



Energy Industries
Engineering & Design Co.

Kangan Utility & Offsite Project



Kangan Petro Refining Co.

SULZER

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

Document Title: Equipment Outline (GAD) includig nozzle location for 87-P-7001 A/B

Document No.: VP-80-00-MA-0001-0133-01

Rev.: 01

Page 1 of 5

Equipment Outline (GAD) including nozzle location for 87-P-7001 A/B

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	

01	18-04-18	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 (CAE)

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REV. 01

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Page 2 of 5

Tabulation of Revised Pages

PUMP SPECIFICATIONS	
SIZE & TYPE:	OHH 3x4x9B-1
SPEED:	(see MOTOR SPECIFICATIONS)
ROTATION:	CCW (AS VIEWED FROM DRIVER)
DISCH FLG:	3" CLASS: 300 RF Standard: ASME B16.5
SUCT FLG:	4" CLASS: 300 RF Standard: ASME B16.5
MECH SEAL TYPE:	EagleBurgmann
MECH SEAL DRG:	H75VA4-040-S400-DE001A5 API CODE: 21A-LIQ-040
API PIPING PLANS:	11, 62

COUPLING SPECIFICATIONS	
MFR:	Metastream
TYPE:	TSKS
SIZE:	0013
COUPLING-GUARD MATERIAL:	Brass

DRIVER SPECIFICATIONS	
MOTOR:	BROOK
FRAME:	160 L
kW:	5,5
SPEED:	1460 rpm
PHASE:	3
VOLTAGE:	-
FURNISHED BY:	SULZER
CYCLE:	50 Hz

CONTRACT DATA	
PURCHASER:	Sulzer Pumps Spain SA
USER:	Kangan Petro Refining Co
JOB/PROJECT:	Kangan Utility and Offsite Project
CUST. P.O. NO.:	KP-80-10-PS-MA-PO-0001-00
SERVICE:	Caustic Soda Unloading Pump
INSTALLED AT:	IRAN
PUMP OEM:	Sulzer Pumpen (Deutschland) GmbH
SULZER ORDER NO.:	100263244-0040

IDENTIFICATION NUMBERS		
SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
558340	87-P-7001A	87-M-7001 A
558341	87-P-7001B	87-M-7001 B

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

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

04	11.04.18	R	For Approval	JL	VS	RS	CL
03	26.02.18	R	For Approval	JL	VS	RS	CL
02	11.01.18	R	For Approval	JL	VS	RS	CL
01	16.11.17	R	For Approval	JL	VS	RS	CL
00	02.06.17	F	For Approval	JL	VS	RS	CL
Rev.	Date	Status	Purpose of Issue	PRE'D.	CHK'D.	APR'D.	AUZ'D.

