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To:	Rafat General Contractor Inc. 8850 George Bolton Parkway Caledon, ON L7E 2Y4	Submittal No:	034
		Project No:	201014
		File No:	4-6-22
Attention:	Pino Antelope, Bashar Mikha	Date:	December 20, 2023

Project: Chris Gibson Recreation Centre

The Architect's review is for the sole purpose of ascertaining conformance with the general design concept and for general arrangement. This review shall not mean approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for all dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes, quantities or to techniques of construction and installation and for co-ordination with related work.

Contractor Package #	Spec Section	Description	Reviewed by	Status
034	22 10 00	Elevator Sump Pumps	DSA	RN

Status Legend: **R** – Reviewed **RN** – Reviewed As Noted **RR** – Revise and Resubmit **N** – Not Reviewed

Comments: Refer to Mechanical Consultant's review comments throughout Submittal.

Per: Patrick Johnson



RAFAT

8850 GEORGE BOLTON PARKWAY, CALEDON, ONTARIO L7E 2Y4

**Shop Drawings
Transmittal No:**

Project Name:	Renovation of Chris Gibson Recreation Centre Drive	Project No.	T2023-125
		DATE:	
		Submittal Required Return Date:	
Submittal No:			

Title:	
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To:	Patrick Johnson Contract Administrator Halima Namugga Admin Project Coordinator 384 Adelaide Street West, Suite 100 Toronto, Ontario, Canada M5V 1R7 PJohnson@dsai.ca
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Checked by:	Hasan Zaidi (Rafat General Contractor Inc/Corebuild)	To Be Reviewed By the Following Consultants	
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Submitted for:	REVIEW
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Consultants Response	
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200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Package 23-214 - 017

Dec 8, 2023

PROJECT NAME	PROJECT NUMBER	PROJECT ADDRESS	DUE DATE
23-214 CHRIS GIBSON REC CENTRE	23-214	125 McLaughlin Rd N, Brampton, ON, L6X 1N9	Dec 22, 2023

To

NAME	EMAIL
Hassan Zaid	hzaidi@corebuildconstruction.com
COMPANY	ADDRESS
RAFAT GENERAL CON-TRACTOR INC.	8850 GEORGE BOLTON PKWY, BOLTON, ON, L7E 2Y4

From

NAME	EMAIL
JOSHUA STEPHENSON	josh.s@consultmechanical.com
COMPANY	ADDRESS
Consult Mechanical	200 Tesma Way, Vaughan, ON, L4K 5C2

Subject

Elevator Sump Pumps

Notes

PD-01 and PD-02

Package Items

Spec	Subsection	Description	Type
Mechanical	Plumbing	PD-01 & PD-02	Shop Drawings



200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Item Information

Dec 8, 2023

Spec Section

Mechanical

Sub Section

Plumbing

Type

Shop Drawings

Description

PD-01 & PD-02

**Submittal # 73017****APPROVAL REQUIRED**

Project 22006063-MECH-4- Chris Gibson Recreation Centre
Leader Nevin Wong
Job Site Chris Gipson Recreation Centre
Submission Date 2023-12-08
Sold To CONSULT MECH
Submitted By Boran Dal

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Con-Sult Mechanical Inc.*	Nevin Wong
Designer	Integral Group	Graham Coote

Deliverables

Track #	243765	243766	
Tag	PD-1/2	FRAME & COVERS	
Description	Sump Pumps	F	
Quantity	2	1	
Production Lead Time	28 - 32 Weeks	28 - 32 Weeks	
Revision #	0	0	


Attention:

- 1) HTS will provide equipment in accordance with the attached shop drawings.
- 2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
- 3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps

SUBMITTAL REVIEW

INTROBA
380 Wellington Street West
Toronto, ON
M5V 1E3


Introba

☐
REVIEWED

☒
REVIEWED AS NOTED

☐
REJECTED - REVISE AND RESUBMIT

☐
NOT REVIEWED

CHECKED BY: ILITTLEY


DISCIPLINE: M&E

DATE: 12/14/2023

REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS AND SUITABILITY FOR SITE CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW OF THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS.

