

APPENDIX - A

APPENDIX A – BEAUJOLAIS COULEE SITE PLAN

Site Plan

16" Vertical PTO Drive Pump

SD#5

Submission No. : 3	SUBMITTAL REVIEW		AECOM
Project No. : 60221826	Discipline : CIVIL		
<input checked="" type="checkbox"/> Reviewed - No Comment	<input type="checkbox"/> Reviewed - Revise and Resubmit		
<input type="checkbox"/> Reviewed - As Noted	<input type="checkbox"/> Review by Consultant Not Required		
<p>Review is solely for general conformity with contract. The Consultant does not warrant or represent that information in this submittal is accurate or complete. Review does not relieve Contractor of responsibility for errors/omissions in designs, including this submittal, that are the Contractor's responsibility, and for conforming/correlating with all quantities/dimensions, performing the Work, selecting performance means/methods, coordinating with other parts of the Work/between trades, and performing the Work safely. Notwithstanding this review, Contractor remains solely responsible for contract compliance.</p>			
By : <i>[Signature]</i>	Date : Nov 9/12		

SUBMITTAL

16" VERTICAL PTO DRIVE PUMP

Mid Continental Pump Supply LTD.
Winnipeg, Manitoba
City of Winnipeg

August 2012





Pumps – Dredges – Power Units — Custom or Standard

Manufacturers of reliable Crisafulli products
supported by superior service

SRS Crisafulli, Inc. WARRANTY

The Company warrants all parts and assemblies to be free from defects in material and workmanship for a period of one (1) year after the date of acceptance unless otherwise stated on a SRS Crisafulli, Inc. ("SRSC" or the "Company") sales order document. This warranty does not cover normal wear, failure caused by corrosive applications, failure caused by abrasive materials, physical abuse or use for other than designed purposes. All parts and assemblies reported in writing to SRSC as defective in these respects, shall be repaired or replaced (FOB shipping point) without charge for routine shipping (priority shipping will be made optionally available at the customer's expense), providing that inspection by SRSC shows such defects exist. In all cases involving warranty returns, the transportation charges must be prepaid. In no event shall SRSC assume any liability for consequential cost or damage of any kind arising in connection with the use, inability to use, misuse or misapplication of SRSC products. BUYER IS SOLELY RESPONSIBLE FOR DETERMINING THE SUITABILITY OF GOODS SOLD HEREUNDER FOR USE BY BUYER.

To validate this warranty for SRSC equipment including SRSC dredging systems the customer must employ the Company to supervise the installation and to train the customer's staff in the operation of the Company's equipment. Further, SRSC's obligations pursuant to this warranty shall exist only when the customer has paid in full any moneys due SRSC, as set forth in the initial Sales Order and any modifications thereto, for the equipment subject to the warranty.

The following equipment is covered by the original manufacturer's warranty and is thus not covered by the Company's warranty: Electronic components, electric motors, bearings, and other vendor parts. SRSC is not responsible for expenses incurred due to failure of vendor parts including, but not limited to: freight, labor, travel expenses, and service fees, etc.

SRS Crisafulli, Inc. reserves the right to make all final decisions concerning part and assembly replacement, repair and all directly related costs. If a customer fails to comply with the stipulated conditions of operation, maintenance, and/or application of products purchased from the Company, or fails to permit SRSC to inspect defects before repairing, or alters the product in any way, the Company's warranty is void and the responsibility of SRSC shall terminate.

SRS Crisafulli, Inc. shall not be held responsible for our products after delivery to a transportation company, however, if there are shortages of equipment or damage, we will, when requested, cooperate fully in obtaining an adjustment.

No person, agent, or representative is authorized to give any warranty or make any representation contrary to the foregoing warranty by SRSC.

Due to the widely varying conditions under which SRSC products are used, the Company offers no warranty, expressed or implied, as to length of service life of equipment or parts.

Chad G. Schipman
Warranty Manager/Director of Mfg.
SRS Crisafulli, Inc.

