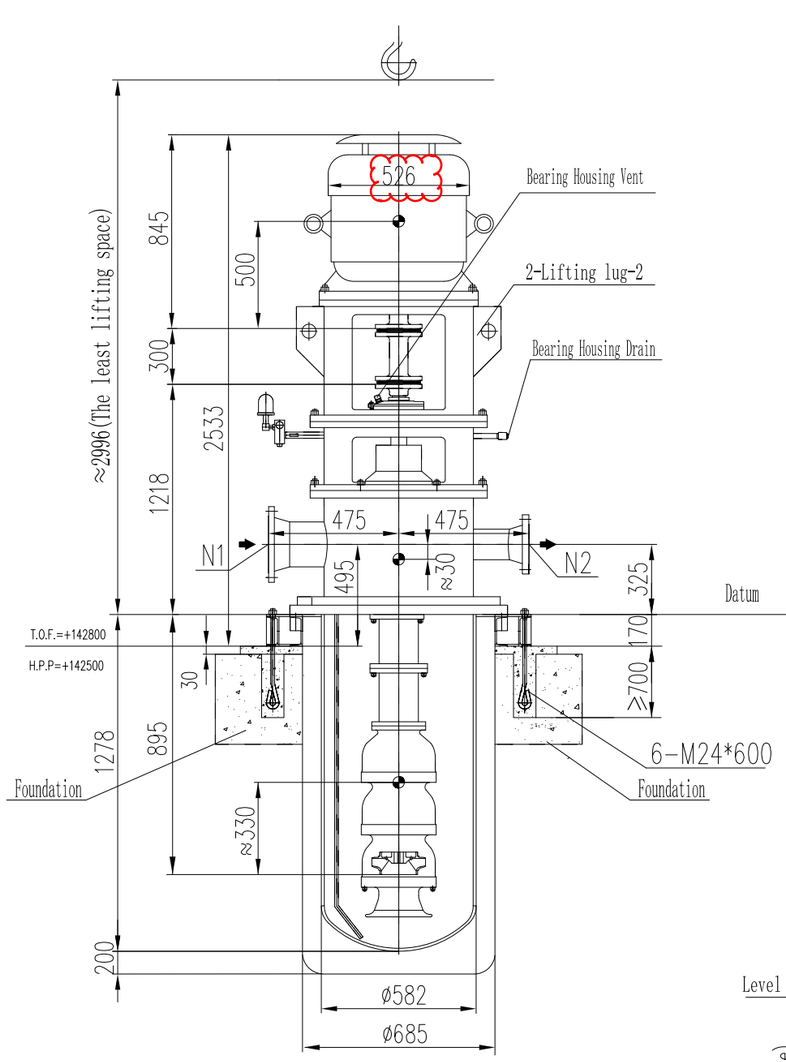
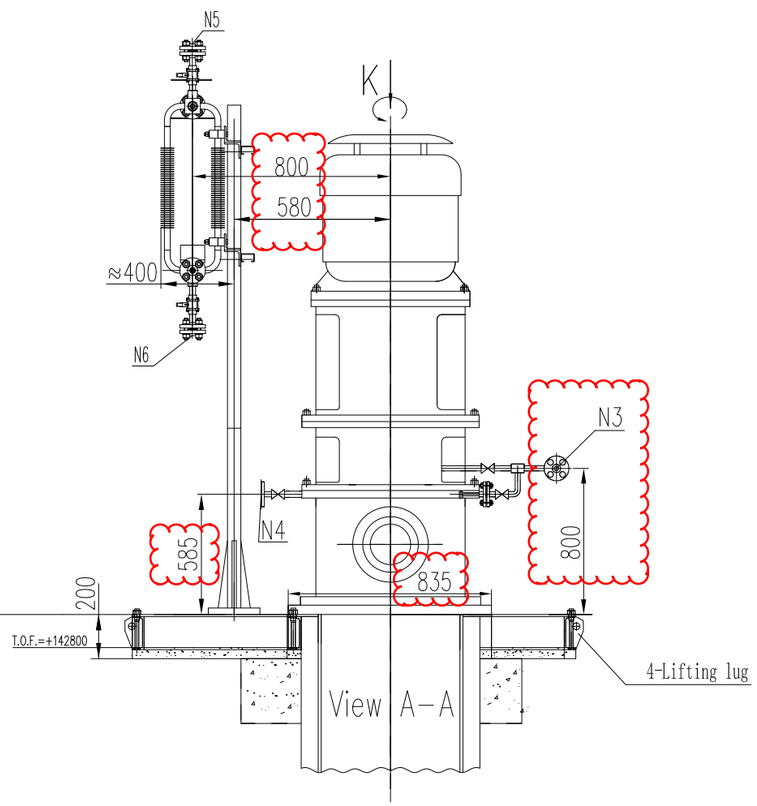
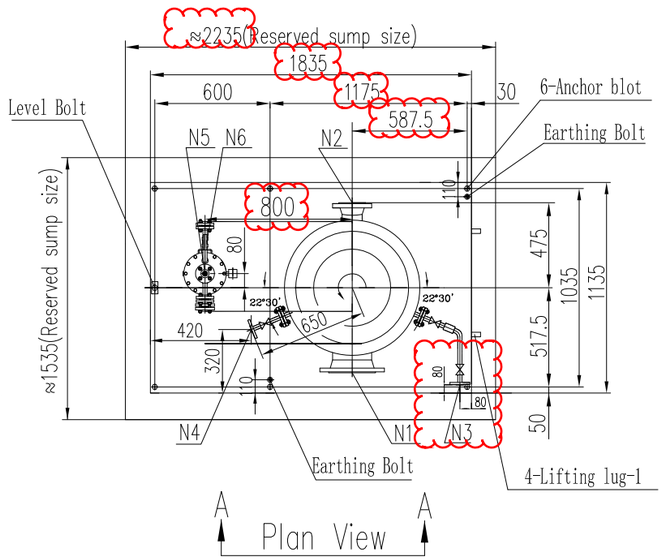
REFERENCE DRAWING	DWG. NO.
MOTOR OUTLINE DRAWING	NGL-V-2014-ME-DW-2018
COUPLING DRAWING	NGL-V-2014-ME-DW-2016
PUMP DATA SHEET	NGL-V-2014-ME-DT-2003
PUMP CROSSSECTION DRAWING	NGL-V-2014-ME-DW-2005
PUMP P&ID	NGL-V-2014-ME-PD-2006
Seal System Drawing and BOM	NGL-V-2014-ME-DW-2013