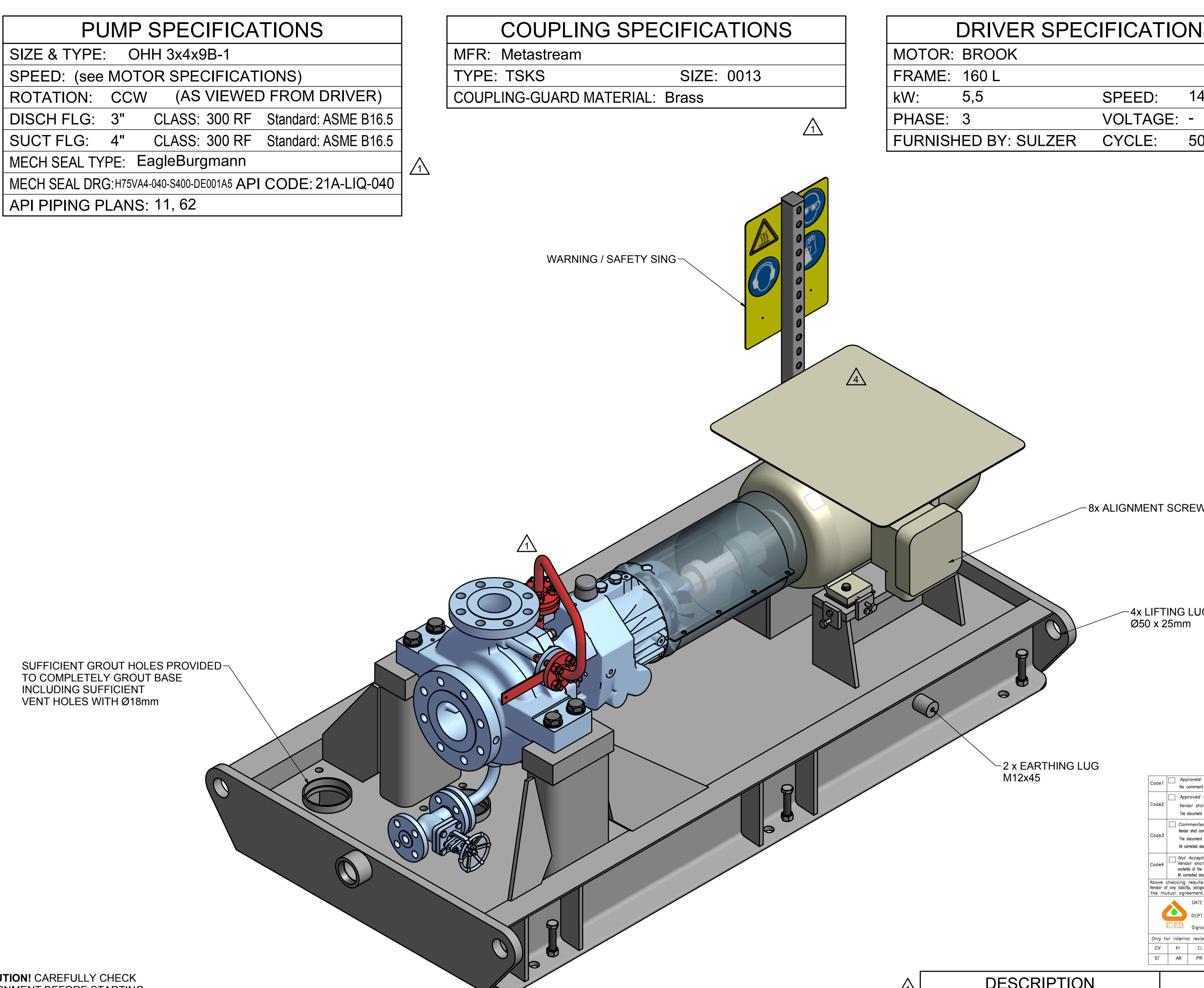
Kangan Utility & Offsite Project 
KANGAN PETRO REFINING CO.
P.O. No.: KP-80-10-PS-MA-PO-0001-00

