



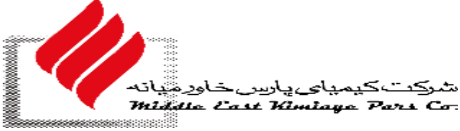


EPCC Contractor:  TIANCHEN CORP. CHINA	PROJECT	MKP Methanol Project			Owner :  شرکت کیمیايي پارس خاورميانه Middle East Khataya Pars Co.
	UNIT	Flare	PHASE	Detail Engineering	
	Owner NO.	MKP-VD-8500-237-502-A4			
	Contractor NO.	MKP-11-DE-9000-FE-REQ-237			
Vendor:  中聖集團 SUNPOWER GROUP LTD.	Vendor NO.	17013D85000PE00-02			Rev. :4 Page : 1 of 3

Line List

4	30.09.2019	Final Issue	Geng Yunfei	Bai Yang	Ji Ningbo	
3	13.08.2018	Final Issue	Geng Yunfei	Bai Yang	Ji Ningbo	
2	08.02.2018	Final Issue	Geng Yunfei	Bai Yang	Ji Ningbo	
1	22.11.2017	Final Issue	Geng Yunfei	Bai Yang	Ji Ningbo	
0	19.09.2017	Final Issue	Geng Yunfei	Bai Yang	Ji Ningbo	
A	08.06.2017	Issued for Comments	Geng Yunfei	Bai Yang	Ji Ningbo	
REV.	DATE	PURPOSE OF ISSUE	PREPARE	CHECK	REVIEW	APPROVE

EPCC Contractor:  TIANCHEN CORP. CHINA	PROJECT		MKP Methanol Project										Owner :				
	UNIT		Flare					PHASE			Detail Engineering		 شركة كيميائية بارس خاورميانه Middle East Petrochem Pars Co.				
	Owner NO.		MKP-VD-8500-237-502-A4														
	Contractor NO		MKP-11-DE-9000-FE-REQ-237														
Vendor:	Vendor NO.		17013D85000PE00-02										Rev. :4			Page : 3 of 3	