PUMP INFORMATION	
Item No.:	P-3181-01 A/B/S
Service:	Treated Steam Condensate Pump
Model:	LDB 160A-18.5x3-BA
Seal Plan:	23+61
Flow/Head	114.1m3/h & 50m
Motor:	30KW - 4P
Rotation:	Anti-clockwise viewed from the drive-end
No of Stages:	3
Pump Speed:	1470 rpm

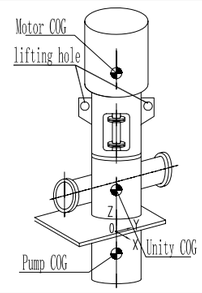






Maximum Allowable Amplitude For Foundation	
Velocity (Peak)	4 mm/s
Displacement	25.4 μm

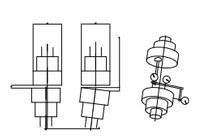
LIFTING INFORMATION



Pump COG	AX	0
	AY	0
	AZ	330
Motor COG	BX	0
	BY	0
	BZ	500
Unity COG	CX	0
	CY	0
	CZ	20
COG		

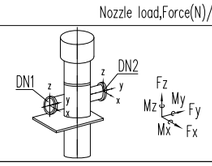
Static loading calculation results			Dynamic loading calculation results		
FXstatic=	10400/10400	N	FXdynamic=	115/115	N
FYstatic=	13340/13340	N	FYdynamic=	115/115	N
FZstatic=	-25947/43047	N	FZdynamic=	0/0	N
MXstatic=	18152/18152	N*m	MXdynamic=	14/14	N*m
MYstatic=	8291/8291	N*m	MYdynamic=	14/14	N*m
MZstatic=	12100/12100	N*m	MZdynamic=	195/-195	N*m

Note:
Location of Loads & Moments Calculation is the geometric center of baseplate lower surface.



