	4" / 8.56			
14		& WALL THICKNESS		mm	4" / 8.56			
15		PIPE LINE INSULATION /SPEC.			H/ BD1			
16	VALVE BODY/ BONNET	* TYPE		GLOBE VALVE				
17		* SIZE		3"	ANSI CLASS		600#/RF	
18		DESIGN PRESS.BARG /TEMP.° C		54 / 420				
19		*MFR. & MODEL		3251				
20		*BODY/BONNET MATL.		A216 / WCB				
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH		ANSI 600 # RF				
25		END EXT/MATL.						
26		*FLOW DIRECTION TENDS TO		OPEN				
27		*TYPE OF BONNET		INSULATION SECTION				
28		LUBE & ISO VALVE		NO				
29		*PACKING MAT.		GRAPHITE				
30		*PACKING TYPE						
31	RANGEABILITY:		50:1					
32	TRIM	*TYPE		PARABOLIC				
33		*SIZE		RATED TRAVEL				
34		CHARACTERISTIC		LOG				
35		*BALANCED/UNBALANCED						
36		SELECTED CV	67	FL	XT			
37		*PLUG/BALL/DISK MATERIAL		410 (STELLITED)				
38		*SEAT MATERIAL		410 (STELLITED)				
39		*CAGE/GUIDE MATERIAL						
40		*STEM MAT.		410				
41		ARMOURED:		YES	MATERIAL:STELLITE			
42	PLUG SEALING : METALLIC		MATERIAL:410					
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	☒	NO	☐		
44		MANUAL RESET:	YES	☐	NO	☒		
45		TAG NO: FV-101041A,B		TYPE:3963-1353				
46		(Eexia,IIC,T6)/24 V DC/IP 65/3/2 WAY						
47		FUSIBLE LINKAGE	YES	☐	NO	☒		
48		BLOCK RELAY	YES	☒	NO	☐		
49	BOOSTER	YES	☒	NO	☐			
50	CARTRIDGE	YES	☐	NO	☒			
51	PROXIMITY SW.	YES	☐	NO	☒			
52	VOLUME TANK	YES	☐	NO	☒			

ACTUATORE	*TYPE		PNEUMATIC / DIAPHRAGM					
	*MFR. & MODEL		3271					
	* SIZE		530MM		EFF AREA			
	ON/OFF		MODULATING YES					
	SPRING ACTION OPEN /CLOSE		CLOSE / LOCK					
	*MAX ALLOWABLE PRESSURE							
	*MIN ALLOWABLE PRESSURE							
	AVAILABLE AIR SUPPLY PRESSURE:							
	MAX.		6.0 BARG		MIN.		4 BARG	
	*BENCH RANGE		1.6~2.4		BARG			
ACT ORIENTATION								
HANDWHEEL TYPE		NO						
AIR FAILURE VALVE		SET AT						
STROKE TIME:<10 SEC.,30MM								
INPUT SIGNAL		SMART 4-20 Ma (HART PROTOCOL)						
POSITIONER	*TYPE							
	*MFR. & MODEL		3780-100					
	*ON INCR SIGNAL OUTPUT INCR/DECR							
	GAUGES		YES		BY-PASS			
*CAM CHARACTERISTIC								
LIMIT SW.	TYPE		QUANTITY					
	*MFR. & MODEL							
	CONTACT/RATING							
	ACTUATION POINTS							
TAG NO:								
AIR SET	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE							
	*SET PRESSURE							
	FILTER		YES		GAUGE		YES	
TEST	*HYDRO PRESURE							
	ANSI/FCI LEAKAGE CLASS		IV (IEC 534.4)					
PID NO:		110						
LINE NO:		MSS-10-10-022						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

- 1) TO BE DESIGNED FOR OXYGEN SERVICE.KEEP ALL OXYGEN WETTED PARTS FREE OF OIL AND GREASE.
- 2)DOWNSTREAM VALVE OXYGEN LINE.
- 3)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65
- 4)NOISE REDUCTION: ST1(FLOWDIVIDER I)
- 5)BOOSTER: 8523-0084, LOCK-UP RELAY: 3709-1

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-101122							
1 FLUID:MP-STEAM,SUPERHEATED/STEAM				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				kg/Hr	4000	3700	1000
3 INLET PRESSURE				BAR (ABS)	44	44	44
4 DP PRESSURE				BAR	7.5	7.5	10
5 INLET TEMPERATURE				° C	395	395	395
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.016	18.016	18.016
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.024	0.024	0.024
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 74	85/74	85 / 81
12 COMPRESSIBILITY Z					0.95	0.95	0.95
K=Cp/Cv: 1.22 DENSITY 15.23 kg/m³ @ Ope.Cond.							
LINE		13 PIPE LINE SIZE IN 3" / 7.62		53	*TYPE PNEUMATIC / DIAPHRAGM		
VALVE BODY/ BONNET		14 & WALL THICKNESS(m) OUT 3" / 7.62		54	*MFR. & MODEL 3277		
TRIM		15 PIPE LINE INSULATION /SPEC. H / BD1		55	* SIZE 350 mm EFF AREA		
SPECIAL ACCESSORIES		16 * TYPE GLOBE VALVE		56	ON/OFF MODULATING YES		
17 * SIZE 2" ANSI CLASS 600#/RF				57	SPRING ACTION OPEN /CLOSE OPEN / LOCK		
18 DESIGN PRESS.BARG /TEMP.° C 54 / 420				58	*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL 3251				59	*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A216 / WCB				60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/ID				61	MAX. 6.0 BARG MIN. 4 BARG		
22 END IN FLANGED				62	*BENCH RANGE 0.2-1 BARG		
23 CONNECTION OUT FLANGED				63	ACT ORIENTATION		
24 FLG FACE FINISH ANSI 600 # RF				64	HANDWHEEL TYPE NO		
25 END EXT/MATL.				65	AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION TENDS TO OPEN				66	STROKE TIME :<10SEC. , 15MM		
27 *TYPE OF BONNET INSULATION SECTION				67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)		
28 LUBE & ISO VALVE NO				68	*TYPE		
29 *PACKING MAT. GRAPHITE				69	*MFR. & MODEL 3780-100		
30 *PACKING TYPE				70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31 RANGEABILITY: 50:1				71	GAUGES YES BY-PASS		
32 *TYPE PARABOLIC				72	*CAM CHARACTERISTIC		
33 *SIZE RATED TRAVEL				73	TYPE QUANTITY		
34 CHARACTERISTIC LOG				74	*MFR. & MODEL		
35 *BALANCED/UNBALANCED				75	CONTACT/RATING		
36 SELECTED CV 26 FL XT				76	ACTUATION POINTS		
37 *PLUG/BALL/DISK MATERIAL 410 (STELLITED)				77	TAG NO:		
38 *SEAT MATERIAL 410 (STELLITED)				78	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE		
39 *CAGE/GUIDE MATERIAL				79	*SET PRESSURE		
40 *STEM MAT. 410				80	FILTER YES GAUGE YES		
41 ARMoured: YES MATERIAL:STELLITE				81	*HYDRO PRESURE		
42 PLUG SEALING: METALLIC,MATERIAL:410				82	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)		
43 SOLENOID VALVE: YES				83	PID NO: 111		
44 MANUAL RESET: YES				84	LINE NO: MSS-10-10-006		
45 TAG NO:FY-101122A,B TYPE:3963-1353				85			
46 (Eexia,IIC,T6)/24 V DC/IP 65/3/2 WAY				86			
47 FUSIBLE LINKAGE YES							
48 BLOCK RELAY YES							
49 BOOSTER YES							
50 CARTRIDGE YES							
51 PROXIMITY SW. YES							
52 VOLUME TANK YES							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

2)NOISE REDUCTION: ST2(FLOW/DIVIDER I)

3)LOCK-UP RELAY: 3709-1

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000					
PROJ. NO. : 1182				PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5			
TAG NO: FV-101125											
1 FLUID:MP-STEAM,SUPERHEATED/STEAM					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2 FLOW RATE					kg/Hr		10000	9800	3000		6000
3 INLET PRESSURE					BAR (ABS)		44	44	44		44
4 DP PRESSURE					BAR		7.5	7.5	10	54	34
5 INLET TEMPERATURE					° C		395	395	395		395
6 SPEC. WT/SPEC.GRAVITY/MOL WT					KG/KMOL		18.016	18.016	18.016		
7 VISCOSITY/SPEC HEAT RATIO					mPas		0.024	0.024	0.024		
8 VAPOR PRESSURE PV					BARA						
9 *REQUI CV											
10 *TRAVEL					%						
11 ALLOWABLE/ *PREDICTED SPL					dBA		85 / 76	85 / 76	85 / 72		
12 COMPRESSIBILITY Z							0.945	0.945	0.945		
K=C_P/C_V: 1.22 DENSITY 15.23 kg/m³ @ Ope.Cond.											
13 PIPE LINE SIZE IN 4" / 8.56					53	*TYPE PNEUMATIC / DIAPHRAGM					
14 & WALL THICKNESS(mm) OUT 4" / 8.56					54	*MFR. & MODEL 3277					
15 PIPE LINE INSULATION /SPEC. H / BD1					55	* SIZE 390MM EFF AREA					
16 * TYPE GLOBE VALVE					56	ON/OFF MODULATING YES					
17 * SIZE 3" ANSI CLASS 600#/RF					57	SPRING ACTION OPEN /CLOSE OPEN / LOCK					
18 DESIGN PRESS.BARG /TEMP.° C 54 / 420					58	*MAX ALLOWABLE PRESSURE					
19 *MFR. & MODEL 3251					59	*MIN ALLOWABLE PRESSURE					
20 *BODY/BONNET MATL. A216 / WCB					60	AVAILABLE AIR SUPPLY PRESSURE:					
21 *LINER MATERIAL/ID					61	MAX. 6.0 BARG MIN. 4 BARG					
22 END IN FLANGED					62	*BENCH RANGE 0.2~1 BARG					
23 CONNECTION OUT FLANGED					63	ACT ORIENTATION					
24 FLG FACE FINISH ANSI 600 # RF					64	HANDWHEEL TYPE NO					
25 END EXT/MATL.					65	AIR FAILURE VALVE SET AT					
26 *FLOW DIRECTION TENDS TO: OPEN					66	STROKE TIME:<10SEC.,30MM					
27 *TYPE OF BONNET INSULATION SECTION					67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)					
28 LUBE & ISO VALVE NO					68	*TYPE					
29 *PACKING MAT. GRAPHITE					69	*MFR. & MODEL 3780-100					
30 *PACKING TYPE					70	*ON INCR SIGNAL OUTPUT INCR/DECR					
31 RANGEABILITY: 50:1					71	GAUGES YES BY-PASS					
32 *TYPE PARABOLIC					72	*CAM CHARACTERISTIC					
33 *SIZE RATED TRAVEL					73						
34 CHARACTERISTIC LOG					74	TYPE QUANTITY					
35 *BALANCED/UNBALANCED					75	*MFR. & MODEL					
36 SELECTED CV 67 FL XT					76	CONTACT/RATING					
37 *PLUG/BALL/DISK MATERIAL 410 (STELLITED)					77	ACTUATION POINTS					
38 *SEAT MATERIAL 410 (STELLITED)					78	TAG NO:					
39 *CAGE/GUIDE MATERIAL					79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE					
40 *STEM MAT. 410					80	*SET PRESSURE					
41 ARMOURED: YES MATERIAL:STELLITE					81	FILTER YES GAUGE YES					
42 PLUGSEALING: METALLIC,MATERIAL:410					82						
43 SOLENOID VALVE: YES ☒ NO ☐					83	*HYDRO PRESURE					
44 MANUAL RESET: YES ☐ NO ☒					84	ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)					
45 TAG NO:FY-101125A,B TYPE:3963-1353					85						
46 (Eexia,IIC,T6)/24 V DC/IP 65/3/2 WAY					86						
47 FUSIBLE LINKAGE YES ☐ NO ☒					PID NO: 111						
48 BLOCK RELAY YES ☒ NO ☐					LINE NO: MSS-10-10-023						
49 BOOSTER YES ☐ NO ☒											
50 CARTRIDGE YES ☐ NO ☒											
51 PROXIMITY SW. YES ☐ NO ☒											
52 VOLUME TANK YES ☐ NO ☒											

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

2)NOISE REDUCTION: ST1(FLOWDIVIDERII)

3)LOCK-UP RELAY: 3709-1

PIEROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-101229 B							
1 FLUID: HP BOILER FEED WATER/LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	NOTE 3		
2 FLOW RATE				Kg / hr	270000	270000	50000
3 INLET PRESSURE				BAR (ABS)	152	152	155
4 DP PRESSURE				BAR	3.5	27	30
5 INLET TEMPERATURE				° C	111	111	111
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.02	18.02	18.02
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.253	0.253	0.253
8 VAPOR PRESSURE PV				BARA	1.5	1.5	1.5
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85 / 62	85/ 81	85 / 63
12 COMPRESSIBILITY Z							
K=C_p/C_v= DENSITY 950 kg/m³ @ Ope.Cond.							
13 PIPE LINE SIZE IN 10" / 31.75				53 *TYPE PNEUMATIC / DIAPHRAGM			
14 & WALL THICKNESS(m) OUT 10" / 31.75				54 *MFR. & MODEL 3271			
15 PIPE LINE INSULATION /SPEC. V / BF1				55 * SIZE 770MM EFF AREA			
16 * TYPE GLOBE VALVE				56 ON/OFF MODULATING YES			
17 * SIZE 8" ANSI CLASS 1500# / RF				57 SPRING ACTION OPEN /CLOSE CLOSE / LOCK			
18 DESIGN PRESS.BARG /TEMP.° C 180 BARG / 160 ° C				58 *MAX ALLOWABLE PRESSURE			
19 *MFR. & MODEL 3254				59 *MIN ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A216 / WCB				60 AVAILABLE AIR SUPPLY PRESSURE:			
21 *LINER MATERIAL/ID				61 MAX. 6.0 BARG MIN. 4 BARG			
22 END IN FLANGED				62 *BENCH RANGE 1.6-2.4 BARG			
23 CONNECTION OUT FLANGED				63 ACT ORIENTATION			
24 FLG FACE FINISH ANSI 1500 # RF				64 HANDWHEEL TYPE NO			
25 END EXT/MATL.				65 AIR FAILURE VALVE SET AT			
26 *FLOW DIRECTION TENDS TO OPEN				66 STROKE TIME:<20SEC.,60MM			
27 *TYPE OF BONNET STD				67 INPUT SIGNAL H1 FOUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO				68 *TYPE			
29 *PACKING MAT. PTFE RINGS				69 *MFR. & MODEL 3787-100			
30 *PACKING TYPE				70 *ON INCR SIGNAL OUTPUT INCR/DECR			
31 RANGEABILITY: 50:1				71 GAUGES YES IP65 BY-PASS			
32 *TYPE PARABOLIC				72 *CAM CHARACTERISTIC			
33 *SIZE RATED TRAVEL				73			
34 CHARACTERISTIC LOG				74 TYPE QUANTITY			
35 *BALANCED/UNBALANCED BALANCED				75 *MFR. & MODEL			
36 SELECTED CV 290 FL XT				76 CONTACT/RATING			
37 *PLUG/BALL/DISK MATERIAL 440B				77 ACTUATION POINTS			
38 *SEAT MATERIAL 440B				78 TAG NO:			
39 *CAGE/GUIDE MATERIAL				79 *MFR. & MODEL NORGRN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE			
40 *STEM MAT. 440B				80 *SET PRESSURE			
41 PLUGSEALING: METALLIC,MATERIAL:440B				81 FILTER YES GAUGE YES			
42 ARMOURD: YES/FULL				82			
43 SOLENOID VALVE: YES NO ✓				83 *HYDRO PRESURE			
44 MANUAL RESET: YES NO ✓				84 ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)			
45 TAG NO:				85			
46				86			
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 205			
48 BLOCK RELAY YES ✓ NO				LINE NO: HBW-15-02-001			
49 BOOSTER YES ✓ NO							
50 CARTRIDGE YES NO ✓							
51 PROXIMITY SW. YES NO ✓							
52 VOLUME TANK YES NO ✓							

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1): HIGH DELTA-P SERVICE DURING START-UP.

2): MULTI STAGE TYPE WITH RESISTANT MATERIAL FOR HIGH DP

3)WORSE CASE,VALVE FULLY OPEN AT 460000KG/H ACC. TRD 401

4)PTFE PRESSURE BULANCING RING 5)BOOSTER :2625/LOCK-UP RELAY 3709-1, QUICK EXH. VALVE : 8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-101432							
1	FLUID: MP-BFW WATER /LIQUID			CRIT. PRESS (PC) 221		BAR (ABS)	
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
2	SERVICE CONDITIONS	FLOW RATE	t/hr	3.7	3.8	0.07	
3		INLET PRESSURE	BAR (ABS)	64	64	64	
4		DP PRESSURE	BAR	13	13	13	98
5		INLET TEMPERATURE	° C	111	111	111	
6		SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	18.016	18.016	18.016	
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.253	0.253	0.253	
8		VAPOR PRESSURE PV	BARA	1.5	1.5	1.5	
9		*REQUI CV					
10		*TRAVEL	%				
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 /	85/ 76	85 /	
12	COMPRESSIBILITY Z						
K=C _p /C _v =			DENSITY	950	kg/m ³	@ Ope.Cond.	
13	LINE	PIPE LINE SIZE	IN	2"/8.74			
14		& WALL THICKNESS(m)	OUT	4"/BD1/8.56			
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.		H /NF1			
16		* TYPE		ANGLE VALVE/QUENCH			
17		* SIZE	2"	ANSI CLASS	1500# / RF		
18		DESIGN PRESS.BARG /TEMP.° C		98 BARG / 140 ° C			
19		*MFR. & MODEL		DKV			
20		*BODY/BONNET MATL.		WN 1.5415			
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH		ANSI 1500 # RF			
25		END EXT/MATL.					
26		*FLOW DIRECTION		CLOSE			
27		*TYPE OF BONNET		STD			
28		LUBE & ISO VALVE		NO			
29		*PACKING MAT.		PTFE RINGS			
30	*PACKING TYPE						
31	RANGEABILITY:		50:1				
32	TRIM	*TYPE					
33		*SIZE		RATED TRAVEL			
34		CHARACTERISTIC		LOG			
35		*BALANCED/UNBALANCED					
36		SELECTED CV	1.0	FL	XT		
37		*PLUG/BALL/DISK MATERIAL		WN1.5415			
38		*SEAT MATERIAL		WN1.5415			
39		*CAGE/GUIDE MATERIAL					
40		*STEM MAT.		316Ti			
41		ARMOURED:		YES	MATERIAL:STELLITE		
42	PLUGSEALING:LAPPED IN,MATERIAL:316Ti						
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓		
44		MANUAL RESET:	YES	NO	✓		
45		TAG NO:					
46							
47		FUSIBLE LINKAGE	YES	NO	✓		
48		BLOCK RELAY	YES	NO	✓		
49		BOOSTER	YES	✓	NO		
50	CARTRIDGE	YES	NO	✓			
51	PROXIMITY SW.	YES	NO	✓			
52	VOLUME TANK	YES	NO	✓			

53	ACTUATORE	*TYPE		PNEUMATIC/DIAPHRAGM	
54		*MFR. & MODEL		3277	
55		* SIZE	390mm	EFF AREA	
56		ON/OFF	MODULATING		YES
57		SPRING ACTION OPEN /CLOSE		CLOSE	
58		*MAX ALLOWABLE PRESSURE			
59		*MIN ALLOWABLE PRESSURE			
60		AVAILABLE AIR SUPPLY PRESSURE:			
61		MAX.	6.0 BARG	MIN.	4 BARG
62		*BENCH RANGE		2.1-3.3	BARG
63	ACT ORIENTATION				
64	HANDWHEEL TYPE		NO		
65	AIR FAILURE VALVE		SET AT		
66	STROKE TIME:<5 SEC.,30mm				
67	INPUT SIGNAL		4-20MA,SMART/HART		
68	POSITIONER	*TYPE			
69		*MFR. & MODEL		3780-100	
70		*ON INCR SIGNAL OUTPUT INCR/DECR			
71		GAUGES	YES	IP65	BY-PASS
72	LIMIT SW.	*CAM CHARACTERISTIC			
73		TYPE		QUANTITY	
74		*MFR. & MODEL			
75		CONTACT/RATING			
76	ACTUATION POINTS				
77	TAG NO:				
78	AIR SET	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE			
79		*SET PRESSURE			
80		FILTER	YES	GAUGE	YES
81					
82	TEST	*HYDRO PRESURE			
83		ANSI/FCI LEAKAGE CLASS		V (IEC 534.4)	
84					
85					
86					

53	PID NO:		114	
54	LINE NO:		MBW-10-14-004	

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)STEAM CONNECTION:4" ANSI 600#

2)PROCESS FLUID DATA:P1=50 BAR(A)/P DESIGN=45.5 BARG/T1=395° C/T DESIGN=420° C/FLOW=50T/HR STEAM.

4)BOOSTER:8523-0084

5)PROCESS FLUID PIPE CLASS:BD1:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: FV-101433		PROJ. NO.: 1.69690-10-GEM		DOC. NO.: P-1182-DSH-IN-644		5	

1	FLUID: MP-BFW WATER/LIQUID			CRIT. PRESS (PC) 221 BAR (ABS)			
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	SERVICE CONDITIONS	FLOW RATE	T/HR	15.8	13.7	2.99	4500
3		INLET PRESSURE	BAR (ABS)	64	64	64	60
4		DP PRESSURE IN FLOW DIRECTION /AGAINST FLOW DIRECTION	BAR	15	15	15	98/54
5		INLET TEMPERATURE	° C	111	111	111	111
6		SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	18.016	18.016	18.016	
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.253	0.253	0.253	
8		VAPOR PRESSURE PV	BARA	1.5	1.5	1.5	
9		*REQUI CV					
10		*TRAVEL	%				
11		ALLOWABLE/ *PREDICTED SPL	dBa	85/	85 / 52	85 /	
12	COMPRESSIBILITY Z						
		K=C _p /C _v =		DENSITY 950 kg/m ³ @ Ope.Cond.			
13	LINE	PIPE LINE SIZE	IN	3" / 11.13			
14		& WALL THICKNESS(m)	OUT	4" / 13.49			
15		PIPE LINE INSULATION /SPEC.		H / NF1			
16	VALVE BODY/ BONNET	* TYPE		ANGLE VALVE/QUENCH			
17		* SIZE	2"	ANSI CLASS	1500# / RF		
18		DESIGN PRESS.BARG /TEMP.° C		98 BARG / 140 ° C			
19		*MFR. & MODEL		DKV			
20		*BODY/BONNET MATL.		WN 1.5415			
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH		ANSI 1500 # RF			
25		END EXT/MATL.					
26		*FLOW DIRECTION TENDS TO		CLOSE			
27		*TYPE OF BONNET		STD			
28		LUBE & ISO VALVE		NO			
29		*PACKING MAT.		PTFE RINGS			
30		*PACKING TYPE					
31	RANGEABILITY:		50:1				
32	TRIM	*TYPE					
33		*SIZE		RATED TRAVEL			
34		CHARACTERISTIC		LOG			
35		*BALANCED/UNBALANCED					
36		SELESTCTD CV	4.2	FL	XT		
37		*PLUG/BALL/DISK MATERIAL		WN 1.5415			
38		*SEAT MATERIAL		WN 1.5415			
39		*CAGE/GUIDE MATERIAL					
40	*STEM MAT.		316Ti				
41	ARMoured:		YES	MATERIAL:STELITE			
42	PLUGSEALING: lapped in, MATERIAL:		316Ti				
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	☒		
44		MANUAL RESET:	YES	NO	☒		
45		TAG NO:					
46							
47		FUSIBLE LINKAGE	YES	NO	☒		
48	BLOCK RELAY	YES	NO	☒			
49	BOOSTER	YES	☒	NO	☒		
50	CARTRIDGE	YES	NO	☒			
51	PROXIMITY SW.	YES	NO	☒			
52	VOLUME TANK	YES	NO	☒			

53	ACTUATORE	*TYPE		PNEUMATIC/DIAPHRAGM			
54		*MFR. & MODEL		3277			
55		* SIZE	390MM	EFF AREA			
56		ON/OFF		MODULATING		YES	
57		SPRING ACTION OPEN /CLOSE		close			
58		*MAX ALLOWABLE PRESSURE					
59		*MIN ALLOWABLE PRESSURE					
60		AVAILABLE AIR SUPPLY PRESSURE:					
61		MAX.	6.0 BARG	MIN.	4 BARG		
62		*BENCH RANGE	2.1-3.3	BARG			
63	ACT ORIENTATION						
64	HANDWHEEL TYPE		NO				
65	AIR FAILURE VALVE		SET AT				
66	STROKE TIME:<5 SEC.,30MM						
67	INPUT SIGNAL		4-20MA,SMART,HART				
68	POSITIONER	*TYPE		3780-100			
69		*MFR. & MODEL					
70		*ON INCR SIGNAL OUTPUT INCR/DECR					
71		GAUGES	YES	BY-PASS			
72	*CAM CHARACTERISTIC						
73	LIMIT SW.	TYPE		QUANTITY			
74		*MFR. & MODEL					
75		CONTACT/RATING					
76		ACTUATION POINTS					
77	TAG NO:						
78	AIR SET	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE					
79		*SET PRESSURE					
80		FILTER	YES	GAUGE	YES		
81							
82	TEST	*HYDRO PRESURE					
83		ANSI/FCI LEAKAGE CLASS		V (IEC 534.4)			
84							
85							
86							

53	PID NO:		114			
54	LINE NO:		MBW-10-14-003			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)PROCESS FLUID PIPE CLASS :BY VENDOR/PROCESS FLUID DATA.P1=45.5 BAR(A)/P DESIGN=54 BARG/T1=414° C/T DESIGN=370° C/FLOW=158T/H STEAM..

2)BOOSTER :8523-0084

3)STEAM CONNECTION:4",ANSI 900#

PETROCHEMICAL INDUSTRIES ESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5					
TAG NO: FV-101439											
1 FLUID: HP-STEAM SUPERHEATED/STEAM					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2 FLOW RATE					Kg / hr	115000	50000	30000			
3 INLET PRESSURE					BAR (ABS)	101	101	35			
4 DP. PRESSURE IN FLOW / AGAINST FLOW DIRECTION					BAR	54	54	3	115 /54		
5 INLET TEMPERATURE					° C	505	505	450			
6 SPEC. WT/SPEC.GRAVITY/MOL WT					KG/KMOL	18.016	18.016	18.016			
7 VISCOSITY/SPEC HEAT RATIO					mPas	0.029	0.029	0.029			
8 VAPOR PRESSURE PV					BARA						
9 *REQUI CV											
10 *TRAVEL					%						
11 ALLOWABLE/ *PREDICTED SPL					dBa	85/ 85	85/82	85/60			
12 COMPRESSIBILITY Z						0.93	0.93	0.93			
K=Cp/Cv, 1.24					DENSITY	kg/m³	@ Ope.Cond.	30.6/30.6/10.9	kg/m³		
LINE		PIPE LINE SIZE			IN	8" / 26					
VALVE BODY/ BONNET		& WALL THICKNESS(m)			OUT	8" / 26					
TRIM		PIPE LINE INSULATION /SPEC.			V/ ZF1						
SPECIAL ACCESSORIES		* TYPE			GLOBE VALVE						
ACTUATOR		* SIZE			6"	ANSI CLASS	1500# / RF				
POSITIONER		DESIGN PRESS.BARG /TEMP. ° C			115 / 515						
LIMIT SW.		*MFR. & MODEL			3251						
AIR SET		*BODY/BONNET MATL.			A217 / WC9						
TEST		*LINER MATERIAL/ID									
PID NO:		END			IN	FLANGED					
LINE NO:		CONNECTION			OUT	FLANGED					
156		FLG FACE FINISH			ANSI 1500 # RF						
HSS-15-06-004		END EXT/MATL.									
3780-100		*FLOW DIRECTION TENDS TO			OPEN						
3780-100		*TYPE OF BONNET			INSULATION SECTION						
ON INCR SIGNAL OUTPUT INCR/DECR		LUBE & ISO VALVE			NO						
YES		*PACKING MAT.			GRAPHITE						
BY-PASS		*PACKING TYPE									
YES		RANGEABILITY:			50:1						
GAUGES		*TYPE			GLOBE VALVE						
YES		*SIZE			RATED TRAVEL						
BY-PASS		CHARACTERISTIC			LINEAR						
YES		*BALANCED/UNBALANCED			BALANCED						
YES		SELECTED CV			265	FL	XT				
YES		*PLUG/BALL/DISK MATERIAL			440B						
YES		*SEAT MATERIAL			440B						
YES		*CAGE/GUIDE MATERIAL									
YES		*STEM MAT.			440B						
YES		ARMOURED:YES			TYPE OF ARMOUR:FULL						
YES		PLUG SEALING			METALLIC	MATERIAL:440B					
YES		SOLENOID VALVE:			YES	NO	☒				
YES		MANUAL RESET:			YES	NO	☒				
YES		TAG NO:									
YES		FUSIBLE LINKAGE			YES	NO	☒				
YES		BLOCK RELAY			YES	NO	☒				
YES		BOOSTER			YES	☒	NO				
YES		CARTRIDGE			YES	NO	☒				
YES		PROXIMITY SW.			YES	NO	☒				
YES		VOLUME TANK			YES	NO	☒				

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

1) VALVE IS CLOSED DURING NORMAL OPERATION. 2) Cv-value has effect on safety valve.

3) Q max=19000KG/H AT P1=35BAR,P2=32BAR

4)SEAT WITH DRAIN FOR Q=1-2 T/H 5)BOOSTER 8523-0084 6)3 PLATES SILENSER 6"/8"(FV101439S) 7)PRESSURE BALLANCED VALVE

8) NOISE REDUCTION FLOWDIVIDER I

SHEET 25 OF 103

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5			

TAG NO: LV-100411											
1 FLUID:PROCESS CONDENSATE/LIQUID					CRIT. PRESS (PC) 221 BAR (ABS)						
					UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	OTHER GASE	
2	SERVICE CONDITIONS	FLOW RATE			Kg/hr	33500	27958	5000		35000	
3		INLET PRESSURE			BAR (ABS)	32.5	33.7	23		32.5	
4		DP PRESSURE			BAR	2	3.2	3	39	2	
5		INLET TEMPERATURE			° C	180	167	140		180	
6		SPEC. WT/SPEC.GRAVITY/MOL WT				18.019	18.019	18.019			
7		VISCOSITY/SPEC HEAT RATIO			mPas		0.161(2)				
8		VAPOR PRESSURE PV			BARA		7.4 (2)				
9		*REQUI CV									
10		*TRAVEL			%						
11		ALLOWABLE/ *PREDICTED SPL			dBa	85/	85/ 52	85 / 38		85/51	
12	COMPRESSIBILITY Z										
K=C _p /C _v =					DENSITY	kg/m ³	@ NORMAL OPERATION				
						887/899/927/887	kg/m ³				
13	LINE	PIPE LINE SIZE		IN	4" / 6.02	53	ACTUATORE				
14		& WALL THICKNESS(m)		OUT	4" / 6.02	54					
15		PIPE LINE INSULATION /SPEC.			H/ ND2	55					
16	VALVE BODY/ BONNET	* TYPE		GLOBE VALVE		56	POSITIONER				
17		* SIZE		3"	ANSI CLASS	600#/RF					57
18		DESIGN PRESS.BARG /TEMP.° C 39 BARG / 200 ° C									58
19		*MFR. & MODEL		3251		59					
20		*BODY/BONNET MATL.		A351/CF8C		60					
21		*LINER MATERIAL/D				61					
22		END	IN	FLANGED		62					
23		CONNECTION	OUT	FLANGED		63					
24		FLG FACE FINISH ANSI 600 # RF									64
25		END EXT/MATL.									65
26		*FLOW DIRECTION TENDS TO OPEN									66
27		*TYPE OF BONNET STD									67
28		LUBE & ISO VALVE NO									68
29		*PACKING MAT. PTFE RINGS									69
30		*PACKING TYPE									70
31						71					
32	TRIM	*TYPE		PARABOLIC		72	LIMIT SW.				
33		*SIZE		RATED TRAVEL		73					
34		CHARACTERISTIC LOG									74
35		*BALANCED/UNBALANCED									75
36		SELECTED CV	70	FL	XT	76					
37		*PLUG/BALL/DISK MATERIAL		316Ti		77					
38		*SEAT MATERIAL		316Ti		78					
39		*CAGE/GUIDE MATERIAL				79					
40		*STEM MAT.		316Ti		80					
41		RANGEABILITY 50:1									81
42	PLUG SEALING		METALLIC	MATERIAL:316Ti		82	AIR SET				
43	SOLENOID VALVE:	YES	NO	☒		83					
44	MANUAL RESET:	YES	NO	☒		84					
45	TAG NO:					85					
46						86					
47	SPECIAL ACCESSORIES	FUSIBLE LINKAGE	YES	NO	☒		TEST				
48		BLOCK RELAY	YES	NO	☒						
49		BOOSTER	YES	NO	☒						
50		CARTRIDGE	YES	NO	☒						
51		PROXIMITY SW.	YES	NO	☒						
52		VOLUME TANK	YES	NO	☒						

PID NO: 104 LINE NO: PC-10-04-005	
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INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:
 1): CONTAINS CO2 AS CORROSIVE MATTER
 2): AT 167 ° C

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: LV-100416							
1	FLUID: PROCESS CONDENSATE/LIQUID			CRIT. PRESS (PC) 221		BAR (ABS)	
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	FLOW RATE	Kg/hr	112000	92612	40000		50000
3	INLET PRESSURE	BAR (ABS)	55	56	60		60
4	DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION	BAR	5	7	11.5	84/41	49
5	INLET TEMPERATURE	° C	240	240	240		240
6	SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	18.016	18.016	18.016		18.016
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.11	0.11	0.11		
8	VAPOR PRESSURE PV	BARA	33.5	33.5	33.5		
9	*REQUI CV						
10	*TRAVEL	%					
11	ALLOWABLE/ *PREDICTED SPL	dBA	85 / 72	85 / 80	85 / 78		
12	COMPRESSIBILITY Z						
	K=C _p /C _v =		DENSITY 811 kg/m ³		@ Ope.Cond.		
13	PIPE LINE SIZE		IN 6" / 7.11		53		
14	& WALL THICKNESS(m)		OUT 6" / 7.11		54		
15	PIPE LINE INSULATION /SPEC.		H / NE1		55		
16	* TYPE GLOBE VALVE				56		
17	* SIZE 6" ANSI CLASS 900#/RF				57		
18	DESIGN PRESS.BARG /TEMP.° C 69 BARG / 270 ° C				58		
19	*MFR. & MODEL 3251				59		
20	*BODY/BONNET MATL. A351/CF8C				60		
21	*LINER MATERIAL/ID				61		
22	END	IN	FLANGED		62		
23	CONNECTION	OUT	FLANGED		63		
24	FLG FACE FINISH ANSI 900 # RF				64		
25	END EXT/MATL.				65		
26	*FLOW DIRECTION TENDS TO: OPEN				66		
27	*TYPE OF BONNET STD				67		
28	LUBE & ISO VALVE NO				68		
29	*PACKING MAT. GRAPHITE				69		
30	*PACKING TYPE				70		
31	RANGEABILITY 50:1				71		
32	*TYPE PARABOLIC				72		
33	*SIZE RATED TRAVEL				73		
34	CHARACTERISTIC LOG				74		
35	*BALANCED/UNBALANCED BALANCED				75		
36	SELECTED CV	120	FL	XT	76		
37	*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)				77		
38	*SEAT MATERIAL 316Ti (STELLITED)				78		
39	*CAGE/GUIDE MATERIAL				79		
40	*STEM MAT. 316Ti				80		
41	ARMoured: YES MATERIAL:STELLITE				81		
42	PLUG SEALING:METALLIC MATERIAL:316Ti				82		
43	SOLENOID VALVE:	YES	NO	✓	83		
44	MANUAL RESET:	YES	NO	✓	84		
45	TAG NO:				85		
46					86		
47	FUSIBLE LINKAGE	YES	NO	✓	PID NO: 104		
48	BLOCK RELAY	YES	NO	✓	LINE NO: PCH-10-14-001		
49	BOOSTER	YES	✓	NO			
50	CARTRIDGE	YES	NO	✓			
51	PROXIMITY SW.	YES	NO	✓			
52	VOLUME TANK	YES	NO	✓			

ACTUATOR

*TYPE PNEUMATIC/DIAPHRAGM

*MFR. & MODEL 3271

* SIZE 530mm EFF AREA

ON/OFF MODULATING YES

SPRING ACTION OPEN /CLOSE CLOSE

*MAX ALLOWABLE PRESSURE

*MIN ALLOWABLE PRESSURE

AVAILABLE AIR SUPPLY PRESSURE:

MAX. 6.0 BARG MIN. 4 BARG

*BENCH RANGE 1.2-2 barg

ACT ORIENTATION

HANDWHEEL TYPE NO

AIR FAILURE VALVE SET AT

STROKE TIME:<10 SEC.,30mm

INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)

POSITIONER

*TYPE

*MFR. & MODEL 3780-100

*ON INCR SIGNAL OUTPUT INCR/DECR

GAUGES YES BY-PASS

*CAM CHARACTERISTIC

LIMIT SW.

TYPE QUANTITY

*MFR. & MODEL

CONTACT/RATING

ACTION POINTS

TAG NO:

*MFR. & MODEL NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE

*SET PRESSURE

FILTER YES GAUGE YES

AIR SET

*HYDRO PRESURE

ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)

TEST

TRIM

*TYPE PARABOLIC

*SIZE RATED TRAVEL

CHARACTERISTIC LOG

*BALANCED/UNBALANCED BALANCED

SELECTED CV 120 FL XT

*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)

*SEAT MATERIAL 316Ti (STELLITED)

*CAGE/GUIDE MATERIAL

*STEM MAT. 316Ti

ARMoured: YES MATERIAL:STELLITE

PLUG SEALING:METALLIC MATERIAL:316Ti

SPECIAL ACCESSORIES

FUSIBLE LINKAGE YES NO ✓

BLOCK RELAY YES NO ✓

BOOSTER YES ✓ NO

CARTRIDGE YES NO ✓

PROXIMITY SW. YES NO ✓

VOLUME TANK YES NO ✓

NOTE:

1) LIQUID CONTAINS DISSOLVED GASES FROM SOURCE AT SATURATION (30 BAR,150 ° C)AND ALSO CO2

2) GRAPHITE PRESSURE BALANCING RING.