IRB Comments:

1. Install as per manufacturer's recommendations.
2. Coordinate final location of electrical connections on site with other trades.

 CFMS-WEST CONSULTING INC. Serving South Western Ontario	
<p>The receipt/review of this submission is for the sole purpose of reviewing general conformance with the construction and/or design concepts only. The review of this submission does not, in any way, relieve the contractor of the complete responsibility for errors or omissions, or for non-compliance with the contract documents. It also does not constitute authority to vary the requirements of the contract documents as they relate to this submission.</p>	
RESPONSE: No Comment	
REVIEWED BY: Kevin Pellerin	
DATE REVIEWED: December 18, 2023	

SHOP DRAWINGS FOR APPROVAL



PROJECT NAME: 22006063 Chris Gibson Recreation Center

PROJECT NUMBER:

OWNER:

ENGINEER:

CONTRACTOR: HTS

EQUIPMENT SUPPLIER: SULZER PUMPS (CANADA) INC

150 SUPERIOR BLVD UNIT# 3-7

MISSISSAUGA, ONTARIO L5T 2L1

SULZER ABS PROJECT REFERENCE # TBA

SUBMISSION NUMBER: SD-VS-HTS052322-0

DATE: December 7, 2023

REV: 0

L01 JAN CLOSET
TAG: PD-01 & 02

TECHNICAL DATA**SCAVENGER E SERIES****EJ 10-2**

Dwg: DS-S08-013 Rev: B Date: 11/2009

Section Scavenger Tab Ejector Page

MOTOR SPECIFICATIONS

Motor Design	NEMA design B, squirrel cage induction, oil filled, non toxic oil
Motor Type	Enclosed submersible
Insulation Class	Class B, rated at 120° C
Motor Protection	<u>Single Phase:</u> Internal thermal protection with automatic reset. Installer must provide circuit breaker for short circuit protection per N.E.C standards. <u>Three Phase:</u> Installer must provide external motor overload protection device such as a contactor w/ thermal relay, and circuit breaker for short circuit protection per N.E.C. standards.
Service Factor	1.15
Voltage Tolerance	± 10% from name plate rating

MOTOR DATA, 60Hz

Model	Phase	Output Power bhp	Volts	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	Pole/Speed (rpm)
EJ 10W-2	1*	1.0	230	10.0	38	K	4/1750
EJ 10D-2	3**	1.0	208-230	5.5-5.0	22.4-20.3	K	4/1750
	3**	1.0	460	2.5	10.1	K	4/1750
	3	1.0	575	2.0	8.1	K	4/1750

* Start switch and capacitor integrated into top of pump.

** These three phase motors are tri-voltage, 208/230/460.

MATERIALS of CONSTRUCTION

Upper Motor Lid	Cast Iron ASTM A48 Class 30
Motor Housing	Cast Iron ASTM A48 Class 30
Oil Chamber	Cast Iron ASTM A48 Class 30
Volute	Cast Iron ASTM A48 Class 30
Bottom Plate	Cast Iron ASTM A48 Class 30
Impeller	Cast Iron ASTM A48 Class 30
Lifting Bail	AISI 304 Stainless Steel
Oil (motor & oil chamber)	Non-toxic white mineral oil (Marcol 52)
External Hardware	AISI 304 Stainless Steel
O-Rings	Buna-N
Motor Shaft	AISI 420 Stainless Steel
Upper Bearing	Single row ball bearing
Lower Bearing(s)	Single row ball bearing
Upper Shaft Seal (secondary)	Rotating carbon face w/ stationary ceramic face.
Lower Shaft Seal (primary)	Rotating carbon face w/ stationary ceramic face. Includes V-ring lip seal for lower seal protection. Option: Silicon Carbide mechanical seal

DIMENSIONS, WEIGHT, AND MISC.

