



Energy Industries
Engineering & Design Co.

Kangan Utility & Offsite Project



Kangan Petro Refining Co.

SULZER

P.O. No.: KP-80-00-PS-MA-PO-0001

Document Title: Equipment Outline (GAD) includig nozzle location for 87-P-3002 A/E

Rev.: 03

Document No.: VP-80-00-MA-0001-0063

Page 1 of 5

Equipment Outline (GAD) including nozzle location for 87-P-3002 A/E

Code1	<input type="checkbox"/> Approved No comment and the document is released for Manufacturing.
Code2	<input type="checkbox"/> Approved with comment Vendor shall correct, revise and resubmit the document. The document can be released for Manufacturing if changes incorporated.
Code3	<input type="checkbox"/> Commented Vendor shall correct, revise and resubmit the document by the date specified. The document shall be revised under the Status of "R: Revised Issue". All corrected documents shall be resubmitted before starting the Manufacturing.
Code4	<input type="checkbox"/> Not Accepted (Rejected) Vendor shall re-work/re-design/re-specify the contents of the documents according to the comments/ reasons for rejection. All corrected documents shall be resubmitted before starting the Manufacturing.
Above checking results by EIED shall in no way relieve Vendor of any liability, obligation and responsibility out of the purchase order and the mutual agreement in writing.	
 EIED	
Date: Dept: Signature:	
<i>Only for internal review</i>	
CV PI EL IN ME MA	
ST AR PR SA HV TL	

03	23-05-18	R	For Approval	F. Toneto	A. Madeira	F. Toneto	A. Madeira
02	05-02-18	R	For Approval	F. Toneto	A. Madeira	F. Toneto	A. Madeira
01	14-12-17	R	For Approval	F. Toneto	A. Madeira	F. Toneto	A. Madeira
00	03-07-17	F	For Approval	F. Toneto	A. Madeira	F. Toneto	A. Madeira
Rev.	Date	Status	POI	PRE'D	CHK'D	APR'D	AUZ'D



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Document Title: Equipment Outline (C)

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Document No.: VP-80-10-MA-0001-0063