3) BOOSTER : 8523-0084

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
PROJ. NO. : 1182		PROJ NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5		
TAG NO: LV-101602								
1 FLUID: DEMIN. WATER/LIQUID				CRIT. PRESS (PC)		BAR (ABS)		
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	
				SHUT OFF	START UP			
SERVICE CONDITIONS				2 FLOW RATE	Kg/hr	10000	5000	
				3 INLET PRESSURE	BAR (ABS)	4.0	4.0	4.0
				4 DP PRESSURE	BAR	1.0	1.0	1.0
				5 INLET TEMPERATURE	° C	35	35	35
				6 SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	18.02	18.02	18.02
				7 VISCOSITY/SPEC HEAT RATIO	mPas	0.724	0.724	0.724
				8 VAPOR PRESSURE PV	BARA	0.056	0.056	0.056
				9 *REQUI CV				
				10 *TRAVEL	%			
				11 ALLOWABLE/ *PREDICTED SPL	dBA	85/ <30	85/ <30	85/ <30
12 COMPRESSIBILITY Z								
K=Cp/Cv= DENSITY 994 kg/m³ @ Ope.Cond.								
LINE		13 PIPE LINE SIZE	IN	2" / 5.54				
		14 & WALL THICKNESS(m)	OUT	2" / 5.54				
		15 PIPE LINE INSULATION /SPEC.		/ NA1				
VALVE BODY/ BONNET		16 * TYPE	GLOBE VALVE					
		17 * SIZE	2"	ANSI CLASS	300# / RF			
		18 DESIGN PRESS.BARG /TEMP.° C	12/65					
		19 *MFR. & MODEL	3241					
		20 *BODY/BONNET MATL.	A351/CF8C					
		21 *LINER MATERIAL/ID						
		22 END	IN	FLANGED				
		23 CONNECTION	OUT	FLANGED				
		24 FLG FACE FINISH	ANSI300 # RF					
		25 END EXT/MATL.						
		26 *FLOW DIRECTION TENDS TO	OPEN					
		27 *TYPE OF BONNET	STD					
		28 LUBE & ISO VALVE	NO					
		29 *PACKING MAT.	PTFE RINGS					
		30 *PACKING TYPE						
TRIM		31						
		32 *TYPE	PARABOLIC					
		33 *SIZE	RATED TRAVEL					
		34 CHARACTERISTIC	LOG					
		35 *BALANCED/UNBALANCED						
		36 SELECEDCV	20	FL	XT			
		37 *PLUG/BALL/DISK MATERIAL	316Ti					
		38 *SEAT MATERIAL	316Ti					
		39 *CAGE/GUIDE MATERIAL						
		40 *STEM MAT.	316Ti					
SPECIAL ACCESSORIES		41 PLUG SEALING	METALLIC	MATERIAL:316Ti				
		42 RANGEABILITY:	50:1					
		43 SOLENOID VALVE:	YES	NO	☒			
		44 MANUAL RESET:	YES	NO	☒			
		45 TAG NO:						
		46						
		47 FUSIBLE LINKAGE	YES	NO	☒			
		48 BLOCK RELAY	YES	NO	☒			
		49 BOOSTER	YES	NO	☒			
		50 CARTRIDGE	YES	NO	☒			
51 PROXIMITY SW.	YES	NO	☒					
52 VOLUME TANK	YES	NO	☒					
				PID NO: 116				
				LINE NO: DMW-10-16-001				

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	
TAG NO: LV-101308							
1 FLUID:PROCESS CONDENASTE/LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Kg / hr	12000	3390	1500
3 INLET PRESSURE				BAR (ABS)	32	32	21
4 DP PRESSURE				BAR	29	29	19
5 INLET TEMPERATURE				° C	40	40	40
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.035	18.035	18.035
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.65	0.65	0.65
8 VAPOR PRESSURE PV				BARA	0.074	0.074	0.074
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 78	85 / 73	85 / 65
12 COMPRESSIBILITY Z							
K=C_p/C_v= DENSITY 992 kg/m³ @ Ope Cond.							
13 PIPE LINE SIZE IN 2" / 5.54				53 *TYPE PNEUMATIC / DIAPHRAGM			
14 & WALL THICKNESS(m) OUT 2" / 5.54				54 *MFR. & MODEL 3277			
15 PIPE LINE INSULATION /SPEC. P / NB1				55 * SIZE 280MM EFF AREA			
16 * TYPE GLOBE VALVE				56 ON/OFF MODULATING YES			
17 * SIZE 2" ANSI CLASS 300# / RF				57 SPRING ACTION OPEN /CLOSE CLOSE			
18 DESIGN PRESS.BARG /TEMP.° C 39 BARG / 100 ° C				58 *MAX ALLOWABLE PRESSURE			
19 *MFR. & MODEL 3241				59 *MIN ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A351/CF8C				60 AVAILABLE AIR SUPPLY PRESSURE:			
21 *LINER MATERIAL/ID				61 MAX. 6.0 BARG MIN. 4 BARG			
22 END IN FLANGED				62 *BENCH RANGE 0.2~1 BARG			
23 CONNECTION OUT FLANGED				63 ACT ORIENTATION			
24 FLG FACE FINISH ANSI 300 # RF				64 HANDWHEEL TYPE NO			
25 END EXT/MATL.				65 AIR FAILURE VALVE SET AT			
26 *FLOW DIRECTION TENDS TO OPEN				66 STROKE TIME:<10 SEC.,15MM			
27 *TYPE OF BONNET STD				67 INPUT SIGNAL H1 FOUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO				68 *TYPE			
29 *PACKING MAT. PTFE RINGS				69 *MFR. & MODEL 3787-100			
30 *PACKING TYPE				70 *ON INCR SIGNAL OUTPUT INCR/DECR			
31 PLUG SEALING METALLIC MATERIAL:440B				71 GAUGES YES BY-PASS			
32 *TYPE PARABOLIC				72 *CAM CHARACTERISTIC			
33 *SIZE RATED TRAVEL				73			
34 CHARACTERISTIC LOG				74 TYPE QUANTITY			
35 *BALANCED/UNBALANCED				75 *MFR. & MODEL			
36 SELECTED CV 5 FL XT				76 CONTACT/RATING			
37 *PLUG/BALL/DISK MATERIAL 440B				77 ACTUATION POINTS			
38 *SEAT MATERIAL 440B				78 TAG NO:			
39 *CAGE/GUIDE MATERIAL				79 *MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE			
40 *STEM MAT. 440B				80 *SET PRESSURE			
41 PLUG SEALING METALLIC MATERIAL:440B				81 FILTER YES GAUGE YES			
42 RANGEABILITY:50:1				82			
43 SOLENOID VALVE: YES NO ✓				83 *HYDRO PRESURE			
44 MANUAL RESET: YES NO ✓				84 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)			
45 TAG NO:				85			
46				86			
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 113			
48 BLOCK RELAY YES NO ✓				LINE NO: PC-10-13-003			
49 BOOSTER YES NO ✓							
50 CARTRIDGE YES NO ✓							
51 PROXIMITY SW. YES NO ✓							
52 VOLUME TANK YES NO ✓							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)LIQUID CONTAINS DISSOLVED GASES

2)CORROSIVE/EROSIVE MATTERS:CO2.

SHEET 30 OF 103

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	

TAG NO: LV-101512A							
1 FLUID:MP-BF WATER/LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
							SHUT OFF
							START UP
2	SERVICE CONDITIONS	FLOW RATE		Kg/hr	10000	5000	2000
3		INLET PRESSURE		BAR (ABS)	60	60	60
4		DP PRESSURE		BAR	30	30	55
5		INLET TEMPERATURE		° C	111	111	111
6		SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL	18.02	18.02	18.02
7		VISCOSITY/SPEC HEAT RATIO		mPas	0.253	0.253	0.253
8		VAPOR PRESSURE PV		BARA	1.5	1.5	1.5
9		*REQUI CV					
10		*TRAVEL		%			
11		ALLOWABLE/ *PREDICTED SPL		dBA	85/58	85/ 54	85 / 75
12	COMPRESSIBILITY Z						
K=C _p /C _v =				DENSITY	950	kg/m ³	@ Ope.Cond.
13	LINE	PIPE LINE SIZE		IN	2"/5.54		
14		& WALL THICKNESS(m)		OUT	2"/5.54		
15		PIPE LINE INSULATION /SPEC.		H / BE1			
16	VALVE BODY/ BONNET	* TYPE		GLOBE VALVE			
17		* SIZE	2"	ANSI CLASS	900#/RF		
18		DESIGN PRESS.BARG /TEMP.° C		98 BARG / 140 ° C			
19		*MFR. & MODEL:		3251M			
20		*BODY/BONNET MATL.		A216 / WCB			
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH		ANSI 900# RF			
25		END EXT/MATL.					
26		*FLOW DIRECTION TENDS TO		OPEN			
27		*TYPE OF BONNET		STD			
28		LUBE & ISO VALVE		NO			
29		*PACKING MAT.		PTFE RINGS			
30		*PACKING TYPE					
31	RANGEABILITY :		50:1				
32	TRIM	*TYPE		PARABOLIC			
33		*SIZE		RATED TRAVEL			
34		CHARACTERISTIC		LOG			
35		*BALANCED/UNBALANCED					
36		SELECTED CV	5	FL	XT		
37		*PLUG/BALL/DISK MATERIAL		440B			
38		*SEAT MATERIAL		440B			
39		*CAGE/GUIDE MATERIAL					
40		*STEM MAT.		440B			
41		PLUG SEALING		METALLIC	MATERIAL:440B		
42							
43	SPECIAL ACCESSORIES	SOLENOID VALVE:		YES		NO	☒
44		MANUAL RESET:		YES		NO	☒
45		TAG NO:					
46							
47		FUSIBLE LINKAGE		YES		NO	☒
48		BLOCK RELAY		YES		NO	☒
49	BOOSTER		YES		NO	☒	
50	CARTRIDGE		YES		NO	☒	
51	PROXIMITY SW.		YES		NO	☒	
52	VOLUME TANK		YES		NO	☒	

53 *TYPE		PNEUMATIC / DIAPHRAGM	
54 *MFR. & MODEL		3277	
55 * SIZE		390MM	EFF AREA
56 ON/OFF		MODULATING YES	
57 SPRING ACTION OPEN /CLOSE		CLOSE	
58 *MAX ALLOWABLE PRESSURE			
59 *MIN ALLOWABLE PRESSURE			
60 AVAILABLE AIR SUPPLY PRESSURE:			
61 MAX.		6.0 BARG	MIN. 4 BARG
62 *BENCH RANGE		1.6-2.4	BARG
63 ACT ORIENTATION			
64 HANDWHEEL TYPE		NO	
65 AIR FAILURE VALVE		SET AT	
66 STROKE TIME:<5 SEC.,15 MM			
67 INPUT SIGNAL		H1 FOUNDATION FIELD BUS	
68 *TYPE			
69 *MFR. & MODEL		3787-100	
70 *ON INCR SIGNAL OUTPUT INCR/DECR			
71 GAUGES		YES	BY-PASS
72 *CAM CHARACTERISTIC			
73			
74 TYPE		QUANTITY	
75 *MFR. & MODEL			
76 CONTACT/RATING			
77 ACTUATION POINTS			
78 TAG NO:			
79 *MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE			
80 *SET PRESSURE			
81 FILTER		YES	GAUGE YES
82			
83 *HYDRO PRESURE			
84 ANSI/FCI LEAKAGE CLASS		IV (IEC 534.4)	
85			
86			

PID NO: 115	
LINE NO: MBW-10-15-007	

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) MECHANICAL STOP(MAX HUB=16.5MM)
2)3 STEPS MULTISTAGE VALVE AC-3

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	
TAG NO: LV-101512B							
1 FLUID:PROCESS CONDENSATE/LIQUID.				CRIT. PRESS (PC) 221 BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	OTHER CASE		
2 FLOW RATE				Kg/hr	60000	43404	12000
3 INLET PRESSURE				BAR (ABS)	30	30	20
4 DP PRESSURE				BAR	27	27	17
5 INLET TEMPERATURE				° C	151	151	151
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	18.02	18.02	18.02
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.18	0.18	0.18
8 VAPOR PRESSURE PV				BARA	5.1	5.1	5.1
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85 / 81	85 / 79	85 / 68
12 COMPRESSIBILITY Z							
K=Cp/Cv= DENSITY kg/m³ @ Ope.Cond. 914/914/914/958 kg/m³							
13 LINE		PIPE LINE SIZE IN 4" / 6.02		53 *TYPE PNEUMATIC / DIAPHRAGM			
14 & WALL THICKNESS(m) OUT 4" / 6.02				54 *MFR. & MODEL 3277			
15 PIPE LINE INSULATION /SPEC. P / ND2				55 * SIZE 390MM EFF AREA			
16 * TYPE GLOBE VALVE				56 ON/OFF MODULATING YES			
17 * SIZE 4" ANSI CLASS 600#/RF				57 SPRING ACTION OPEN /CLOSE CLOSE			
18 DESIGN PRESS.BARG /TEMP.° C 39 BARG / 200 ° C				58 *MAX ALLOWABLE PRESSURE			
19 *MFR. & MODEL 3251				59 *MIN ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A351 /CF8C				60 AVAILABLE AIR SUPPLY PRESSURE:			
21 *LINER MATERIAL/ID				61 MAX. 6.0 BARG MIN. 4 BARG			
22 END IN FLANGED				62 *BENCH RANGE 1.6-2.4 BARG			
23 CONNECTION OUT FLANGED				63 ACT ORIENTATION			
24 FLG FACE FINISH ANSI 600 # RF				64 HANDWHEEL TYPE NO			
25 END EXT/MATL.				65 AIR FAILURE VALVE SET AT			
26 *FLOW DIRECTION TENDS TO OPEN				66 STROKE TIME:<10 SEC.,15MM			
27 *TYPE OF BONNET STD				67 INPUT SIGNAL H1 FOUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO				68 *TYPE			
29 *PACKING MAT. PTFE				69 *MFR. & MODEL 3787-100			
30 *PACKING TYPE				70 *ON INCR SIGNAL OUTPUT INCR/DECR			
31 PLUG SEALING METALLIC MATERIAL:440B				71 GAUGES YES BY-PASS			
32 *TYPE PARABOLIC				72 *CAM CHARACTERISTIC			
33 *SIZE RATED TRAVEL				73			
34 CHARACTERISTIC LOG				74 TYPE QUANTITY			
35 *BALANCED/UNBALANCED				75 *MFR. & MODEL			
36 SELECTED CV 30 FL XT				76 CONTACT/RATING			
37 *PLUG/BALL/DISK MATERIAL 440B				77 ACTUATION POINTS			
38 *SEAT MATERIAL 440B				78 TAG NO:			
39 *CAGE/GUIDE MATERIAL				79 *MFR. & MODEL.NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE			
40 *STEM MAT. 440B				80 *SET PRESSURE			
41 ARMoured: NO				81 FILTER YES GAUGE YES			
42 RANGEABILITY :50:1				82			
43 SOLENOID VALVE: YES NO ✓				83 *HYDRO PRESURE			
44 MANUAL RESET: YES NO ✓				84 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)			
45 TAG NO:				85			
46				86			
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 115			
48 BLOCK RELAY YES NO ✓				LINE NO: PC-10-15-010			
49 BOOSTER YES NO ✓							
50 CARTRIDGE YES NO ✓							
51 PROXIMITY SW. YES NO ✓							
52 VOLUME TANK YES NO ✓							

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1).LIQUID CONTAINS DISSOLVED GASES.

2).CORROSIVE/EROSIVE MATTERS.CO2.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: PV-100201									
1 FLUID:H2 (START-UP)/GAS				CRIT. PRESS (PC) BAR (ABS)					
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	SERVICE CONDITIONS	FLOW RATE		Sm3/hr	6000	5275	2000		
3		INLET PRESSURE		BAR (ABS)	5.8	5.8	5.8		
4		DP PRESSURE		BAR	3.8	2.3	4.6	54	
5		INLET TEMPERATURE		° C	92	92	50		
6		SPEC. WT/SPEC.GRAVITY/MOL WT			2.01	2.01	2.01		
7		VISCOSITY/SPEC HEAT RATIO		mPas		0.011(1)			
8		VAPOR PRESSURE PV		BARA					
9		*REQUI CV							
10		*TRAVEL		%					
11		ALLOWABLE/ *PREDICTED SPL		dBA	85/ 72	85/ 68	85/ 65		
12	COMPRESSIBILITY Z			1.003	1.003	1.003			
K=Cp/Cv, 1.4 DENSITY 0.084 kg/Sm³ @ Ope.Cond.									
13	LINE	PIPE LINE SIZE		IN	4" / 8.56				
14		& WALL THICKNESS(m		OUT	4" / 8.56				
15		PIPE LINE INSULATION /SPEC.		P / DE1					
16	VALVE BODY/ BONNET	* TYPE		GLOBE VALVE					
17		* SIZE		3"	ANSI CLASS	900#/RF			
18		DESIGN PRESS.BARG /TEMP.° C		54 / 150					
19		*MFR. & MODEL		3251					
20		*BODY/BONNET MATL.		A 217 WC6					
21		*LINER MATERIAL/ID							
22		END	IN	FLANGED					
23		CONNECTION	OUT	FLANGED					
24		FLG FACE FINISH		ANSI 900 # RF					
25		END EXT/MATL.							
26		*FLOW DIRECTION TENDS TO		OPEN					
27		*TYPE OF BONNET		BELLOWS SWCTION					
28		LUBE & ISO VALVE		NO					
29		*PACKING MAT.		PTFE RINGS					
30		*PACKING TYPE							
31	BELLOW MATERIAL		METALLIC						
32	TRIM	*TYPE		PARABOLIC					
33		*SIZE		RATED TRAVEL					
34		CHARACTERISTIC		LOG					
35		*BALANCED/UNBALANCED							
36		SELECTED CV	42	FL	XT				
37		*PLUG/BALL/DISK MATERIAL		316Ti					
38		*SEAT MATERIAL		316Ti					
39	*CAGE/GUIDE MATERIAL								
40	*STEM MAT.		316Ti						
41	RANGEABILITY		50:1						
42	PLUG SEALING		LAPPED IN	MATERIAL:316Ti					
43	SPECIAL ACCESSORIES	SOLENOID VALVE:		YES	NO	✓			
44		MANUAL RESET:		YES	NO	✓			
45		TAG NO:							
46									
47		FUSIBLE LINKAGE	YES	NO	✓				
48		BLOCK RELAY	YES	NO	✓				
49		BOOSTER	YES	NO	✓				
50	CARTRIDGE	YES	NO	✓					
51	PROXIMITY SW.	YES	NO	✓					
52	VOLUME TANK	YES	NO	✓					

ACTUATOR	
*TYPE	PNEUMATIC / DIAPHRAGM
*MFR. & MODEL	3277
* SIZE	390MM EFF AREA
ON/OFF	MODULATING YES
SPRING ACTION OPEN /CLOSE	CLOSE
*MAX ALLOWABLE PRESSURE	
*MIN ALLOWABLE PRESSURE	
AVAILABLE AIR SUPPLY PRESSURE:	
MAX.	6.0 BARG MIN. 4 BARG
*BENCH RANGE	2.1-3.3 BARG
ACT ORIENTATION	
HANDWHEEL TYPE	NO
AIR FAILURE VALVE	SET AT
STROKE TIME:<10 SEC.,30MM	
INPUT SIGNAL H1 FOUNDATION FIELD BUS	
POSITIONER	
*TYPE	
*MFR. & MODEL	3787-100
*ON INCR SIGNAL OUTPUT INCR/DECR	
GAUGES	YES BY-PASS
*CAM CHARACTERISTIC	
LIMIT SW.	
TYPE	QUANTITY
*MFR. & MODEL	
CONTACT/RATING	
ACTUATION POINTS	
TAG NO:	
*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE	
*SET PRESSURE	
FILTER	YES GAUGE YES
AIR SET	
*HYDRO PRESURE	
ANSI/FCI LEAKAGE CLASS V (IEC 534.4)	
TEST	
PID NO: 102	
LINE NO: HG-10-02-006	

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:1)AT 92° C.
 2)NOISE REDUCTION: ST1=FLOWDIVIDER I

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5					
TAG NO: PV-100513											
1 FLUID: NATURAL GAS FUEL/GAS					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2 FLOW RATE					Sm ³ /hr		3000	2000	1000		
3 INLET PRESSURE					BAR (ABS)		1.2	1.2	1.1		
4 DP PRESSURE					BAR		0.2	0.2	0.1	8	
5 INLET TEMPERATURE					° C		40	40	40		
6 SPEC. WT/SPEC.GRAVITY/MOL WT					KG/KMOL		16.827	16.827	16.827		
7 VISCOSITY/SPEC HEAT RATIO					mPas		0.011	0.011	0.011		
8 VAPOR PRESSURE PV					BARA						
9 *REQUI CV											
10 *TRAVEL					%						
11 ALLOWABLE/ *PREDICTED SPL					dBA		85 / 68	85 / 66	85 / 55		
12 COMPRESSIBILITY Z							0.995	0.995	0.995		
K=C_p/C_v 1.3 DENSITY 0.71 kg/Sm³ @ Ope.Cond.											
13 PIPE LINE SIZE IN 6" / 7.11					53		*TYPE PNEUMATIC/ DIAPHRAGM				
14 & WALL THICKNESS(m) OUT 4" / 6.02					54		*MFR. & MODEL 3277				
15 PIPE LINE INSULATION /SPEC. / AA2					55		* SIZE 390MM EFF AREA				
16 * TYPE GLOBE VALVE					56		ON/OFF MODULATING YES				
17 * SIZE 4" ANSI CLASS 300# / RF					57		SPRING ACTION OPEN /CLOSE CLOSE				
18 DESIGN PRESS.BARG /TEMP.° C 8 / 100					58		*MAX ALLOWABLE PRESSURE				
19 *MFR. & MODEL 3241					59		*MIN ALLOWABLE PRESSURE				
20 *BODY/BONNET MATL. A216 / WCB					60		AVAILABLE AIR SUPPLY PRESSURE:				
21 *LINER MATERIAL/ID					61		MAX. 6.0 BARG MIN. 4 BARG				
22 END IN FLANGED					62		*BENCH RANGE 2.1-3.3 BARG				
23 CONNECTION OUT FLANGED					63		ACT ORIENTATION				
24 FLG FACE FINISH ANSI 300 # RF					64		HANDWHEEL TYPE NO				
25 END EXT/MATL.					65		AIR FAILURE VALVE SET AT				
26 *FLOW DIRECTION OPEN					66		STROKE TIME:<20 SEC.,30MM				
27 *TYPE OF BONNET STD					67		INPUT SIGNAL H1 FUNDATION FIELD BUS				
28 LUBE & ISO VALVE NO					68		*TYPE				
29 *PACKING MAT. PTFE RINGS					69		*MFR. & MODEL 3787-100				
30 *PACKING TYPE					70		*ON INCR SIGNAL OUTPUT INCR/DECR				
					71		GAUGES YES BY-PASS				
					72		*CAM CHARACTERISTIC				
32 *TYPE PARABOLIC					73						
33 *SIZE RATED TRAVEL					74		TYPE QUANTITY				
34 CHARACTERISTIC LOG					75		*MFR. & MODEL				
35 *BALANCED/UNBALANCED					76		CONTACT/RATING				
36 SELECTED CV 190 FL XT					77		ACTUATION POINTS				
37 *PLUG/BALL/DISK MATERIAL 316Ti					78		TAG NO:				
38 *SEAT MATERIAL 316Ti					79		*MFR. & MODEL NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE				
39 *CAGE/GUIDE MATERIAL					80		*SET PRESSURE				
40 *STEM MAT. 316Ti					81		FILTER YES GAUGE YES				
41 RANGEABILITY 50:1					82						
42 PLUG SEALING LAPPED IN MATERIAL:316Ti					83		*HYDRO PRESURE				
43 SOLENOID VALVE: YES NO ✓					84		ANSI/FCI LEAKAGE CLASS V (IEC 534.4)				
44 MANUAL RESET: YES NO ✓					85						
45 TAG NO:					86						
46											
47 FUSIBLE LINKAGE YES NO ✓							PID NO: 105				
48 BLOCK RELAY YES NO ✓							LINE NO: FG-10-05-018				
49 BOOSTER YES NO ✓											
50 CARTRIDGE YES NO ✓											
51 PROXIMITY SW. YES NO ✓											
52 VOLUME TANK YES NO ✓											
* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.											
NOTE:..											

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: PV-100529A			
1	FLUID:NATURAL GAS FUEL/GAS	CRIT. PRESS (PC)	BAR (ABS)
		UNITS	MAX. FLOW NORM FLOW MIN.FLOW 1) SHUT OFF START UP
2	FLOW RATE	Sm3/hr	26000 8636 500
3	INLET PRESSURE	BAR (ABS)	55 55 55
4	DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION	BAR	49 49 49 74 /8
5	INLET TEMPERATURE	° C	40 40 40
6	SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	16.827 16.827 16.827
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.011 0.011 0.011
8	VAPOR PRESSURE PV	BARA	
9	*REQUI CV		
10	*TRAVEL	%	
11	ALLOWABLE / *PREDICTED SPL	dBA	85 / 127 85 / 78 85 / 60
12	COMPRESSIBILITY Z		0.9299 0.9299 0.9299
	K=Cp/Cv 1.248 DENSITY 0.71 kg/Sm ³ @ Ope.Cond.		
13	LINE	*TYPE PNEUMATIC/DIAPHRAGM	
14	PIPE LINE SIZE IN 3" / 7.62	53	*MFR. & MODEL 3271
15	& WALL THICKNESS(m) OUT 6" / 10.97	54	* SIZE 530mm EFF AREA
16	PIPE LINE INSULATION /SPEC. H / BD1	55	ON/OFF MODULATING YES
17	* TYPE GLOBE	56	SPRING ACTION OPEN /CLOSE CLOSE
18	* SIZE 3" ANSI CLASS 600# / RF	57	*MAX ALLOWABLE PRESSURE
19	DESIGN PRESS.BARG /TEMP.° C 74 / 75	58	*MIN ALLOWABLE PRESSURE
20	*MFR. & MODEL 3251	59	AVAILABLE AIR SUPPLY PRESSURE:
21	*BODY/BONNET MATL. A216 / WCB	60	MAX. 6.0 BARG MIN. 4 BARG
22	*LINER MATERIAL/ID	61	*BENCH RANGE 1.6-2.4 barg
23	END IN FLANGED	62	ACT ORIENTATION
24	CONNECTION OUT FLANGED	63	HANDWHEEL TYPE NO
25	FLG FACE FINISH ANSI 600 # RF	64	AIR FAILURE VALVE SET AT
26	END EXT/MATL.	65	STROKE TIME:<10 SEC.,30mm
27	*FLOW DIRECTION TENDS TO OPEN	66	INPUT SIGNAL 4-20 MA SMART,HART
28	*TYPE OF BONNET STD	67	*TYPE
29	LUBE & ISO VALVE NO	68	*MFR. & MODEL 3780-100
30	*PACKING MAT. PTFE	69	*ON INCR SIGNAL OUTPUT INCR/DECR
31	*PACKING TYPE	70	GAUGES YES BY-PASS
32	RANGEABILITY 50:1	71	*CAM CHARACTERISTIC
33	*TYPE PARABOLIC	72	
34	*SIZE RATED TRAVEL	73	TYPE QUANTITY
35	CHARACTERISTIC LOG	74	*MFR. & MODEL
36	*BALANCED/UNBALANCED	75	CONTACT/RATING
37	SELECTED CV 35 FL XT	76	ACTUATION POINTS
38	*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)	77	TAG NO:
39	*SEAT MATERIAL 316Ti (STELLITED)	78	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE
40	*CAGE/GUIDE MATERIAL	79	*SET PRESSURE
41	*STEM MAT. 316Ti	80	FILTER YES GAUGE YES
42	ARMoured: YES MATERIAL:STELLITE	81	
43	PLUG SEALING lapped in MATERIAL:316Ti	82	
44	SOLENOID VALVE: YES NO ✓	83	*HYDRO PRESURE
45	MANUAL RESET: YES NO ✓	84	ANSI/FCI LEAKAGE CLASS V (IEC 534.4)
46	TAG NO:	85	
47	FUSIBLE LINKAGE YES NO ✓	86	
48	BLOCK RELAY YES NO ✓		PID NO: 105
49	BOOSTER YES ✓ NO		LINE NO: NG-10-01-004
50	CARTRIDGE YES NO ✓		
51	PROXIMITY SW. YES NO ✓		
52	VOLUME TANK YES NO ✓		

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:1)START UP CONDITION WITH A PART STREAM TO FLARE.

2)CV-VALUE HAS EFFECT ON SAFETY VALVE.

3)NOISE REDUCTION : FLOWDIVIDER III

4)TWO PLATE SILENCER 3"/6" (PV100529U)

5)BOOSTER TYPE: 8523-0084

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.			2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM	DOC. NO. :P-1182-DSH-IN-644	5		
TAG NO: PV-100529B						
1 FLUID:NATURAL GAS FUEL/GAS			CRIT. PRESS (PC)		BAR (ABS)	
			UNITS	MAX. FLOW	NORM FLOW	MIN.FLOW (1)
			SHUT OFF	START UP		
2 FLOW RATE			Sm3/hr	26000	8636	500
3 INLET PRESSURE			BAR (ABS)	55	55	55
4 DP PRESSURE			BAR	49	49	49
5 INLET TEMPERATURE			° C	40	40	40
6 SPEC. WT/SPEC.GRAVITY/MOL WT			KG/KMOL	16.827	16.827	16.827
7 VISCOSITY/SPEC HEAT RATIO			mPas	0.011	0.011	0.011
8 VAPOR PRESSURE PV			BARA			
9 *REQUI CV						
10 *TRAVEL			%			
11 ALLOWABLE/ *PREDICTED SPL			dBA	85/ 127	85 / 78	85 / 60
12 COMPRESSIBILITY Z				0.9299	0.9299	0.9299
K=Cp/Cv 1.248 DENSITY 0.71 kg/Sm ³ @ Ope.Cond.						
13 PIPE LINE SIZE			IN 3" / 7.62	*TYPE PNEUMATIC/DIAPHRAGM		
14 & WALL THICKNESS(m)			OUT 6" / 10.97	*MFR. & MODEL 3271		
15 PIPE LINE INSULATION /SPEC.			H / BD1	* SIZE 530mm EFF AREA		
16 * TYPE GLOBE				ON/OFF MODULATING YES		
17 * SIZE 3" ANSI CLASS 600# / RF				SPRING ACTION OPEN /CLOSE CLOSE		
18 DESIGN PRESS.BARG /TEMP.° C 74 / 75				*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL 3251				*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A216 / WCB				AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/ID				MAX. 6.0 BARG MIN. 4 BARG		
22 END IN FLANGED				*BENCH RANGE 1.6-2.4 BARG		
23 CONNECTION OUT FLANGED				ACT ORIENTATION		
24 FLG FACE FINISH ANSI 600 # RF				HANDWHEEL TYPE NO		
25 END EXT/MATL.				AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION TENDS TO OPEN				STROKE TIME:<10 SEC.,30MM		
27 *TYPE OF BONNET STD				INPUT SIGNAL 4-20MA SMART,HART		
28 LUBE & ISO VALVE NO				POSITIONER		
29 *PACKING MAT. PTFE RINGS				*TYPE 3780-100 IP65 Eexi		
30 *PACKING TYPE				*MFR. & MODEL		
31 RANGEABILITY 50:1				*ON INCR SIGNAL OUTPUT INCR/DECR		
32 *TYPE PARABOLIC				GAUGES YES BY-PASS		
33 *SIZE RATED TRAVEL				*CAM CHARACTERISTIC		
34 CHARACTERISTIC LOG				LIMIT SW.		
35 *BALANCED/UNBALANCED				TYPE QUANTITY		
36 SELECTED CV 35 FL XT				*MFR. & MODEL		
37 *PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)				CONTACT/RATING		
38 *SEAT MATERIAL 316Ti (STELLITED)				ACTUATION POINTS		
39 *CAGE/GUIDE MATERIAL				TAG NO:		
40 *STEM MAT. 316Ti				AIR SET		
41 ARMoured: YES MATERIAL:STELLITE				*MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE		
42 PLUG SEALING lapped in MATERIAL:316Ti				*SET PRESSURE		
43 SOLENOID VALVE: YES NO ✓				FILTER YES GAUGE YES		
44 MANUAL RESET: YES NO ✓				TEST		
45 TAG NO:				*HYDRO PRESURE		
46				ANSI/FCI LEAKAGE CLASS V (IEC 534.4)		
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 105		
48 BLOCK RELAY YES NO ✓				LINE NO: NG-10-01-004		
49 BOOSTER YES ✓ NO						
50 CARTRIDGE YES NO ✓						
51 PROXIMITY SW. YES NO ✓						
52 VOLUME TANK YES NO ✓						

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:1)START-UP CONDITION WITH A PART STREAM TO FLARE.

2)Cv-VALUE HAS EFFECT ON SAFETY VALVE.

3) NOISE REDUCTION :FLOWDIVIDER III, TWO PLATE-SILENCER 3"/6"(PV100529T)

4) BOOSTER TYPE:8523-0084

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: PV-100801							
1 FLUID: NATURAL GAS/GAS				CRIT. PRESS (PC) BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
							SHUT OFF
							START UP
2 FLOW RATE				Sm3/hr	190000	179701	20000
3 INLET PRESSURE				BAR (ABS)	54.5	54.5	55
4 DP PRESSURE				BAR	4.5	6	9.1
5 INLET TEMPERATURE				° C	40	40	40
6 SPEC. WT/SPEC. GRAVITY/MOL WT				KG/KMOL	16.827	16.827	16.827
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.011	0.011	0.011
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 79	85/ 86.2	85/ 71.7
12 COMPRESSIBILITY Z					0.9299	0.9299	0.9299
K=Cp/Cv 1.248 DENSITY 0.71 kg/Sm³ @ Ope.Cond.							
13 LINE		PIPE LINE SIZE		IN	12" / 17.48		
		& WALL THICKNESS(mm)		OUT	12" / 7.48		
		PIPE LINE INSULATION /SPEC.		/ BD1			
		* TYPE		BALL VALVE			
14 VALVE BODY/ BONNET		* SIZE		8"	ANSI CLASS 600# / RF		
		DESIGN PRESS.BARG /TEMP.° C		74 / 75			
		*MFR. & MODEL		QB			
		*BODY/BONNET MATL.		A216/WCB			
		*LINER MATERIAL/ID					
		END		IN	FLANGED		
		CONNECTION		OUT	FLANGED		
		FLG FACE FINISH		ANSI 600 # RF			
		END EXT/MATL.					
		*FLOW DIRECTION TENDS TO		OPEN			
15 TRIM		*TYPE OF BONNET		STD			
		LUBE & ISO VALVE		NO			
		*PACKING MAT.		PTFE			
		*PACKING TYPE					
		RANGEABILITY		50:1			
		*TYPE		BALL			
		*SIZE		RATED TRAVEL			
		CHARACTERISTIC		LOG			
		*BALANCED/UNBALANCED					
		SELECTED CV		600	FL	XT	
16 SPECIAL ACCESSORIES		*PLUG/BALL/DISK MATERIAL		316L SS (STELLITED)			
		*SEAT MATERIAL		316L SS (STELLITED)			
		*CAGE/GUIDE MATERIAL					
		*STEM MAT.		316L SS			
		ARMOURED:		YES	MATERIAL:STELITE		
		PLUG SEALING		METALLIC	MATERIAL:316L		
		SOLENOID VALVE:		YES	☒	NO	☐
		MANUAL RESET:		YES	☐	NO	☒
		TAGNO:PY-100801A/B		(Eex ia, IIC, T6)/24VDC/IP65/3/2WAY			
		TYPE:3963-1352					
17 TEST		FUSIBLE LINKAGE		YES	☐	NO	☒
		BLOCK RELAY		YES	☐	NO	☒
		BOOSTER		YES	☒	NO	☐
		CARTRIDGE		YES	☐	NO	☒
		PROXIMITY SW.		YES	☐	NO	☒
		VOLUME TANK		YES	☐	NO	☒
18 ACTUATOR		*TYPE		PNEUMATIC/PISTON			
		*MFR. & MODEL		GP-100S-485/C1			
		* SIZE		EFF AREA			
		ON/OFF		MODULATING YES			
		SPRING ACTION OPEN /CLOSE		CLOSE			
		*MAX ALLOWABLE PRESSURE					
		*MIN ALLOWABLE PRESSURE					
		AVAILABLE AIR SUPPLY PRESSURE:					
		MAX.		6.0 BARG	MIN.	4 BARG	
		*BENCH RANGE		4	BARG		
19 POSITIONER		ACT ORIENTATION					
		HANDWHEEL TYPE		NO			
		AIR FAILURE VALVE		SET AT			
		STROKE TIME:<20 SEC.,80MM					
		INPUT SIGNAL		4-20MA SMART,HART			
		*TYPE					
		*MFR. & MODEL		3780-100			
		*ON INCR SIGNAL OUTPUT INCR/DECR					
		GAUGES		YES	BY-PASS		
		*CAM CHARACTERISTIC					
20 LIMIT SW.		TYPE		QUANTITY			
		*MFR. & MODEL					
		CONTACT/RATING					
		ACTION POINTS					
		TAG NO:					
		*MFR. & MODEL		NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE			
		*SET PRESSURE					
		FILTER		YES	GAUGE	YES	
		*HYDRO PRESURE					
		ANSI/FCI LEAKAGE CLASS		VI (TSO,IEC 534.4)			
21 AIR SET		PID NO:		101			
		LINE NO:		NG-10-01-018			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)CV-VALUE HAS EFFECT ON SAFETY VALVE.

2)TERMINAL BOX WITH 8 TERMINALS Eex ia,IP65

3)WITH ONE PLATE SILENCER 8", INTEGRATED IN VALVE

4)BOOSTER TYPE : 2625,QUICK EXH. VALVE=8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5					
TAG NO: PV-101502A											
1 FLUID: REFORMED GAS/GAS					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	OTHER CASE
2 FLOW RATE					Sm3/hr		500	300	50		200
3 INLET PRESSURE					BAR (ABS)		33.7	33.7	33.7		22
4 DP PRESSURE					BAR		3	3	3	39	2
5 INLET TEMPERATURE					° C		167	167	167		167
6 SPEC. WT/SPEC.GRAVITY/MOL WT					kg/kmol		13.221	13.221	13.221		
7 VISCOSITY/SPEC HEAT RATIO					mPas		0.018	0.018	0.018		
8 VAPOR PRESSURE PV					BARA						
9 *REQUI CV											
10 *TRAVEL					%						
11 ALLOWABLE/ *PREDICTED SPL					dBA		85 / 48	85 / 43	85 / 35		
12 COMPRESSIBILITY Z							0.984	0.984	0.984		
K=Cp/Cv 1.34 DENSITY 0.56 kg/Sm³ @ Ope.Cond.											
13 PIPE LINE SIZE IN 2" / 5.54					53		*TYPE PNEUMATIC / DIAPHRAGM				
14 & WALL THICKNESS(m) OUT 2" / 5.54					54		*MFR. & MODEL 3277				
15 PIPE LINE INSULATION /SPEC. H / ND2					55		* SIZE 280MM EFF AREA				
16 * TYPE GLOBE VALVE					56		ON/OFF MODULATING YES				
17 * SIZE 1" ANSI CLASS 600# / RF					57		SPRING ACTION OPEN /CLOSE OPEN				
18 DESIGN PRESS.BARG /TEMP.° C 39 / 200					58		*MAX ALLOWABLE PRESSURE				
19 *MFR. & MODEL 3251					59		*MIN ALLOWABLE PRESSURE				
20 *BODY/BONNET MATL. A351 / CF8C					60		AVAILABLE AIR SUPPLY PRESSURE:				
21 *LINER MATERIAL/ID					61		MAX. 6.0 BARG MIN. 4 BARG				
22 END IN FLANGED					62		*BENCH RANGE 0.2-1 BARG				
23 CONNECTION OUT FLANGED					63		ACT ORIENTATION				
24 FLG FACE FINISH ANSI 600 # RF					64		HANDWHEEL TYPE NO				
25 END EXT/MATL.					65		AIR FAILURE VALVE SET AT				
26 *FLOW DIRECTION TENDS TO OPEN					66		STROKE TIME:<5 SEC. , 15MM				
27 *TYPE OF BONNET STD					67		INPUT SIGNAL H1 FOUNDATION FIELD BUS				
28 LUBE & ISO VALVE NO					68		*TYPE				
29 *PACKING MAT. PTFE RINGS					69		*MFR. & MODEL 3787-100				
30 *PACKING TYPE					70		*ON INCR SIGNAL OUTPUT INCR/DECR				
					71		GAUGES YES IP65 BY-PASS				
					72		*CAM CHARACTERISTIC				
32 *TYPE PARABOLIC					73						
33 *SIZE RATED TRAVEL					74		TYPE QUANTITY				
34 CHARACTERISTIC LOG					75		*MFR. & MODEL				
35 *BALANCED/UNBALANCED					76		CONTACT/RATING				
36 SELECTED CV 3 FL XT					77		ACTUATION POINTS				
37 *PLUG/BALL/DISK MATERIAL 316Ti					78		TAG NO:				
38 *SEAT MATERIAL 316Ti					79		*MFR. & MODEL NORGREN B74G-4AK-AP3-RMN 1/4"NPT GAUGE				
39 *CAGE/GUIDE MATERIAL					80		*SET PRESSURE				
40 *STEM MAT. 316Ti					81		FILTER YES GAUGE YES				
41 RANGEABILITY 50:1					82						
42 PLUG SEALING METALLIC MATERIAL:316Ti					83		*HYDRO PRESURE				
43 SOLENOID VALVE: YES NO ✓					84		ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)				
44 MANUAL RESET: YES NO ✓					85						
45 TAG NO:					86						
46											
47 FUSIBLE LINKAGE YES NO ✓							PID NO: 115				
48 BLOCK RELAY YES NO ✓							LINE NO: RFG-10-04-006				
49 BOOSTER YES NO ✓											
50 CARTRIDGE YES NO ✓											
51 PROXIMITY SW. YES NO ✓											
52 VOLUME TANK YES NO ✓											
NOTE: INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.											
1): CONTAINS CO2 AS COERROSIVE/EREOSIVE MATTERS											

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000				
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5						
TAG NO: PV-101502B												
1 FLUID: REFORMED GAS/GAS					CRIT. PRESS (PC)		BAR (ABS)					
					UNITS		MAX. FLOW		NORM FLOW			
					MIN. FLOW		SHUT OFF		START UP			
SERVICE CONDITIONS					2 FLOW RATE		Sm3/hr		300			
					3 INLET PRESSURE		BAR (ABS)		30.7		30.7	
					4 DP PRESSURE		BAR		27.7		27.7	
					5 INLET TEMPERATURE		° C		151		151	
					6 SPEC. WT/SPEC.GRAVITY/MOL WT		kg/kmol		13.221		13.221	
					7 VISCOSITY/SPEC HEAT RATIO		mPas		0.018		0.018	
					8 VAPOR PRESSURE PV		BARA					
					9 *REQUI CV							
					10 *TRAVEL		%					
					11 ALLOWABLE/ *PREDICTED SPL		dB		85 / 77		85/ 64	
12 COMPRESSIBILITY Z				0.984		0.984		0.984				
K=Cp/Cv 1.34 DENSITY 0.56 kg/Sm³ @ Ope.Cond.												
LINE					13 PIPE LINE SIZE IN 2" / 5.54							
					14 & WALL THICKNESS(m) OUT 2" / 5.54							
					15 PIPE LINE INSULATION /SPEC. P / ND2							
					16 * TYPE GLOBE VALVE							
					17 * SIZE 1" ANSI CLASS 600# / RF							
					18 DESIGN PRESS.BARG /TEMP.° C 39 / 200							
					19 *MFR. & MODEL 3251							
					20 *BODY/BONNET MATL. A351/CF8C							
					21 *LINER MATERIAL/ID							
					22 END IN FLANGED							
VALVE BODY/ BONNET					23 CONNECTION OUT FLANGED							
					24 FLG FACE FINISH ANSI 600 # RF							
					25 END EXT/MATL.							
					26 *FLOW DIRECTION TENDS TO OPEN							
					27 *TYPE OF BONNET STD							
					28 LUBE & ISO VALVE NO							
					29 *PACKING MAT. PTFE RINGS							
					30 *PACKING TYPE							
					31 RANGEABILITY 50:1							
					32 *TYPE PARABOLIC							
TRIM					33 *SIZE RATED TRAVEL							
					34 CHARACTERISTIC LOG							
					35 *BALANCED/UNBALANCED							
					36 SELECTED CV 0.75 FL XT							
					37 *PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)							
					38 *SEAT MATERIAL 316Ti (STELLITED)							
					39 *CAGE/GUIDE MATERIAL							
					40 *STEM MAT. 316Ti							
					41 ARMoured: YES STELLITE							
					42 PLUG SEALING METALLIC MATERIAL:316Ti							
SPECIAL ACCESSORIES					43 SOLENOID VALVE: YES NO							
					44 MANUAL RESET: YES NO							
					45 TAG NO:							
					46							
					47 FUSIBLE LINKAGE YES NO							
					48 BLOCK RELAY YES NO							
					49 BOOSTER YES NO							
					50 CARTRIDGE YES NO							
					51 PROXIMITY SW. YES NO							
					52 VOLUME TANK YES NO							
					ACTUATOR							
					POSITIONER							
					LIMIT SW.							
					AIR SET							
					TEST							
					PID NO: 115 LINE NO: RFG-10-15-020							

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:.

