

EQUI-PUMP SA DE CV

Proposal No: MS06-01-13 01

January 13, 2006

Item No: ITEM 001

MODEL:3196 STX SIZE: 1.5x3-8 QTY: 1

Operating conditions

SERVICE

LIQUID Water Temp. 70.0 deg F, SP.GR 1.000, Viscosity 1.000 cp

CAPACITY Rated 50.0 gpm

HEAD 131.2 (ft)

Performance at 3500 RPM

PUBLISHED EFFY 40.5% (CDS)

RATED EFFY 40.5%

RATED POWER 4.1 hp (Run out 6.6 hp)

NPSHR N/A

DISCH PRESSURE(R) 57.5 psi g (58.5 psi g @ Shut off)

PERF. CURVE 2102-3 (Rotation CW viewed from coupling end)

SHUT OFF HEAD 135.1 ft

MIN. FLOW Continuous Stable: 26.9 gpm Hydraulic: 26.9 gpm Thermal: N/A

Materials

CONSTRUCTION Ductile iron

CASING Ductile iron

ST.BOX COVER Ductile iron

IMPELLER Ductile iron - Open (5.3750 in rated, max=8.0000 in, min=5.0000 in)

CASING GASKETS Aramid Fiber with EPDM Rubber

IMPELLER O-RING Teflon

SHAFT MATERIAL SAE 4140

SHAFT SLEEVE 316SS

LUBRICATION Flood oil

SEAL CHAMBER Standard non cooled

GLAND 316SS Flush vent and drain with carbon restricting bushing

BEARINGS SKF 6207 (Inboard) SKF 5306 A/C3 (Outboard)

COUPLING Rexnord - Omega Rex Elastomer- ES-3

COUPLING GUARD Carbon steel

BASEPLATE Fabricated steel to ANSI B73.1M 1991 C04674A

Sealing Method

MECHANICAL SEAL Goulds - Seal Plus - SP1CS (Carbon vs Silicon Carbide) - (Cartridge - Single)

Goulds Drawing No.: C07275A01A , Goulds Part No.: GPSS1375SCS

Flanges

150# flat face

Liquid end features

Impeller balanced to ISO 1940 G6.3

Frame features

Labyrinth oil seals -Inpro VBXX-D

Ductile iron frame ring

Testing

Non witnessed casing hydrostatic-test

Painting

Goulds Blue water reducible coating (Strathmore)

Warranty

3 Year Standard Warranty (All the components, manufactured by ITT Goulds pumps, in the liquid end and power end are covered).

Driver : Electric motor Manufacturer : Pump mfg`s Choice

FURNISHED BY	Pump mfg	MOUNTED BY	Pump mfg
RATING	7.5 hp (5.6 KW)	ENCLOSURE	TEFC - Epact Efficient
PHASE/FREQ/VOLTS	3/60 Hz/230/460	SPEED	3600 RPM
INSULATION/SF	F/1.15	FRAME	213T

Weights and Measurements

TOTAL NET UNIT WEIGHT / VOLUME	457.4 lb / 7.0 ft³
TOTAL GROSS UNIT WEIGHT / GROSS VOLUME	528.4 lb / 14.2 ft³

Program Version 1.13.0.0

Our offer does not include specific review and incorporation of any Statutory or Regulatory Requirements and the offer is limited to the requirements of the design specifications. Should any Statutory or Regulatory requirements need to be reviewed and incorporated then the Customer is responsible to identify those and provide copies for review and revision of our offer.

Our quotation is offered in accordance with our comments and exceptions identified in our proposal.

Hydraulic Details

TEMPERATURES	VALUE	PROTECTED
Max.temperature limit (deg F)	350.0	
Min.temperature limit (deg F)	-25.0	

Motor Data	VALUE	PROTECTED
(C) Length of driver including shaft (in)	18.00	
(D) Motor dim. (in)	5.25	
(O) Driver O dimension (in)	10.88	
(U) Driver shaft diameter (in)	1.3750	
Driver weight (lb)	140.0	

Standard Datasheet

CENTRIFUGAL PUMP SPECIFICATION

CLIENT	CONTRACT NO:		
ADDRESS:	BY: Meliton Sanabria	DATE:	
PLANT LOCATION:	APPROVED:	DATE:	
ITEM: ITEM 001	EQUIP.IDENT.NO:		

PUMPING CONDITIONS

FLUID PUMPED: Water	PUMP MATERIAL CLASS Ductile iron		
PUMPING TEMP. (PT) 21.1 deg C 70.0 deg F	VISCOSITY @ PT 1.000 CP	PH	
SPECIFIC GRAVITY @ PT 1.000	DENSITY @ PT 0.0	Lb/ft³	
VAPOR PRESS. @ PT mmHg 0.00 PSI ABS	SOLIDS CONTENT %WT		

PERFORMANCE CHARACTERISTICS

CAPACITY, GPM	NORMAL 0.0	RATED 50.0	MIN. HYDRAULIC / THERMAL FLOW 26.9 / N/A
TDH, FT: NORMAL	RATED 131.2	DISCH.PRESSURE 57.5 PSI G	
SUCTION PRESS., PSI G	RATED 0.0	MAXIMUM 0.0	
NPSH, FT ABS: AVAIL.(NORMAL) 0.0	(RATED) N/A	REQD	BY PUMP CURVE NO. 2102-3
BHP, hp (RATED) 4.1	(MAX) 6.6	EFFICIENCY (NORMAL)	(RATED) 40.5

PUMP DESCRIPTION

TYPE 3196 STX	SIZE 1.5x3-8	RPM 3500	ROTATION <input checked="" type="checkbox"/> CW <input type="checkbox"/> CCW
IMPELLER TYPE Open	DIA. in (RATED) 5.3750	(MAX) 8.0000	(MIN BY MFR) 5.0000
<input type="checkbox"/> PACKING TYPE	SIZE	NO. OF RINGS 0	SEAL CAGE <input type="checkbox"/> YES <input type="checkbox"/> NO
<input checked="" type="checkbox"/> MECH.SEAL MFR and MODEL/DYN SEAL Goulds - Seal Plus - SP1CS (Carbon vs Silicon Carbide)			
SUCTION <input checked="" type="checkbox"/> FLGD <input type="checkbox"/> SCRD	SIZE 3"	ANSI 150#	LB.ASA FACING FF POSITION <input checked="" type="checkbox"/> CL <input type="checkbox"/> SIDE <input type="checkbox"/> FACING UP
DISCHARGE <input checked="" type="checkbox"/> FLGD <input type="checkbox"/> SCRD	SIZE 1.5"	ANSI 150#	LB.ASA FACING FF POSITION <input checked="" type="checkbox"/> TOP CTR <input type="checkbox"/> TANGENT <input type="checkbox"/> SIDE
BEARINGS (MFR AND TYPE): RADIAL SKF 6207		THRUST SKF 5306 A/C3	(VERT.) THRUST <input type="checkbox"/> UP <input type="checkbox"/> DOWN
MATERIAL: CASING Ductile iron	IMPELLER Ductile iron	SHAFT/SLEEVE SAE 4140 / 316SS	
OTHER MATERIAL			
CASING: <input type="checkbox"/> VENT	NPT <input type="checkbox"/> DRAIN	NPT	GAGE CONN. <input type="checkbox"/> SUCTION <input type="checkbox"/> DISCHARGE / NPT
STUFF.BOX: <input type="checkbox"/> TAP FOR FLUSH	NPT <input type="checkbox"/> TAP FOR DRAIN	NPT	<input type="checkbox"/> JACKETED NPT CONN:COOL WATER RQD GPM
CASING: NO OF STAGE 1	MOUNTING: <input type="checkbox"/> CENTERLINE <input checked="" type="checkbox"/> FOOT	<input type="checkbox"/> BRACKET	<input type="checkbox"/> VERTICAL
CASING SPLIT: <input type="checkbox"/> HORZ <input checked="" type="checkbox"/> VERTICAL	TYPE OF VOLUTE: <input checked="" type="checkbox"/> SINGLE <input type="checkbox"/> DOUBLE <input type="checkbox"/> DIFFUSER		
COVER PLATE <input type="checkbox"/> JACKETED	NPT CONN. <input type="checkbox"/> GLAND COOLING NPT CONN.	BEARING HOUSING <input type="checkbox"/> JACKETED NPT	
PUMP BUILT TO: <input checked="" type="checkbox"/> ANSI <input type="checkbox"/> API STD 610	<input type="checkbox"/> OTHER	SPECIFICATIONS	