Pump weight, lb. (kg)	84 (38) [EJ 10W-2], 80 (36) [EJ 10D-2]
Maximum submergence, ft. (m)	65 (20)
Discharge size, standard	2 inch horizontal
Discharge type	Flange with standard ANSI class 125 bolt pattern.
Maximum temp. of pumped fluid	40°C continuous, 50°C intermittent
Agency Approvals	Approved by CSA to UL 778 and CSA C22.2-108 standards

CABLE SPECIFICATIONS

POWER CABLE	VOLTAGE	DIAMETER	LENGTH	OUTER JACKET
14/3 SJEOOW (EJ 10W-2)	230	0.36in (9.2mm)	20 ft (6m)	Thermoplastic elastomer
16/4 SEOOW (EJ 10D-2)	208-230/460/575	0.43in (10.9mm)		

Specifications subject to change without notice

INSTALLATION DIMENSIONS

WET PIT

SCAVENGER EJ-2

Doc No: DS-S08-040

Rev:

Date: 02/07/03

Section Scavenger

Tab Ejector

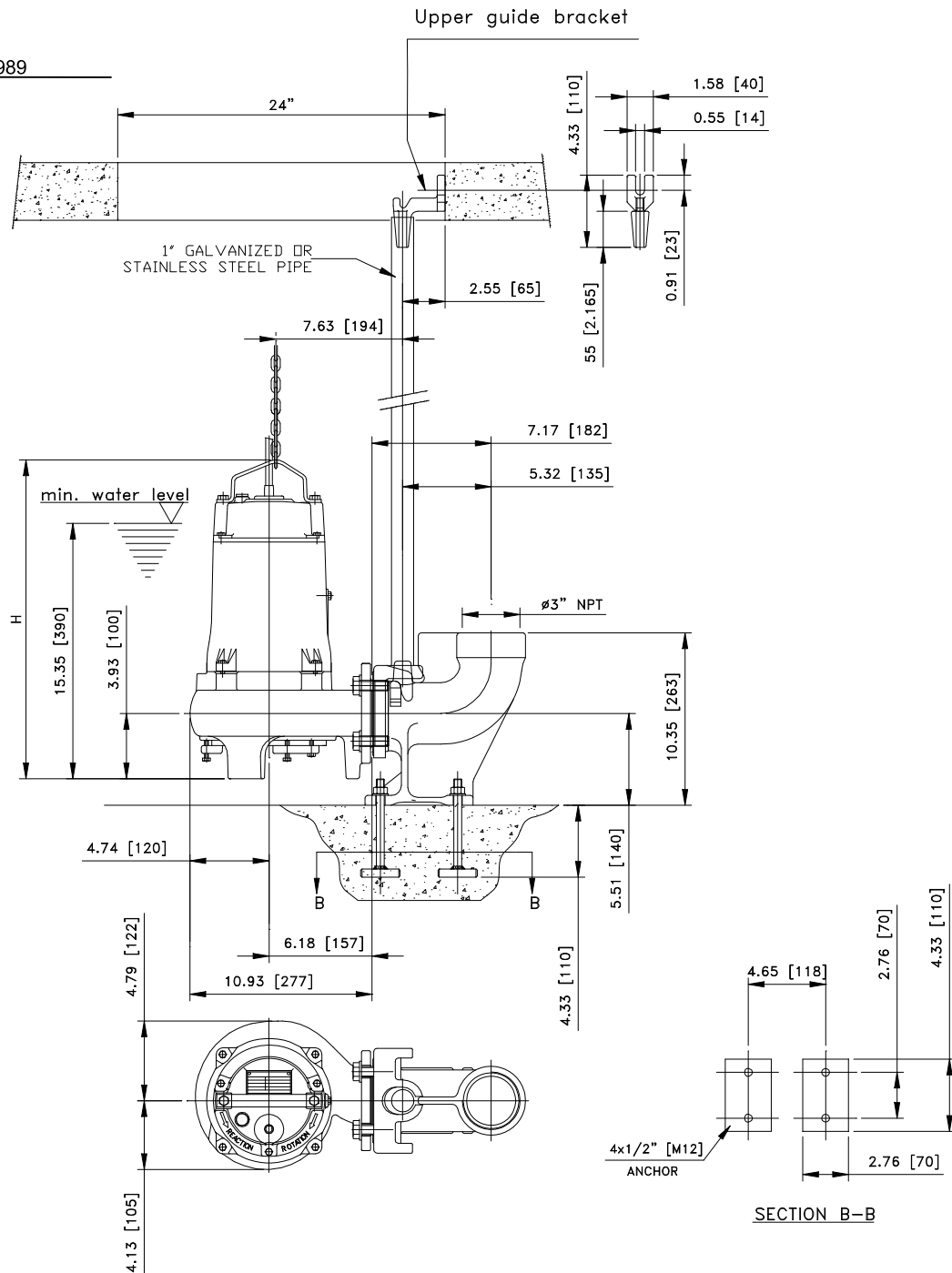
TAG: TAG: PD-01 & 02
QTY (2)