April 13, 2012



Headquarters & Operations: PO Box 1051 • 1610 Crisafulli Drive • Glendive MT 59330-1051 • USA
Phone: 406-365-3393 • Toll-free: 1-800-442-7867 • Fax: 406-365-8088
Websites: www.crisafulli.com www.dredge.net e-mail: srsc@crisafulli.com
Corporate office: PO Box 617 • Old Greenwich CT 06870 • USA • Phone: 203-637-5494

16" L-Series Vertical PTO Driven Pump Mid Continental Pump Supply LTD. Specifications

Pump Dimensions

Base to Baseplate	6.58m
Baseplate Width	2.133m
Baseplate Length	1.933m
Base to Center Discharge	7.23m

Pump

Size	16" (406.4 mm) L-Series
Volute	3/8" A-36 Mild Steel
Impeller	21" Dia., 3/8" A-36 Mild Steel
Baseplate Material	1/2" A-36 Mild Steel With Reinforcing Ribs
Design Speed	Gearbox PTO -540 RPM
Gearbox	Curtis Right Angle Model 615MA, 1:1 Ratio, Straight Bevel Gears, 2" Shafts,
Pump Shaft	2-7/16" 1045 Turned, Ground, and Polished
Shaft Coupler	Rexnord Falk Wrapflex Coupler, Non-captured Elastomer Style Size 50R
Discharge	16" (406.4 mm) Diameter, 0.219" (5.56 mm) Wall Thickness, 16" Elbow
Discharge Finish	16" Flange
Extended Lubrication Lines	Steel
Max. Spherical Solids	5.25"(136.53mm)

Discharge Assembly

Baseplate Width	700mm
Baseplate Length	700mm
Baseplate to Center Discharge	648mm
Baseplate Material	1/2" Steel
Discharge	16" LR Steel Elbow with Extensions

Bearing Protection System

Type	Fully Enclosed Non-Ventilated Bearing Boxes with Extended Steel Lubrication Lines
Seals	Double Lip
Bearings	Heavy Duty Grease Lubricated 40,000-Hour AFBMA L10 Rating

