

APENDICE 2

**“SERVICIO DE INGENIERIA, CONSTRUCCION E INSTALACIÓN (EPC) Y PUESTA EN MARCHA DE
CUATRO (04) ELECTROBOMBAS DE PROCESO EN REFINERÍA IQUITOS”**

**Especificaciones Técnicas de las 04
Electrobombas de Proceso, Cía. ITT Goulds
Pumps**

311-PM-7

Model: 3700**Size: 1x2-9****Group: SA****60Hz****RPM: 3540****Stages: 1**

Job/Inq.No. : SEL-0030-2019-OPS

Purchaser : GOULDS PUMPS INC PERU

End User : PETROLEOS DEL PERU PETROPERU S.A

Issued by : M. Hernandez

Rev. : 0

Item/Equip.No. : 311-PM-7 (Base Offer)

BGM Order: OV8844-1

Date : 11/11/2019

Service : Manejo de DPM/Turbo

Order No. : 9083

Certified By : I. Rico

SN/SO : GM03A222

Operating Conditions**Pump Performance**

Liquid: Keroseno - Turbo

Published Efficiency: 43.6 %

Suction Specific Speed: 8,848 m³/hr,m

Temp.: 231.0 deg C

Rated Pump Efficiency: 41.0 %

Min. Hydraulic Flow: 2.78 m³/hr

S.G./Visc.: 0.615/0.180 cp

Rated Total Power: 9.06 kW

Min. Thermal Flow: N/A

Flow: 24.00 m³/hr

Non-Overloading Power: 10.98 kW

TDH: 92.80 m

Imp. Dia. First 1 Stg(s): 226 mm

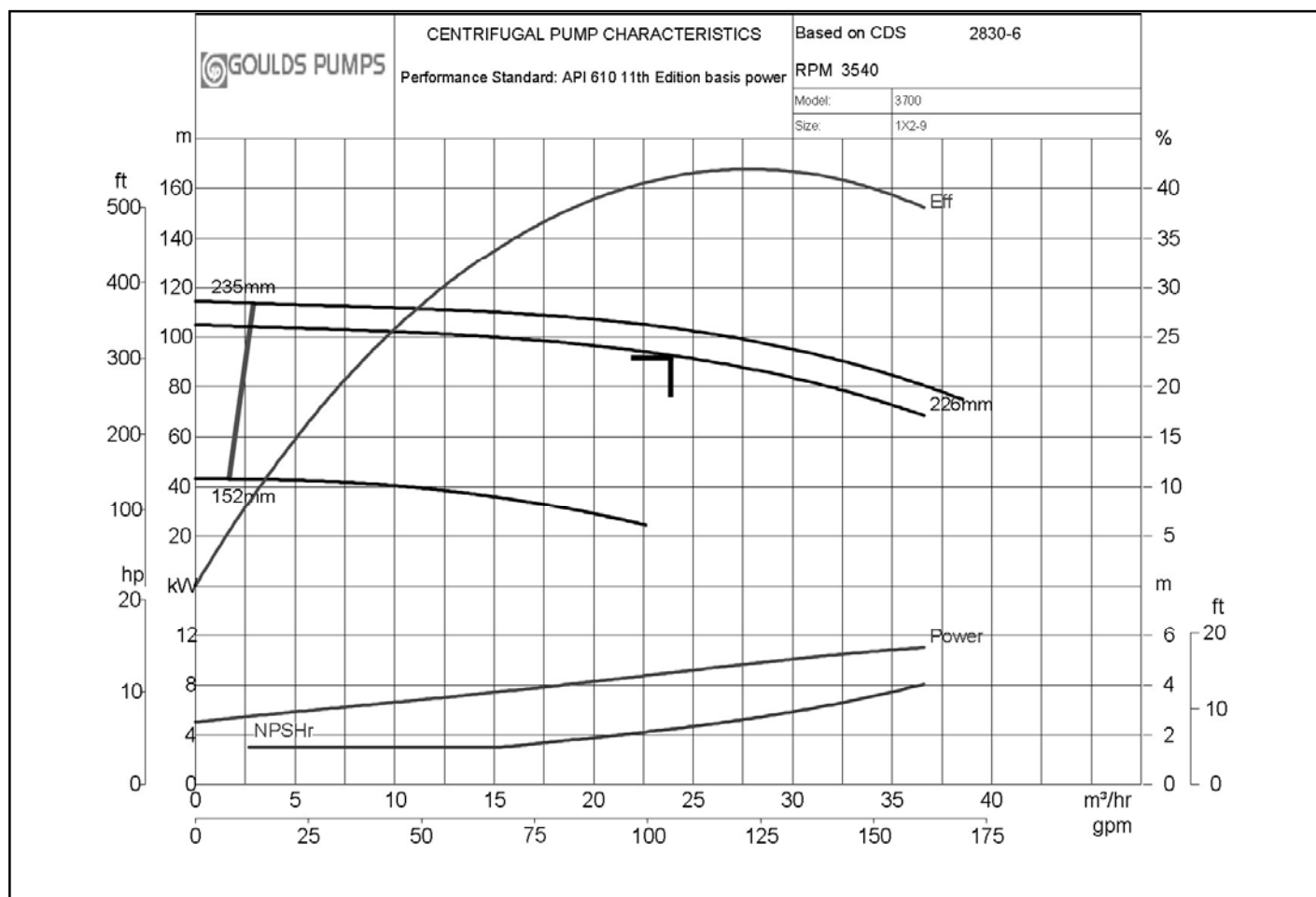
NPSHa: 6.00 m

NPSHr: 2.29 m

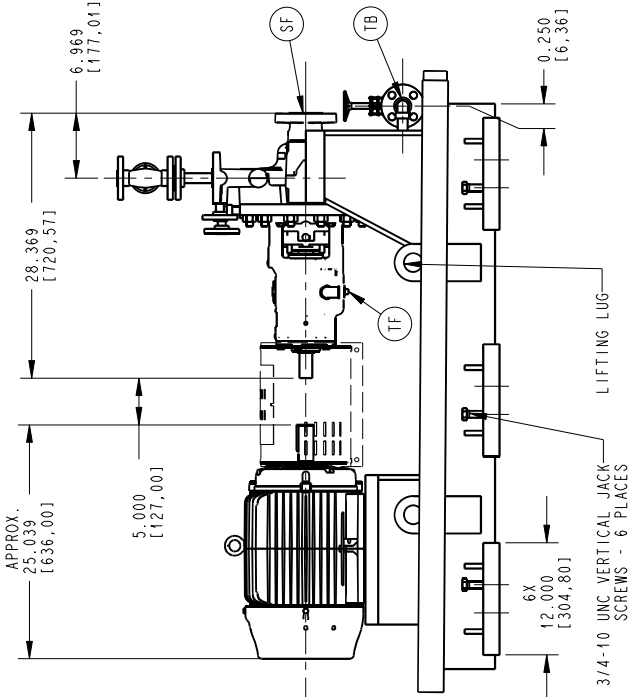
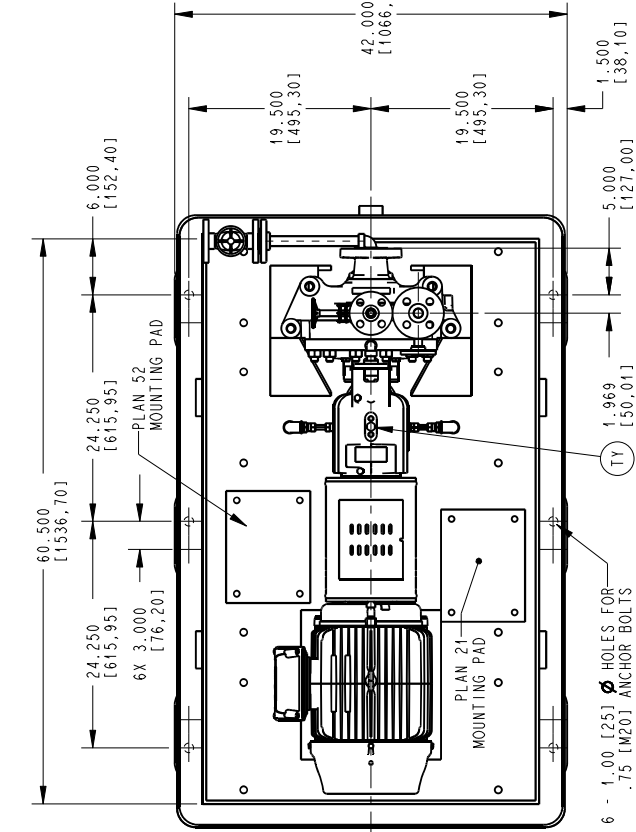
Shut off Head: 105.06 m

Solid size:

Max. Solids Size: 0.00 mm

% Susp. Solids
(by wtg):Vapor Press: 2.50 kg/cm² abs**Notes:** 1. Curve shown is at ambient temperature conditions.

Viscosity corrections have been performed in accordance with HI 9.6.7-2015



CONNECTIONS TABLE				STATUS		FOR USE BY	
NO	SIZE	TYPE	QTY	PURPOSE	COVERED	CUSTOMER	
SF	2	300# R.F.	1	SUCTION FLANGE	COVERED	CUSTOMER	
DF	1	300# R.F.	1	DISCHARGE FLANGE	COVERED	CUSTOMER	
TF	1/2	FNPT	1	BEARING FRAME DRAIN	PLUGGED	CUSTOMER	
TV	3/4	300# R.F.	1	CASING VENT	COVERED	CUSTOMER	
TY	1/2	FNPT	1	BEARING OIL FILL	PLUGGED	CUSTOMER	
TB	3/4	300# R.F.	1	CASING DRAIN	COVERED	CUSTOMER	
BD	2	FNPT	1	BASEPLATE DRAIN	---	CUSTOMER	

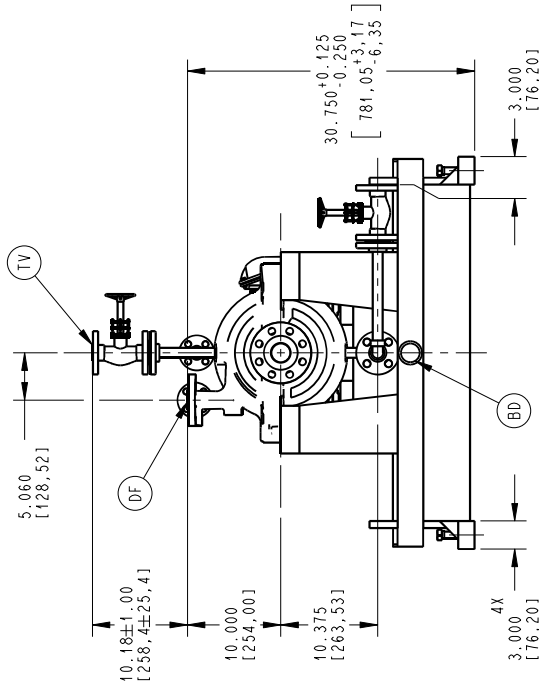
PLAN 21 PARTS LIST - CS PIPING 1/2" SW NOM.
(SEAL FLUSH FROM PUMP DISCHARGE
THROUGH ORIFICE AND COOLER)

PLAN 21 WILL BE SHOWN ON NEXT DRAWING SHEET

PLAN 52 PARTS LIST - CS 3/4" PIPING SW
(EXTERNAL FLUID RESERVOIR, NONPRESSURIZED, WITH
FORCED CIRCULATION, AS REQUIRED)

PLAN 52 WILL BE SHOWN ON NEXT DRAWIN SHEET

CASING VENT & DRAIN PARTS LIST CS 3/4" SOCKET WELDED PIPE			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPE	CS	3/4"	SCH. 160
FITTINGS	CS	3/4"	3000#
FLANGE	CS	3/4"	300# R.F.
FLANGED VALVE	CS	3/4"	GATE 300# R.F.

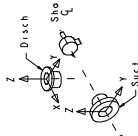


NOTES

- FLANGES CONFORM TO ANSI STANDARDS. BOLT HOLES STRADDLE ϕ (.B16.5 STEEL OR B16.1 IRON)
- ROTATION CCW VIEWED FROM COUPLING END.
- DIMENSIONAL TOLERANCE TO PIPED CONNECTIONS IS ± 0.50 (.13) EXCEPT FOR PUMP SUCTION AND DISCHARGE.
- ROUTING OF PIPELINES IS APPROXIMATE AND MAY VARY AFTER ASSEMBLY
- ϕ REFER TO MECHANICAL SEAL DRAWING FOR GLAND DETAIL
- BASEPLATE IS SUPPLIED WITH MOTOR ALIGNMENT SCREWS.

WEIGHTS Δ WEIGHTS ARE APPROXIMATE				
ITEM	WET		DRY	
	LBS	KG	LBS	KG
PUMP	293	133	288	131
COUPLING	8	4	8	4
DRIVER	295	134	295	134
BASEPLATE	1008	458	1008	458
PLAN 52	247	112	207	94
PLAN 21	180	81	160	72
TOTAL	2031	922	1966	893
ALLOWABLE NOZZLE LOADS				

ALLOWABLE NOZZLE LOADS



FORCE	SUCTION		DISCHARGE	
	LBS	(N)	LBS	(N)
Fx	200	890	160	710
Fy	160	710	130	580
Fz	130	580	200	890
MOMENTS	SUCTION		DISCHARGE	
	FT-LBS	(N-M)	FT-LBS	(N-M)
Mx	340	460	340	460
My	170	230	170	230
Mz	260	350	260	350

COUPLING SPECIFICATIONS

WFR: METASTREAM SIZE: 0014

TYPE: TSCS

GUARD PROVIDED: YES ☒ NO ☐

MATERIAL: ALUMINUM (HINGED DOOR)

MECHANICAL SEAL SPECIFICATIONS

WFR: JOHN CRANE

TYPE: 2609HTC DOUBLE CARTRIDGE

API CODE: 22C-PHX-040-51/52 20W-CW

DRIVER SPECIFICATIONS

WFR: WEG

POWER: 20 HP

FRAME: 254/6T

PHASE: 3

RPM: 3520

HERTZ: 60

VOLTS: 460

ENCLOSURE: TEFC

MODEL: 3700

GROUP: SA

SIZE: 1 X 2 - 9

LUBRICATION: RING OIL

BEARING ARRANGEMENT: BALL - BALL

BASEPLATE: DRAIN RIM - GROUTED CONSTRUCTION

CERTIFIED FOR CONSTRUCTION ONLY WHEN SIGNED.

SIGNATURE: _____

DATE: _____

CUSTOMER DATA

CUSTOMER: GOULDS PUMPS INC PERU

GOULDS PUMP NO: 030A222-172

PRODUCT NO: 086844-1

CUSTOMER P.O. NO.: 9083

PUMP ITEM NO.: 311-PW-7

SERVICE: MANEJO DE DPM/TURBO

PUMP OUTLINE DRAWING
MODEL 3700



GOULDS PUMPS

DRAWING SCALE: 0.100

DIMENSIONS IN INCHES (mm)

DRAWN EGJ	11/26/19	CHECKED RSA	11/26/19	APPROVED JOM	11/26/19	COPYRIGHT 2019	REV



M03A222GAD

SHEET 1 OF 2

1	DRAWING UPDATED	04/20/20	EGJ
0	INITIAL	11/26/19	EGJ
REV	DESCRIPTION	DATE	BY


CONNECTIONS TABLE					FOR USE BY	
NO	SIZE	TYPE	QTY	PURPOSE	STATUS	CUSTOMER
SF	2	300# R.F.	1	SUCTION FLANGE	COVERED	CUSTOMER
DF	1	300# R.F.	1	DISCHARGE FLANGE	COVERED	CUSTOMER
TV	3/4	300# R.F.	1	CASING VENT	COVERED	CUSTOMER
TB	3/4	300# R.F.	1	CASING DRAIN	COVERED	CUSTOMER
CI	3/4	FNPT	1	COOLING WATER IN	PLUGGED	CUSTOMER
CO	3/4	FNPT	1	COOLING WATER OUT	PLUGGED	CUSTOMER
LPD	3/4	300# R.F.	1	LOW POINT DRAIN (PLAN 52)	COVERED	CUSTOMER
HPV	1/2	300# R.F.	1	HIGH POINT VENT (PLAN 24)	BLIND	CUSTOMER

PLAN 24 PARTS LIST - CS PIPING 1/2" SW NOM. (SEAL FLUSH FROM PUMP DISCHARGE THROUGH ORIFICE AND COOLER)			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPING	CS	1/2"	SCH. 160
ELBOW / FLANGE	CS	1/2"	3000# / 300# R.F. SW
HEAT EXCHANGER	--	----	JOHN CRANE

PLAN 52 PARTS LIST - CS 3/4" PIPING SW (EXTERNAL TO RESERVOIR, NON-INSULATED, WITH FORCED CIRCULATION, AS REQUIRED)			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPING	CS	3/4"	SCH. 160
FLANGE	CS	3/4"	300# R.F.
RESERVOIR	----	---	JOHN CRANE

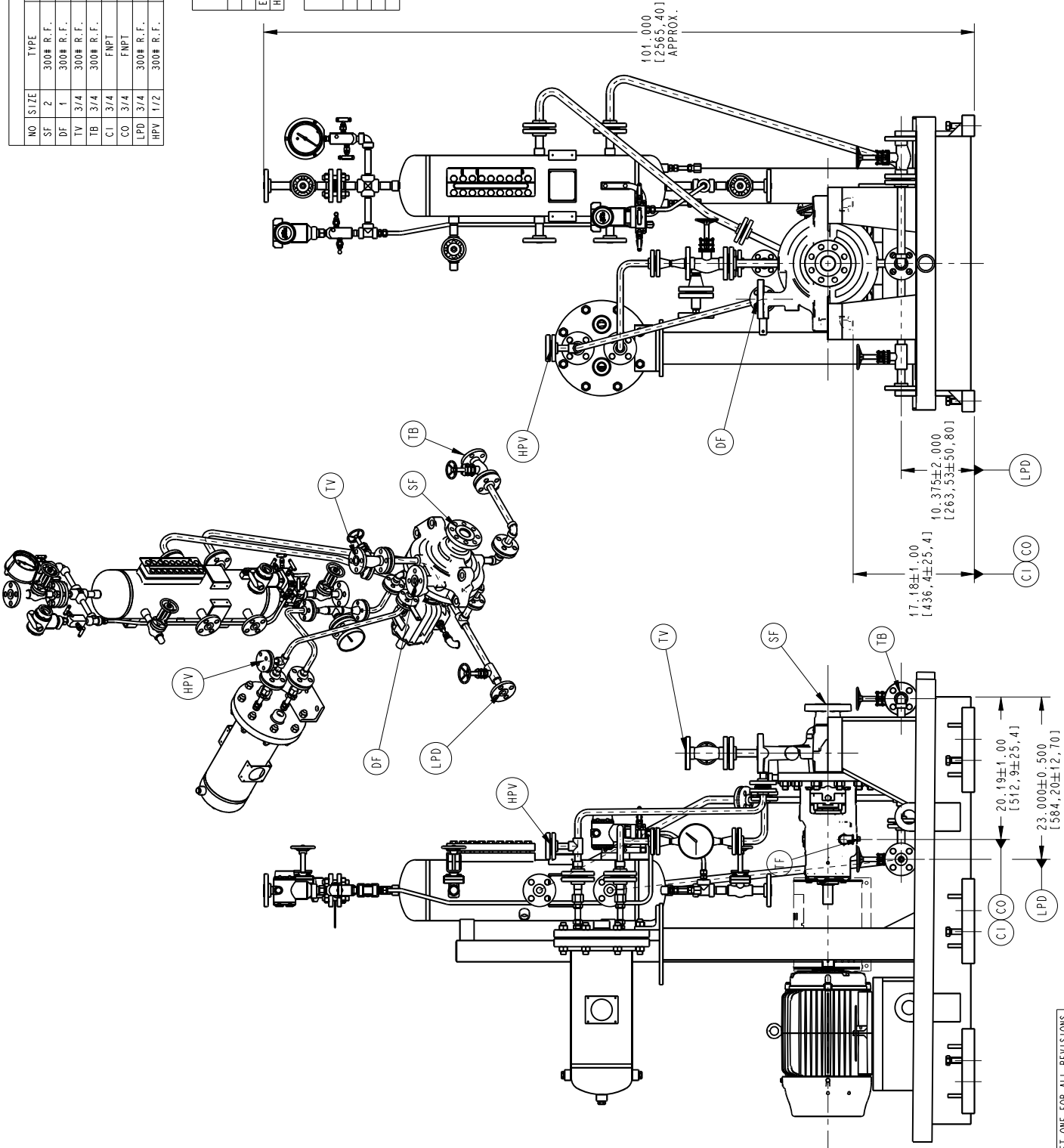
MODEL:	3700	GROUP:	SA
SIZE:	1 X 2 - 9		
LUBRICATION:	RING OIL		
BEARING ARRANGEMENT:	BALL - BALL		
BASEPLATE:	DRAIN RIM - GROUTED CONSTRUCTION		
CERTIFIED FOR CONSTRUCTION ONLY WHEN SIGNED.			
SIGNATURE:		DATE:	
CUSTOMER DATA			
CUSTOMER: GOULDS PUMPS INC PERU			
PUMP MODEL: 3700			
PRODUCT NO.: 086442-172			
CUSTOMER P.O. NO.: 9083			
PUMP ITEM NO.: 311-PW-7			
SERVICE: MANEJO DE DPM/TURBO			

PUMP OUTLINE DRAWING
MODEL 3700

**GOULDS PUMPS**

DRAWING SCALE: 0.100
DIMENSIONS IN INCHES (mm)

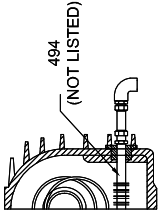
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EGJ		RSB					
DRAWING							REV
M03A222GAD							1
SHEET 2 OF 2							



ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
100	1	CASING	CARBON STEEL	A216 GR. WCB
100A	2	SCHEDULE 160 PIPE	CARBON STEEL	A106 GR. B
100B	1	3000# 90° ELBOW	CARBON STEEL	A105
100C	1	ANSI 3/4, 300# RF FLANGE	CARBON STEEL	A105
101	1	IMPELLER	12% CHROME	A743 GR. CA-8NM
109A	1	FRAME COVER END, THRUST	CARBON STEEL	A216 GR. WCB
112	PAIR	BEARING, THRUST	STEEL	7310 BEGAMI
113B	1	PIPE PLUG, OIL FILL	CARBON STEEL	A108 GR. 1213
114	2	OIL RING	BRONZE	B584 C87500
122	1	SHAFT	410 SS	A276 TP. 410
123	1	VX8 OIL SEAL RADIAL	BRONZE	B584 C87500
123A	1	VX8 OIL SEAL THRUST	BRONZE	B584 C87500
125	1	SEAL CHAMBER, THROAT BUSHING	410 SS	A276 TP. 410
136	1	LOCKNUT, THRUST BEARING	CARBON STEEL	—
164	1	WEAR RING CASING	12% CHROME - 410 SS	A276 TP. 410
168	1	BEARING, RADIAL	STEEL	6210 C3
178	1	KEY IMPELLER	410 SS	A276 TP. 410
184	1	SEAL CHAMBER COVER	CARBON STEEL	A216 GR. WCB
202	1	IMPELLER WEAR RING, SUCTION SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410

ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
203	1	IMPELLER WEAR RING, HUB SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410
228	1	BEARING FRAME	CARBON STEEL	A216 GR. WCB
230	1	WEAR RING, SEAL CHAMBER	12% CHROME - 410 SS	A276 TP. 410
251	1	WATCHDOG OILER (NOT SHOWN)	GLASS / STEEL	—
304	1	IMPELLER NUT	NITRONIC 60	A743 GR. CF10SMn
351	1	GASKET-CASING	SPIRAL WOUND 316 SS	—
353	4	STUD - GLAND	4140 (NICKEL PLATING)	A193 GR. B7 / B733
355	4	NUT - GLAND STUD	4140 (NICKEL PLATING)	A194 GR. 2H / B733
356A	NOTE 1	STUD-CASING	4140	A193 GR. B7
358F	3	PIPE PLUG, OIL MIST	CARBON STEEL	A307 GR. B
360A	3	GASKET, THRUST END COVER	VELLUMOID	D-1170
370H	4	SCREW - FRAME TO COVER	CARBON STEEL	A307 GR. B
370N	5	SCREW - END COVER-THRUST	CARBON STEEL	A307 GR. B
382	1	LOCKWASHER, THRUST BEARING	STEEL	—
383	1	MECHANICAL SEAL	REFER TO MECHANICAL SEAL DRAWING	—
408A	1	MAGNETIC PLUG-OIL DRAIN	STEEL	A307 GR. B
425	NOTE 1	NUT - CASING STUD	4140	A194 GR. 2H
468P	2	RETAINER OIL RING	CARBON STEEL	A307 GR. B

3700 MODEL
API 610 11th Ed.

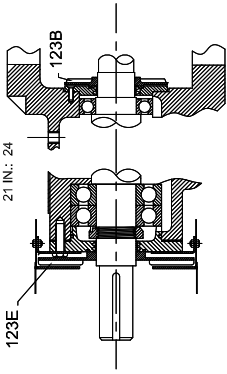


☒ WATER COOLED FRAME
(OPTIONAL)

NOTES:

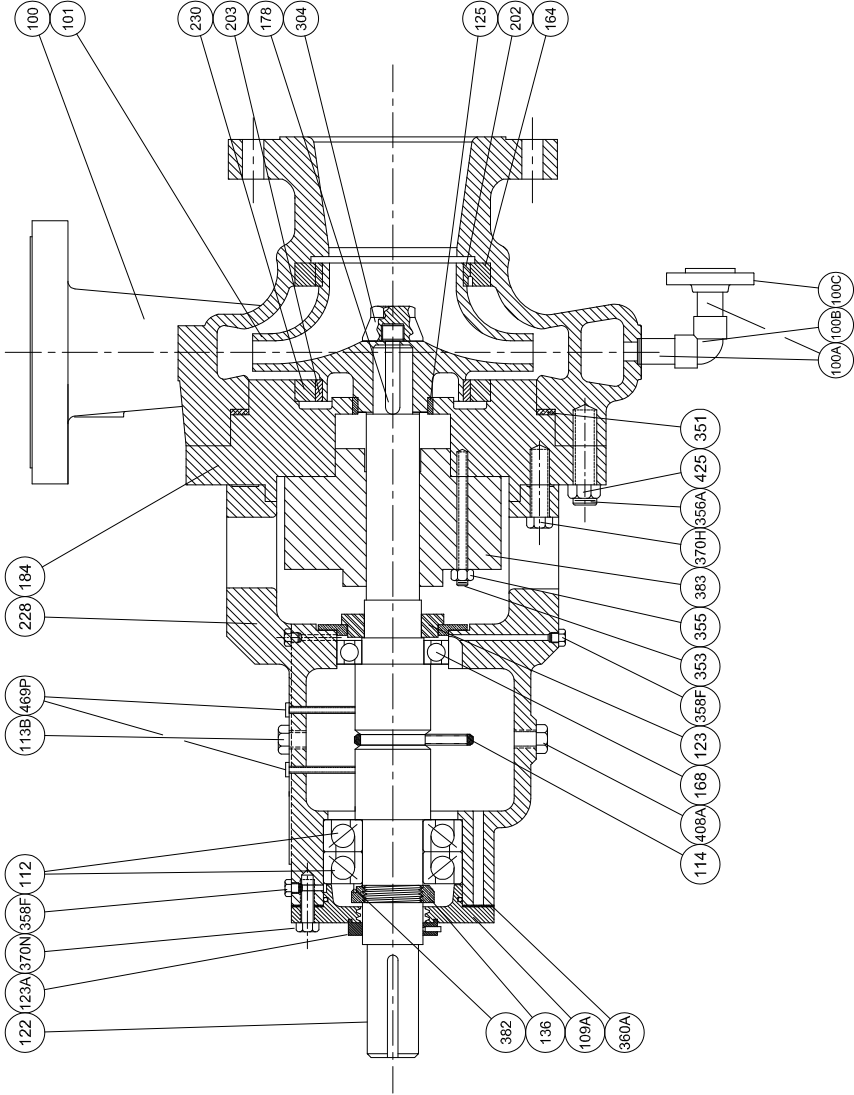
1. QUANTITIES OF CASING STUDS AND NUTS:

7 AND 9 IN.: 12
11 AND 13 IN.: 16
16 AND 19 IN.: 20
21 IN.: 24



OPTIONAL AIR COOLED FRAME:

- ☐ RADIAL - 123B
☐ THRUST - 123E
☒ RADIAL AND THRUST - 123B & 123E



CUSTOMER DATA

CUSTOMER: GOULDS PUMPS INC PERU
GOULDS SERIAL: GM03A222
PRODUCT No.: OV6844-1
CUSTOMER P.O. No.: 9063
PUMP ITEM No.: 311-PW-7
SERVICE: MANEJO DE DPM/TURBO

CROSS SECTIONAL DRAWING &
BILL OF MATERIALS

MODEL / GROUP: 3700 SA

SIZE: 1 X 2 - 9

ITT GOULDS PUMPS

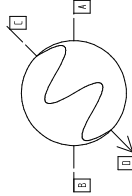
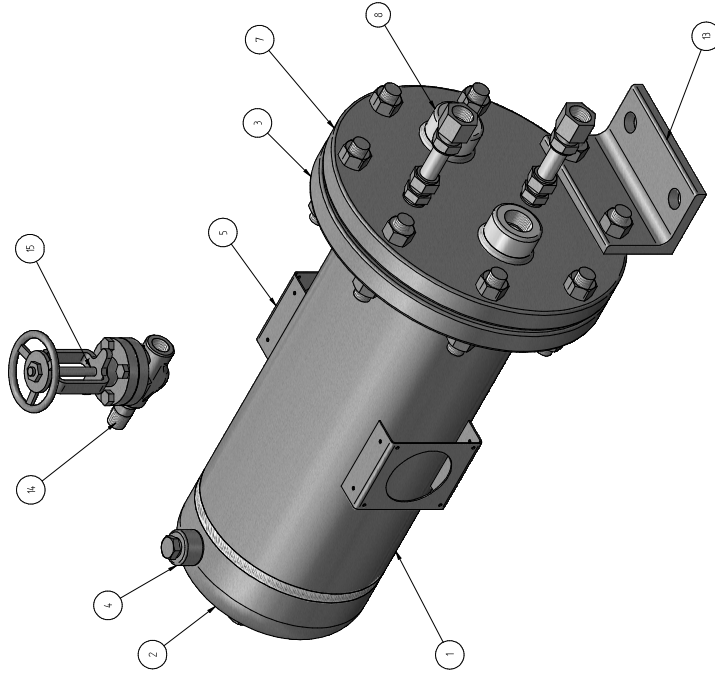
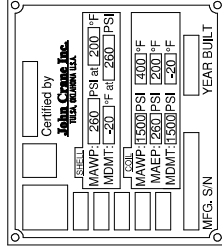
DRAWING SCALE: N/A DIMENSIONS: N/A

DRAWN	CHECKED	APPROVED	COPYRIGHT
EGJ	RSA	AOR	2019
THIRD ANGLE	DRAWING:	REV.	
	M03A222PCD	0	

SHEET 1 OF 1

0	FOR INFORMATION	11/26/19
REV.	DESCRIPTION	DATE

CUSTOMER TITLE BLOCK
006844
END USER: PETROLEOS DEL PERU S.A.
LOCATION: PERU
PLANT: MANUEL DE OROZCO



TOLERANCES UNLESS OTHERWISE STATED - (in)												PROJECT	
PROJECTIONS												CUSTOMER	
±1/4"												PER P.O.	
XX												PER P.O.	
±.05												ENGINEERING	
XX												PER P.O.	
±.005												END USER	
XXXX												LOCATION	
ANGULAR												PER P.O.	
±°												JC REF. No.	
												DATE	
THRU ANGLE PROJECTION		A		AL		OJ		ISSUED FOR CONSTRUCTION				29 NOV 2019	
		REV		PREP'D		CHK'D		DESCRIPTION					

[illegible]

REFERENCE CODES & STANDARDS		<div></div>																					
INSPECTION AND TESTING 1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED. 2. HYDROTEST PRESSURES: SHELL 390 PSI MINIMUM DURATION ## MINUTES COIL 2332 PSI MINIMUM DURATION ## MINUTES		<div></div>																					
SURFACE FINISH SURFACE FINISH PER JOHN CRANE FLUID CONTROL GROUP STANDARD		<div></div>																					
SYSTEM WEIGHTS AND VOLUMES ESTIMATED DRY WEIGHT FOR ACTUAL UNIT WEIGHT REFER TO UNIT TAG WET WEIGHT (Nominal) RESERVOIR NOMINAL VOLUME OPERATING VOLUME AT NORMAL LEVEL ACCUMULATOR NOMINAL VOLUME		160 lbs 180 lbs N/A Gal N/A Gal N/A Gal																					
INSTRUMENTS ELECTRICAL CLASSIFICATION NOTES: 1. REFERENCE LINE IS 100 FROM END OF SHELL. 2. PRESSURE RELIEF DEVICES ARE NOT PROVIDED BY THE MANUFACTURER (SEE THE ASME CODE SECTION VIII, DIVISION 1, PARAGRAPH UG-125 FOR USER RESPONSIBILITIES). 3. STAMP INLETS AND OUTLETS WITH PI FOR PRODUCT IN, PO FOR PRODUCT OUT, CI FOR COOLANT IN, AND CO FOR COOLANT OUT ON THE TOP OF THE HEAD. 4. HEAT EXCHANGER CAN BE MOUNTED IN VERTICAL OR HORIZONTAL POSITION. 5. ALL DIMENSIONS ARE IN MILLIMETERS. 6. ALL DIMENSIONS IN () ARE IN INCHES. 7. ALL DIMENSIONS IN () ARE REFERENCE DIMENSIONS. 8. FLANGE BOLT PATTERN TO STRADDLE NORMAL CENTER LINE. 9. CORROSION ALLOWANCE 0.125																							
DESCRIPTION HEAT EXCHANGER W/DOUBLE WRAP COIL		<table><tr><td>CONFIGURATION</td><td>GPN / CODE</td><td>DRG. LOC.</td><td>DESIGN AUTH.</td><td>SCALE</td></tr><tr><td></td><td></td><td>TULSA</td><td></td><td>NONE</td></tr><tr><td colspan="4">DRAWING No.</td><td>ISSUE</td></tr><tr><td colspan="4">GA-236391</td><td>A</td></tr></table> <div> Seal Support System</div> <div>2 of 2</div>		CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE			TULSA		NONE	DRAWING No.				ISSUE	GA-236391				A
CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE																			
		TULSA		NONE																			
DRAWING No.				ISSUE																			
GA-236391				A																			

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316/L SS

John Crane
 11500 TULSA AVE
 TULSA, OK 74116
 (918) 438-2200

System

SHELL

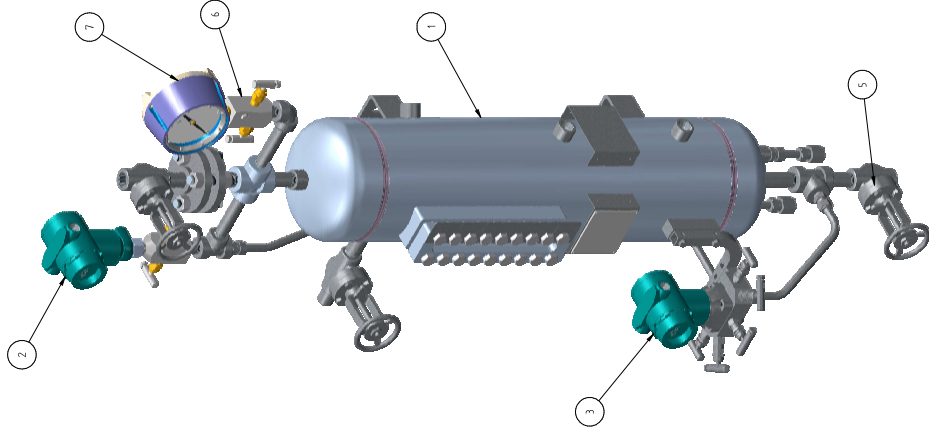
NAWPS	570 PSI	at	200
MONITE	-20	at	570 PSI

COIL

NAWPS	300 PSI	at	200
MONITE	-20	at	300 PSI

MPG, S/N

PART NUMBER

[illegible][illegible]

DESCRIPTION	CONFIGURATION	GPIN / CODE	DRAWING No.	SCALE
RE-682S 5 GALLON RESERVOIR ASSY			GA-236392	NONE
			1 of 2	ISSUE 0

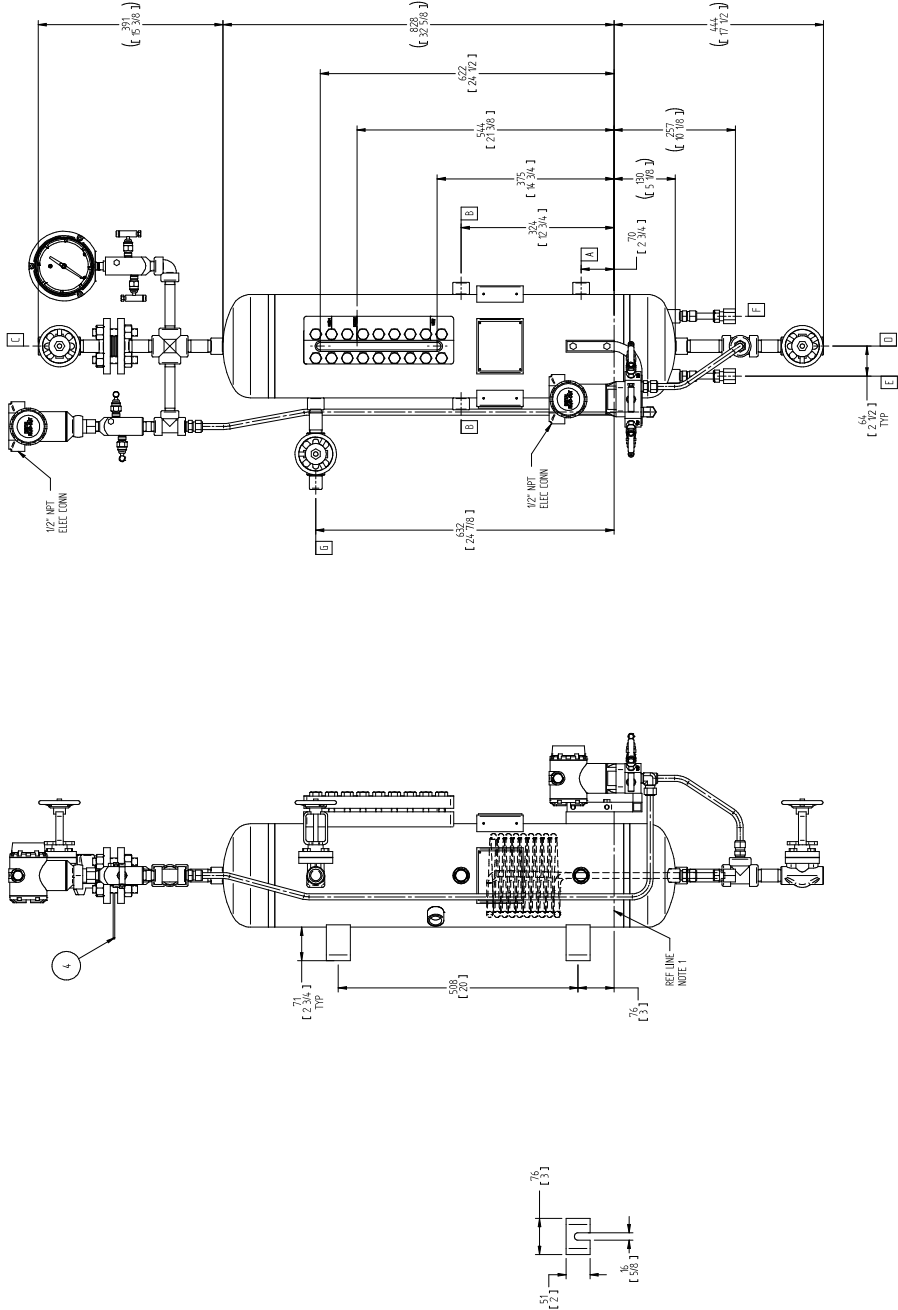
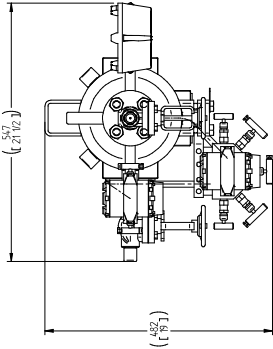
PROJECT	PER P.O.
CUSTOMER	PER P.O.
ENGINEERING	PER P.O.
END USER	PER P.O.
LOCATION	PER P.O.
JIC REF. No.	

THIRD ANGLE PROJECTION		TOLERANCES (UNLESS OTHERWISE STATED) — (in)	
	FRACTIONS	$\pm 1/4"$	
	XX	$\pm 0.5"$	
	XXX	$\pm 0.1"$	
	XXXX	$\pm 0.05"$	
	ANGULAR	$\pm 1^\circ$	

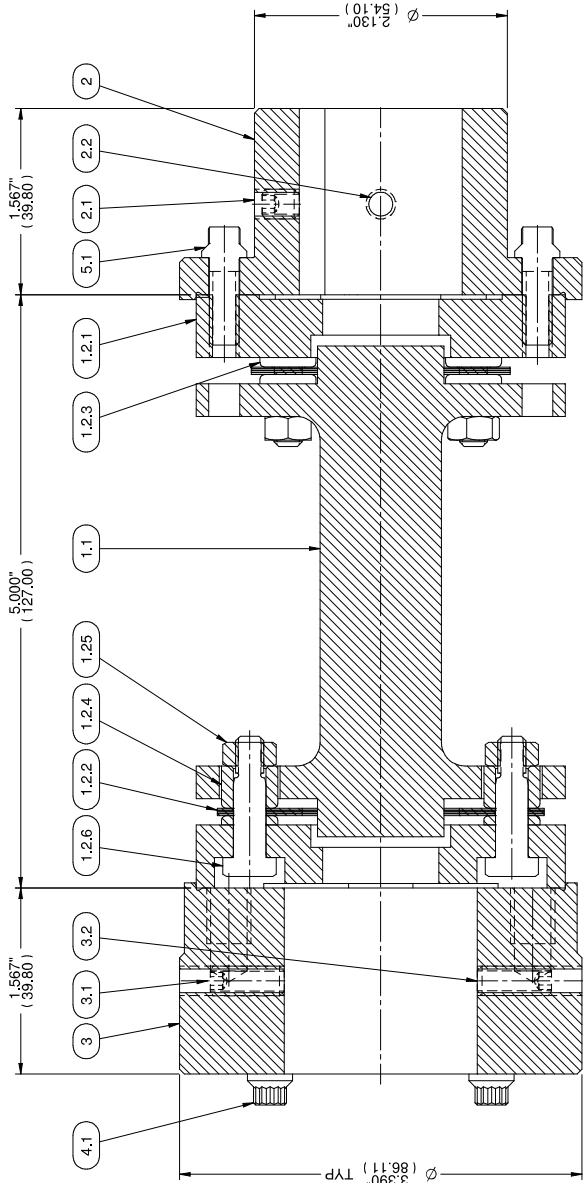
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REFERENCE CODES & STANDARDS	1. BUILT PER ASME CODE SECTION VIII DIV. 1				
INSPECTION AND TESTING	1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED.				
	2. HYDROTEST PRESSURES: SHELL 1439 PSI MINIMUM DURATION 30 MINUTES COIL 450 PSI MINIMUM DURATION 30 MINUTES				
SURFACE FINISH	SURFACE FINISH PER JOHN CRANE FLUID CONTROL GROUP STANDARD				
SYSTEM WEIGHTS AND VOLUMES	ESTIMATED DRY WEIGHT (FOR ACTUAL UNIT WEIGHT REFER TO UNIT TAG)				
	WET WEIGHT (Nominal) RESERVOIR NOMINAL VOLUME OPERATING VOLUME AT NORMAL LEVEL ACCUMULATOR NOMINAL VOLUME				
INSTRUMENTS ELECTRICAL CLASSIFICATION	CLASS 1 DIV 1 & 2 GRPS B, C & D				
NOTES:	1. REFERENCE LINE IS 100 INCH FROM END OF SHELL.				
	2. PRESSURE RELIEF DEVICES ARE NOT PROVIDED BY THE MANUFACTURER (SEE THE ASME CODE SECTION VIII, DIVISION 1 PARAGRAPH UG-425 FOR USER RESPONSIBILITIES).				
	3. THE RESERVOIR SHELL, HEADS & ALL COMPONENTS WELDED TO THE SHELL & HEADS ARE PER ASME CODE SECTION VIII, DIVISION 1, ALL OTHERS ARE NON-CODE.				
	4. ALL DIMENSIONS ARE IN MILLIMETERS.				
	5. ALL DIMENSIONS IN () ARE IN INCHES.				
	6. ALL DIMENSIONS IN [] ARE REFERENCE DIMENSIONS.				
	7. FLANGE BOLT PATTERN TO STRADDLE NORMAL CENTER LINE.				
DESCRIPTION	RE-682S 5 GALLON RESERVOIR ASSY				
CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE	
					TULSA
			DRAWING No.	ISSUE	
			GA-236392		
			2 of 2		
			Seal Support System		
			john crane		
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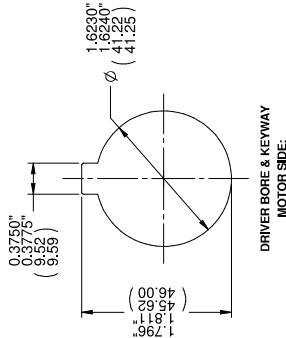
Technical drawing of a 5-gallon reservoir assembly. The drawing includes a top view and a side view. The top view shows a circular reservoir with various ports, valves, and a pressure gauge. Dimensions are provided in inches and millimeters. The side view shows the reservoir's profile, including the shell, heads, and internal components. A reference line is indicated at the bottom of the shell. The drawing is labeled "RE-682S 5 GALLON RESERVOIR ASSY".



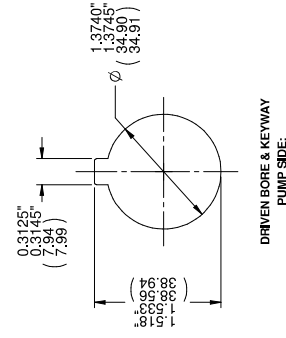
Item	Drawing No.	Mat'l Code	Description	Material	Qty	Spares
1	TSCS-0014-0708-1270		TRANSMISSION UNIT ASSEMBLY	301 SS HH-CARBON STEEL	1	X
1.1	TAB-3707-0888	0400	SPACER	CARBON STEEL	1	
1.2	TAB-4034-0014	FX01	O-RIT	CARBON STEEL 301 SS HH	2	
1.2.1	TAB-4025-0014	0400	GUARD RING	CARBON STEEL	1	
1.2.2	T3114-0014	0453	MEMBRANE	301 SS HH	4	
1.2.3	TAB-3705-0014	0336	SLEEVE	ALLOY STEEL	6	
1.2.4	T1067-0002	0336	OVERLOAD COLLAR	ALLOY STEEL	6	
1.2.5	TAB-3708-0014	0336	DRIVE BOLT	ALLOY STEEL	6	
1.2.6	99061002101	0416	NUT	ISO GR 8	6	
2	K-003-4942	0406	PUMP SIDE HUB	CARBON STEEL	1	
2.1	1325-2705	0237	SETScrew Ø 1/4-20" X 7/32" LG	ALLOY STEEL	1	
2.2	11252006000	0237	SETScrew Ø 1/4-20" X 3/8" LG	ALLOY STEEL	1	
3	K-003-9062	0406	MOTR SIDE HUB	CARBON STEEL	1	
3.1	11252010000	0237	SETScrew Ø 1/4-20" X 5/8" LG	ALLOY STEEL	1	
3.2	11252010000	0237	SETScrew Ø 1/4-20" X 5/8" LG	ALLOY STEEL	1	
4	HC708-402B	FX01	BOLT SET	ISO GR 12.9	1	X
4.1	HC922-0028	0225	HUB BOLT	ISO GR 12.9	4	
5	HC707-485B	FX01	BOLT SET	ISO GR 12.9	1	X
5.1	HC922-0025	0225	HUB BOLT	ISO GR 12.9	4	



MOTOR SIDE



PUMP SIDE



NOTES:

1. REFER TO INSTALLATION INSTRUCTIONS IOM TSCS 0717 BEFORE INSTALLATION
2. ITEM HC922-0025-0225 BOLT TORQUE: 7 FT-LB
ITEM HC922-0025-0225 BOLT TORQUE: 7 FT-LB
3. COUPLING COMPONENT BALANCED TO ISO 1940 G1.0
4. COUPLING MANUFACTURED IN COMPLIANCE WITH AGMA 9000 CLASS 9.

TECHNICAL DATA										Based on 1/3 shaft penetration									
REF	COMPONENT	WEIGHT	INERTIA		TORSIONAL STIFFNESS														
		Lb (kg)	Lb in² (x10³ Kg m²)	Lb in² (kg m²)	x10⁶ Lb in/rad (Nm/rad)														
3	MOTOR SIDE HUB	3 (1.4)	6 (1.8)		-														
2	PUMP SIDE HUB	1 (0.7)	2 (0.5)		-														
1	TRANSMISSION UNIT ASSEMBLY	4 (1.7)	4 (1.2)		-														
	COUPLING ASSEMBLY	8 (3.6)	12 (3.5)		0.08 (0.01)														
MISALIGNMENT CAPABILITY																			
AXIAL DEFLECTION ± in (± mm)		AXIAL FORCE Lb (N)		PARALLEL LATERAL MISALIGNMENT in (mm)		ANGULAR MISALIGNMENT Degree/End		ANGULAR STIFFNESS Lb in/Deg (Nm/Deg)											
NORMAL	TRANSIENT	NORMAL	TRANSIENT	in (mm)	Degree/End	8 (1)													
0.059 (1.50)	0.089 (2.25)	29 (129)	65 (290)	0.032 (0.82)	0.80														
COUPLING CAPABILITY																			
RATED TORQUE [Lb in (Nm)]				PEAK TORQUE [Lb in (Nm)]				SPEED [RPM]											
1,186 (134)				2,372 (268)				25-500											
COUPLING DUTY																			
SERVICE FACTOR		POWER		SPEED		TORQUE													
1.5		20.0 HP (14.9 kW)		3,600 RPM		350 Lb in (40 Nm)													
CUSTOMER DATA																			
CUSTOMER:		BOMBAS GULIOS DE MEXICO S. DE R.L. DE C.V. [PO No 9083								ITEM 1]									
CUSTOMER DRGS		M3A222-232A																	
JOHN CRANE REF		OV36861 P1																	
PROJECTS No:		341358-AK01EN								QPN -									
PLANT ITEM No		311-PM-7								QTY									
END USER:		PETROLEOS DEL PERU PETROPERU S.A.																	
END USER LOCATION		PERU																	
DRIVEN EQUIPMENT		PUMP 3700 SAC1X2-9		DRIVER EQUIPMENT		MOTOR WEG 254T													
COUPLING DESIGNATION		TSCS/0014/KA/GA-236693																	
COUPLING DESCRIPTION		TSCS-0014-0678-1270																	
SCALE		DRAWN		CHECKED		APPROVED		DESIGN AUTH.											
1:31		JRVG		JBM		JRM-B		MX01EN											
		DRAWING No				SHEET No		ISSUE											

[illegible]

HOJA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency Código producto : 15177169

Carcasa	: 254/6T	Tiempo de rotor bloqueado	: 21 s (caliente) 38 s (frío)
Potencia	: 20 HP (15 kW)	Elevación de temperatura ⁴	: 80 K
Polos	: 2	Régimen de servicio	: Cont.(S1)
Frecuencia	: 60 Hz	Temperatura ambiente	: -20 °C hasta +40 °C
Tensión nominal	: 460 V	Altitud	: 1000 m
Corriente nominal	: 23.2 A	Grado de protección	: IP55
Corriente de arranque	: 142 A	Método de enfriamiento	: IC411 - TEFC
Ia/In (p.u.)	: 6.1	Forma constructiva	: F-2
Corriente en vacío	: 6.50 A	Sentido de giro ¹	: Horario
Rotación nominal	: 3520 rpm	Nivel de ruido ²	: 72.0 dB(A)
Deslizamiento	: 2.22 %	Clase de vibración	: B
Par nominal	: 4.12 kgfm	Método de arranque	: Partida directa
Par de arranque	: 200 %	Acoplamiento	: Directo
Par mínimo	: 150 %	Masa aproximada ³	: 134 kg
Par máximo	: 240 %	Plan de pintura	: 212P
Clase de aislamiento	: F	Color	: RAL 5009
Factor de servicio	: 1.15	Categoría	: B
Momento de inercia (J)	: 0.0647 kgm ²		

Potencia	Empezar	25%	50%	75%	100%	125%
Rendimiento (%)	-	87.0	91.0	91.7	91.0	90.0
Factor de potencia	0.44	0.60	0.82	0.87	0.89	0.86

Tipo de carga: -
Par de la carga: -
Inercia de la carga (J=GD²/4): -

	Delantero	Trasero
Tipo de rodamiento	6309-C3	6209-C3
Intervalo de lubricación	19000 h	20000 h
Cantidad de lubricante	13 g	9 g
Tipo de lubricante	MOBIL POLYREX EM	

Esfuerzos en la base
Tracción máxima : 87 kgf
Compresión máxima : 221 kgf

Notas:

Normas	Especificación	: MG1 - Part 10	Vibración	: IEEE841 - 6.9
	Ensayos	: MG1 - Part 12	Tolerancia	: MG1 - Part 12
	Ruido	: MG1 - Part 9		

Esta revisión substituye y anula la emisión anterior, la cual deberá ser eliminada.

(1) Mirando la punta delantera del eje del motor.

(2) Medido a 1m y con tolerancia de +3dB(A).

(3) Masa aproximada sujeto a cambios después del proceso de fabricación.

(4) En 100% de la carga total.

Los valores indicados son valores promedio con base en ensayos y para alimentación en red senoidal, sujetos a las tolerancias de la norma NEMA MG 1-12.

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			1/6	0

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CURVA DE PAR Y CORRIENTE X ROTACIÓN

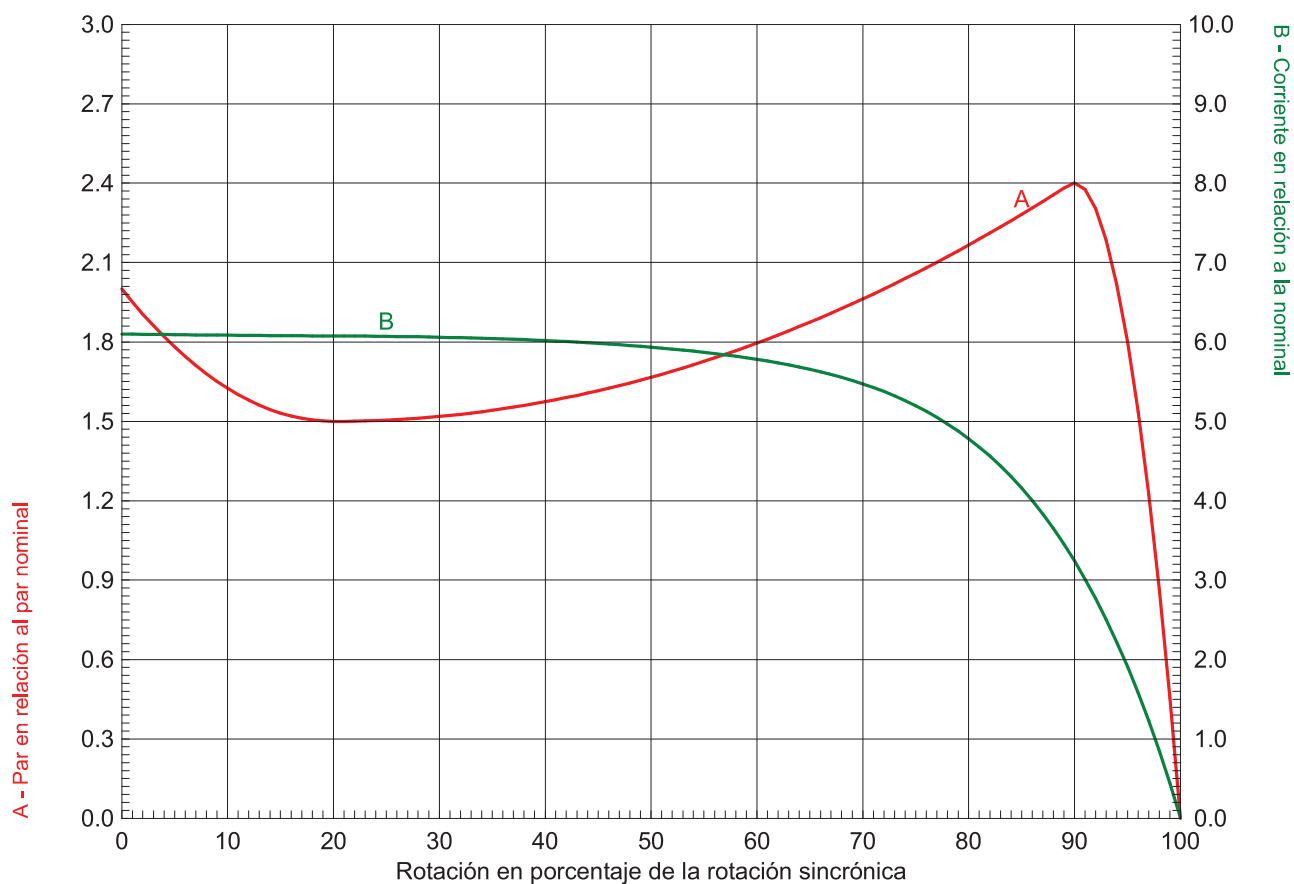


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A	Momento de inercia (J) : 0.0647 kgm ²
Ia/In (p.u.) : 6.1	Régimen de servicio : Cont.(S1)
Par nominal : 4.12 kgfm	Clase de aislamiento : F
Par de arranque : 200 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3520 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga (J=GD²/4) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/6	0

CURVA DE DESEMPEÑO EN CARGA

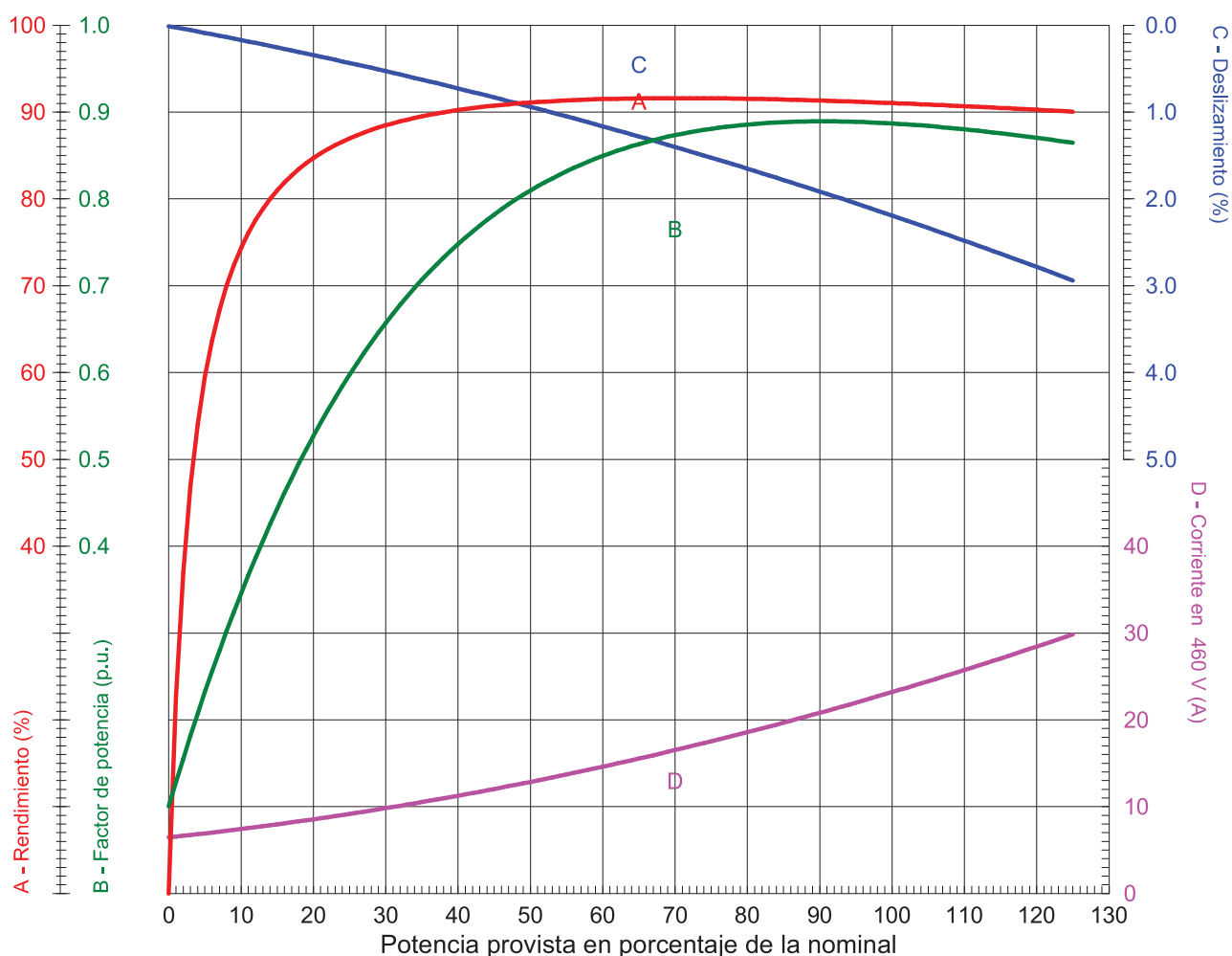


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A
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 Par nominal : 4.12 kgfm
 Par de arranque : 200 %
 Par máximo : 240 %
 Rotación nominal : 3520 rpm

Momento de inercia (J) : 0.0647 kgm²
 Régimen de servicio : Cont.(S1)
 Clase de aislamiento : F
 Factor de servicio : 1.15
 Elevación de temperatura : 80 K
 Categoría : B

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A			370563/2019
Verificador	AUTOMATICO				Pagina
Fecha	25/10/2019				Revisión
				3/6	0

CURVA DE LÍMITE TÉRMICO

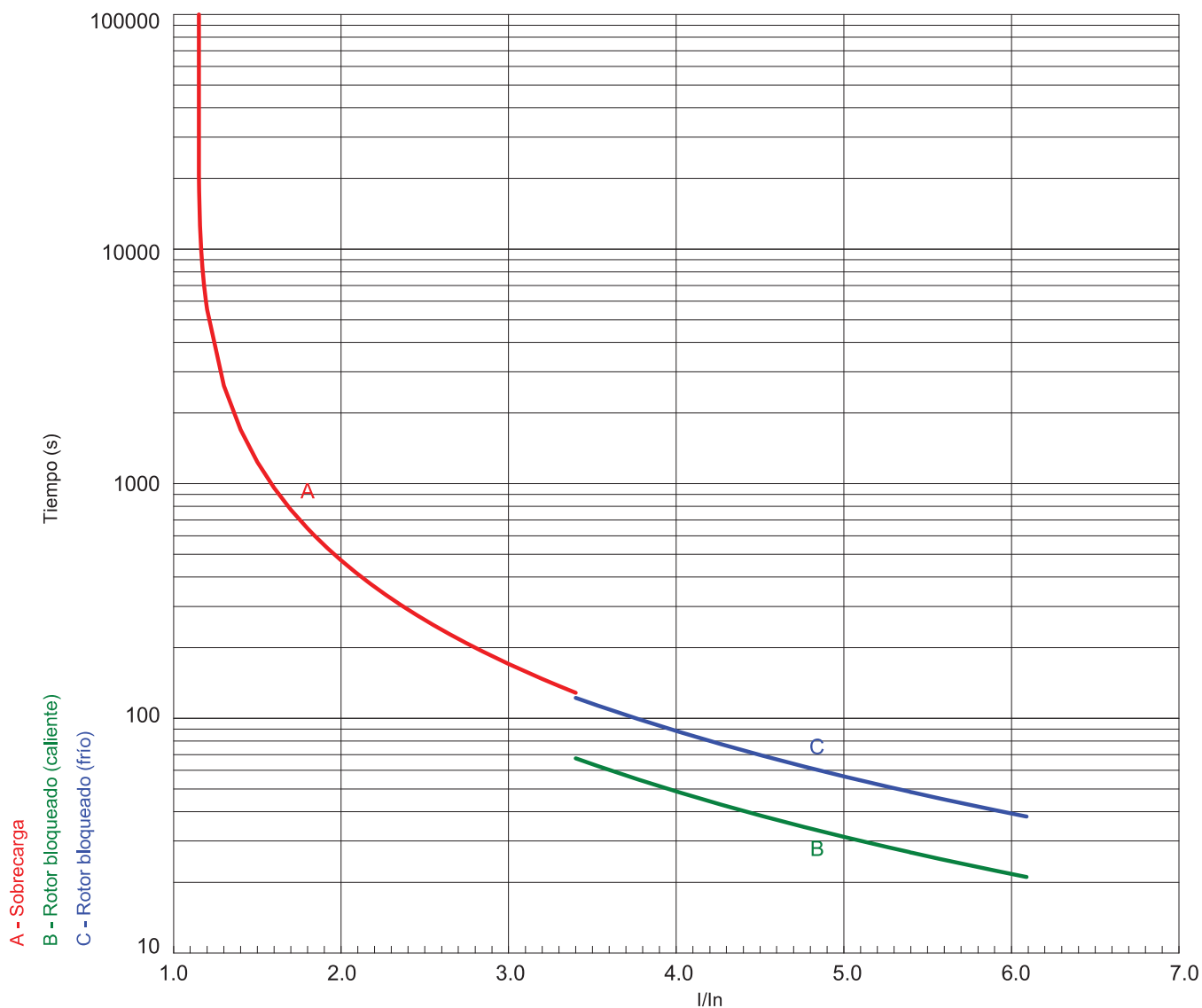


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal	: 23.2 A	Momento de inercia (J)	: 0.0647 kgm ²
Ia/In (p.u.)	: 6.1	Régimen de servicio	: Cont.(S1)
Par nominal	: 4.12 kgfm	Clase de aislamiento	: F
Par de arranque	: 200 %	Factor de servicio	: 1.15
Par máximo	: 240 %	Elevación de temperatura	: 80 K
Rotación nominal	: 3520 rpm	Categoría	: B

Constante de calentamiento : 22.8 min
Constante de enfriamiento : 68.5 min

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			4/6	0

PLACA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169

MADE IN MEXICO 15177169																						
	PH	3	HP(kw)	20(15)	FRAME	254/6T																
	V	460	Hz	60																		
	A	23.2	SF	1.15																		
	RPM	3520	SFA	26.7 A	INS. CL.	F	ΔT	80 K														
	NEMA NOM. EFF.	91.0 %	GUARANT. EFF	89.5 %	P.F.	0.89																
	CODE	G	DES	B	AMB.	40°C	DUTY	CONT.														
	ENCL.	TEFC	IP55	WEIGHT	295 Lbs																	
	Alt.	1000 m.a.s.l.	MODEL:Y02036ET3GSI254/6TW																			

Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal	: 23.2 A	Momento de inercia (J)	: 0.0647 kgm ²
Ia/In (p.u.)	: 6.1	Régimen de servicio	: Cont.(S1)
Par nominal	: 4.12 kgfm	Clase de aislamiento	: F
Par de arranque	: 200 %	Factor de servicio	: 1.15
Par máximo	: 240 %	Elevación de temperatura	: 80 K
Rotación nominal	: 3520 rpm	Categoría	: B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga (J=GD²/4) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A	370563/2019		
Verificador	AUTOMATICO		Pagina	Revisión	
Fecha	25/10/2019		2/6	0	

DIAGRAMA DE CONEXION

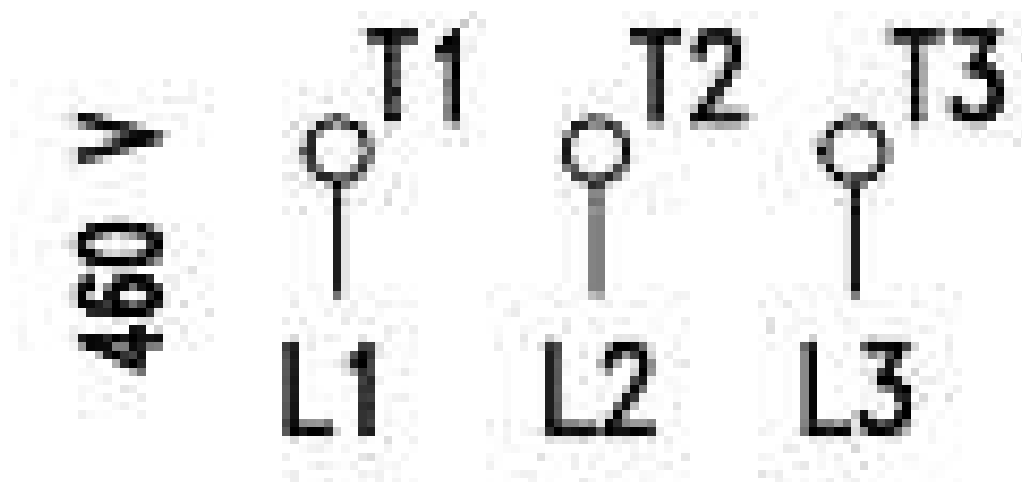


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A
Ia/In (p.u.) : 6.1
Par nominal : 4.12 kgfm
Par de arranque : 200 %
Par máximo : 240 %
Rotación nominal : 3520 rpm

Momento de inercia (J) : 0.0647 kgm²
Régimen de servicio : Cont.(S1)
Clase de aislamiento : F
Factor de servicio : 1.15
Elevación de temperatura : 80 K
Categoría : B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga ($J=GD^2/4$) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/6	0

311-PM-8A

Model: 3700**Size: 1x2-9****Group: SA****60Hz****RPM: 3540****Stages: 1**

Job/Inq.No. : SEL-0030-2019-OPS

Purchaser : GOULDS PUMPS INC PERU

End User : PETROLEOS DEL PERU PETROPERU S.A

Issued by : M. Hernandez

Rev. : 0

Item/Equip.No. : 311-PM-8A (Base Offer)

BGM Order: OV8844-10

Date : 11/11/2019

Service : Manejo de Diesel

Order No. : 9083

Certified By : I. Rico

SN/SO : GM03A223

Operating Conditions**Pump Performance**

Liquid: Diesel

Published Efficiency: 43.6 %

Suction Specific Speed: 8,848 m³/hr,m

Temp.: 318.0 deg C

Rated Pump Efficiency: 40.2 % (*)

Min. Hydraulic Flow: 2.78 m³/hr

S.G./Visc.: 0.627/0.150 cp

Rated Total Power: 9.43 kW

Min. Thermal Flow: N/A

Flow: 24.00 m³/hr

Non-Overloading Power: 11.45 kW

TDH: 92.80 m

Imp. Dia. First 1 Stg(s): 226 mm

NPSHa: 4.00 m

NPSHr:

2.29 m

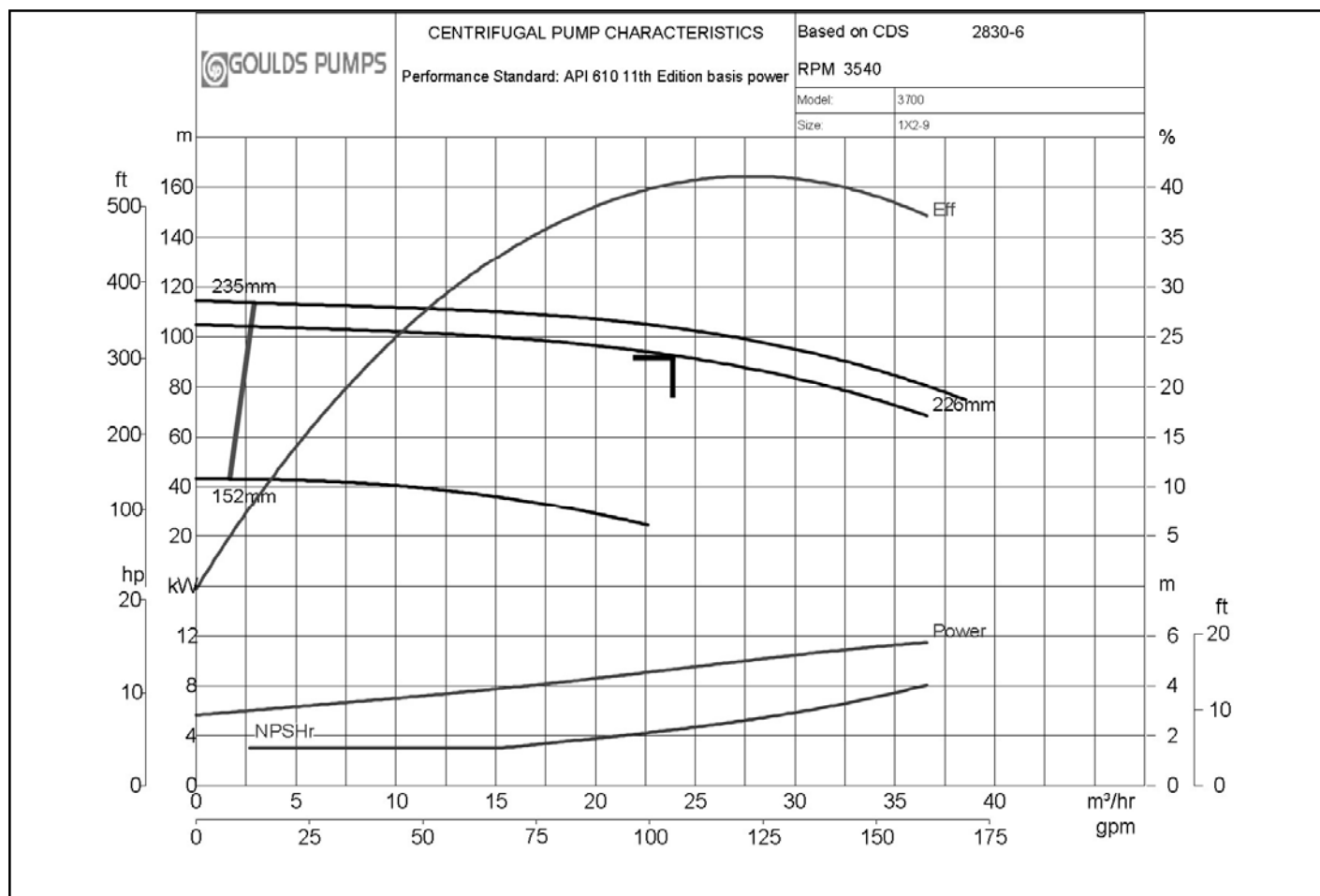
Shut off Head: 105.06 m

Solid size:

Max. Solids Size: 0.00 mm

% Susp. Solids
(by wtg):Vapor Press: 2.90 kg/cm² abs**Notes:** 1. Curve shown is at ambient temperature conditions.

(*) 1.0% efficiency derate caused by increase in clearances (0,005") due to high operating temperature.



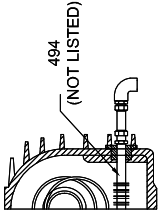
Viscosity corrections have been performed in accordance with HI 9.6.7-2015



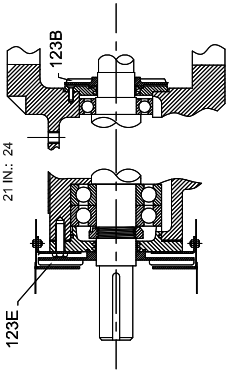
ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
100	1	CASING	CARBON STEEL	A216 GR. WCB
100A	2	SCHEDULE 160 PIPE	CARBON STEEL	A106 GR. B
100B	1	3000# 90° ELBOW	CARBON STEEL	A105
100C	1	ANSI 3/4, 300# RF FLANGE	CARBON STEEL	A105
101	1	IMPELLER	12% CHROME	A743 GR. CA-8NM
109A	1	FRAME COVER END, THRUST	CARBON STEEL	A216 GR. WCB
112	PAIR	BEARING, THRUST	STEEL	7310 BEGAMI
113B	1	PIPE PLUG, OIL FILL	CARBON STEEL	A108 GR. 1213
114	2	OIL RING	BRONZE	B584 C87500
122	1	SHAFT	410 SS	A276 TP. 410
123	1	VX8 OIL SEAL RADIAL	BRONZE	B584 C87500
123A	1	VX8 OIL SEAL THRUST	BRONZE	B584 C87500
125	1	SEAL CHAMBER, THROAT BUSHING	410 SS	A276 TP. 410
136	1	LOCKNUT, THRUST BEARING	CARBON STEEL	—
164	1	WEAR RING CASING	12% CHROME - 410 SS	A276 TP. 410
168	1	BEARING, RADIAL	STEEL	6210 C3
178	1	KEY IMPELLER	410 SS	A276 TP. 410
184	1	SEAL CHAMBER COVER	CARBON STEEL	A216 GR. WCB
202	1	IMPELLER WEAR RING, SUCTION SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410

ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
203	1	IMPELLER WEAR RING, HUB SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410
228	1	BEARING FRAME	CARBON STEEL	A216 GR. WCB
230	1	WEAR RING, SEAL CHAMBER	12% CHROME - 410 SS	A276 TP. 410
251	1	WATCHDOG OILER (NOT SHOWN)	GLASS / STEEL	—
304	1	IMPELLER NUT	NITRONIC 60	A743 GR. CF10SMn
351	1	GASKET-CASING	SPIRAL WOUND 316 SS	—
353	4	STUD - GLAND	4140 (NICKEL PLATING)	A193 GR. B7 / B733
355	4	NUT - GLAND STUD	4140 (NICKEL PLATING)	A194 GR. 2H / B733
356A	NOTE 1	STUD-CASING	4140	A193 GR. B7
358F	3	PIPE PLUG, OIL MIST	CARBON STEEL	A307 GR. B
360A	3	GASKET, THRUST END COVER	VELLUMOID	D-1170
370H	4	SCREW - FRAME TO COVER	CARBON STEEL	A307 GR. B
370N	5	SCREW - END COVER-THRUST	CARBON STEEL	A307 GR. B
382	1	LOCKWASHER, THRUST BEARING	STEEL	—
383	1	MECHANICAL SEAL	REFER TO MECHANICAL SEAL DRAWING	—
408A	1	MAGNETIC PLUG-OIL DRAIN	STEEL	A307 GR. B
425	NOTE 1	NUT - CASING STUD	4140	A194 GR. 2H
468P	2	RETAINER OIL RING	CARBON STEEL	A307 GR. B

3700 MODEL
API 610 11th Ed.



☒ WATER COOLED FRAME
(OPTIONAL)

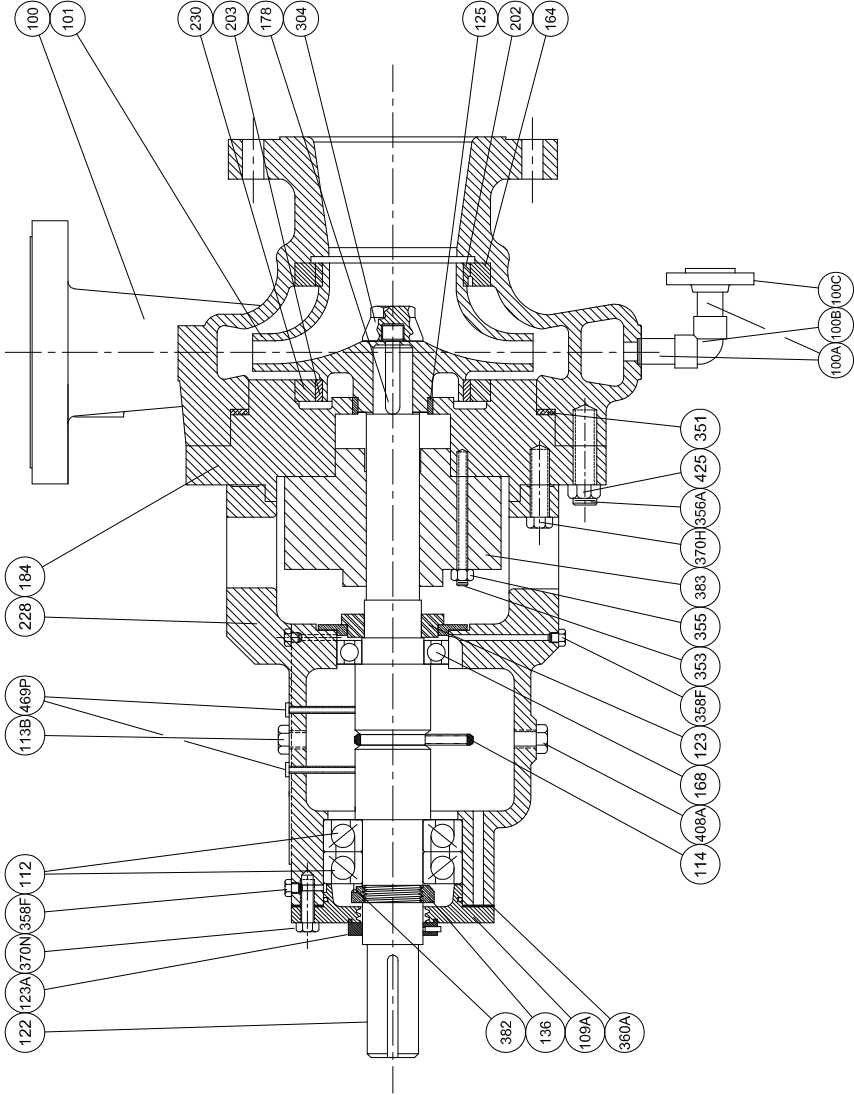


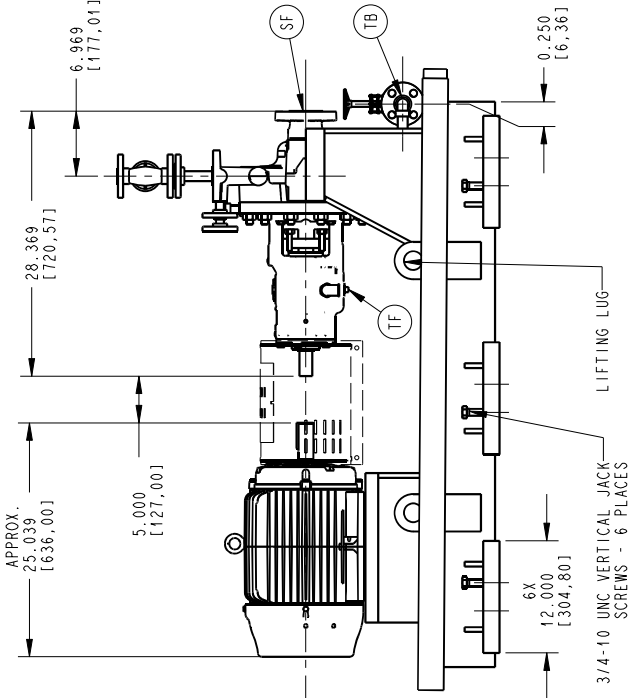
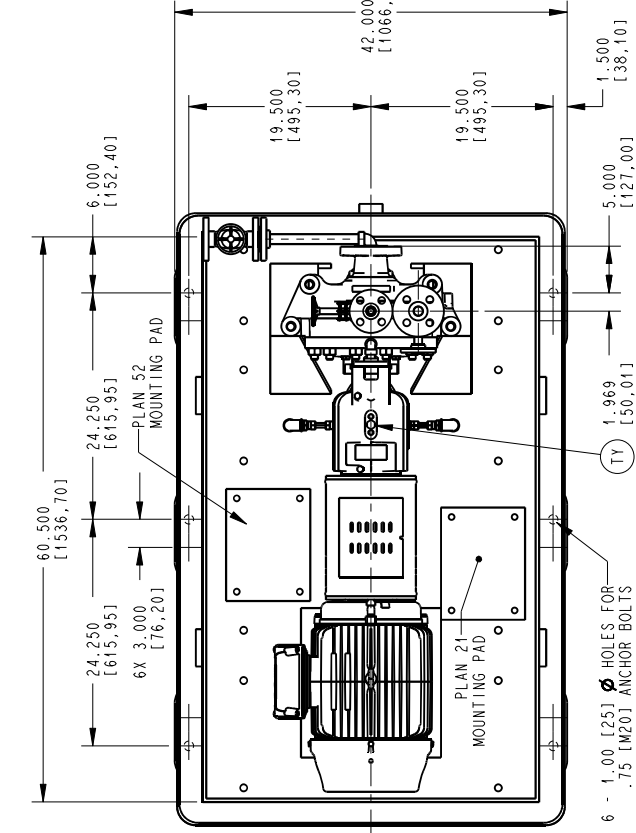
OPTIONAL AIR COOLED FRAME:

- ☐ RADIAL - 123B
☐ THRUST - 123E
☒ RADIAL AND THRUST - 123B & 123E

NOTES:

1. QUANTITIES OF CASING STUDS AND NUTS:
 7 AND 9 IN.: 12
 11 AND 13 IN.: 16
 16 AND 19 IN.: 20
 21 IN.: 24





CONNECTIONS TABLE				STATUS		FOR USE BY	
NO	SIZE	TYPE	QTY	PURPOSE	COVERED	CUSTOMER	
SF	2	300# R.F.	1	SUCTION FLANGE	COVERED	CUSTOMER	
DF	1	300# R.F.	1	DISCHARGE FLANGE	COVERED	CUSTOMER	
TF	1/2	FNPT	1	BEARING FRAME DRAIN	PLUGGED	CUSTOMER	
TV	3/4	300# R.F.	1	CASING VENT	COVERED	CUSTOMER	
TY	1/2	FNPT	1	BEARING OIL FILL	PLUGGED	CUSTOMER	
TB	3/4	300# R.F.	1	CASING DRAIN	COVERED	CUSTOMER	
BD	2	FNPT	1	BASEPLATE DRAIN	---	CUSTOMER	

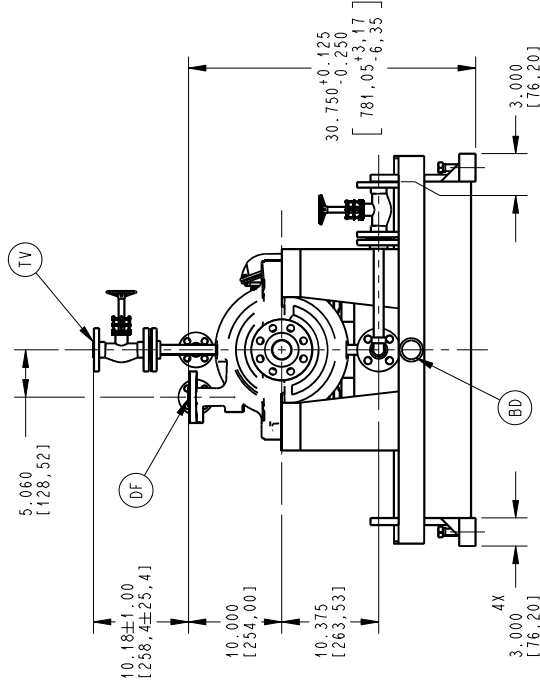
PLAN 21 PARTS LIST - CS PIPING 1/2" SW NOM.
(SEAL FLUSH FROM PUMP DISCHARGE
THROUGH ORIFICE AND COOLER)

PLAN 21 WILL BE SHOWN ON NEXT DRAWING SHEET

PLAN 52 PARTS LIST - CS 3/4" PIPING SW
(EXTERNAL FLUID RESERVOIR, NONPRESSURIZED, WITH
FORCED CIRCULATION, AS REQUIRED)

PLAN 52 WILL BE SHOWN ON NEXT DRAWIN SHEET

CASING VENT & DRAIN PARTS LIST CS 3/4" SOCKET WELDED PIPE			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPE	CS	3/4"	SCH. 160
FITTINGS	CS	3/4"	3000#
FLANGE	CS	3/4"	300# R.F.
FLANGED VALVE	CS	3/4"	GATE 300# R.F.

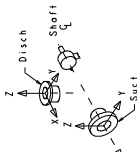


NOTES

- FLANGES CONFORM TO ANSI STANDARDS. BOLT HOLES STRADDLE ϕ (.B16.5 STEEL OR B16.1 IRON)
- ROTATION CCW VIEWED FROM COUPLING END.
- DIMENSIONAL TOLERANCE TO PIPED CONNECTIONS IS ± 0.50 (13) EXCEPT FOR PUMP SUCTION AND DISCHARGE.
- ROUTING OF PIPELINES IS APPROXIMATE AND MAY VARY AFTER ASSEMBLY
- ϕ REFER TO MECHANICAL SEAL DRAWING FOR GLAND DETAIL
- BASEPLATE IS SUPPLIED WITH MOTOR ALIGNMENT SCREWS.

WEIGHTS Δ		WEIGHTS ARE APPROXIMATE			
ITEM		WET		DRY	
		LBS	KG	LBS	KG
PUMP		293	133	288	131
COUPLING		8	4	8	4
DRIVER		295	134	295	134
BASEPLATE		1008	458	1008	458
PLAN 52		247	112	207	94
PLAN 21		180	81	160	72
TOTAL		2031	922	1966	893
		ALLOWABLE NOZZLE LOADS			

ALLOWABLE NOZZLE LOADS



FORCE		SUCTION		DISCHARGE	
		LBS	(N)	LBS	(N)
Fx		200	890	160	710
Fy		160	710	130	580
Fz		130	580	200	890
MOMENTS		SUCTION		DISCHARGE	
		FT-LBS	(N-M)	FT-LBS	(N-M)
Mx		340	460	340	460
My		170	230	170	230
Mz		260	350	260	350

COUPLING SPECIFICATIONS

SIZE: 0014

TYPE: TSCS

GUARD PROVIDED: YES ☒ NO ☐

MATERIAL: ALUMINUM (HINGED DOOR)

MECHANICAL SEAL SPECIFICATIONS

MFR: JOHN CRANE

TYPE: 2609HTC DOUBLE CARTRIDGE

API CODE: 22C-PHX-040-51/52 20W-CW

DRIVER SPECIFICATIONS

MFR: WEG

POWER: 20 HP

FRAME: 254/6T

PHASE: 3

RPM: 3520

HERTZ: 60

VOLTS: 460

ENCLOSURE: TEFC

MODEL: 3700

GROUP: SA

SIZE: 1 X 2 - 9

LUBRICATION: RING OIL

BEARING ARRANGEMENT: BALL - BALL

BASEPLATE: DRAIN RIM - GROUTED CONSTRUCTION

CERTIFIED FOR CONSTRUCTION ONLY WHEN SIGNED.

SIGNATURE: _____

DATE: _____

CUSTOMER DATA

CUSTOMER: GOULDS PUMPS INC PERU

GOULDS PUMP NO.: 00000000000000000000

PRODUCT NO.: 008644-10000000000000000000

CUSTOMER P.O. NO.: 9083

PUMP ITEM NO.: 311-PH-8A

SERVICE: MANEJO DE DIESEL

DRAWING SCALE: 0.100

DIMENSIONS IN INCHES (mm)

DRAWN EGI 11/26/19

CHECKED RSA 11/26/19

APPROVED JOM 11/26/19

COPYRIGHT 2019

DRAWING M03A223GAD

REV 1

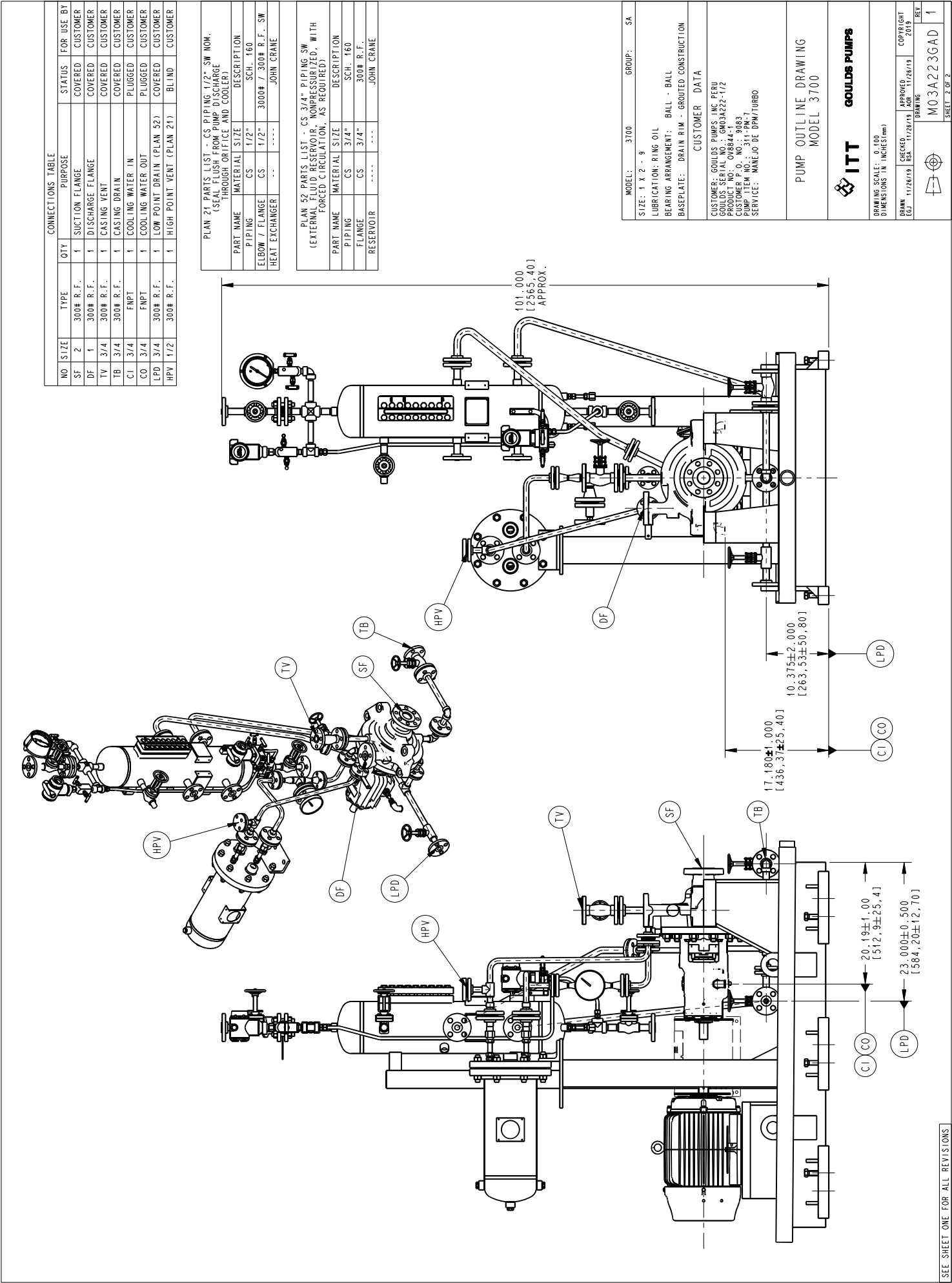
SHEET 1 OF 2

GOULDS PUMPS

ITT

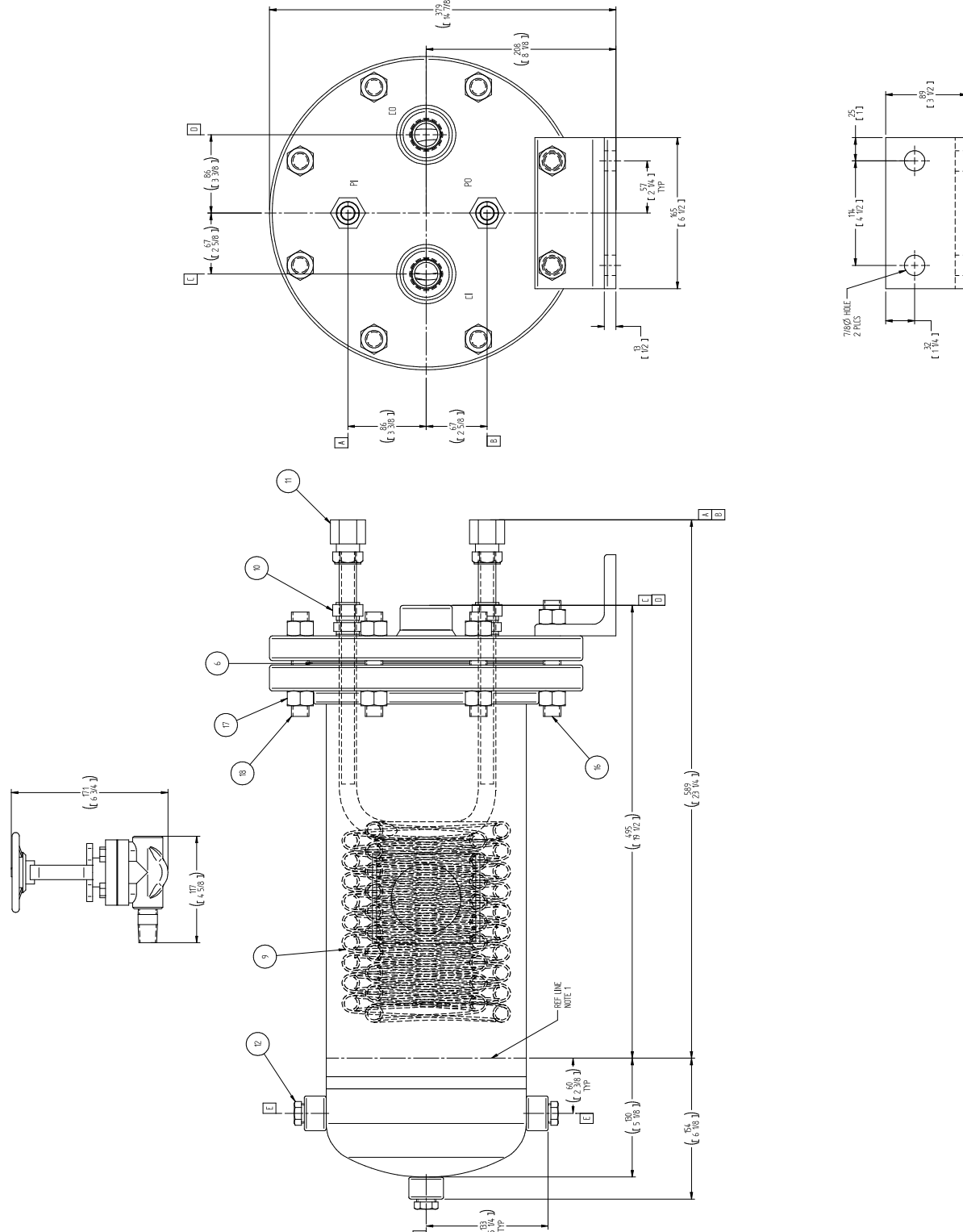
PUMP OUTLINE DRAWING

MODEL 3700



[illegible]

ALL DIMENSIONS ARE INCHES UNLESS OTHERWISE SPECIFIED

REFERENCE CODES & STANDARDS				All intellectual property rights including but not limited to copyright and design rights whether registered or unregistered in relation to this drawing together with the information contained in this drawing including but not limited to know-how and confidential information is proprietary to John Crane. Reproduction whether in whole or in part without the prior written consent of John Crane. All rights in relation to this drawing are reserved.	
INSPECTION AND TESTING		1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED. 2. HYDROTEST PRESSURES: SHELL 390 PSI MINIMUM DURATION ## MINUTES COIL 2332 PSI MINIMUM DURATION ## MINUTES			
SURFACE FINISH		SURFACE FINISH PER JOHN CRANE FLUID CONTROL GROUP STANDARD			
SYSTEM WEIGHTS AND VOLUMES		ESTIMATED DRY WEIGHT FOR ACTUAL UNIT WEIGHT REFER TO UNIT TAG WET WEIGHT (Nominal) RESERVOIR NOMINAL VOLUME OPERATING VOLUME AT NORMAL LEVEL ACCUMULATOR NOMINAL VOLUME 160 lbs 180 lbs N/A Gal N/A Gal N/A Gal			
INSTRUMENTS ELECTRICAL CLASSIFICATION					
NOTES:		1. REFERENCE LINE IS 100 FROM END OF SHELL. 2. PRESSURE RELIEF DEVICES ARE NOT PROVIDED BY THE MANUFACTURER (SEE THE ASME CODE SECTION VIII, DIVISION 1, PARAGRAPH UG-125 FOR USER RESPONSIBILITIES). 3. STAMP INLETS AND OUTLETS WITH PI FOR PRODUCT IN, PO FOR PRODUCT OUT, CI FOR COOLANT IN, AND CO FOR COOLANT OUT ON THE TOP OF THE HEAD. 4. HEAT EXCHANGER CAN BE MOUNTED IN VERTICAL OR HORIZONTAL POSITION. 5. ALL DIMENSIONS ARE IN MILLIMETERS. 6. ALL DIMENSIONS IN () ARE IN INCHES. 7. ALL DIMENSIONS IN () ARE REFERENCE DIMENSIONS. 8. FLANGE BOLT PATTERN TO STRADDLE NORMAL CENTER LINE. 9. CORROSION ALLOWANCE 0.125			
DESCRIPTION		HEAT EXCHANGER W/DOUBLE WRAP COIL			
CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE	
		TULSA		NONE	
		DRAWING No.		ISSUE	
		GA-236391		A	
Seal Support System		2 of 2			

316/L SS

John Crane
 11500 TULSA AVE
 TULSA, OK 74116
 (918) 438-2200

System

SHELL

NAWPS	570 PSI	at	200
MONITE	-20	at	570 PSI

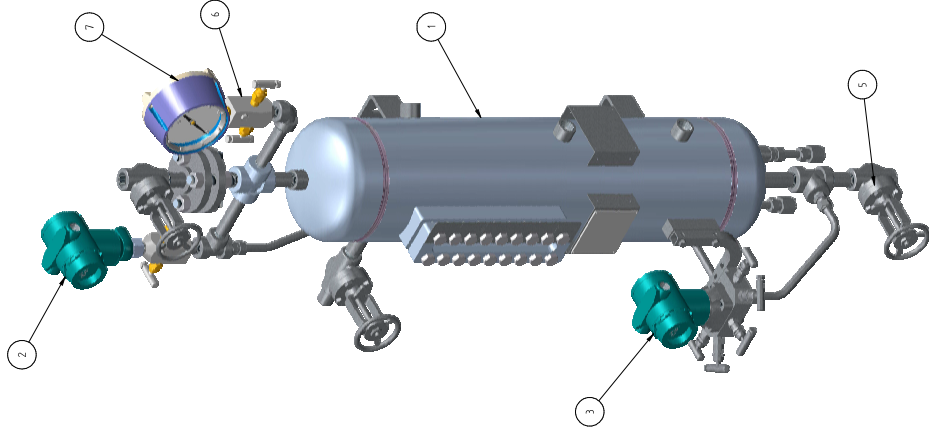
PIPE

NAWPS	300 PSI	at	200
MONITE	-20	at	300 PSI

WFG, S.A.


PART NUMBER

54-236392

[illegible][illegible]

DESCRIPTION	CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE	DRAWING No.		ISSUE
						TULSA		
RE-682S 5 GALLON RESERVOIR ASSY					NONE			0
							GA-236392	1 of 2

PROJECT	PER P.O.
CUSTOMER	PER P.O.
ENGINEERING	PER P.O.
END USER	PER P.O.
LOCATION	PER P.O.
JIC REF. No.	

	TOLERANCES UNLESS OTHERWISE STATED – (in)																	
	FRACTIONS																	
	XX $\pm 1/64"$																	
	XX $\pm 0.05"$																	
	XX $\pm 0.1"$																	
THRO ANGLE PROJECTION	XXX $\pm 0.05"$																	
	ANGULAR																	
	$\pm 1^\circ$																	
										0	AC		OJ	ISSUED FOR APPROVAL				
										REV	PREP	CHKD	APPRO	DESCRIPTION				
																		22 NOV 2019
																		DATE

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REFERENCE CODES & STANDARDS

1. BUILT PER ASME CODE SECTION VIII DIV. 1

- INSPECTION AND TESTING**
1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED.
 2. HYDROTEST PRESSURE(S) SHELL 1439 PSI MINIMUM DURATION 30 MINUTES
COIL 450 PSI MINIMUM DURATION 30 MINUTES

1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED.
2. HYDROTEST PRESSURE(S). SHELL 1439 PSI MINIMUM DURATION 30 MINUTES
COIL 450 PSI MINIMUM DURATION 30 MINUTES

SURFACE FINISH

SYSTEM WEIGHTS AND VOLUMES	
ESTIMATED DRY WEIGHT PER ACTUAL UNIT WEIGHT REFER TO UNIT TAG	185 lbs
WET WEIGHT (Nominal)	N/A lbs
RESERVOIR NOMINAL VOLUME	N/A Gal
OPERATING VOLUME AT NORMAL LEVEL	N/A Gal
ACCUMULATOR NOMINAL VOLUME	N/A Gal

INSTRUMENTS ELECTRICAL CLASSIFICATION

CLASS 1 DIV 1 & 2 GRPS B, C & D


NOTES:

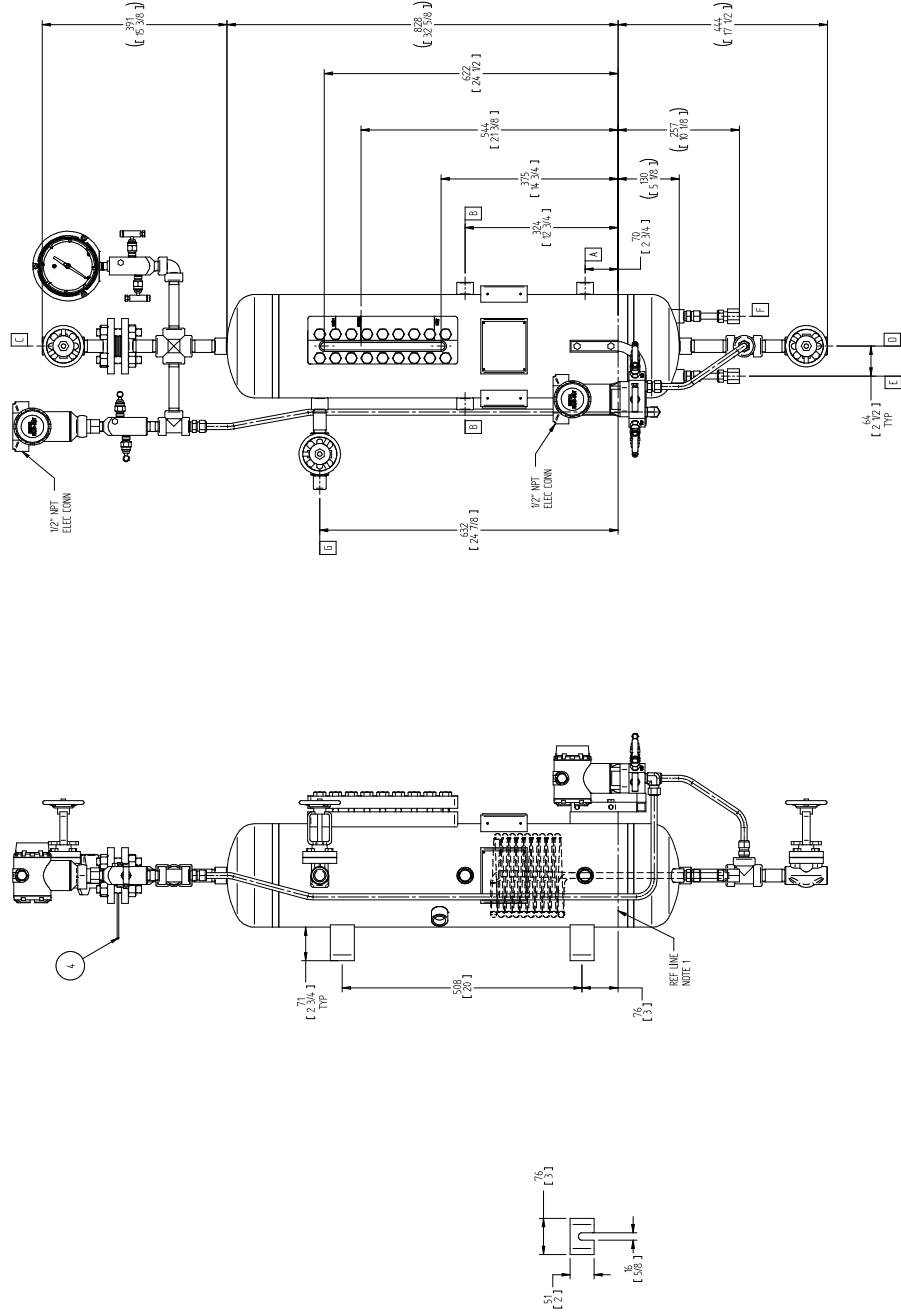
NOTES:

1. REFERENCE LINE IS 100 INCH FROM END OF SHELL.
2. PRESSURE RELIEF DEVICES ARE NOT PROVIDED BY THE MANUFACTURER (SEE THE ASME CODE SECTION VIII, DIVISION 1, PARAGRAPH UG-125 FOR USER RESPONSIBILITIES).
3. THE RESERVOIR SHELL HEADS & ALL COMPONENTS WELDED TO THE SHELL & HEADS ARE PER ASME CODE SECTION VIII, DIVISION 1. ALL OTHERS ARE NON-CODE.

- | DESCRIPTION | | | | | | | SCALE | | ISSUE | | |
|---------------------------------|------------|-----------|--------------|-------------|--|--|-------|--|-----------|--|--|
| | | | | | | | NONE | | | | |
| RE-682S 5 GALLON RESERVOIR ASSY | | | | | | | | | 0 | | |
| CONFIGURATION | GPN / CODE | DRG. LOC. | DESIGN AUTH. | DRAWING No. | | | | | | | |
| | | TULSA | | | | | | | | | |
| | | | | | | | | | 2 of 2 | | |
| | | | | | | | | | GA-236392 | | |

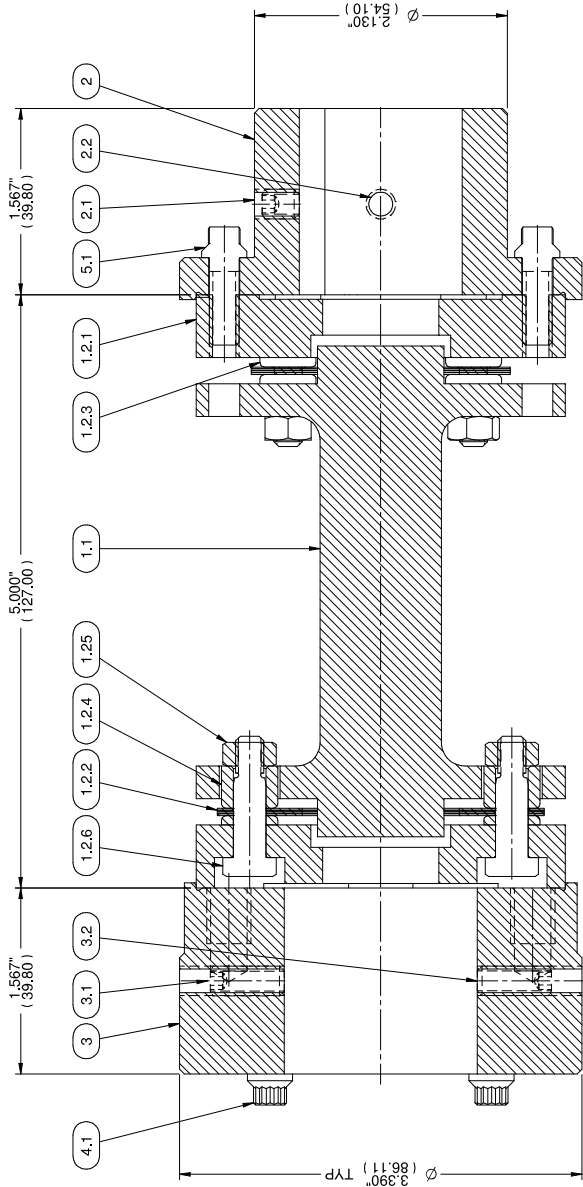
DESCRIPTION
RE-682S 5 GALLON RESERVOIR ASSY

	Seal Support System	DRAWING No.		ISSUE
		DRG. LOC.	DESIGN AUTH.	
CONFIGURATION	GPW / CODE	TULSA		0
				2 of 2

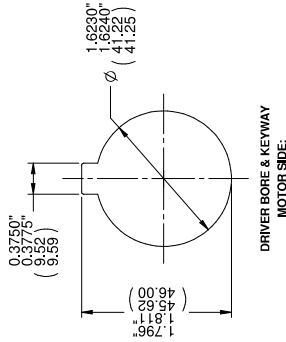


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Item	Drawing No.	Mat'l Code	Description	Material	Qty	Spares
1	TSCS-0014-0700-1270		TRANSMISSION UNIT ASSEMBLY	301 SS HH-CARBON STEEL	1	X
1.1	TAB-3707-0888	0400	SPACER	CARBON STEEL	1	
1.2	TAB-4034-0014	FX01	O-RIT	CARBON STEEL 301 SS HH	2	
1.2.1	TAB-4025-0014	0400	GUARD RING	CARBON STEEL	1	
1.2.2	T3114-0014	0453	MEMBRANE	301 SS HH	4	
1.2.3	TAB-3705-0014	0336	SLEEVE	ALLOY STEEL	6	
1.2.4	T1067-0002	0336	OVERLOAD COLLAR	ALLOY STEEL	6	
1.2.5	TAB-3708-0014	0336	DRIVE BOLT	ALLOY STEEL	6	
1.2.6	99061002101	0416	NUT	ISO GR 8	6	
2	K-003-4942	0406	PUMP SIDE HUB	CARBON STEEL	1	
2.1	1325-2705	0237	SETSCREW Ø 1/4-20" X 7/32" LG	ALLOY STEEL	1	
2.2	11252006000	0237	SETSCREW Ø 1/4-20" X 3/8" LG	ALLOY STEEL	1	
3	K-003-9062	0406	MOTR SIDE HUB	CARBON STEEL	1	
3.1	11252010000	0237	SETSCREW Ø 1/4-20" X 5/8" LG	ALLOY STEEL	1	
3.2	11252010000	0237	SETSCREW Ø 1/4-20" X 5/8" LG	ALLOY STEEL	1	
4	HC708-402B	FX01	BOLT SET	ISO GR 12.9	1	X
4.1	HC922-0028	0225	HUB BOLT	ISO GR 12.9	4	
5	HC707-485B	FX01	BOLT SET	ISO GR 12.9	1	X
5.1	HC922-0025	0225	HUB BOLT	ISO GR 12.9	4	

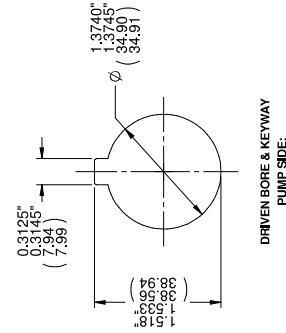


MOTOR SIDE



> KEYWAY PARALLEL TO CENTERLINE
> 2 Ø3.75-16 PULLER HOLES

PUMP SIDE



> KEYWAY PARALLEL TO CENTERLINE
> 2 Ø3.75-16 PULLER HOLES

- NOTES:**
1. REFER TO INSTALLATION INSTRUCTIONS IOM TSCS 0717 BEFORE INSTALLATION
 2. ITEM HC922-0025-0225 BOLT TORQUE: 7 FT-LB
ITEM HC922-0025-0225 BOLT TORQUE: 7 FT-LB
 3. COUPLING COMPONENT BALANCED TO ISO 1940 G1.0
 4. COUPLING MANUFACTURED IN COMPLIANCE WITH AGMA 9000 CLASS 9.

TECHNICAL DATA										Based on 1/3 shaft penetration									
REF	COMPONENT	WEIGHT	INERTIA		TORSIONAL STIFFNESS														
		Lb (kg)	Lb in² (x10³ Kg m²)	x10⁶ Lb inrad (Nm/mrad)															
3	MOTOR SIDE HUB	3 (1.4)	6 (1.6)		-														
2	PUMP SIDE HUB	1 (0.7)	2 (0.5)		-														
1	TRANSMISSION UNIT ASSEMBLY	4 (1.7)	4 (1.2)		-														
	COUPLING ASSEMBLY	8 (3.6)	12 (3.5)		0.08 (0.01)														
MISALIGNMENT CAPABILITY																			
AXIAL DEFLECTION ± in (± mm)		AXIAL FORCE Lb (N)		PARALLEL LATERAL MISALIGNMENT in (mm)		ANGULAR MISALIGNMENT Degree/End		ANGULAR STIFFNESS Lb in/Deg (Nm/Deg)											
NORMAL	TRANSIENT	NORMAL	TRANSIENT	in (mm)		Degree/End		Lb in/Deg (Nm/Deg)											
0.059 (1.50)	0.089 (2.25)	29 (129)	65 (290)	0.032 (0.82)		0.80		8 (1)											
COUPLING CAPABILITY																			
RATED TORQUE [Lb in (Nm)]				PEAK TORQUE [Lb in (Nm)]				SPEED [RPM]											
1,186 (134)				2,272 (268)				25-500											
COUPLING DUTY																			
SERVICE FACTOR		POWER		SPEED		TORQUE													
1.5		20.0 HP (14.9 kW)		3,600 RPM		350 Lb in (40 Nm)													
CUSTOMER DATA																			
CUSTOMER:		BOMBAS GUILIOS DE MEXICO S. DE R.L. DE C.V.								PO No	9083								
CUSTOMER DRGS		M3A223-232A									ITEM 12								
JOHN CRANE REF		OV36861 P2																	
PROJECTS No:		341358-AM01EN								GPN	QTY 1								
PLANT ITEM No		311-PM-8A																	
END USER:		PETROLEOS DEL PERU PETROPERU S.A.																	
END USER LOCATION:		PERU																	
DRIVEN EQUIPMENT		PUMP 3700SA 1X2-9		DRIVER EQUIPMENT		MOTOR WEG 254T													
COUPLING DESIGNATION		TSCS/0014/KA-GA-236701																	
COUPLING DESCRIPTION		TSCS-0014-0678-1270																	
SCALE																			
NONE		DATE		DRAWN		CHECKED		APPROVED		DESIGN AUTH.									
		2019/11/12		JRVG		JBM		JRM8		MX01EN									
DRAWING No								SHEET No		ISSUE									
										1									
										A									

<

HOJA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency Código producto : 15177169

Carcasa	: 254/6T	Tiempo de rotor bloqueado	: 21 s (caliente) 38 s (frío)
Potencia	: 20 HP (15 kW)	Elevación de temperatura ⁴	: 80 K
Polos	: 2	Régimen de servicio	: Cont.(S1)
Frecuencia	: 60 Hz	Temperatura ambiente	: -20 °C hasta +40 °C
Tensión nominal	: 460 V	Altitud	: 1000 m
Corriente nominal	: 23.2 A	Grado de protección	: IP55
Corriente de arranque	: 142 A	Método de enfriamiento	: IC411 - TEFC
Ia/In (p.u.)	: 6.1	Forma constructiva	: F-2
Corriente en vacío	: 6.50 A	Sentido de giro ¹	: Horario
Rotación nominal	: 3520 rpm	Nivel de ruido ²	: 72.0 dB(A)
Deslizamiento	: 2.22 %	Clase de vibración	: B
Par nominal	: 4.12 kgfm	Método de arranque	: Partida directa
Par de arranque	: 200 %	Acoplamiento	: Directo
Par mínimo	: 150 %	Masa aproximada ³	: 134 kg
Par máximo	: 240 %	Plan de pintura	: 212P
Clase de aislamiento	: F	Color	: RAL 5009
Factor de servicio	: 1.15	Categoría	: B
Momento de inercia (J)	: 0.0647 kgm ²		

Potencia	Empezar	25%	50%	75%	100%	125%
Rendimiento (%)	-	87.0	91.0	91.7	91.0	90.0
Factor de potencia	0.44	0.60	0.82	0.87	0.89	0.86

Tipo de carga: -
Par de la carga: -
Inercia de la carga (J=GD²/4): -

	Delantero	Trasero
Tipo de rodamiento	6309-C3	6209-C3
Intervalo de lubricación	19000 h	20000 h
Cantidad de lubricante	13 g	9 g
Tipo de lubricante	MOBIL POLYREX EM	

Esfuerzos en la base
Tracción máxima : 87 kgf
Compresión máxima : 221 kgf

Notas:

Normas	Especificación	: MG1 - Part 10	Vibración	: IEEE841 - 6.9
	Ensayos	: MG1 - Part 12	Tolerancia	: MG1 - Part 12
	Ruido	: MG1 - Part 9		

Esta revisión substituye y anula la emisión anterior, la cual deberá ser eliminada.

(1) Mirando la punta delantera del eje del motor.

(2) Medido a 1m y con tolerancia de +3dB(A).

(3) Masa aproximada sujeto a cambios después del proceso de fabricación.

(4) En 100% de la carga total.

Los valores indicados son valores promedio con base en ensayos y para alimentación en red senoidal, sujetos a las tolerancias de la norma NEMA MG 1-12.

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			1/6	0

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CURVA DE PAR Y CORRIENTE X ROTACIÓN

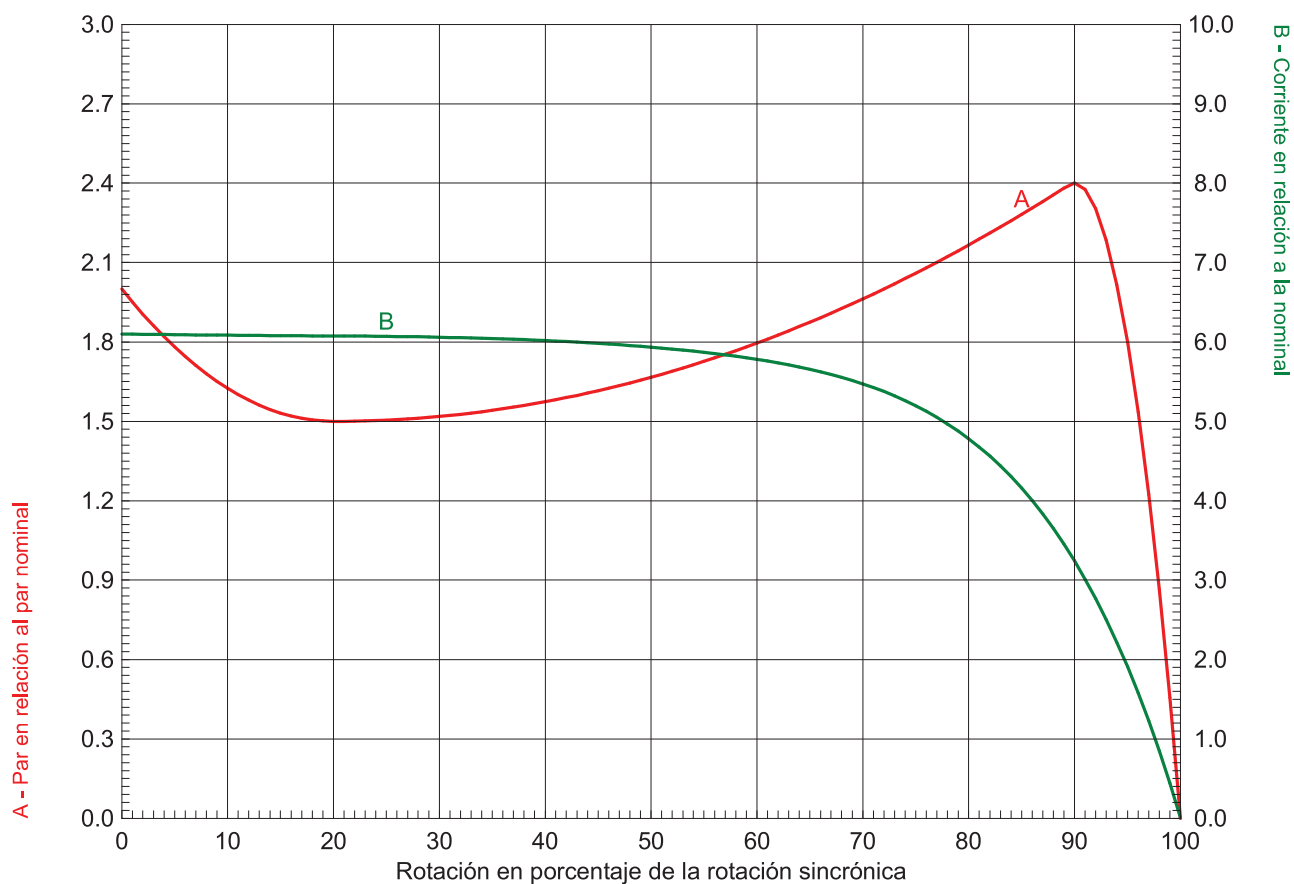


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A	Momento de inercia (J) : 0.0647 kgm ²
Ia/In (p.u.) : 6.1	Régimen de servicio : Cont.(S1)
Par nominal : 4.12 kgfm	Clase de aislamiento : F
Par de arranque : 200 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3520 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga (J=GD²/4) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/6	0

CURVA DE DESEMPEÑO EN CARGA

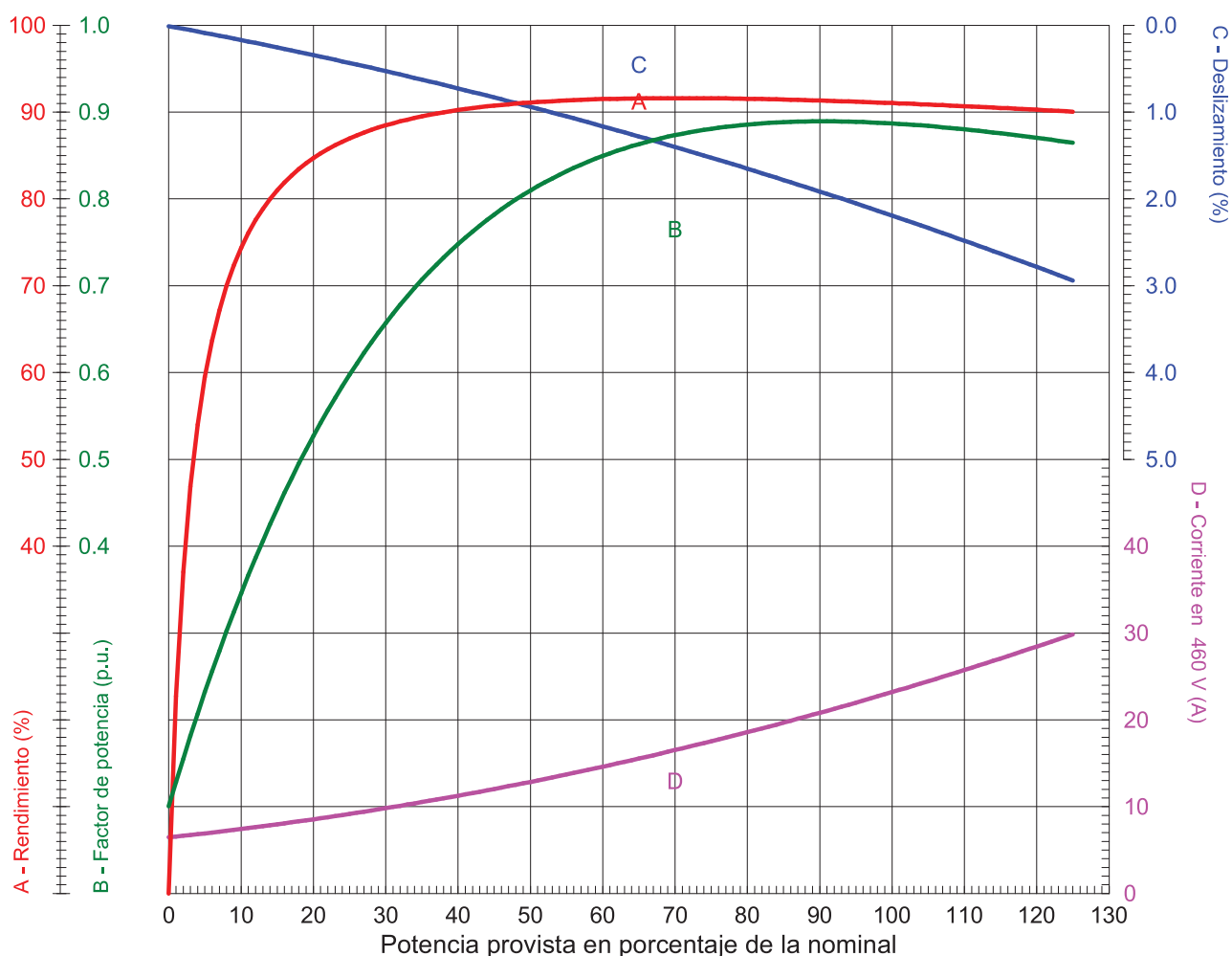


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A
 Ia/In (p.u.) : 6.1
 Par nominal : 4.12 kgfm
 Par de arranque : 200 %
 Par máximo : 240 %
 Rotación nominal : 3520 rpm

Momento de inercia (J) : 0.0647 kgm²
 Régimen de servicio : Cont.(S1)
 Clase de aislamiento : F
 Factor de servicio : 1.15
 Elevación de temperatura : 80 K
 Categoría : B

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			3/6	0

CURVA DE LÍMITE TÉRMICO

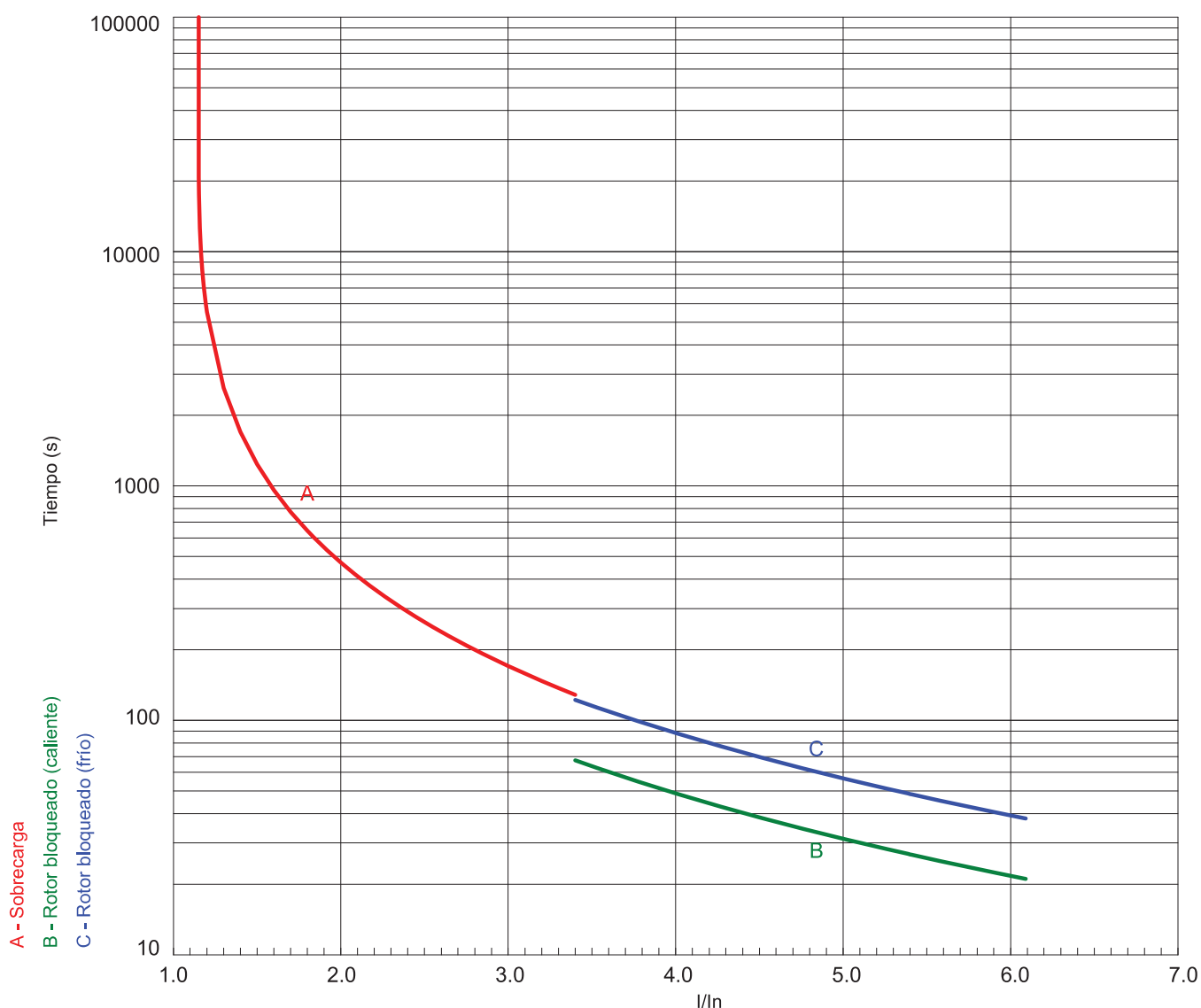


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A	Momento de inercia (J) : 0.0647 kgm ²
Ia/In (p.u.) : 6.1	Régimen de servicio : Cont.(S1)
Par nominal : 4.12 kgfm	Clase de aislamiento : F
Par de arranque : 200 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3520 rpm	Categoría : B

Constante de calentamiento : 22.8 min
Constante de enfriamiento : 68.5 min

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A			370563/2019
Verificador	AUTOMATICO				Pagina 4/6
Fecha	25/10/2019				Revisión 0

PLACA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169

MADE IN MEXICO 15177169																						
	PH	3	HP(kW)	20(15)	FRAME	254/6T																
	V	460	Hz	60																		
	A	23.2	SF	1.15																		
	RPM	3520	SFA	26.7 A	INS. CL.	F	ΔT	80 K														
	NEMA NOM. EFF.	91.0 %	GUARANT. EFF	89.5 %	P.F.	0.89																
	CODE	G	DES	B	AMB.	40°C	DUTY	CONT.														
	ENCL.	TEFC	IP55	WEIGHT	295 Lbs																	
	Alt.	1000 m.a.s.l.	MODEL:Y02036ET3GSI254/6TW																			

Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal : 23.2 A	Momento de inercia (J) : 0.0647 kgm ²
Ia/In (p.u.) : 6.1	Régimen de servicio : Cont.(S1)
Par nominal : 4.12 kgfm	Clase de aislamiento : F
Par de arranque : 200 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3520 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga (J=GD²/4) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A	370563/2019		
Verificador	AUTOMATICO		Pagina	Revisión	
Fecha	25/10/2019		2/6	0	

DIAGRAMA DE CONEXION

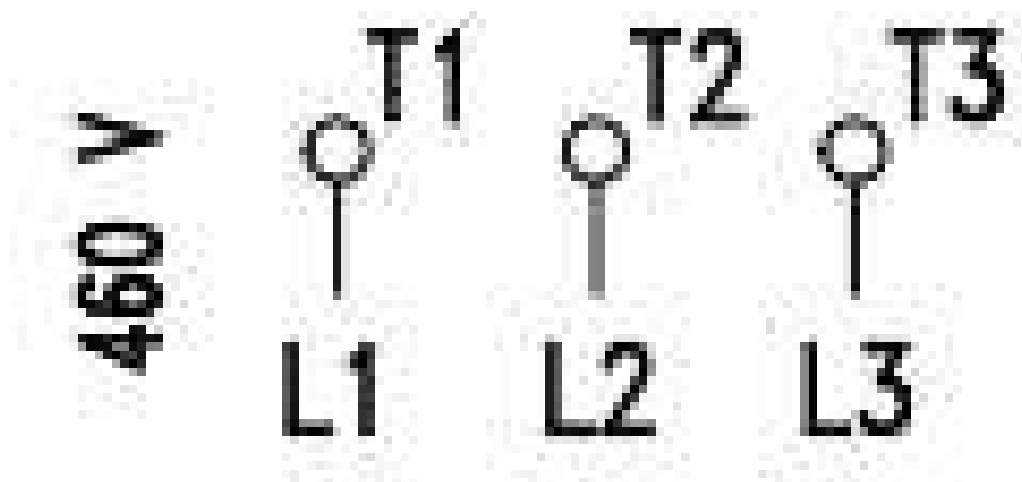


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177169



Desempeño : 20 HP (15 kW) 460 V 60 Hz 2P 254/6T

Corriente nominal	: 23.2 A	Momento de inercia (J)	: 0.0647 kgm ²
Ia/In (p.u.)	: 6.1	Régimen de servicio	: Cont.(S1)
Par nominal	: 4.12 kgfm	Clase de aislamiento	: F
Par de arranque	: 200 %	Factor de servicio	: 1.15
Par máximo	: 240 %	Elevación de temperatura	: 80 K
Rotación nominal	: 3520 rpm	Categoría	: B

Tiempo de rotor bloqueado 100% : 21 s (caliente) 38 s (frío)
Inercia de la carga (J=GD²/4) : 0.06471 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-7 / 311-PM-8A		370563/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/6	0

311-PM-9C

Model: 3700	Size: 2x4-11A	Group: MX	60Hz	RPM: 3550	Stages: 1
--------------------	----------------------	------------------	-------------	------------------	------------------

Job/Inq.No. : SEL-0030-2019-OPS		
Purchaser : GOULDS PUMPS INC PERU		
End User : PETROLEOS DEL PERU PETROPERU S.A	Issued by : M. Hernandez	Rev. : 0
Item/Equip.No. : 311-PM-9C (Base Offer)	BGM Order: OV8844-19	Date : 11/11/2019
Service : Extracción de Residual		
Order No. : 9083	Certified By : I. Rico	SN/SO : GM03A224

Operating Conditions

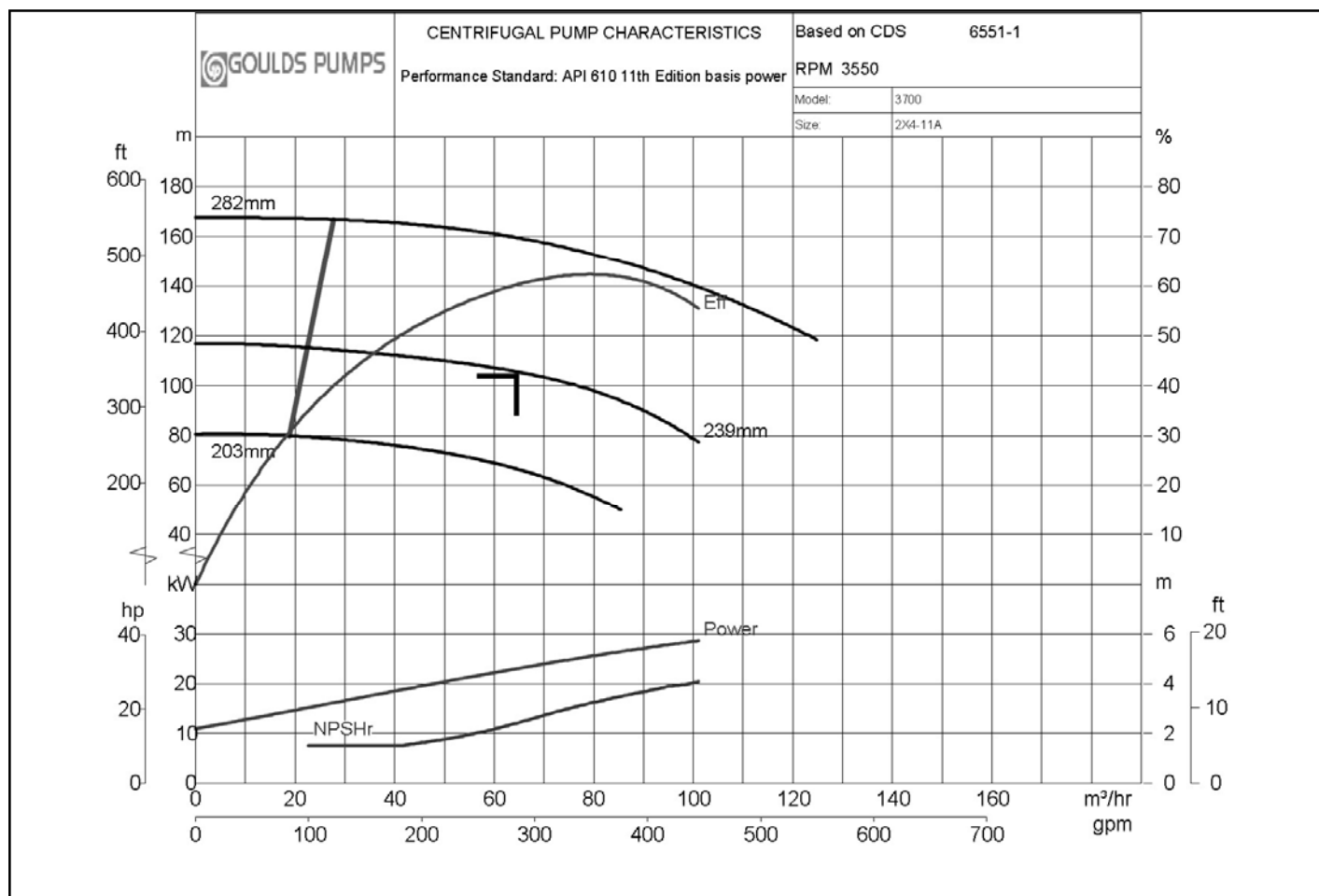
Liquid: Residual
Temp.: 370.0 deg C
S.G./Visc.: 0.750/1.200 cp
Flow: 65.00 m³/hr
TDH: 105.00 m
NPSHa: 2.61 m
Solid size:

Pump Performance

Published Efficiency: 63.1 %
Rated Pump Efficiency: 60.1 % (*)
Rated Total Power: 23.16 kW
Non-Overloading Power: 28.69 kW
Imp. Dia. First 1 Stg(s): 239 mm
NPSHr: 2.46 m
Max. Solids Size: 10.41 mm
Suction Specific Speed: 12,030 m³/hr,m
Min. Hydraulic Flow: 22.83 m³/hr
Min. Thermal Flow: N/A
Shut off Head: 116.50 m
% Susp. Solids (by wtg):

Vapor Press: 2.30 kg/cm² abs

Notes: 1. Curve shown is at ambient temperature conditions.
(*) 1.0% efficiency derate caused by increase in clearances (0,005") due to high operating temperature.



Viscosity corrections have been performed in accordance with HI 9.6.7-2015

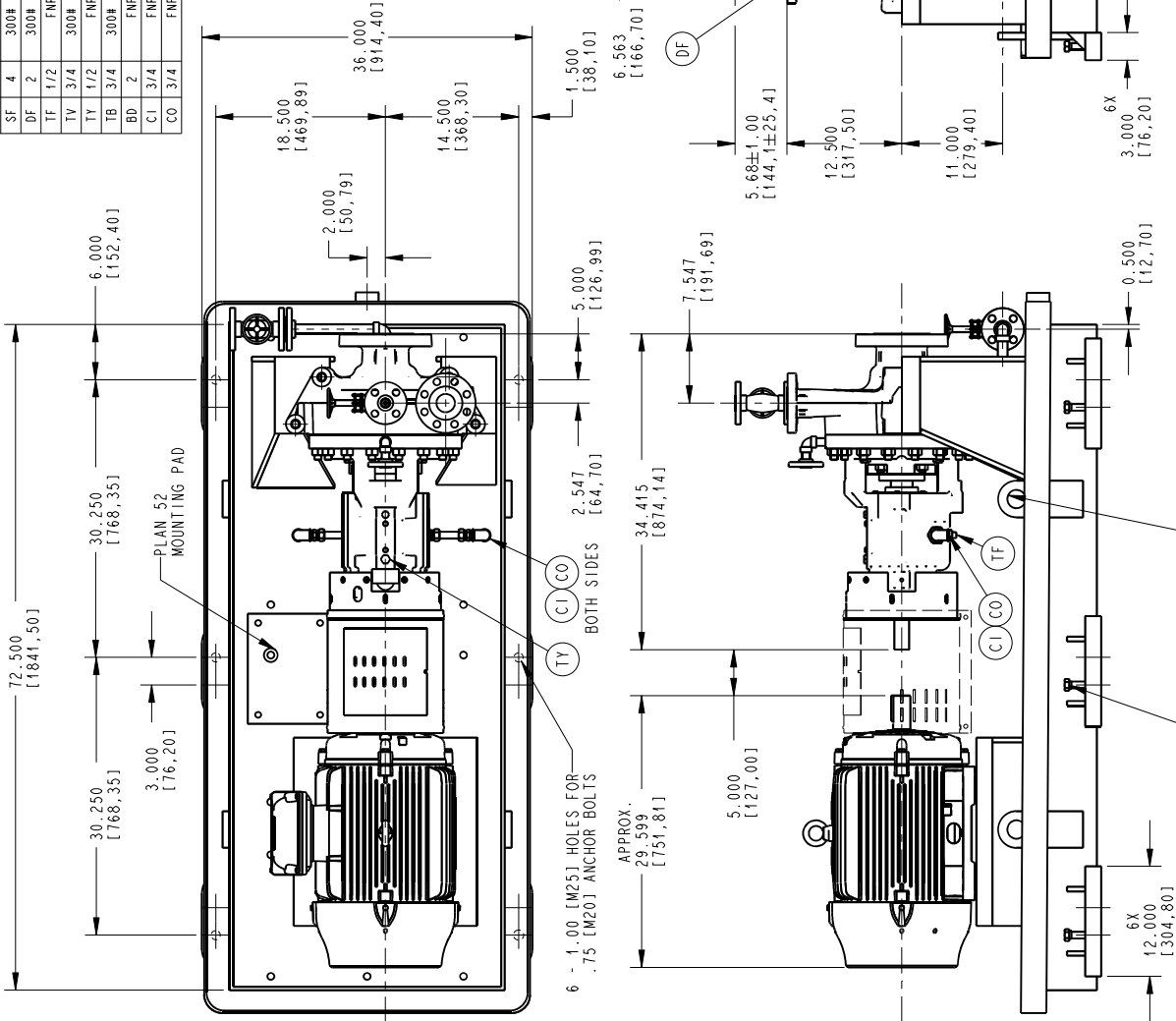


CONNECTIONS TABLE					STATUS		FOR USE BY	
NO	SIZE	TYPE	QTY	PURPOSE	COVERED	CUSTOMER	COVERED	CUSTOMER
SF	4	300# R.F.	1	SUCTION FLANGE	COVERED	CUSTOMER	COVERED	CUSTOMER
DF	2	300# R.F.	1	DISCHARGE FLANGE	COVERED	CUSTOMER	COVERED	CUSTOMER
TF	1/2	FNPT	1	BEARING FRAME DRAIN	PLUGGED	CUSTOMER	PLUGGED	CUSTOMER
TV	3/4	300# R.F.	1	CASING VENT	COVERED	CUSTOMER	COVERED	CUSTOMER
TY	1/2	FNPT	1	BEARING OIL FILL	PLUGGED	CUSTOMER	PLUGGED	CUSTOMER
TB	3/4	300# R.F.	1	CASING DRAIN	COVERED	CUSTOMER	COVERED	CUSTOMER
BD	2	FNPT	1	BASEPLATE DRAIN	---	CUSTOMER	---	CUSTOMER
CI	3/4	FNPT	1	BEARING FRAME COOLING	PLUGGED	CUSTOMER	PLUGGED	CUSTOMER
CO	3/4	FNPT	1	BEARING FRAME COOLING	PLUGGED	CUSTOMER	PLUGGED	CUSTOMER

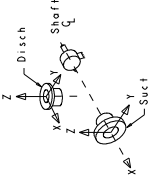
CASING VENT & DRAIN PARTS LIST CS 3/4" SOCKET WELDED PIPE		
PART NAME	MATERIAL	SIZE
PIPE	CS	3/4" SCH. 160
FITTINGS	CS	3/4"
FLANGE	CS	3000#
FLANGED VALVE	CS	300# R.F.

PLAN 52 PARTS LIST - CS 3/4" PIPING SW (EXTERNAL FLUID RESERVOIR, NONPRESSURIZED, WITH FORCED CIRCULATION, AS REQUIRED)	
PLAN 52 SHOWN ON NEXT DRAWING SHEET	

PLAN 32 PARTS LIST - 316LSS 1/2" SOCKET WELDED PIPE (SEAL FLUSH FROM AN EXTERNAL CLEAN SOURCE)	
PLAN 32 WILL BE SHOWN ON NEXT DRAWING SHEET	



WEIGHTS					WEIGHTS ARE APPROXIMATE				
ITEM	WET			DRY	LBS	KG	LBS	KG	
	LBS	KG	LBS						
PUMP	604	274	591	268					
COUPLING	10	5	10	5					
DRIVER	554	252	554	252					
BASEPLATE	1094	497	1094	497					
PLAN 52	247	112	207	94					
TOTAL	2509	1140	2456	1116					
ALLOWABLE NOZZLE LOADS									



FORCE		SUCTION		DISCHARGE	
LBS	(N)	LBS	(N)	LBS	(N)
Fx	400	1780	160	710	
Fy	320	1420	130	580	
Fz	260	1160	200	890	
MOMENTS		SUCTION		DISCHARGE	
FT-LBS	(N-M)	FT-LBS	(N-M)	FT-LBS	(N-M)
Mx	980	1330	340	460	
My	500	680	170	230	
Mz	740	1000	260	350	
COUPLING SPECIFICATIONS					
MFR: METASTREAM SIZE: 0014					
TYPE: TSCS					
GUARD PROVIDED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>					
MATERIAL: ALUMINUM (HINGED DOOR)					

MECHANICAL SEAL SPECIFICATIONS	
MFR: JOHN CRANE	
TYPE: 2609HTC DOUBLE CARTRIDGE	
API CODE: 22C-PRI-060-23/52	
DRIVER SPECIFICATIONS	
MFR: WEG	
POWER: 40 HP	
FRAME: 324/6TS	
PHASE: 3	
RPM: 3555	
HERTZ: 60	
ENCLOSURE: TEFC	
VOLTS: 460	
MODEL: 3700	
GROUP: MX	

SIZE: 2 X 4 - 11A	
LUBRICATION: RING OIL	
BEARING ARRANGEMENT: BALL - BALL	
BASEPLATE: DRAIN RIM - GROUTED CONSTRUCTION	
CERTIFIED FOR CONSTRUCTION ONLY WHEN SIGNED.	
SIGNATURE: _____	
DATE: _____	

CUSTOMER DATA	
CUSTOMER: GOULDS PUMPS INC PERU	
ADDRESS: AV. INDUSTRIAL 24	
PRODUCT NO: 08644-18	
CUSTOMER P.O. NO.: 9083	
PUMP ITEM NO.: 311-PM-9C	
SERVICE: EXTRACCION DE AGUA RESIDUAL	

PUMP OUTLINE DRAWING	
MODEL 3700	

GOULDS PUMPS	
DRAWING SCALE: 0.100	
DIMENSIONS IN INCHES (mm)	

DRAWN		CHECKED		APPROVED		COPYRIGHT	
EGJ		11/26/19		11/26/19		2019	
REV		DRAWING		M03A224GAD		2	
SHEET		1		OF 2			

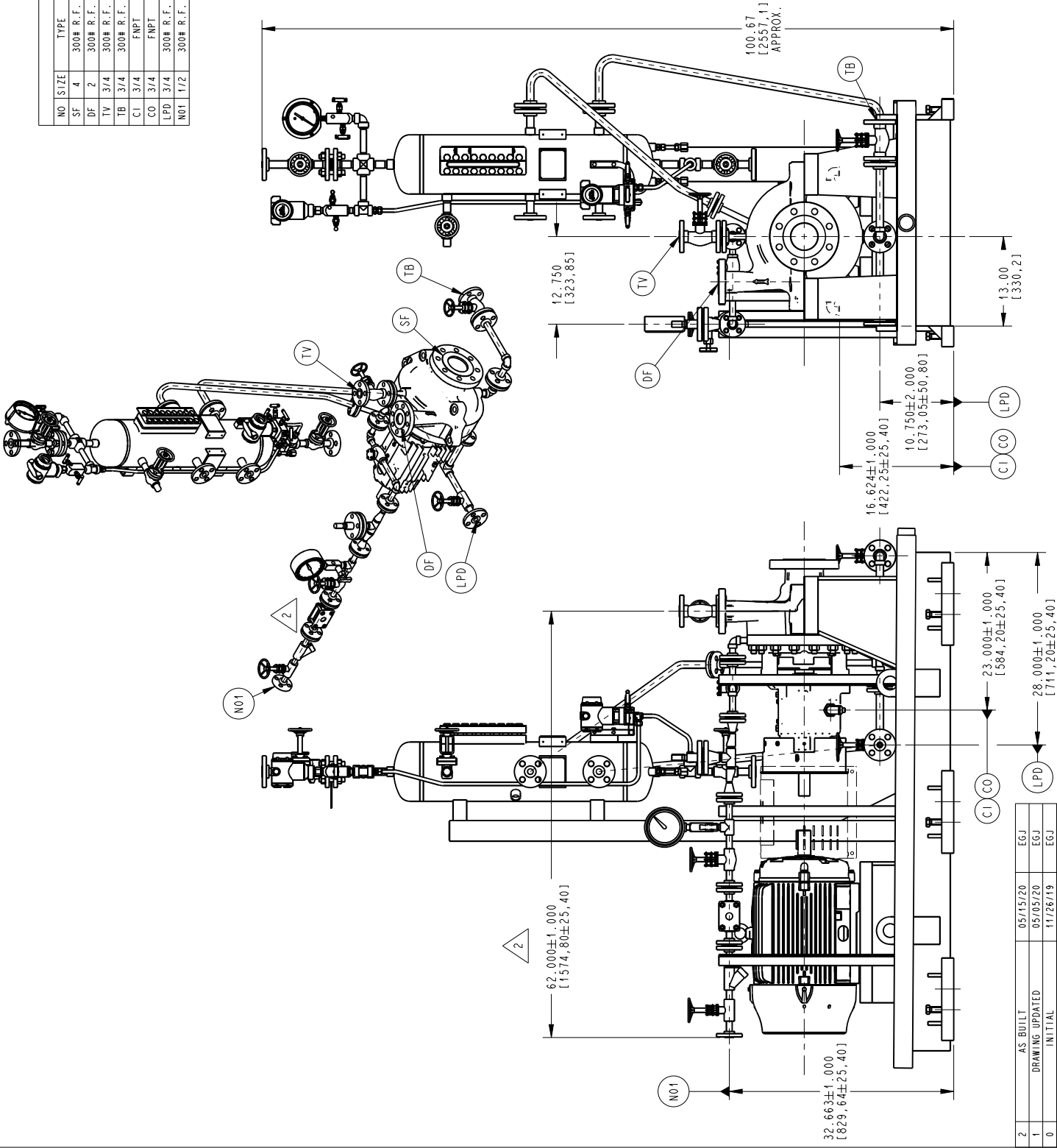
NOTES

- FLANGES CONFORM TO ANSI STANDARDS. BOLT HOLES STRADDLE C/L (B16.5 STEEL OR B16.1 IRON)
- ROTATION CCW VIEWED FROM COUPLING END.
- DIMENSIONAL TOLERANCE TO PIPED CONNECTIONS IS ± 0.50 (13) EXCEPT FOR PUMP SUCTION AND DISCHARGE.
- ROUTING OF PIPELINES IS APPROXIMATE AND MAY VARY AFTER ASSEMBLY
- REFER TO MECHANICAL SEAL DRAWING FOR GLAND DETAIL
- BASEPLATE IS SUPPLIED WITH MOTOR ALIGNMENT SCREWS.

CONNECTIONS TABLE				
NO	SIZE	TYPE	PURPOSE	STATUS FOR USE BY
SF	4	300# R.F.	1 SUCTION FLANGE	COVERED CUSTOMER
DF	2	300# R.F.	1 DISCHARGE FLANGE	COVERED CUSTOMER
TV	3/4	300# R.F.	1 CASING VENT	COVERED CUSTOMER
TB	3/4	300# R.F.	1 CASING DRAIN	COVERED CUSTOMER
CI	3/4	FNPT	1 BEARING FRAME COOLING	PLUGGED CUSTOMER
CO	3/4	FNPT	1 BEARING FRAME COOLING	PLUGGED CUSTOMER
LPD	3/4	300# R.F.	1 LOW POINT DRAIN (PLAN 52)	COVERED CUSTOMER
N01	1/2	300# R.F.	1 INLET (PLAN 32)	COVERED CUSTOMER

PLAN 52 PARTS LIST - CS 3/4" PIPING SW (EXTERNAL FLUID RESERVOIR - NONPRESSURIZED, WITH FORCED CIRCULATION, AS REQUIRED)			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPING	CS	3/4"	SCH. 160
FLANGE	CS	3/4"	300# R.F.
RESERVOIR	----	---	JOHN CRANE

PLAN 32 PARTS LIST - CS 1/2" SOCKET WELDED PIPE (SEAL FLUSH FROM AN EXTERNAL CLEAN SOURCE)			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPE	CS	1/2"	SCHEDULE 160
FITTINGS	CS	1/2"	3000# SW
FLANGE	CS	1/2"	3000# RF
BLOCK/BILED VALVE	316SS	1/2"	---
PRESSURE GAUGE	316SS	1/2"	0-160 PSI
FLOW INDICATOR	316LSS	1/2"	JACOBY-TARBOX
VALVE	CS	1/2"	800#

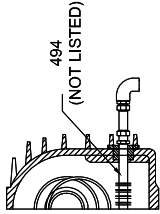


MODEL:	3700	GROUP:	MX
SIZE: 2 X 4 - 11A			
LUBRICATION: RING OIL			
BEARING ARRANGEMENT: BALL - BALL			
BASEPLATE: DRAIN RIM - GROUTED CONSTRUCTION			
CUSTOMER DATA			
CUSTOMER: GOULDS PUMPS INC PERU			
GOULDS PUMPS INC PERU			
PRODUCT NO.: 08644-18			
CUSTOMER P.O. NO.: 9083			
PUMP ITEM NO.: 311-PM-SC			
SERVICE: EXTRACCION DE AGUA RESIDUAL			
PUMP OUTLINE DRAWING MODEL 3700			
ITT GOULDS PUMPS			
DRAWING SCALE: 0.100 DIMENSIONS IN INCHES (mm)			
DRAWN EGJ	11/26/19	CHECKED RSA	11/26/19
APPROVED ADM	11/26/19	COPYRIGHT 2019	REV
DRAWING M03A224GAD			2
SHEET 2 OF 2			

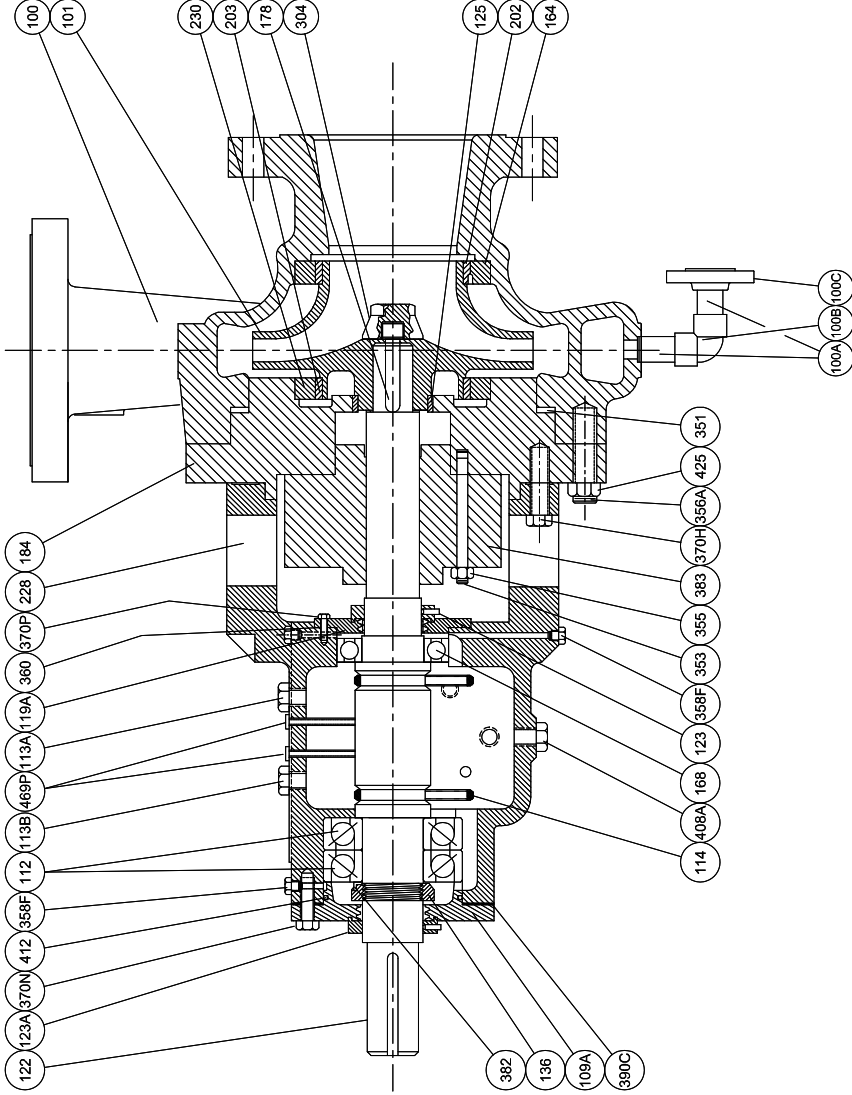
ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
100	1	CASING	CARBON STEEL	A216 GR. WCB
100A	2	SCHEDULE 160 PIPE	CARBON STEEL	A106 GR. B
100B	1	3000# 90° ELBOW	CARBON STEEL	A105
100C	1	ANSI 314, 300# RF FLANGE	CARBON STEEL	A105
101	1	IMPELLER	12% CHROME	A743 GR. CA-8NM
109A	1	FRAME COVER END, THRUST	CARBON STEEL	A216 GR. WCB
112	PAIR	BEARING, THRUST	STEEL	7312 BEGAMI
113A	1	PIPE PLUG, OIL FILL	CARBON STEEL	A108 GR. 1213
113B	1	PIPE PLUG, OIL FILL	CARBON STEEL	A108 GR. 1213
114	2	OIL RING	BRONZE	B584 C87500
119A	1	FRAME COVER END, RADIAL	CARBON STEEL	A108 GR. 1213
122	1	SHAFT	410 SS	A216 TP. 410
123	1	VX8 OIL SEAL RADIAL	BRONZE	B584 C87500
123A	1	VX8 OIL SEAL THRUST	BRONZE	B584 C87500
125	1	SEAL CHAMBER, THROAT BUSHING	410 SS	A216 TP. 410
136	1	LOCKNUT, THRUST BEARING	CARBON STEEL	A276 TP. 410
164	1	WEAR RING CASING	12% CHROME - 410 SS	A276 TP. 410
168	1	BEARING, RADIAL	STEEL	6213 C3
178	1	KEY IMPELLER	410 SS	A276 TP. 410
184	1	SEAL CHAMBER COVER	CARBON STEEL	A216 GR. WCB
202	1	IMPELLER WEAR RING, SUCTION SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410

ITEM	QTY.	COMPONENT	CONSTRUCTION S-6	ASTM
203	1	IMPELLER WEAR RING, HUB SIDE	12% CHROME (HARDENED) - 410 SS	A276 TP. 410
228	1	BEARING FRAME	CARBON STEEL	A216 GR. WCB
230	1	WEAR RING, SEAL CHAMBER	12% CHROME - 410 SS	A276 TP. 410
251	1	WATCHDOG OILER (NOT SHOWN)	GLASS / STEEL	—
304	1	IMPELLER NUT	NITRONIC 60	A743 GR. CF10SMn
351	1	GASKET-CASING	SPIRAL WOUND 316 SS	—
353	4	STUD-GLAND	4140 (NICKEL PLATING)	A193 GR. B7 / B733
355	4	NUT-GLAND STUD	4140 (NICKEL PLATING)	A194 GR. 2H / B733
356A	NOTE 1	STUD-CASING	4140	A193 GR. B7
358F	3	PIPE PLUG, OIL MIST	CARBON STEEL	A307 GR. B
360	1	GASKET, RADIAL END COVER	VELLUMOID	D-1170
370H	4	SCREW - FRAME TO COVER	CARBON STEEL	A108 GR. 1213
370N	5	SCREW - END COVER-THRUST	CARBON STEEL	A108 GR. 1213
370P	5	SCREW - END COVER RADIAL	CARBON STEEL	A108 GR. 1213
382	1	LOCKWASHER, THRUST BEARING	STEEL	—
383	1	MECHANICAL SEAL	REFER TO MECHANICAL SEAL DRAWING	—
390C	1-3	SHIM - END COVER - THRUST	304 SS	—
408A	1	MAGNETIC PLUG-OIL DRAIN	STEEL	A307 GR. B
412	1	C-RING	BUNMAN	—
425	NOTE 1	NUT-SEAL CHAMBER	4140	A194 GR. 2H
469P	2	RETAINER OIL RING	CARBON STEEL	A108 GR. 1213

3700 MODEL
API 610 11th Ed.

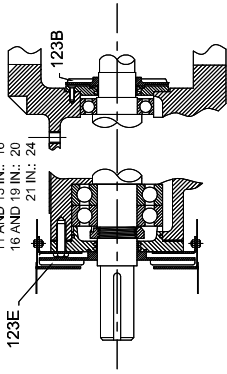


☒ WATER COOLED FRAME
(OPTIONAL)



NOTES:
1. QUANTITIES OF CASING STUDS AND NUTS:

7 AND 9 IN.: 12
11 AND 13 IN.: 16
15 AND 17 IN.: 20
19 AND 21 IN.: 24



OPTIONAL AIR COOLED FRAME:

- ☐ RADIAL - 123B
☐ THRUST - 123E
☒ RADIAL AND THRUST - 123B & 123E

CUSTOMER DATA

CUSTOMER: GOULDS PUMPS INC PERU
GOULDS SERIAL: GM02A224-1/2
PRODUCT No.: OV6844-19
CUSTOMER P.O. No.: 9063
PUMP ITEM No.: 311-PM4-9C
SERVICE: EXTRACCIÓN DE AGUA RESIDUAL

CROSS SECTIONAL DRAWING & BILL OF MATERIALS

MODEL / GROUP: 3700 MX

SIZE: 2 X 4 - 11A

ITT GOULDS PUMPS

DRAWING SCALE: N/A DIMENSIONS: N/A

DRAWN	CHECKED	APPROVED	COPYRIGHT
EGJ	RSA	AOR	2019
THIRD ANGLE	DRAWING:	REV.	
	M03A224PCD	0	

SHEET 1 OF 1

0	FOR INFORMATION	11/26/19
REV.	DESCRIPTION	DATE

[illegible]

316/L SS

John Crane
 11500 TULSA AVE
 TULSA, OK 74116
 (918) 438-1100

System

SHELL

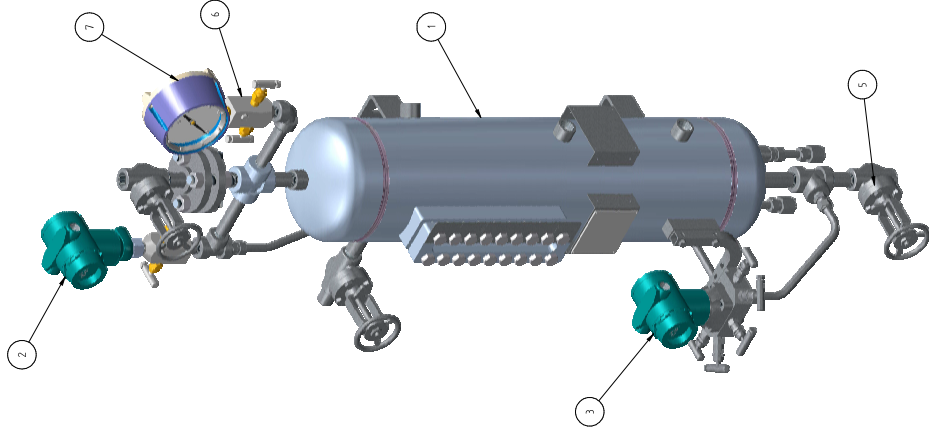
NAWPS	570 PSI	at	200
MONITE	-20	at	570 PSI

COIL

NAWPS	300 PSI	at	200
MONITE	-20	at	300 PSI

MPG, S.N.

PART NUMBER

[illegible][illegible]

DESCRIPTION	CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE	DRAWING No.		ISSUE
						TULSA		
RE-682S 5 GALLON RESERVOIR ASSY					NONE			0
							GA-236392	1 of 2

PROJECT	PER P.O.
CUSTOMER	PER P.O.
ENGINEERING	PER P.O.
END USER	PER P.O.
LOCATION	PER P.O.
JIC REF. No.	

DATE 2 NOV 2019

0	AC	OJ	APPRO	ISSUED FOR APPROVAL	22	DESCRIPTION
REV	PREP	CHK'D	APPRO			

TOLERANCES (UNLESS OTHERWISE STATED) — (in)	
FRACTIONS	$\pm 1/4"$
XX	$\pm 0.05"$
XXX	$\pm 0.01"$
XXXX	$\pm 0.005"$
ANGULAR	$\pm 1'$



THIRD ANGLE PROJECTION

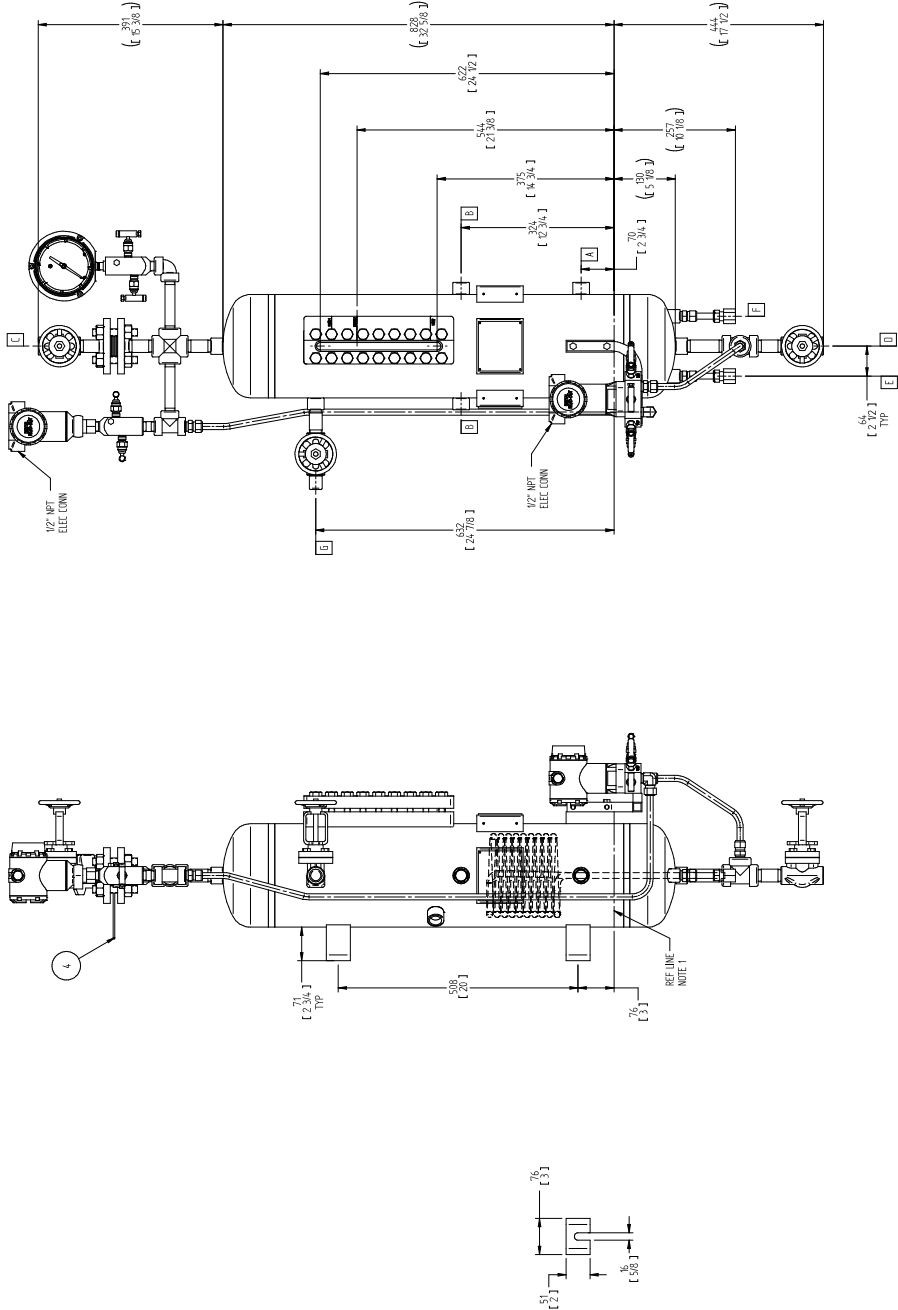
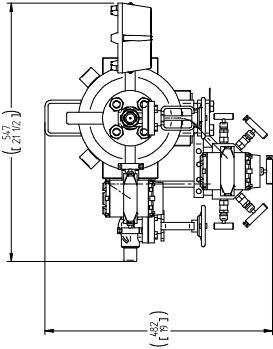


FIRST ANGLE PROJECTION

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REFERENCE CODES & STANDARDS	1. BUILT PER ASME CODE SECTION VIII DIV. 1				
INSPECTION AND TESTING	1. INSPECTION AND TESTING PER JOHN CRANE FLUID CONTROL GROUP STANDARD UNLESS OTHERWISE NOTED.				
	2. HYDROTEST PRESSURES: SHELL 1439 PSI MINIMUM DURATION 30 MINUTES COIL 450 PSI MINIMUM DURATION 30 MINUTES				
SURFACE FINISH	SURFACE FINISH PER JOHN CRANE FLUID CONTROL GROUP STANDARD				
SYSTEM WEIGHTS AND VOLUMES	ESTIMATED DRY WEIGHT (FOR ACTUAL UNIT WEIGHT REFER TO UNIT TAG)				
	WET WEIGHT (Nominal) RESERVOIR NOMINAL VOLUME OPERATING VOLUME AT NORMAL LEVEL ACCUMULATOR NOMINAL VOLUME				
INSTRUMENTS ELECTRICAL CLASSIFICATION	CLASS 1 DIV 1 & 2 GRPS B, C & D				
NOTES:	1. REFERENCE LINE IS 100 INCH FROM END OF SHELL.				
	2. PRESSURE RELIEF DEVICES ARE NOT PROVIDED BY THE MANUFACTURER (SEE THE ASME CODE SECTION VIII, DIVISION 1 PARAGRAPH UG-425 FOR USER RESPONSIBILITIES).				
	3. THE RESERVOIR SHELL, HEADS & ALL COMPONENTS WELDED TO THE SHELL & HEADS ARE PER ASME CODE SECTION VIII, DIVISION 1, ALL OTHERS ARE NON-CODE.				
	4. ALL DIMENSIONS ARE IN MILLIMETERS.				
	5. ALL DIMENSIONS IN () ARE IN INCHES.				
	6. ALL DIMENSIONS IN [] ARE REFERENCE DIMENSIONS.				
	7. FLANGE BOLT PATTERN TO STRADDLE NORMAL CENTER LINE.				
DESCRIPTION	RE-682S 5 GALLON RESERVOIR ASSY				
CONFIGURATION	GPN / CODE	DRG. LOC.	DESIGN AUTH.	SCALE	
					TULSA
			DRAWING No.	ISSUE	
			GA-236392		
			2 of 2		
			Seal Support System		
			john crane		
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Technical drawing of a 5-gallon reservoir assembly. The drawing includes a top view and a side view. The top view shows a circular reservoir with various ports, valves, and a pressure gauge. Dimensions are provided in inches and millimeters. The side view shows the reservoir's profile, including the shell, heads, and internal components. A note indicates that the reference line is 100 inches from the end of the shell. The drawing is labeled "RE-682S 5 GALLON RESERVOIR ASSY".



[illegible]

HOJA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency Código producto : 15177170

Carcasa	: 324/6TS	Tiempo de rotor bloqueado	: 22 s (caliente) 40 s (frío)
Potencia	: 40 HP (30 kW)	Elevación de temperatura ⁴	: 80 K
Polos	: 2	Régimen de servicio	: Cont.(S1)
Frecuencia	: 60 Hz	Temperatura ambiente	: -20 °C hasta +40 °C
Tensión nominal	: 460 V	Altitud	: 1000 m
Corriente nominal	: 45.8 A	Grado de protección	: IP55
Corriente de arranque	: 289 A	Método de enfriamiento	: IC411 - TEFC
Ia/In (p.u.)	: 6.3	Forma constructiva	: F-2
Corriente en vacío	: 11.0 A	Sentido de giro ¹	: Horario
Rotación nominal	: 3555 rpm	Nivel de ruido ²	: 76.0 dB(A)
Deslizamiento	: 1.25 %	Clase de vibración	: B
Par nominal	: 8.17 kgfm	Método de arranque	: Partida directa
Par de arranque	: 250 %	Acoplamiento	: Directo
Par mínimo	: 170 %	Masa aproximada ³	: 252 kg
Par máximo	: 240 %	Plan de pintura	: 212P
Clase de aislamiento	: F	Color	: RAL 5009
Factor de servicio	: 1.15	Categoría	: B
Momento de inercia (J)	: 0.2063 kgm ²		

Potencia	Empezar	25%	50%	75%	100%	125%	Tipo de carga: -
Rendimiento (%)	-	87.7	91.7	92.4	92.4	92.0	Par de la carga: -
Factor de potencia	0.43	0.62	0.82	0.87	0.89	0.87	Inercia de la carga (J=GD ² /4): -

	Delantero	Trasero	Esfuerzos en la base
Tipo de rodamiento	6312-C3	6212-C3	Tracción máxima : 118 kgf
Intervalo de lubricación	12000 h	15000 h	Compresión máxima : 369 kgf
Cantidad de lubricante	21 g	13 g	
Tipo de lubricante	MOBIL POLYREX EM		

Notas:

Normas	Especificación	: MG1 - Part 10	Vibración	: IEEE841 - 6.9
	Ensayos	: MG1 - Part 12	Tolerancia	: MG1 - Part 12
	Ruido	: MG1 - Part 9		

Esta revisión substituye y anula la emisión anterior, la cual deberá ser eliminada.

(1) Mirando la punta delantera del eje del motor.

(2) Medido a 1m y con tolerancia de +3dB(A).

(3) Masa aproximada sujeto a cambios después del proceso de fabricación.

(4) En 100% de la carga total.

Los valores indicados son valores promedio con base en ensayos y para alimentación en red senoidal, sujetos a las tolerancias de la norma NEMA MG 1-12.

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			1/5	0

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CURVA DE PAR Y CORRIENTE X ROTACIÓN

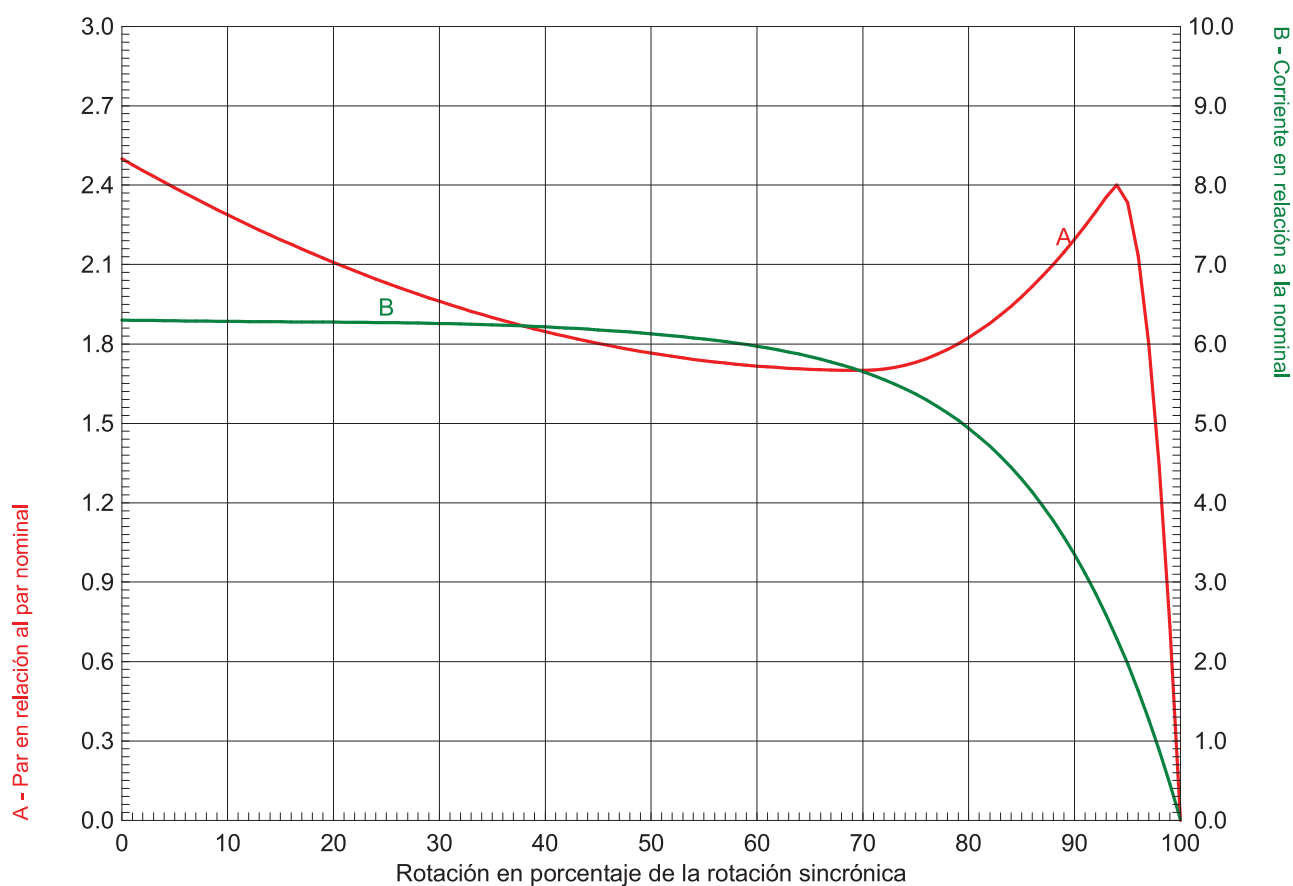


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A	Momento de inercia (J) : 0.2063 kgm ²
Ia/In (p.u.) : 6.3	Régimen de servicio : Cont.(S1)
Par nominal : 8.17 kgfm	Clase de aislamiento : F
Par de arranque : 250 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3555 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 22 s (caliente) 40 s (frío)
Inercia de la carga (J=GD²/4) : 0.2063 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/5	0

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CURVA DE DESEMPEÑO EN CARGA

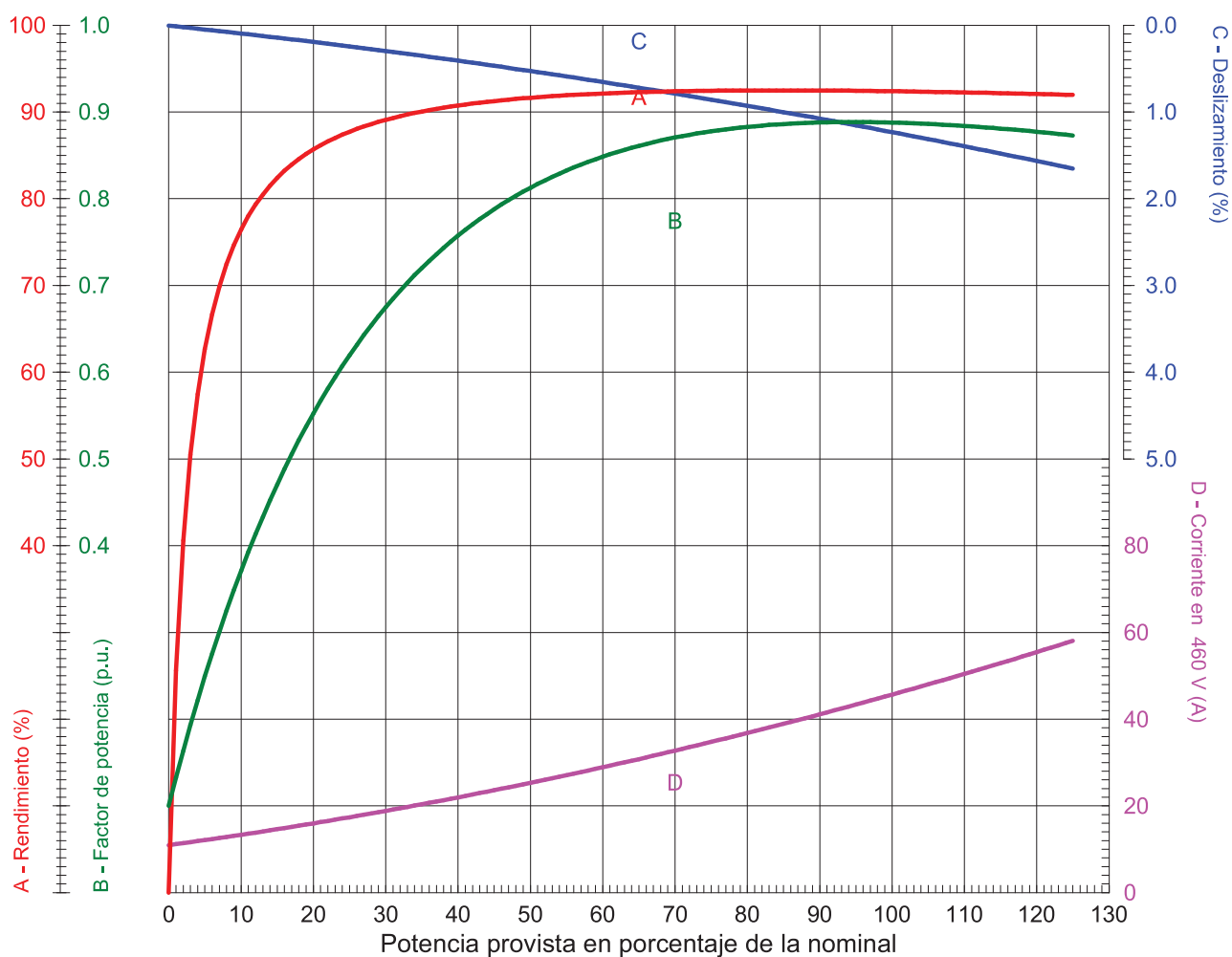


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

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 Rotación nominal : 3555 rpm

Momento de inercia (J) : 0.2063 kgm²
 Régimen de servicio : Cont.(S1)
 Clase de aislamiento : F
 Factor de servicio : 1.15
 Elevación de temperatura : 80 K
 Categoría : B

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			3/5	0

CURVA DE LÍMITE TÉRMICO

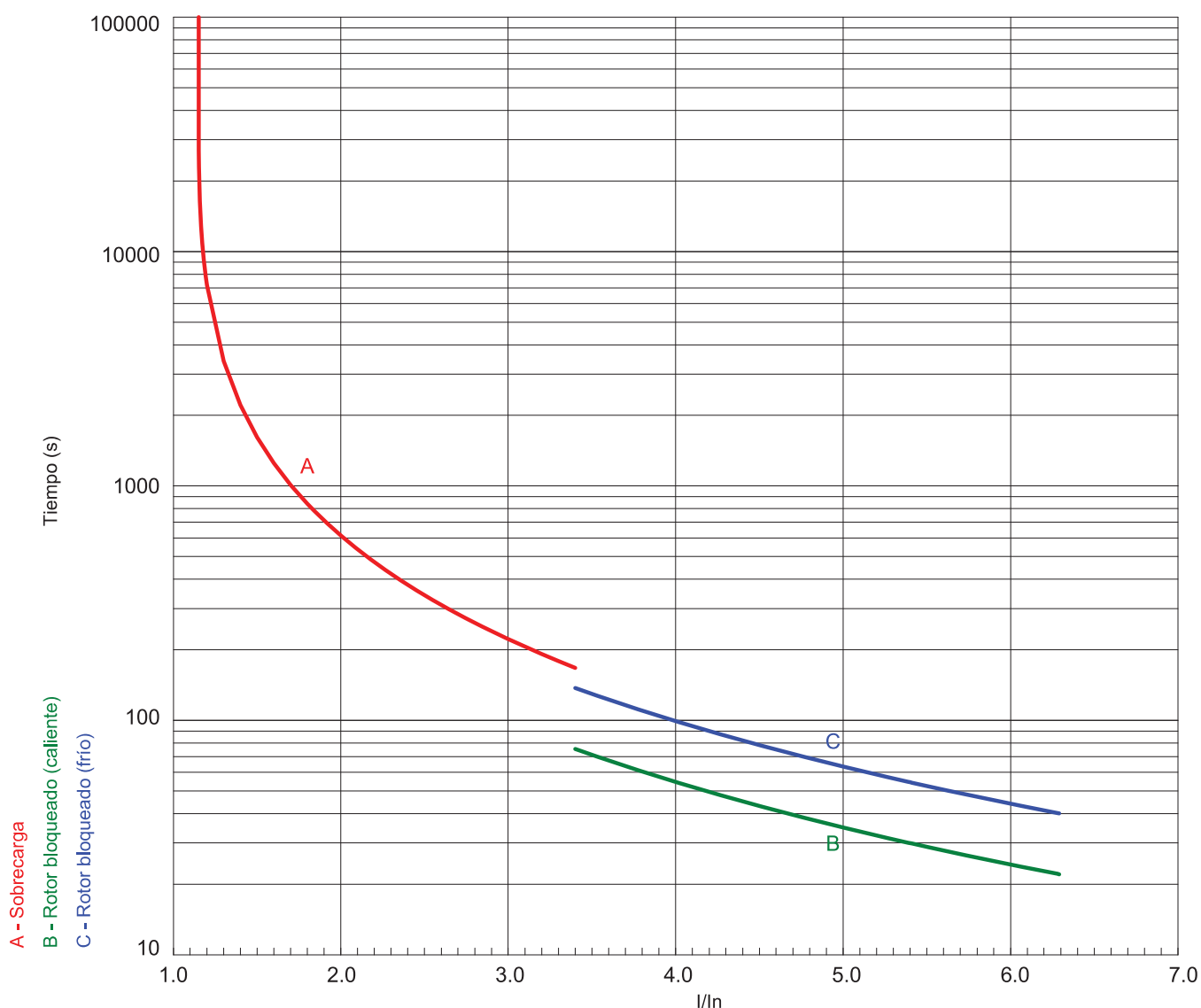


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A
Ia/In (p.u.) : 6.3
Par nominal : 8.17 kgfm
Par de arranque : 250 %
Par máximo : 240 %
Rotación nominal : 3555 rpm

Momento de inercia (J) : 0.2063 kgm²
Régimen de servicio : Cont.(S1)
Clase de aislamiento : F
Factor de servicio : 1.15
Elevación de temperatura : 80 K
Categoría : B

Constante de calentamiento : 29.8 min
Constante de enfriamiento : 89.3 min

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			4/5	0

PLACA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170

MADE IN MEXICO 15177170															Class I, Div. 2, Gr. A, B, C & D - T3 Class I, Zone 2, IIC - T3 US Class II, Div 2, Gr. F and G - T4A	
	PH 3		HP(kW) 40(30)		FRAME 324/6TS											
	V 460				Hz 60											
	A 45.8				SF 1.15											
	RPM 3555		SFA 52.7 A		INS. CL. F		ΔT 80 K									
	NEMA NOM. EFF. 92.4 %		GUARANT. EFF 91.0 %		P.F. 0.89											
	CODE G		DES B		AMB. 40°C		DUTY CONT.									
	ENCL. TEFC				IP55		WEIGHT 555 Lbs									
	Alt. 1000 m.a.s.l.				MODEL:Y04036ET3GSI324/6TSW											

Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal	: 45.8 A	Momento de inercia (J)	: 0.2063 kgm ²
Ia/In (p.u.)	: 6.3	Régimen de servicio	: Cont.(S1)
Par nominal	: 8.17 kgfm	Clase de aislamiento	: F
Par de arranque	: 250 %	Factor de servicio	: 1.15
Par máximo	: 240 %	Elevación de temperatura	: 80 K
Rotación nominal	: 3555 rpm	Categoría	: B

Tiempo de rotor bloqueado 100% : 22 s (caliente) 40 s (frío)
Inercia de la carga (J=GD²/4) : 0.2063 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C			370611/2019
Verificador	AUTOMATICO				Pagina
Fecha	25/10/2019				Revisión
					2/5
					0

DIAGRAMA DE CONEXION

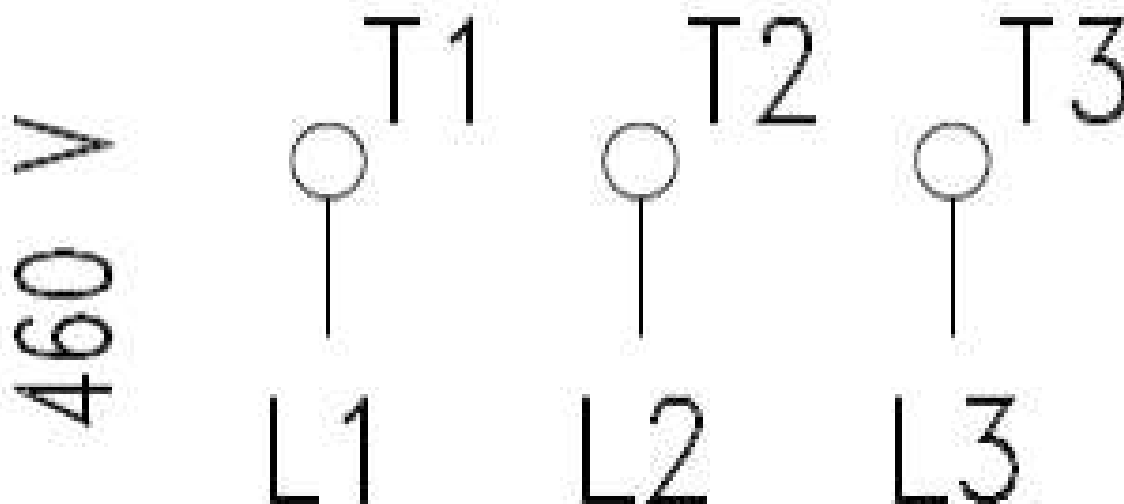


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal	: 45.8 A	Momento de inercia (J)	: 0.2063 kgm ²
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Inercia de la carga ($J=GD^2/4$) : 0.2063 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/5	0

311-PM-10B

Model: 3700	Size: 1x2-11A	Group: SX	60Hz	RPM: 3550	Stages: 1
--------------------	----------------------	------------------	-------------	------------------	------------------

Job/Inq.No. : SEL-0030-2019-OPS		
Purchaser : GOULDS PUMPS INC PERU		
End User : PETROLEOS DEL PERU PETROPERU S.A	Issued by : M. Hernandez	Rev. : 0
Item/Equip.No. : 311-PM-10B (Base Offer)	BGM Order: OV8844-28	Date : 11/11/2019
Service : Manejo de Agua de Desalado		
Order No. : 9083	Certified By : I. Rico	SN/SO : GM03A225

Operating Conditions

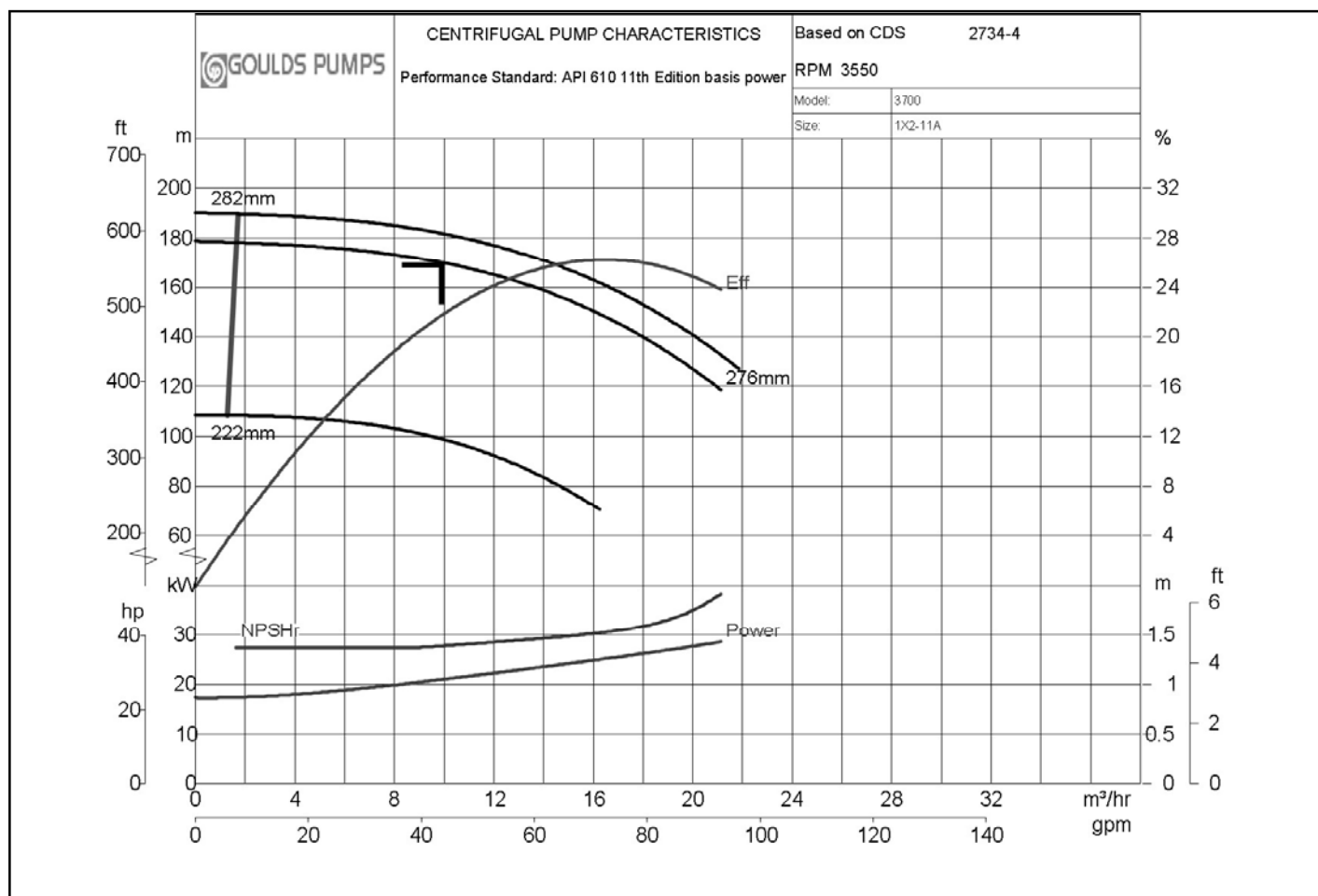
Liquid: Agua de Desalado
Temp.: 37.0 deg C
S.G./Visc.: 0.995/0.850 cp
Flow: 10.00 m³/hr
TDH: 170.00 m
NPSHa: 6.00 m
Solid size:

Pump Performance

Published Efficiency: 22.2 %
Rated Pump Efficiency: 21.8 %
Rated Total Power: 21.04 kW
Non-Overloading Power: 28.54 kW
Imp. Dia. First 1 Stg(s): 276 mm
NPSHr: 1.39 m
Max. Solids Size: 10.41 mm
Suction Specific Speed: 10,576 m³/hr,m
Min. Hydraulic Flow: 1.66 m³/hr
Min. Thermal Flow: N/A
Shut off Head: 178.79 m
% Susp. Solids (by wtg):

Vapor Press: 0.05 kg/cm² abs

Notes: 1. Curve shown is at ambient temperature conditions.



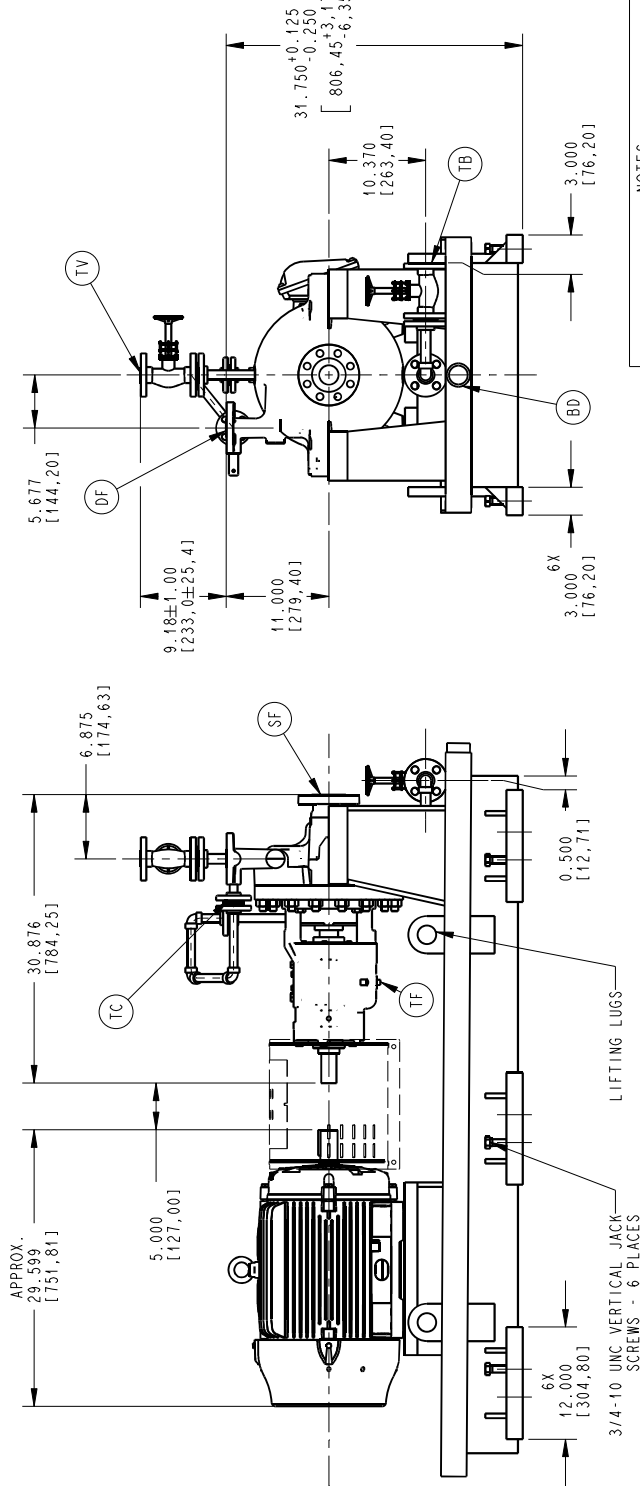
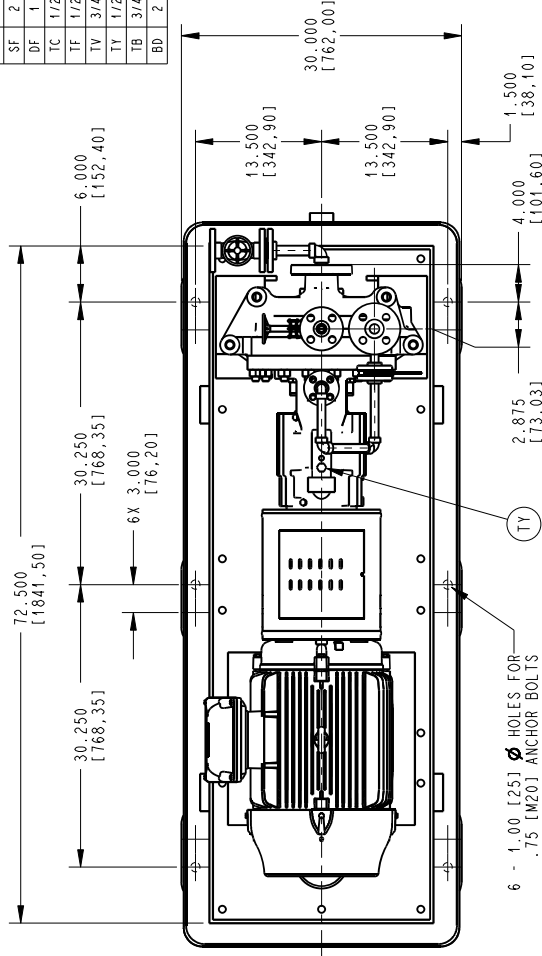
Viscosity corrections have been performed in accordance with HI 9.6.7-2015



CONNECTIONS TABLE							
	NO	SIZE	TYPE	QTY	PURPOSE	STATUS	FOR USE BY
	SF	2	300# R.F.	1	SUCTION FLANGE	COVERED	CUSTOMER
	DF	1	300# R.F.	1	D ISCHARGE FLANGE	COVERED	CUSTOMER
	TC	1/2	300# R.F.	1	BY PASS TO SEAL	PLAN 11	GOLDS
	TF	1/2	FNPT	1	BEARING FRAME DRAIN	PLUGGED	CUSTOMER
	TV	3/4	300# R.F.	1	CASING VENT	COVERED	CUSTOMER
	TV	1/2	FNPT	1	BEARING OIL FILL	PLUGGED	CUSTOMER
	TB	3/4	300# R.F.	1	CASING DRAIN	COVERED	CUSTOMER
	BD	2	FNPT	1	BASERATE DRAIN	--	CUSTOMER

CASING VENT & DRAIN PARTS LIST CS 3/4" SOCKET WELDED PIPE			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPE	CS	3/4"	SCH. 160
FITTINGS	CS	3/4"	3000#
FLANGE	CS	3/4"	300# R.F.
FLANGED VALVE	CS	3/4"	GATE 300# R.F.

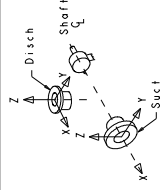
PLAN 11 PARTS LIST - CS PIPING 1/2" NOM. (SEAL FLUSH FROM PUMP DISCHARGE THROUGH ORIFICE)			
PART NAME	MATERIAL	SIZE	DESCRIPTION
PIPE	CS	1/2"	SCH. 160
FITTINGS	CS	1/2"	3000#
FLANGE	CS	1/2"	300# R.F.
ORIFICE PLATE	CS	1/2"	1/8" Ø ORIFICE



NOTES

- FLANGES CONFORM TO ANSI STANDARDS. BOLT HOLES STRADDLE 4" (B16.5 STEEL OR B16.1 IRON)
- ROTATION CCW VIEWED FROM COUPLING END.
- DIMENSIONAL TOLERANCE TO PIPED CONNECTIONS IS ± 0.50 (13) EXCEPT FOR PUMP SUCTION AND DISCHARGE.
- ROUTING OF PIPELINES IS APPROXIMATE AND MAY VARY AFTER ASSEMBLY
- REFER TO MECHANICAL SEAL DRAWING FOR GLAND DETAIL.
- BASEPLATE IS SUPPLIED WITH MOTOR ALIGNMENT SCREWS.

WEIGHTS		WEIGHTS ARE APPROXIMATE			
		WET		DRY	
ITEM		LBS	KG	LBS	KG
PUMP		466	211	457	207
COUPLING		10	5	10	5
DRIVER		554	252	554	252
BASEPLATE		901	410	901	410
TOTAL		1931	878	1922	874



FORCE	SUCTION		DISCHARGE	
	LBS	(N)	LBS	(N)
F _x	200	890	160	710
F _y	160	710	130	580
F _z	130	580	200	890

MOMENTS	SUCTION		DISCHARGE	
	FT-LBS	(N-M)	FT-LBS	(N-M)
M _x	340	460	340	460
M _y	170	230	170	230
M _z	260	350	260	350

COUPLING SPECIFICATIONS

MFR: METASTREAM	SIZE: 0014
TYPE: TSCS	
GUARD PROVIDED:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
MATERIAL:	ALUMINUM (HINGED DOOR)

MECHANICAL SEAL SPECIFICATIONS	
MFR:	JOHN CRANE
TYPE:	1648 SINGLE CARTRIDGE
API CODE:	21A-SFN-050-11/61

MFR.: WEG
POWER: 40 HP
FRAME: 324/6TS
PHASE: 3
RPM: 3555
HERTZ: 60
VOLTS: 460
ENCLOSURE: TEFC



MODEL:	3700	GROUP:	SX
SIZE: 1 X 2 - 11A LUBRICATION: RING OIL BEARING ARRANGEMENT: BALL - BALL BASEPLATE: DRAIN RIM - GROUTED CONSTRUCTION CERTIFIED FOR CONSTRUCTION ONLY WHEN SIGNED.			

SIGNATURE: _____ DATE: _____

CUSTOMER DATA

CUSTOMER: GOULDS PUMPS INC PERU
GOULDS SERIAL NO.: GM03A225
PRODUCT NO.: OV8844-28
CUSTOMER P.O. NO.: 9083
PUMP ITEM NO.: 311-PW-10B
SERVICE- MANF.OF AGIA DE DESALADO

PUMP OUTLINE DRAWING
MODEL 3700

	GOULDS PUMPS					DRAWING M03A225GD 0	REV 0
DRAWING SCALE: 0.100 DIMENSIONS IN INCHES (mm)		APPROVED AOR 11/26/19	CHECKED RSA 11/26/19	COPYRIGHT 2019	SHEET 1 OF 1		

DRAWING No.		MAT'L CODE	DESCRIPTION	MATERIAL	SPARES QTY
1	D-2250-484	1903	MATING RING	SILICON CARBIDE	1
2	0000235	9549	O-RING	FLUOROELASTOMER	1
3	C48-2500-001	8270	PRIMARY RING	CARBON	1
4	0000230	9549	O-RING	FLUOROELASTOMER	1
5	A9-2500-036	0550	RETAINER	316 S.S.	1
6	6 2035	0690	SPRING	ALLOY C-276	12
7	A9-2500-012	0550	DISC	316 S.S.	1
8	AG-2375-066	0550	SNAP RING	316 S.S.	1
9	1125005000	0550	SCREW SET	316 S.S.	3
10	H-2500-4058	6702	SLEEVE	316 S.S./CHROME OXIDE COAT	1
11	0000226	9549	O-RING	FLUOROELASTOMER	1
12	H-2002-305	0550	COLLAR	316 S.S.	1
13	H-2002-08000	0236	SCREW SET	HARDENED STEEL	8
14	H-0000-228	0570	SPACER	SINTERED 316L SS	4
15	22252005000	0550	SCREW HEX.	316 S.S.	4
16	H-2500-4059	0550	GLAND PLATE	316 S.S.	1
17	0000243	9549	O-RING	FLUOROELASTOMER	1
18	DB-1371-225	9398	BUSHING ASSY.	CARBON/316 SS	1
19	19193320	0550	SPRING	316 S.S.	3
20	TAB-1162-225	0550	ADAPTER	316 S.S.	1
21	0000152	9549	O-RING	FLUOROELASTOMER	1
22	TAB-1081-0095	0550	PLUG 3/8" NPT	316 S.S.	2
23	21252010300	0550	SCREW CAP SOCKET LOW HEAD	316 S.S.	4
24	TAB-1081-0127	0550	PLUG 1/2" NPT (NOT SHOW)	316 S.S.	1

DRAWING STATUS

☐ INFORMATION ONLY

☒ FOR CUSTOMER APPROVAL
THIS CUSTOMER PROVIDES AN APPROVED COPY MUST BE RETURNED WITHIN TWO WEEKS AFTER DATE OF PRINT.