Two inch pumps

Pump	H in. [mm]	Weight lbs. [kg]
EJ 10D-2	18.4 [468]	70.4 [32]
EJ 15D-2	20.2 [513]	83.6 [38]
EJ 20D-2	20.2 [513]	83.6 [38]

Pump	H in. [mm]	Weight lbs. [kg]
EJ 10W-2	19.2 [487]	77 [35]
EJ 15W-2	20.9 [532]	90.2 [41]
EJ 20W-2	20.9 [532]	90.2 [41]

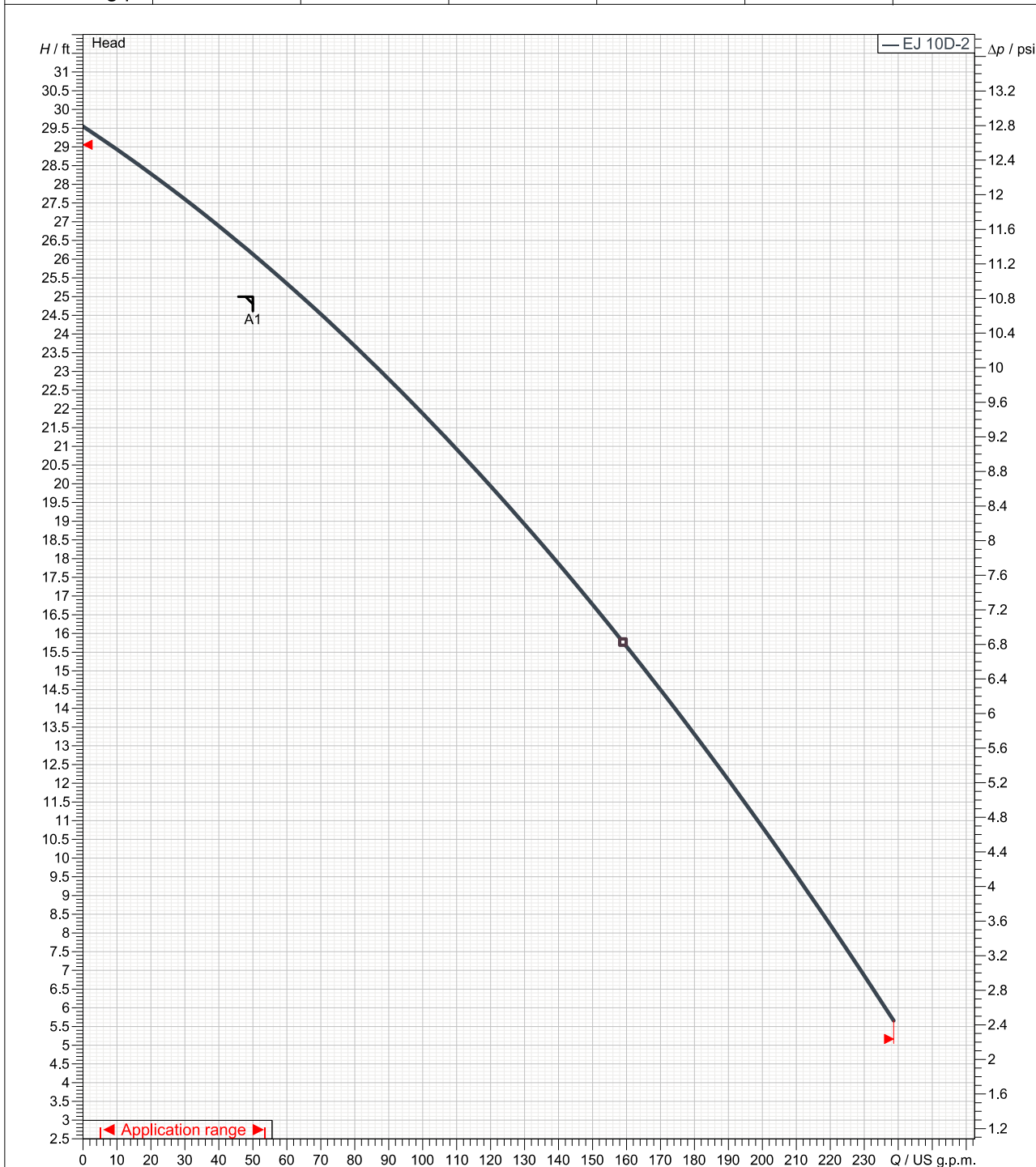
Guide rail system
Part number 62327989



Note: Dimensions in millimeters and [] in inches.

Specifications subject to change without notice

Curve number		<div>Pump performance curves</div> <div>EJ D-2 60HZ</div>				<div>SULZER</div>	
Reference curve EJ D-2 60HZ							
					Discharge 2"	Frequency 60 Hz	
Density 62.31 lb/ft³	Viscosity 1.077E-5 ft²/s	Test Standard ISO 9906, HI 11.6/14.6≤10kW			Rated speed 1725 rpm	Date 2023-12-07	
Flow 51.04 US g.p.m	Head 26.1 ft	Shaft power	Power input	Rated power P2	Hyd. efficiency	NPSH	



