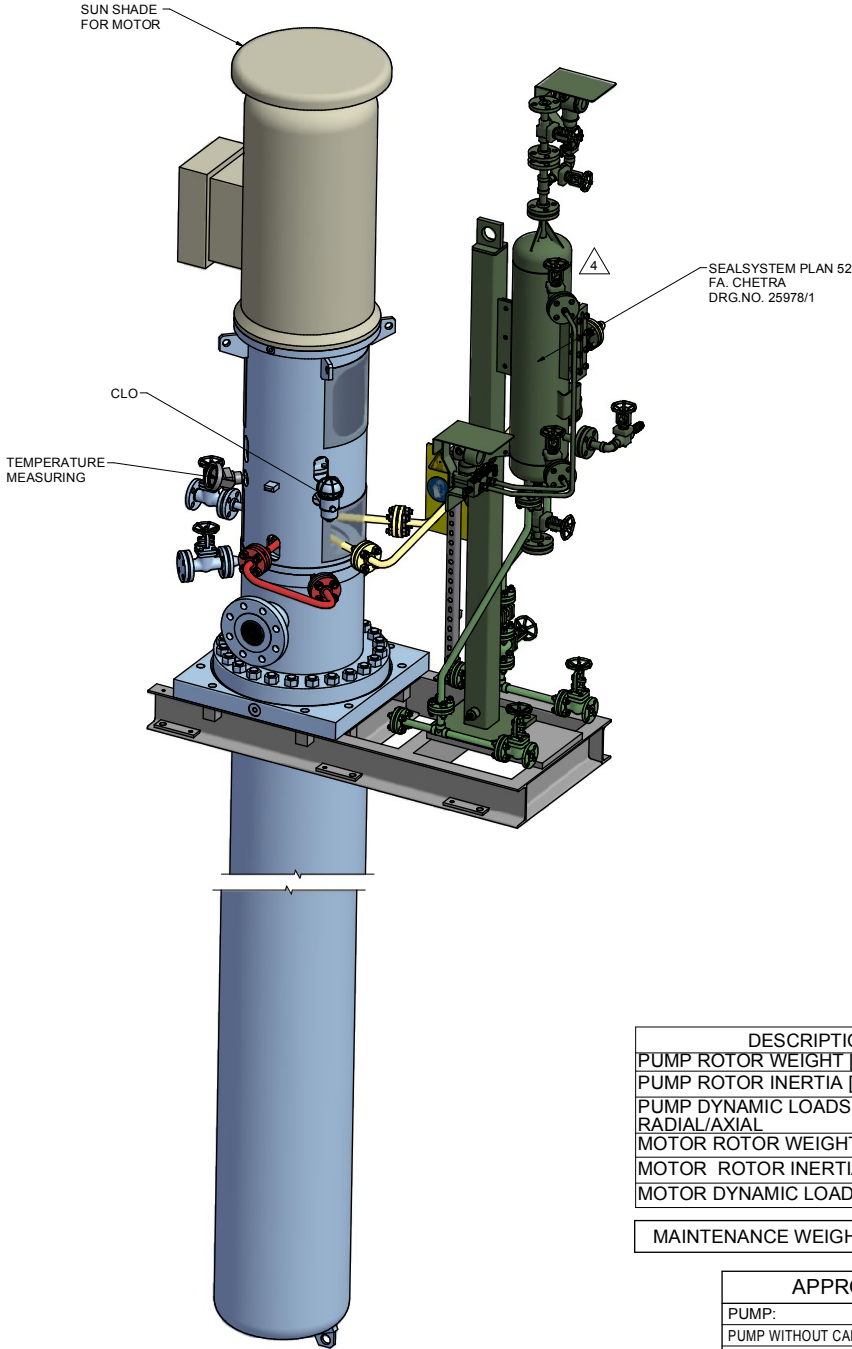


PUMP SPECIFICATIONS		
SIZE & TYPE: TTMC50-220/5		
SPEED: (see MOTOR SPECIFICATIONS)		
ROTATION: CCW (AS VIEWED FROM DRIVER)		
DISCH FLG:	2" CLASS: 300RF	Standard: ASME B16.5
SUCT FLG:	4" CLASS: 300RF	Standard: ASME B16.5
MECH SEAL TYPE: CHETRA TYP 851TB-042		
MECH SEAL DRG: 25510-16-10-P1682A/B API CODE: BDPFP/N		
API PIPING PLANS: 13 + 52		

