



- NOTES:
- 1) PRESSURES ARE ABSOLUTE UNLESS OTHERWISE INDICATED
 - 2) STANDARD VAPOR CONDITIONS: 15°C, 1.01325 BAR (23.6449 SM3/KMOL)
 - 3) NNF: NORMALLY NO FLOW
 - 4) CONDENSATE COLLECTION IN DRUM
 - 5) P-1001B: ELECTRICAL MOTOR
 - 6) RATED POWER
 - 7) NORMAL CONSUMPTION FOR FLARE PILOTS ONLY. CONSUMPTION FOR NON-INDUSTRIAL BUILDINGS (N.I.B., MAX. 100SM3/HR AS PER ZAGROS INFORMATION) IS NOT CONSIDERED

LEGEND:

LIQUIDS	
STREAM NO.	°C BAR
KG/H	KG/H
STREAM NO.	°C BAR
KG/H	KG/H

GASES	
STREAM NO.	°C BAR
SM3/H	SM3/H
STREAM NO.	°C BAR
SM3/H	SM3/H

STEAM	
°C BAR	KG/H
KG/H	KG/H

TEMPERATURE	TEMP./PRESSURE
°C	°C BAR

Stream No.:	1001	1002/2013	1003	1004	1005	1031	1037	1039	1045	1046	1048	1050	1061
Process Stream	Natural Gas from B.L.	Purge Gas to Process	Feed Gas to E-1002	Feed Gas to R-1001	Feed Gas (Saturated) from T-1001	natural gas fuel to FH-1001	Natural gas fuel to FH-1002	Natural gas fuel to H-1001	Blow Down from T-1001	Circulation Water from P-1001A/B	MIXED WATER to T-1001	Process Condensate to T-1001	Natural Gas Fuel to D-1010
phase	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Vapor	Liquid	Liquid	Mixed(Liquid/Vapor)	Mixed(Liquid/Vapor)	Vapor
Comp.	Molweight	kmol/h	mol %	kmol/h	mol %	kmol/h	mol %	kmol/h	mol %	kmol/h	mol %	kmol/h	mol %
CO2	44.010	54.0	0.71	30.8	8.93	84.8	1.07	84.4	1.07	86.4	0.61	1.3	0.71
CO	28.010			9.9	2.88	9.9	0.12	10.4	0.07				
H2	2.016			218.1	63.21	218.1	2.74	218.1	2.74	219.7	1.54		
CH4	16.043	7203.3	94.78	44.9	13.00	7247.9	91.23	7247.9	91.23	7247.7	50.81	178.3	94.78
N2	28.016	291.4	3.84	38.2	11.08	330.1	4.15	330.1	4.15	330.1	2.31	7.2	3.84
O2	32.000												
H2O	18.015		< 0.01	0.1	0.03	0.3	< 0.01	0.3	< 0.01	6317.1	44.28	< 0.1	< 0.01
CH3OH	32.042			1.9	0.54	1.9	0.02	2.3	0.02				
C2H6	30.069	33.4	0.44			33.4	0.42	33.4	0.42	0.5	0.44	0.5	0.44
C3H8	44.096	17.5	0.23			17.5	0.22	17.5	0.22	0.5	0.23	0.5	0.23
C4H10	58.123												
C5H12	72.151												
Argon	39.948			1.1	0.33	1.1	0.01	1.1	0.01				
Low Boilers													
High Boilers													
Total Flow	kmol/h	7600	345.0	7945.0	7945.0	14265.7	188.1	105.0	115.4	280.0	27007.6	28468.0	5140.0
Total Flow	kg/h	127588	3971	131859	131859	245756	3166	1767	1942	5045	486576	512892	92619
Total Flow	Sm3/h	179701	8157	187858	187858	337311	4448	2483	2729				9660
Molweight	kg/kmol	16.827	11.509	16.597	16.597	17.227	16.827	16.827	18.016	18.016	18.016/17.721	18.019/16.566	16.827
Stand.Dens.	kg/Sm3	0.71	0.49	0.70	0.70	0.73	0.71	0.71	0.71	0.71	0.996.46	0.996.73/0.74	0.997.91/0.70
Eff.Density	kg/m3	38.22	29.89	33.17	33.17	34.45	20.94	3.48	3.48	3.48	930.57	809.21/21.68	810.60/20.27
Specific Heat	kJ/kg°C	2.49	2.79	2.44	2.44	2.56	2.15	2.15	2.15	2.15	4.27	4.78/2.61	4.78/2.56
Viscosity	cP	0.012	0.014	0.012	0.012	0.011	0.011	0.011	0.011	0.011	0.208	0.111/0.017	0.111/0.018
Enthalpy	GJ/h	29.56	1.36	29.57	29.57	155.45	405.39	0.54	0.39	0.43	2.79	269.01	532.41
temp	°C	40	40	37	37	380	208	20	20	133	133	240	240
Pressure	bar abs	55.0	67.9	48.5	47.8	46.0	6.0	6.0	6.0	46.1	47.7	46.7	46.7
Liquid Molar Fraction										1.00	1.00	1.00	1.00

CIRCULATION WATER

REV.	DATE	BY	DESCRIPTION	STATUS
5	10.07.19	A.Panahandeh	ASBUILT	REVISED AS MARKED
4	12.01.04	ZMM	AFD	ZAGROS COMMENTS ZS-LF/L-032 INCLUDED
3	15.04.01	ZMM	AFD	REVISION ACC. DETAIL DESIGN
2	27.11.01	ZMM	AFD	REVISION, ZAGROS COMMENTS INCLUDED
1	23.10.01	ZMM	AFD	REVISION, ZAGROS COMMENTS INCLUDED
0	13.07.01	ZMM	F1	FIRST ISSUE

ZAGROS PETROCHEMICAL COMPANY OWNER: NATIONAL PETROCHEMICAL COMPANY ZAGROS PETROCHEMICAL COMPLEX

PROJECT: 4th METHANOL PROJECT

CONTRACTOR: PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING COMPANY

DIG-PR-007

engineering Lurgi

FEED PRETREATMENT, SATURATOR UNIT 100

PROCESS FLOW DIAGRAM SHEET 101

METHANOL PLANT IRAN 169666-01 02036