1): CONTAINS CO2 AS COERROSIVE MATTERS

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: TV-100904A							
1 FLUID: NATURAL+PURGE GAS/GAS				CRIT. PRESS (PC) BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Sm3/hr	62165	46200	20000
3 INLET PRESSURE				BAR (ABS)	49.5	48	48
4 DP PRESSURE				BAR	0.6	0.3	0.3
5 INLET TEMPERATURE				° C	330	330	330
6 SPEC. WT/SPEC.GRAVITY/MOL WT				kg/kmol	16.597	16.597	16.597
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.02	0.02	0.02
8 VAPOR PRESSURE PV				BARA			
9 *REQUI CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85 / 53.1	85 /	85 /
12 COMPRESSIBILITY Z					1.0092	1.0092	1.0092
k=cp/cv 1.191 DENSITY 0.7 kg/Sm³ @ Ope.Cond.							
13 LINE		PIPE LINE SIZE		IN	14" / 19.05		
14		& WALL THICKNESS(m)		OUT	14" / 19.05		
15		PIPE LINE INSULATION /SPEC.		W1 / BD1			
16		* TYPE		BUTTERFLY/LUG			
17		* SIZE		14"	ANSI CLASS 600# / LRF		
18		DESIGN PRESS.BARG /TEMP.° C		54 / 400			
19		*MFR. & MODEL		LDE			
20		*BODY/BONNET MATL.		A216 / WCB			
21		*LINER MATERIAL/ID					
22		END		IN	FLANGED		
23		CONNECTION		OUT	FLANGED		
24		FLG FACE FINISH		ANSI 600 # RF			
25		END EXT/MATL.					
26		*FLOW DIRECTION		OPEN			
27		*TYPE OF BONNET		STD			
28		LUBE & ISO VALVE		NO			
29		*PACKING MAT.		GRAPHITE			
30		*PACKING TYPE					
31							
32		*TYPE		60° FLAP			
33		*SIZE		RATED TRAVEL			
34		CHARACTERISTIC		LOG			
35		*BALANCED/UNBALANCED					
36		SELECTED CV		2200	FL	XT	
37		*PLUG/BALL/DISK MATERIAL		316 SS			
38		*SEAT MATERIAL		316 SS			
39		*CAGE/GUIDE MATERIAL					
40		*STEM MAT.		316 SS			
41		RANGEABILITY		50:1			
42		PLUG SEALING		METALLIC	MATERIAL:316SS		
43		SOLENOID VALVE:		YES	NO	✓	
44		MANUAL RESET:		YES	NO	✓	
45		TAG NO:					
46							
47		FUSIBLE LINKAGE		YES	NO	✓	
48		BLOCK RELAY		YES	NO	✓	
49		BOOSTER		YES	✓	NO	
50		CARTRIDGE		YES	NO	✓	
51		PROXIMITY SW.		YES	NO	✓	
52		VOLUME TANK		YES	NO	✓	
SPECIAL ACCESSORIES							
53							
54							
55							
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80							
81							
82							
83							
84							
85							
86							
ACTUATOR							
*TYPE				PNEUMATIC/PISTON			
*MFR. & MODEL				GP-065S-335/C2-MH			
* SIZE				EFF AREA			
ON/OFF				MODULATING YES			
SPRING ACTION OPEN /CLOSE				OPEN			
*MAX ALLOWABLE PRESSURE							
*MIN ALLOWABLE PRESSURE							
AVAILABLE AIR SUPPLY PRESSURE:							
MAX.				6.0 BARG	MIN.	4 BARG	
*BENCH RANGE				4 BARG			
ACT ORIENTATION							
HANDWHEEL TYPE				SIDE MOUNTED			
AIR FAILURE VALVE				SET AT			
STROKE TIME<:20 SEC,80MM							
INPUT SIGNAL				H1 FOUNDATION FIELD BUS			
POSITIONER							
*TYPE							
*MFR. & MODEL				3787-100			
*ON INCR SIGNAL OUTPUT INCR/DECR							
GAUGES				YES	BY-PASS		
*CAM CHARACTERISTIC							
LIMIT SW.							
TYPE				QUANTITY			
*MFR. & MODEL							
CONTACT/RATING							
ACTUATION POINTS							
TAG NO:							
AIR SET							
*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE							
*SET PRESSURE							
FILTER				YES	GAUGE	YES	
TEST							
*HYDRO PRESURE							
ANSI/FCI LEAKAGE CLASS				IV (IEC 534.4)			
PID NO:				109			
LINE NO:				FEQ-10-03-001			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) :MAX. DIFFERENTIAL PRESSURE (LOWER VALUES PREFERRED)

2) :NO LEAKS CLASS DEMAND

3)BOOSTER TYPE :2625, QUICK EXH. VALVE :8502-144

4)WITH REDUCED STEM

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: TV-100904B							
1	FLUID:NATURAL+PURGE GAS/GAS				CRIT. PRESS (PC)		BAR (ABS)
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
2	SERVICE CONDITIONS	FLOW RATE		Sm3/hr	145000	142220	20000
3		INLET PRESSURE		BAR (ABS)	49.5	48	48
4		DP PRESSURE		BAR	0.2 *	0.2 *	0.3 *
5		INLET TEMPERATURE		° C	330	330	330
6		SPEC. WT/SPEC GRAVITY/MOL WT		kg/kmol	16.597	16.597	16.597
7		VISCOSITY/SPEC HEAT RATIO		mPas	0.02	0.02	0.02
8		VAPOR PRESSURE PV		BARA			
9		*REQUI CV					
10		*TRAVEL		%			
11		ALLOWABLE/ *PREDICTED SPL		dBA	85 / 30.2	85 /	85 /
12	COMPRESSIBILITY Z			1.0092	1.0092	1.0092	
k=cp/cv 1.191 DENSITY 0.7 kg/Sm ³ @ Ope.Cond.							
13	LINE	PIPE LINE SIZE	IN	14" / 19.05	53	ACTUATOR	
14		& WALL THICKNESS(m	OUT	14" / 19.05	54		
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.		H / BD1	55	POSITIONER	
16		* TYPE		BUTTERFLY/LUG	56		
17		* SIZE 14" ANSI CLASS		600# / L RF	57		
18		DESIGN PRESS.BARG /TEMP.° C		54 / 400	58		
19		*MFR. & MODEL		LDE	59		
20		*BODY/BONNET MATL.		A216 / WCB	60		
21		*LINER MATERIAL/ID			61		
22		END	IN	FLANGED	62		
23		CONNECTION	OUT	FLANGED	63		
24		FLG FACE FINISH		ANSI 600 # RF	64		
25		END EXT/MATL.			65		
26		*FLOW DIRECTION		OPEN	66		
27		*TYPE OF BONNET		STD	67		
28		LUBE & ISO VALVE		NO	68		
29		*PACKING MAT.		GRAPHITE	69		
30	*PACKING TYPE			70			
31				71			
32	TRIM	*TYPE		60° FLAP	72	LIMIT SW.	
33		*SIZE		RATED TRAVEL	73		
34		CHARACTERISTIC		LOG	74		
35		*BALANCED/UNBALANCED			75		
36		SELECTED CV	4575	FL XT	76		
37		*PLUG/BALL/DISK MATERIAL		316 SS	77		
38		*SEAT MATERIAL		316 SS	78		
39		*CAGE/GUIDE MATERIAL			79		
40		*STEM MAT.		316 SS	80		
41		RANGEABILITY		50:1	81		
42	PLUG SEALING		METALLIC MATERIAL:316SS	82	AIR SET		
43	SOLENOID VALVE:	YES	NO	✓			
44	MANUAL RESET:	YES	NO	✓			
45	TAG NO:			85			
46				86			
47	SPECIAL ACCESSORIES	FUSIBLE LINKAGE	YES	NO	✓	TEST	
48		BLOCK RELAY	YES	NO	✓		
49		BOOSTER	YES	✓	NO		
50		CARTRIDGE	YES	NO	✓		
51		PROXIMITY SW.	YES	NO	✓		
52		VOLUME TANK	YES	NO	✓		

PID NO: 109 LINE NO: FEG-10-03-001	
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NOTE:

1): MAX. DIFFERENTIAL PRESSURE (DO NOT EXCEED).

2): NO LEAK CLASS DEMAND.

3): BOOSTER TYPE : 2625, QUICK EXH. VALVE :8502-0144

4): WITH REDUCED STEM

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5					
TAG NO: TV-101204A											
FLUID: FEED GAS/GAS					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
SERVICE CONDITIONS					Sm3/hr		340000	170000	100000		
FLOW RATE					Sm3/hr		340000	170000	100000		
INLET PRESSURE					BAR (ABS)		45.6	45.6	45.6		
DP PRESSURE					BAR		0.1	0.3	0.3	0.5	
INLET TEMPERATURE					° C		400	410	435		
SPEC. WT/SPEC.GRAVITY/MOL WT					kg/kmol		17.227	17.227	17.227		
VISCOSITY/SPEC HEAT RATIO					mPas		0.023	0.023	0.023		
VAPOR PRESSURE PV					BARA						
*REQUI CV											
*TRAVEL					%						
ALLOWABLE/ *PREDICTED SPL					dB		85 / 22.9	85 / 41.4	85 / 41.6		
COMPRESSIBILITY Z							0.9903	0.9903	0.9903		
k=cp/cv 1.207 DENSITY 0.73 kg/Sm³ @ Ope Cond.											
LINE					PIPE LINE SIZE		IN 20" / 26.19				
& WALL THICKNESS(m)					OUT 20" / 26.19						
PIPE LINE INSULATION /SPEC.					H / DE1						
* TYPE					BUTTERFLY/LUG						
* SIZE 20"					ANSI CLASS 900# /LRF						
DESIGN PRESS.BARG /TEMP.° C					54 / 450						
*MFR. & MODEL					WVTB						
*BODY/BONNET MATL.					A217 WC6						
*LINER MATERIAL/ID											
END					IN FLANGED						
CONNECTION					OUT FLANGED						
FLG FACE FINISH					ANSI 900 # RF						
END EXT/MATL.											
*FLOW DIRECTION					OPEN						
*TYPE OF BONNET					INSULATION SECTION						
LUBE & ISO VALVE					NO						
*PACKING MAT.					GRAPHITE						
*PACKING TYPE											
*TYPE					60° FLAP						
*SIZE					RATED TRAVEL						
CHARACTERISTIC					LOG						
*BALANCED/UNBALANCED											
SELECTED CV					11495 FL XT						
*PLUG/BALL/DISK MATERIAL					316 SS						
*SEAT MATERIAL					316 SS						
*CAGE/GUIDE MATERIAL											
*STEM MAT.					316 SS						
RANGEABILITY					50:1						
PLUG SEALING					METALLIC MATERIAL:316SS						
SOLENOID VALVE:					YES NO		YES NO		YES NO		
MANUAL RESET:					YES NO		YES NO		YES NO		
TAG NO:											
SPECIAL ACCESSORIES					FUSIBLE LINKAGE		YES NO		YES NO		
BLOCK RELAY					YES NO		YES NO		YES NO		
BOOSTER					YES NO		YES NO		YES NO		
CARTRIDGE					YES NO		YES NO		YES NO		
PROXIMITY SW.					YES NO		YES NO		YES NO		
VOLUME TANK					YES NO		YES NO		YES NO		
ACTUATOR					*TYPE		PNEUMATIC/PISTON 1)				
*MFR. & MODEL					GP-100S-485/DA+ MH						
* SIZE					EFF AREA						
ON/OFF					MODULATING		YES				
SPRING ACTION OPEN /CLOSE					OPEN						
*MAX ALLOWABLE PRESSURE											
*MIN ALLOWABLE PRESSURE											
AVAILABLE AIR SUPPLY PRESSURE:											
MAX.					6.0 BARG		MIN. 4 BARG				
*BENCH RANGE					4 BARG						
ACT ORIENTATION											
HANDWHEEL TYPE					SIDE MOUNTED						
AIR FAILURE VALVE					SET AT						
STROKE TIME:<20SEC.,80MM											
INPUT SIGNAL					H1 FOUNDATION FIELD BUS						
POSITIONER					*TYPE						
*MFR. & MODEL					3787-100						
*ON INCR SIGNAL OUTPUT INCR/DECR											
GAUGES					YES BY-PASS						
*CAM CHARACTERISTIC											
LIMIT SW.					TYPE		QUANTITY				
*MFR. & MODEL											
CONTACT/RATING											
ACTUATION POINTS											
TAG NO:											
AIR SET					*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4"NPT GAUGE						
*SET PRESSURE											
FILTER					YES		GAUGE YES				
TEST					*HYDRO PRESURE						
ANSI/FCI LEAKAGE CLASS					II						
PID NO:					112						
LINE NO:					FEQ-10-12-015						

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1)MECHANICAL COUPLING WITH BUTTERFLY TV-101204B.
 2)WITH REDUCED STEM
 3) BOOSTER: 2625

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5			
TV-101204B									
FLUID:FEED GAS/GAS				CRIT. PRESS (PC)		BAR (ABS)			
				UNITS		MAX. FLOW		NORM FLOW	
				MIN. FLOW		SHUT OFF		START UP	
SERVICE CONDITIONS				FLOW RATE		Sm3/hr		210000	
				INLET PRESSURE		BAR (ABS)		45.8	
				DP PRESSURE		BAR		0.1	
				INLET TEMPERATURE		° C		400	
				SPEC. WT/SPEC.GRAVITY/MOL WT		kg/kmol		17.227	
				VISCOSITY/SPEC HEAT RATIO		mPas		0.023	
				VAPOR PRESSURE PV		BARA			
				*REQUI CV					
				*TRAVEL		%			
				ALLOWABLE/ *PREDICTED SPL		dBA		85 / 21.7	
				COMPRESSIBILITY Z				0.9903	
				k=cp/cv 1.207		DENSITY		0.73 kg/Sm³	
				@ Ope.Cond.					
LINE				PIPE LINE SIZE		IN		16" / 21.44	
				& WALL THICKNESS(m)		OUT		16" / 21.44	
				PIPE LINE INSULATION /SPEC.		H / DE1			
VALVE BODY/ BONNET				* TYPE		BUTTERFLY LUG			
				* SIZE		16"		ANSI CLASS 900# /LRF	
				DESIGN PRESS.BARG /TEMP.° C		54 / 450			
				*MFR. & MODEL		WVTB			
				*BODY/BONNET MATL.		A217 WC6			
				*LINER MATERIAL/ID					
				END		IN		FLANGED	
				CONNECTION		OUT		FLANGED	
				FLG FACE FINISH		ANSI 900 # LRF			
				END EXT/MATL.					
				*FLOW DIRECTION		OPEN			
				*TYPE OF BONNET		INSULATION SECTION			
				LUBE & ISO VALVE		NO			
				*PACKING MAT.		GRAPHITE			
				*PACKING TYPE					
TRIM				*TYPE		60° FLAP			
				*SIZE		RATED TRAVEL			
				CHARACTERISTIC		LOG			
				*BALANCED/UNBALANCED					
				SELECTED CV		6295 FL		XT	
				*PLUG/BALL/DISK MATERIAL		316 SS			
				*SEAT MATERIAL		316 SS			
				*CAGE/GUIDE MATERIAL					
				*STEM MAT.		316 SS			
				RANGEABILITY		50:1			
				PLUG SEALING		METALLIC		MATERIAL:316SS	
SPECIAL ACCESSORIES				SOLENOID VALVE:		YES		NO	
				MANUAL RESET:		YES		NO	
				TAG NO:					
				FUSIBLE LINKAGE		YES		NO	
				BLOCK RELAY		YES		NO	
				BOOSTER		YES		NO	
				CARTRIDGE		YES		NO	
				PROXIMITY SW.		YES		NO	
				VOLUME TANK		YES		NO	
				PID NO:		112			
				LINE NO:		FEQ-10-12-022			
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.									
NOTE: 1)MECHANICAL COUPLING WITH BUTTERFLY TV-101204A..COMMON ACTUATOR WITH TV-101204A									
2)WITH REDUCED STEM.									

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: PCV-100181							
1	FLUID: NATURAL GAS/GAS			CRIT. PRESS (PC)		BAR (ABS)	
			UNITS	CASE 1	CASE 2	CASE 3	CASE 4 SHUT OFF
2	SERVICE CONDITIONS	FLOW RATE		Sm ³ /hr	5	10	40 70
3		INLET PRESSURE		BAR (ABS)	55	55	55 55
4		DP. PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION		BAR	50	50	50 50 74/10
5		INLET TEMPERATURE		° C	40	40	40 40
6		SPEC. WT/SPEC. GRAVITY/MOL WT		kg/kmol	16.827	16.827	16.827 16.827
7		VISCOSITY/SPEC HEAT RATIO		mPas	0.011	0.011	0.011 0.011
8		VAPOR PRESSURE PV		BARA			
9		*REQUI CV					
10		*TRAVEL		%			
11		ALLOWABLE/ *PREDICTED SPL		dBA			
12		COMPRESSIBILITY Z					
		k=cp/cv 1.207 DENSITY 0.71 kg/Sm ³ @ Ope.Cond.					
13	LINE	PIPE LINE SIZE IN		1"/4.55	53	*TYPE	
14		& WALL THICKNESS(m) OUT		1"/4.55	54	*MFR. & MODEL	
15		PIPE LINE INSULATION /SPEC.		BD1	55	* SIZE EFF AREA	
16	VALVE BODY/ BONNET	* TYPE		PRESSURE REDUCE VALVE		56	ON/OFF MODULATING
17		* SIZE		1" ANSI CLASS	600#/RF	57	SPRING ACTION OPEN /CLOSE
18		DESIGN PRESS BARG /TEMP. ° C		74/80		58	*MAX ALLOWABLE PRESSURE
19		*MFR. & MODEL		SAMSON/511K		59	*MIN ALLOWABLE PRESSURE
20		*BODY/BONNET MATL.		A105		60	AVAILABLE AIR SUPPLY PRESSURE:
21		*LINER MATERIAL/ID				61	MAX. MIN.
22		END	IN	FLANGED		62	*BENCH RANGE
23		CONNECTION	OUT	FLANGED		63	ACT ORIENTATION
24		FLG FACE FINISH		ANSI 600 # RF		64	HANDWHEEL TYPE
25		END EXT/MATL.				65	AIR FAILURE VALVE SET AT
26		*FLOW DIRECTION				66	STROKE TIME:
27		*TYPE OF BONNET				67	INPUT SIGNAL
28		LUBE & ISO VALVE				68	*TYPE
29		*PACKING MAT.				69	*MFR. & MODEL
30		*PACKING TYPE				70	*ON INCR SIGNAL OUTPUT INCR/DECR
31					71	GAUGES BY-PASS	
32	TRIM	*TYPE				72	*CAM CHARACTERISTIC
33		*SIZE		RATED TRAVEL		73	
34		CHARACTERISTIC				74	TYPE QUANTITY
35		*BALANCED/UNBALANCED				75	*MFR. & MODEL
36		SELECTED CV	0.5	FL	XT	76	CONTACT/RATING
37		*PLUG/BALL/DISK MATERIAL		A316L		77	ACTUATION POINTS
38		*SEAT MATERIAL				78	TAG NO:
39		*CAGE/GUIDE MATERIAL				79	*MFR. & MODEL
40	SPECIAL ACCESSORIES	*STEM MAT.		A316L		80	*SET PRESSURE
41		RANGEABILITY				81	FILTER GAUGE
42		PLUG SEALING				82	
43		SOLENOID VALVE:	YES		NO	83	*HYDRO PRESURE
44		MANUAL RESET:	YES		NO	84	ANSI/FCI LEAKAGE CLASS %Cvs
45		TAG NO:				85	
46						86	
47		FUSIBLE LINKAGE	YES		NO	PID NO: 101 LINE NO: NG-10-01-001	
48	BLOCK RELAY	YES		NO			
49	BOOSTER	YES		NO			
50	CARTRIDGE	YES		NO			
51	PROXIMITY SW.	YES		NO			
52	VOLUME TANK	YES		NO			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1)k=0.9299,cp/cv=1.248
 2)Pressure reduce valve
 3)SPRING RANGE:4-12

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO. : 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644	
TAG NO: PCV-100182					
1 FLUID: NATURAL GAS/GAS		CRIT. PRESS (PC)		BAR (ABS)	
		UNITS	CASE 1	CASE 2	CASE 3
2 FLOW RATE		Sm³/hr	5	10	40
3 INLET PRESSURE		BAR (ABS)	55	55	55
4 DP. PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION		BAR	50	50	50
5 INLET TEMPERATURE		° C	40	40	40
6 SPEC. WT/SPEC. GRAVITY/MOL WT		kg/kmol	16.827	16.827	16.827
7 VISCOSITY/SPEC HEAT RATIO		mPas	0.011	0.011	0.011
8 VAPOR PRESSURE PV		BARA			
9 *REQUI CV					
10 *TRAVEL		%			
11 ALLOWABLE/ *PREDICTED SPL		dBA			
12 COMPRESSIBILITY Z					
k=cp/cv 1.207 DENSITY 0.71 kg/Sm³ @ Ope.Cond.					
13 PIPE LINE SIZE IN 1"/4.55		53	*TYPE		
14 & WALL THICKNESS(mm) OUT 1"/4.55		54	*MFR. & MODEL		
15 PIPE LINE INSULATION /SPEC. BD1		55	* SIZE EFF AREA		
16 * TYPE PRESSURE REDUCE VALVE		56	ON/OFF MODULATING		
17 * SIZE 1" ANSI CLASS 600#/RF		57	SPRING ACTION OPEN /CLOSE		
18 DESIGN PRESS.BARG /TEMP.° C 74/80		58	*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL SAMSON/511K		59	*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A105		60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/D		61	MAX. MIN.		
22 END IN FLANGED		62	*BENCH RANGE		
23 CONNECTION OUT FLANGED		63	ACT ORIENTATION		
24 FLG FACE FINISH ANSI 600 # RF		64	HANDWHEEL TYPE		
25 END EXT/MATL.		65	AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION		66	STROKE TIME:		
27 *TYPE OF BONNET		67	INPUT SIGNAL		
28 LUBE & ISO VALVE		68	*TYPE		
29 *PACKING MAT.		69	*MFR. & MODEL		
30 *PACKING TYPE		70	*ON INCR SIGNAL OUTPUT INCR/DECR		
		71	GAUGES BY-PASS		
		72	*CAM CHARACTERISTIC		
32 *TYPE		73			
33 *SIZE RATED TRAVEL		74	TYPE QUANTITY		
34 CHARACTERISTIC		75	*MFR. & MODEL		
35 *BALANCED/UNBALANCED		76	CONTACT/RATING		
36 SELECTED CV 0.5 FL XT		77	ACTUATION POINTS		
37 *PLUG/BALL/DISK MATERIAL A316 L		78	TAG NO:		
38 *SEAT MATERIAL		79	*MFR. & MODEL		
39 *CAGE/GUIDE MATERIAL		80	*SET PRESSURE		
40 *STEM MAT. A316L		81	FILTER GAUGE		
41 RANGEABILITY		82			
42 PLUG SEALING		83	*HYDRO PRESURE		
43 SOLENOID VALVE: YES NO ✓		84	ANSI/FCI LEAKAGE CLASS %Cvs		
44 MANUAL RESET: YES NO ✓		85			
45 TAG NO:		86			
46		PID NO: 101			
47 FUSIBLE LINKAGE YES NO ✓		LINE NO: NG-10-01-001			
48 BLOCK RELAY YES NO ✓					
49 BOOSTER YES NO ✓					
50 CARTRIDGE YES NO ✓					
51 PROXIMITY SW. YES NO ✓					
52 VOLUME TANK YES NO ✓					

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)k=0.9299,cp/cv=1.248

2)Pressure reduce valve

3)SPRING RANGE:4-12.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644 5	

TAG NO: FV-150411		FLUID: STRIPPED PROC. CONDENSATE / LIQUID(1)		CRIT. PRESS (PC) 221 BAR (ABS)			
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
SERVICE CONDITIONS		FLOW RATE	Kg/hr	18000	14000	5000	
		INLET PRESSURE	BAR (ABS)	5.4	5.4	6	
		DP PRESSURE	BAR	3.8	3.8	4.4	12
		INLET TEMPERATURE	° C	40	40	40	
		SPEC. WT/SPEC.GRAVITY/MOL WT	Kg/hr	18.02	18.02	18.02	
		VISCOSITY/SPEC HEAT RATIO	mPas	0.653	0.653	0.653	
		VAPOR PRESSURE PV	BARA	0.074	0.074	0.074	
		*REQUIRED CV					
		*TRAVEL	%				
		ALLOWABLE/ *PREDICTED SPL	dBA	85/ 73	85/ 71	85/ 62	
		COMPRESSIBILITY Z					
		K=Cp/Cv= DENSITY 992 kg/m ³ @ Ope.Cond.					
LINE		PIPE LINE SIZE	IN	2" / 5.54			53
		& WALL THICKNESS(mm)	OUT	2" / 5.54			54
		PIPE LINE INSULATION /SPEC.		/ NA1			55
VALVE BODY/ BONNET		* TYPE	GLOBE			56	
		* SIZE	2"	ANSI CLASS	300#, RF		57
		DESIGN PRESS.BARG /TEMP.° C 9 BARG/ 100 ° C					58
		*MFR. & MODEL	3241			59	
		*BODY/BONNET MATL.	A351/ CF8C			60	
		*LINER MATERIAL/ID				61	
		END	IN	FLANGED			62
		CONNECTION	OUT	FLANGED			63
		FLG FACE FINISH	ANSI 300 # RF			64	
		END EXT/MATL.				65	
		*FLOW DIRECTION	OPEN			66	
		TRIM		*TYPE OF BONNET	STD		
LUBE & ISO VALVE	NO			68			
*PACKING MAT.	PTFE RINGS			69			
*PACKING TYPE				70			
RANGEABILITY	50:1			71			
*TYPE	PARABOLIC			72			
*SIZE	RATED TRAVEL			73			
CHARACTERISTIC	LOG			74			
*BALANCED/UNBALANCED				75			
SELECTED CV	20			FL	XT		76
*PLUG/BALL/DISK MATERIAL	316Ti (STELLITED)			77			
*SEAT MATERIAL	316Ti (STELLITED)			78			
*CAGE/GUIDE MATERIAL				79			
*STEM MAT.	316Ti			80			
ARMOURED : YES/ MATERIAL:STELLITE				81			
PLUG SEALING:METALLIC,MATERIAL:316Ti				82			
SPECIAL ACCESSORIES		SOLENOID VALVE:	YES		NO	☒	83
		MANUAL RESET:	YES		NO	☒	84
		TAG NO:					85
							86
		FUSIBLE LINKAGE	YES		NO	☒	
		BLOCK RELAY	YES		NO	☒	
BOOSTER	YES		NO	☒			
CARTRIDGE	YES		NO	☒			
PROXIMITY SW.	YES		NO	☒			
VOLUME TANK	YES		NO	☒			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:
 1): CONTAINS CO2 AS CORROSIVE/ERROSIVE MATTERS
 2): VALVE IS NORMALLY CLOSED

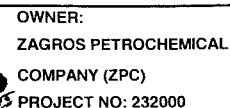
PID NO: **154**
 LINE NO: **SPC-15-04-008**

SHEET 46 OF 103

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.						2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182				1.69690-10-GEM		DOC NO. P-1182-DSH-IN-644		5	

TAG NO: FV-150610									
1	FLUID:	MP BFW / LIQUID				CRIT. PRESS (PC)	221 BAR (ABS)		
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP	
3		INLET PRESSURE	Kg/hr	30000	7300	3000		10000	
4		DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR (ABS)	60	60	60		66 (1)	
5		INLET TEMPERATURE	BAR	13	13	13	98 / 54	51	
6		SPEC. WT/SPEC.GRAVITY/MOL WT	° C	111	111	111		111	
7		VISCOSITY/SPEC HEAT RATIO		18.016	18.016	18.016			
8		VAPOR PRESSURE PV	mPas	0.253	0.253	0.253			
9		*REQUIRED CV	BARA	1.5	1.5	1.5			
10		*TRAVEL	%						
11		ALLOWABLE/ *PREDICTED SPL	dBA	85/	85/68	85/			
12	COMPRESSIBILITY Z								
K=Cp/Cv= DENSITY 950 kg/m³ @ Ope.Cond.									
13	LINE	PIPE LINE SIZE	IN	2" / 8.74		53	ACTUATOR		
14		& WALL THICKNESS(mm)	OUT	4" / DE1/8.56		54			
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.		H / NF1		55	POSITIONER		
16		* TYPE		QUENCH COOLER		56			
17		* SIZE	2"	ANSI CLASS	1500#/RF	57			
18		DESIGN PRESS.BARG /TEMP.° C 98 / 160				58			
19		*MFR. & MODEL		DKV		59			
20		*BODY/BONNET MATL.		WN 1.5415		60			
21		*LINER MATERIAL/ID				61			
22		END	IN	FLANGED		62			
23		CONNECTION	OUT	FLANGED		63			
24		FLG FACE FINISH		ANSI 1500 # RF		64			
25	TRIM	END EXT/MATL.				65	LIMIT SW.		
26		*FLOW DIRECTION		CLOSE		66			
27		*TYPE OF BONNET		STD		67			
28		LUBE & ISO VALVE		NO		68			
29		*PACKING MAT.		PTFE RINGS		69			
30		*PACKING TYPE				70			
31		RANGEABILITY		50:1		71			
32		*TYPE				72			
33		*SIZE		RATED TRAVEL		73			
34		CHARACTERISTIC		LOG		74			
35	*BALANCED/UNBALANCED				75				
36	SELECTED CV		9.5	FL	XT	76	AIR SET		
37	*PLUG/BALL/DISK MATERIAL		WN 1.5415		77				
38	*SEAT MATERIAL		WN 1.5415		78				
39	*CAGE/GUIDE MATERIAL				79				
40	*STEM MAT.		316Ti		80				
41	ARMoured : YES/ MATERIAL:STELLITE				81				
42	PLUG SEALING:LAPPED IN,MATERIAL:316Ti				82				
43	SOLENOID VALVE: YES		NO	✓	83				
44	MANUAL RESET: YES		NO	✓	84				
45	TAG NO:				85				
46	SPECIAL ACCESSORIES	FUSIBLE LINKAGE YES		NO	✓	86	TEST		
47		BLOCK RELAY YES		NO	✓	87			
48		BOOSTER YES		NO	✓	88			
49		CARTRIDGE YES		NO	✓	89			
50		PROXIMITY SW. YES		NO	✓	90			
51		VOLUME TANK YES		NO	✓	91			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1)DATA GIVEN APPLY FOR QUENCH WATER ONLY. 2)STEAM FROM FV101439 TO BE QUENCHED FROM 478° C TO 269° C. 4)STEAM CONNECTION:4" ANSI 900.
 3)THE CORRESPOND STEAM DATA AND MECHAN.DESIGN:
 DESIGN:PIPE CLASS DE1 12"(54 BARG,500C)5)BOOSTER:8523-0084



PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-150636							
1	FLUID: MP BFW / LIQUID		CRIT. PRESS (PC) 221	BAR (ABS)			
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	FLOW RATE	Kg/hr	15000	12000	500		5000
3	INLET PRESSURE	BAR (ABS)	60	60	60		66
4	DP. PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR	13	13	13	98/54	19
5	INLET TEMPERATURE	° C	111	111	111		111
6	SPEC. WT/SPEC.GRAVITY/MOL WT		18.016	18.016	18.016		
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.253	0.253	0.253		
8	VAPOR PRESSURE PV	BARA	1.5	1.5	1.5		
9	*REQUIRED CV						
10	*TRAVEL	%					
11	ALLOWABLE/ *PREDICTED SPL	dBA	85 /	85 /	63	85 /	82 /
12	COMPRESSIBILITY Z						
	K=Cp/Cv=	DENSITY	950	kg/m ³	@ Ope.Cond.		

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52		
LINE		PIPE LINE SIZE		IN		2" / 8.74																																			
		& WALL THICKNESS(mm)		OUT		4" /DE1/ 8.56																																			
		PIPE LINE INSULATION /SPEC.				H / NF1																																			
VALVE BODY/ BONNET		* TYPE		QUENCH COOLER																																					
		* SIZE		2"		ANSI CLASS		1500#/RF																																	
		DESIGN PRESS.BARG /TEMP.° C		98 / 160																																					
		*MFR. & MODEL		DKV																																					
		*BODY/BONNET MATL.		WN 1.5415																																					
		*LINER MATERIAL/ID																																							
		END		IN		FLANGED																																			
		CONNECTION		OUT		FLANGED																																			
		FLG FACE FINISH		ANSI 1500 # RF																																					
		END EXT/MATL.																																							
TRIM		*FLOW DIRECTION		CLOSE																																					
		*TYPE OF BONNET		STD																																					
		LUBE & ISO VALVE		NO																																					
		*PACKING MAT.		PTFE																																					
		*PACKING TYPE																																							
		RANGEABILITY		50:1																																					
		*TYPE																																							
		*SIZE		RATED TRAVEL																																					
		CHARACTERISTIC		LOG																																					
		*BALANCED/UNBALANCED																																							
SPECIAL ACCESSORIES		SELECTED CV		5.7		FL		XT																																	
		*PLUG/BALL/DISK MATERIAL		WN 1.5415																																					
		*SEAT MATERIAL		WN 1.5415																																					
		*CAGE/GUIDE MATERIAL																																							
		*STEM MAT.		316Ti																																					
		ARMOURED : YES/ MATERIAL:STELLITE																																							
		PLUG SEALING :LAPPED IN,MATERIAL:316Ti																																							
		SOLENOID VALVE:		YES				NO		✓																															
		MANUAL RESET:		YES				NO		✓																															
		TAG NO:																																							
SPECIAL ACCESSORIES		FUSIBLE LINKAGE		YES				NO		✓																															
		BLOCK RELAY		YES				NO		✓																															
		BOOSTER		YES		✓		NO																																	
		CARTRIDGE		YES				NO		✓																															
		PROXIMITY SW.		YES				NO		✓																															
SPECIAL ACCESSORIES		VOLUME TANK		YES				NO		✓																															

53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86				
ACTUATOR		*TYPE		PNEUMATIC/DIAPHRAGM																																	
		*MFR. & MODEL		3271																																	
		* SIZE		530MM		EFF AREA																															
		ON/OFF				MODULATING		YES																													
		SPRING ACTION OPEN /CLOSE				CLOSE																															
		*MAX ALLOWABLE PRESSURE																																			
		*MIN ALLOWABLE PRESSURE																																			
		AVAILABLE AIR SUPPLY PRESSURE:																																			
		MAX.		6.0 BARG		MIN.		4 BARG																													
		*BENCH RANGE		1.1-2.4 BARG																																	
POSITIONER		ACT ORIENTATION																																			
		HANDWHEEL TYPE				NO																															
		AIR FAILURE VALVE				SET AT																															
		STROKE TIME< 5 Sec.55MM																																			
		INPUT SIGNAL		H1 FOUNDATION FIELD BUS																																	
		*TYPE																																			
		*MFR. & MODEL		3787																																	

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	

TAG NO: FV-150725	
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1	FLUID: MP BFW / LIQUID	CRIT. PRESS (PC) 221	BAR (ABS)		
		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
2	FLOW RATE	Kg/hr	15000	10000	2000
3	INLET PRESSURE	BAR (ABS)	60	60	60
4	DP PRESSURE IN FLOW DIRECTION /AGAINST FLOW DIRECTION	BAR	54.3	54.3	54.3
5	INLET TEMPERATURE	° C	111	111	111
6	SPEC. WT/SPEC.GRAVITY/MOL WT		18.016	18.016	18.016
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.253	0.253	0.253
8	VAPOR PRESSURE PV	BARA	1.5	1.5	1.5
9	*REQUIRED CV				
10	*TRAVEL	%			
11	ALLOWABLE/ *PREDICTED SPL	dBA	85/	85/	83
12	COMPRESSIBILITY Z				
	K=Cp/Cv=	DENSITY	950	kg/m ³	@ Ope.Cond.

13	LINE	PIPE LINE SIZE	IN	2" / 8.74	53	*TYPE	PNEUMATIC/DIAPHRAGM		
14		& WALL THICKNESS(mm)	OUT	4" /BA1/ 6.02	54	*MFR. & MODEL	3277		
15		PIPE LINE INSULATION /SPEC.	H / NF1(BFW CONNECTION)			55	* SIZE	390MM	
16	VALVE BODY/ BONNET	* TYPE	QUENCH COOLER			56	ON/OFF	MODULATING	
17		* SIZE	2"	ANSI CLASS	1500#/RF	57	SPRING ACTION OPEN /CLOSE	CLOSE	
18		DESIGN PRESS.BARG /TEMP.° C	98 / 160			58	*MAX ALLOWABLE PRESSURE		
19		*MFR. & MODEL	DKP			59	*MIN ALLOWABLE PRESSURE		
20		*BODY/BONNET MATL.	WN 1.5415			60	AVAILABLE AIR SUPPLY PRESSURE:		
21		*LINER MATERIAL/ID				61	MAX.	6.0 BARG	
22		END	IN	FLANGED			62	MIN.	4 BARG
23		CONNECTION	OUT	FLANGED			63	*BENCH RANGE	2.1-3.3
24		FLG FACE FINISH	ANSI 1500 # RF			64	ACT ORIENTATION		
25		END EXT/MATL.				65	HANDWHEEL TYPE	NO	
26	*FLOW DIRECTION	CLOSE			66	AIR FAILURE VALVE	SET AT		
27	*TYPE OF BONNET	STD			67	STROKE TIME <5 Sec,30MM			
28	LUBE & ISO VALVE	NO			68	INPUT SIGNAL	H1 FUNDATION FIELD BUS		
29	*PACKING MAT.	PTFE RINGS			69	POSITIONER	*TYPE		
30	*PACKING TYPE				70		*MFR. & MODEL	3787-100	
31	RANGEABILITY	50:1			71		*ON INCR SIGNAL OUTPUT INCR/DECR		
32	TRIM	*TYPE				72	GAUGES	YES	
33		*SIZE	RATED TRAVEL			73	*CAM CHARACTERISTIC		
34		CHARACTERISTIC	LOG			74	LIMIT SW.	TYPE	QUANTITY
35		*BALANCED/UNBALANCED				75		*MFR. & MODEL	
36		SELECTED CV	2.3	FL	XT	76		CONTACT/RATING	
37		*PLUG/BALL/DISK MATERIAL	WN 1.5415			77	ACTUATION POINTS		
38		*SEAT MATERIAL	WN 1.5415			78	TAG NO:		
39	*CAGE/GUIDE MATERIAL				79	AIR SET	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE		
40	*STEM MAT.	316Ti			80		*SET PRESSURE		
41	ARMoured : YES/ MATERIAL:STELLITE				81		FILTER	YES	
42	PLUS SEALING:LAPPED IN,MATERIAL:	316Ti			82		GAUGE	YES	
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓	83	TEST	*HYDRO PRESURE	
44		MANUAL RESET:	YES	NO	✓	84		ANSI/FCI LEAKAGE CLASS	V(IEC 534.4)
45		TAG NO:				85			
46						86			
47		FUSIBLE LINKAGE	YES	NO	✓	PID NO: 157			
48		BLOCK RELAY	YES	NO	✓	LINE NO: MBW-15-07-007			
49	BOOSTER	YES	✓	NO					
50	CARTRIDGE	YES	NO	✓					
51	PROXIMITY SW.	YES	NO	✓					
52	VOLUME TANK	YES	NO	✓					

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): DATA GIVEN APPLY FOR QUENCH WATER ONLY .THE CORRESP. STEAM AND MECHAN. DESIGN TO BE CONSIDERED.(BA1)

2): STEAM FROM HEADER TO BE QUENCHED FROM 270° C TO 160° C.