COUPLING SPECIFICATIONS	
MFR: Metastream	
TYPE: TSKS	SIZE: 0033
COUPLING-GUARD MATERIAL: BRASS	

DRIVER SPECIFICATIONS		
MOTOR: Schorch		
FRAME: KD1280S-AA45P-M	ENCLOSURE: ZONE 2,IIB,T3	
kW: 55	SPEED: 2978 rpm	
PHASE: 3	VOLTAGE: 400	
FURNISHED BY: SULZER	CYCLE: 50 Hz	



Cost1	<input type="checkbox"/> Approved: No comment and the document is released for Manufacturing.
Cost2	<input type="checkbox"/> Approved with comment: Vendor shall correct, review and resubmit the document. The document can be released for Manufacturing if change is accepted.
Cost3	<input type="checkbox"/> Commented: Vendor shall correct, review and resubmit the document to the site specified. The document shall be released under the status of "In Transit" only. It cannot be accepted and be resubmitted when during the Manufacturing.
Cost4	<input type="checkbox"/> Not Accepted (Rejected): Vendor shall re-work/re-design/re-specify the contents contents of the document according to the comments/remarks for specific it cannot be accepted and be resubmitted when during the Manufacturing. Above checking results by EIED shall in no way release Vendor of any liability, obligation and responsibility and of the purchase order and the mutual agreement in writing.
DWG : EIED GPT : Signature :	
Only for internal review	
DY	PI IL IN ME MA
ST	WR FFE SA INV TL

DESCRIPTION	VALUE
PUMP ROTOR WEIGHT [kg]	192
PUMP ROTOR INERTIA [kg.m²]	0.258
PUMP DYNAMIC LOADS [N]	939 / 121
RADIAL/AXIAL	
MOTOR ROTOR WEIGHT [kg]	109
MOTOR ROTOR INERTIA [kg.m²]	0.65
MOTOR DYNAMIC LOADS [N]	149

MAINTENANCE WEIGHT PUMP:	1440 kg
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APPROXIMATE WEIGHTS	
PUMP:	2225 kg
PUMP WITHOUT CAN /	1440 kg
CAN:	785 kg
MOTOR:	700 kg
BASEPLATE:	130 kg
AUXILIARY:	150 kg
TOTAL:	3205 kg


CONTRACT DATA	
PURCHASER:	AIOTEC GmbH
USER:	Kangan Petro-Refining Co.
JOB/PROJECT:	Kangan C2 Recovery and Fractionation Plant
CUST. P.O. NO.:	KP-10-00-PS-MA-PO-0003
SERVICE:	BUTANE COOL DOWN PUMP
INSTALLED AT:	KANGAN- ASSALUYEH - IRAN
PUMP OEM:	Sulzer Pumpen (Deutschland) GmbH
SULZER ORDER NO.:	100247188-0100

IDENTIFICATION NUMBERS		
SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
583644	10-P-1682 A	10-M-1682 A
583645	10-P-1682 B	10-M-1682 B

<input checked="" type="checkbox"/> CERTIFIED FINAL	DO NOT SCALE. DIMENSIONS: mm
<input type="checkbox"/> CERTIFIED FOR NOZZLE & FOUNDATION ONLY	UNLESS OTHERWISE SPECIFIED TOLERANCES
<input type="checkbox"/> PRELIMINARY ONLY	≤ 500 mm ± 3mm
	> 500 mm ± 12mm
AUXILIARY CUSTOMER CONNECTION DIMENSIONS ± 25	

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

04	14.11.17	"R"	For Approval	TR	RS	CH	PL
03	08.08.17	"R"	For Approval	TR	RS	CH	PL
02	19.06.17	"R"	For Approval	TR	RS	CH	PL
01	02.03.17	"R"	For Approval	TR	RS	CH	PL
00	21.12.16	"F"	For Approval	TR	RS	CH	PL
REV.	DATE	Status	Purpose of Issue	PREP'D	CHK'D	APP'D	AUTH'D