Painting

Prime Coat	Enamel Primer
Finish Coat	Red Enamel to 4.0 mils

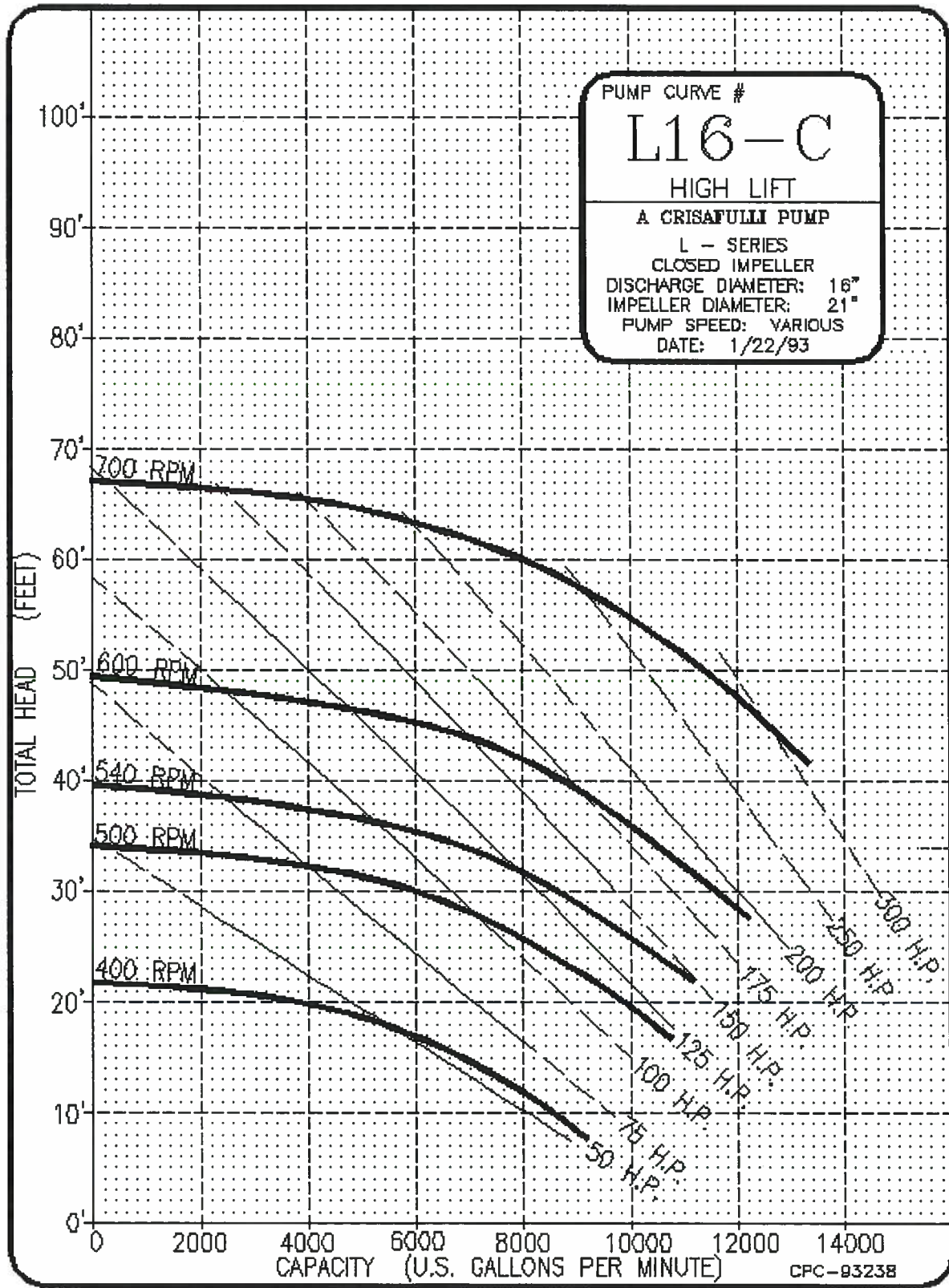
Extended PTO Shaft

Shaft connection	Shaft extension from bearing box 1529mm
PTO shaft	PTO drive shaft 38.75" compressed 58" extended Removable shipped un-attached
Shaft Guard	Removable shaft guard #9 standard expanded metal

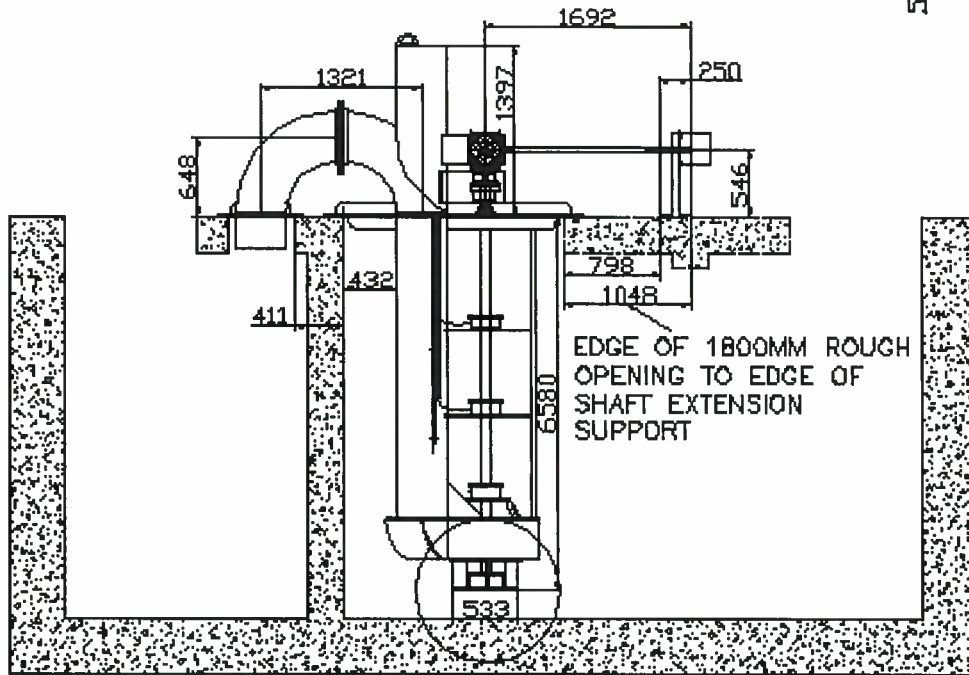
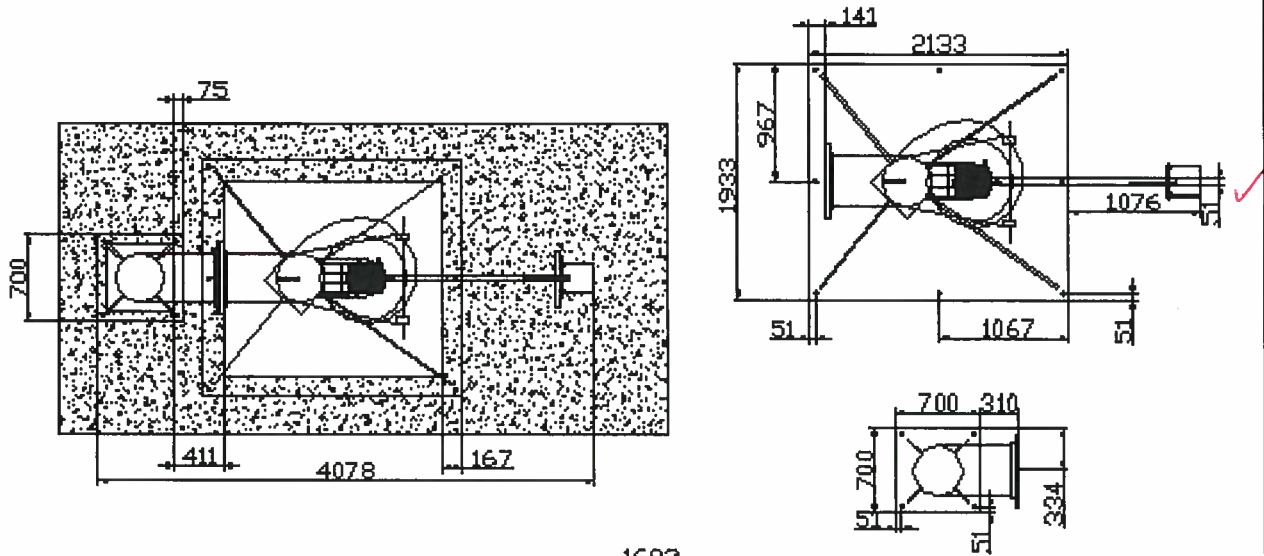
**16" L-Series Vertical PTO Driven Pump
Mid Continental Pump Supply LTD. Specifications**