5): DESIN PIPE CLASS BA1 20" (7barg 380° C)

4)STEAM CONNECTION:4" ANSI 600#

6)BOOSTER :8523-0084

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO. :P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
TAG NO: LV-150101A							
1 FLUID: DEMIN. WATER / LIQUID		CRIT. PRESS (PC) 221 BAR (ABS)					
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	FLOW RATE	Kg/hr	390000	347843	30000		
3	INLET PRESSURE	BAR (ABS)	7	7.2	7.4		
4	DP PRESSURE	BAR	3.7	4	4.4	10	
5	INLET TEMPERATURE	° C	35	35	35		
6	SPEC. WT/SPEC.GRAVITY/MOL WT		18.016	18.016	18.016		
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.724	0.724	0.724		
8	VAPOR PRESSURE PV	BARA	0.056	0.056	0.056		
9	*REQUIRED CV						
10	*TRAVEL	%					
11	ALLOWABLE/ *PREDICTED SPL	dBA	85/ 76	85/ 80	85/ 71		
12	COMPRESSIBILITY Z						
K=Cp/Cv=		DENSITY	994 kg/m ³	@ Ope Cond.			
13	PIPE LINE SIZE	IN	10" / 4.19	53	*TYPE PNEUMATIC / DIAPHRAGM		
14	& WALL THICKNESS(mm)	OUT	10" / 4.19	54			
15	PIPE LINE INSULATION /SPEC.		/ NA1	55			
16	* TYPE	GLOBE		56	ON/OFF MODULATING YES		
17	* SIZE	8" ANSI CLASS	300#/RF	57	SPRING ACTION OPEN /CLOSE CLOSE/LOCK		
18	DESIGN PRESS.BARG /TEMP. ° C	10/100		58	*MAX ALLOWABLE PRESSURE		
19	*MFR. & MODEL	3241		59	*MIN ALLOWABLE PRESSURE		
20	*BODY/BONNET MATL.	A351/CF8C		60	AVAILABLE AIR SUPPLY PRESSURE:		
21	*LINER MATERIAL/ID			61	MAX. 6.0 BARG MIN. 4 BARG		
22	END	IN	FLANGED	62	*BENCH RANGE 2-2.6 BARG		
23	CONNECTION	OUT	FLANGED	63	ACT ORIENTATION		
24	FLG FACE FINISH	ANSI 300 # RF		64	HANDWHEEL TYPE NO		
25	END EXT/MATL.			65	AIR FAILURE VALVE SET AT		
26	*FLOW DIRECTION	OPEN		66	STROKE TIME< 20Sec.,80MM		
27	*TYPE OF BONNET	STD		67	INPUT SIGNAL H1 FOUNDATION FIELD BUS		
28	LUBE & ISO VALVE	NO		68	*TYPE		
29	*PACKING MAT.	PTFE RINGS		69			
30	*PACKING TYPE			70			
31	RANGEABILITY:	50:1		71	*ON INCR SIGNAL OUTPUT INCR/DECR		
32	*TYPE	PARABOLIC		72	GAUGES YES BY-PASS		
33	*SIZE	RATED TRAVEL		73	*CAM CHARACTERISTIC		
34	CHARACTERISTIC	LOG		74	TYPE		
35	*BALANCED/UNBALANCED			75	QUANTITY		
36	SELECTED CV	420 FL	XT	76	*MFR. & MODEL		
37	*PLUG/BALL/DISK MATERIAL	316Ti(STELLITED)		77	CONTACT/RATING		
38	*SEAT MATERIAL	316Ti(STELLITED)		78	ACTUATION POINTS		
39	*CAGE/GUIDE MATERIAL			79	TAG NO:		
40	*STEM MAT.	316Ti		80	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE		
41	ARMoured : YES/ MATERIAL:STELLITE			81	*SET PRESSURE		
42	PLUG SEALING :METALLIC,MATERIAL:316Ti			82	FILTER YES GAUGE YES		
43	SOLENOID VALVE: YES		NO ☒	83	*HYDRO PRESURE		
44	MANUAL RESET: YES		NO ☒	84	ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)		
45	TAG NO:			85			
46				86			
47	FUSIBLE LINKAGE YES		NO ☒	PID NO: 113			
48	BLOCK RELAY YES	☒	NO	LINE NO: DMW-50-01-004			
49	BOOSTER YES	☒	NO				
50	CARTRIDGE YES		NO ☒				
51	PROXIMITY SW. YES		NO ☒				
52	VOLUME TANK YES		NO ☒				

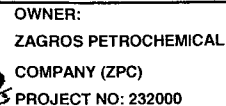
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)WITH AC1-TRIM

2) LOCK-UP RELAIS:FISHER TYPE:122A,BOOSTER:2625, QUICK EXH. VALVE :8502-0144

3)CORROSIVE/EROSIVE MATTERS:O2



1)CORROSIVE/EROSIVE MATERS:CO2.

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182				 mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO. P-1182-DSH-IN-644 5		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
TAG NO: LV-150505										
1	FLUID: WATER / LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)					
2	SERVICE CONDITIONS				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3		FLOW RATE			Kg/hr	11000	6197	1000		
4		INLET PRESSURE			BAR (ABS)	5.5	5.5	5.5		
5		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION			BAR	2	2	2	7/3	
6		INLET TEMPERATURE			° C	50	50	50		
7		SPEC. WT/SPEC.GRAVITY/MOL WT				18.016	18.016	18.016		
8		VISCOSITY/SPEC HEAT RATIO			mPas	0.57	0.57	0.57		
9		VAPOR PRESSURE PV			BARA	0.123	0.123	0.123		
10		*REQUIRED CV								
11		*TRAVEL			%					
12		ALLOWABLE/ *PREDICTED SPL			dBA	85/ 46	85/ 42	85/ <30		
13		COMPRESSIBILITY Z								
13	K=C _p /C _v =			DENSITY	988 kg/m ³	@ Ope.Cond.				
14	LINE	PIPE LINE SIZE	IN	2"/5.54	53	*TYPE PNEUMATIC / DIAPHRAGM				
15		& WALL THICKNESS(mm)	OUT	4"/6.02	54					
16	PIPE LINE INSULATION /SPEC. / BA1				55					
17	VALVE BODY/ BONNET	* TYPE GLOBE			56	*MFR. & MODEL 3277				
18		* SIZE 2"	ANSI CLASS	300#/RF	57					
19		DESIGN PRESS.BARG /TEMP.° C 7/ 200			58					
20		*MFR. & MODEL 3241			59	*SIZE 280MM EFF AREA				
21		*BODY/BONNET MATL. A105			60					
22		*LINER MATERIAL/ID			61					
23		END	IN	FLANGED	62	ON/OFF MODULATING YES				
24		CONNECTION	OUT	FLANGED	63					
25		FLG FACE FINISH ANSI 300 # RF			64					
26		END EXT/MATL.			65	SPRING ACTION OPEN /CLOSE CLOSE				
27		*FLOW DIRECTION OPEN			66					
28		*TYPE OF BONNET STD			67					
29	LUBE & ISO VALVE NO			68	*MAX ALLOWABLE PRESSURE					
30	*PACKING MAT. PTFE RINGS			69						
31	*PACKING TYPE			70						
32	TRIM	*TYPE PARABOLIC			71	*MIN ALLOWABLE PRESSURE				
33		*SIZE RATED TRAVEL			72					
34		CHARACTERISTIC LOG			73					
35		*BALANCED/UNBALANCED			74	AVAILABLE AIR SUPPLY PRESSURE:				
36		SELECTED CV 20	FL	XT	75					
37		*PLUG/BALL/DISK MATERIAL 316Ti			76					
38		*SEAT MATERIAL 316Ti			77	MAX. 6 BARG MIN. 4 BARG				
39		*CAGE/GUIDE MATERIAL			78					
40		*STEM MAT. 316Ti			79					
41		RANGEABILITY: 50:1			80	*BENCH RANGE 0.8-2.4 BARG				
42		PLUG SEALING METALLIC,MATERIAL:316 Ti			81					
43		TAG NO:			82					
44	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓	ACT ORIENTATION				
45		MANUAL RESET:	YES	NO	✓					
46					84					
47		FUSIBLE LINKAGE	YES	NO	✓	HANDWHEEL TYPE NO				
48		BLOCK RELAY	YES	NO	✓					
49		BOOSTER	YES	NO	✓					
50		CARTRIDGE	YES	NO	✓	AIR FAILURE VALVE SET AT				
51		PROXIMITY SW.	YES	NO	✓					
52	VOLUME TANK	YES	NO	✓						
					86	STROKE TIME< 10Sec.,15MM				
					87					
					88					
					89	INPUT SIGNAL H1 FUNDATION FIELD BUS				
					90					
					91					
					92	*TYPE				
					93					
					94					
					95	*MFR. & MODEL 3787-100				
					96					
					97					
					98	*ON INCR SIGNAL OUTPUT INCR/DECR				
					99					
					100					
					101	GAUGES YES BY-PASS				
					102					
					103					
					104	*CAM CHARACTERISTIC				
					105					
					106					
					107	TYPE QUANTITY				
					108					
					109					
					110	*MFR. & MODEL				
					111					
					112					
					113	CONTACT/RATING				
					114					
					115					
					116	ACTUATION POINTS				
					117					
					118					
					119	TAG NO:				
					120					
					121					
					122	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE				
					123					
					124					
					125	*SET PRESSURE				
					126					
					127					
					128	FILTER YES GAUGE YES				
					129					
					130					
					131	*HYDRO PRESURE				
					132					
					133					
					134	ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)				
					135					
					136					
					137	PID NO: 155				
					138					
					139					
					140	LINE NO: BD-15-05-003				
					141					
					142					

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO.: P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: PV-150101					
1 FLUID: LP STEAM(SATURATED) / VAPOUR		CRIT. PRESS (PC)		BAR (ABS)	
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
2 FLOW RATE		Kg/hr	12000	7463	1000
3 INLET PRESSURE		BAR (ABS)	5.5	5.5	5.5
4 DP PRESSURE		BAR	3.5	3.5	3.5
5 INLET TEMPERATURE		° C	160	160	160
6 SPEC. WT/SPEC.GRAVITY/MOL WT			18.018	18.018	18.018
7 VISCOSITY/SPEC HEAT RATIO		mPas	0.015	0.015	0.015
8 VAPOR PRESSURE PV		BARA			
9 *REQUIRED CV					
10 *TRAVEL		%			
11 ALLOWABLE/ *PREDICTED SPL		dBA	85 / 88	85 / 80	85 / 67
12 COMPRESSIBILITY Z			0.97	0.97	0.97
K=Cp/Cv= 1.33 DENSITY 2.88 kg/m³ @ Ope.Cond.					
13 LINE		53	*TYPE PNEUMATIC/DIAPHRAGM		
14 PIPE LINE SIZE IN 8" / 8.18		54	*MFR. & MODEL 3277		
15 & WALL THICKNESS(mm) OUT 14" / 9.53		55	* SIZE 390MM EFF AREA		
16 PIPE LINE INSULATION /SPEC. H / BA1		56	ON/OFF MODULATING YES		
17 * TYPE GLOBE		57	SPRING ACTION OPEN /CLOSE CLOSE		
18 * SIZE 6" ANSI CLASS 300#/RF		58	*MAX ALLOWABLE PRESSURE		
19 DESIGN PRESS.BARG /TEMP.° C 7/ 200		59	*MIN ALLOWABLE PRESSURE		
20 *MFR. & MODEL 3241		60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *BODY/BONNET MATL. A216 / WCB		61	MAX. 6.0 BARG MIN. 4 BARG		
22 *LINER MATERIAL/ID		62	*BENCH RANGE 2.1-3.3 BARG		
23 END IN FLANGED		63	ACT ORIENTATION		
24 CONNECTION OUT FLANGED		64	HANDWHEEL TYPE NO		
25 FLG FACE FINISH ANSI 300 # RF		65	AIR FAILURE VALVE SET AT		
26 END EXT/MATL.		66	STROKE TIME: 10Sec.,30MM		
27 *FLOW DIRECTION OPEN		67	INPUT SIGNAL 4-20 MA SMART HART		
28 *TYPE OF BONNET STD		68	*TYPE 3780-100		
29 LUBE & ISO VALVE NO		69	*MFR. & MODEL		
30 *PACKING MAT. PTFE RINGS		70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31 *PACKING TYPE		71	GAUGES YES BY-PASS		
32		72	*CAM CHARACTERISTIC		
33 *TYPE PARABOLIC		73			
34 *SIZE RATED TRAVEL		74	TYPE QUANTITY		
35 CHARACTERISTIC LOG		75	*MFR. & MODEL		
36 *BALANCED/UNBALANCED		76	CONTACT/RATING		
37 SELECTED CV 275 FL XT		77	ACTUATION POINTS		
38 *PLUG/BALL/DISK MATERIAL 316Ti		78	TAG NO:		
39 *SEAT MATERIAL 316Ti		79	*MFR. & MODEL: NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE		
40 *CAGE/GUIDE MATERIAL		80	*SET PRESSURE		
41 *STEM MAT. 316Ti		81	FILTER YES GAUGE YES		
42 RANGEABILITY 50:1		82			
43 PLUG SEALING: METALLIC, MATERIAL: 316Ti		83	*HYDRO PRESURE		
44 SOLENOID VALVE: YES NO ☒		84	ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)		
45 MANUAL RESET: YES NO ☒		85			
46 TAG NO:		86			
47		PID NO: 151			
48 FUSIBLE LINKAGE YES NO ☒		LINE NO: LPS-15-07-015			
49 BLOCK RELAY YES NO ☒					
50 BOOSTER YES NO ☒					
51 CARTRIDGE YES NO ☒					
52 PROXIMITY SW. YES NO ☒					
53 VOLUME TANK YES NO ☒					
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE: 1): CV-VALUE HAS EFFEC ON SAFETY VALVE. 2): NOISE REDUCTION: FLOW DIVIDER I					



PETROCHEMICAL INDUSTRIES
DESIGN & ENGINEERING CO.

PROJ. NO. : 1182

mg engineering
Lurgi

PROJ. NO.:
1.69690-10-GEM

2nd ZAGROS MEGAMETHANOL PROJECT

CONTROL VALVES

DOC. NO. P-1182-DSH-IN-644

5



OWNER:
ZAGROS PETROCHEMICAL
COMPANY (ZPC)
PROJECT NO: 232000

TAG NO: PV-150601A

1		FLUID: HP STEAM / VAPOUR		CRIT. PRESS (PC)		BAR (ABS)	
		UNITS	CASE1	CASE2	CASE3	SHUT OFF	CASE4
2	FLOW RATE	Kg/hr	188000	140000	10000		300000
3	INLET PRESSURE	BAR (ABS)	101	101	101		101
4	DP PRESSURE INFLOW /AGAINST FLOW DIRECTION	BAR	54	54	54	115/54	54
5	INLET TEMPERATURE	° C	505	505	505		505
6	SPEC. WT/SPEC.GRAVITY/MOL WT		18.02	18.02	18.02		18.02
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.029	0.029	0.029		0.029
8	VAPOR PRESSURE PV	BARA					
9	*REQUIRED CV						
10	*TRAVEL	%					
11	ALLOWABLE/ *PREDICTED SPL	dBA	85/ 107	85/ 107	85/ 94		
12	COMPRESSIBILITY Z		0.93	0.93	0.93		
K=Cp/Cv= 1.24 DENSITY 30.6 kg/m³ @ Ope.Cond.		kg/m³					
13	PIPE LINE SIZE IN 8" / 26	53	*TYPE PNEUMATIC / DIAPHRAGM				
14	& WALL THICKNESS(mm) OUT 16" /DE1/ 21.44	54	*MFR. & MODEL 3271				
15	PIPE LINE INSULATION /SPEC. H / ZF1	55	* SIZE 530MM EFF AREA				
16	* TYPE GLOBE	56	ON/OFF MODULATING YES				
17	* SIZE 8" ANSI CLASS 1500#/RF	57	SPRING ACTION OPEN /CLOSE CLOSE				
18	DESIGN PRESS.BARG /TEMP.° C 115 / 515	58	*MAX ALLOWABLE PRESSURE				
19	*MFR. & MODEL 3254	59	*MIN ALLOWABLE PRESSURE				
20	*BODY/BONNET MATL. A217 / WC9	60	AVAILABLE AIR SUPPLY PRESSURE:				
21	*LINER MATERIAL/ID	61	MAX. 6 BARG MIN. 4 BARG				
22	END IN FLANGED	62	*BENCH RANGE 1.7-3.2 BARG				
23	CONNECTION OUT FLANGED	63	ACT ORIENTATION				
24	FLG FACE FINISH ANSI 1500 # RF	64	HANDWHEEL TYPE NO				
25	END EXT/MATL.	65	AIR FAILURE VALVE SET AT				
26	*FLOW DIRECTION OPEN	66	STROKE TIME: <5 SEC,60MM,OPENING TIME:<2 SEC				
27	*TYPE OF BONNET INSULATING SECTION	67	INPUT SIGNAL 4-20 MA SMART HART				
28	LUBE & ISO VALVE NO	68	*TYPE				
29	*PACKING MAT. GRAPHITE	69	*MFR. & MODEL 3780-100				
30	*PACKING TYPE	70	*ON INCR SIGNAL OUTPUT INCR/DECR				
31	RANGEABILITY: 50:1	71	GAUGES YES BY-PASS				
32	*TYPE PARABOLIC	72	*CAM CHARACTERISTIC				
33	*SIZE RATED TRAVEL	73					
34	CHARACTERISTIC LINEAR	74	TYPE QUANTITY				
35	*BALANCED/UNBALANCED BALANCED	75	*MFR. & MODEL				
36	SELECTED CV 650 FL XT	76	CONTACT/RATING				
37	*PLUG/BALL/DISK MATERIAL 440B	77	ACTUATION POINTS				
38	*SEAT MATERIAL 440B	78	TAG NO:				
39	*CAGE/GUIDE MATERIAL	79	*MFR. & MODEL:2XNORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE				
40	*STEM MAT. 440B	80	*SET PRESSURE				
41	PLUG SEALING:METALLIC,MATERIAL:440B	81	FILTER YES GAUGE YES				
42	ARMOURED YES	82					
43	SOLENOID VALVE: YES NO ✓	83	*HYDRO PRESURE				
44	MANUAL RESET: YES NO ✓	84	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)				
45	TAG NO:	85					
46		86					
47	FUSIBLE LINKAGE YES NO ✓	PID NO: 156					
48	BLOCK RELAY YES NO ✓	LINE NO: HSS-10-14-001					
49	BOOSTER YES ✓ NO						
50	CARTRIDGE YES NO ✓						
51	PROXIMITY SW. YES NO ✓						
52	VOLUME TANK YES NO ✓						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

- 1)CASE 4 WORST CASE
- 2)REVERSE FLOW AT FULLY OPEN VALVE DURING START UP.
- 3) CV- VALUE HAS EFFECTED ON SAFETY VALUE
- 4)3 PLATES SILENSER 8"/10"(FLOW DEVIDER I)(PV150601T)
- 5)seat with drain for q=1-2 l/h
- 6)Pressure Ballanced valve
- 7)BOOSTER:8523-0084,QUICK-EXH. VALVE:8502-0144



PETROCHEMICAL INDUSTRIES

DESIGN & ENGINEERING CO.

PROJ. NO. : 1182

mg engineering
LurgiPROJ. NO.:
1.69690-10-GEM

2nd ZAGROS MEGAMETHANOL PROJECT

CONTROL VALVES

DOC. NO. P-1182-DSH-IN-644

5



OWNER:

ZAGROS PETROCHEMICAL

COMPANY (ZPC)

PROJECT NO: 232000

TAG NO: PV-150601B

1 FLUID: HP STEAM / VAPOUR		CRIT. PRESS (PC)		BAR (ABS)		
	UNITS	CASE1	CASE2	CASE3	SHUT OFF	CASE4
2	FLOW RATE	Kg/hr	10000	4500	1500	15000
3	INLET PRESSURE	BAR (ABS)	101	101	101	101
4	DP PRESSURE INFLOW /AGAINST FLOW DIRECTION	BAR	54	54	54	115/54
5	INLET TEMPERATURE	° C	505	505	505	505
6	SPEC. WT/SPEC.GRAVITY/MOL WT		18.02	18.02	18.02	
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.029	0.029	0.029	
8	VAPOR PRESSURE PV	BARA				
9	*REQUIRED CV					
10	*TRAVEL	%				
11	ALLOWABLE/ *PREDICTED SPL	dBA	85/ 79	85/75	85/ 69	
12	COMPRESSIBILITY Z					
	K=Cp/Cv=	DENSITY	kg/m ³	@ Ope.Cond.		kg/m ³
13	PIPE LINE SIZE	IN	8"/26			
14	& WALL THICKNESS(mm)	OUT	16"/DE1/21.44			
15	PIPE LINE INSULATION /SPEC.		H/ZF1			
16	* TYPE		GLOBE			
17	* SIZE	3"	ANSI CLASS	1500#/RF		
18	DESIGN PRESS.BARG /TEMP.° C			115/515		
19	*MFR. & MODEL					
20	*BODY/BONNET MATL.			A217 / WC9		
21	*LINER MATERIAL/ID					
22	END	IN		FLANGED		
23	CONNECTION	OUT		FLANGED		
24	FLG FACE FINISH			ANSI 1500 # RF		
25	END EXT/MATL.					
26	*FLOW DIRECTION			OPEN		
27	*TYPE OF BONNET			INSULATING SECTION		
28	LUBE & ISO VALVE			NO		
29	*PACKING MAT.			GRAPHITE		
30	*PACKING TYPE					
31	RANGEABILITY:			50:1		
32	*TYPE			PARABOLIC		
33	*SIZE			RATED TRAVEL		
34	CHARACTERISTIC			LOG		
35	*BALANCED/UNBALANCED					
36	SELECTED CV	23	FL		XT	
37	*PLUG/BALL/DISK MATERIAL			410 (STELLITED)		
38	*SEAT MATERIAL			410 (STELLITED)		
39	*CAGE/GUIDE MATERIAL					
40	*STEM MAT.			410		
41	ARMoured:YES			MATERIAL:STELLITE		
42	PLUG SEALING:METALLIC,MATERIAL:410					
43	SOLENOID VALVE:	YES		NO	✓	
44	MANUAL RESET:	YES		NO	✓	
45	TAG NO:					
46						
47	FUSIBLE LINKAGE	YES		NO	✓	
48	BLOCK RELAY	YES		NO	✓	
49	BOOSTER	YES	✓	NO		
50	CARTRIDGE	YES		NO	✓	
51	PROXIMITY SW.	YES		NO	✓	
52	VOLUME TANK	YES		NO	✓	

53		PNEUMATIC / DIAPHRAGM	
54		3271	
55		530MM	
56		ON/OFF	
57		MODULATING	
58		YES	
59		CLOSE	
60		CLOSE	
61		MAX ALLOWABLE PRESSURE	
62		MIN ALLOWABLE PRESSURE	
63		AVAILABLE AIR SUPPLY PRESSURE:	
64		MAX. 6 BARG MIN. 4 BARG	
65		BENCH RANGE 2-2.4 BARG	
66		ACT ORIENTATION	
67		HANDWHEEL TYPE NO	
68		AIR FAILURE VALVE SET AT	
69		STROKE TIME: <5 SEC,15MM.	
70		INPUT SIGNAL 4-20 MA SMART HART	
71		TYPE	
72		MFR. & MODEL 3780-100	
73		ON INCR SIGNAL OUTPUT INCR/DECR	
74		GAUGES YES BY-PASS	
75		CAM CHARACTERISTIC	
76		TYPE	
77		QUANTITY	
78		MFR. & MODEL	
79		CONTACT/RATING	
80		ACTUATION POINTS	
81		TAG NO:	
82		MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE	
83		SET PRESSURE	
84		FILTER YES GAUGE YES	
85		HYDRO PRESURE	
86		ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)	

PID NO: 156
LINE NO: HSS-10-14-001

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)CASE 3: WORST CASE WHEN UNIT 200 FAILED

5)REVERSE FLOW AT FULLY OPEN VALVE DURING START-UP

2)NOISE REDUTION :ST3(FLOWDIVIDER III)

6)CV VALUE HAS EFFECT ON SAFETY VALVE

3)BOOSTER : 8523-0084

4)FAST OPEN ACTION REQUIRED

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.						2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182				PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	

TAG NO: PV-150607											
1 FLUID: MP STEAM (SUPERHEATED) / VAPOUR					CRIT. PRESS (PC)		BAR (ABS)				
					UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	UPSET	
2	SERVICE CONDITIONS	FLOW RATE			Kg/hr	80700	43609	10000		93000	
3		INLET PRESSURE			BAR (ABS)	41	41	41		41	
4		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION			BAR	35.3	35.3	35.3	54/7	35.3	
5		INLET TEMPERATURE			° C	420	420	420		420	
6		SPEC. WT/SPEC.GRAVITY/MOL WT				18.02	18.02	18.02			
7		VISCOSITY/SPEC HEAT RATIO			mPas	0.025	0.025	0.025			
8		VAPOR PRESSURE PV			BARA						
9		*REQUIRED CV									
10		*TRAVEL			%						
11		ALLOWABLE/ *PREDICTED SPL			dBA	85 / 109	85 / 96	85 / 86			
12		COMPRESSIBILITY Z				0.96	0.96	0.96			
K=Cp/Cv= 1.331 DENSITY 13.5 kg/m ³ @ Ope.Cond.											
13	LINE	PIPE LINE SIZE		IN	8" / 12.7	53	ACTUATORE				
14		& WALL THICKNESS(mm)		OUT	16" / 21.44	54					
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.		H / DE1		55	POSITIONER				
16		* TYPE		GLOBE		56					
17		* SIZE		8"	ANSI CLASS	900#/RF					57
18		DESIGN PRESS.BARG /TEMP.° C 54 / 470									58
19		*MFR. & MODEL		3254		59					
20		*BODY/BONNET MATL.		A 217 / WC6		60					
21		*LINER MATERIAL/ID									61
22		END	IN	FLANGED		62					
23		CONNECTION	OUT	FLANGED		63					
24		FLG FACE FINISH ANSI 900 # RF									64
25		END EXT/MATL.									65
26		*FLOW DIRECTION		OPEN		66					
27		*TYPE OF BONNET		INSULATION SECTION		67					
28		LUBE & ISO VALVE		NO		68					
29		*PACKING MAT.		GRAPHITE		69					
30		*PACKING TYPE				70					
31		RANGEABILITY:		50:1		71					
32		TRIM	*TYPE		PARABOLIC						72
33	*SIZE		RATED TRAVEL		73						
34	CHARACTERISTIC		LOG		74						
35	*BALANCED/UNBALANCED		BALANCED		75						
36	SELECTED CV		375	FL	XT	76					
37	*PLUG/BALL/DISK MATERIAL		410 (stellited)		77						
38	*SEAT MATERIAL		410 (stellited)		78						
39	*CAGE/GUIDE MATERIAL				79						
40	SPECIAL ACCESSORIES	*STEM MAT.		410		80					
41		PLUG SEALING:METALLIC,MATERIAL:410					81				
42		ARMOURED YES MATERIAL:STELLITE					82				
43		SOLENOID VALVE:	YES		NO	☒	83				
44		MANUAL RESET:	YES		NO	☒	84				
45		TAG NO:					85				
46							86				
47		FUSIBLE LINKAGE	YES		NO	☒	PID NO: 156 LINE NO: MSS-15-06-009				
48		BLOCK RELAY	YES		NO	☒					
49		BOOSTER	YES	☒	NO						
50	CARTRIDGE	YES		NO	☒						
51	PROXIMITY SW.	YES		NO	☒						
52	VOLUME TANK	YES		NO	☒						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
NOTE:

1): CV-VALUE HAS EFFECT ON SAFTY VALVE.	4)GRAPHITE PRESSURE BALANCING RING.
2): UPSET CASE MEANS; NO STEAM EXPORT.	5)NOISE REDUCTION :(FLOW DIVIDER /I)WITH 3PLATES SILENCER 8"/16" (PV150607S)
3): MAX. FLOW CONDITIONS FOR TRIP SYNTHESIS.	6) BOOSTER : 8523-0084/QUICK EXH. VALVE:8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182				PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644 5	
TAG NO: PV-150611							
FLUID: MP STEAM (SUPERHEATED) / VAPOUR				CRIT. PRESS (PC) BAR (ABS)			
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
				SHUT OFF	UPSET		
FLOW RATE				Kg/hr	35000	5000	30000
INLET PRESSURE				BAR (ABS)	101	101	40
DP. PRESSURE IN FLOW / AGAINST FLOW DIRECTION				BAR	86	91	32
INLET TEMPERATURE				° C	505	550	450
SPEC. WT/SPEC.GRAVITY/MOL WT					18.02	18.02	18.02
VISCOSITY/SPEC HEAT RATIO				mPas			
VAPOR PRESSURE PV				BARA			
*REQUIRED CV							
*TRAVEL				%			
ALLOWABLE/ *PREDICTED SPL				dBA	85 / 85	85/ 73	85 /
COMPRESSIBILITY Z							85/89
K=Cp/Cv= DENSITY kg/m ³ @ Ope.Cond.				12.5,30.6,30.6			
LINE PIPE LINE SIZE IN 6" / 21.95 & WALL THICKNESS(mm) OUT 10" / 31.75 PIPE LINE INSULATION /SPEC. H / ZF1				ACTUATOR *TYPE PNEUMATIC / DIAPHRAGM *MFR. & MODEL 3271 * SIZE 770MM EFF AREA ON/OFF MODULATING YES SPRING ACTION OPEN /CLOSE CLOSE *MAX ALLOWABLE PRESSURE *MIN ALLOWABLE PRESSURE AVAILABLE AIR SUPPLY PRESSURE: MAX. 6.0 BARG MIN. 4 BARG *BENCH RANGE 3.3-3.8 BARG ACT ORIENTATION HANDWHEEL TYPE NO AIR FAILURE VALVE SET AT STROKE TIME<10 Sec., 30MM			
VALVE BODY/ BONNET * TYPE GLOBE * SIZE 6" ANSI CLASS 1500#/RF DESIGN PRESS.BARG /TEMP.° C 115 / 515 *MFR. & MODEL 3251 *BODY/BONNET MATL. A 217 / WC9 *LINER MATERIAL/ID END IN FLANGED CONNECTION OUT FLANGED FLG FACE FINISH ANSI 1500 # RF END EXT/MATL. *FLOW DIRECTION OPEN *TYPE OF BONNET INSULATION SECTION LUBE & ISO VALVE NO *PACKING MAT. GRAPHITE *PACKING TYPE RANGEABILITY: 50:1 *TYPE PARABOLIC *SIZE RATED TRAVEL CHARACTERISTIC LINEAR *BALANCED/UNBALANCED SELECTED CV 105 FL XT *PLUG/BALL/DISK MATERIAL 410 (STELLITED) *SEAT MATERIAL 410 (STELLITED) *CAGE/GUIDE MATERIAL *STEM MAT. 410 PLUG SEALING:METALLIC,MATERIAL:410 ARMoured YES MATERIAL:STELLITE				POSITIONER *TYPE *MFR. & MODEL 3780-100 *ON INCR SIGNAL OUTPUT INCR/DECR GAUGES YES BY-PASS *CAM CHARACTERISTIC			
TRIM *TYPE PARABOLIC *SIZE RATED TRAVEL CHARACTERISTIC LINEAR *BALANCED/UNBALANCED SELECTED CV 105 FL XT *PLUG/BALL/DISK MATERIAL 410 (STELLITED) *SEAT MATERIAL 410 (STELLITED) *CAGE/GUIDE MATERIAL *STEM MAT. 410 PLUG SEALING:METALLIC,MATERIAL:410 ARMoured YES MATERIAL:STELLITE				LIMIT SW. TYPE QUANTITY *MFR. & MODEL CONTACT/RATING ACTUATION POINTS TAG NO:			
SPECIAL ACCESSORIES SOLENOID VALVE: YES NO ☒ ☐ MANUAL RESET: YES NO ☒ ☐ TAG NO: FUSIBLE LINKAGE YES NO ☒ ☐ BLOCK RELAY YES NO ☒ ☐ BOOSTER YES ☒ NO ☐ CARTRIDGE YES NO ☒ ☐ PROXIMITY SW. YES NO ☒ ☐ VOLUME TANK YES NO ☒ ☐				AIR SET *MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE *SET PRESSURE FILTER YES GAUGE YES TEST *HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)			
				PID NO: 156 LINE NO: HSS-15-06-002			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1) CASE MINIMUM FLOW IS START-UP VENT 4)WITH DRAIN,CONNECTION 1" CL. 1500#
 2)FLOW DEVIDER I 5) BOOSTER: 2625
 3) 2 PLATES SILENCER 6"/10"(PV150611S)

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.						2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182				PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	

TAG NO: PV-150635A											
1	FLUID:	MP STEAM (SUPERHEATED) / VAPOUR				CRIT. PRESS (PC)		BAR (ABS)			
2	SERVICE CONDITIONS					UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	CASE4
3		FLOW RATE	Kg/hr			80000	67500	3750		135000	
4		INLET PRESSURE	BAR (ABS)			47	47	47		47	
5		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION	BAR			5	5	5	54/47	5	
6		INLET TEMPERATURE	° C			395	395	395		395	
7		SPEC. WT/SPEC.GRAVITY/MOL WT				18.02	18.02	18.02			
8		VISCOSITY/SPEC HEAT RATIO	mPas			0.024	0.024	0.024			
9		VAPOR PRESSURE PV	BARA								
10		*REQUIRED CV									
11		*TRAVEL	%								
12		ALLOWABLE/ *PREDICTED SPL	dBA			85/ 81	85/	85/ 69		85/90	
13		COMPRESSIBILITY Z				0.95	0.95	0.95			
14	K=Cp/Cv= 1.22 DENSITY 16.33 kg/m ³ @ Ope.Cond.										
15	LINE	PIPE LINE SIZE	IN	12" / 17.48		53	ACTUATOR				
16		& WALL THICKNESS(mm)	OUT	14" / 19.05		54					
17	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC. H / DE1				55	POSITIONER				
18		* TYPE GLOBE				56					
19		* SIZE 8" ANSI CLASS 900#/RF				57					
20		DESIGN PRESS.BARG /TEMP.° C 54 / 470				58					
21		*MFR. & MODEL 3254				59					
22		*BODY/BONNET MATL. A217 GR WC6				60					
23		*LINER MATERIAL/ID				61					
24		END	IN	FLANGED		62					
25		CONNECTION	OUT	FLANGED		63					
26		FLG FACE FINISH ANSI 900 # RF				64					
27		END EXT/MATL.				65					
28		*FLOW DIRECTION OPEN				66					
29	*TYPE OF BONNET INSULATING SECTION				67	LIMIT SW.					
30	LUBE & ISO VALVE NO				68						
31	*PACKING MAT. GRAPHITE				69	AIR SET					
32	*PACKING TYPE				70						
33					71	TEST					
34					72						
35	TRIM	*TYPE PARABOLIC				73	SPECIAL ACCESSORIES				
36		*SIZE RATED TRAVEL				74					
37		CHARACTERISTIC LINEAR				75					
38		*BALANCED/UNBALANCED BALANCED				76					
39		SELECTED CV 650				77					
40		*PLUG/BALL/DISK MATERIAL 410				78					
41		*SEAT MATERIAL 410				79					
42		*CAGE/GUIDE MATERIAL				80					
43	*STEM MAT. 410				81	PID NO: 156 LINE NO: MSS-15-06-011					
44	RANGEABILITY: 50:1				82						
45	PLUG SEALING:METALLIC,MATERIAL:410				83	TEST					
46					84						
47	SOLENOID VALVE: YES NO ☒ ☐				85	HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)					
48	MANUAL RESET: YES NO ☒ ☐				86						
49	TAG NO:										
50	FUSIBLE LINKAGE YES NO ☒ ☐										
51	BLOCK RELAY YES NO ☒ ☐										
52	BOOSTER YES ☒ NO ☐										
53	CARTRIDGE YES NO ☒ ☐										
54	PROXIMITY SW. YES NO ☒ ☐										
55	VOLUME TANK YES NO ☒ ☐										

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1) CV-VALUE HAS EFFECTED ON SAFETY VALUE. 4)CASE 4: VALVE OPENING=95%
 2)NOISE REDUCTION: ST1 (FLOW DIVIDER I) 5)NO NORMAL OPERATING POINT
 3)BOOSTER=8523-0084, QUICK EXH.VALVE =8502-0144 6)Q=135000kg/h FOR(SOUND PRESSURE LEVEL=92)

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.						2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182				PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5			
TAG NO: PV-150635B											
1 FLUID: MP STEAM (SUPERHEATED) / VAPOUR						CRIT. PRESS (PC)		BAR (ABS)			
						UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	CASE4
2 FLOW RATE						Kg/hr	80000	67500	3750		135000
3 INLET PRESSURE						BAR (ABS)	47	47	47		47
4 DP. PRESSURE IN FLOW / AGAINST FLOW DIRECTION						BAR	5	5	5	54/47	5
5 INLET TEMPERATURE						° C	395	395	395		395
6 SPEC. WT/SPEC.GRAVITY/MOL WT							18.02	18.02	18.02		
7 VISCOSITY/SPEC HEAT RATIO						mPas	0.024	0.024	0.24		
8 VAPOR PRESSURE PV						BARA					
9 *REQUIRED CV											
10 *TRAVEL						%					
11 ALLOWABLE/ *PREDICTED SPL						dBA	85/	85/92	85/		
12 COMPRESSIBILITY Z											
K=Cp/Cv= DENSITY 16.33 kg/m³ @ Ope.Cond.											
13 PIPE LINE SIZE IN 12"/ 17.48						53	*TYPE PNEUMATIC / DIAPHRAGM				
14 & WALL THICKNESS(mm) OUT 14"/ 19.05						54	*MFR. & MODEL 3271				
15 PIPE LINE INSULATION /SPEC. H / DE1						55	* SIZE 530MM EFF AREA				
16 * TYPE GLOBE						56	ON/OFF MODULATING YES				
17 * SIZE 8" ANSI CLASS 900#/RF						57	SPRING ACTION OPEN /CLOSE CLOSE				
18 DESIGN PRESS.BARG /TEMP.° C 54 / 470						58	*MAX ALLOWABLE PRESSURE				
19 *MFR. & MODEL 3254						59	*MIN ALLOWABLE PRESSURE				
20 *BODY/BONNET MATL. A217 GR WC6						60	AVAILABLE AIR SUPPLY PRESSURE:				
21 *LINER MATERIAL/ID						61	MAX. 6 BARG MIN. 4 BARG				
22 END IN FLANGED						62	*BENCH RANGE 1.4-2.7 BARG				
23 CONNECTION OUT FLANGED						63	ACT ORIENTATION				
24 FLG FACE FINISH ANSI 900 # RF						64	HANDWHEEL TYPE NO				
25 END EXT/MATL.						65	AIR FAILURE VALVE SET AT				
26 *FLOW DIRECTION OPEN						66	STROKE TIME: < 10 Sec.,60MM,OPENING TIME<5 SEC				
27 *TYPE OF BONNET INSULATING SECTION						67	INPUT SIGNAL 4-20MA SMART HART				
28 LUBE & ISO VALVE NO						68	*TYPE				
29 *PACKING MAT. GRAPHITE						69	*MFR. & MODEL 3780-100				
30 *PACKING TYPE						70	*ON INCR SIGNAL OUTPUT INCR/DECR				
31						71	GAUGES YES BY-PASS				
32 *TYPE PARABOLIC						72	*CAM CHARACTERISTIC				
33 *SIZE RATED TRAVEL						73					
34 CHARACTERISTIC LINEAR						74	TYPE QUANTITY				
35 *BALANCED/UNBALANCED BALANCED						75	*MFR. & MODEL				
36 SELECTED CV 650						76	CONTACT/RATING				
37 *PLUG/BALL/DISK MATERIAL 410						77	ACTUATION POINTS				
38 *SEAT MATERIAL 410						78	TAG NO:				
39 *CAGE/GUIDE MATERIAL						79	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE				
40 *STEM MAT. 410						80	*SET PRESSURE				
41 RANGEABILITY: 50:1						81	FILTER YES GAUGE YES				
42 PLUG SEALING:METALLIC,MATERIAL:410						82					
43 SOLENOID VALVE: YES NO ☒						83	*HYDRO PRESURE				
44 MANUAL RESET: YES NO ☒						84	ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)				
45 TAG NO:						85					
46						86					
47 FUSIBLE LINKAGE YES NO ☒						PID NO: 156					
48 BLOCK RELAY YES NO ☒						LINE NO: MSS-15-06-011					
49 BOOSTER YES ☒ NO											
50 CARTRIDGE YES NO ☒											
51 PROXIMITY SW. YES NO ☒											
52 VOLUME TANK YES NO ☒											