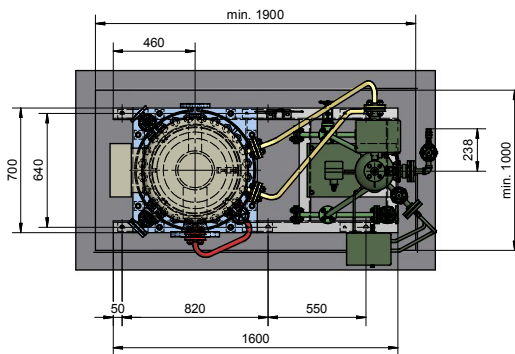
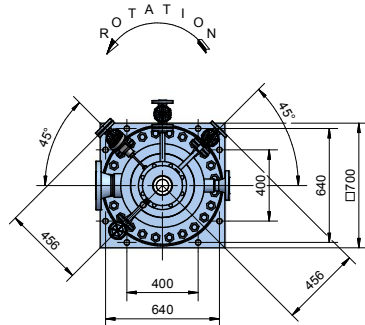
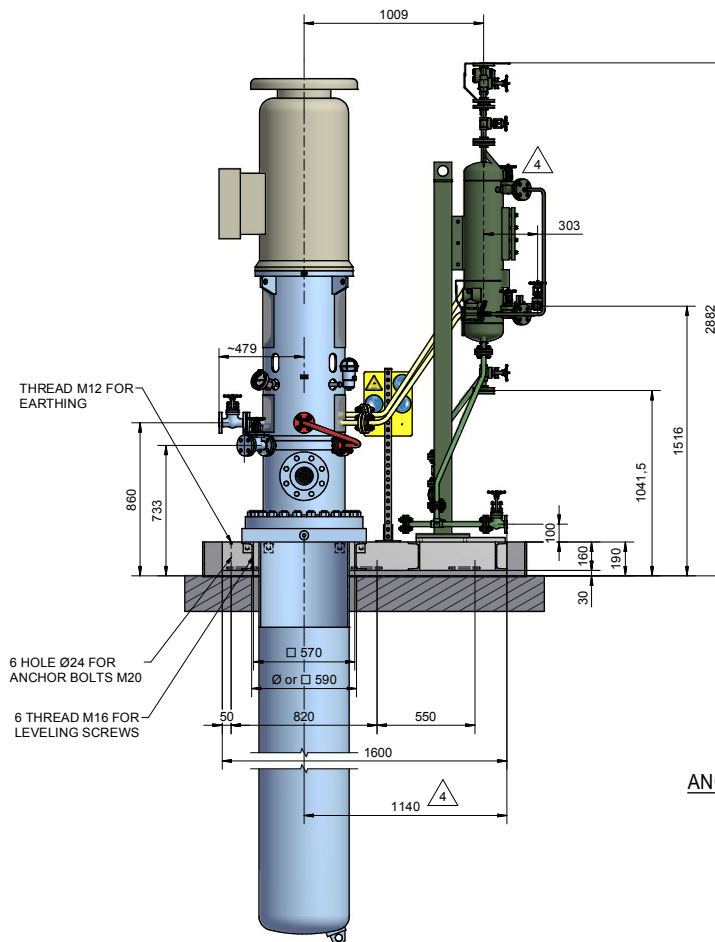
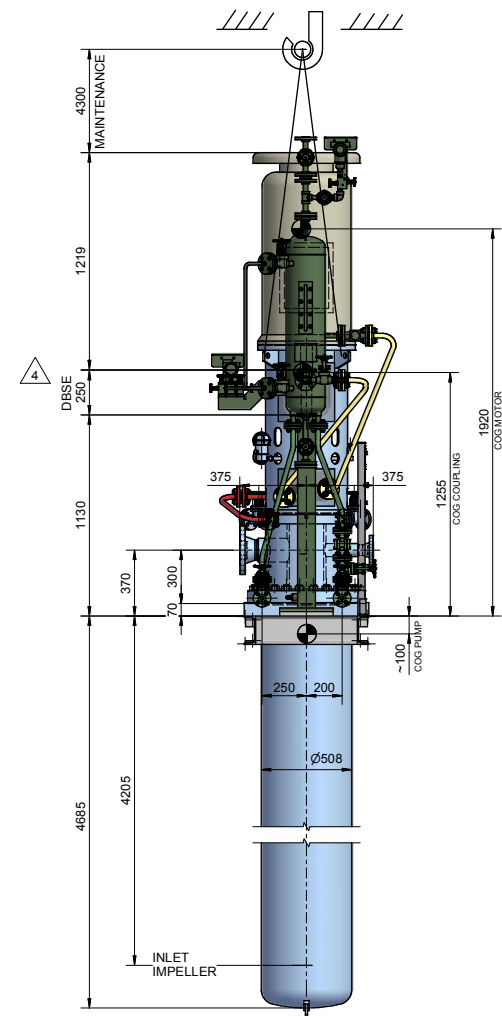
KANGAN C2 RECOVERY & FRACTIONATION PLANT		
P.O. No.:	KP-10-00-PS-MA-PO-0003	SCALE : 1 : 10