Spare Parts

1004996	2-7/16" Thrust Bearing	Qty: 1
1000344	2-7/16" Flange Bearing	Qty: 5
1000166	2-7/16" Bearing Box Gasket	Qty: 4
1000161	2-7/16" Lip Seal	Qty: 7

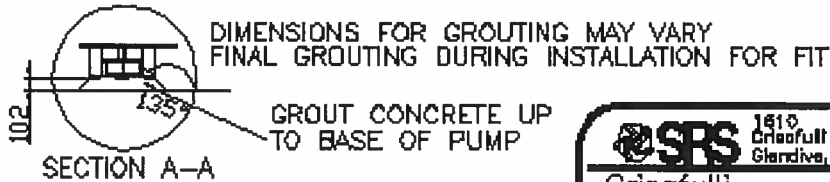


NOTE: VERIFY GEARBOX ORIENTATION IS CORRECT.

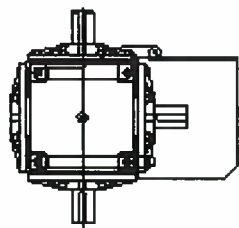
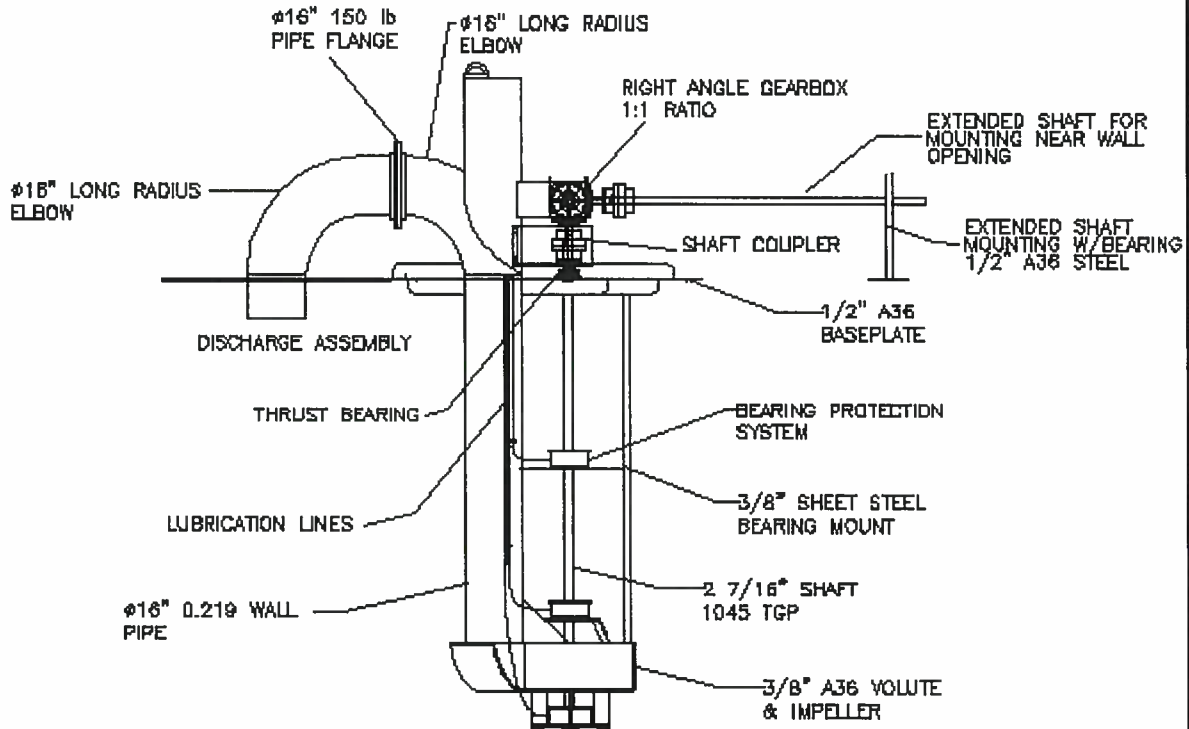