Line Description							Description		PID Number	Fluid			Operation		Design		Flammability	Toxicity	Fluid Category	Leakage Test			Heat Treatment		Cleaning Method	NDE		Painting	Criticality Level	Stress Calc. Report	Remarks
Medium Code	Count. NO.	Unit Code	Pipe Size in	Pipe Class	Insulation / Tracing	Insulation Thickness mm	From	To		Name	Phase	ρ kg/m ³	Temp. °C	Press. Barg	Temp. °C	Press. Barg	(F: Flammable NF: Nonflammable)	(T: Toxic HT: High toxic NT: Nontoxic)		Type	Test Medium	Test Pres. Barg	Preheat	PWHT		Type	Percentage				
FLG	200	85	64"	B24	P8	60	FLG-85-147	D-8501	MKP-VD-8500-237-301-A1	Flare/Vent Gas	G	0.88	390	0.41	410.0	5.0	F	T	E	pneu	air	5.50	x	x	hand	RT	100%	A4	LEVEL 2	YES	
FLG	201	85	4"	B24	P8	50	FL-8503	Ground	MKP-VD-8500-237-301-A1	Flare/Vent Gas	G	0.88	390	0.41	410.0	5.0	F	T	E	hydro	water	11.73	x	x	Air	RT	100%	A4	LEVEL 2	YES	[1]
HPS	200	85	2"	F24	H6	70	HPS-85-101	HPS-85-201	MKP-VD-8500-237-301-A1	High Pressure Steam	V	13.18	345.0	34.0	410.0	52.0	NF	NT	E	hydro	water	122.0	x	x	steam	RT	20%	B4	LEVEL 2	YES	
HPS	201	85	2"	D24	H6	70	HPS-85-200	FL-8502	MKP-VD-8500-237-301-A1	High Pressure Steam	V	3.94	345.0	10.0	410.0	15.0	NF	NT	E	hydro	water	36.0	x	x	steam	RT	20%	B4	LEVEL 2	YES	[1]
HPS	202	85	1"	D24	H6	60	HPS-85-201	D-8501	MKP-VD-8500-237-301-A1	High Pressure Steam	V	3.94	345.0	10.0	410.0	15.0	NF	NT	E	hydro	water	36.0	x	x	steam	RT	20%	B4	LEVEL 1		
HPC	200	85	1"	D24	H6	60	D-8501	Ground	MKP-VD-8500-237-301-A1	High Pressure Condensate	L	3.94	100.0	10.0	410.0	15.0	NF	NT	N	hydro	water	36.0	x	x	steam	RT	20%	B4	LEVEL 1		
IA	200	85	2"	B50	N	0	IA-85-101	IA-85-202	MKP-VD-8500-237-301-A1	Instrument Air	G	10.9	5-48	8.0	85.0	10.5	NF	NT	N	hydro	water	15.75	x	x	water	RT	10%	NA	LEVEL 1		
IA	201	85	3/4"	B50	N	0	IA-85-200	Instrument	MKP-VD-8500-237-301-A1	Instrument Air	G	10.9	5-48	8.0	85.0	10.5	NF	NT	N	hydro	water	15.75	x	x	water	RT	10%	NA	LEVEL 1		
IA	202	85	1"	B40	N	0	IA-85-200	Deflagration Chamber	MKP-VD-8500-237-301-A1	Instrument Air	G	10.9	5-48	2.0/8.0	85.0	10.5	NF	NT	N	hydro	water	15.75	x	x	water	PT	10%	NA	LEVEL 1		
NG	200	85	4"	B24	N	0	NG-85-101	D-8502	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	A1	LEVEL 1		
NG	201	85	3"	B24	N	0	D-8502	NG-85-301	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	A1	LEVEL 1		
NG	202	85	1"	B24	N	0	NG-85-201	FL-8503	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	A1	LEVEL 1		[1]
NG	203	85	2"	B24	N	0	NG-85-201	FL-8501	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	A1	LEVEL 1		
NG	204	85	2"	B24	N	0	NG-85-201	FLG-85-200	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	A1	LEVEL 1		
NG	205	85	1"	B50	N	0	NG-85-301	NG-85-215	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		
NG	206	85	1"	B50	N	0	NG-85-301	PIL-8501A	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	1.2/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	207	85	1"	B50	N	0	NG-85-301	PIL-8501B	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	1.2/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	208	85	1"	B50	N	0	NG-85-301	PIL-8501C	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	1.2/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	209	85	1"	B50	N	0	NG-85-301	PIL-8501D	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	1.2/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	210	85	1"	B40	N	0	Deflagration Chamber	NG-85-211-214	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	PT	10%	NA	LEVEL 1		
NG	211	85	1"	B50	N	0	NG-85-210	PIL-8501A	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	212	85	1"	B50	N	0	NG-85-210	PIL-8501B	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	213	85	1"	B50	N	0	NG-85-210	PIL-8501C	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	214	85	1"	B50	N	0	NG-85-210	PIL-8501D	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		[1]
NG	215	85	1"	B40	N	0	Deflagration Chamber	NG-85-205	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	2.0/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	PT	10%	NA	LEVEL 1		
NG	301	85	2"	B50	N	0	NG-85-201	NG-85-209	MKP-VD-8500-237-301-A1	Natural Gas	G	3	5-37	1.2/4.0	85.0	7.0	F	T	N	hydro	water	10.50	x	x	water	RT	10%	NA	LEVEL 1		

Exemptions to Mandatory PWHT:
[1] For the vertical pipe which rises to the flare tip or molecular seal, do the hydrostatic test before erection part by part, and after erection do 100% Non Destructive Examination (NDE)

Abbreviations:
Hydro -- Hydrostatic Test
Pneu -- Pneumatic Test
RT -- Radiographic Examination
UT -- Ultrasonic Examination
PT -- Liquid Penetrant Examination
MT -- Magnetic Particle Examination