SULZER		
DRAWING TITLE:		
General Arrangement drawings for Item 10-P-1682 A/B		
DRAWING No.	VP-10-00-MA-0003-1014	SHEET No. 1 of 3 REV. 04

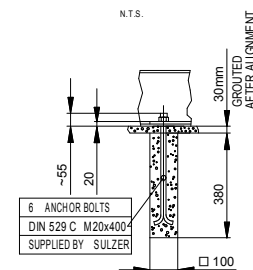
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REV.	MODIFICATION		MODIFIED	CHECKED	APPROVED	
SEP. PARTS LIST:	NO	FORMAT: A1	DESIGN GROUP: -	FIRST ANGLE PROJECTION: E		
REPLACED BY:			SUBSTITUTE FOR:	ORIGINAL SCALE:		
TTMC	GENERAL ARRANGEMENT			DRAWN:	15-Dec-2016	
50-220/5	GA ISOMETRIC AND DATA SHEET			T. Ratzel		
	-			CHECKED:	15-Dec-2016	
				R. Scherban		
100247188-0100	GENERAL ARRANGEMENT DRAWING			APPROVED:		
SULZER		PART NO.	EN	PGA1002471880100-01	1 / 3	

- NOTES:
- 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.**
 - COLORS ARE NOT INTENDED TO REPRESENT "AS SHIPPED" PAINT REQUIREMENTS. THEY ARE FOR QUICK IDENTIFICATION OF PIPING AND EQUIPMENT.
 - PIPING AND EQUIPMENT ARE MODELED REPRESENTATIONS ONLY. ACTUAL LOCATION AND ORIENTATION MAY VARY PER SHOP STANDARDS, UNLESS OTHERWISE DIMENSIONED.
 - 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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ANCHOR BOLT DETAIL



Grout material:
Select a non-shrinking grout that is compatible
with the highest and lowest temperatures to
which it may be exposed.
Use concrete from a concrete company
with a final strength of 25 N/mm² (B25) or better.

CONTRACT DATA

PURCHASER: AIOTEC GmbH
USER: Kangan Petro-Refining Co.
JOB/PROJECT: Kangan C2 Recovery and Fractionation Plant
CUST. P.O. NO.: KP-10-00-PS-MA-PO-0003
SERVICE: BUTANE COOL DOWN PUMP
INSTALLED AT: KANGAN- ASSALUYEH - IRAN
PUMP OEM: Sulzer Pumpen (Deutschland) GmbH
SULZER ORDER NO.: 100247188-0100

IDENTIFICATION NUMBERS

SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
583644	10-P-1682 A	10-M-1682 A
583645	10-P-1682 B	10-M-1682 B

<input checked="" type="checkbox"/> CERTIFIED FINAL	DO NOT SCALE. DIMENSIONS: mm
<input type="checkbox"/> CERTIFIED FOR NOZZLE & FOUNDATION ONLY	UNLESS OTHERWISE SPECIFIED TOLERANCES ≤ 500 mm ± 3mm > 500 mm ± 12mm
<input type="checkbox"/> PRELIMINARY ONLY	AUXILIARY CUSTOMER CONNECTION DIMENSIONS ± 25


MAXIMUM NOZZLE LOADINGS

Forces do comply with 2 times of the forces shown in API 610

FORCE IN (N) MOMENTS IN (Nm)

FORCE	SUCTION	DISCH
Fx	2840	1420
Fy	3560	1780
Fz	2320	1160
Fr	5120	2560
Mx	2660	920
My	1360	460
Mz	2000	700
Mr	3600	1240

04	14.11.17	"R"	For Approval	TR	RS	CH	PL
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02	19.06.17	"R"	For Approval	TR	RS	CH	PL
01	02.03.17	"R"	For Approval	TR	RS	CH	PL
00	21.12.16	"F"	For Approval	TR	RS	CH	PL
REV.	DATE	Status	Purpose of Issue	PREP.	CHK'D	APP'D	AUTH'D

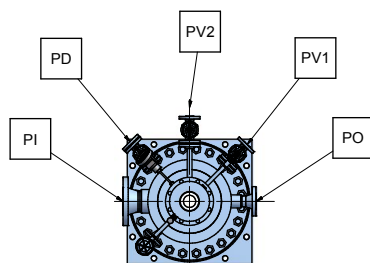
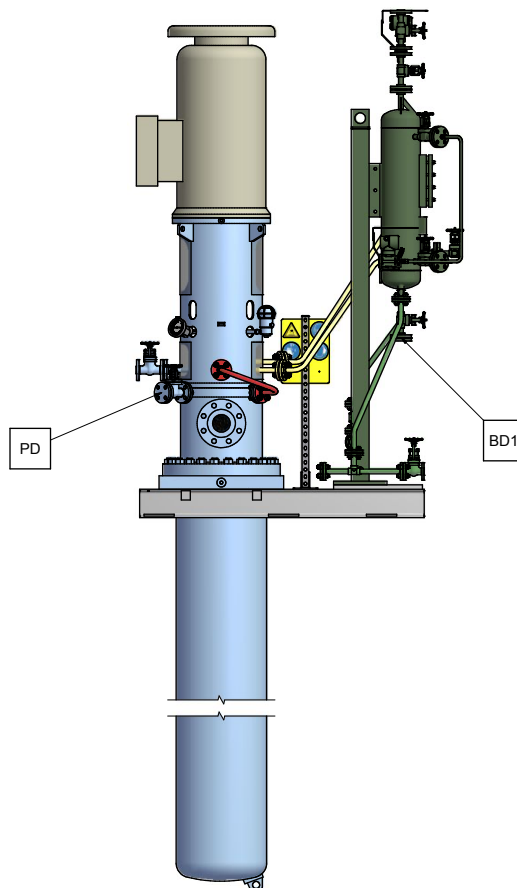
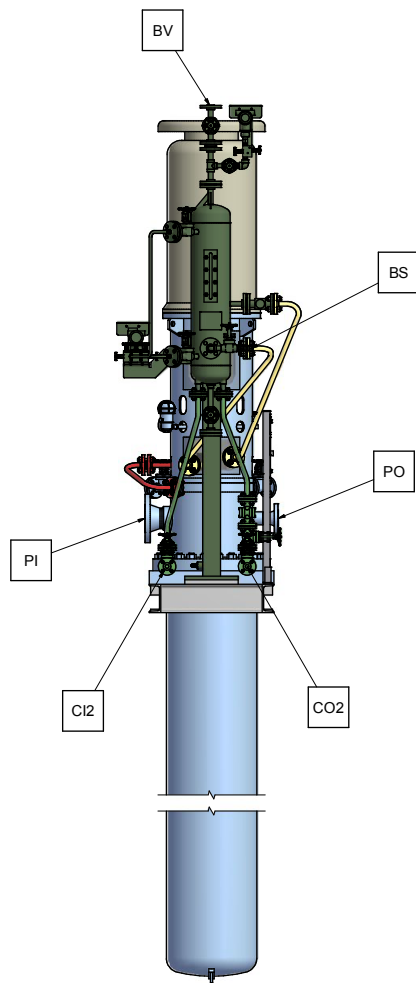
KANGAN C2 RECOVERY & FRACTIONATION PLANT				 KANGAN PETRO REFINING CO.			
P.O. No.: KP-10-00-PS-MA-PO-0003				SCALE : 1 : 15			

SULZER							
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DRAWING TITLE:
General Arrangement drawings for Item 10-P-1682 A/B