SECTION A-A

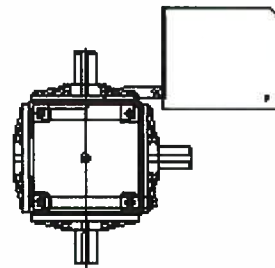
NOTE: SUPPORT MUST BE ADDED TO SECTION A-A



	1810 Crisafulli Dr. Glendive, MT 59330 USA	PHONE: 800-442-7867 FAX: (406) 365-8088
	Crisafulli Sludge Removal Systems	
16' VERTICAL L SERIES 6.58M BASE TO BASEPLATE		
DATE: 08/16/12	BY: BJW	FILE: 12278




PTO GUARD
HINGED AND PINNED



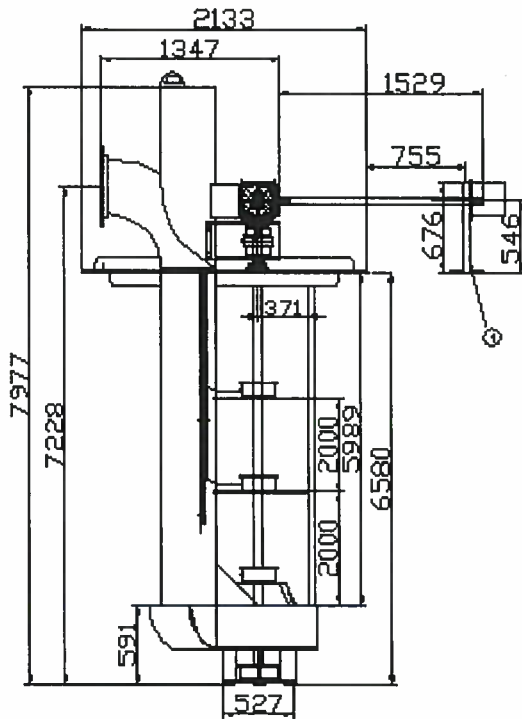
PTO GUARD
HINGED OPEN



55E PTO DRIVE SHAFT

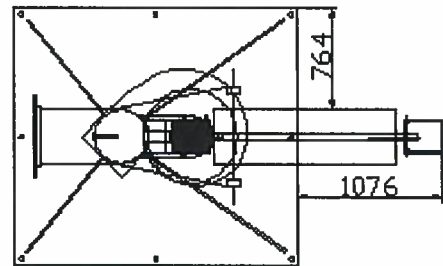
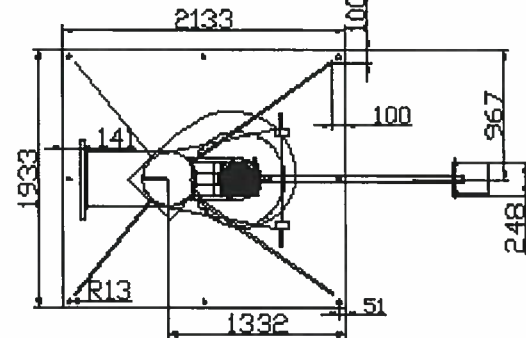
	1610 Crisafulli Dr. Glendive, MT 59330 USA	PHONE: 800-442-7867 FAX: (406) 365-8088
	Crisafulli Sludge Removal Systems	
16" VERTICAL L SERIES MATERIAL SPECIFICATIONS		
DATE: 08/16/12 BY: BJW FILE: 12278		

FRONT VIEW PUMP ASSEMBLY

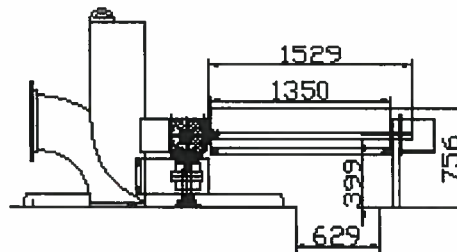
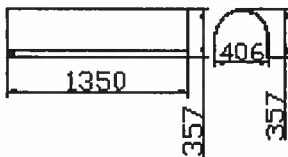