D≤200	X	≤0.05
	Y	≤0.05
	Z	Z±0.1
200<D≤300	X	≤0.08
	Y	≤0.08
	Z	Z±0.15
300<D≤400	X	≤0.10
	Y	≤0.10
	Z	Z±0.2

Nozzle load,Force(N)/Moment(N.m)

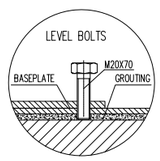


DN1	Fx	Fy	Fz
	7560	9780	6220
	Mx	My	Mz
	7060	3520	5160
DN2	Fx	Fy	Fz
	2840	3560	2320
	Mx	My	Mz
	2660	1360	2000

NGL-CT-1-0000-ME-PO-0014-D0

Note:

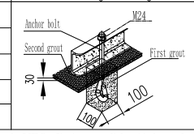
1. For the lifting lug, lifting lug-1 will be used for the first installation, lifting lug-2 for pump repair
2. The weight of maximum maintenance part is 532 kg (Suction and discharge section)
3. Anchor Bolt will be supplied by DBP and its material is CS
4. Grout material shall be non-shrinkage cement mottar or epoxy mortar.
5. Mass of rotor for all parts is 85 Kg.



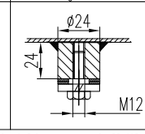
Plant North

WEIGHT(Kg)	
Total	2699
Skid weight	90
Aux. weight	35
Motor weight	335
Pump weight	2239

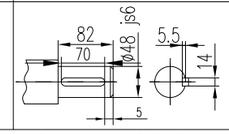
Level and grouting detail



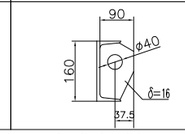
Earthing bolt detail



PUMP END



LIFTING LUG



Nozzle information

NO.	Nozzle	Sign	NPS	Standard	Rating	Face
6	Plan 23 Drain	N6	1/2"	ASME B16.5-09	Class600	RF
5	Plan 23 Vent	N5	1/2"	ASME B16.5-09	Class600	RF
4	Barrel Drain	N4	3/4"	ASME B16.5-09	Class300	RF
3	Pump Vent	N3	3/4"	ASME B16.5-09	Class300	RF
2	Pump Discharge	N2	4"	ASME B16.5-09	Class300	RF
1	Pump Suction	N1	8"	ASME B16.5-09	Class300	RF

Code1	☐ (Approved): No comment and release for Manufacturing (Document to be stamped as Final for considering in Vendor Data Book)
Code2	☐ (Approved with Comments): VENDOR/Sub-Contractor shall correct/revise document and issue it as "FOR APPROVAL" (Work May Be Proceeded)
Code3	☐ (Commented): VENDOR/Sub-Contractor shall correct /revise and resubmit it as "FOR APPROVAL" of the date documents specified (Corrected to be resub-mitted before starting to manufacture.
No Code	☐ CONSULTANT and PURCHASER check results on Class 2 documents will be returned without any CODE. VENDOR/Sub-Contractor shall correct/revise document and issue it as "FOR INFORMATION"

The above checking result by OIEC shall in no way relieve Vendor of any liability, obligation and responsibility out of the purchase order and the mutual agreement in writing

OIEC ...building trust شرکت مهندسی و ساختمان صنایع نفت

DATE :
DEPT:
Signature :

REV.	DATE	DESCRIPTION	R.X / T.H	R.C	A.A.
D3	20.08.15	ISSUED FOR APPROVAL	R.X / T.H	R.C	A.A.
D2	20.07.15	ISSUED FOR APPROVAL	R.X / T.H	R.C	A.A.
D1	20.06.02	ISSUED FOR APPROVAL	R.X / T.H	R.C	A.A.
D0	20.04.30	ISSUED FOR APPROVAL	R.X / T.H	R.C	A.A.
			PREP.	CHECK	APPROVAL / OIEC APP.
			Contractor		

Project Title:
NGL 3100 PROJECT

Contractor:
OIEC ...building trust شرکت مهندسی و ساختمان صنایع نفت

STATUS CODE: A=Comment/Review B=Approval C=Final Issue

Pump General Arrangement Drawing For
Treated Steam Condensate Pump P-3181-01 A/B/S

OWNER DRAWING NUMBER

Project Name	Originator	PO Serial No.	Disc.	Doc. Type	Seq No.	Rev.	Sheet No.	Status	Class	Size
NGL	V	2014	ME	DW	2002	D3	1 OF 1	B	1	A3

OIEC DRAWING NUMBER

Project Code	Source	Unit & Section	Phase	Disc.	Doc. Type	Serial No.	Rev.

Contract No.:

Date: