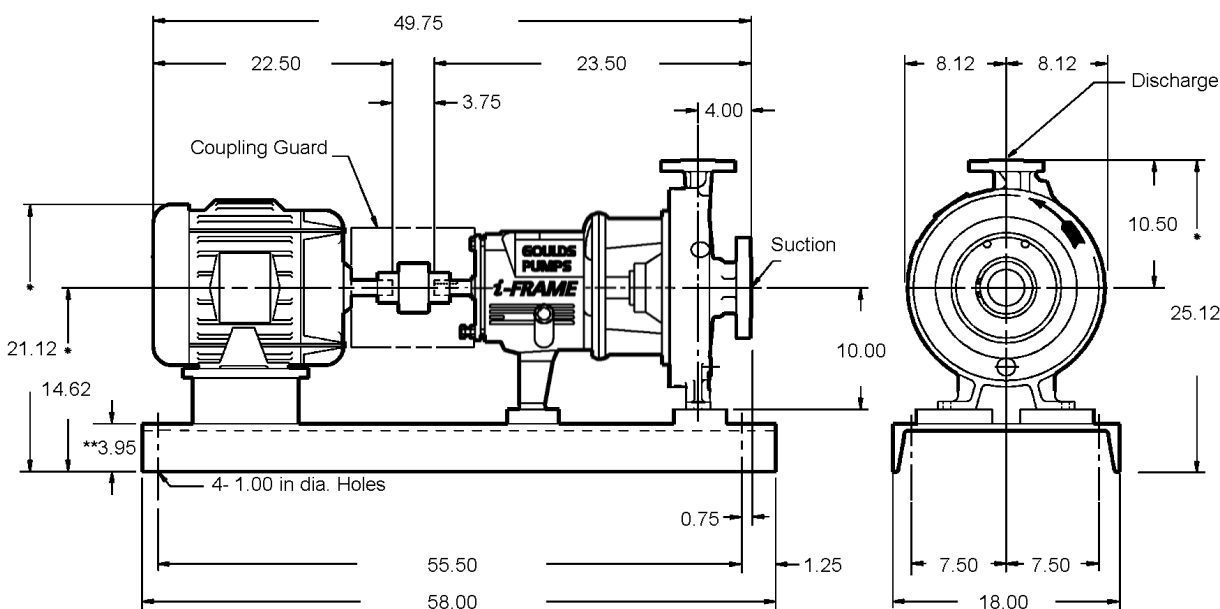


Rev.	By	Rev. Description	Rev. Date	PROJECT INFORMATION										Num.	NOTE	
				Customer: INTI Power Inc. Customer PO: 20090811-002 End User: -- Project: EDC Tacoma Skid Tag: TBD IFS Job Number: 24876 IFS Document: EQ-24876-01												
A	AP	For approval	3-Sep-09													
EQUIPMENT LIST																
Seq.	Qty.	Tag Number	Item Type	Connections			Design Pressure (psig)	Design Temp. (deg F)	Operating Pressure (psig)	Operating Temp. (deg F)	Description	Service	Reference P&ID	Manufacturer	Model Number	Comments
				(inches)	Type	Class										
1	3	P-300 A/B/C	Centrifugal Pump Suction	3"	RF	300#	100	120	ATM	70	Liquid Fuel Forwarding Pump Rated Flow: 40 gpm Head: 187.3 ft Rated efficiency: 21% Rated Power: 11.7 hp NPSHr: 2.6 ft Min. Flow: 4.2 gpm @ 62 psig Construction Materials Casing/Impeller/Shaft: Ductil iron / 316 SS / SAE 4140 Mechanical Seal: John Crane 5610Q (Carbon vs Silicon Carbide with Viton)	Liquid Fuel Forwarding	P-24876-01	Goulds Pumps	LF3196 LTI 1.5 x 3 - 13	
			Centrifugal Pump Discharge	1-1/2"	RF	300#	100	120	60	70						
2	3	MP-300 A/B/C	Centrifugal Pump Motor	NA	NA	NA	NA	NA	NA	NA	Liquid Fuel Forwarding Pump Motor Electric Motor 15 hp 3 ph / 60 Hz / 460 volts Insulation F, SF 1.15 Speed 1800 RPM Frame 254T Enclosure: TEFC Premium efficiency	Liquid Fuel Forwarding	P-24876-01	Baldor	NA	Will be supplied per pump vendor
3																
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**Pump specification**

SUCT.FLANGE SIZE	3"	DRILLING	ANSI 300#	FACING	RF	FINISH	SERRATED
DISCH.FLANGE SIZE	1.5"	DRILLING	ANSI 300#	FACING	RF	FINISH	SERRATED
PUMP ROTATION (LOOKING AT PUMP FROM MOTOR)	CW						
TYPE OF LUBRICATION	FLOOD OIL					COOLED	NO
TYPE OF STUFFING BOX	TAPER BORE PLUS WITH AXIAL RIBS					COOLED	NO
TYPE OF SEALING	MECHANICAL SEAL						

Weights and Measurements

PUMP	285.0 lb
MOTOR/CPLG	235.0/8.2 lb
BASEPLATE	303.0 lb
TOTAL	831.2 lb
GR.VOLUME w/BOX	26.1 ft ³
GR.WEIGHT w/BOX	962.2 lb

Motor specification

MOTOR BY	PUMP MFG	MOUNT BY	PUMP MFG	MFG.	BALDOR - RELIANCE
FRAME	254T	POWER	15.0 hp	RPM	1800
PHASE	3	FREQUENCY	60 HZ	VOLTS	460
INSULATION	F	S.F.	1.15		
ENCLOSURE	TEFC PREMIUM EFFICIENCY (CP2333T-4 W/ 115V SPACE HEATER ADDED M21A)				

Notes and References

- MTR DIMENSIONS ARE APPROXIMATE
- INSTALL FOUNDATION BOLTS IN PIPE SLEEVES
- ALLOW FROM 0.75 to 1.50in. FOR GROUTING. SEE INSTRUCTION BOOK FOR DETAILS.
- * Tolerance is +0 -0.50
- DISCH. FLANGE WILL BE THREADED AS 4-3/4-10 UNC-2B
- ** Foundation bolt grip thickness

Auxiliary specification

COUPLING BY	PUMP MFG	CPLG TYPE	REXNORD OMEGA REX ELASTOMER- ES-5 (STANDARD ORANGE ELEMENT)
CPL GUARD BY	PUMP MFG.	CPLG GUARD MATL.	CARBON STEEL
BASEPLATE	FABRICATED STEEL TO ANSI B73.1M 1991 D07091A		
MECH.SEAL	JOHN CRANE 5610Q (CARBON VS SILICON CARBIDE WITH VITON) PER QUOTE HC-MGH-09-0712-		

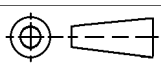
FOR PUMP TAPPED OPENINGS REFER TO DWG.:
TSHM09-08-11 01 / Diesel Fuel #2

DRAWING IS FOR REFERENCE ONLY.
NOT CERTIFIED FOR CONSTRUCTION UNLESS SIGNED.

Customer: INTEGRATED FLOW SOLUTIONS
Serial No:
Customer P.O. No:
Item No: Diesel Fuel #2 (Base Offer)
Project No: LM2500
End User: INTEGRATED FLOW SOLUTIONS
Service: Liquid Fuel Pump

DRAWING NO SHM09-08-11 01/Diesel Fuel #2

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ITT Corp



All dimensions are in inches.
Drawing is not to scale
Weights (lbs) are approximate

Model: LF3196**Size: 1.5x3-13****Group: LTi****60Hz****RPM: 1750****Stages: 1**

Job/Inq.No. : LM2500 Pumps

Purchaser : INTEGRATED FLOW SOLUTIONS

End User : INTEGRATED FLOW SOLUTIONS

Item/Equip.No. : Diesel Fuel #2 (Base Offer)

Service : Liquid Fuel Pump

Order No. :

Issued by : Shane McAfee

Quotation No. : SHM09-08-11 01

Date : 08/20/2009

Certified By :

Rev. : 0

Operating Conditions

Liquid: Diesel Fuel #2

Temp.: 100.0 deg F

S.G./Visc.: 0.740/66.000 cSt

Flow: 40.0 gpm

TDH: 187.3 ft

NPSHa: 33.9 ft

Solid size:

% Susp. Solids
(by wtg):

Max. Solids Size: 0.3100 in

Pump Performance

Published Efficiency: 21.0 %

Rated Pump Efficiency: 12.0 %

Rated Total Power: 11.7 hp

Non-Overloading Power: 13.8 hp

Imp. Dia. First 1 Stg(s): 12.2500 in

NPSHr: 2.6 ft

Shut off Head: 204.4 ft

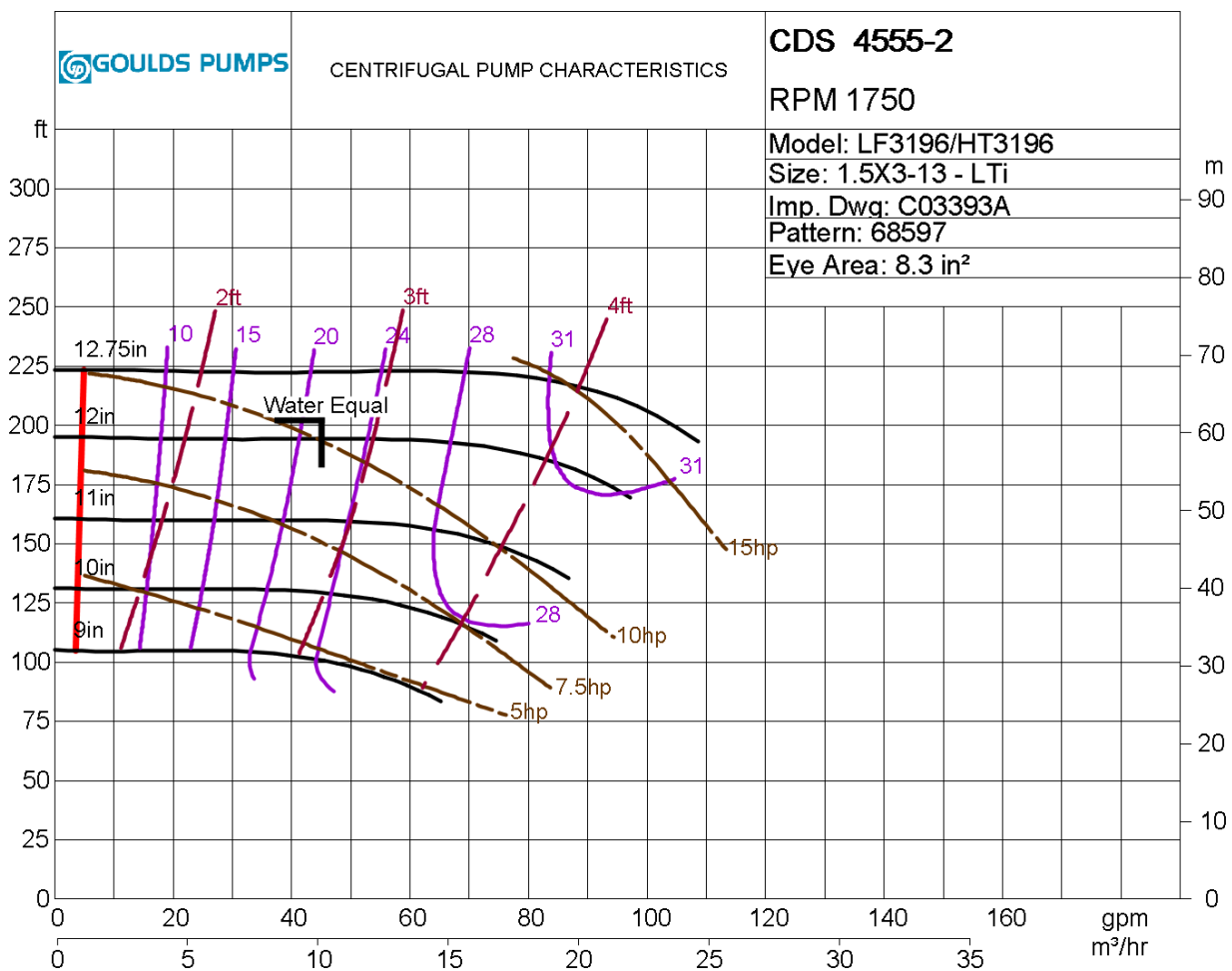
Vapor Press:

Suction Specific Speed: 6,125 gpm(US) ft

Min. Hydraulic Flow: 4.2 gpm

Min. Thermal Flow: N/A

- Notes:**
1. Power and efficiency Losses and Viscous effect are not reflected on the curve below.
 2. Elevated temperature effects on performance are not included.



Model: LF3196**Size: 1.5x3-13****Group: LTi****60Hz****RPM: 1750****Stages: 1**

Job/Inq.No. : LM2500 Pumps

Purchaser : INTEGRATED FLOW SOLUTIONS

End User :

INTEGRATED FLOW SOLUTIONS

Rev. : 0

Issued Shane McAfee
by :

Item/Equip.No. : Diesel Fuel #2 (Base Offer)

Quotation No. : SHM09-08-11 01

Date : 08/20/2009

Service : Liquid Fuel Pump

Order No. :

Certified By :

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