ALL BOLT MOUNTINGS ARE 1"

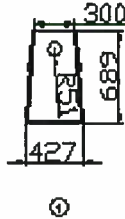
TOP VIEW PUMP ASSEMBLY



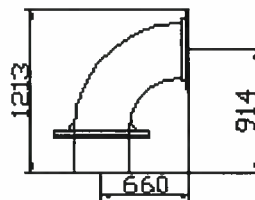
SHAFT EXTENSION GUARD - HINGE MOUNT NOT SHOWN



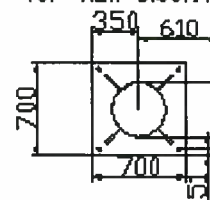
SHAFT EXTENSION SUPPORT WITH BEARING



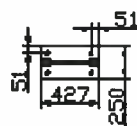
FRONT VIEW DISCHARGE ASSEMBLY



TOP VIEW DISCHARGE ASSEMBLY



SHAFT EXTENSION SUPPORT TOP VIEW



1510 Crisafulli Dr. Glendive, MT 59330 USA

PHONE: 800-442-7887 FAX: (406) 365-0099

Crisafulli

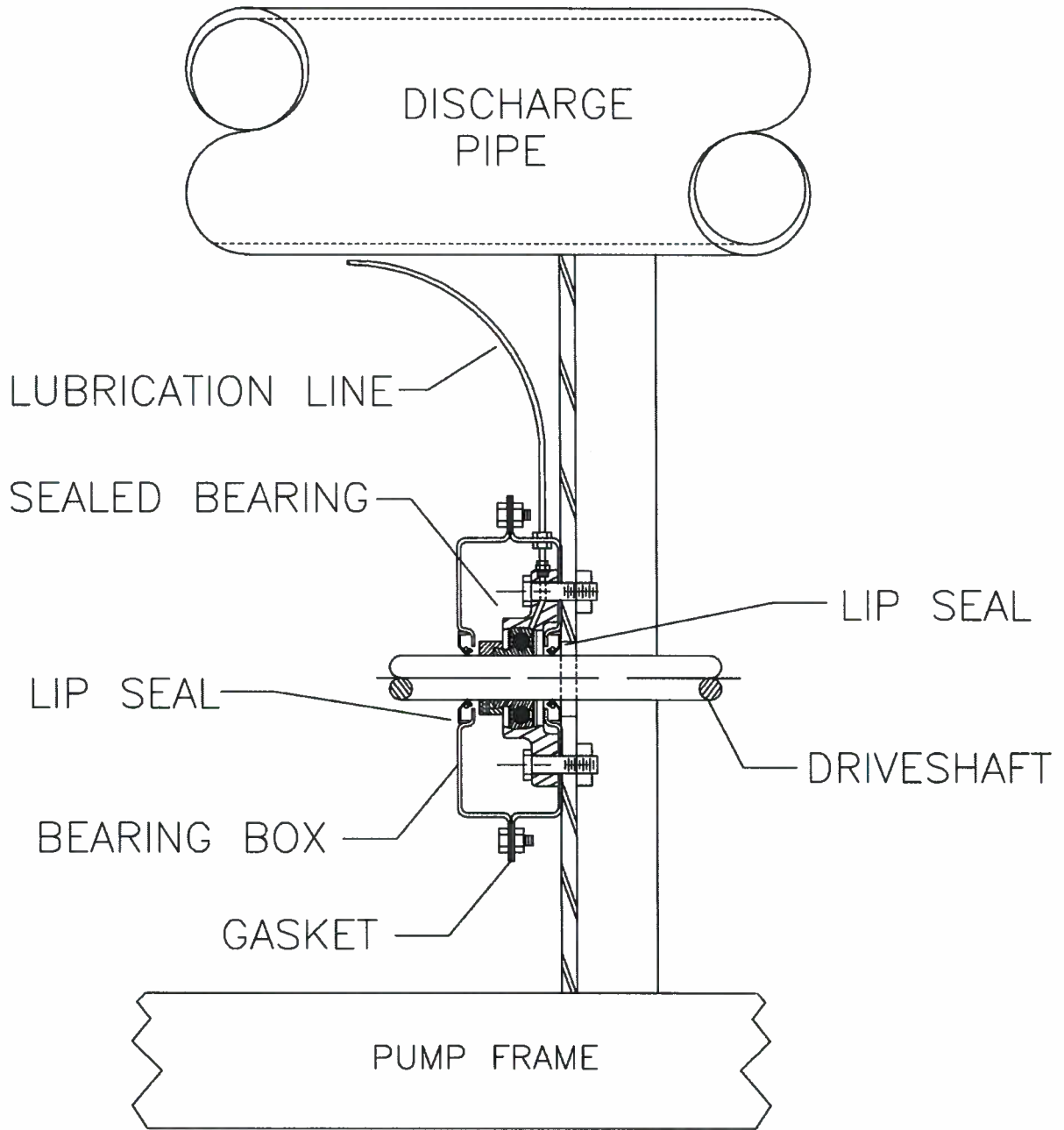
Sludge Removal Systems

16' VERTICAL L SERIES
6.58M BASE TO BASEPLATE


DATE: 08/16/12

BY: BJW

FILE: 12278-A



REV. (0)