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1) CV-VALUE HAS EFFECTED ON SAFETY VALUE.
 2)GRAPHITE PRESSURE BALANCE RINNG
 3)NOISE REDUTION (FLOWDIVIDER I)
 4)BOOSTER 8523-0084,QUICKEXH. VALVE: 8502-0144
 5)CASE 4:VALVE OPENING =95%
 6)NO NORMAL OPERATING POINT
 7)Q=135000kg/h FOR(SOUND PRESSURE LEVEL=92)

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	
TAG NO: PV-150707							
1 FLUID: LP STEAM / VAPOUR				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW 2)	NORM FLOW	MIN. FLOW
				SHUT OFF	START UP		
2 FLOW RATE				Kg/hr	93000	6500	3500
3 INLET PRESSURE				BAR (ABS)	5.7	5.7	5.7
4 DP PRESSURE				BAR	2.7	3.7	3.9
5 INLET TEMPERATURE				° C	270	270	270
6 SPEC. WT/SPEC.GRAVITY/MOL WT					18.02	18.02	18.02
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.019	0.019	0.019
8 VAPOR PRESSURE PV				BARA			
9 *REQUIRED CV							
10 *TRAVEL				%			
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 92	85/ 76	85/ 74
12 COMPRESSIBILITY Z					1	1	1
K=Cp/Cv= 1.331 DENSITY 2.31 kg/m ³ @ Ope.Cond.				kg/m ³			
13 LINE				53 *TYPE PNEUMATIC / DIAPHRAGM			
14 & WALL THICKNESS(mm)				54 *MFR. & MODEL 3271			
15 PIPE LINE INSULATION /SPEC.				55 * SIZE 770MM EFF AREA			
16 * TYPE GLOBE				56 ON/OFF MODULATING YES			
17 * SIZE 16" ANSI CLASS 300#/RF				57 SPRING ACTION OPEN /CLOSE CLOSE			
18 DESIGN PRESS.BARG /TEMP.° C 7/ 380				58 *MAX ALLOWABLE PRESSURE			
19 *MFR. & MODEL 3254				59 *MIN ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A216 / WCB				60 AVAILABLE AIR SUPPLY PRESSURE:			
21 *LINER MATERIAL/ID				61 MAX. 6.0 BARG MIN. 4 BARG			
22 END IN FLANGED				62 *BENCH RANGE 1.1-1.8 BARG			
23 CONNECTION OUT FLANGED				63 ACT ORIENTATION			
24 FLG FACE FINISH ANSI 300 # RF				64 HANDWHEEL TYPE NO			
25 END EXT/MATL.				65 AIR FAILURE VALVE SET AT			
26 *FLOW DIRECTION OPEN				66 STROKE TIME < 5 SEC, 120MM, CLOSING TIME < 5 sec			
27 *TYPE OF BONNET INSULATING SECTION				67 INPUT SIGNAL H1 FUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO				68 *TYPE			
29 *PACKING MAT. GRAPHITE				69 *MFR. & MODEL 3787-100			
30 *PACKING TYPE				70 *ON INCR SIGNAL OUTPUT INCR/DECR			
31 RANGEABILITY: 50:1				71 GAUGES YES IP65 BY-PASS			
32 *TYPE PARABOLIC				72 *CAM CHARACTERISTIC			
33 *SIZE RATED TRAVEL				73			
34 CHARACTERISTIC LINEAR				74 TYPE QUANTITY			
35 *BALANCED/UNBALANCED BALANCED				75 *MFR. & MODEL			
36 SELECTED CV 2080 XT				76 CONTACT/RATING			
37 *PLUG/BALL/DISK MATERIAL 410 (STELLITED)				77 ACTUATION POINTS			
38 *SEAT MATERIAL 410 (STELLITED)				78 TAG NO:			
39 *CAGE/GUIDE MATERIAL				79 *MFR. & MODEL 2XNORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE			
40 *STEM MAT. 410				80 *SET PRESSURE			
41 PLUG SEALING: METALLIC, MATERIAL: 410				81 FILTER YES GAUGE YES			
42 ARMoured YES MATERIAL: STELLITE				82			
43 SOLENOID VALVE: YES NO ☒				83 *HYDRO PRESURE			
44 MANUAL RESET: YES NO ☒				84 ANSI/FCI LEAKAGE CLASS IV(IEC 534.4)			
45 TAG NO:				85			
46				86			
47 FUSIBLE LINKAGE YES NO ☒				PID NO: 157			
48 BLOCK RELAY YES NO ☒				LINE NO: LSS-15-07-014			
49 BOOSTER YES ☒ NO							
50 CARTRIDGE YES NO ☒							
51 PROXIMITY SW. YES NO ☒							
52 VOLUME TANK YES NO ☒							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1) NORMALLY ZERO FLOW
 2) UPSET , NO STEAM EXPORT (MAX.FLOW CONDITION)
 3) GRAPHITE PRESSURE BALANCING RING
 4) NOISE REDUCTION : ST1 (FLOW DIVIDER I).
 5) BOOSTER :2625/ QUICK EXH.VALVE :8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. P-1182-DSH-IN-644		5	

TAG NO: PV-150612								
1	FLUID:	MP STEAM SUPERHEATED / VAPOUR			CRIT. PRESS (PC)		BAR (ABS)	
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	
3		INLET PRESSURE	Kg/hr	21700	6000	5000	140000	
4		DP PRESSURE IN FLOW DIRECTION /AGAINST FLOW DIRECTION	BAR (ABS)	41	41	41	30	
5		INLET TEMPERATURE	BAR	37	38	39	54/7	
6		SPEC. WT/SPEC.GRAVITY/MOL WT	° C	420	420	420	350	
7		VISCOSITY/SPEC HEAT RATIO		18.02	18.02	18.02		
8		VAPOR PRESSURE PV	mPas					
9		*REQUIRED CV	BARA					
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBA	85/ 92	85/ 85	85/	85/98	
12		COMPRESSIBILITY Z						
13		LINE	PIPE LINE SIZE	DENSITY 13.5/11	kg/m ³	@ Ope.Cond.		
14	IN		12" / 17.48					
15	& WALL THICKNESS(mm)		OUT	20" / DE1/26.19				
16	PIPE LINE INSULATION /SPEC.			H/DE1				
17	* TYPE		GLOBE					
18	* SIZE		12" ANSI CLASS	900#/RF				
19	DESIGN PRESS.BARG /TEMP.° C		54/470					
20	*MFR. & MODEL		3254					
21	*BODY/BONNET MATL.		A217 / WC6					
22	*LINER MATERIAL/ID							
23	END		IN	FLANGED				
24	CONNECTION		OUT	FLANGED				
25	VALVE BODY/ BONNET	FLG FACE FINISH	ANSI 900 # RF					
26		END EXT/MATL.						
27		*FLOW DIRECTION	OPEN					
28		*TYPE OF BONNET	INSULATING SECTION					
29		LUBE & ISO VALVE	NO					
30		*PACKING MAT.	GRAPHITE					
31		*PACKING TYPE						
32		RANGEABILITY:	50:1					
33		*TYPE	PARABOLIC					
34		*SIZE	RATED TRAVEL					
35		CHARACTERISTIC	LINEAR					
36		*BALANCED/UNBALANCED	BALANCED					
37	TRIM	SELECTED CV	1040	XT				
38		*PLUG/BALL/DISK MATERIAL	410 (stellite)					
39		*SEAT MATERIAL	410 (stellite)					
40		*CAGE/GUIDE MATERIAL						
41		*STEM MAT.	410					
42		PLUG SEALING:METALLIC,MATERIAL:410						
43		ARMoured	YES	MATERIAL: STELLITE				
44		SOLENOID VALVE:	YES	NO	✓			
45		MANUAL RESET:	YES	NO	✓			
46		TAG NO:						
47		SPECIAL ACCESSORIES	FUSIBLE LINKAGE	YES	NO	✓		
48			BLOCK RELAY	YES	NO	✓		
49	BOOSTER		YES	✓	NO			
50	CARTRIDGE		YES	NO	✓			
51	PROXIMITY SW.		YES	NO	✓			
52		VOLUME TANK	YES	NO	✓			

ACTUATORE	*TYPE		PNEUMATIC / DIAPHRAGM	
	*MFR. & MODEL		3271	
	* SIZE		770mm	EFF AREA
	ON/OFF		MODULATING YES	
	SPRING ACTION OPEN /CLOSE		CLOSE	
	*MAX ALLOWABLE PRESSURE			
	*MIN ALLOWABLE PRESSURE			
	AVAILABLE AIR SUPPLY PRESSURE:			
	MAX.		6.0 BARG	MIN. 4 BARG
	*BENCH RANGE		0.8-2.4	barg
	ACT ORIENTATION			
	HANDWHEEL TYPE		NO	
AIR FAILURE VALVE		SET AT		
STROKE TIME< 10 SEC.,120mm				
INPUT SIGNAL		4-20MA SMART/HART		
POSITIONER	*TYPE			
	*MFR. & MODEL		3780-100	
	*ON INCR SIGNAL OUTPUT INCR/DECR			
	GAUGES		YES	BY-PASS
*CAM CHARACTERISTIC				
LIMIT SW.	TYPE		QUANTITY	
	*MFR. & MODEL			
	CONTACT/RATING			
	ACTUATION POINTS			
AIR SET	TAG NO:			
	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE			
	*SET PRESSURE			
	FILTER		YES	GAUGE YES
TEST	*HYDRO PRESURE			
	ANSI/FCI LEAKAGE CLASS		IV(IEC 534.4)	
PID NO:		157		
LINE NO:		MSS-15-06-018		

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) 5 PLATE SILENSER: 12"/20" (PV150612S)

2) MINIMUM, REGULATED FLOW 7800 KG/H

3) WITH DRAIN, CONNECTION 1", CL 900#.

4) NOISE REDUCTION : (FLOW DIVIDER / I)

5) BOOSTER: 2625

SHEET 63 OF 102

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: LV-200403										
1	FLUID: MP BFW / LIQUID				CRIT. PRESS (PC 221.2		BAR (ABS)			
2	SERVICE CONDITIONS				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3		FLOW RATE			Kg / hr	195000	154529	30000		
4		INLET PRESSURE			BAR (ABS)	61	67	73		
5		DP PRESSURE IN FLOW DIRECTION /AGAINST FLOW DIRECTION			BAR	10	16	22	80 /54	
6		INLET TEMPERATURE			° C	112	112	112		
7		SPEC. WT/SPEC.GRAVITY/MOL WT				18.015	18.015	18.015		
8		VISCOSITY/SPEC HEAT RATIO			mPas	0.248	0.248	0.248		
9		VAPOR PRESSURE PV			BARA	1.5	1.5	1.5		
10		*REQUIRED CV								
11		*TRAVEL			%					
12	ALLOWABLE/ *PREDICTED SPL			dBA	85/ 76	85 / 78	85 / 66			
	COMPRESSIBILITY Z									
	K=Cp/Cv=			DENSITY 953 kg/m ³	@ Ope.Cond.					
13	LINE	PIPE LINE SIZE		IN	6"/10.97	53	*TYPE PNEUMATIC / DIAPHRAGM			
14		& WALL THICKNESS(mm)		OUT	6"/BD1/10.97	54				
15		PIPE LINE INSULATION /SPEC.			H / BE1	55				
16	VALVE BODY/ BONNET	* TYPE			GLOBE VALVE	56	ACTUATORE			
17		* SIZE			4" ANSI CLASS 900# / RF	57				
18		DESIGN PRESS.BARG /TEMP.° C			94 / 160	58				
19		*MFR. & MODEL			3251	59				
20		*BODY/BONNET MATL.			A216 GR. WCB	60				
21		*LINER MATERIAL/ID				61				
22		END			IN FLANGED	62				
23		CONNECTION			OUT FLANGED	63				
24		FLG FACE FINISH			ANSI 900# RF	64				
25		END EXT/MATL.				65				
26		*FLOW DIRECTION TENDS TO			OPEN	66				
27		*TYPE OF BONNET			STD	67				
28		LUBE & ISO VALVE			NO	68				
29		*PACKING MAT.			PTFE RINGS	69				
30		*PACKING TYPE				70				
31	RANGEABILITY:			50:1	71					
32	TRIM	*TYPE			PARABOLIC	72	POSITIONER			
33		*SIZE			RATED TRAVEL	73				
34		CHARACTERISTIC			LOG	74				
35		*BALANCED/UNBALANCED				75				
36		SELECTED CV			120 FL XT	76				
37		*PLUG/BALL/DISK MATERIAL			316Ti (STELLITED)	77				
38		*SEAT MATERIAL			316Ti (STELLITED)	78				
39		*CAGE/GUIDE MATERIAL				79				
40	SPECIAL ACCESSORIES	*STEM MAT.			316Ti	80	LIMIT SW.			
41		ARMoured: YES, MATERIAL: STELLITE				81				
42		PLUG SEALING: METALLIC MATERIAL: 316Ti				82				
43		SOLENOID VALVE: YES ☐ NO ☒				83				
44		MANUAL RESET: YES ☐ NO ☒				84				
45		TAG NO:				85				
46						86				
47		FUSIBLE LINKAGE YES ☐ NO ☒								
48		BLOCK RELAY YES ☒ NO ☐								
49		BOOSTER YES ☒ NO ☐								
50	CARTRIDGE YES ☐ NO ☒									
51	PROXIMITY SW. YES ☐ NO ☒									
52	VOLUME TANK YES ☐ NO ☒									

PID NO: 204 LINE NO: MBW-20-04-012	
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* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1)BOOSTER : 2625/QUICK EXH.VALVE :8502-0144/LOCK-UP RELAIES : FISHER TYPE:122A

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: PV-200307A							
1	FLUID:	FLARE GAS / GAS			CRIT. PRESS (PC)		BAR (ABS)
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
3		INLET PRESSURE	Sm3/hr	140000	0		
4		DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR (ABS)	67.9	67.9		
5		INLET TEMPERATURE	BAR	64.4	66.7		88/2
6		SPEC. WT/SPEC.GRAVITY/MOL WT	° C	40	40		
7		VISCOSITY/SPEC HEAT RATIO	KG/KMOL	11.51	11.51		
8		VAPOR PRESSURE PV	mPas	0.014	0.014		
9		*REQUIRED CV	BARA				
10		*TRAVEL	%				
11		ALLOWABLE/ *PREDICTED SPL	dBa	85/ 149	85/		
12		COMPRESSIBILITY Z		1.02	1.02		
K=Cp/Cv= 1.37 DENSITY 29.89 kg/m ³ @ Ope.Cond.							
13	LINE	PIPE LINE SIZE	IN	6" / 10.97			
14		& WALL THICKNESS(mm)	OUT	16" / AA3/9.53			
15		PIPE LINE INSULATION /SPEC.	/BD1				
16	VALVE BODY/ BONNET	* TYPE	GLOBE VALVE				
17		* SIZE	6"	ANSI CLASS	600# /RF		
18		DESIGN PRESS.BARG /TEMP. ° C	88/100				
19		*MFR. & MODEL	3251				
20		*BODY/BONNET MATL.	A216 GR.WCB				
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH	ANSI 600# RF				
25		END EXT/MATL.					
26		*FLOW DIRECTION TENDS TO	OPEN				
27		*TYPE OF BONNET	STD				
28		LUBE & ISO VALVE	NO				
29		*PACKING MAT.	PTFE RINGS				
30		*PACKING TYPE					
31		RANGEABILITY:	50:1				
32	TRIM	*TYPE	PARABOLIC				
33		*SIZE	RATED TRAVEL				
34		CHARACTERISTIC	LOG				
35		*BALANCED/UNBALANCED	BALANCED				
36		SELECTED CV	220	FL	XT		
37		*PLUG/BALL/DISK MATERIAL	316Ti (STELLITED)				
38		*SEAT MATERIAL	316Ti (STELLITED)				
39		*CAGE/GUIDE MATERIAL					
40	*STEM MAT.	316Ti					
41	PLUG SEALING:LAPPED IN	MATERIAL:316Ti					
42	ARMoured: YES, MATERIAL: STELLITE						
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES		NO	☒	
44		MANUAL RESET:	YES		NO	☒	
45		TAG NO:					
46							
47		FUSIBLE LINKAGE	YES		NO	☒	
48		BLOCK RELAY	YES		NO	☒	
49	BOOSTER	YES	☒	NO			
50	CARTRIDGE	YES		NO	☒		
51	PROXIMITY SW.	YES		NO	☒		
52	VOLUME TANK	YES		NO	☒		

53	ACTUATORE	*TYPE	PNEUMATIC / DIAPHRAGM				
54		*MFR. & MODEL	3271				
55		* SIZE	530MM	EFF AREA			
56		ON/OFF	MODULATING				
57		SPRING ACTION OPEN /CLOSE	CLOSE				
58		*MAX ALLOWABLE PRESSURE					
59		*MIN ALLOWABLE PRESSURE					
60		AVAILABLE AIR SUPPLY PRESSURE:					
61		MAX.	6.0 BARG	MIN.	4 BARG		
62		*BENCH RANGE	0.8~ 2.4	BARG			
63		ACT ORIENTATION					
64		HANDWHEEL TYPE					
65		AIR FAILURE VALVE	SET AT				
66		STROKE TIME < 10 SEC.,60MM					
67		INPUT SIGNAL	H1 FOUNDATION FIELD BUS				
68		POSITIONER	*TYPE				
69	*MFR. & MODEL		3787-100				
70	*ON INCR SIGNAL OUTPUT INCR/DECR						
71	GAUGES		YES	BY-PASS			
72	LIMIT SW.	*CAM CHARACTERISTIC					
73		TYPE	QUANTITY				
74		*MFR. & MODEL					
75		CONTACT/RATING					
76	AIR SET	ACTUATION POINTS					
77		TAG NO:					
78		*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE					
79		*SET PRESSURE					
80	TEST	FILTER	YES	GAUGE	YES		
81							
82		*HYDRO PRESURE					
83		ANSI/FCI LEAKAGE CLASS	V (TSO IEC 534.4)				
84							
85							
86							

53	PID NO:	203
54	LINE NO:	PG-20-03-001

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) 4 PLATES-SILENSER 6"/16"(PV200307T)

2) Cv -valve has effect on safety valve

3)FLOW DEVIDER III

4)BOOSTER :8523-0084/QUICK-EXH.VALVE :8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	

TAG NO: PV-200307B								
1	FLUID:	PURGE GAS / GAS			CRIT. PRESS (PC)		BAR (ABS)	
			UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	SERVICE CONDITIONS	FLOW RATE	Sm3/hr	35000	22697			
3		INLET PRESSURE	BAR (ABS)	67.9	67.9			
4		DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR	64.4	64.4		88 / 8	
5		INLET TEMPERATURE	° C	40	40			
6		SPEC. WT/SPEC.GRAVITY/MOL WT	kg/kmol	11.51	11.51			
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.014	0.014			
8		VAPOR PRESSURE PV	BARA					
9		*REQUIRED CV						
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBA	85	/143	85/142		
12	COMPRESSIBILITY Z		1.02	1.02				
		K=Cp/Cv= 1.37		DENSITY 29.89 kg/m ³		@ Ope.Cond.		
13	LINE	PIPE LINE SIZE	IN	3" / 7.62				
14		& WALL THICKNESS(mm)	OUT	8" / AA2/8.18				
15		PIPE LINE INSULATION /SPEC.		/ BD1				
16	VALVE BODY/ BONNET	* TYPE GLOBE VALVE						
17		* SIZE 3" ANSI CLASS 600# / RF						
18		DESIGN PRESS.BARG /TEMP.° C 88 / 100						
19		*MFR. & MODEL 3251						
20		*BODY/BONNET MATL. A216 GR.WCB						
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH ANSI 600 # RF						
25		END EXT/MATL.						
26		*FLOW DIRECTION TEND OPEN OPEN						
27		*TYPE OF BONNET STD						
28		LUBE & ISO VALVE NO						
29		*PACKING MAT. PTFE						
30		*PACKING TYPE						
31	RANGEABILITY: 50:1							
32	TRIM	*TYPE PARABOLIC						
33		*SIZE RATED TRAVEL						
34		CHARACTERISTIC LOG						
35		*BALANCED/UNBALANCED						
36		SELECTED CV	35	FL	XT			
37		*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)						
38		*SEAT MATERIAL 316Ti (STELLITED)						
39		*CAGE/GUIDE MATERIAL						
40	*STEM MAT. 316Ti							
41	PLUG SEALING:LAPPED IN MATERIAL:316Ti							
42	ARMOURED: YES, MATERIAL: STELLITE							
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	☒			
44		MANUAL RESET:	YES	NO	☒			
45		TAG NO:						
46								
47		FUSIBLE LINKAGE	YES	NO	☒			
48		BLOCK RELAY	YES	NO	☒			
49	BOOSTER	YES	☒	NO				
50	CARTRIDGE	YES	NO	☒				
51	PROXIMITY SW.	YES	NO	☒				
52	VOLUME TANK	YES	NO	☒				

53	ACTUATORE	*TYPE PNEUMATIC / DIAPHRAGM						
54		*MFR. & MODEL 3271						
55		* SIZE 530MM	EFF AREA					
56		ON/OFF	MODULATING YES					
57		SPRING ACTION OPEN /CLOSE CLOSE						
58		*MAX ALLOWABLE PRESSURE						
59		*MIN ALLOWABLE PRESSURE						
60		AVAILABLE AIR SUPPLY PRESSURE:						
61		MAX. 6.0 BARG	MIN. 4 BARG					
62		*BENCH RANGE 1.6-2.4 BARG						
63	ACT ORIENTATION							
64	HANDWHEEL TYPE NO							
65	AIR FAILURE VALVE SET AT							
66	STROKE TIME<10 SEC.,30MM							
67	INPUT SIGNAL H1 FOUNDATION FIELD BUS							
68	POSITIONER	*TYPE						
69		*MFR. & MODEL 3787-100						
70		*ON INCR SIGNAL OUTPUT INCR/DECR						
71		GAUGES YES	BY-PASS					
72	*CAM CHARACTERISTIC							
73	LIMIT SW.	TYPE QUANTITY						
74		*MFR. & MODEL						
75		CONTACT/RATING						
76		ACTUATION POINTS						
77	TAG NO:							
78	AIR SET	*MFR. & MODEL: NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE						
79		*SET PRESSURE						
80		FILTER YES	GAUGE YES					
81								
82	TEST	*HYDRO PRESURE						
83		ANSI/FCI LEAKAGE CLASS V (TSO IEC 534.4)						
84								
85								
86								

53	PID NO: 105						
54	LINE NO: PG-20-03-004						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)3 PLATES SILENSER 3"/8"(PV200307U)

2)FLOW DEVIDER III

3)BOOSTER : 8523-0084

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		 mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
				CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO.: P-1182-DSH-IN-644 5				
TAG NO: PV-200409								
1 FLUID: MP STEAM / STEAM				CRIT. PRESS (PC) 221.2 BAR (ABS)				
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3		INLET PRESSURE	Kg/hr	165000	151437	20000		
4		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION	BAR (ABS)	48	48	48		
5		INLET TEMPERATURE	BAR	0.5	1	2	54/54	
6		SPEC. WT/SPEC.GRAVITY/MOL WT	° C	262	262	262		
7		VISCOSITY/SPEC HEAT RATIO	° C	262	262	262		
8		VAPOR PRESSURE PV	KG/KMOL	18.015	18.015	18.015		
9		*REQUIRED CV	mPas	0.019	0.019	0.019		
10		*TRAVEL	BARA	48	48	48		
11		ALLOWABLE/ *PREDICTED SPL	%					
12	COMPRESSIBILITY Z	dBA	85/45.8	85/	58.8	85/72.5		
		K=Cp/Cv= 1.22	DENSITY 24.3 kg/m ³	@ Ope Cond.				
13	LINE	PIPE LINE SIZE	IN	12" / 17.48				
14		& WALL THICKNESS(mm)	OUT	12" / 17.48				
15		PIPE LINE INSULATION /SPEC.	V / BD1					
16	VALVE BODY/ BONNET	* TYPE	BUTTERFLY LUG TYPE					
17		* SIZE	12	ANSI CLASS	600#/RF			
18		DESIGN PRESS.BARG /TEMP.° C	54 / 280					
19		*MFR. & MODEL	LDE					
20		*BODY/BONNET MATL.	A216 GR. WCB					
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH	ANSI 600 # RF					
25		END EXT/MATL.						
26		*FLOW DIRECTION	OPEN					
27		*TYPE OF BONNET	STD					
28		LUBE & ISO VALVE	NO					
29		*PACKING MAT.	GRAPHITE					
30		*PACKING TYPE						
31	RANGEABILITY	50:1						
32	TRIM	*TYPE	60° FLAP					
33		*SIZE	RATED TRAVEL					
34		CHARACTERISTIC	LOG					
35		*BALANCED/UNBALANCED						
36		SELECTED CV	2515	FL	XT			
37		*PLUG/BALL/DISK MATERIAL	316 SS					
38		*SEAT MATERIAL	316 SS					
39		*CAGE/GUIDE MATERIAL						
40	*STEM MAT.	316 SS						
41	PLUG SEALING:METALLIC	MATERIAL:316SS						
42	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES		NO	☒		
43		MANUAL RESET:	YES		NO	☒		
44		TAG NO:						
45								
46								
47		FUSIBLE LINKAGE	YES		NO	☒		
48		BLOCK RELAY	YES		NO	☒		
49		BOOSTER	YES	☒	NO			
50	CARTRIDGE	YES		NO	☒			
51	PROXIMITY SW.	YES		NO	☒			
52	VOLUME TANK	YES		NO	☒			
53	ACTUATORE	*TYPE	PNEUMATIC / PISTON					
54		*MFR. & MODEL	GP-085-385/C3					
55		* SIZE	EFF AREA					
56		ON/OFF	MODULATING					
57		SPRING ACTION OPEN /CLOSE	CLOSE					
58		*MAX ALLOWABLE PRESSURE						
59		*MIN ALLOWABLE PRESSURE						
60		AVAILABLE AIR SUPPLY PRESSURE:						
61		MAX.	6.0 BARG	MIN.	4 BARG			
62		*BENCH RANGE	4	BARG				
63	ACT ORIENTATION							
64	HANDWHEEL TYPE	NO						
65	AIR FAILURE VALVE	SET AT						
66	STROKE TIME <20 SEC.,80MM							
67	INPUT SIGNAL	H1 FOUNDATION FIELD BUS						
68	POSITIONER	*TYPE						
69		*MFR. & MODEL	3787-100					
70		*ON INCR SIGNAL OUTPUT INCR/DECR						
71		GAUGES	YES	IP65	BY-PASS			
72	*CAM CHARACTERISTIC							
73	LIMIT SW.	TYPE	QUANTITY					
74		*MFR. & MODEL						
75		CONTACT/RATING						
76		ACTUATION POINTS						
77	TAG NO:							
78	AIR SET	*MFR. & MODEL	NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE					
79		*SET PRESSURE						
80		FILTER	YES	GAUGE	YES			
81								
82	TEST	*HYDRO PRESURE						
83		ANSI/FCI LEAKAGE CLASS	IV (IEC 534.4)					
84								
85								
86								
PID NO: 204 LINE NO: MPS-20-04-001								

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)CV-VALUE HAS EFFECT ON SAFETY VALVE.

2)BOOSTER :2625, QUICK EXH. VALVE :8502-0144

3)If butterfly is operating as a single noise source IEC5348-3 results are <<85dBA.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	

TAG NO: TV-200521A											
1 FLUID: RECYCLE GAS / GAS				CRIT. PRESS (PC) BAR (ABS)							
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW				
2 FLOW RATE				Sm ³ /hr	1395500	1265340	60000				
3 INLET PRESSURE				BAR (ABS)	77	77	77				
4 DP PRESSURE				BAR	0.1	0.1	1.5				
5 INLET TEMPERATURE				° C	120	120	120				
6 SPEC. WT/SPEC.GRAVITY/MOL WT				KG/KMOL	11.5	11.5	11.5				
7 VISCOSITY/SPEC HEAT RATIO				mPas	0.014	0.014	0.014				
8 VAPOR PRESSURE PV				BARA							
9 *REQUIRED CV											
10 *TRAVEL				%							
11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 16.7	85/ 16.3	85/ 15.1				
12 COMPRESSIBILITY Z					1.01	1.01	1.01				
K=Cp/Cv= 1.35 DENSITY 26 kg/m ³ @ Ope.Cond.											
13 LINE				53 *TYPE PNEUMATIC / PISTON 1)							
14 PIPE LINE SIZE IN 24" / 24.61				54 *MFR. & MODEL GP-130S-535/DA							
15 & WALL THICKNESS(mm) OUT 24" / 24.61				55 * SIZE EFF AREA							
16 PIPE LINE INSULATION /SPEC. H/NE1				56 ON/OFF MODULATING YES							
17 VALVE BODY/ BONNET				57 SPRING ACTION OPEN /CLOSE OPEN							
				58 *MAX ALLOWABLE PRESSURE							
				59 *MIN ALLOWABLE PRESSURE							
				60 AVAILABLE AIR SUPPLY PRESSURE:							
				61 MAX. 6.0 BARG MIN. 4 BARG							
				62 *BENCH RANGE 4 BARG							
				63 ACT ORIENTATION							
				64 HANDWHEEL TYPE NO							
				65 AIR FAILURE VALVE SET AT							
				66 STROKE TIME:<20 SEC.,80 MM							
				67 INPUT SIGNAL H1 FOUNDATION FIELD BUS							
				68 POSITIONER				69 *TYPE			
								70 *MFR. & MODEL 3787-100			
								71 *ON INCR SIGNAL OUTPUT INCR/DECR			
				72 LIMIT SW.				73 GAUGES YES BY-PASS			
74 *CAM CHARACTERISTIC											
75 TYPE QUANTITY											
76 AIR SET				77 *MFR. & MODEL							
				78 CONTACT/RATING							
				79 ACTUATION POINTS							
80 TEST				81 TAG NO:							
				82 *MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE							
				83 *SET PRESSURE							
84 SPECIAL ACCESSORIES				85 FILTER YES GAUGE YES							
				86 *HYDRO PRESURE							
				87 ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)							
88				PID NO: 205							
89				LINE NO: RCG-20-05-022							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): MECHANICAL COUPLING WITH BUTTERFLY TV-200521B.ONE COMMON ACTUATOR WITH TV-200521B

2) BOOSTER :2625/QUICK EXH. VALVE :8502-0144

3) WITH REDUCED STEM,WITH OUT T-PIECE,WITH DRAWING.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: HV-200204										
1 FLUID: MAKE UP GAS / GAS				CRIT. PRESS (PC)		BAR (ABS)				
SERVICE CONDITIONS				UNITS	MAX. FLOW	RATED FLOW	NOR. FLOW	SHUT OFF	START UP	
	2 FLOW RATE			Sm ³ /hr		604000	575154			
	3 INLET PRESSURE			BAR (ABS)		82.8	76.6			
	4 DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION			BAR		0.15	0.15	886) /60		
	5 INLET TEMPERATURE			° C		170	147			
	6 SPEC. WT/SPEC.GRAVITY/MOL WT			kg/kmol		11.4	11.4			
	7 VISCOSITY/SPEC HEAT RATIO			mPas		0.018	0.018			
	8 VAPOR PRESSURE PV			BARA						
	9 *REQUIRED CV									
	10 *TRAVEL			%						
	11 ALLOWABLE/ *PREDICTED SPL			dBA		85 / 23.8	85 / 24.2			
	12 COMPRESSIBILITY Z					1.02	1.02			
K=Cp/Cv= 1.39 DENSITY 22.88 kg/m ³ @ Ope.Cond.										
LINE	13 PIPE LINE SIZE		IN	18" / 19.05	53	ACTUATOR			*TYPE PNEUMATIC / PISTON	
	14 & WALL THICKNESS(mm)		OUT	18" / 19.05	54				*MFR. & MODEL GP-130S-585/C3	
	15 PIPE LINE INSULATION /SPEC.			H/ NE1	55				* SIZE EFF AREA	
VALVE BODY/ BONNET	16 * TYPE		BUTTERFLY LUG-TYPE		56	ON/OFF		MODULATING YES		
	17 * SIZE		18" ANSI CLASS 900#/LRF		57	SPRING ACTION OPEN /CLOSE		CLOSE		
	18 DESIGN PRESS.BARG /TEMP. ° C		88 / 200		58	*MAX ALLOWABLE PRESSURE				
	19 *MFR. & MODEL		LDE		59	*MIN ALLOWABLE PRESSURE				
	20 *BODY/BONNET MATL.		A351 CF-8C		60	AVAILABLE AIR SUPPLY PRESSURE:				
	21 *LINER MATERIAL/ID				61	MAX. 6.0 BARG MIN. 4 BARG				
	22 END		IN	FLANGED	62	*BENCH RANGE 4 BARG				
	23 CONNECTION		OUT	FLANGED	63	ACT ORIENTATION				
	24 FLG FACE FINISH		ANSI 900 # LRF		64	HANDWHEEL TYPE NO				
	25 END EXT/MATL.				65	AIR FAILURE VALVE SET AT				
	26 *FLOW DIRECTION		OPEN		66	CLOSING TIME:<2SEC /STROKE TIME:<20SEC.,80MM				
	27 *TYPE OF BONNET		STD		67	INPUT SIGNAL SMART 4-20 mA (HART PROTOCOL)				
28 LUBE & ISO VALVE		NO		68	POSITIONER		*TYPE			
29 *PACKING MAT.		PTFE RINGS		69			*MFR. & MODEL 3780-120			
30 *PACKING TYPE				70			*ON INCR SIGNAL OUTPUT INCR/DECR			
31 RANGEABILITY		50:1		71	GAUGES YES IP65 BY-PASS		*CAM CHARACTERISTIC			
TRIM	32 *TYPE		60° FLAP		72	LIMIT SW.		TYPE PROXIMITY/NAMUR Eexi QUANTITY 2		
	33 *SIZE		RATED TRAVEL		73			*MFR. & MODEL 3780-120		
	34 CHARACTERISTIC		LOG		74			CONTACT/RATING		
	35 *BALANCED/UNBALANCED				75	ACTUATION POINTS OPEN / CLOSE				
	36 SELECTED CV		6173	FL	XT	76	TAG NO: HZSH-200204/HZSL-200204			
	37 *PLUG/BALL/DISK MATERIAL		316 SS		77	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE				
	38 *SEAT MATERIAL		316 SS		78	*SET PRESSURE				
	39 *CAGE/GUIDE MATERIAL				79	FILTER YES GAUGE YES				
	40 *STEM MAT.		316 SS		80	AIR SET				
	41 PLUG SEALING:METALLIC		MATERIAL:316SS		81					
42				82						
SPECIAL ACCESSORIES	43 SOLENOID VALVE:		YES	☒	NO	☐	TEST	*HYDRO PRESURE		
	44 MANUAL RESET:		YES	☐	NO	☒		ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)		
	45 TAG NO: HY-200204A,B				TYPE:3963-1352					
	46 (Eexia,IIC,T6)/24 V DC/IP65/3/2 WAY									
	47 FUSIBLE LINKAGE		YES	☐	NO	☒				
	48 BLOCK RELAY		YES	☐	NO	☒				
	49 BOOSTER		YES	☒	NO	☐				
	50 CARTRIDGE		YES	☐	NO	☒				
	51 PROXIMITY SW.		YES	☒	NO	☐				
	52 VOLUME TANK		YES	☐	NO	☒				

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) QUICK /CLOSE VALVE

2) FLOW:15 DEGC,1013MBAR,(23.6449 SM3/KMOL)

3) BOOSTER : 2625 / QUICK EXH. VALVE : 8502- 0144

4)TERMINAL BOX WITH 8 TERMINALS Eex ia IP 65

5) DP= 0.15BAR

6)OPENING AT MAX 5 BAR DP.