SCALE : 1: 5

SULZER 

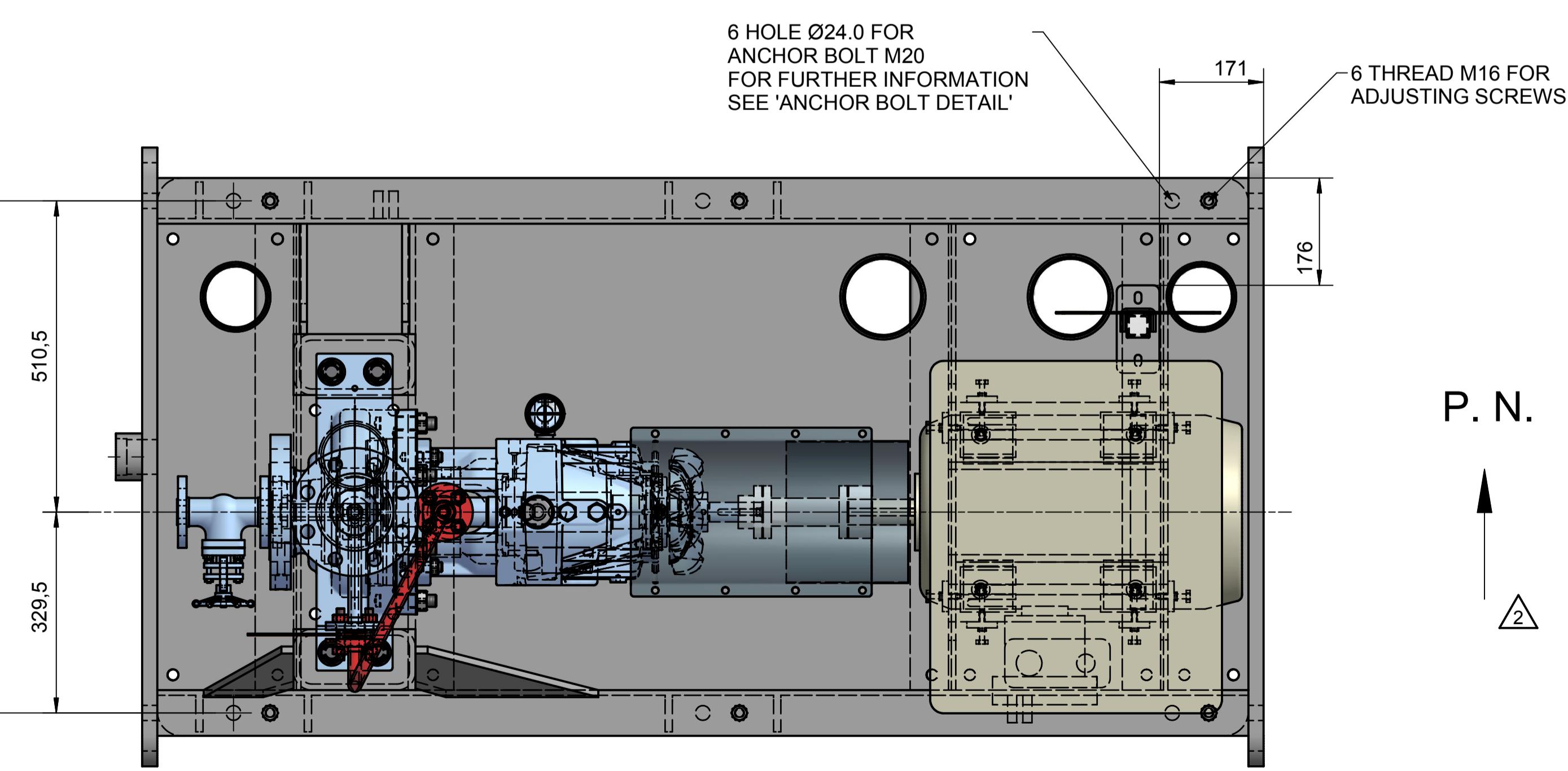
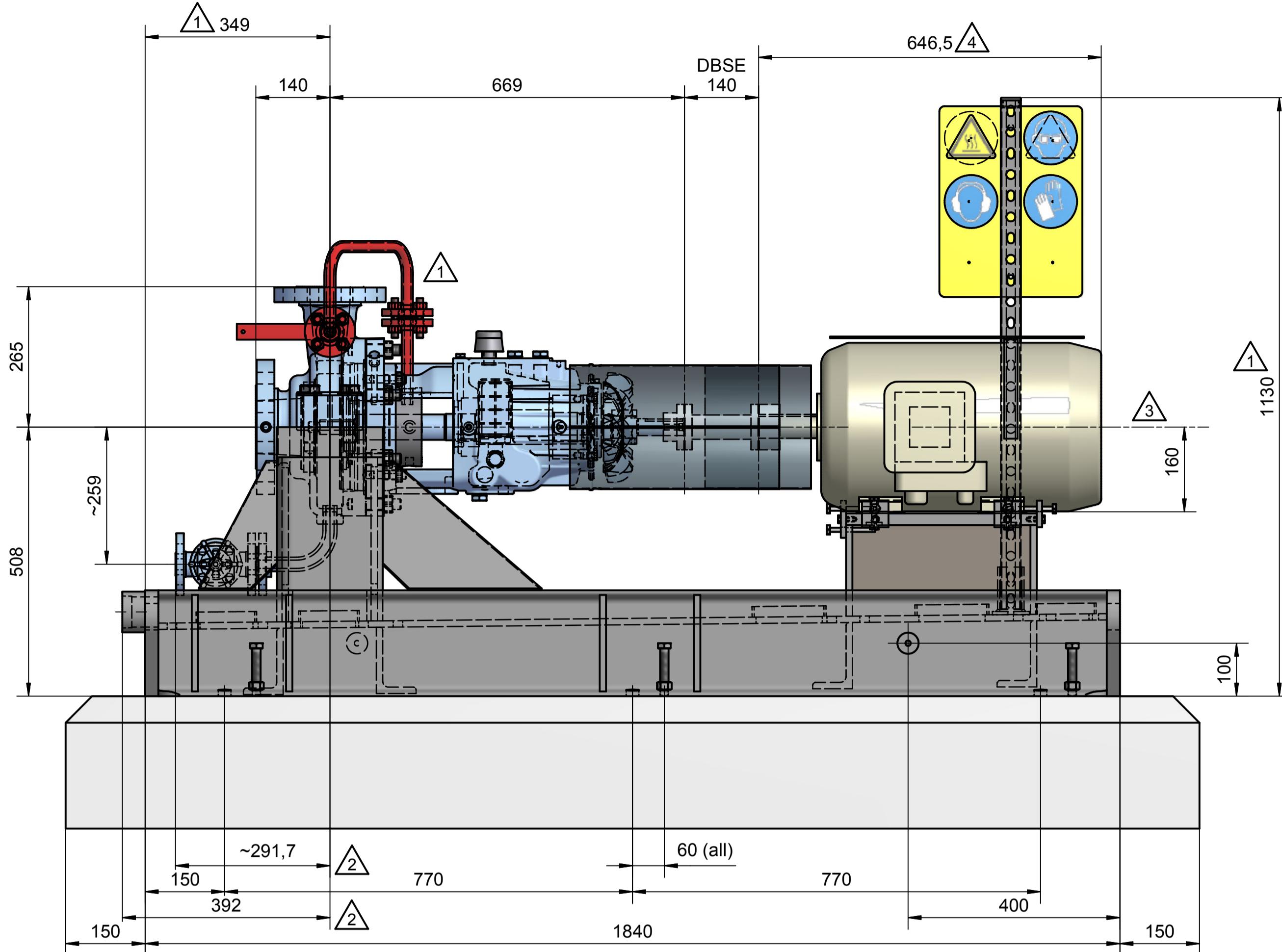
DRAWING TITLE:
Equipment Outline (GAD) including nozzle location