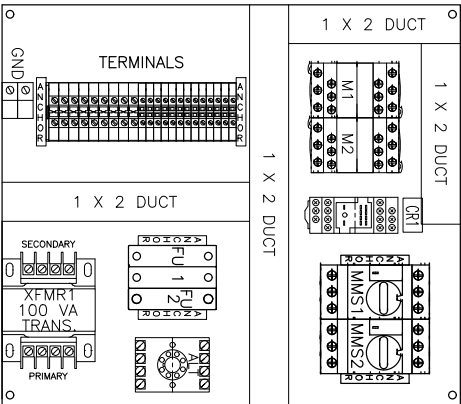
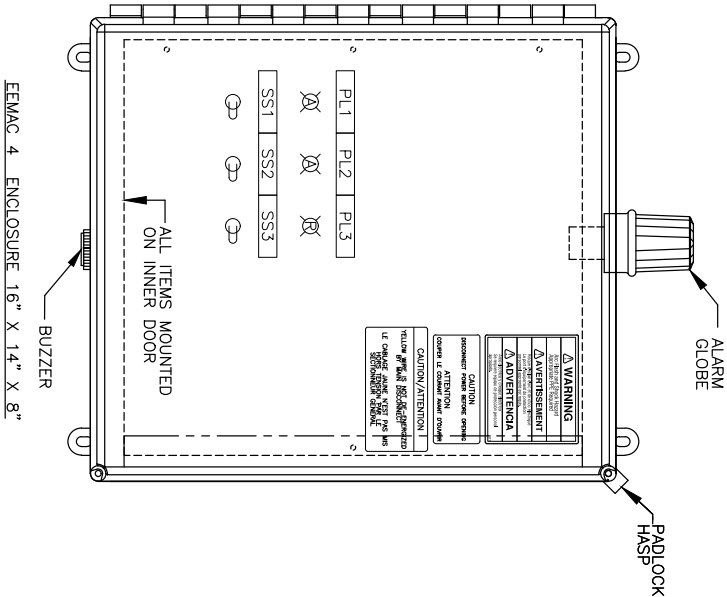
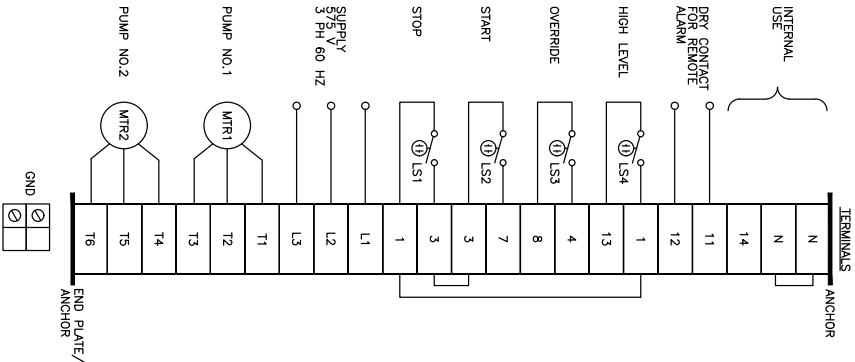
Standard EJ 2" (PDF)

Impeller size 5 3/16 inch	N° of vanes 2	Impeller Contrablock impeller, 2 vanes	Solid size 1.97 inch	Revision
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DUPLEX CONTROL PANEL
QTY (1)

DUPLEX CONTROL PANEL
QTY (1)



REV	DESCRIPTION	BY	DATE	REV	DESCRIPTION	BY	DATE	REV	REF	TITLE
										DUPLEX PUMP CONTROL SYSTEM
										MODEL NO. ECP2.5-53DW
										SCALE 1/4" = 1"
										CAD REF. -
										SHT NO. 2 OF 2
										DWG NO. 1401-
										REV 0

DUPLEX CONTROL PANEL
QTY (1)