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		 PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				DOC. NO. :P-1182-DSH-IN-644 5			

TAG NO: HV-200503								
1	FLUID: RECYCLE GAS / GAS				CRIT. PRESS (PC)		BAR (ABS)	
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	
3		INLET PRESSURE	Sm ³ /hr		155000	126500		
4		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION	BAR (ABS)		76.7	76.7		
5		INLET TEMPERATURE	° C		4.7	4.7	88 /60	
6		SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL		55	55		
7		VISCOSITY/SPEC HEAT RATIO	mPas		11.47	11.47		
8		VAPOR PRESSURE PV	BARA		0.014	0.014		
9		*REQUIRED CV						
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBA		85/ 80.7	85/ 81.1		
12	COMPRESSIBILITY Z			1.0	1.0			
K=Cp/Cv= 1.42 DENSITY 31.93 kg/m ³ @ Ope.Cond.								
13	LINE	PIPE LINE SIZE	IN	10"/15.09				
14		& WALL THICKNESS(mm)	OUT	10"/ZE1/15.09				
15		PIPE LINE INSULATION /SPEC.	P / BD1					
16	VALVE BODY/ BONNET	* TYPE	BUTTERFLY LUG TYPE					
17		* SIZE	8"	ANSI CLASS	900#/LRF			
18		DESIGN PRESS.BARG /TEMP. ° C	88 / 100					
19		*MFR. & MODEL	LDE					
20		*BODY/BONNET MATL.	F321/4541					
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH	ANSI 900 # RF					
25		END EXT/MATL.						
26		*FLOW DIRECTION	OPEN					
27		*TYPE OF BONNET	STD					
28		LUBE & ISO VALVE	NO					
29		*PACKING MAT.	GRAPHITE					
30		*PACKING TYPE						
31	RANGEABILITY:	50:1						
32	TRIM	*TYPE	60 °FLAP					
33		*SIZE	RATED TRAVEL					
34		CHARACTERISTIC	LOG					
35		*BALANCED/UNBALANCED						
36		SELECTED CV	505	FL	XT			
37		*PLUG/BALL/DISK MATERIAL	316 SS					
38		*SEAT MATERIAL	316 SS					
39		*CAGE/GUIDE MATERIAL						
40	*STEM MAT.	316 SS						
41	PLUG SEALING:METALLIC	MATERIAL:316SS						
42	SPECIAL ACCESSORIES							
43		SOLENOID VALVE:	YES		NO	☒		
44		MANUAL RESET:	YES		NO	☒		
45								
46								
47		FUSIBLE LINKAGE	YES		NO	☒		
48		BLOCK RELAY	YES		NO	☒		
49		BOOSTER	YES	☒	NO			
50	CARTRIDGE	YES		NO	☒			
51	PROXIMITY SW.	YES		NO	☒			
52	VOLUME TANK	YES		NO	☒			

ACTUATOR	*TYPE	PNEUMATIC / PISTON	
	*MFR. & MODEL	GP-085S-385/C3-MH	
	* SIZE	EFF AREA	
	ON/OFF	MODULATING	
	SPRING ACTION OPEN /CLOSE	CLOSE	
	*MAX ALLOWABLE PRESSURE		
	*MIN ALLOWABLE PRESSURE		
	AVAILABLE AIR SUPPLY PRESSURE:		
	MAX.	6.0 BARG	MIN. 4 BARG
	*BENCH RANGE	4	BARG
POSITIONER	ACT ORIENTATION		
	HANDWHEEL TYPE	SIDE MOUNTED	
	AIR FAILURE VALVE	SET AT	
	STROKE TIME:<20SEC,80MM		
	INPUT SIGNAL	H1 FUNDATION FIELD BUS	
	*TYPE		
	*MFR. & MODEL	3787-100	
	*ON INCR SIGNAL OUTPUT INCR/DECR		
	GAUGES	YES	BY-PASS
	*CAM CHARACTERISTIC		
LIMIT SW.	TYPE	QUANTITY	
	*MFR. & MODEL		
	CONTACT/RATING		
	ACTUATION POINTS		
AIR SET	TAG NO:		
	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE		
	*SET PRESSURE		
	FILTER	YES	GAUGE YES
TEST	*HYDRO PRESURE		
	ANSI/FCI LEAKAGE CLASS	IV (IEC 534.4)	

PID NO:	205
LINE NO:	RCG-20-05-014

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): QUICK OPEN /CLOSE VALVE

2) BOOSTER :2625 / QUICK EXH. VALVE :8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO.: 1182		PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO. :P-1182-DSH-IN-644 5		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000				
TAG NO: HV-200214										
1 FLUID: RECYCLE GAS / GAS				CRIT. PRESS (PC) BAR (ABS)						
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP	
2	SERVICE CONDITIONS	FLOW RATE		Sm ³ /hr		45000	87000			
3		INLET PRESSURE		BAR (ABS)		4.9	11.5			
4		DP PRESSURE IN FLOW / AGAINST FLOW DIRECTION		BAR		2.4	6.5	56/39		
5		INLET TEMPERATURE		° C		40	40			
6		SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL		29.9	29.9			
7		VISCOSITY/SPEC HEAT RATIO		mPas		0.014	0.014			
8		VAPOR PRESSURE PV		BARA						
9		*REQUIRED CV								
10	*TRAVEL		%							
11	ALLOWABLE/ *PREDICTED SPL		dBA			85/ 84.1	85/89.6			
12	COMPRESSIBILITY Z					1.02	1.02			
K=Cp/Cv= 1.39 DENSITY 1.335 kg/Sm ³ @ Ope.Cond.										
13	LINE	PIPE LINE SIZE		IN	12"/12.7					
14		& WALL THICKNESS(mm)		OUT	12"/12.7					
15		PIPE LINE INSULATION /SPEC.		/NE1						
16	VALVE BODY/ BONNET	* TYPE		BUTTERFLY LUG TYPE						
17		* SIZE		12"	ANSI CLASS		900#/LRF			
18		DESIGN PRESS.BARG /TEMP. ° C		88 /100						
19		*MFR. & MODEL		LDE						
20		*BODY/BONNET MATL.		A351CF8C						
21		*LINER MATERIAL/ID								
22		END		IN	FLANGED					
23		CONNECTION		OUT	FLANGED					
24		FLG FACE FINISH		ANSI 900 # LRF						
25		END EXT/MATL.								
26		*FLOW DIRECTION		OPEN						
27		*TYPE OF BONNET		STD						
28		LUBE & ISO VALVE		NO						
29		*PACKING MAT.		PTFE RINGS						
30	*PACKING TYPE									
31	RANGEABILITY:		50:1							
32	TRIM	*TYPE		90 °FLAP						
33		*SIZE		RATED TRAVEL						
34		CHARACTERISTIC		LOG						
35		*BALANCED/UNBALANCED								
36		SELECTED CV		2145	FL	XT				
37		*PLUG/BALL/DISK MATERIAL		316 SS						
38		*SEAT MATERIAL		316 SS						
39		*CAGE/GUIDE MATERIAL								
40		*STEM MAT.		316 SS						
41		PLUG SEALING:METALLIC		MATERIAL:316SS						
42	ARMOURED:NO									
43	SPECIAL ACCESSORIES	SOLENOID VALVE:		YES		NO	☒			
44		MANUAL RESET:		YES		NO	☒			
45										
46										
47		FUSIBLE LINKAGE		YES		NO	☒			
48		BLOCK RELAY		YES		NO	☒			
49		BOOSTER		YES	☒	NO				
50		CARTRIDGE		YES		NO	☒			
51	PROXIMITY SW.		YES		NO	☒				
52	VOLUME TANK		YES		NO	☒				
				53	ACTUATOR	*TYPE			PNEUMATIC / PISTON	
				54		*MFR. & MODEL		GP-085S-385/C3		
				55		* SIZE		EFF AREA		
				56		ON/OFF		MODULATING YES		
				57		SPRING ACTION OPEN /CLOSE		CLOSE		
				58		*MAX ALLOWABLE PRESSURE				
				59		*MIN ALLOWABLE PRESSURE				
				60		AVAILABLE AIR SUPPLY PRESSURE:				
				61		MAX. 6.0 BARG MIN. 4 BARG				
				62		*BENCH RANGE 4 BARG				
				63	ACT ORIENTATION					
				64	HANDWHEEL TYPE		NO			
				65	AIR FAILURE VALVE		SET AT			
				66	STROKE TIME:<20SEC.,80MM, CLOSING TIME < 30 SEC.					
				67	INPUT SIGNAL		H1 FOUNDATION FIELDBUS			
				68	POSITIONER	*TYPE				
				69		*MFR. & MODEL		3787-100		
				70		*ON INCR SIGNAL OUTPUT INCR/DECR				
				71		GAUGES YES BY-PASS				
				72	*CAM CHARACTERISTIC					
				73	LIMIT SW.	TYPE		QUANTITY		
				74		*MFR. & MODEL				
				75		CONTACT/RATING				
				76		ACTUATION POINTS				
				77	TAG NO:					
				78	AIR SET	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE				
				79		*SET PRESSURE				
				80		FILTER YES GAUGE YES				
				81						
				82	TEST	*HYDRO PRESURE				
				83		ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)				
				84						
				85						
				86						
				PID NO: 202						
				LINE NO: RCG-20-02-011						

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
NOTE: 1) BOOSTER, 2625
 2) NOISE REDUCTION WITH 12" / 16" SILENCER.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. :P-1182-DSH-IN-644		5	

TAG NO: TV-200521B							
1 FLUID: RECYCLE GAS / GAS				CRIT. PRESS (PC)		BAR (ABS)	
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
							SHUT OFF
							START UP
SERVICE CONDITIONS	2 FLOW RATE			Sm ³ /hr	1395500	1265340	60000
	3 INLET PRESSURE			BAR (ABS)	77.5	77.5	77.5
	4 DP. PRESSURE IN FLOW / AGAINST FLOW DIRECTION			BAR	0.6	0.6	0.6
	5 INLET TEMPERATURE			° C	56	56	56
	6 SPEC. WT/SPEC.GRAVITY/MOL WT			KG/KMOL	11.5	11.5	11.5
	7 VISCOSITY/SPEC HEAT RATIO			mPas	0.016	0.016	0.016
	8 VAPOR PRESSURE PV			BARA			
	9 *REQUIRED CV						
	10 *TRAVEL			%			
	11 ALLOWABLE/ *PREDICTED SPL			dBA	85	/48.9	85/ 48
	12 COMPRESSIBILITY Z				1.01	1.01	1.01
	K=Cp/Cv= 1.35 DENSITY 31.9 kg/m ³ @ Ope.Cond.						
LINE	13 PIPE LINE SIZE		IN	20" /20.62	53		
	14 & WALL THICKNESS(mm)		OUT	20" /20.62	54		
	15 PIPE LINE INSULATION /SPEC.			P / NE1	55		
VALVE BODY/ BONNET	16 * TYPE BUTTERFLY/SANDWICH LUG TYPE			56			
	17 * SIZE 20" ANSI CLASS 900#/LRF			57			
	18 DESIGN PRESS.BARG /TEMP.° C 88 /160			58			
	19 *MFR. & MODEL LDE			59			
	20 *BODY/BONNET MATL. A 351 CF 8C			60			
	21 *LINER MATERIAL/ID			61			
	22 END		IN	FLANGED	62		
	23 CONNECTION		OUT	FLANGED	63		
	24 FLG FACE FINISH ANSI 900 # LRF			64			
	25 END EXT/MATL.			65			
	26 *FLOW DIRECTION OPEN			66			
	27 *TYPE OF BONNET STD			67			
	28 LUBE & ISO VALVE NO			68			
	29 *PACKING MAT. PTFE RINGS			69			
	30 *PACKING TYPE			70			
31 RANGEABILITY: 50:1			71				
TRIM	32 *TYPE 60 °FLAP			72			
	33 *SIZE RATED TRAVEL			73			
	34 CHARACTERISTIC LOG			74			
	35 *BALANCED/UNBALANCED			75			
	36 SELECTED CV 6700 FL XT			76			
	37 *PLUG/BALL/DISK MATERIAL 316SS			77			
	38 *SEAT MATERIAL 316SS			78			
	39 *CAGE/GUIDE MATERIAL			79			
	40 *STEM MAT. 316SS			80			
	41 PLUG SEALING:METALLIC MATERIAL:316SS			81			
SPECIAL ACCESSORIES	42 ARMoured: NO			82			
	43 SOLENOID VALVE: YES ☐ NO ☒			83			
	44 MANUAL RESET: YES ☐ NO ☒			84			
	45			85			
	46			86			
	47 FUSIBLE LINKAGE YES ☐ NO ☒			PID NO: 205			
	48 BLOCK RELAY YES ☐ NO ☒			LINE NO: RCG-20-05-027			
	49 BOOSTER YES ☐ NO ☒						
	50 CARTRIDGE YES ☐ NO ☒						
	51 PROXIMITY SW. YES ☐ NO ☒						
52 VOLUME TANK YES ☐ NO ☒							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.							
NOTE: 1)MECHANICAL COUPLING WITH BUTTERFLY TV-200521A.ONE COMMON ACTUATOR WITH TV-200521A							

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO.: P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000				
TAG NO: FV-250102								
1	FLUID: HYDROGEN / GAS		CRIT. PRESS (PC)		BAR (ABS)			
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3		INLET PRESSURE	Sm3 /hr	23000	19254	5800		
4		DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR (ABS)	35	35	35		
5		INLET TEMPERATURE	° C	50	50	50		
6		SPEC. WT/SPEC.GRAVITY/MOL WT		2.21	2.21	2.21		
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.009	0.009	0.009		
8		VAPOR PRESSURE PV	BARA					
9		*REQUIRED CV						
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBa	85/ 65	85/ 63	85/ 57		
12		COMPRESSIBILITY Z		1.01	1.01	1.01		
		K=C _p /C _v = 1.4 DENSITY 0.09 kg/sm3 @ Ope.Cond.						
13	LINE	PIPE LINE SIZE	IN	4" /6.02				
14		& WALL THICKNESS(mm)	OUT	4" /6.02				
15		PIPE LINE INSULATION /SPEC.		/ AB1				
16	VALVE BODY/ BONNET	* TYPE		GLOBE				
17		* SIZE		2" ANSI CLASS 300#/RF				
18		DESIGN PRESS.BARG /TEMP. ° C		39 / 80				
19		*MFR. & MODEL		3241				
20		*BODY/BONNET MATL.		A105				
21		*LINER MATERIAL/ID						
22		END	IN	FLANGED				
23		CONNECTION	OUT	FLANGED				
24		FLG FACE FINISH		ANSI 300 # RF				
25		END EXT/MATL.						
26		*FLOW DIRECTION		OPEN				
27		*TYPE OF BONNET		BELLOWS SECTION				
28	LUBE & ISO VALVE		NO					
29	*PACKING MAT.		PTFE RINGS					
30	*PACKING TYPE							
31								
32	TRIM	*TYPE		PARABOLIC				
33		*SIZE		RATED TRAVEL				
34		CHARACTERISTIC		LOG				
35		*BALANCED/UNBALANCED						
36		SELECTED CV	47	FL	XT			
37		*PLUG/BALL/DISK MATERIAL		316Ti				
38		*SEAT MATERIAL		316Ti				
39		*CAGE/GUIDE MATERIAL						
40		*STEM MAT.		316Ti				
41		ARMOURED		NO				
42	PLUG SEALING:METALLIC,316Ti/BELLOWS MATERIAL:1.4571							
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓			
44		MANUAL RESET:	YES	NO	✓			
45		TAG NO:						
46								
47		FUSIBLE LINKAGE	YES	NO	✓			
48	BLOCK RELAY	YES	NO	✓				
49	BOOSTER	YES	NO	✓				
50	CARTRIDGE	YES	NO	✓				
51	PROXIMITY SW.	YES	NO	✓				
52	VOLUME TANK	YES	NO	✓				
53	ACTUATORE	*TYPE PNEUMATIC/DIAPHRAGM						
54		*MFR. & MODEL 3277						
55		* SIZE		390MM		EFF AREA		
56		ON/OFF		MODULATING		YES		
57		SPRING ACTION OPEN /CLOSE		CLOSE				
58		*MAX ALLOWABLE PRESSURE						
59		*MIN ALLOWABLE PRESSURE						
60		AVAILABLE AIR SUPPLY PRESSURE:						
61		MAX.	6.0 BARG	MIN.	4 BARG			
62		*BENCH RANGE		1.6~2.4 BARG				
63	ACT ORIENTATION							
64	HANDWHEEL TYPE NO							
65	AIR FAILURE VALVE SET AT							
66	STROKE TIME<10 SEC./15MM							
67	INPUT SIGNAL H1 FOUNDATION FIELD BUS							
68	POSITIONER	*TYPE						
69		*MFR. & MODEL 3787-100						
70		*ON INCR SIGNAL OUTPUT INCR/DECR						
71		GAUGES	YES	BY-PASS				
72	*CAM CHARACTERISTIC							
73	LIMIT SW.	TYPE QUANTITY						
74		*MFR. & MODEL						
75		CONTACT/RATING						
76		ACTUATION POINTS						
77	TAG NO:							
78	AIR SET	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE						
79		*SET PRESSURE						
80		FILTER	YES	GAUGE	YES			
81								
82	TEST	*HYDRO PRESURE						
83		ANSI/FCI LEAKAGE CLASS		IV (IEC 534.4)				
84								
85								
86								
		PID NO:		251				
		LINE NO:		HG-25-01-003				

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO.: P-1182-DSH-IN-644		5			
TAG NO: FV-250105									
FLUID: GAS / GAS				CRIT. PRESS (PC)		BAR (ABS)			
		UNITS		MAX. FLOW		NORM FLOW		MIN. FLOW	
		Sm3 /hr		3700		2700		1600	
		INLET PRESSURE		BAR (ABS)		31.2		31.2	
		DP PRESSURE		BAR		0.4		1.2	
		INLET TEMPERATURE		° C		40		40	
		SPEC. WT/SPEC.GRAVITY/MOL WT				2.21		2.21	
		VISCOSITY/SPEC HEAT RATIO		mPas		0.009		0.009	
		VAPOR PRESSURE PV		BARA					
		*REQUIRED CV							
		*TRAVEL		%					
		ALLOWABLE/ *PREDICTED SPL		dBa		85 /30		85/39	
		COMPRESSIBILITY Z				1.01		1.01	
		K=Cp/Cv= 1.4		DENSITY 0.09 kg/sm³		@ Ope.Cond.			
SERVICE CONDITIONS		PIPE LINE SIZE		IN 2" /5.54		*TYPE		PNEUMATIC/DIAPHRAGM	
		& WALL THICKNESS(mm)		OUT 2" / 5.54		*MFR. & MODEL 3277			
		PIPE LINE INSULATION /SPEC.		/ BD1		* SIZE 390 MM		EFF AREA	
		* TYPE		GLOBE		ON/OFF		MODULATING	
		* SIZE 2"		ANSI CLASS 600#/RF		SPRING ACTION OPEN /CLOSE		CLOSE	
		DESIGN PRESS.BARG /TEMP.° C 74 / 100		*MAX ALLOWABLE PRESSURE					
		*MFR. & MODEL 3251		*MIN ALLOWABLE PRESSURE					
		*BODY/BONNET MATL. A216 / GR WCB		AVAILABLE AIR SUPPLY PRESSURE:					
		*LINER MATERIAL/ID				MAX. 6.0 BARG		MIN. 4 BARG	
		END		IN FLANGED		*BENCH RANGE 1.2-2 BARG			
VALVE BODY/ BONNET		CONNECTION		OUT FLANGED		ACT ORIENTATION			
		FLG FACE FINISH		ANSI 600 # RF		HANDWHEEL TYPE		NO	
		END EXT/MATL.				AIR FAILURE VALVE		SET AT	
		*FLOW DIRECTION		OPEN		STROKE TIME<10 SEC.,15MM			
		*TYPE OF BONNET		BELLOWS SECTION		INPUT SIGNAL		H1 FUNDATION FIELD BUS	
		LUBE & ISO VALVE		NO		POSITIONER		*TYPE	
		*PACKING MAT.		PTFE RINGS				*MFR. & MODEL 3787-100	
		*PACKING TYPE						*ON INCR SIGNAL OUTPUT INCR/DECR	
		BELLOWS MATERIAL:METALLIC						GAUGES YES BY-PASS	
		TRIM		*TYPE		PARABOLIC		LIMIT SW.	
*SIZE				RATED TRAVEL		*MFR. & MODEL			
CHARACTERISTIC				LOG		CONTACT/RATING			
*BALANCED/UNBALANCED						ACTUATION POINTS			
SELECTED CV 30				FL XT		TAG NO:			
*PLUG/BALL/DISK MATERIAL 316Ti						AIR SET		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE	
*SEAT MATERIAL 316Ti								*SET PRESSURE	
*CAGE/GUIDE MATERIAL								FILTER YES GAUGE YES	
*STEM MAT. 316Ti									
SPECIAL ACCESSORIES				ARMoured:NO				TEST	
		PLUG SEALING:METALLIC,316Ti				ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)			
		SOLENOID VALVE: YES NO		☒					
		MANUAL RESET: YES NO		☒					
		TAG NO:							
		FUSIBLE LINKAGE YES NO		☒		PID NO: 251			
		BLOCK RELAY YES NO		☒		LINE NO: NG-10-13-015			
		BOOSTER YES NO		☒					
		CARTRIDGE YES NO		☒					
		PROXIMITY SW. YES NO		☒					
VOLUME TANK YES NO		☒							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
NOTE: 1): CV-VALUE HAS EFFECTED ON SAFETY VALVE.

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		 PROJ. NO.: 1.69690-10-GEM	2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO.: P-1182-DSH-IN-644		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: PV-250102A						
1	FLUID: PURGE GAS/GAS		CRIT. PRESS (PC)		BAR (ABS)	
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
3		INLET PRESSURE	Sm3 /hr	45000	38100	10000
4		DPPRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR (ABS)	67.9	67.9	67.9
5		INLET TEMPERATURE	° C	40	40	40
6		SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	11.51	11.51	11.51
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.014	0.014	0.014
8		VAPOR PRESSURE PV	BARA			
9		*REQUIRED CV				
10		*TRAVEL	%			
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 /84	85/82	85/75
12		COMPRESSIBILITY Z		1.0	1.0	1.0
		K=Cp/Cv= 1.01 DENSITY 0.49 kg/Sm³ @ Ope.Cond.				
13	LINE	PIPE LINE SIZE	IN 4" / 8.56	53	*TYPE PNEUMATIC/DIAPHRAGM	
14		& WALL THICKNESS(mm) OUT 6" / 10.97	54	*MFR. & MODEL 3271		
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.	/ BD1	55	* SIZE 770MM EFF AREA	
16		* TYPE GLOBE VALVE	56	ON/OFF MODULATING		
17		* SIZE 4" ANSI CLASS 600#RF	57	SPRING ACTION OPEN /CLOSE CLOSE		
18		DESIGN PRESS.BARG /TEMP.° C 88/100	58	*MAX ALLOWABLE PRESSURE		
19		*MFR. & MODEL 3251	59	*MIN ALLOWABLE PRESSURE		
20		*BODY/BONNET MATL. A216 GR WCB	60	AVAILABLE AIR SUPPLY PRESSURE:		
21		*LINER MATERIAL/ID	61	MAX. 6 BARG MIN. 4 BARG		
22		END IN FLANGED	62	*BENCH RANGE 2-2.4 BARG		
23		CONNECTION OUT FLANGED	63	ACT ORIENTATION		
24		FLG FACE FINISH ANSI 600#RF	64	HANDWHEEL TYPE NO		
25		END EXT/MATL.	65	AIR FAILURE VALVE SET AT		
26		*FLOW DIRECTION TENDS TO OPEN	66	STROKE TIME:<10 SEC.,30 MM		
27		*TYPE OF BONNET BELLOWS SECTION	67	INPUT SIGNAL H1 FOUNDATION FIELD BUS		
28		LUBE & ISO VALVE NO	68	*TYPE		
29		*PACKING MAT. PTFE RINGS	69	*MFR. & MODEL 3787-100		
30		*PACKING TYPE	70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31	BELLOW MATERIAL:METALLIC	71	GAUGES YES IP65 BY-PASS			
32	TRIM	*TYPE PARABOLIC	72	*CAM CHARACTERISTIC		
33		*SIZE RATED TRAVEL	73			
34		CHARACTERISTIC LOG	74	TYPE QUANTITY		
35		*BALANCED/UNBALANCED	75	*MFR. & MODEL		
36		SELECTED CV 55 FL XT	76	CONTACT/RATING		
37		*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)	77	ACTUATION POINTS		
38		*SEAT MATERIAL 316Ti (STELLITED)	78	TAG NO:		
39		*CAGE/GUIDE MATERIAL	79	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE		
40		*STEM MAT. 316Ti	80	*SET PRESSURE		
41		ARMoured: YES,MATERIAL:STELLITE	81	FILTER YES GAUGE YES		
42	PLUG SEALING:METALLIC,316Ti	82				
43	SPECIAL ACCESSORIES	SOLENOID VALVE: YES NO ✓	83	*HYDRO PRESURE IV (IEC 534.4)		
44		MANUAL RESET: YES NO ✓	84	ANSI/FCI LEAKAGE CLASS		
45		TAG NO:	85			
46			86			
47		FUSIBLE LINKAGE YES NO ✓	PID NO: 251			
48		BLOCK RELAY YES NO ✓	LINE NO: PG-20-03-002			
49		BOOSTER YES ✓ NO				
50		CARTRIDGE YES NO ✓				
51		PROXIMITY SW. YES NO ✓				
52		VOLUME TANK YES NO ✓				

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1)CV-VALUE HAS EFFECT ON SAFTY VALVE

2) NOISE REDUCTION : ST3 (FLOW DIVIDER III)

3)BOOSTER:2625 /QUICK EXH.VALVE :8502-0144

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO.: P-1182-DSH-IN-644 5		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: PV-250102B							
1 FLUID: PURGE GAS/GAS		UNITS		CRIT. PRESS (PC)		BAR (ABS)	
2 FLOW RATE		Sm ³ /hr		MAX. FLOW		NORM FLOW	
3 INLET PRESSURE		BAR (ABS)		3000		2500	
4 DP PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION		BAR		36		36	
5 INLET TEMPERATURE		° C		33.5		33.5	
6 SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL		40		40	
7 VISCOSITY/SPEC HEAT RATIO		mPas		11.51		11.51	
8 VAPOR PRESSURE PV		BARA		0.014		0.014	
9 *REQUIRED CV				0.014		0.014	
10 *TRAVEL		%					
11 ALLOWABLE/ *PREDICTED SPL		dBA		85 /69		85/67	
12 COMPRESSIBILITY Z				85/56			
K=C _p /C _v =		DENSITY 0.49 kg/Sm ³		@ Ope.Cond.			
13 LINE		PIPE LINE SIZE IN 2" / 5.54		53		*TYPE PNEUMATIC/DIAPHRAGM	
14 & WALL THICKNESS(mm) OUT 2"/5.54				54		*MFR. & MODEL 3277	
15 PIPE LINE INSULATION /SPEC. / BD1				55		* SIZE 280MM EFF AREA	
16 * TYPE GLOBE VALVE				56		ON/OFF MODULATING	
17 * SIZE 2" ANSI CLASS 600#RF				57		SPRING ACTION OPEN /CLOSE CLOSE	
18 DESIGN PRESS.BARG /TEMP.* C 39/100				58		*MAX ALLOWABLE PRESSURE	
19 *MFR. & MODEL 3251				59		*MIN ALLOWABLE PRESSURE	
20 *BODY/BONNET MATL. A216 GR WCB				60		AVAILABLE AIR SUPPLY PRESSURE:	
21 *LINER MATERIAL/ID				61		MAX. 6 BARG MIN. 4 BARG	
22 END IN FLANGED				62		*BENCH RANGE 1.4-2.3 BARG	
23 CONNECTION OUT FLANGED				63		ACT ORIENTATION	
24 FLG FACE FINISH ANSI 600#RF				64		HANDWHEEL TYPE NO	
25 END EXT/MATL.				65		AIR FAILURE VALVE SET AT	
26 *FLOW DIRECTION TENDS TO OPEN				66		STROKE TIME<10 SEC.,15MM	
27 *TYPE OF BONNET STD				67		INPUT SIGNAL H1 FOUNDATION FIELD BUS	
28 LUBE & ISO VALVE NO				68		*TYPE	
29 *PACKING MAT. PTFE RINGG				69		*MFR. & MODEL 3787-100	
30 *PACKING TYPE				70		*ON INCR SIGNAL OUTPUT INCR/DECR	
31 RANGEABILITY: 50:1				71		GAUGES YES BY-PASS	
32 *TYPE PARABOLIC				72		*CAM CHARACTERISTIC	
33 *SIZE RATED TRAVEL				73			
34 CHARACTERISTIC LOG				74		TYPE QUANTITY	
35 *BALANCED/UNBALANCED				75		*MFR. & MODEL	
36 SELECTED CV 9 FL XT				76		CONTACT/RATING	
37 *PLUG/BALL/DISK MATERIAL 316Ti(STELLITED)				77		ACTUATION POINTS	
38 *SEAT MATERIAL 316Ti(STELLITED)				78		TAG NO:	
39 *CAGE/GUIDE MATERIAL				79		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE	
40 *STEM MAT. 316Ti				80		*SET PRESSURE	
41 ARMoured: YES,MATERIAL:STELLITE				81		FILTER YES GAUGE YES	
42 PLUG SEALING:METALLIC,316Ti				82			
43 SOLENOID VALVE: YES NO ✓				83		*HYDRO PRESURE IV (IEC 534.4)	
44 MANUAL RESET: YES NO ✓				84		ANSI/FCI LEAKAGE CLASS	
45 TAG NO:				85			
46				86			
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 251			
48 BLOCK RELAY YES NO ✓				LINE NO: PG-25-01-003			
49 BOOSTER YES NO ✓							
50 CARTRIDGE YES NO ✓							
51 PROXIMITY SW. YES NO ✓							
52 VOLUME TANK YES NO ✓							

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: :1)CONSIDER RESISTANCE STRUCTURE DOWNSTREAM.
 2)NOISE REDUCTION :ST3 (FLOW DIVIDER III).

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO.: P-1182-DSH-IN-644 5		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000		
TAG NO: PV-250103								
1	FLUID: HYDROGEN / GAS			CRIT. PRESS (PC)		BAR (ABS)		
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	
3		INLET PRESSURE	Sm3 /hr	23000	19254	5800		
4		DP. PRESSURE IN FLOW DIRECTION/AGAINST FLOW DIRECTION	BAR (ABS)	35	35	35		
5		INLET TEMPERATURE	° C	50	50	50		
6		SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	2.21	2.21	2.21		
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.009	0.009	0.009		
8		VAPOR PRESSURE PV	BARA					
9		*REQUIRED CV						
10		*TRAVEL	%					
11		ALLOWABLE/ *PREDICTED SPL	dBA	85/ 67	85/ 65	85/ 54		
12	COMPRESSIBILITY Z		1.01	1.01	1.01			
K=Cp/Cv= 1.4 DENSITY 0.09 kg/Sm ³ @ Ope.Cond.								
13	LINE	PIPE LINE SIZE	IN	3" / 5.49	53	ACTUATORE		
14		& WALL THICKNESS(mm)	OUT	8" / 8.18	54			
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.	/ AB1		55	POSITIONER		
16		* TYPE	GLOBE		56			
17		* SIZE	3" ANSI CLASS 300#/RF		57			
18		DESIGN PRESS.BARG /TEMP.° C	39 / 80		58			
19		*MFR. & MODEL	3241		59			
20		*BODY/BONNET MATL.	A216 GR WCB		60			
21		*LINER MATERIAL/ID			61			
22		END	IN		62			
23		CONNECTION	OUT		63			
24		FLG FACE FINISH	ANSI 300 # RF		64			
25		END EXT/MATL.			65			
26		*FLOW DIRECTION TENDS TO	OPEN		66			
27		*TYPE OF BONNET	BELLOWS SECTIONS		67			
28		LUBE & ISO VALVE	NO		68			
29		*PACKING MAT.	PTFE RINGS		69			
30	*PACKING TYPE			70				
31	RANGEABILITY	50:1		71				
32	TRIM	*TYPE	PARABOLIC		72	LIMIT SW.		
33		*SIZE	RATED TRAVEL		73			
34		CHARACTERISTIC	LOG		74			
35		*BALANCED/UNBALANCED			75			
36		SELECTED CV	23	FL	XT			76
37		*PLUG/BALL/DISK MATERIAL	316Ti (STELLITED)		77			
38		*SEAT MATERIAL	316Ti (STELLITED)		78			
39		*CAGE/GUIDE MATERIAL			79			
40		*STEM MAT.	316Ti		80			
41		BELLOW MATERIAL: METALLIC,ARMoured: YES,MATRIAL:STELLITE			81			
42	SPECIAL ACCESSORIES	PLUG SEALING:LAPPED IN,316Ti		82	AIR SET			
43		SOLENOID VALVE:	YES	NO			✓	83
44		MANUAL RESET:	YES	NO			✓	84
45		TAG NO:					85	
46							86	
47	SPECIAL ACCESSORIES	FUSIBLE LINKAGE	YES	NO	✓	TEST		
48		BLOCK RELAY	YES	NO	✓			
49		BOOSTER	YES	NO	✓			
50		CARTRIDGE	YES	NO	✓			
51		PROXIMITY SW.	YES	NO	✓			
52	VOLUME TANK	YES	NO	✓	PID NO: 251 LINE NO: HG-25-01-006			
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE: 1) NOISE REDUCTION :ST3(FLOW DIVIDER III), 3 PLATES -SILENCER 3"/6"(PV250103S)								

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		 2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO. : P-1182-DSH-IN-644	 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000
TAG NO: FV-300101			
1 FLUID: RAW METHANOL / LIQUID		CRIT. PRESS (PC) 106.8 BAR (ABS)	
2		UNITS	MAX. FLOW
3 FLOW RATE		Kg / hr	275000
4 INLET PRESSURE		BAR (ABS)	5.3
5 DP. PRESSURE		BAR	0.2
6 INLET TEMPERATURE		° C	38
7 SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL	29.55
8 VISCOSITY/SPEC HEAT RATIO		mPas	0.49
9 VAPOR PRESSURE PV		BARA	5.48
10 *REQUIRED CV			
11 *TRAVEL		%	
12 ALLOWABLE/ *PREDICTED SPL		dBA	85 / 57
13 COMPRESSIBILITY Z			
14 K=Cp/Cv= DENSITY 788 kg/m³ @ Ope.Cond.			
15 LINE PIPE LINE SIZE IN 12" / 9.53		53	*TYPE PNEUMATIC /PISTON
16 & WALL THICKNESS(mm) OUT 12" / 9.53		54	*MFR. & MODEL R 250V
17 PIPE LINE INSULATION /SPEC. /AA1		55	* SIZE EFF AREA
18 * TYPE ROTARY PLUG VALVE		56	ON/OFF MODULATING YES
19 * SIZE 8" ANSI CLASS 150#/RF		57	SPRING ACTION OPEN /CLOSE CLOSE
20 DESIGN PRESS.BARG /TEMP.° C 7/ 100		58	*MAX ALLOWABLE PRESSURE
21 *MFR. & MODEL 72.3R		59	*MIN ALLOWABLE PRESSURE
22 *BODY/BONNET MATL. A216 GR.WCB		60	AVAILABLE AIR SUPPLY PRESSURE:
23 *LINER MATERIAL/ID		61	MAX. 6 BARG MIN. 4 BARG
24 END IN FLANGED		62	*BENCH RANGE 1.3-2.4 BARG
25 CONNECTION OUT FLANGED		63	ACT ORIENTATION
26 FLG FACE FINISH ANSI 150 # RF		64	HANDWHEEL TYPE NO
27 END EXT/MATL.		65	AIR FAILURE VALVE SET AT
28 *FLOW DIRECTION OPEN		66	STROKE TIME< 20 SEC.,75 MM
29 *TYPE OF BONNET STD(WITH REDUCED EMISSION)		67	INPUT SIGNAL H1 FOUNDATION FIELD BUS
30 LUBE & ISO VALVE NO		68	*TYPE
31 *PACKING MAT. PTFE GRAPHITE		69	*MFR. & MODEL 3787-100
32 *PACKING TYPE		70	*ON INCR SIGNAL OUTPUT INCR/DECR
33 RANGEABILITY: 50:1		71	GAUGES YES IP65 BY-PASS
34 *TYPE BALL		72	*CAM CHARACTERISTIC
35 *SIZE RATED TRAVEL		73	
36 CHARACTERISTIC LOG		74	TYPE QUANTITY
37 *BALANCED/UNBALANCED		75	*MFR. & MODEL
38 SELECTED CV 1098 FL XT		76	CONTACT/RATING
39 *PLUG/BALL/DISK MATERIAL 1.4571 (STELLITED)		77	ACTUATION POINTS
40 *SEAT MATERIAL 1.4571 (STELLITED)		78	TAG NO:
41 *CAGE/GUIDE MATERIAL		79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE
42 *STEM MAT. 1.4571		80	*SET PRESSURE
43 ARMURED YES MATERIAL:STELLITE		81	FILTER YES GAUGE YES
44 PLUG SEALING:METALLIC,1.4571		82	
45 SOLENOID VALVE: YES NO ☒		83	*HYDRO PRESURE
46 MANUAL RESET: YES NO ☒		84	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)
47 TAG NO:		85	
48		86	
49 FUSIBLE LINKAGE YES NO ☒		PID NO: 302	
50 BLOCK RELAY YES NO ☒		LINE NO: PMC-30-01-001	
51 BOOSTER YES NO ☒			
52 CARTRIDGE YES NO ☒			
53 PROXIMITY SW. YES NO ☒			
54 VOLUME TANK YES NO ☒			

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:
 1) 0.1% VAPOR AT OPERATING TEMPERATURE/DOWNSTREAM PRESSURE

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		 mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM	2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO. : P-1182-DSH-IN-644		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: FV-300203						
1	FLUID: LP STEAM CONDENSATE / LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)	
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
3		INLET PRESSURE	Kg / hr	33000	25215	8000
4		DP PRESSURE	BAR (ABS)	4.6	4.8	5
5		INLET TEMPERATURE	° C	148.7	150.3	151.8
6		SPEC. WT/SPEC.GRAVITY/MOL WT		18.02	18.02	18.02
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.181	0.181	0.181
8		VAPOR PRESSURE PV	BARA		1.5	
9		*REQUIRED CV				
10		*TRAVEL	%			
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 / 64	85 / 66	85 / 57
12	COMPRESSIBILITY Z					
K=Cp/Cv= DENSITY 915 kg/m ³ @ Ope.Cond.						
13	LINE	PIPE LINE SIZE	IN 6" / 7.11	53	*TYPE PNEUMATIC/ DIAPHRAGM	
14		& WALL THICKNESS(mm)	OUT 6" / 7.11	54	*MFR. & MODEL 3277	
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.	H / BA1	55	* SIZE 280MM EFF AREA	
16		* TYPE GLOBE VALVE		56	ON/OFF MODULATING YES	
17		* SIZE 3" ANSI CLASS 300#/RF		57	SPRING ACTION OPEN /CLOSE CLOSE	
18		DESIGN PRESS.BARG /TEMP.° C 7 / 200		58	*MAX ALLOWABLE PRESSURE	
19		*MFR. & MODEL 3241		59	*MIN ALLOWABLE PRESSURE	
20		*BODY/BONNET MATL. A216 GR.WCB		60	AVAILABLE AIR SUPPLY PRESSURE:	
21		*LINER MATERIAL/ID		61	MAX. 6.0 BARG MIN. 4 BARG	
22		END IN FLANGED		62	*BENCH RANGE 1.4-2.3 BARG	
23		CONNECTION OUT FLANGED		63	ACT ORIENTATION	
24		FLG FACE FINISH ANSI 300 # RF		64	HANDWHEEL TYPE NO	
25	END EXT/MATL.		65	AIR FAILURE VALVE SET AT		
26	*FLOW DIRECTION TENDS TO OPEN		66	STROKE TIME<10 SEC.,15MM		
27	*TYPE OF BONNET STD		67	INPUT SIGNAL H1 FOUNDATION FIELD BUS		
28	LUBE & ISO VALVE NO		68	*TYPE		
29	*PACKING MAT. PTFE RINGS		69	*MFR. & MODEL 3787-100		
30	*PACKING TYPE		70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31	RANGEABILITY: 50:1		71	GAUGES YES IP65 BY-PASS		
32	TRIM	*TYPE PARABOLIC		72	*CAM CHARACTERISTIC	
33		*SIZE RATED TRAVEL		73		
34		CHARACTERISTIC LOG		74	TYPE QUANTITY	
35		*BALANCED/UNBALANCED		75	*MFR. & MODEL	
36		SELECTED CV 95 FL XT		76	CONTACT/RATING	
37		*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)		77	ACTUATION POINTS	
38		*SEAT MATERIAL 316Ti (STELLITED)		78	TAG NO:	
39		*CAGE/GUIDE MATERIAL		79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE	
40		*STEM MAT. 316Ti		80	*SET PRESSURE	
41		ARMoured YES MATERIAL:STELLITE		81	FILTER YES GAUGE YES	
42	PLUG SEALING:METALLIC,316Ti		82			
43	SPECIAL ACCESSORIES	SOLENOID VALVE: YES NO ☒		83	*HYDRO PRESURE	
44		MANUAL RESET: YES NO ☒		84	ANSI/FCI LEAKAGE CLASS IV (0.5% CVs-IEC-534.4)	
45		TAG NO:		85		
46				86		
47		FUSIBLE LINKAGE YES NO ☒		PID NO: 302		
48		BLOCK RELAY YES NO ☒		LINE NO: LPC-30-02-001		
49		BOOSTER YES NO ☒				
50		CARTRIDGE YES NO ☒				
51		PROXIMITY SW. YES NO ☒				
52		VOLUME TANK YES NO ☒				

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE: 1) Cv-value has effect on safety valve.
 2) 2.5% VAPOR AT DOWNSTREAM PRESSURE

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: FV-300305							
1	FLUID:	STABILIZED METHANOL / LIQUID			CRIT. PRESS (PC)	81 BAR (ABS)	
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
2	SERVICE CONDITIONS	FLOW RATE	Kg/hr	71000			
3		INLET PRESSURE	BAR (ABS)	11.7			
4		DP. PRESSURE	BAR	8.7		12.5	
5		INLET TEMPERATURE	° C	92			
6		SPEC. WT/SPEC.GRAVITY/MOL WT		32.258			
7		VISCOSITY/SPEC HEAT RATIO	mPas	0.25			
8		VAPOR PRESSURE PV	BARA	2.4			
9		*REQUIRED CV					
10		*TRAVEL	%				
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 / 71			
12	COMPRESSIBILITY Z						
		K=Cp/Cv=		DENSITY 742 kg/m³		@ Ope.Cond.	
13	LINE	PIPE LINE SIZE	IN 4" / 6.02	53	ACTUATOR		
14		& WALL THICKNESS(mm)	OUT 4" / 6.02	54			
15		PIPE LINE INSULATION /SPEC.	P / AA1	55	POSITIONER		
16	VALVE BODY/ BONNET	* TYPE	LOBE VALVE	56	LIMIT SW.		
17		* SIZE	4" ANSI CLASS 300#/RF	57	AIR SET		
18		DESIGN PRESS.BARG /TEMP.° C	14 / 150	58	TEST		
19		*MFR. & MODEL	3241	59	TEST		
20		*BODY/BONNET MATL.	A216 GR.WCB	60			
21		*LINER MATERIAL/ID		61	TEST		
22		END	IN FLANGED	62			
23		CONNECTION	OUT FLANGED	63	TEST		
24		FLG FACE FINISH	ANSI 300 # RF	64			
25		END EXT/MATL.		65	TEST		
26		*FLOW DIRECTION TENDS TO	OPEN	66			
27		*TYPE OF BONNET	STD(WITH REDUCED EMISSION)	67	TEST		
28		LUBE & ISO VALVE	NO	68			
29		*PACKING MAT.	PTFE RINGS	69	TEST		
30		*PACKING TYPE		70			
31	RANGEABILITY:	50:1	71	TEST			
32	*TYPE	PARABOLIC	72				
33	*SIZE	RATED TRAVEL	73	TEST			
34	CHARACTERISTIC	LOG	74				
35	*BALANCED/UNBALANCED		75	TEST			
36	SELECTED CV	75 FL XT	76				
37	*PLUG/BALL/DISK MATERIAL	316Ti (STELLITED)	77	TEST			
38	*SEAT MATERIAL	316Ti (STELLITED)	78				
39	*CAGE/GUIDE MATERIAL		79	TEST			
40	*STEM MAT.	316Ti	80				
41	ARMoured YES	MATERIAL:STELLITE	81	TEST			
42	PLUG SEALING:METALLIC,316Ti		82				
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES NO	83	TEST		
44		MANUAL RESET:	YES NO	84			
45		TAG NO:		85	TEST		
46				86			
47		FUSIBLE LINKAGE	YES NO	87	TEST		
48		BLOCK RELAY	YES NO	88			
49		BOOSTER	YES NO	89	TEST		
50		CARTRIDGE	YES NO	90			
51		PROXIMITY SW.	YES NO	91	TEST		
52		VOLUME TANK	YES NO	92			