DRAWING No.	VP-80-10-MA-0001-0133	Sheet No.	1 OF 3	REV. 04
(C)	Motor frame updated	11/04/2018	11/04/2018	11/04/2018
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: 1:5	DRAWN: 15/APR/2017 J. LOPEZ
OHH	GENERAL ARRANGEMENT	3X4X9B-1	GA ISOMETRIC AND DATA SHEET	CHECKED: 15/APR/2017 V. SANCHEZ
100263244-0040	GENERAL ARRANGEMENT DRAWING	-	APPROVED: 15/APR/2017 R. SANCHEZ	PART NO. EN PGA1002632440040-01 1 / 3

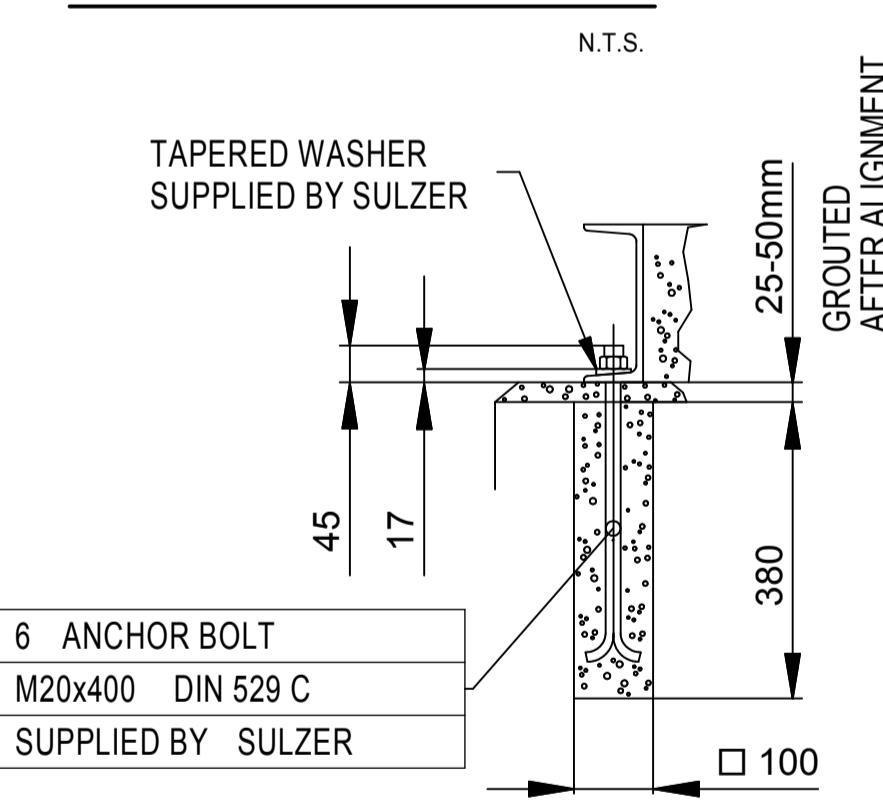


COG	X	Y	Z
PUMP	463	2	517
COUPLING	1077	0	508
BASEPLATE	865	73	149
MOTOR	1508	-45	505
PACKAGE	923	31	311
COG=CENTRE OF GRAVITY			