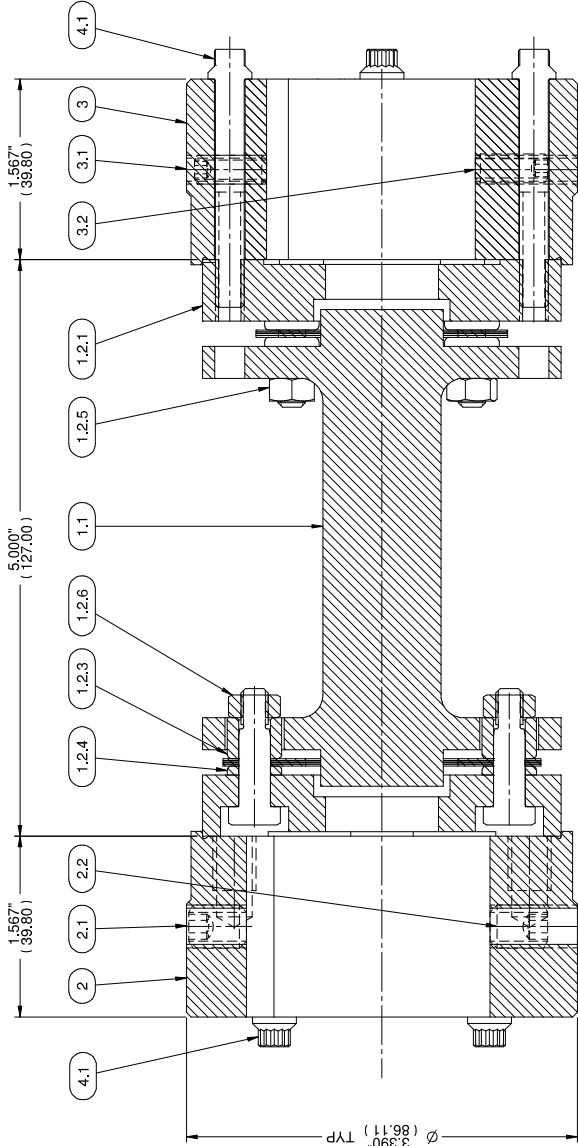
☐ FINAL
NO CHANGING PROCESS HAS BEEN STARTED ANY REQUESTED CHANGE WILL AFFECT PRICE AND/OR DELIVERY PROMISE

DATE OF PRINT: NOVEMBER 13 / 2019

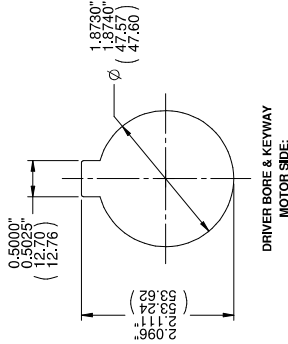
BGM ORDER:OV8844-28

SEAL ASSY NO.		BILL OF MATERIALS NUMBER	
IN : A48-2500-001			
OUT:			
EQUIPMENT REFERENCE		SEAL DATA	
OEM:	GOULDS PUMPS	API PLAN:	APT CODE:
EQUIPMENT TYPE:	PUMP	11/61	21A-SFN-050-11/61
MODEL / FRAME / SIZE	3700L, SX / 1X2-11 A/B/C	INSTRUCTION MANUAL REF.	
SERIAL / DRAWING No.	M03A225-3983		
CUSTOMER INFORMATION		SERVICE DATA	
CUSTOMER:	BOMBAS GOULDS DE MEXICO S. DE R.L. DE C.V.	FLUID	
P.O. NUMBER:	9083	BARRIER FLUID:	
END USER:	INDUSTRIAL PETROPERU S.A.	CHAMBER PRESSURE:	
LOCATION:	PERU	0.00 NORM / 6.84 MAX kg/cm²G	
SERVICE:	MANUEJO DE AGUA DE DESALADO	SUCTION PRESSURE:	
REFERENCE DATA:	03687 POLARIS2694-1.009261 A REV.11	0.00 NORM / 0.00 MAX kg/cm²G	
SEAL FLUSH RATE:	SEAL FLUSH RATE:	DISCHARGE PRESSURE:	
FLUID SYSTEM DRG.	FLUID SYSTEM DRG.	16.70 MIN / 17.00 NORM / 17.20 MAX kg/cm²G	
PROJECT NO.:	03687 POLARIS2694-1.009261 A REV.11	PROCESS TEMPERATURE:	
SEAL SIZE:	Ø2-500"	27 NORTH / 37 MAX °C	
SEAL TYPE:	1648 SINGLE CARTRIDGE	SHAFT SPEED:	
SCALE	NONE	3550 RPM	
DATE	11/15/19	SPECIFIC GRAVITY:	
DRAWN	JRVG	0.995	
CHECKED	JBM	VAPOUR PRESSURE:	
APPROVED	JRMB	0.05 kg/cm²A	
DESIGN AUTH.	MX01EN	VISCOSITY:	
ISSUE		0.85	
DRAWING No.		DE / NDE DRG NO:	
GA-236914-1			
john crane			
A			

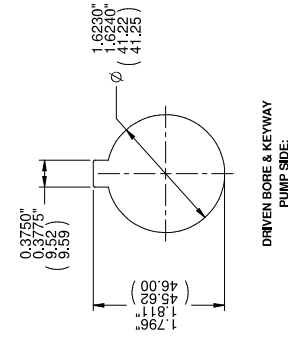
Item	Drawing No.	Mat'l Code	Description	Material	Qty	Spares
1	TSCS-0014-0700-1270		TRANSMISSION UNIT ASSEMBLY	301 SS HH-CARBON STEEL	1	X
1.1	TAB-3707-0888	0400	SPACER	CARBON STEEL	1	
1.2	TAB-4034-0014	FX01	O-RIT	CARBON STEEL 301 SS HH	2	
1.2.1	TAB-4025-0014	0400	GUARD RING	CARBON STEEL	1	
1.2.2	T3114-0014	0453	MEMBRANE	301 SS HH	4	
1.2.3	TAB-3705-0014	0336	SLEEVE	ALLOY STEEL	6	
1.2.4	T1067-0002	0336	OVERLOAD COLLAR	ALLOY STEEL	6	
1.2.5	TAB-3708-0014	0336	DRIVE BOLT	ALLOY STEEL	6	
1.2.6	99061002101	0416	NUT	ISO GR 8	6	
2	K-004-RRRR	0406	MOTOR SIDE HUB	CARBON STEEL	1	
2.1	11371608000	0237	SETSCREW Ø 3/8-16 X 1/2" LG	ALLOY STEEL	1	
2.2	11371608000	0237	SETSCREW Ø 3/8-16 X 1/2" LG	ALLOY STEEL	1	
3	K-003-0062	0406	PUMP SIDE HUB	CARBON STEEL	1	
3.1	1125010000	0237	SETSCREW 1/4-20 X 5/8" LG	ALLOY STEEL	1	
3.2	1125010000	0237	SETSCREW Ø 1/4-20 X 5/8" LG	ALLOY STEEL	1	
4	HC708-002B	FX01	BOLT SET	ISO GR 12.9	2	X
4.1	HC922-002B	0235	HUB BOLT	ISO GR 12.9	4	



MOTOR SIDE



PUMP SIDE



- NOTES:**
1. REFER TO INSTALLATION INSTRUCTIONS IOM TSCS 0717 BEFORE INSTALLATION
 2. ITEM HC922-002B-0235 BOLT TORQUE: 7 FT-LB.
 3. COUPLING COMPONENT BALANCED TO ISO 1940 G1.0
 4. COUPLING MANUFACTURED IN COMPLIANCE WITH AGMA 9000 CLASS 9.

TECHNICAL DATA										Based on 1/3 shaft penetration	
REF	COMPONENT	WEIGHT	INERTIA		TORSIONAL STIFFNESS						
			Lb (kg)	Lb in² x10⁻³ (Kg m²)	4.0X10⁶ Lb in/mrad (Nm/mrad)						
3	PUMP SIDE HUB	3 (1.4)	6 (1.6)	-							
2	MOTOR SIDE HUB	3 (1.3)	5 (1.5)	-							
1	TRANSMISSION UNIT ASSEMBLY	4 (1.7)	4 (1.2)	-							
	COUPLING UNIT ASSEMBLY	10 (4.5)	15 (4.4)	0.08 (0.01)							
MISALIGNMENT CAPABILITY											
AXIAL DEFLECTION		AXIAL FORCE		PARALLEL LATERAL		ANGULAR		ANGULAR			
± in (± mm)		Lb (N)		MISALIGNMENT		MISALIGNMENT		STIFFNESS			
NORMAL	TRANSIENT	NORMAL	TRANSIENT	In (mm)	Degree/End	Degree/End	Lb in (N/m)	Lb in (N/m)			
0.059 (1.50)	0.089 (2.25)	29 (129)	85 (280)	0.032 (0.82)	0.80	0.80	8 (1)				
COUPLING CAPABILITY											
RATED TORQUE [Lb in (Nm)]				PEAK TORQUE [Lb in (Nm)]				SPEED [RPM]			
1,186 (134)				2,372 (268)				25,500			
COUPLING DUTY			POWER		SPEED		TORQUE				
1.5			40.0 HP (29.8 kW)		3,600 RPM		700 Lb in (79 Nm)				
CUSTOMER DATA											
CUSTOMER:		BOMBAS GULIOLDS DE MEXICO S. DE R.L. DE C.V. [PO No] 9083									
CUSTOMER DRGS		M3GA225-232A									
JOHN CRANE REF		OV36861 P4									
PROJECTS No:		341358-AHX01EN									
PLANT ITEM No		311-PM-10B									
END USER:		PETROLEOS DEL PERU PETROPERU S.A.									
DRIVEN EQUIPMENT		PUMP 3700SX 1X2-11A									
DRIVER EQUIPMENT		PUMP 3700SX 1X2-11A									
DRIVER EQUIPMENT		PUMP 3700SX 1X2-11A									
DRIVER EQUIPMENT		PUMP 3700SX 1X2-11A									
DRIVER EQUIPMENT		PUMP 3700SX 1X2-11A									
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DRIVER EQUIPMENT											

1		2		3		4		5		6	
EJE		Dimensões em polegadas						PARA APROBACIÓN		ESTA REVISION SUBSTITUYE Y ANULA LA EMISION ANTERIOR, LA CUAL DEBERA SER ELIMINADA.	
ESTÁNDAR	X							() Aprobado			
OPCIONAL								() Aprobado con comentarios			
ESPECIAL								() No aprobado			
		Sentido de rotación									
		N° TAG: 311-PM-10B; 311-PM-9C									

HOJA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency Código producto : 15177170

Carcasa	: 324/6TS	Tiempo de rotor bloqueado	: 22 s (caliente) 40 s (frío)
Potencia	: 40 HP (30 kW)	Elevación de temperatura ⁴	: 80 K
Polos	: 2	Régimen de servicio	: Cont.(S1)
Frecuencia	: 60 Hz	Temperatura ambiente	: -20 °C hasta +40 °C
Tensión nominal	: 460 V	Altitud	: 1000 m
Corriente nominal	: 45.8 A	Grado de protección	: IP55
Corriente de arranque	: 289 A	Método de enfriamiento	: IC411 - TEFC
Ia/In (p.u.)	: 6.3	Forma constructiva	: F-2
Corriente en vacío	: 11.0 A	Sentido de giro ¹	: Horario
Rotación nominal	: 3555 rpm	Nivel de ruido ²	: 76.0 dB(A)
Deslizamiento	: 1.25 %	Clase de vibración	: B
Par nominal	: 8.17 kgfm	Método de arranque	: Partida directa
Par de arranque	: 250 %	Acoplamiento	: Directo
Par mínimo	: 170 %	Masa aproximada ³	: 252 kg
Par máximo	: 240 %	Plan de pintura	: 212P
Clase de aislamiento	: F	Color	: RAL 5009
Factor de servicio	: 1.15	Categoría	: B
Momento de inercia (J)	: 0.2063 kgm ²		

Potencia	Empezar	25%	50%	75%	100%	125%	Tipo de carga: -
Rendimiento (%)	-	87.7	91.7	92.4	92.4	92.0	Par de la carga: -
Factor de potencia	0.43	0.62	0.82	0.87	0.89	0.87	Inercia de la carga (J=GD ² /4): -

	Delantero	Trasero	Esfuerzos en la base
Tipo de rodamiento	6312-C3	6212-C3	Tracción máxima : 118 kgf
Intervalo de lubricación	12000 h	15000 h	Compresión máxima : 369 kgf
Cantidad de lubricante	21 g	13 g	
Tipo de lubricante	MOBIL POLYREX EM		

Notas:

Normas	Especificación	: MG1 - Part 10	Vibración	: IEEE841 - 6.9
	Ensayos	: MG1 - Part 12	Tolerancia	: MG1 - Part 12
	Ruido	: MG1 - Part 9		

Esta revisión substituye y anula la emisión anterior, la cual deberá ser eliminada.

(1) Mirando la punta delantera del eje del motor.

(2) Medido a 1m y con tolerancia de +3dB(A).

(3) Masa aproximada sujeto a cambios después del proceso de fabricación.

(4) En 100% de la carga total.

Los valores indicados son valores promedio con base en ensayos y para alimentación en red senoidal, sujetos a las tolerancias de la norma NEMA MG 1-12.

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			1/5	0

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CURVA DE PAR Y CORRIENTE X ROTACIÓN

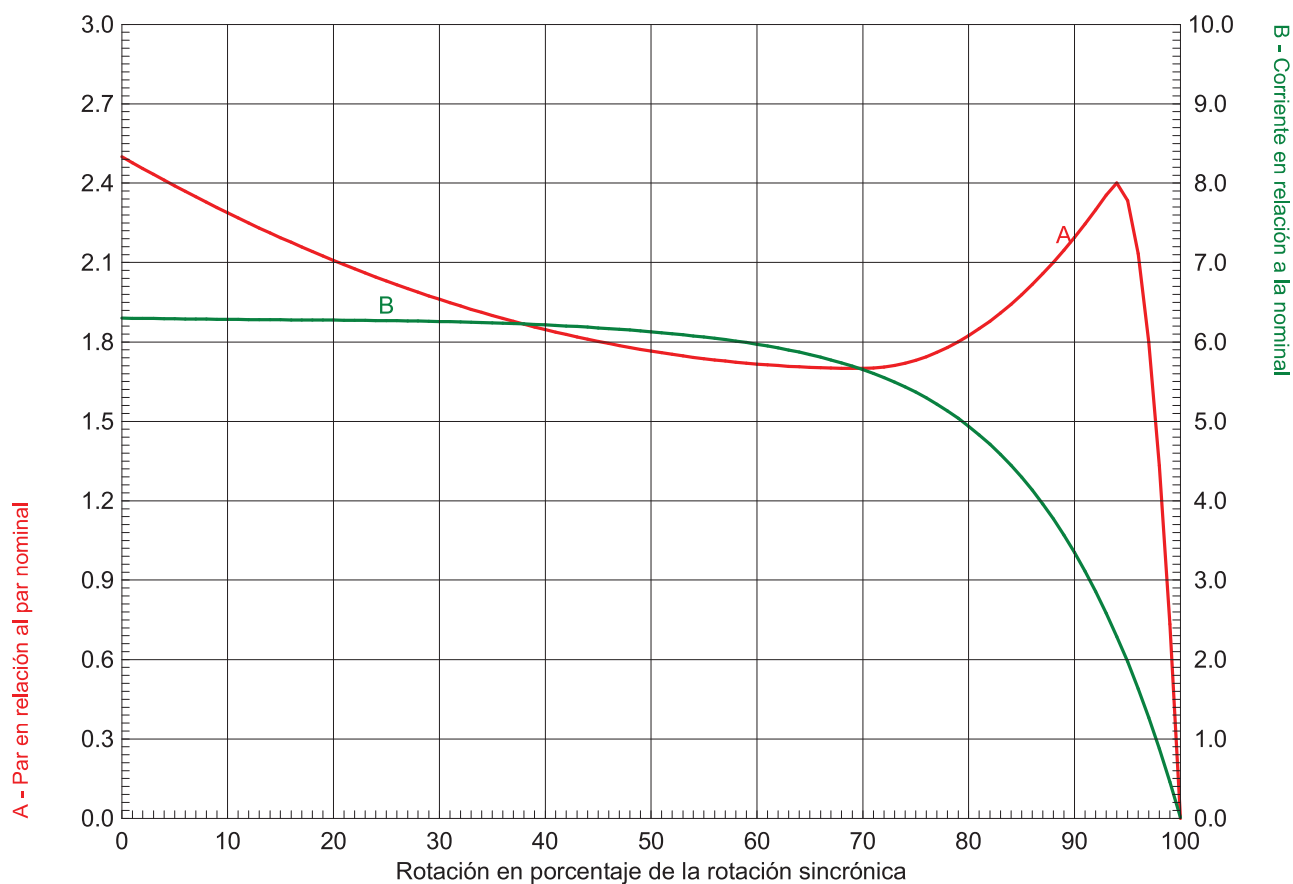


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A	Momento de inercia (J) : 0.2063 kgm ²
Ia/In (p.u.) : 6.3	Régimen de servicio : Cont.(S1)
Par nominal : 8.17 kgfm	Clase de aislamiento : F
Par de arranque : 250 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3555 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 22 s (caliente) 40 s (frío)
Inercia de la carga (J=GD²/4) : 0.2063 kgm²

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/5	0

CURVA DE DESEMPEÑO EN CARGA

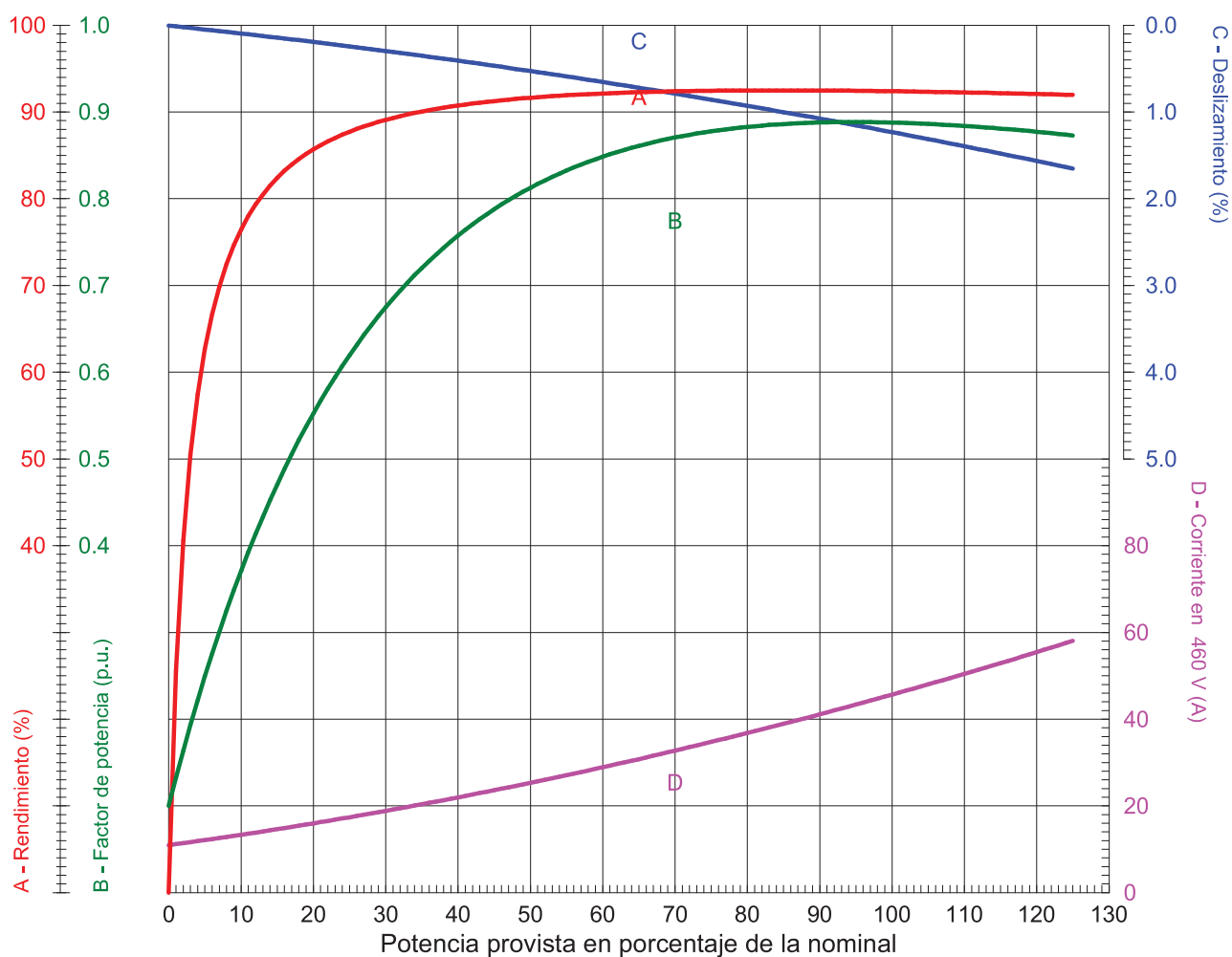


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A
 Ia/In (p.u.) : 6.3
 Par nominal : 8.17 kgfm
 Par de arranque : 250 %
 Par máximo : 240 %
 Rotación nominal : 3555 rpm

Momento de inercia (J) : 0.2063 kgm²
 Régimen de servicio : Cont.(S1)
 Clase de aislamiento : F
 Factor de servicio : 1.15
 Elevación de temperatura : 80 K
 Categoría : B

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			3/5	0

CURVA DE LÍMITE TÉRMICO

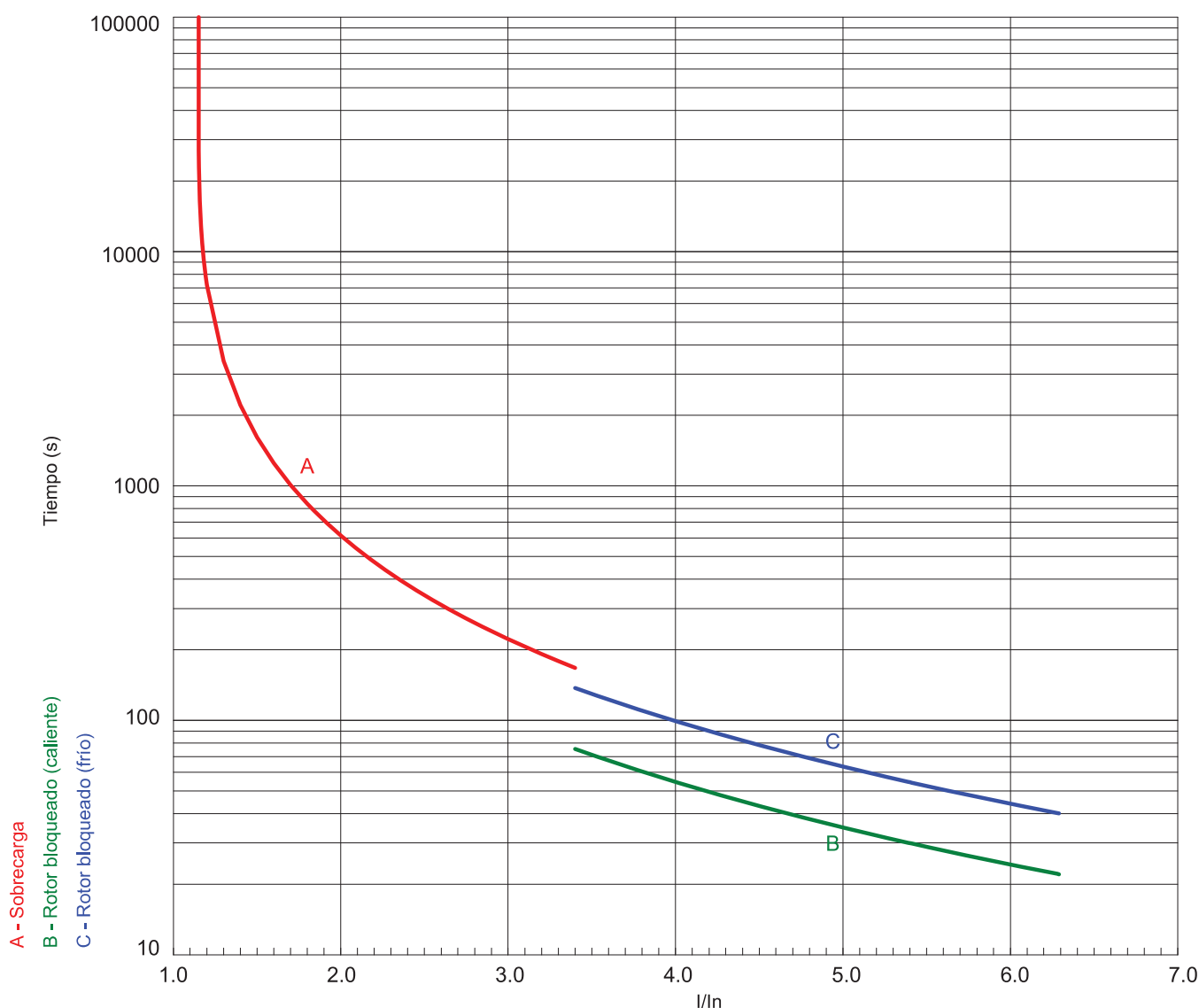


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A	Momento de inercia (J) : 0.2063 kgm ²
Ia/In (p.u.) : 6.3	Régimen de servicio : Cont.(S1)
Par nominal : 8.17 kgfm	Clase de aislamiento : F
Par de arranque : 250 %	Factor de servicio : 1.15
Par máximo : 240 %	Elevación de temperatura : 80 K
Rotación nominal : 3555 rpm	Categoría : B

Constante de calentamiento : 29.8 min
Constante de enfriamiento : 89.3 min

Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C			370611/2019
Verificador	AUTOMATICO				Pagina 4/5
Fecha	25/10/2019				Revisión 0

PLACA DE DATOS



Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170

MADE IN MEXICO 15177170														
	W22		NEMA		IEEE		FOR SAFE AREA		MOD.TE1BFOXON		Class I, Div. 2, Gr. A, B, C & D - T3		Class I, Zone 2, IIC - T3	
	841-2009										US Class II, Div 2, Gr. F and G - T4A			
	PH	3	HP(kW)	40(30)	FRAME	324/6TS								
	V	460	Hz	60										
	A	45.8	SF	1.15										
	RPM	3555	SFA	52.7 A	INS. CL.	F								
	NEMA NOM. EFF.		92.4 %		GUARANT. EFF		91.0 %		P.F.		0.89		→ 6312-C3 60BC03X30 MOBIL POLYREX EM → 6212-C3 60BC02X30 21 g 12000 h	
	CODE	G	DES	B	AMB.	40°C	DUTY	CONT.	FOR USE ON VPWM VFD 1000:1VT, 20:1CT, 1.0SF,T3.					
	ENCL.	TEFC	IP55		WEIGHT	555 Lbs								
Alt.	1000	m.a.s.l.		MODEL:Y04036ET3GSI324/6TSW										

Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A	Momento de inercia (J) : 0.2063 kgm ²
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Rotación nominal : 3555 rpm	Categoría : B

Tiempo de rotor bloqueado 100% : 22 s (caliente) 40 s (frío)
Inercia de la carga (J=GD²/4) : 0.2063 kgm²

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Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/5	0

DIAGRAMA DE CONEXION

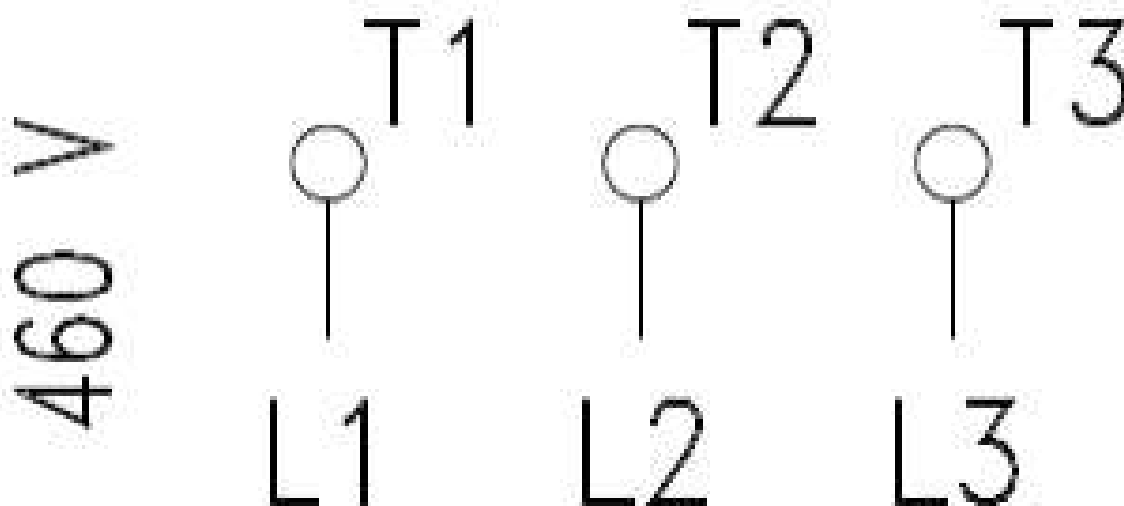


Motor Trifásico de Inducción - Rotor de Jaula

Cliente : BOMBAS GOULDS DE MEXICO S. DE R.

Línea del producto : W22 - IEEE 841 Nema Premium Efficiency

Código producto : 15177170



Desempeño : 40 HP (30 kW) 460 V 60 Hz 2P 324/6TS

Corriente nominal : 45.8 A
Ia/In (p.u.) : 6.3
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Par de arranque : 250 %
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Rev.	Resumen de los cambios		Ejecutado	Verificado	Fecha
Ejecutor	lopezn	TAG:311-PM-10B / 311-PM-9C		370611/2019	
Verificador	AUTOMATICO			Pagina	Revisión
Fecha	25/10/2019			2/5	0