| Page 2 of 5

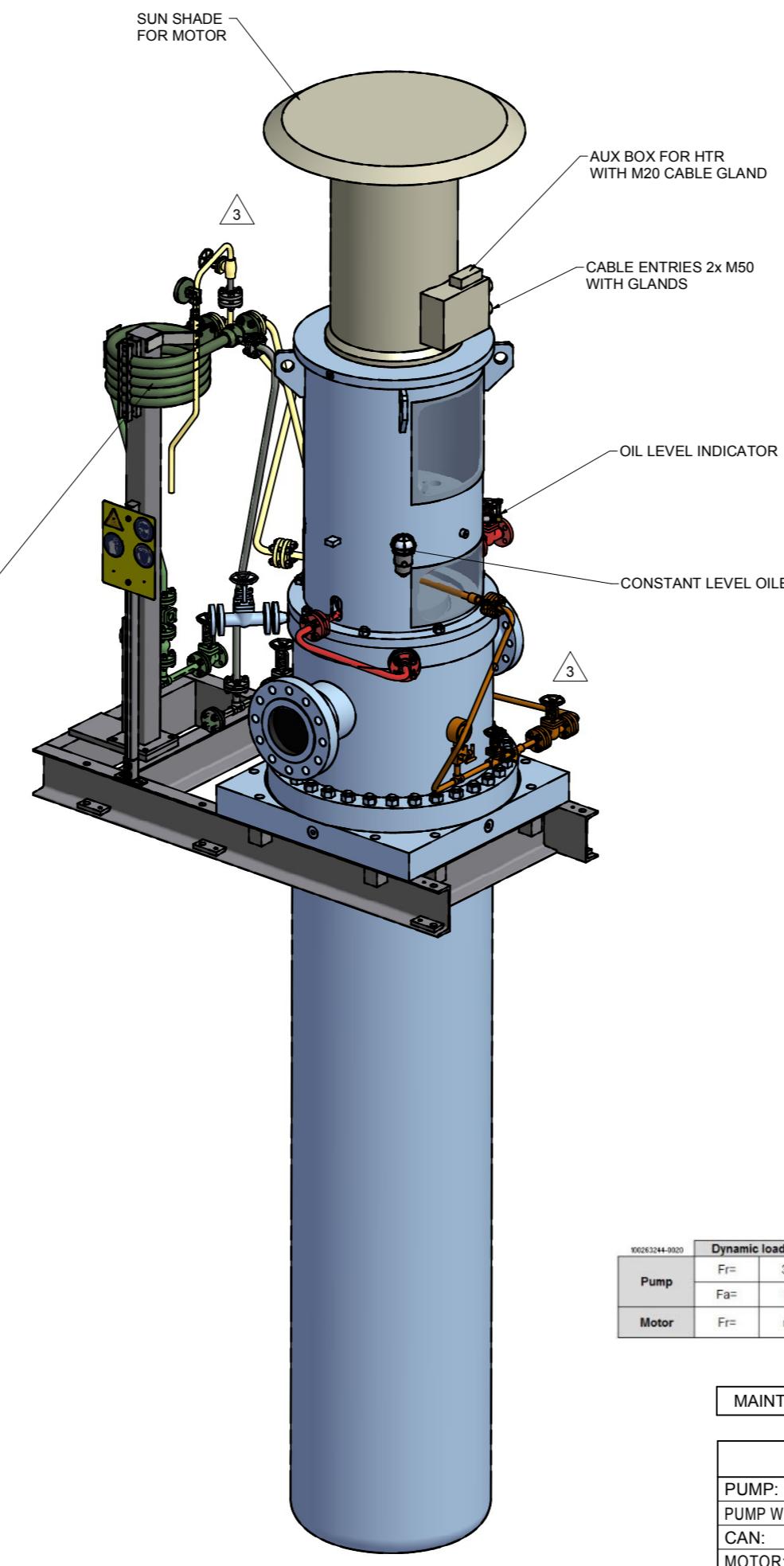
Tabulation of Revised Pages

PUMP SPECIFICATIONS	
SIZE & TYPE:	TTMC150-360/2
SPEED:	(see MOTOR SPECIFICATIONS)
ROTATION:	CCW (AS VIEWED FROM DRIVER)
DISCH FLG:	6" CLASS: 600RF Standard: ASME B16.5
SUCT FLG:	8" CLASS: 600RF Standard: ASME B16.5
MECH SEAL TYPE:	BURGMANN
MECH SEAL DRG:	H75VA4-070-S4PO-DE001A1 API CODE: 21A-LIN-070-23(32)/61
API PIPING PLANS:	13 + 23 + 32 + M

COUPLING SPECIFICATIONS	
MFR:	Metastream
TYPE:	TSKS SIZE: 0075
COUPLING-GUARD MATERIAL:	BRASS

DRIVER SPECIFICATIONS	
MOTOR:	BROOK CROMPTON
FRAME:	UDF 280MPE4
KW:	75 SPEED: 1480
PHASE:	3 VOLTAGE: 400
FURNISHED BY:	SULZER CYCLE: 50 Hz

PLAN 23
HEAT EXCHANGER FA. BURGMANN
DRAWING NO.: WEF6100A4M006-D1



NOTES:
1. CAUTION! CAREFULLY CHECK ALIGNMENT BEFORE STARTING UNIT. ALL HOLES IN FLANGES STRADDLE CENTERLINES. THE CONNECTION OF PIPES TO THE UNIT HAS TO BE STRESS FREE.

2. COLORS ARE NOT INTENDED TO REPRESENT "AS SHIPPED" PAINT REQUIREMENTS. THEY ARE FOR QUICK IDENTIFICATION OF PIPING AND EQUIPMENT.
3. PIPING AND EQUIPMENT ARE MODELED REPRESENTATIONS ONLY. ACTUAL LOCATION AND ORIENTATION MAY VARY PER SHOP STANDARDS, UNLESS OTHERWISE DIMENSIONED.
4. THE SUCTION PIPING OR INTAKE DESIGN SHALL MEET THE HYDRAULIC INSTITUTE STANDARDS ANSI/HI 9.8-1998 „PUMP INTAKE DESIGN“ REQUIREMENTS.