APPROXIMATE WEIGHTS	
PUMP:	171 kg
MOTOR:	174 kg 
BASEPLATE:	442 kg
AUXILIARY:	15 kg
TOTAL:	802 kg 

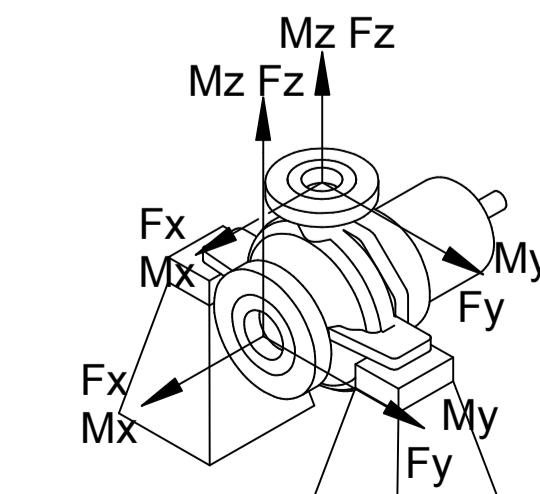


ANCHOR BOLT DETAIL



MAXIMUM NOZZLE LOADINGS

Forces do comply with 2 times of the forces shown in API 610 11th
FORCE IN (N) MOMENTS IN (Nm)



	SUCT	DISCH	
FORCE	Fx	3560	2140
FORCE	Fy	2840	1780
FORCE	Fz	2320	2660
FORCE	Fr	5120	3860
MOMENTS	Mx	2660	1900
MOMENTS	My	1360	940
MOMENTS	Mz	2000	1440
MOMENTS	Mr	3600	2560

Ref	Date	Status	Purpose of Issue	PREF'D	CHK'D	APR'D	AUZ'D
04	11.04.18	R	For Approval	JL	VS	RS	CL
03	26.02.18	R	For Approval	JL	VS	RS	CL
02	11.01.18	R	For Approval	JL	VS	RS	CL
01	16.11.17	R	For Approval	JL	VS	RS	CL
00	02.06.17	F	For Approval	JL	VS	RS	CL

Kangan Utility & Offsite Project

The logo for KPRC-TV Channel 2, featuring a red stylized flame shape with white vertical stripes and the station's call letters "KPRC" in white on a red horizontal band.

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The logo consists of a stylized orange triangle pointing downwards, containing a smaller green teardrop shape.