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: FV-300408							
FLUID: LP STEAM CONDENSATE / LIQUID				CRIT. PRESS (PC) 221		BAR (ABS)	
				UNITS		MAX. FLOW NORM FLOW MIN. FLOW SHUT OFF START UP	
FLOW RATE				Kg / hr		160000 125238 37000	
INLET PRESSURE				BAR (ABS)		3.6 4.8 6	
DP PRESSURE				BAR		0.6 1.8 3 7	
INLET TEMPERATURE				° C		128.7 152 151.8	
SPEC. WT/SPEC.GRAVITY/MOL WT						18.02 18.02 18.02	
VISCOSITY/SPEC HEAT RATIO				mPas		0.181 0.181 0.181	
VAPOR PRESSURE PV				BARA		1.5	
*REQUIRED CV							
*TRAVEL				%			
ALLOWABLE/ *PREDICTED SPL				dBA		85 / 76 85/ 71 85 / 68	
COMPRESSIBILITY Z							
K=Cp/Cv= DENSITY 915 kg/m³ @ Ope.Cond.							
LINE PIPE LINE SIZE IN 12" / 9.53 & WALL THICKNESS(mm) OUT 12" / 9.53 PIPE LINE INSULATION /SPEC. H / BA1				53 54 55 56 57 58 59 60 61 62 63 64 65 66		*TYPE PNEUMATIC/DIAPHRAGM *MFR. & MODEL 3271 * SIZE 530MM EFF AREA ON/OFF MODULATING YES SPRING ACTION OPEN /CLOSE CLOSE *MAX ALLOWABLE PRESSURE *MIN ALLOWABLE PRESSURE AVAILABLE AIR SUPPLY PRESSURE: MAX. 6.0 BARG MIN. 4 BARG *BENCH RANGE 1.4-2.7 BARG ACT ORIENTATION HANDWHEEL TYPE NO AIR FAILURE VALVE SET AT STROKE TIME<20 SEC.,60MM	
VALVE BODY/ BONNET * TYPE GLOBE VALVE * SIZE 6" ANSI CLASS 300# / RF DESIGN PRESS BARG /TEMP.° C 7 / 200 *MFR. & MODEL 3251 *BODY/BONNET MATL. A 216 GR. WCB *LINER MATERIAL/ID END IN FLANGED CONNECTION OUT FLANGED FLG FACE FINISH ANSI 300# RF END EXT/MATL. *FLOW DIRECTION TENDS TO OPEN *TYPE OF BONNET STD LUBE & ISO VALVE NO *PACKING MAT. PTFE RINGS *PACKING TYPE RANGEABILITY: 50:1				68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86		INPUT SIGNAL H1 FOUNDATION FIELD BUS *TYPE *MFR. & MODEL 3787-100 *ON INCR SIGNAL OUTPUT INCR/DECR GAUGES YES BY-PASS *CAM CHARACTERISTIC TYPE QUANTITY *MFR. & MODEL CONTACT/RATING ACTUATION POINTS TAG NO: *MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE *SET PRESSURE FILTER YES GAUGE YES *HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)	
TRIM *TYPE PARABOLIC *SIZE RATED TRAVEL CHARACTERISTIC LOG *BALANCED/UNBALANCED SELECTED CV 420 FL XT *PLUG/BALL/DISK MATERIAL 316Ti (STELLITED) *SEAT MATERIAL 316Ti (STELLITED) *CAGE/GUIDE MATERIAL *STEM MAT. 316Ti ARMOURED:YES MATERIAL:STELLITE PLUG SEALING:METALLIC,316Ti				87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152		POSITIONER *TYPE *MFR. & MODEL 3787-100 *ON INCR SIGNAL OUTPUT INCR/DECR GAUGES YES BY-PASS *CAM CHARACTERISTIC TYPE QUANTITY *MFR. & MODEL CONTACT/RATING ACTUATION POINTS TAG NO: *MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE *SET PRESSURE FILTER YES GAUGE YES *HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)	
SPECIAL ACCESSORIES SOLENOID VALVE: YES NO ☒ ☐ MANUAL RESET: YES NO ☒ ☐ TAG NO: FUSIBLE LINKAGE YES NO ☒ ☐ BLOCK RELAY YES NO ☒ ☐ BOOSTER YES ☒ NO ☐ CARTRIDGE YES NO ☒ ☐ PROXIMITY SW. YES NO ☒ ☐ VOLUME TANK YES NO ☒ ☐				TEST *HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)		PID NO: 304 LINE NO: LPC-30-04-002	

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) FLASHING AT DOWNSTREAM PRESSURE-3.6% VAPOR

2) Cv-valve has effect on safety valve

3)BOOSTER :8523-0084

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO. : P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: FV-300510A							
1 FLUID: PURE METHANOL / LIQUID		UNITS		CRIT. PRESS (PC) 81		BAR (ABS)	
2	FLOW RATE	Kg/hr	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3	INLET PRESSURE	BAR (ABS)	13.6	14.2	14.9		
4	DP PRESSURE	BAR	0.6	1.5	2.6	15	
5	INLET TEMPERATURE	° C		128			
6	SPEC. WT/SPEC.GRAVITY/MOL WT	KG/KMOL	32.04	32.04	32.04		
7	VISCOSITY/SPEC HEAT RATIO	mPas	0.156	0.156	0.156		
8	VAPOR PRESSURE PV	BARA	8	8	8		
9	*REQUIRED CV						
10	*TRAVEL	%					
11	ALLOWABLE/ *PREDICTED SPL	dBA	85 / 60	85 / 63	85 / 57		
12	COMPRESSIBILITY Z						
K=Cp/Cv=		DENSITY	677	kg/m ³	@ Ope.Cond.		
13	PIPE LINE SIZE	IN	12" / 9.53				
14	& WALL THICKNESS(mm)	OUT	12" / 9.53				
15	PIPE LINE INSULATION /SPEC.	P/AB1					
16	* TYPE	BUTTERFLY LUG TYPE					
17	* SIZE	8"	ANSI CLASS	300#/LRF			
18	DESIGN PRESS.BARG /TEMP.° C	23 / 200					
19	*MFR. & MODEL	14C					
20	*BODY/BONNET MATL.	A 516/Gr70					
21	*LINER MATERIAL/ID						
22	END	IN	FLANGED				
23	CONNECTION	OUT	FLANGED				
24	FLG FACE FINISH	ANSI 300 # RF					
25	END EXT/MATL.						
26	*FLOW DIRECTION	OPEN					
27	*TYPE OF BONNET	STD(WITH REDUCED EMISSION)					
28	LUBE & ISO VALVE	NO					
29	*PACKING MAT.	PTFE RINGS					
30	*PACKING TYPE						
31							
32	*TYPE	60 ° FLAP					
33	*SIZE	RATED TRAVEL					
34	CHARACTERISTIC	LOG					
35	*BALANCED/UNBALANCED						
36	SELECTED CV	1447	FL	XT			
37	*PLUG/BALL/DISK MATERIAL	316 SS					
38	*SEAT MATERIAL	316 SS					
39	*CAGE/GUIDE MATERIAL						
40	*STEM MAT.	316 SS					
41	RANGEABILITY	50:1					
42	PLUG SEALING:METALLIC,316SS						
43	SOLENOID VALVE:	YES	NO	☒			
44	MANUAL RESET:	YES	NO	☒			
45	TAG NO:						
46							
47	FUSIBLE LINKAGE	YES	NO	☒			
48	BLOCK RELAY	YES	NO	☒			
49	BOOSTER	YES	NO	☒			
50	CARTRIDGE	YES	NO	☒			
51	PROXIMITY SW.	YES	NO	☒			
52	VOLUME TANK	YES	NO	☒			
LINE		53	*TYPE PNEUMATIC / PISTON				
		54	*MFR. & MODEL SRP2000				
		55	* SIZE EFF AREA				
		56	ON/OFF MODULATING YES				
		57	SPRING ACTION OPEN /CLOSE OPEN/FAIL LOCK				
		58	*MAX ALLOWABLE PRESSURE				
		59	*MIN ALLOWABLE PRESSURE				
		60	AVAILABLE AIR SUPPLY PRESSURE:				
		61	MAX.	6 BARG	MIN.	4 BARG	
		62	*BENCH RANGE 4 BARG				
		63	ACT ORIENTATION				
		64	HANDWHEEL TYPE NO				
		65	AIR FAILURE VALVE SET AT				
		66	STROKE TIME<20 SEC.,70MM				
VALVE BODY/ BONNET		INPUT SIGNAL H1 FOUNDATION FIELD BUS					
		68	*TYPE				
		69	*MFR. & MODEL 3787-100				
		70	*ON INCR SIGNAL OUTPUT INCR/DECR				
		71	GAUGES YES BY-PASS				
		72	*CAM CHARACTERISTIC				
		73					
		74	TYPE QUANTITY				
		75	*MFR. & MODEL				
		76	CONTACT/RATING				
		77	ACTUATION POINTS				
		78	TAG NO:				
		79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE				
		80	*SET PRESSURE				
		81	FILTER	YES	GAUGE	YES	
		82					
		83	*HYDRO PRESURE				
		84	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)				
		85					
		86					
TRIM		PID NO: 305					
		LINE NO: PMR-30-05-032					
SPECIAL ACCESSORIES							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): BOOSTER :8523-0084/LOCK-UP RELAY : 3709-1,WITH TRAVELLING STOP.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000																																																																																																																																																																																																																																																																																																																																									
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="width:50%;"> FLUID: PURE METHANOL / LIQUID </td> <td colspan="2" style="width:10%;"> CRIT. PRESS (PC) </td> <td colspan="4" style="width:40%;"> 81 BAR (ABS) </td> </tr> <tr> <td colspan="2"></td> <td style="width:10%;"> UNITS </td> <td style="width:10%;"> MAX. FLOW </td> <td style="width:10%;"> NORM FLOW </td> <td style="width:10%;"> MIN. FLOW </td> <td style="width:10%;"> SHUT OFF </td> <td style="width:10%;"> START UP </td> </tr> <tr> <td colspan="2">FLOW RATE</td> <td>Kg/hr</td> <td>350000</td> <td>251518</td> <td>75000</td> <td></td> <td></td> </tr> <tr> <td colspan="2">INLET PRESSURE</td> <td>BAR (ABS)</td> <td>7.5</td> <td>8</td> <td>8.5</td> <td></td> <td></td> </tr> <tr> <td colspan="2">DP PRESSURE</td> <td>BAR</td> <td>0.5</td> <td>1.4</td> <td>2.2</td> <td>12</td> <td></td> </tr> <tr> <td colspan="2">INLET TEMPERATURE</td> <td>° C</td> <td></td> <td>40</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">SPEC. WT/SPEC.GRAVITY/MOL WT</td> <td></td> <td>32.043</td> <td>32.043</td> <td>32.043</td> <td></td> <td></td> </tr> <tr> <td colspan="2">VISCOSITY/SPEC HEAT RATIO</td> <td>mPas</td> <td>0.449</td> <td>0.449</td> <td>0.449</td> <td></td> <td></td> </tr> <tr> <td colspan="2">VAPOR PRESSURE PV</td> <td>BARA</td> <td>0.35</td> <td>0.35</td> <td>0.35</td> <td></td> <td></td> </tr> <tr> <td colspan="2">*REQUIRED CV</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">*TRAVEL</td> <td>%</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">ALLOWABLE/ *PREDICTED SPL</td> <td>dBA</td> <td>85 / 56</td> <td>85 / 61</td> <td>85 / 54</td> <td></td> <td></td> </tr> <tr> <td colspan="2">COMPRESSIBILITY Z</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">K=C_p/C_v=</td> <td>DENSITY</td> <td>773 kg/m³</td> <td colspan="4">@ Ope.Cond.</td> </tr> </table>										FLUID: PURE METHANOL / LIQUID		CRIT. PRESS (PC)		81 BAR (ABS)						UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP	FLOW RATE		Kg/hr	350000	251518	75000			INLET PRESSURE		BAR (ABS)	7.5	8	8.5			DP PRESSURE		BAR	0.5	1.4	2.2	12		INLET TEMPERATURE		° C		40				SPEC. WT/SPEC.GRAVITY/MOL WT			32.043	32.043	32.043			VISCOSITY/SPEC HEAT RATIO		mPas	0.449	0.449	0.449			VAPOR PRESSURE PV		BARA	0.35	0.35	0.35			*REQUIRED CV								*TRAVEL		%						ALLOWABLE/ *PREDICTED SPL		dBA	85 / 56	85 / 61	85 / 54			COMPRESSIBILITY Z								K=C _p /C _v =		DENSITY	773 kg/m ³	@ Ope.Cond.																																																																																																																																																																																																																											
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FILTER		YES	GAUGE	YES	81																																																																																																																																																																																																																																																																																																																																												
				82																																																																																																																																																																																																																																																																																																																																													
*HYDRO PRESURE				83																																																																																																																																																																																																																																																																																																																																													
ANSI/FCI LEAKAGE CLASS				IV (IEC-534.4)																																																																																																																																																																																																																																																																																																																																													
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PID NO:		306																																																																																																																																																																																																																																																																																																																																															
LINE NO:		PMR-30-09-023																																																																																																																																																																																																																																																																																																																																															
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE: 1): BOOSTER :8523-0084/LOCK-UP RELAY :3709-1																																																																																																																																																																																																																																																																																																																																																	

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES DOC. NO.: P-1182-DSH-IN-644 5		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: LV-300101A							
1		FLUID: RAW METHANOL / LIQUID			CRIT. PRESS (PC) 106.8 BAR (ABS)		
		UNITS		MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
2		FLOW RATE		Kg / hr	147000	24000	12000
3		INLET PRESSURE		BAR (ABS)	7.6	7.9	9
4		DP PRESSURE		BAR	1.7	2.2	3.3
5		INLET TEMPERATURE		° C	40		
6		SPEC. WT/SPEC.GRAVITY/MOL WT			29.55		
7		VISCOSITY/SPEC HEAT RATIO		mPas	0.49		
8		VAPOR PRESSURE PV		BARA	0.3	0.3	0.3
9		*REQUIRED CV					
10		*TRAVEL		%			
11		ALLOWABLE/ *PREDICTED SPL		dBA	85/ 73	85/ 50	85 / 47
12		COMPRESSIBILITY Z					
		K=Cp/Cv= DENSITY 788 kg/m ³ @ Ope Cond.					
13		PIPE LINE SIZE IN 8" / 8.18		53	*TYPE PNEUMATIC / DIAPHRAGM		
14		& WALL THICKNESS(mm) OUT 8" / 8.18		54	*MFR. & MODEL 3277		
15		PIPE LINE INSULATION /SPEC. / AA1		55	* SIZE 390MM EFF AREA		
16		* TYPE GLOBE VALVE		56	ON/OFF MODULATING YES		
17		* SIZE 6" ANSI CLASS 300# / RF		57	SPRING ACTION OPEN /CLOSE CLOSE		
18		DESIGN PRESS.BARG /TEMP. ° C 10.5/90		58	*MAX ALLOWABLE PRESSURE		
19		*MFR. & MODEL 3241		59	*MIN ALLOWABLE PRESSURE		
20		*BODY/BONNET MATL. A216 GR.WCB		60	AVAILABLE AIR SUPPLY PRESSURE:		
21		*LINER MATERIAL/ID		61	MAX. 6 BARG MIN. 4 BARG		
22		END IN FLANGED		62	*BENCH RANGE 2.1-3.3 BARG		
23		CONNECTION OUT FLANGED		63	ACT ORIENTATION		
24		FLG FACE FINISH ANSI 300 # RF		64	HANDWHEEL TYPE NO		
25		END EXT/MATL.		65	AIR FAILURE VALVE SET AT		
26		*FLOW DIRECTION OPEN		66	STROKE TIME<20 SEC.,30MM		
27		*TYPE OF BONNET STD(WITH REDUCED EMISSION)		INPUT SIGNAL H1 FUNDATION FIELD BUS			
28		LUBE & ISO VALVE NO		68	*TYPE		
29		*PACKING MAT. PTFE RINGS		69	*MFR. & MODEL 3787-100		
30		*PACKING TYPE		70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31				71	GAUGES YES IP65 BY-PASS		
32		*TYPE PARABOLIC		72	*CAM CHARACTERISTIC		
33		*SIZE RATED TRAVEL		73			
34		CHARACTERISTIC LOG		74	TYPE QUANTITY		
35		*BALANCED/UNBALANCED		75	*MFR. & MODEL		
36		SELECTED CV 300 FL XT		76	CONTACT/RATING		
37		*PLUG/BALL/DISK MATERIAL 316Ti		77	ACTUATION POINTS		
38		*SEAT MATERIAL 316Ti		78	TAG NO:		
39		*CAGE/GUIDE MATERIAL		79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE		
40		*STEM MAT. 316Ti		80	*SET PRESSURE		
41		RANGEABILITY: 50:1		81	FILTER YES GAUGE YES		
42		PLUG SEALING:METALLIC,316Ti		82			
43		SOLENOID VALVE: YES NO ☒		83	*HYDRO PRESURE		
44		MANUAL RESET: YES NO ☒		84	ANSI/FCI LEAKAGE CLASS IV (IEC 534.4)		
45		TAG NO:		85			
46				86			
47		FUSIBLE LINKAGE YES NO ☒		PID NO: 401			
48		BLOCK RELAY YES NO ☒		LINE NO: PMC-40-01-003			
49		BOOSTER YES NO ☒					
50		CARTRIDGE YES NO ☒					
51		PROXIMITY SW. YES NO ☒					
52		VOLUME TANK YES NO ☒					

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO. : P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: LV-300101B					
1 FLUID: RAW METHANOL / LIQUID		CRIT. PRESS (PC) 106.8		BAR (ABS)	
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
2 FLOW RATE		Kg / hr	280000	60000	30000
3 INLET PRESSURE		BAR (ABS)	5	5.5	5.5
4 DP PRESSURE		BAR	1.2	3.1	3.1
5 INLET TEMPERATURE		° C		38	
6 SPEC. WT/SPEC.GRAVITY/MOL WT			29.55	29.55	29.55
7 VISCOSITY/SPEC HEAT RATIO		mPas	0.49	0.49	0.49
8 VAPOR PRESSURE PV 1)		BARA	5.48 1)	5.48 1)	5.48 1)
9 *REQUIRED CV					
10 *TRAVEL		%			
11 ALLOWABLE/ *PREDICTED SPL		dBA	85 / 64	85 / 61	85/ 58
12 COMPRESSIBILITY Z					
K=Cp/Cv= DENSITY 788 kg/m ³ @ Ope.Cond.					
13 LINE PIPE LINE SIZE IN 8" / 8.18		53	*TYPE PNEUMATIC /PISTON		
14 & WALL THICKNESS(mm) OUT 8" / 8.18		54	*MFR. & MODEL R200		
15 PIPE LINE INSULATION /SPEC. / AA1		55	* SIZE EFF AREA		
16 * TYPE ROTARY PLUG VALVE		56	ON/OFF MODULATING YES		
17 * SIZE 6" ANSI CLASS 300# / RF		57	SPRING ACTION OPEN /CLOSE CLOSE		
18 DESIGN PRESS.BARG /TEMP.° C 7/ 100		58	*MAX ALLOWABLE PRESSURE		
19 *MFR. & MODEL 72.3R		59	*MIN ALLOWABLE PRESSURE		
20 *BODY/BONNET MATL. A216 GR.WCB		60	AVAILABLE AIR SUPPLY PRESSURE:		
21 *LINER MATERIAL/ID		61	MAX. 6 BARG MIN. 4 BARG		
22 END IN FLANGED		62	*BENCH RANGE 0.4~1.2 BARG		
23 CONNECTION OUT FLANGED		63	ACT ORIENTATION		
24 FLG FACE FINISH ANSI 300 # RF		64	HANDWHEEL TYPE NO		
25 END EXT/MATL.		65	AIR FAILURE VALVE SET AT		
26 *FLOW DIRECTION TENDS TO OPEN		66	STROKE TIME<20 SEC., 75MM		
27 *TYPE OF BONNET STD(WITH REDUCED EMISSION)		INPUT SIGNAL H1 FUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO		68	*TYPE		
29 *PACKING MAT. PTFE GRAPHITE		69	*MFR. & MODEL 3787-100		
30 *PACKING TYPE		70	*ON INCR SIGNAL OUTPUT INCR/DECR		
31 RANGEABILITY: 50:1		71	GAUGES YES BY-PASS		
32 *TYPE		72	*CAM CHARACTERISTIC		
33 *SIZE RATED TRAVEL		73			
34 CHARACTERISTIC LOG		74	TYPE QUANTITY		
35 *BALANCED/UNBALANCED		75	*MFR. & MODEL		
36 SELECTED CV: 685 FL XT		76	CONTACT/RATING		
37 *PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)		77	ACTUATION POINTS		
38 *SEAT MATERIAL 316Ti (STELLITED)		78	TAG NO:		
39 *CAGE/GUIDE MATERIAL		79	*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE		
40 *STEM MAT. 316Ti		80	*SET PRESSURE		
41 ARMoured:YES MATERIAL:STELLITE		81	FILTER YES GAUGE YES		
42 PLUG SEALING:METALLIC,316Ti		82			
43 SOLENOID VALVE: YES NO ☒		83	*HYDRO PRESURE		
44 MANUAL RESET: YES NO ☒		84	ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)		
45 TAG NO:		85			
46		86			
47 FUSIBLE LINKAGE YES NO ☒		PID NO: 301			
48 BLOCK RELAY YES NO ☒		LINE NO: PMC-30-01-005			
49 BOOSTER YES NO ☒					
50 CARTRIDGE YES NO ☒					
51 PROXIMITY SW. YES NO ☒					
52 VOLUME TANK YES NO ☒					

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) SOLVED GASES

2) FLASHING AT DOWNSTREAM PRESSURE 0.4% VAPOR

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO. : P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
TAG NO: LV-300202					
1 FLUID: STABLIZED METHANOL / LIQUID		CRIT. PRESS (PC) 107.1 BAR (ABS)			
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
2 FLOW RATE		kg/hr	313500	236025	71000
3 INLET PRESSURE		BAR (ABS)	10.8	11.2	11.7
4 DP PRESSURE		BAR	0.5	1.2	1.9
5 INLET TEMPERATURE		° C		92	
6 SPEC. WT/SPEC.GRAVITY/MOL WT			29.43	29.43	29.43
7 VISCOSITY/SPEC HEAT RATIO		mPas	0.25	0.25	0.25
8 VAPOR PRESSURE PV		BARA	2.4	2.4	2.4
9 *REQUIRED CV					
10 *TRAVEL		%			
11 ALLOWABLE/ *PREDICTED SPL		dBA	85 / 61	85 / 64	85 / 61
12 COMPRESSIBILITY Z					
K=Cp/Cv= DENSITY 742 kg/m ³ @ Ope.Cond.					
13 LINE PIPE LINE SIZE IN 12" / 9.53		53 *TYPE PNEUMATIC / PISTON			
14 & WALL THICKNESS(mm) OUT 12" / 9.53		54 *MFR. & MODEL R250V			
15 PIPE LINE INSULATION /SPEC. H/AA1		55 * SIZE EFF AREA			
16 * TYPE ROTARY PLUG VALVE		56 ON/OFF MODULATING YES			
17 * SIZE 8" ANSI CLASS 300#/RF		57 SPRING ACTION OPEN /CLOSE CLOSE			
18 DESIGN PRESS.BARG /TEMP.° C 14 / 150		58 *MAX ALLOWABLE PRESSURE			
19 *MFR. & MODEL 72.3R		59 *MIN ALLOWABLE PRESSURE			
20 *BODY/BONNET MATL. A216 GR.WCB		60 AVAILABLE AIR SUPPLY PRESSURE:			
21 *LINER MATERIAL/ID		61 MAX. 6 BARG MIN. 4 BARG			
22 END IN FLANGED		62 *BENCH RANGE 1.3~2.4 BARG			
23 CONNECTION OUT FLANGED		63 ACT ORIENTATION			
24 FLG FACE FINISH ANSI 300 # RF		64 HANDWHEEL TYPE NO			
25 END EXT/MATL.		65 AIR FAILURE VALVE SET AT			
26 *FLOW DIRECTION TENDS TO OPEN		66 STROKE TIME<20 SEC.,75MM			
27 *TYPE OF BONNET STD(WITH REDUCED EMISSION)		67 INPUT SIGNAL H1 FOUNDATION FIELD BUS			
28 LUBE & ISO VALVE NO		68 *TYPE			
29 *PACKING MAT. PTFE GRAPHITE		69 *MFR. & MODEL 3787-100			
30 *PACKING TYPE		70 *ON INCR SIGNAL OUTPUT INCR/DECR			
31		71 GAUGES YES BY-PASS			
32		72 *CAM CHARACTERISTIC			
33 *TYPE		73			
34 *SIZE RATED TRAVEL		74 TYPE QUANTITY			
35 CHARACTERISTIC LOG		75 *MFR. & MODEL			
36 *BALANCED/UNBALANCED		76 CONTACT/RATING			
37 SELECTED CV 950 FL XT		77 ACTUATION POINTS			
38 *PLUG/BALL/DISK MATERIAL 316Ti		78 TAG NO:			
39 *SEAT MATERIAL 316Ti		79 *MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE			
40 *CAGE/GUIDE MATERIAL		80 *SET PRESSURE			
41 *STEM MAT. 316Ti		81 FILTER YES GAUGE YES			
42 RANGEABILITY: 50:1		82			
43 PLUG SEALING:METALLIC,316Ti		83 *HYDRO PRESURE			
44 SOLENOID VALVE: YES NO ☒		84 ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)			
45 MANUAL RESET: YES NO ☒		85			
46 TAG NO:		86			
47 FUSIBLE LINKAGE YES NO ☒		PID NO: 304			
48 BLOCK RELAY YES NO ☒		LINE NO: PMS-30-03-008			
49 BOOSTER YES NO ☒					
50 CARTRIDGE YES NO ☒					
51 PROXIMITY SW. YES NO ☒					
52 VOLUME TANK YES NO ☒					

* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		 mg engineering Lurgi PROJ. NO.: 1.69690-10-GEM		2nd ZAGROS MEGAMETHANOL PROJECT		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
				CONTROL VALVES DOC. NO. : P-1182-DSH-IN-644 5					
TAG NO: LV-300203									
FLUID: PROCESS CONDENSATE / LIQUID				CRIT. PRESS (PC) 221 BAR (ABS)					
				UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	< SATU
FLOW RATE				kg/hr	47500	37975	11400		
INLET PRESSURE				BAR (ABS)	32.5	32.6	33		
DP. PRESSURE				BAR	1.7	2	2.7	39	
INLET TEMPERATURE				° C		115			
SPEC. WT/SPEC. GRAVITY/MOL. WT				KG/KMOL	18.02	18.02	18.02		
VISCOSITY/SPEC. HEAT RATIO				mPas	0.239	0.239	0.239		
VAPOR PRESSURE PV				BARA	1.7	1.7	1.7		
*REQUIRED CV									
*TRAVEL				%					
ALLOWABLE/ *PREDICTED SPL				dBa	85 / 53	85 / 52	85 / 44		
COMPRESSIBILITY Z									
K=C _p /C _v =				DENSITY 945 kg/m ³	@ Ope. Cond.				
LINE		PIPE LINE SIZE		IN	4" / 4.78				
		& WALL THICKNESS(mm)		OUT	4" / 4.78				
		PIPE LINE INSULATION / SPEC.		H/NB1					
VALVE BODY/ BONNET		* TYPE		GLOBE VALVE					
		* SIZE		3"	ANSI CLASS	300#/RF			
		DESIGN PRESS. BARG / TEMP. ° C		39 / 180					
		*MFR. & MODEL		3241					
		*BODY/BONNET MATL.		A351/CF8C					
		*LINER MATERIAL/ID							
		END		IN	FLANGED				
		CONNECTION		OUT	FLANGED				
		FLG FACE FINISH		ANSI 300 # RF					
		END EXT/MATL.							
		*FLOW DIRECTION TENDS TO		OPEN					
		*TYPE OF BONNET		STD					
		LUBE & ISO VALVE		NO					
		*PACKING MAT.		PTFE RINGS					
		*PACKING TYPE							
RANGEABILITY:		50:1							
TRIM		*TYPE		PARABOLIC					
		*SIZE		RATED TRAVEL					
		CHARACTERISTIC		LOG					
		*BALANCED/UNBALANCED							
		SELECTED CV		70	FL	XT			
		*PLUG/BALL/DISK MATERIAL		316Ti					
		*SEAT MATERIAL		316Ti					
		*CAGE/GUIDE MATERIAL							
SPECIAL ACCESSORIES		*STEM MAT.		316Ti					
		ARMoured/TYPE OF ARMOUR:		NO					
		PLUG SEALING: METALLIC, 316Ti							
		SOLENOID VALVE:		YES		NO	☒		
		MANUAL RESET:		YES		NO	☒		
TAG NO:									
SPECIAL ACCESSORIES		FUSIBLE LINKAGE		YES		NO	☒		
		BLOCK RELAY		YES		NO	☒		
		BOOSTER		YES		NO	☒		
		CARTRIDGE		YES		NO	☒		
		PROXIMITY SW.		YES		NO	☒		
VOLUME TANK		YES		NO	☒				
				PID NO: 302 LINE NO: PC-30-02-001					

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. PROJ. NO. : 1182		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES PROJ. NO.: 1.69690-10-GEM DOC. NO. : P-1182-DSH-IN-644		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
TAG NO: LV-300305							
1 FLUID: METHANOL / LIQUID		CRIT. PRESS (PC) 80.8 BAR (ABS)					
		UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	NOTE 2
2 FLOW RATE		kg/HR	132800	80197	24000		
3 INLET PRESSURE		BAR (ABS)	6	6.4	6.6		
4 DP PRESSURE		BAR	0.5	1.4	1.8	9	
5 INLET TEMPERATURE		° C		64			
6 SPEC. WT/SPEC.GRAVITY/MOL WT		KG/K MOL	32.3	32.3	32.3		
7 VISCOSITY/SPEC HEAT RATIO		mPas	0.33	0.33	0.33		
8 VAPOR PRESSURE PV		BARA	2	2	2		
9 *REQUIRED CV							
10 *TRAVEL		%					
11 ALLOWABLE/ *PREDICTED SPL		dBA	85 / 55	85 / 57	85 / 53		
12 COMPRESSIBILITY Z							
K=C _p /C _v =		DENSITY 749 kg/m ³	@ Ope.Cond.				
13 LINE PIPE LINE SIZE		IN 8" / 8.18	53 *TYPE PNEUMATIC /PISTON				
14 & WALL THICKNESS(mm)		OUT 8" / 8.18	54 *MFR. & MODEL R200				
15 PIPE LINE INSULATION /SPEC.		P / AA1	55 * SIZE EFF AREA				
16 * TYPE ROTARY VALVE			56 ON/OFF MODULATING YES				
17 * SIZE 6" ANSI CLASS 300#/RF			57 SPRING ACTION OPEN /CLOSE FAIL OPEN / LOCK				
18 DESIGN PRESS.BARG /TEMP.° C 14 / 150			58 *MAX ALLOWABLE PRESSURE				
19 *MFR. & MODEL 72.3R			59 *MIN ALLOWABLE PRESSURE				
20 *BODY/BONNET MATL. A216 GR.WCB			60 AVAILABLE AIR SUPPLY PRESSURE:				
21 *LINER MATERIAL/ID			61 MAX. 6.0 BARG MIN. 4 BARG				
22 END IN FLANGED			62 *BENCH RANGE 0.4-1.2 BARG				
23 CONNECTION OUT FLANGED			63 ACT ORIENTATION				
24 FLG FACE FINISH ANSI 300 # RF			64 HANDWHEEL TYPE NO				
25 END EXT/MATL.			65 AIR FAILURE VALVE SET AT				
26 *FLOW DIRECTION OPEN			66 STROKE TIME<20 SEC.,75MM				
27 *TYPE OF BONNET STD(WITH REDUCED EMISSION)			INPUT SIGNAL H1 FUNDATION FIELD BUS				
28 LUBE & ISO VALVE NO			68 *TYPE				
29 *PACKING MAT. PTFE GRAPHITE			69 *MFR. & MODEL 3787-100				
30 *PACKING TYPE			70 *ON INCR SIGNAL OUTPUT INCR/DECR				
31			71 GAUGES YES BY-PASS				
32			72 *CAM CHARACTERISTIC				
33 *TYPE			73				
34 *SIZE RATED TRAVEL			74 TYPE QUANTITY				
35 CHARACTERISTIC LOG			75 *MFR. & MODEL				
36 *BALANCED/UNBALANCED			76 CONTACT/RATING				
37 ELECTED CV 275 FL XT			77 ACTUATION POINTS				
38 *PLUG/BALL/DISK MATERIAL 316Ti			78 TAG NO:				
39 *SEAT MATERIAL 316Ti			79 *MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN 1/4" NPT GAUGE				
40 *CAGE/GUIDE MATERIAL			80 *SET PRESSURE				
41 *STEM MAT. 316Ti			81 FILTER YES GAUGE YES				
42 RANGEABILITY 50:1			82				
43 PLUG SEALING:METALLIC,316Ti			83 *HYDRO PRESURE				
44 SOLENOID VALVE: YES NO ✓			84 ANSI/FCI LEAKAGE CLASS IV (0.5%CVs IEC 534.4)				
45 MANUAL RESET: YES NO ✓			85				
46 TAG NO:			86				
47 FUSIBLE LINKAGE YES NO ✓			PID NO: 303				
48 BLOCK RELAY YES ✓ NO			LINE NO: PMR-30-03-007				
49 BOOSTER YES NO ✓							
50 CARTRIDGE YES NO ✓							
51 PROXIMITY SW. YES NO ✓							
52 VOLUME TANK YES NO ✓							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1) LOCK-UP RELAY: 3709-1

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		 mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
				CONTROL VALVES			
TAG NO: LV-300406		PROJ. NO.: 1.69690-10-GEM		DOC. NO.: P-1182-DSH-IN-644		5	

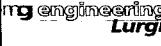
1		FLUID: PROCESS CONDENSATE / LIQUID				CRIT. PRESS (PC) 221		BAR (ABS)	
SERVICE CONDITIONS	2	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP	
	3	INLET PRESSURE	kg/Hr	84000	70090	21000			
	4	DP PRESSURE	BAR (ABS)	32.7	32.9	33.2			
	5	INLET TEMPERATURE	BAR	2.3	2.5	2.9	39		
	6	SPEC. WT/SPEC.GRAVITY/MOL WT	° C		144				
	7	VISCOSITY/SPEC HEAT RATIO		18.02	18.02	18.02			
	8	VAPOR PRESSURE PV	mPas	0.19	0.19	0.19			
	9	*REQUIRED CV	BARA	4	4	4			
	10	*TRAVEL	%						
	11	ALLOWABLE/ *PREDICTED SPL	dBA	85 / 61	85/ 60	85 / 51			
12	COMPRESSIBILITY Z								
		K=Cp/Cv=		DENSITY 922 kg/m ³		@ Ope.Cond.			
LINE	13	PIPE LINE SIZE	IN	6" / 7.11					
	14	& WALL THICKNESS(mm)	OUT	6" / 7.11					
VALVE BODY/ BONNET	15	PIPE LINE INSULATION /SPEC.	H / ND2						
	16	* TYPE	GLOBE VALVE						
	17	* SIZE	4"	ANSI CLASS	600#/RF				
	18	DESIGN PRESS.BARG /TEMP.° C	39 / 200						
	19	*MFR. & MODEL	3251						
	20	*BODY/BONNET MATL.	A351 / CF8C						
	21	*LINER MATERIAL/ID							
	22	END	IN	FLANGED					
	23	CONNECTION	OUT	FLANGED					
	24	FLG FACE FINISH	ANSI 600 # RF						
	25	END EXT/MATL.							
	26	*FLOW DIRECTION TENDS TO	OPEN						
	27	*TYPE OF BONNET	STD						
	28	LUBE & ISO VALVE	NO						
	29	*PACKING MAT.	PTFE RINGS						
	30	*PACKING TYPE							
	31	RANGEABILITY:	50:1						
	TRIM	32	*TYPE	PARABOLIC					
33		*SIZE	RATED TRAVEL						
34		CHARACTERISTIC	LOG						
35		*BALANCED/UNBALANCED							
36		SELECTED CV	120	FL	XT				
37		*PLUG/BALL/DISK MATERIAL	316Ti (STELLITED)						
38		*SEAT MATERIAL	316Ti (STELLITED)						
39		*CAGE/GUIDE MATERIAL							
40		*STEM MAT.	316Ti						
41		PLUG SEALING:METALLIC,316Ti							
SPECIAL ACCESSORIES	42	ARMOURED:YES	MATERIAL:STELLITE						
	43	SOLENOID VALVE:	YES		NO	☒			
	44	MANUAL RESET:	YES		NO	☒			
	45	TAG NO:							
	46								
	47	FUSIBLE LINKAGE	YES		NO	☒			
	48	BLOCK RELAY	YES		NO	☒			
	49	BOOSTER	YES	☒	NO				
	50	CARTRIDGE	YES		NO	☒			
	51	PROXIMITY SW.	YES		NO	☒			
52	VOLUME TANK	YES		NO	☒				

53	*TYPE	PNEUMATIC / DIAPHRAGM			
54	*MFR. & MODEL	3271			
55	* SIZE	530MM	EFF AREA		
56	ON/OFF			MODULATING	
57	SPRING ACTION OPEN /CLOSE	CLOSE			
58	*MAX ALLOWABLE PRESSURE				
59	*MIN ALLOWABLE PRESSURE				
60	AVAILABLE AIR SUPPLY PRESSURE:				
61	MAX.	6 BARG	MIN.	4 BARG	
62	*BENCH RANGE	1.6-2.4	BARG		
63	ACT ORIENTATION				
64	HANDWHEEL TYPE	NO			
65	AIR FAILURE VALVE	SET AT			
66	STROKE TIME<10 SEC.,30MM				
67	INPUT SIGNAL	H1 FUNDATION FIELD BUS			
POSITIONER	68	*TYPE			
	69	*MFR. & MODEL	3787-100		
	70	*ON INCR SIGNAL OUTPUT INCR/DECR			
	71	GAUGES	YES	BY-PASS	
LIMIT SW.	72	*CAM CHARACTERISTIC			
	73				
	74	TYPE	QUANTITY		
	75	*MFR. & MODEL			
AIR SET	76	CONTACT/RATING			
	77	ACTUATION POINTS			
	78	TAG NO:			
	79	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE			
TEST	80	*SET PRESSURE			
	81	FILTER	YES	GAUGE	YES
	82				
	83	*HYDRO PRESURE			
84	ANSI/FCI LEAKAGE CLASS	IV (0.5% CVs IEC 534.4)			
85					
86					

PID NO:	304
LINE NO:	PC-30-04-002

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE: 1) BOOSTER :8523-0084

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.			2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM	DOC. NO. :P-1182-DSH-IN-644	5		