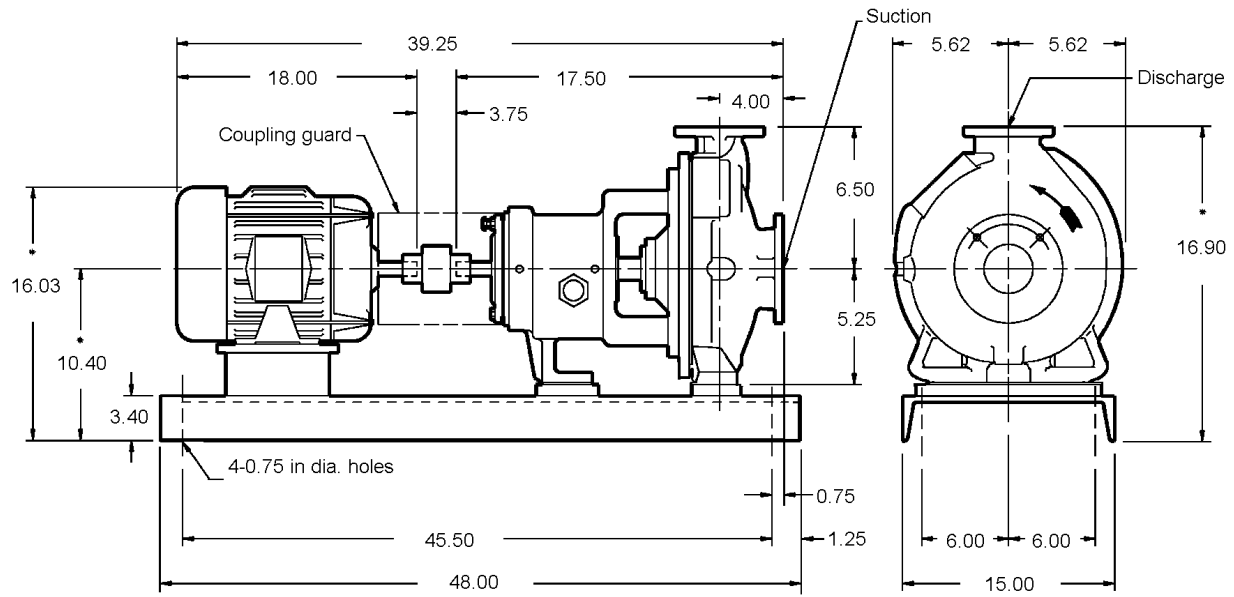
COUPLING TYPE: Spacer	MAKE: Rexnord / Omega Rex Elastomer- ES-3	GUARD: Carbon steel
LUBRICATION: Flood oil	HYDROSTATIC TEST PRESSURE: 0.0	PSI G
WEIGHT (LB): PUMP 108.0	DRIVER 140.0	BASEPLATE 205.0
PUMP SERIAL NO.:		
PUMP CURVE NO.: 2102-3		
SECTIONAL DWG.NO.:		

DRIVER

<input checked="" type="checkbox"/> ELECTRIC MOTOR	7.5 HP	230/460 V	3 PH	CPS 3600 RPM	EQUIP #
MFR Pump mfg's Choice	CLASS		GROUP		
<input type="checkbox"/> STEAM TURBINE	MFR	STEAM	PSI G	EXHAUST	PSI G
<input type="checkbox"/> OTHER: MFR					