DRAWING TITLE: Equipment Outline (GAD) including nozzle location

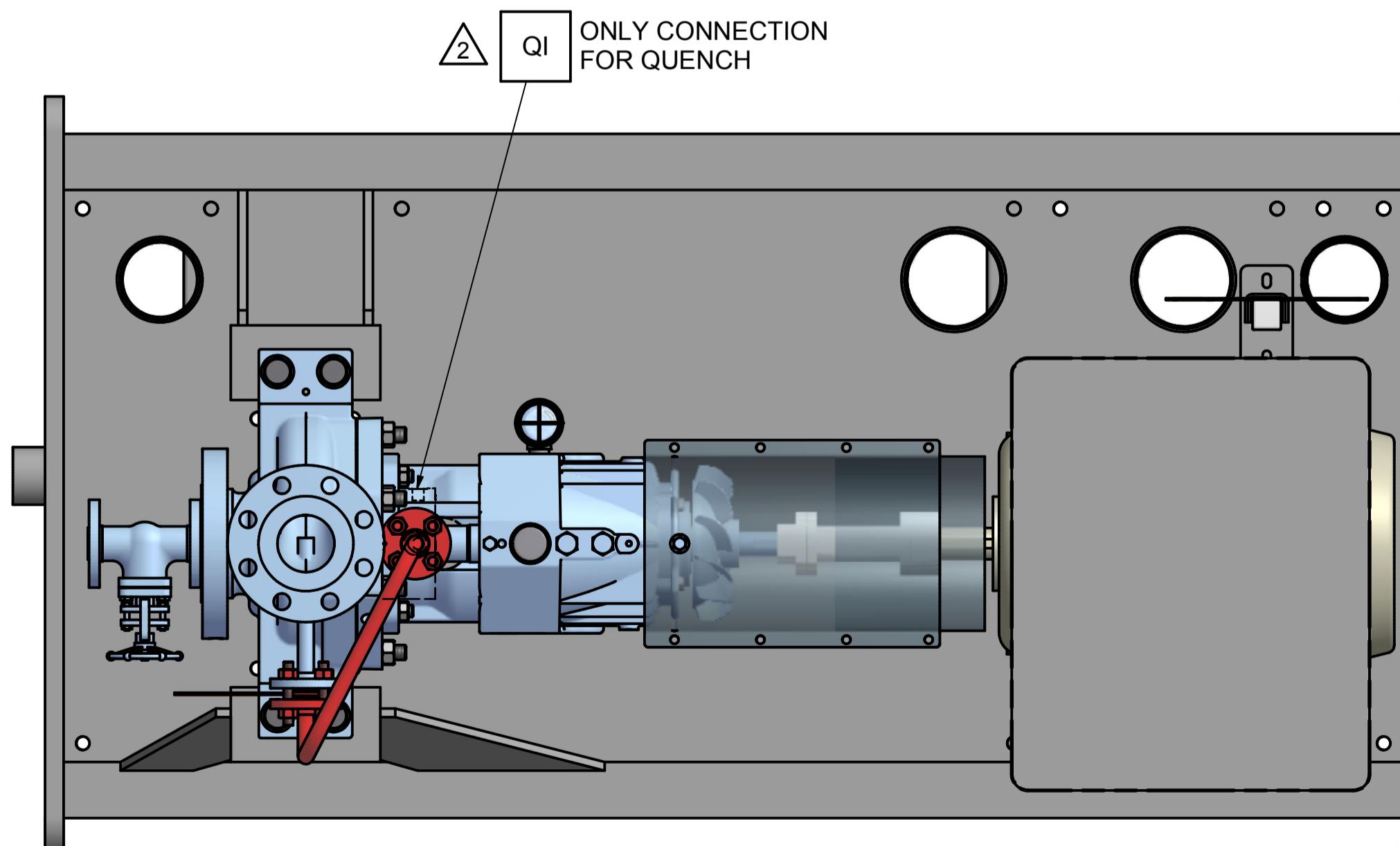
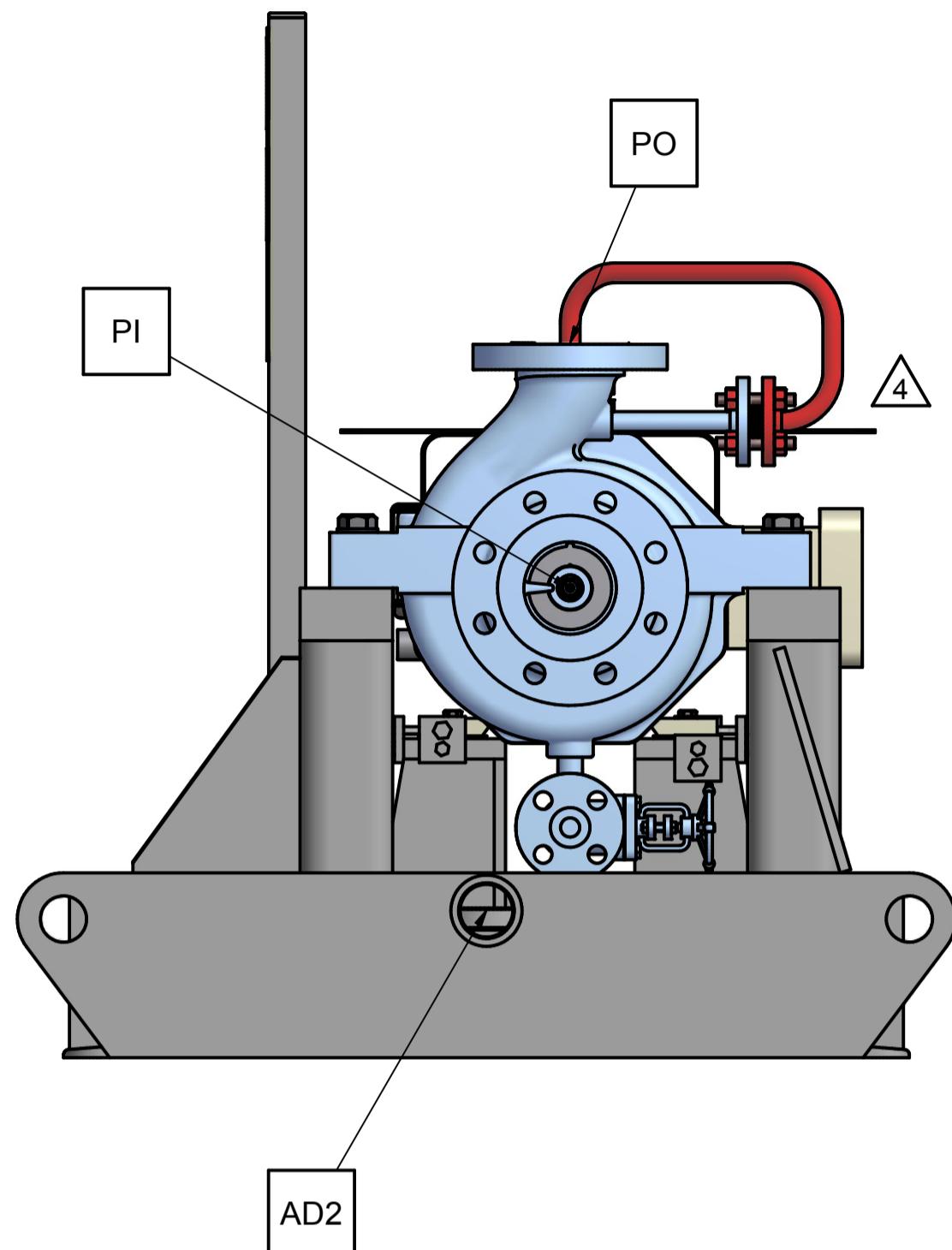
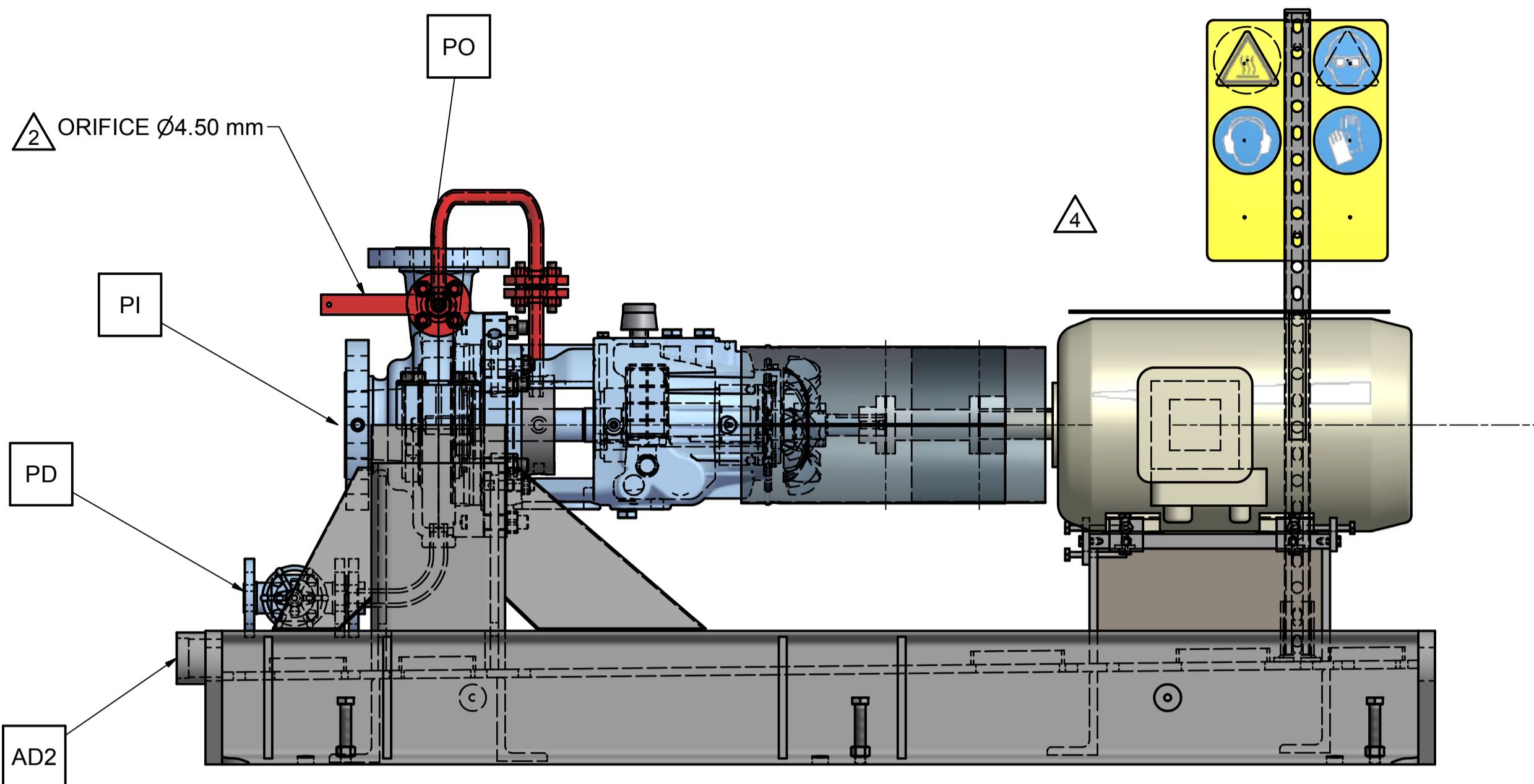
DRAWING No.	VP-80-10-MA-0001-0133			SHEET No.	2 OF 3	REV. 04
(C)	Motor frame updated			11/04/2018	11/04/2018	11/04/2018
				J. LOPEZ	V. SANCHEZ	R. SANCHEZ
REV.	MODIFICATION			MODIFIED	CHECKED	APPROVED
SEP. PARTS LIST:		NO	FORMAT: A1	DESIGN GROUP: -		FIRST ANGLE PROJECTION <input checked="" type="checkbox"/> <input type="checkbox"/>
REPLACED BY:			-	SUBSTITUTE FOR:		ORIGINAL SCALE: 1:7
OHH 3X4X9B-1		GENERAL ARRANGEMENT FOUNDATION AND NOZZLE				DRAWN: 15/APR/2017 J. LOPEZ
						CHECKED: 15/APR/2017 V. SANCHEZ
100263244-0040		GENERAL ARRANGEMENT DRAWING				APPROVED: 15/APR/2017 R. SANCHEZ
SULZER		PART NO. -	EN	PGA1002632440040-01		2 / 3

CONTRACT DATA

PURCHASER: Sulzer Pumps Spain SA
 USER: Kangan Petro Refining Co
 JOB/PROJECT: Kangan Utility and Offsite Project
 CUST. P.O. NO.: KP-80-10-PS-MA-PO-0001-00
 SERVICE: Caustic Soda Unloading Pump
 INSTALLED AT: IRAN
 PUMP OEM: Sulzer Pumpen (Deutschland) GmbH
 SULZER ORDER NO.: 100263244-0040

IDENTIFICATION NUMBERS

SULZER SERIAL NO.	CUSTOMER TAG NO'S	
	PUMP	DRIVER
558340	87-P-7001A	87-M-7001 A
558341	87-P-7001B	87-M-7001 B



CONNECTION LEGEND			
ITEM	DESCRIPTION	SIZE	TYPE
PI	PUMP SUCTION NOZZLE	4"	300 RF
PO	PUMP DISCHARGE NOZZLE	3"	300 RF
PD	PUMP DRAIN WITH VALVE	0.75"	300 RF
AD2	BASE DRAIN	2"	NPT FEMALE
QI	QUENCH INLET	0.375"	NPT PLUGGED

04	11.04.18	R	For Approval	JL	VS	RS	CL
03	26.02.18	R	For Approval	JL	VS	RS	CL
02	11.01.18	R	For Approval	JL	VS	RS	CL
01	16.11.17	R	For Approval	JL	VS	RS	CL
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Rev.	Date	Status	Purpose of Issue	PRE'D.	CHK'D.	APR'D.	AUZ'D.

Kangan Utility & Offsite Project
 KANGAN PETRO REFINING CO.

P.O. No.: KP-80-10-PS-MA-PO-0001-00 SCALE : 1: 7

SULZER



DRAWING TITLE:
 Equipment Outline (GAD) including nozzle location

DRAWING No.	VP-80-10-MA-0001-0133	SHEET No.	3 OF 3	REV. 04
(C)	Motor frame updated	11/04/2018	11/04/2018	11/04/2018
REV.	MODIFICATION	J. LOPEZ	V. SANCHEZ	R. SANCHEZ
SEP. PARTS LIST:	NO	FORMAT: A1	DESIGN GROUP: -	FIRST ANGLE PROJECTION <input checked="" type="checkbox"/>
REPLACED BY:	-	SUBSTITUTE FOR:	ORIGINAL SCALE: 1:7	DRAWN: 15/APR/2017 J. LOPEZ
OHH	3X4X9B-1	MODIFIED	CHECKED	APPROVED
100263244-0040	GENERAL ARRANGEMENT DRAWING			
	PART NO.	EN	PGA1002632440040-01	3 / 3