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ALL RIGHTS RESERVED. NO PART OF THIS DRAWING MAY BE REPRODUCED, DISTRIBUTED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING AND RECORDING, WITHOUT THE EXPRESS PRIOR WRITTEN CONSENT OF SULZER PUMPS

Dynamic loads (steady state)		Dyn. loads are to be considered as RMS-values
Pump	Fr= 318 [N] lateral	Including unsteady hydraulic loads and mechanical unbalance due to a balance grade of G2.5
	Fa= 87 [N] axial	
Motor	Fr= n/a [N] lateral	Including mechanical unbalance due to a balance grade of G2.5

MAINTENANCE WEIGHT PUMP: 3325 kg

APPROXIMATE WEIGHTS

PUMP:	5175 kg
PUMP WITHOUT CAN /	3325 kg
CAN:	1850 kg
MOTOR:	680 kg
BASEPLATE:	230 kg
AUXILIARY:	150 kg
TOTAL:	6235 kg

CONTRACT DATA	
PURCHASER:	Sulzer Pumps Spain SA
USER:	Kangan Petrp Refining Co
JOB/PROJECT:	Kangan Utility and Offsite Project
CUST. P.O. NO.:	-
SERVICE:	Steam Condensate Pump
INSTALLED AT:	Iran
PUMP OEM:	Sulzer Pumps (Deutschland) GmbH
SULZER ORDER NO.:	100263244-0020

IDENTIFICATION NUMBERS

SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
588332	87-P-3002 A	87-M-3002 A
588333	87-P-3002 B	87-M-3002 B
588334	87-P-3002 C	87-M-3002 C

<input type="checkbox"/> CERTIFIED FINAL	DO NOT SCALE. DIMENSIONS: mm
	<input checked="" type="checkbox"/> UNLESS OTHERWISE SPECIFIED TOLERANCES ≤ 500 mm ± 3mm > 500 mm ± 12mm
	<input type="checkbox"/> PRELIMINARY ONLY

AUXILIARY CUSTOMER CONNECTION DIMENSIONS ± 25

DRAWING CONTENT	
SHEET DESCRIPTION	SHEET NO.
GA ISOMETRIC DATA SHEET	1
FOUNDATION AND NOZZLE	2
CONNECTION LAYOUT	3

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EIED DEPT :
Signature :
Only for internal review
CV PI EL IN ME MA
ST AR PR SA HV TL

03	26.04.18	"R"	For Approval	TR	RS	CH	PL
02	31.01.18	"R"	For Approval	TR	RS	CH	PL
01	01.12.17	"R"	For Approval	TR	RS	CH	PL
00	21.06.17	"F"	For Approval	TR	RS	CH	PL
REV.	DATE	Status	Purpose of Issue	PRE'P.	CHC'D.	APP'D.	AUTH'D.