REMARKS:						
REV.NO.	REVISION	BY	DATE	APPD	DATE	VENDOR ITT INDUSTRIES
						P.O.NO
						C.O.NO
						P.O.ITEM NO

ACCOUNT DIST.NO.	
DELIVERY	
NOT BEFORE DATE	



Pump specification

SUCT.FLANGE SIZE	3"	DRILLING	ANSI 150#	FACING	FF	FINISH	SERRATED
DISCH.FLANGE SIZE	1.5"	DRILLING	ANSI 150#	FACING	FF	FINISH	SERRATED
PUMP ROTATION (LOOKING AT PUMP FROM MOTOR)				CW			
TYPE OF LUBRICATION	FLOOD OIL			COOLED	NO		
TYPE OF STUFFING BOX	STANDARD NON COOLED			COOLED	NO		
TYPE OF SEALING	MECHANICAL SEAL						

Weights and Measurements

PUMP	108.0 lb
MOTOR/CPLG	140.0/4.4 lb
BASEPLATE	205.0 lb
TOTAL	457.4 lb
GR.VOLUME w/BOX	14.2 ft ³
GR.WEIGHT w/BOX	528.4 lb

Motor specification

MOTOR BY	PUMP MFG	MOUNT BY	PUMP MFG	MFG.	PUMP MFG'S CHOICE
FRAME	213T	POWER	7.5 hp	RPM	3600
PHASE	3	FREQUENCY	60 HZ	VOLTS	230/460
INSULATION	F	S.F.	1.15		
ENCLOSURE	TEFC - EPACT EFFICIENT				

Notes and References

<ul style="list-style-type: none"> - 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 -0.5
- DISCHARGE FLANGE HAS 4-1/2-13 UNC TAPPED HOLES
FOR PUMP TAPPED OPENINGS REFER TO DWG.: TMS06-01-13 01 / ITEM 001

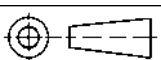
Auxiliary specification

COUPLING BY	PUMP MFG	CPLG TYPE	REXNORD OMEGA REX ELASTOMER- ES-3
CPL GUARD BY	PUMP MFG.	CPLG GUARD MATL.	CARBON STEEL
BASEPLATE	FABRICATED STEEL TO ANSI B73.1M 1991 C04674A		
MECH.SEAL	GOULDS SEAL PLUS SP1CS (CARBON VS SILICON CARBIDE)		

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

Customer: EQUI-PUMP SA DE CV
Serial No:
Customer P.O. No:
Item No: ITEM 001
Service:

DRAWING NO MS06-01-13 01/ITEM 001



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

Model: 3196

Size: 1.5x3-8

Group: STX

60Hz

RPM: 3500

Stages: 1

Job/Inq.No. :

Purchaser : EQUI-PUMP SA DE CV

End User :

Issued by : Meliton Sanabria

Item/Equip.No. : ITEM 001

Quotation No. : MS06-01-13 01

Date : 01/13/2006

Service :

Order No. :

Certified By :

Operating Conditions

Pump Performance

Liquid:	Water	Actual Pump Eff.:	40.5 %	Suction Specific Speed:	8,195 gpm(US) ft
Temp.:	70.0 deg F	Actual Pump Power:	4.1 hp	Min. Hydraulic Flow:	26.9 gpm
S.G./Visc.:	1.000/1.000 cp	Total Power Loss:		Min. Thermal Flow:	N/A
Flow:	50.0 gpm	Rated Total Power:	4.1 hp		
TDH:	131.2 ft	Imp. Dia. First 1 Stg(s):	5.3750 in		
NPSHa:		NPSHr:	N/A	Non-Overloading Power:	6.6 hp
Solid size:		Shut off Head:	135.1 ft		
% Solids:		Vapor Press:			
Max. Solids Size:	0.4380 in				

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