TAG NO: LV-300407							
1	FLUID: STABILIZED METHANOL / LIQUID				CRIT. PRESS (PC) 123.2 BAR (ABS)		
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF
3		INLET PRESSURE	kg/Hr	166000	138284	41500	
4		DP. PRESSURE	BAR (ABS)	8.9	8.9	8.9	
5		INLET TEMPERATURE	BAR	4.4	4.6	4.9	11
6		SPEC. WT/SPEC.GRAVITY/MOL WT	°C		137		
7		VISCOSITY/SPEC HEAT RATIO	KG/KMOL	27.83	27.83	27.83	
8		VAPOR PRESSURE PV	mPas	0.16	0.16	0.16	
9		*REQUIRED CV	BARA	8.6	8.6	8.6	
10		*TRAVEL	%				
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 / 80	85 / 79	85/ 74	
12		COMPRESSIBILITY Z					
K=Cp/Cv= DENSITY 704 kg/m³ @ Ope.Cond.							
13	LINE	PIPE LINE SIZE	IN 10" / 9.27	53	*TYPE PNEUMATIC / DIAPHRAGM *MFR. & MODEL 3271 * SIZE 530MM EFF AREA ON/OFF MODULATING YES SPRING ACTION OPEN /CLOSE CLOSE *MAX ALLOWABLE PRESSURE *MIN ALLOWABLE PRESSURE AVAILABLE AIR SUPPLY PRESSURE: MAX. 6 BARG MIN. 4 BARG *BENCH RANGE 1.7-3.2 BARG ACT ORIENTATION HANDWHEEL TYPE NO AIR FAILURE VALVE SET AT STROKE TIME<20 SEC.,60MM		
14		& WALL THICKNESS(mm) OUT 16" / 9.53	54				
15		PIPE LINE INSULATION /SPEC. H / AA1	55				
16	VALVE BODY/ BONNET	* TYPE GLOBE VALVE		56	*TYPE H1 FUNDATION FIELD BUS *MFR. & MODEL 3787-100 *ON INCR SIGNAL OUTPUT INCR/DECR GAUGES YES BY-PASS *CAM CHARACTERISTIC TYPE QUANTITY *MFR. & MODEL CONTACT/RATING ACTUATION POINTS TAG NO: *MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN 3/4" NPT GAUGE *SET PRESSURE FILTER YES GAUGE YES *HYDRO PRESURE ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)		
17		* SIZE 8" ANSI CLASS 300#/RF		57			
18		DESIGN PRESS.BARG /TEMP. ° C 11/-1 / 200		58			
19		*MFR. & MODEL 3241		59			
20		*BODY/BONNET MATL. A216 GR.WCB		60			
21		*LINER MATERIAL/ID		61			
22		END IN FLANGED		62			
23		CONNECTION OUT FLANGED		63			
24		FLG FACE FINISH ANSI 300 # RF		64			
25		END EXT/MATL.		65			
26		*FLOW DIRECTION TENDS TO OPEN		66			
27		*TYPE OF BONNET STD(WITH REDUCED EMISSION)		67			
28		LUBE & ISO VALVE NO		68			
29		*PACKING MAT. PTFE RINGS		69			
30		*PACKING TYPE		70			
31	RANGEABILITY: 50:1		71				
32	TRIM	*TYPE PARABOLIC		72			
33		*SIZE RATED TRAVEL		73			
34		CHARACTERISTIC LOG		74			
35		*BALANCED/UNBALANCED		75			
36		SELECTED CV 290 FL XT		76			
37		*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)		77			
38		*SEAT MATERIAL 316Ti (STELLITED)		78			
39		*CAGE/GUIDE MATERIAL		79			
40		*STEM MAT. 316Ti		80			
41		ARMoured: YES MATERIAL:STELLITE		81			
42	PLUG SEALING:METALLIC,316Ti		82				
43	SPECIAL ACCESSORIES	SOLENOID VALVE: YES NO ✓		83			
44		MANUAL RESET: YES NO ✓		84			
45		TAG NO:		85			
46				86			
47		FUSIBLE LINKAGE YES NO ✓					
48		BLOCK RELAY YES NO ✓					
49		BOOSTER YES ✓ NO					
50		CARTRIDGE YES NO ✓					
51		PROXIMITY SW. YES NO ✓					
52		VOLUME TANK YES NO ✓					
PID NO: 306 LINE NO: PMS-30-04-014							

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)BOOSTER : 8523-0084

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.			2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM	DOC. NO. :P-1182-DSH-IN-644		5	

TAG NO: LV-300508						
1	FLUID: METHANOL / LIQUID			CRIT. PRESS (PC) 81 BAR (ABS)		
2	SERVICE CONDITIONS	FLOW RATE	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW
3		INLET PRESSURE	kg/Hr	118000	97742	29000
4		DP PRESSURE	BAR (ABS)	6.6	7	7.9
5		INLET TEMPERATURE	° C		40	
6		SPEC. WT/SPEC.GRAVITY/MOL WT			32.04	
7		VISCOSITY/SPEC HEAT RATIO	mPas		0.451	
8		VAPOR PRESSURE PV	BARA		0.35	
9		*REQUIRED CV				
10		*TRAVEL	%			
11		ALLOWABLE/ *PREDICTED SPL	dBA	85 / 71	85 / 82	85 / 80
12		COMPRESSIBILITY Z				
13		K=Cp/Cv= DENSITY 773 kg/m ³ @ Ope.Cond.				
14	LINE	PIPE LINE SIZE	IN 8" / 8.18	53	*TYPE PNEUMATIC / DIAPHRAGM	
15		& WALL THICKNESS(mm)	OUT 6" / 7.11	54		
16	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC. / AA1			55	ACTUATORE
17		* TYPE GLOBE VALVE			56	
18		* SIZE 4" ANSI CLASS 300#/RF			57	
19		DESIGN PRESS.BARG /TEMP.° C 14 / 150			58	
20		*MFR. & MODEL 3241			59	
21		*BODY/BONNET MATL. A216 GR.WCB			60	
22		*LINER MATERIAL/ID			61	
23		END	IN	FLANGED	62	
24		CONNECTION	OUT	FLANGED	63	
25		FLG FACE FINISH ANSI 300 # RF			64	
26		END EXT/MATL.			65	
27		*FLOW DIRECTION TENDS TO OPEN			66	
28	*TYPE OF BONNET STD(WITH REDUCED EMISSION)			67	POSITIONER	
29	LUBE & ISO VALVE NO			68		
30	*PACKING MAT. PTFE RINGS			69		
31	*PACKING TYPE			70		
32	RANGEABILITY: 50:1			71		
33	*TYPE PARABOLIC			72		
34	*SIZE RATED TRAVEL			73		
35	CHARACTERISTIC LOG			74		
36	*BALANCED/UNBALANCED			75		
37	SELECTED CV 190 FL XT			76		
38	*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)			77		
39	*SEAT MATERIAL 316Ti (STELLITED)			78		
40	*CAGE/GUIDE MATERIAL			79	LIMIT SW.	
41	*STEM MAT. 316Ti			80		
42	ARMoured: YES MATERIAL:STELLITE			81	AIR SET	
43	PLUG SEALING:METALLIC,316Ti			82		
44	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓	TEST
45		MANUAL RESET:	YES	NO	✓	
46		TAG NO:				
47						
48		FUSIBLE LINKAGE	YES	NO	✓	
49		BLOCK RELAY	YES	NO	✓	
50	BOOSTER	YES	NO	✓	PID NO: 305 LINE NO: PMP-30-05-004	
51	CARTRIDGE	YES	NO	✓		
52	PROXIMITY SW.	YES	NO	✓		
53	VOLUME TANK	YES	NO	✓		

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE:						
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PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	

TAG NO: LV-300609							
1	FLUID: PROCESS WATER/LIQUID	CRIT. PRESS (PC)	BAR (ABS)				
2	SERVICE CONDITIONS	UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP
3		FLOW RATE	Kg/hr	46000	26317	7900	
4		INLET PRESSURE	BAR (ABS)	59.2	67.4	69.1	
5		DP PRESSURE	BAR	1.0	10.6	13	70
6		INLET TEMPERATURE	° C		117		
7		SPEC. WT/SPEC.GRAVITY/MOL WT		18.02	18.02	18.02	
8		VISCOSITY/SPEC HEAT RATIO	mPas	0.241	0.241	0.241	
9		VAPOR PRESSURE PV	BARA	1.8	1.8	1.8	
10		*REQUIRED CV					
11		*TRAVEL	%				
12	ALLOWABLE/ *PREDICTED SPL	dBA	85/ 44	85/ 58	85/ 50		
	COMPRESSIBILITY Z						
	K=Cp/Cv= DENSITY 948 kg/m ³ @ Ope.Cond.						
13	LINE	PIPE LINE SIZE	IN	4" / 8.56			
14		& WALL THICKNESS(mm)	OUT	4" / 8.56			
15		PIPE LINE INSULATION /SPEC.		H/BD1			
16	VALVE BODY/ BONNET	* TYPE GLOBE					
17		* SIZE	3"	ANSI CLASS	600#/RF		
18		DESIGN PRESS.BARG /TEMP.° C	73/160				
19		*MFR. & MODEL	3251				
20		*BODY/BONNET MATL.	A 216 WCB				
21		*LINER MATERIAL/ID					
22		END	IN	FLANGED			
23		CONNECTION	OUT	FLANGED			
24		FLG FACE FINISH	ANSI 600# RF				
25		END EXT/MATL.					
26		*FLOW DIRECTION TENDS TO	OPEN				
27		*TYPE OF BONNET	STD.				
28		LUBE & ISO VALVE	NO				
29		*PACKING MAT.	PTFE RINGS				
30		*PACKING TYPE					
31	RANGEABILITY:	50:1					
32	TRIM	*TYPE PARABOLIC					
33		*SIZE	RATED TRAVEL				
34		CHARACTERISTIC	LOG				
35		*BALANCED/UNBALANCED					
36		SELECTED CV	75	XT			
37		*PLUG/BALL/DISK MATERIAL	FL	316Ti			
38		*SEAT MATERIAL	316Ti (STELLITED)				
39		*CAGE/GUIDE MATERIAL	316Ti (STELLITED)				
40		*STEM MAT.	316Ti				
41		ARMoured: YES	MATERIAL:STELLITE				
42	PLUG SEALING:METALLIC,316Ti						
43	SPECIAL ACCESSORIES	SOLENOID VALVE:	YES	NO	✓		
44		MANUAL RESET:	YES	NO	✓		
45		TAG NO:					
46							
47		FUSIBLE LINKAGE	YES	NO	✓		
48	BLOCK RELAY	YES	NO	✓			
49	BOOSTER	YES	✓	NO	✓		
50	CARTRIDGE	YES	NO	✓			
51	PROXIMITY SW.	YES	NO	✓			
52	VOLUME TANK	YES	NO	✓			

53	ACTUATORE	*TYPE	PNEUMATIC / DIAPHRAGM				
54		*MFR. & MODEL	3271				
55		* SIZE	530mm	EFF AREA			
56		ON/OFF	MODULATING YES				
57		SPRING ACTION OPEN /CLOSE	CLOSE				
58		*MAX ALLOWABLE PRESSURE					
59		*MIN ALLOWABLE PRESSURE					
60		AVAILABLE AIR SUPPLY PRESSURE:					
61		MAX.	6 BARG	MIN.	4 BARG		
62		*BENCH RANGE	2-3 BARG				
63		ACT ORIENTATION					
64		HANDWHEEL TYPE	NO				
65		AIR FAILURE VALVE	SET AT				
66		STROKE TIME<10 SEC., 30MM					
67		INPUT SIGNAL	H1 FUNDATION FIELD BUS				
68	POSITIONER	*TYPE					
69		*MFR. & MODEL	3787-100				
70		*ON INCR SIGNAL OUTPUT INCR/DECR					
71		GAUGES YES	BY-PASS				
72		*CAM CHARACTERISTIC					
73	LIMIT SW.	TYPE	QUANTITY				
74		*MFR. & MODEL					
75		CONTACT/RATING					
76		ACTUATION POINTS					
77		TAG NO:					
78	AIR SET	*MFR. & MODEL:NORGREN B74G-6AK3-AP3-RMN3/4"NPT GAUGE					
79		*SET PRESSURE					
80		FILTER YES	GAUGE	YES			
81							
82	TEST	*HYDRO PRESURE					
83		ANSI/FCI LEAKAGE CLASS	IV (0.5% CVs IEC 534.4)				
84							
85							
86							

PID NO: 307 LINE NO: PW-30-07-006	
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INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1)BOOSTER : 8523-0084

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.			2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM	DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: LV-300910						
FLUID: PURE METHANOL / LIQUID			CRIT. PRESS (PC) 81 BAR (ABS)			
SERVICE CONDITIONS			UNITS		MAX. FLOW NORM FLOW MIN. FLOW SHUT OFF START UP	
FLOW RATE			kg/Hr		130000 110595 33000	
INLET PRESSURE			BAR (ABS)		8.3 8.5 8.6	
DP PRESSURE			BAR		2.8 3.5 5.6 12	
INLET TEMPERATURE			° C		40	
SPEC. WT/SPEC.GRAVITY/MOL WT					32.04	
VISCOSITY/SPEC HEAT RATIO			mPas		0.449	
VAPOR PRESSURE PV			BARA		0.35	
*REQUIRED CV						
*TRAVEL			%			
ALLOWABLE/ *PREDICTED SPL			dBA		85 / 74 85 / 79 85 / 80	
COMPRESSIBILITY Z						
K=Cp/Cv=			DENSITY 773 kg/m ³ @ Ope.Cond.			
LINE			PIPE LINE SIZE IN 6" / 7.11		53	
& WALL THICKNESS(mm) OUT 6" / 7.11			54		*TYPE PNEUMATIC / DIAPHRAGM	
PIPE LINE INSULATION /SPEC. / AA1			55		*MFR. & MODEL 3277	
* TYPE GLOBE VALVE			56		* SIZE 390mm EFF AREA	
* SIZE 6" ANSI CLASS 300#/RF			57		ON/OFF MODULATING YES	
DESIGN PRESS.BARG /TEMP.° C 14 / 150			58		SPRING ACTION OPEN /CLOSE CLOSE	
*MFR. & MODEL 3241			59		*MAX ALLOWABLE PRESSURE	
*BODY/BONNET MATL. A216 GR.WCB			60		*MIN ALLOWABLE PRESSURE	
*LINER MATERIAL/ID			61		AVAILABLE AIR SUPPLY PRESSURE:	
END IN FLANGED			62		MAX. 6.0 BARG MIN. 4 BARG	
CONNECTION OUT FLANGED			63		*BENCH RANGE 2.1~3.3 BARG	
FLG FACE FINISH ANSI 300 # RF			64		ACT ORIENTATION	
END EXT/MATL.			65		HANDWHEEL TYPE NO	
*FLOW DIRECTION TENDS TO OPEN			66		AIR FAILURE VALVE SET AT	
*TYPE OF BONNET STD(WITH REDUCED EMISSION)			67		STROKE TIME<20 SEC.,30MM	
LUBE & ISO VALVE NO			68		INPUT SIGNAL H1 FUNDATION FIELD BUS	
*PACKING MAT. PTFE RINGS			69		*TYPE	
*PACKING TYPE			70		*MFR. & MODEL 3787-100	
RANGEABILITY: 50:1			71		*ON INCR SIGNAL OUTPUT INCR/DECR	
*TYPE PARABOLIC			72		GAUGES YES BY-PASS	
*SIZE RATED TRAVEL			73		*CAM CHARACTERISTIC	
CHARACTERISTIC LOG			74			
*BALANCED/UNBALANCED			75		TYPE QUANTITY	
SELECTED CV: 190 FL XT			76		*MFR. & MODEL 3738-100	
*PLUG/BALL/DISK MATERIAL 316Ti (STELLITED)			77		CONTACT/RATING	
*SEAT MATERIAL 316Ti (STELLITED)			78		ACTUATION POINTS	
*CAGE/GUIDE MATERIAL			79		TAG NO:	
*STEM MAT. 316Ti			80		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN1/4"NPT GAUGE	
ARMoured:YES MATERIAL:STELLITE			81		*SET PRESSURE	
PLUG SEALING:METALLIC,316Ti			82		FILTER YES GAUGE YES	
SOLENOID VALVE: YES ☐ NO ☒			83			
MANUAL RESET: YES ☐ NO ☒			84		*HYDRO PRESURE	
TAG NO:			85		ANSI/FCI LEAKAGE CLASS IV (0.5% CV s IEC534.4)	
			86			
SPECIAL ACCESSORIES			PID NO: 309			
FUSIBLE LINKAGE YES ☐ NO ☒			LINE NO: PMP-30-09-017			
BLOCK RELAY YES ☐ NO ☒						
BOOSTER YES ☐ NO ☒						
CARTRIDGE YES ☐ NO ☒						
PROXIMITY SW. YES ☐ NO ☒						
VOLUME TANK YES ☐ NO ☒						
* INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE:						

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: PV-300101							
1 FLUID: EXPANSION GAS / GAS							
		UNITS		CRIT. PRESS (PC)		BAR (ABS)	
		MAX. FLOW		NORM FLOW		MIN. FLOW	
		SHUT OFF		START UP			
2 FLOW RATE		Sm3 / hr		5000		4182	
3 INLET PRESSURE		BAR (ABS)		5.4		5.4	
4 DP PRESSURE		BAR		0.5		1.2	
5 INLET TEMPERATURE		° C		38			
6 SPEC. WT/SPEC.GRAVITY/MOL WT				26.05		26.05	
7 VISCOSITY/SPEC HEAT RATIO		mPas		0.014		0.014	
8 VAPOR PRESSURE PV		BARA					
9 *REQUIRED CV							
10 *TRAVEL		%					
11 ALLOWABLE/ *PREDICTED SPL		dBA		85 / 67		85 / 77	
12 COMPRESSIBILITY Z				0.992		0.992	
		K=Cp/Cv= 1.35 DENSITY 5.59 kg/m³ @ Ope.Cond.					
13 LINE		PIPE LINE SIZE IN 6" / 7.11		53		*TYPE PNEUMATIC / DIAPHRAGM	
14 & WALL THICKNESS(mm) OUT 6" / 7.11				54		*MFR. & MODEL 3277	
15 PIPE LINE INSULATION /SPEC. / AA1				55		* SIZE 390MM EFF AREA	
16 * TYPE GLOBE VALVE				56		ON/OFF MODULATING YES	
17 * SIZE 4" ANSI CLASS 300# / RF				57		SPRING ACTION OPEN /CLOSE CLOSE	
18 DESIGN PRESS.BARG /TEMP.° C 7 / 100				58		*MAX ALLOWABLE PRESSURE	
19 *MFR. & MODEL 3241				59		*MIN ALLOWABLE PRESSURE	
20 *BODY/BONNET MATL. A216 GR.WCB				60		AVAILABLE AIR SUPPLY PRESSURE:	
21 *LINER MATERIAL/ID				61		MAX. 6 BARG MIN. 4 BARG	
22 END IN FLANGED				62		*BENCH RANGE 1.4-2.3 BARG	
23 CONNECTION OUT FLANGED				63		ACT ORIENTATION	
24 FLG FACE FINISH ANSI 300 # RF				64		HANDWHEEL TYPE NO	
25 END EXT/MATL.				65		AIR FAILURE VALVE SET AT	
26 *FLOW DIRECTION TENDS TO OPEN				66		STROKE TIME<10 SEC.,30MM	
27 *TYPE OF BONNET STD				67		INPUT SIGNAL H1 FUNDATION FIELD BUS	
28 LUBE & ISO VALVE NO				68		*TYPE	
29 *PACKING MAT. PTFE RINGS				69		*MFR. & MODEL 3787-100	
30 *PACKING TYPE				70		*ON INCR SIGNAL OUTPUT INCR/DECR	
31				71		GAUGES YES BY-PASS	
32				72		*CAM CHARACTERISTIC	
33				73			
34				74		TYPE QUANTITY	
35				75		*MFR. & MODEL	
36				76		CONTACT/RATING	
37				77		ACTUATION POINTS	
38				78		TAG NO:	
39				79		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN1/4"NPT GAUGE	
40				80		*SET PRESSURE	
41				81		FILTER YES GAUGE YES	
42				82			
43				83		*HYDRO PRESURE	
44				84		ANSI/FCI LEAKAGE CLASS IV (0.5% CVs IEC 534.4)	
45				85			
46				86			
47						PID NO: 301	
48						LINE NO: EXG-30-01-001	
49							
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INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.
 NOTE:

 PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.		 mg engineering Lurgi		2nd ZAGROS MEGAMETHANOL PROJECT		 OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000																																																																																																																																																																																																																																																																	
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ALLOWABLE PRESSURE</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">*MIN ALLOWABLE PRESSURE</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">AVAILABLE AIR SUPPLY PRESSURE:</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">MAX.</td> <td style="text-align: center;">6 BARG</td> <td style="text-align: center;">MIN.</td> <td colspan="3" style="text-align: center;">4 BARG</td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">*BENCH RANGE</td> <td colspan="4" style="text-align: center;">4</td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">ACT ORIENTATION</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2" style="text-align: center;">HANDWHEEL TYPE</td> <td colspan="4" style="text-align: center;">NO</td> </tr> <tr> <td colspan="2"></td> <td colspan="2" 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OPEN /CLOSE		CLOSE						*MAX ALLOWABLE PRESSURE								*MIN ALLOWABLE PRESSURE								AVAILABLE AIR SUPPLY PRESSURE:								MAX.	6 BARG	MIN.	4 BARG					*BENCH RANGE		4						ACT ORIENTATION								HANDWHEEL TYPE		NO						AIR FAILURE VALVE		SET AT						STROKE TIME<20 SEC.,70NN						INPUT SIGNAL		H1 FUNDATION FIELD BUS						POSITIONER		*TYPE						*MFR. & MODEL		3787-100				*ON INCR SIGNAL OUTPUT INCR/DECR						GAUGES		YES	BY-PASS					*CAM CHARACTERISTIC						LIMIT SW.		TYPE		QUANTITY				*MFR. & MODEL						CONTACT/RATING						ACTUATION POINTS								TAG NO:						AIR SET		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN1/4"NPT GAUGE						*SET PRESSURE						FILTER	YES	GAUGE	YES		TEST		*HYDRO PRESURE						ANSI/FCI LEAKAGE CLASS		V (TSO IEC 534.4)												PID NO:		304						LINE NO:		FLG-30-04-008																
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NOTE: INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000																																																																																																																																																																									
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5																																																																																																																																																																									
TAG NO: PV-300303B																																																																																																																																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: left;">1 FLUID: OFF GAS / GAS</th> <th colspan="4" style="text-align: left;">CRIT. PRESS (PC)</th> <th colspan="4" style="text-align: left;">BAR (ABS)</th> </tr> <tr> <th colspan="4"></th> <th>UNITS</th> <th>MAX. FLOW</th> <th>NORM FLOW</th> <th>MIN. FLOW</th> <th>SHUT OFF</th> <th colspan="3">START UP</th> </tr> <tr> <td colspan="4">2 FLOW RATE</td> <td>Sm3 / hr</td> <td>2400</td> <td>1989</td> <td>600</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">3 INLET PRESSURE</td> <td>BAR (ABS)</td> <td>1.7</td> <td>1.8</td> <td>2</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">4 DP. PRESSURE</td> <td>BAR</td> <td>0.3</td> <td>0.4</td> <td>0.7</td> <td>3.5</td> <td colspan="3"></td> </tr> <tr> <td colspan="4">5 INLET TEMPERATURE</td> <td>° C</td> <td></td> <td>120</td> <td></td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">6 SPEC. WT/SPEC.GRAVITY/MOL WT</td> <td></td> <td>40.18</td> <td>40.18</td> <td>40.18</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">7 VISCOSITY/SPEC HEAT RATIO</td> <td>mPas</td> <td>0.018</td> <td>0.018</td> <td>0.018</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">8 VAPOR PRESSURE PV</td> <td>BARA</td> <td></td> <td></td> <td></td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">9 *REQUIRED CV</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">10 *TRAVEL</td> <td>%</td> <td></td> <td></td> <td></td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">11 ALLOWABLE/ *PREDICTED SPL</td> <td>dBA</td> <td>85/ 78</td> <td>85/ 78</td> <td>85/ 78</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">12 COMPRESSIBILITY Z</td> <td></td> <td>1.002</td> <td>1.002</td> <td>1.002</td> <td></td> <td colspan="3"></td> </tr> <tr> <td colspan="4">K=Cp/Cv= 1.25 DENSITY 2.1 kg/Sm³ @ Ope.Cond.</td> <td colspan="8"></td> </tr> </table>								1 FLUID: OFF GAS / GAS				CRIT. PRESS (PC)				BAR (ABS)								UNITS	MAX. FLOW	NORM FLOW	MIN. FLOW	SHUT OFF	START UP			2 FLOW RATE				Sm3 / hr	2400	1989	600					3 INLET PRESSURE				BAR (ABS)	1.7	1.8	2					4 DP. PRESSURE				BAR	0.3	0.4	0.7	3.5				5 INLET TEMPERATURE				° C		120						6 SPEC. WT/SPEC.GRAVITY/MOL WT					40.18	40.18	40.18					7 VISCOSITY/SPEC HEAT RATIO				mPas	0.018	0.018	0.018					8 VAPOR PRESSURE PV				BARA								9 *REQUIRED CV												10 *TRAVEL				%								11 ALLOWABLE/ *PREDICTED SPL				dBA	85/ 78	85/ 78	85/ 78					12 COMPRESSIBILITY Z					1.002	1.002	1.002					K=Cp/Cv= 1.25 DENSITY 2.1 kg/Sm³ @ Ope.Cond.											
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13 LINE				53				*TYPE PNEUMATIC / PISTON																																																																																																																																																																							
14 PIPE LINE SIZE IN 8" / 8.18				54				*MFR. & MODEL SRP 3000																																																																																																																																																																							
15 & WALL THICKNESS(mm) OUT 8" / 8.18				55				* SIZE EFF AREA																																																																																																																																																																							
16 PIPE LINE INSULATION /SPEC. H / AA1				56				ON/OFF MODULATING YES																																																																																																																																																																							
17 * TYPE BUTTERFLY LUG TYPE				57				SPRING ACTION OPEN /CLOSE CLOSE																																																																																																																																																																							
18 * SIZE 6" ANSI CLASS 300# /LRF				58				*MAX ALLOWABLE PRESSURE																																																																																																																																																																							
19 DESIGN PRESS.BARG /TEMP.° C 3.5/150				59				*MIN ALLOWABLE PRESSURE																																																																																																																																																																							
20 *MFR. & MODEL 14C				60				AVAILABLE AIR SUPPLY PRESSURE:																																																																																																																																																																							
21 *BODY/BONNET MATL. A216 GR.WCB				61				MAX. 6.0 BARG MIN. 4 BARG																																																																																																																																																																							
22 *LINER MATERIAL/ID				62				*BENCH RANGE 4 BARG																																																																																																																																																																							
23 END IN FLANGED				63				ACT ORIENTATION																																																																																																																																																																							
24 CONNECTION OUT FLANGED				64				HANDWHEEL TYPE NO																																																																																																																																																																							
25 FLG FACE FINISH ANSI 300 # LRF				65				AIR FAILURE VALVE SET AT																																																																																																																																																																							
26 END EXT/MATL.				66				STROKE TIME<20 SEC.,70MM																																																																																																																																																																							
27 *FLOW DIRECTION TENDS TO OPEN				67				INPUT SIGNAL H1 FUNDATION FIELD BUS																																																																																																																																																																							
28 *TYPE OF BONNET STD(WITH REDUCED EMISSION)				68				*TYPE																																																																																																																																																																							
29 LUBE & ISO VALVE NO				69				*MFR. & MODEL 3787-100																																																																																																																																																																							
30 *PACKING MAT. PTFE RINGS				70				*ON INCR SIGNAL OUTPUT INCR/DECR																																																																																																																																																																							
31 *PACKING TYPE				71				GAUGES YES BY-PASS																																																																																																																																																																							
32				72				*CAM CHARACTERISTIC																																																																																																																																																																							
33 *TYPE 60° FLAP				73																																																																																																																																																																											
34 *SIZE RATED TRAVEL				74				TYPE QUANTITY																																																																																																																																																																							
35 CHARACTERISTIC LOG				75				*MFR. & MODEL																																																																																																																																																																							
36 *BALANCED/UNBALANCED				76				CONTACT/RATING																																																																																																																																																																							
37 SELECTED CV 729 FL XT				77				ACTUATION POINTS																																																																																																																																																																							
38 *PLUG/BALL/DISK MATERIAL 316 SS				78				TAG NO:																																																																																																																																																																							
39 *SEAT MATERIAL 316 SS				79				*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN1/4"NPT GAUGE																																																																																																																																																																							
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41 *STEM MAT. 316 SS				81				FILTER YES GAUGE YES																																																																																																																																																																							
42 RANGEABILITY: 50:1				82																																																																																																																																																																											
43 PLUG SEALING:METALLIC,316SS				83				*HYDRO PRESURE																																																																																																																																																																							
44 SOLENOID VALVE: YES NO ✓				84				ANSI/FCI LEAKAGE CLASS V (TSO IEC 534.4)																																																																																																																																																																							
45 MANUAL RESET: YES NO ✓				85																																																																																																																																																																											
46 TAG NO:				86																																																																																																																																																																											
47 FUSIBLE LINKAGE YES NO ✓				PID NO: 304				LINE NO: OFG-30-04-007																																																																																																																																																																							
48 BLOCK RELAY YES NO ✓																																																																																																																																																																															
49 BOOSTER YES NO ✓																																																																																																																																																																															
50 CARTRIDGE YES NO ✓																																																																																																																																																																															
51 PROXIMITY SW. YES NO ✓																																																																																																																																																																															
52 VOLUME TANK YES NO ✓																																																																																																																																																																															

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PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000			
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5			
TAG NO: PV-300808									
1 FLUID: NITROGEN / GAS									
SERVICE CONDITIONS		UNITS		CRIT. PRESS (PC) BAR (ABS)					
		MAX. FLOW NORM FLOW MIN. FLOW SHUT OFF START UP							
		FLOW RATE		Sm3 / hr	4000	3600	360		
		INLET PRESSURE		BAR (ABS)	6.1	7.3	8		
		DP. PRESSURE		BAR	4.7	5.9	7		
		INLET TEMPERATURE		° C		30			
		SPEC. WT/SPEC.GRAVITY/MOL WT		KG/KMOL		28.013			
		VISCOSITY/SPEC HEAT RATIO		mPas		0.018			
		VAPOR PRESSURE PV		BARA					
		*REQUIRED CV							
*TRAVEL		%							
ALLOWABLE/ *PREDICTED SPL		dBA	85/	82	85/82	85/66			
COMPRESSIBILITY Z									
K=C _p /C _v =		DENSITY	8.1	kg/Sm ³	@ Ope.Cond.				
LINE		PIPE LINE SIZE		IN	4" / 6.02				
		& WALL THICKNESS(mm)		OUT	4" / 6.02				
		PIPE LINE INSULATION /SPEC.		/ AA2					
		* TYPE		GLOBI VALVE					
		* SIZE		4" ANSI CLASS 300# / RF					
		DESIGN PRESS.BARG /TEMP.° C		10.5 / 75					
		*MFR. & MODEL		3241					
		*BODY/BONNET MATL.		A216 GR.WCB					
		*LINER MATERIAL/ID							
		END		IN	FLANGED				
CONNECTION		OUT	FLANGED						
FLG FACE FINISH		ANSI 300 # RF							
END EXT/MATL.									
*FLOW DIRECTION TENDS TO		OPEN							
*TYPE OF BONNET		STD							
LUBE & ISO VALVE		NO							
*PACKING MAT.		PTFE							
*PACKING TYPE									
VALVE BODY/ BONNET		*TYPE		PARABOLIC					
		*SIZE		RATED TRAVEL					
		CHARACTERISTIC		LOG					
		*BALANCED/UNBALANCED							
		SELECTED CV	67	FL		XT			
		*PLUG/BALL/DISK MATERIAL		316Ti					
		*SEAT MATERIAL		316Ti					
		*CAGE/GUIDE MATERIAL							
		*STEM MAT.		316Ti					
		RANGEABILITY:		50:1					
PLUG SEALING:METALLIC,316Ti									
TRIM		SOLENOID VALVE:		YES		NO	✓		
		MANUAL RESET:		YES		NO	✓		
		TAG NO:							
		FUSIBLE LINKAGE		YES		NO	✓		
		BLOCK RELAY		YES	✓	NO			
		BOOSTER		YES		NO	✓		
		CARTRIDGE		YES		NO	✓		
		PROXIMITY SW.		YES		NO	✓		
		VOLUME TANK		YES		NO	✓		
SPECIAL ACCESSORIES		*TYPE		PNEUMATIC / DIAPHRAGM					
		*MFR. & MODEL		3277					
		* SIZE		390mm		EFF AREA			
		ON/OFF				MODULATING			
		SPRING ACTION OPEN /CLOSE				FAIL CLOSE / LOCK			
		*MAX ALLOWABLE PRESSURE							
		*MIN ALLOWABLE PRESSURE							
		AVAILABLE AIR SUPPLY PRESSURE:							
		MAX.		6 BARG	MIN.	4 BARG			
		*BENCH RANGE		0.8-2.4 BARG					
ACT ORIENTATION									
HANDWHEEL TYPE		NO							
AIR FAILURE VALVE		SET AT							
STROKE TIME<20,30mm									
INPUT SIGNAL									
ACTUATORE		*TYPE		H1 FUNDATION FIELD BUS					
		*MFR. & MODEL		3787-100					
		*ON INCR SIGNAL OUTPUT INCR/DECR							
		GAUGES		YES	BY-PASS				
		*CAM CHARACTERISTIC							
		TYPE				QUANTITY			
		*MFR. & MODEL							
		CONTACT/RATING							
		ACTUATION POINTS							
		TAG NO:							
POSITIONER		*MFR. & MODEL:NORGREN B74G-4AK-AP3-RMN1/4"NPT GAUGE							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
LIMIT SW.		*MFR. & MODEL							
		CONTACT/RATING							
		ACTUATION POINTS							
		TAG NO:							
		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
AIR SET		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST		*MFR. & MODEL							
		*SET PRESSURE							
		FILTER		YES	GAUGE	YES			
		*HYDRO PRESURE							
		ANSI/FCI LEAKAGE CLASS		IV					
TEST</									

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES		OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5	
TAG NO: PV-300909A							
1 FLUID: METHANOL AND N2 / GAS							
				CRIT. PRESS (PC)		BAR (ABS)	
		UNITS		MAX. FLOW		NORM FLOW	
		MIN. FLOW		SHUT OFF		START UP	
SERVICE CONDITIONS		FLOW RATE SM3/HR		700			
INLET PRESSURE BAR (ABS)				1.1			
DP. PRESSURE BAR				0.05		3.5	
INLET TEMPERATURE ° C				40			
SPEC. WT/SPEC.GRAVITY/MOL WT KG/KMOL				28.01			
VISCOSITY/SPEC HEAT RATIO mPas				0.02			
VAPOR PRESSURE PV BARA							
*REQUIRED CV							
*TRAVEL %							
ALLOWABLE/ *PREDICTED SPL dBA				85 / 45			
COMPRESSIBILITY Z				1			
		K=Cp/Cv= 1.4 DENSITY 1.2 kg/Sm³ @ Ope.Cond.					
LINE		PIPE LINE SIZE IN 6" / 7.11		53			
& WALL THICKNESS(mm) OUT 6" / 7.11		54					
PIPE LINE INSULATION /SPEC. AA1		55					
* TYPE GLOBE VALVE		56					
* SIZE 4" ANSI CLASS 300# / RF		57					
DESIGN PRESS.BARG /TEMP.° C 3.5/-1 / 150		58					
*MFR. & MODEL 3241		59					
*BODY/BONNET MATL. A216 GR.WCB		60					
*LINER MATERIAL/ID		61					
END IN FLANGED		62					
CONNECTION OUT FLANGED		63					
FLG FACE FINISH ANSI 300 # RF		64					
END EXT/MATL.		65					
*FLOW DIRECTION OPEN		66					
*TYPE OF BONNET STD(WITH REDUCED EMISSION)		67					
LUBE & ISO VALVE NO		68					
*PACKING MAT. PTFE RINGS		69					
*PACKING TYPE		70					
*TYPE PARABOLIC		71					
*SIZE RATED TRAVEL		72					
CHARACTERISTIC LOG		73					
*BALANCED/UNBALANCED		74					
SELEC CV 190 FL XT		75					
*PLUG/BALL/DISK MATERIAL 316Ti		76					
*SEAT MATERIAL 316Ti		77					
*CAGE/GUIDE MATERIAL		78					
*STEM MAT. 316Ti		79					
RANGEABILITY: 50:1		80					
PLUG SEALING:METALLIC,316Ti		81					
SOLENOID VALVE: YES NO ☒		82					
MANUAL RESET: YES NO ☒		83					
TAG NO:		84					
FUSIBLE LINKAGE YES NO ☒		85					
BLOCK RELAY YES NO ☒		86					
BOOSTER YES NO ☒		PID NO: 309					
CARTRIDGE YES NO ☒		LINE NO: PMV-30-09-025					
PROXIMITY SW. YES NO ☒							
VOLUME TANK YES NO ☒							
INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED. NOTE:							

SHEET 102 OF 103

PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO.				2nd ZAGROS MEGAMETHANOL PROJECT CONTROL VALVES				OWNER: ZAGROS PETROCHEMICAL COMPANY (ZPC) PROJECT NO: 232000	
PROJ. NO. : 1182		PROJ. NO.: 1.69690-10-GEM		DOC. NO. : P-1182-DSH-IN-644		5			

TAG NO: LV-600301									
1	FLUID:	DESALINATED WATER/LIQUID				CRIT. PRESS (PC)		BAR (ABS)	
2	SERVICE CONDITIONS	FLOW RATE	UNITS	CASE 3	CASE 2	CASE1	SHUT OFF	START UP	
3		INLET PRESSURE	Kg /hr	25000	35000	3000			
4		DP. PRESSURE IN FLOW / AGAINST FLOW	BAR (ABS)	5	4.5	5.5			
5		INLET TEMPERATURE	BAR	2.6	2	3.3	7.5		
6		SPEC. WT/SPEC. GRAVITY/MOL WT	° C	38	38	38			
7		VISCOSITY/SPEC HEAT RATIO	KG/KMOL	18.02	18.02	18.02			
8		VAPOR PRESSURE PV	mPas	0.69	0.69	0.69			
9		*REQUIRED CV	BARA						
10		*TRAVEL	%						
11		ALLOWABLE/ *PREDICTED SPL	dBA	85/ 75	85/ 76	85/ 50			
12	COMPRESSIBILITY Z	1.0							
		K=C _p /C _v =		DENSITY		991 kg/m ³		@ Ope. Cond.	
13	LINE	PIPE LINE SIZE& WALL	IN	4"/6.02 MM					
14		THICKNESS (mm)	OUT	4"/6.02 MM					
15	VALVE BODY/ BONNET	PIPE LINE INSULATION /SPEC.		/AA2					
16		* TYPE		GLOBE					
17		* SIZE		2"		ANSI CLASS		300#/RF	
18		MAX. PRESS./TEMP.		7.5 BARG/100C					
19		*MFR. & MODEL		SAMSON 3241					
20		*BODY/BONNET MATL.		A105					
21		*LINER MATERIAL/ID							
22		END	IN						
23		CONNECTION	OUT						
24		FLG FACE FINISH		ANSI 300 # RF					
25		END EXT/MATL.							
26		*FLOW DIRECTION		OPEN					
27		*TYPE OF BONNET		STD					
28		LUBE & ISO VALVE		NO					
29		*PACKING MAT.		PTFE RINGS					
30	*PACKING TYPE								
31	TRIM	*TYPE		PARABOLIC					
32		*SIZE		2"		RATED TRAVEL			
33		CHARACTERISTIC		LOG					
34		*BALANCED/UNBALANCED							
35		*RATED CV		47		FL		XT	
36		*PLUG/BALL/DISK MATERIAL		316Ti					
37		*SEAT MATERIAL		316Ti					
38		*CAGE/GUIDE MATERIAL							
39	SPECIAL ACCESSORIES	*STEM MAT.		316Ti					
40		PLUG SEALING		METALIC /316Ti					
41									
42									
43	SOLENOID VALVE:		YES	☒	NO	☐			
44	MANUAL RESET:		YES	☐	NO	☒			
45	TAG NO: LY-600301		(Eexi,IIC,T4)/24 V DC						
46	TYPE:3963-1353								
47	FUSIBLE LINKAGE		YES	☐	NO	☒			
48	BLOCK RELAY		YES	☐	NO	☒			
49	BOOSTER		YES	☐	NO	☒			
50	CARTRIDGE		YES	☐	NO	☒			
51	PROXIMITY SW.		YES	☐	NO	☒			
52	VOLUME TANK		YES	☐	NO	☒			

ACTUATORE	*TYPE		PNEUMATIC/DIAPHRAGM	
	*MFR. & MODEL		SAMSON 3277	
	* SIZE		350 CM2	EFF AREA
	ON/OFF		MODULATING	
	SPRING ACTION OPEN /CLOSE		CLOSE	
	*MAX ALLOWABLE PRESSURE			
	*MIN ALLOWABLE PRESSURE			
	AVAILABLE AIR SUPPLY PRESSURE:			
	MAX.		6 BARG	MIN. 4 BARG
	*BENCH RANGE		0.8-2.4 BARG	
	ACT ORIENTATION			
	HANDWHEEL TYPE		NO	
	AIR FAILURE VALVE		SET AT	
	STROKE:15MM<10SEC			
	POSITIONER	INPUT SIGNAL		
*TYPE				
*MFR. & MODEL				
*ON INCR SIGNAL OUTPUT INCR/DECR				
GAUGES		BY-PASS		
LIMIT SW.	*CAM CHARACTERISTIC			
	TYPE		QUANTITY	
	*MFR. & MODEL			
AIR SET	CONTACT/RATING			
	ACTUATION POINTS			
	TAG NO:			
	*MFR. & MODEL		NORGEN B74G-6AK-AP3-RMN 1/4 " NPT	
TEST	*SET PRESSURE			
	FILTER		YES	GAUGE YES
	*HYDRO PRESURE			
	ANSI/FCI LEAKAGE CLASS		IV (IEC 534-4)	
PID NO:		603		
LINE NO:		DSW-60-03-01		

INFORMATION SUPPLIED BY MANUFACTURER UNLESS ALREADY SPECIFIED.

NOTE:

1): TERMINAL BOX WITH 8 TERMINAL Eexia IP65