		Sludge Removal Systems	
BEARING PROTECTION SYSTEM			
Dwn By:CKR	Ckd.:	Date: 8/10/90	Dwg.#: CPC-90316



P.O. BOX 700
 2500 EAST TRAIL ST.
 DODGE CITY, KS 67801, USA 1-800-835-9166 (USA)
 email: curtis@curtismachine.com

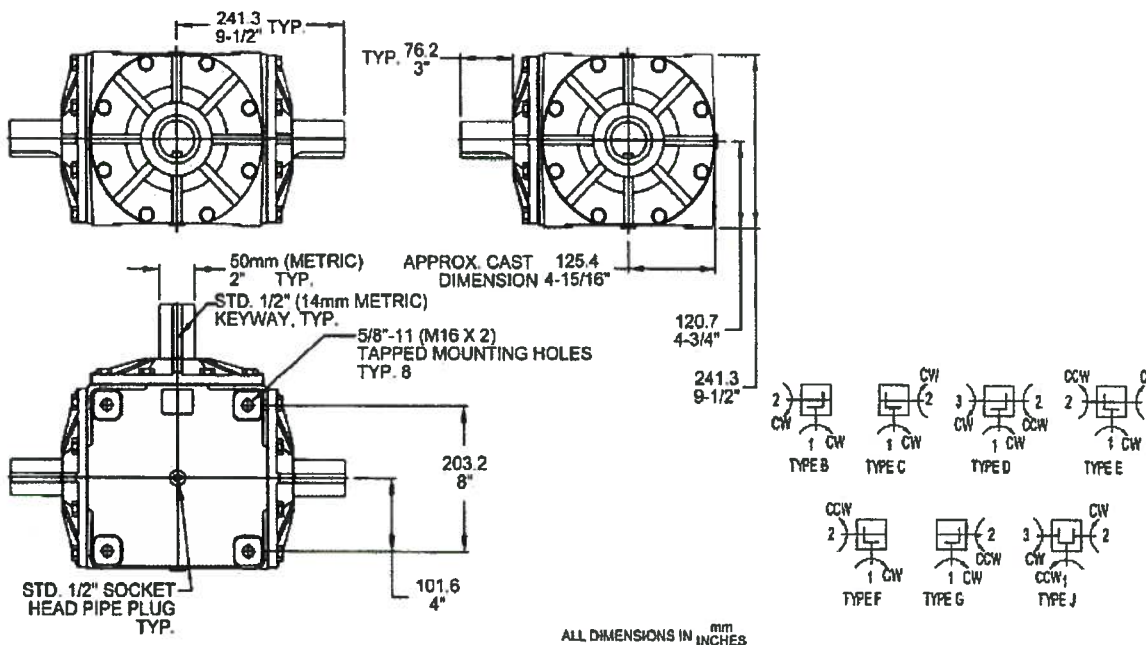
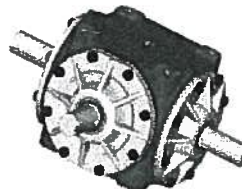
ph:(620)227-7164
 fax:(620)227-2971



Specifications & Options

MODEL 615MA

- RATIOS:** STRAIGHT BEVEL 1:1, 1.35:1, 1:1.35, 1.5:1, 1:1.5
 SPIRAL BEVEL 1:1, 1.35:1, 1:1.35, 1.5:1, 1:1.5, 2:1, 1:2
- GEARS:** CARBURIZED AND CASE HARDENED
- SHAFTS:** 2" (50mm) DIAMETER STEEL
- HOUSINGS:** DUCTILE IRON **WEIGHT:** APPROX. 172 LBS
- CAPS:** DUCTILE IRON
- LUBRICANT:** 128 OZ. AGMA 5EP GEAR LUBRICANT
- OPTIONS:** Special materials, gear ratios, shaft extensions and splines available upon request.