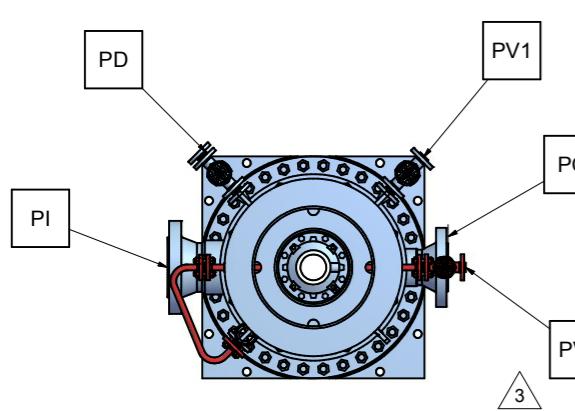
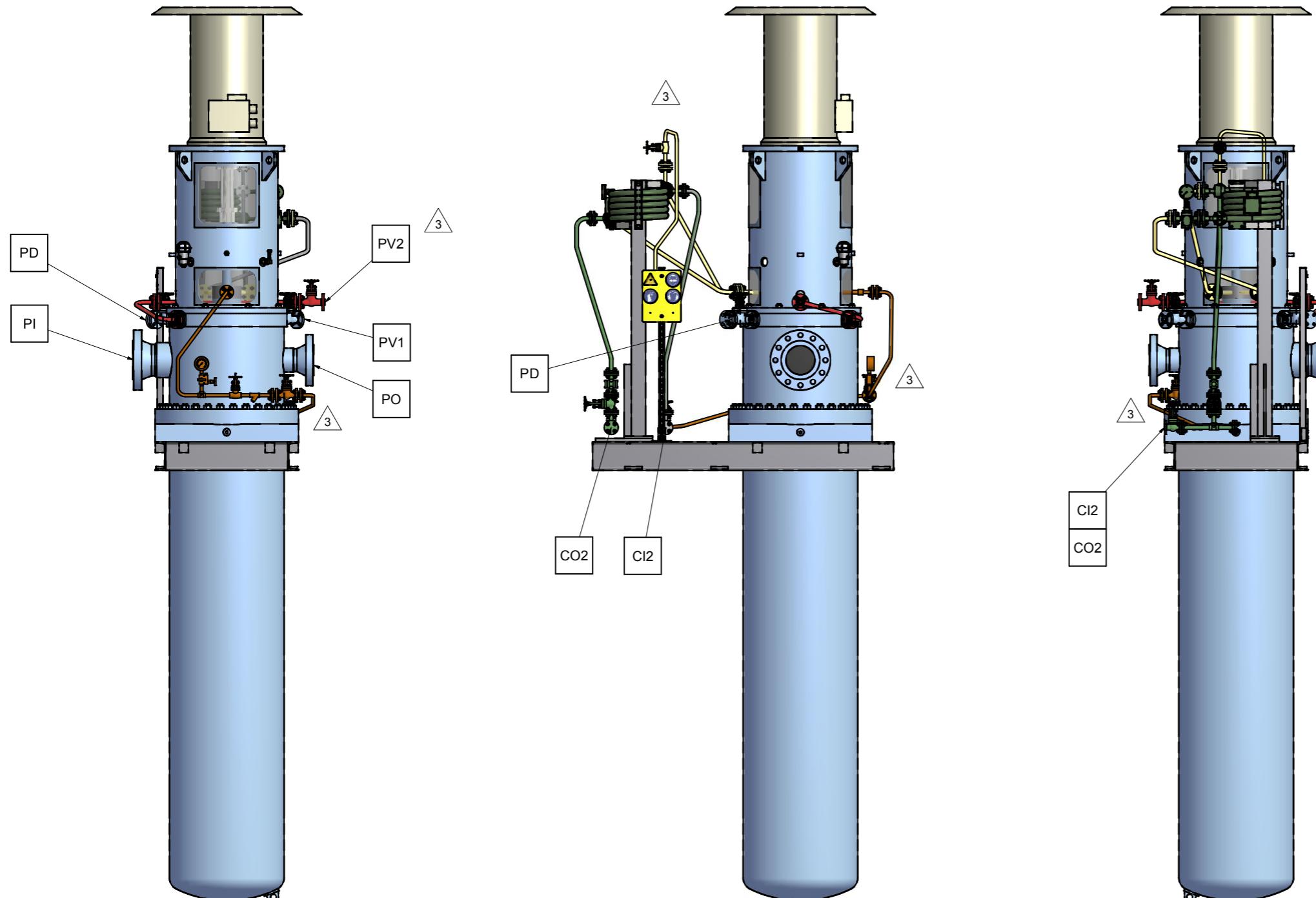
KANGAN
C2 RECOVERY & FRACTIONATION PLANT
P.O. No.: KP-80-10-PS-MA-PO-0001-00
SCALE : 1 : 12