DRAWING No.	VP-10-00-MA-0003-1014	SHEET No.	2 of 3	REV.	04
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REV.	MODIFICATION	DESIGN GROUP	DESIGNED	CHECKED	APPROVED
SEP.	PARTS LIST:	NO	FORMAT: A1	DESIGN GROUP:	FIRST ANGLE PROJECTION
REPLACED BY:	-	SUBSTITUTE FOR:	-	ORIGINAL SCALE:	-
TTMC	GENERAL ARRANGEMENT	DRAWN:	15-Dec-2016	APPROVED:	
50-220/5	FOUNDATION AND NOZZLE	T. Ratzel	15-Dec-2016		
100247188-0100	GENERAL ARRANGEMENT DRAWING	R. Scherban	-		
SULZER	PART NO.	EN	PGA1002471880100-01	2	3



NOZZLE ORIENTATION



CONNECTION LEGEND			
ITEM	DESCRIPTION	SIZE	TYPE
PI	PUMP SUCTION NOZZLE	4"	ASME B16.5 300 RF
PO	PUMP DISCHARGE NOZZLE	2"	ASME B16.5 300 RF
PD	PUMP DRAIN WITH VALVE	3/4"	ASME B16.5 300 RF / GATE VALVE 300 RF
PV1	PUMP VENT WITH VALVE -SUCTION -PERMANENT VENT	3/4"	ASME B16.5 300 RF / GATE VALVE 300 RF
PV2	PUMP VENT WITH VALVE-DISCHARGE VENT BEFORE START UP	3/4"	ASME B16.5 300 RF / GATE VALVE 300 RF
C12	COOLING HEADER - INLET	3/4"	ASME B16.5 150 RF
CO2	COOLING HEADER - OUTLET	3/4"	ASME B16.5 150 RF
BS	PLAN 52 -FILLING CONNECTION	1/2"	NPT-F WITH QUICK COUPLING
BD1	PLAN 52 -DRAIN	3/4"	ASME B16.5 300 RF WITH BLIND FLANGE
BV	PLAN 52 -VENT	3/4"	ASME B16.5 300 RF

CONTRACT DATA


PURCHASER: AIOTEC GmbH
 USER: Kangan Petro-Refining Co.
 JOB/PROJECT: Kangan C2 Recovery and Fractionation Plant
 CUST. P.O. NO.: KP-10-00-PS-MA-PO-0003
 SERVICE: BUTANE COOL DOWN PUMP
 INSTALLED AT: KANGAN- ASSALUYEH - IRAN
 PUMP OEM: Sulzer Pumpen (Deutschland) GmbH
 SULZER ORDER NO.: 100247188-0100

IDENTIFICATION NUMBERS

SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
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583645	10-P-1682 B	10-M-1682 B

<input checked="" type="checkbox"/> CERTIFIED FINAL	DO NOT SCALE. DIMENSIONS: mm
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<input type="checkbox"/> PRELIMINARY ONLY	≤ 500 mm ± 3mm
	> 500 mm ± 12mm
	AUXILIARY CUSTOMER CONNECTION DIMENSIONS ± 25

04	14.11.17	"R"	For Approval	TR	RS	CH	PL
03	08.08.17	"R"	For Approval	TR	RS	CH	PL
02	19.06.17	"R"	For Approval	TR	RS	CH	PL
01	02.03.17	"R"	For Approval	TR	RS	CH	PL
00	21.12.16	"F"	For Approval	TR	RS	CH	PL
REV.	DATE	Status	Purpose of Issue	PREP.	CHC'D.	APP'D.	AUTH'D.

KANGAN C2 RECOVERY & FRACTIONATION PLANT		 KANGAN PETRO REFINING CO.
P.O. No.:	KP-10-00-PS-MA-PO-0003	
		SCALE : 1 : 15

SULZER	
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DRAWING TITLE: General Arrangement drawings for Item 10-P-1682 A/B			
DRAWING No.	VP-10-00-MA-0003-1014	SHEET No.	3 of 3 REV. 04

REV. MODIFICATION	SEP. PARTS LIST: NO	FORMAT: A1	DESIGN GROUP: -	FIRST ANGLE PROJECTION
REPLACED BY:	SUBSTITUTE FOR:			ORIGINAL SCALE: -
TTMC 50-220/5	GENERAL ARRANGEMENT CONNECTION LAYOUT			DRAWN: 15-Dec-2016 T. Ratzel
100247188-0100	GENERAL ARRANGEMENT DRAWING			CHECKED: 15-Dec-2016 R. Scherban
SULZER	PART NO.	EN	PGA1002471880100-01	3 / 3