- Clockwise (CW) and counter-clockwise (CCW) notations indicate the direction of rotation when facing that end of the shaft extension.
- Arrows shown on the drawings are over the top of shaft extensions.
- The numbers shown adjacent to the shaft



Snail Mail: P.O. Box 700, 2500 E. Trail Street, Dodge City, KS 67801-0700

E-Mail: curtis@curtismachine.com

Phone#: 1-316-227-7164 Fax#: 1-316-227-2971

Toll Free in the USA: 1-800-835-9166

600CS Power/Torque Ratings for Given RPM

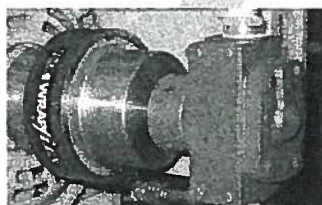
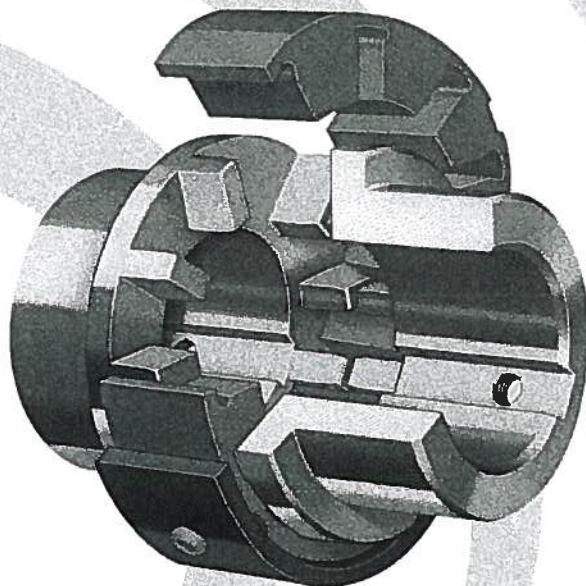
Imperial

Torque is in inch pounds (in.lbs.)

Power is in Horsepower (hp)

RPM	AG Pwr.	AG Tor.	Ind. Pwr.	Ind. Tor.	AG Pwr.	AG Tor.	Ind. Pwr.	Ind. Tor.	AG Pwr.	AG Tor.	Ind. Pwr.	Ind. Tor.
	1:1	1:1	1:1	1:1	1.35:1	1.35:1	1.35:1	1.35:1	1.5:1	1.5:1	1.5:1	1.5:1
100	44.8	28,262	42.2	26,582	23.7	14,929	22.3	14,041	19	11,947	17.8	11,236
200	83.1	26,193	78.2	24,636	44.2	13,927	41.6	13,099	35.4	11,166	33.3	10,502
300	118.4	24,872	111.4	23,393	63.2	13,283	59.5	12,494	50.8	10,685	47.6	10,031
400	151.6	23,858	142.6	22,465	81.3	12,802	76.4	12,041	65.3	10,289	61.4	9,677
500	183.3	23,100	172.4	21,727	98.5	12,415	92.6	11,677	79.2	9,986	74.5	9,393
600	213.7	22,442	201	21,105	115.1	12,090	108.3	11,371	92.7	9,732	87.1	9,153
700	243	21,877	228.5	20,576	131.2	11,810	123.4	11,109	105.7	9,512	99.4	8,947
800	0	0	0	0	146.8	11,563	136.6	10,765	118.3	9,319	111.3	8,765
900	0	0	0	0	162	11,343	149.2	10,451	130.6	9,146	122.9	8,603
1,000	0	0	0	0	176.8	11,144	161.4	10,173	142.7	8,990	134.2	8,456
1,100	0	0	0	0	0	0	0	0	154.4	8,848	145.2	8,322

Falk™ Wrapflex® Elastomer Couplings | Talk About Simple! (English-Inch)



Installation and mounting for SRS Crisafulli 16" vertical pumps

SRS Crisafulli pumps are secured in place using a combination of weight and fasteners. The pump is designed to fasten to the floor using 1" bolts through the ½" baseplate of the pump. The bolts should be sunk in concrete surrounding the pump. The bolt hole pattern is shown on drawings provided by SRS Crisafulli. The weight of the pump is supported by the suction base at the bottom of the pump. After the pump is lifted into position the floor of the sump should be grouted up to meet the pump suction base. This ensures that the pump is securely fitted to the sump to reduce vibration and increase pump life.

The discharge assembly is generally bolted to the floor in a similar manner to the pump. SRS Crisafulli offers a dresser style flange coupling that allows the discharge assembly of the pump to be adjusted during installation for fit. This part is not necessary in most cases. These adjustable flanges are not recommended for installations where space is an issue. Or for installation where the discharge distance is very short (within the space of a standard long radius elbow.)