SULZER 

DRAWING TITLE:
Equipment Outline (GAD) including nozzle location

DRAWING No. VP-80-10-MA-0001-0063 SHEET No. 1 OF 3 REV. 03

REV.	MODIFICATION	MODIFIED	CHECKED	APPROVED
SEP. PARTS LIST:	NO	FORMAT: A1	DESIGN GROUP: -	FIRST ANGLE PROJECTION <input checked="" type="checkbox"/>
REPLACED BY:	-	SUBSTITUTE FOR:	ORIGINAL SCALE:	-
TTMC	150-360/2	-	DRAWN:	27-Apr-2017 T.Ratzel
100263244-0020	-	GENERAL ARRANGEMENT GA ISOMETRIC AND DATA SHEET	CHECKED:	27-Apr-2017 R.Scherban
		GENERAL ARRANGEMENT DRAWING	APPROVED:	
SULZER	PART NO.	EN	PGA1002632440020-01	1 / 3



CONNECTION LEGEND			
ITEM	DESCRIPTION	SIZE	TYPE
PI	PUMP SUCTION NOZZLE	8"	ASME B16.5 600 RF
PO	PUMP DISCHARGE NOZZLE	6"	ASME B16.5 600 RF
PD	PUMP DRAIN	1"	ASME B16.5 600 RF VALVE+ BLINDFLANGE
PV1	PUMP VENT-SUCTION -PERMANENT VENT	1"	ASME B16.5 600 RF VALVE
PV2	PUMP VENT-DISCHARGE - VENT BEFORE START UP	3/4"	ASME B16.5 600 RF VALVE
CI2	COOLING HEADER - INLET	3/4"	ASME B16.5 150 RF VALVE
CO2	COOLING HEADER - OUTLET	3/4"	ASME B16.5 150 RF VALVE

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EXPRESS PRIOR WRITTEN CONSENT OF SULZER
PUMPS

CONTRACT DATA

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USER: Kangan Petrp Refining Co
JOB/PROJECT: Kangan Utility and Offsite Project
CUST. P.O. NO.: -
SERVICE: Steam Condensate Pump
INSTALLED AT: Iran
PUMP OEM: Sulzer Pumpe (Deutschland) GmbH
SULZER ORDER NO.: 100263244-0020

IDENTIFICATION NUMBERS

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CERTIFIED FINAL CERTIFIED FOR NOZZLE & FOUNDATION ONLY PRELIMINARY ONLY	DO NOT SCALE. DIMENSIONS: mm	
	UNLESS OTHERWISE SPECIFIED TOLERANCES	
	≤ 500 mm ± 3mm	> 500 mm ± 12mm
AUXILIARY CUSTOMER CONNECTION DIMENSIONS ± 25		

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00	21.06.17	"F"	For Approval	TR	RS	CH	PL
REV.	DATE	Status	Purpose of Issue	PRE'P.	CHC'D.	APP'D.	AUTH'D.

KANGAN
C2 RECOVERY & FRACTIONATION PLANT



P.O. No.: KP-80-10-PS-MA-PO-0001-00 SCALE : 1 : 17

SULZER



DRAWING TITLE:			
Equipment Outline (GAD) including nozzle location			
DRAWING No.	VP-80-10-MA-0001-0063	SHEET No.	3 of 3
REV.	MODIFICATION	MODIFIED	CHECKED APPROVED
SEP. PARTS LIST:	NO	FORMAT: A1	DESIGN GROUP: - FIRST ANGLE PROJECTION <input checked="" type="checkbox"/>
REPLACED BY:	-	SUBSTITUTE FOR:	ORIGINAL SCALE: -
TTMC	150-360/2	GENERAL ARRANGEMENT	DRAWN: 27-Apr-2017 T.Ratzel
	-	CONNECTION LAYOUT	CHECKED: 27-Apr-2017 R.Scherban
100263244-0020		GENERAL ARRANGEMENT DRAWING	APPROVED:
SULZER	PART NO.	EN PGA1002632440020-01	3 / 3