ACCESSORIES

TECHNICAL DATA**LIFTING ASSEMBLY****1/4" Galvanized Chain**

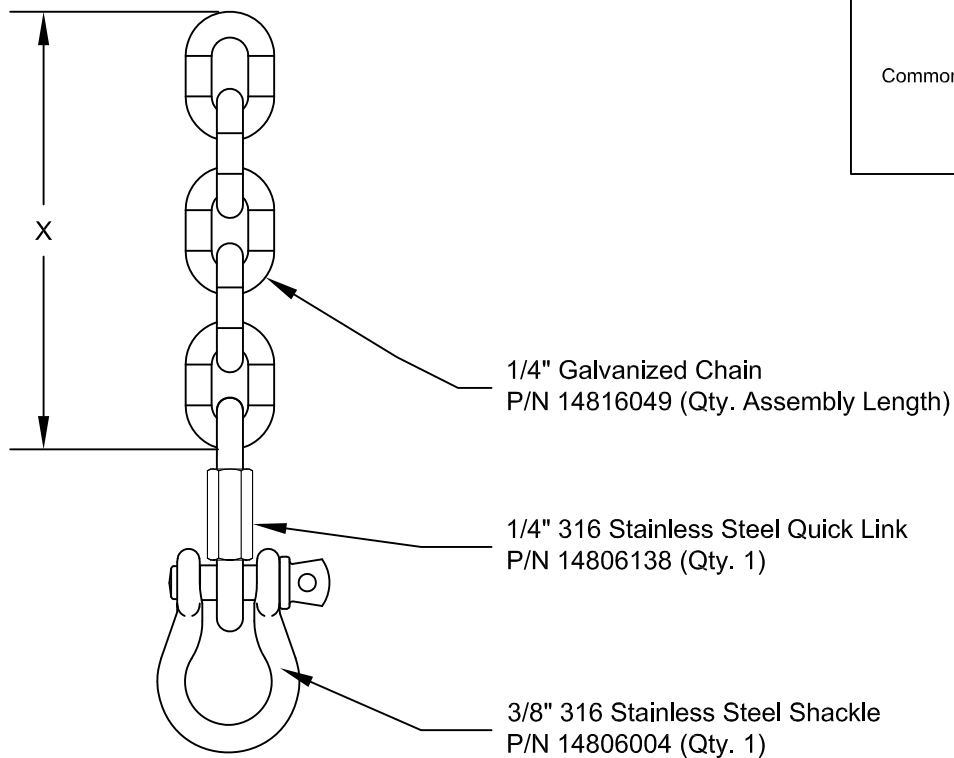
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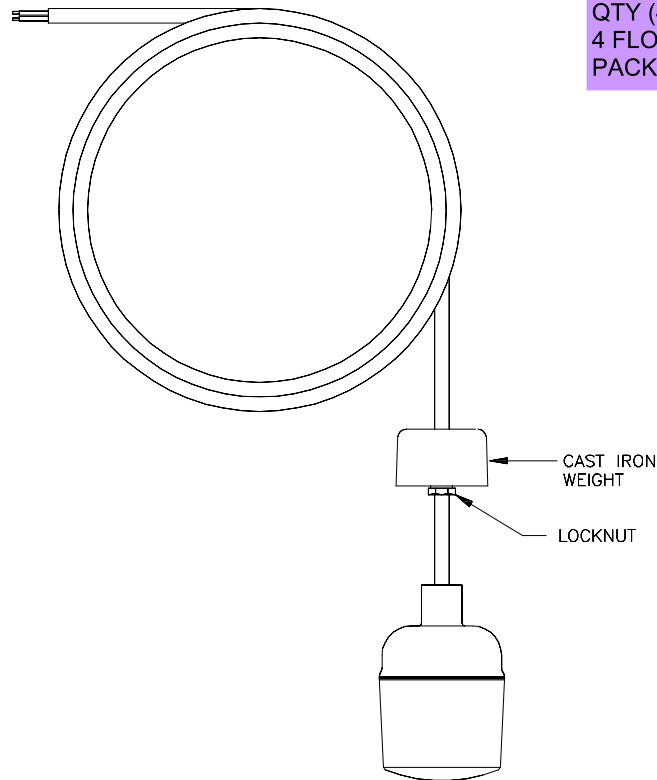
Dwg: DS-Z04-014

Rev. 0

Assembly P/N	Assembly Length (ft) [X]	Estimated Weight (lbs)
64816000	5	4
64816001	10	7
64816002	15	11
64816003	20	14
64816004	25	17
64816005	30	21
64816006	35	24
64816007	40	28
64816008	45	31
64816009	50	34

General Specs	
Working Load Limit	1200 lbs
Material	As Specified
Common Applications	General Use w/ Equipment Weights Up to the WLL and Specifically Sized for: XFP PE1 - PE2; AS; Piranha S & PE Series; Scavenger





QTY (4)
4 FLOATS PER DUPLEX PUMP
PACKAGE

SPECIFICATIONS:

CSA CERTIFIED AND UL LISTED

NON MERCURY DESIGN CAN BE USED IN BOTH POTABLE AND NON-POTABLE SEWAGE APPLICATIONS.

COMPACT DESIGN

STANDARD CORD LENGTHS) QTY (4) X 30 FT

AVAILABLE WITH EXTERNAL WEIGHTS

AVAILABLE IN 2 WIRE, NORMALLY OPEN

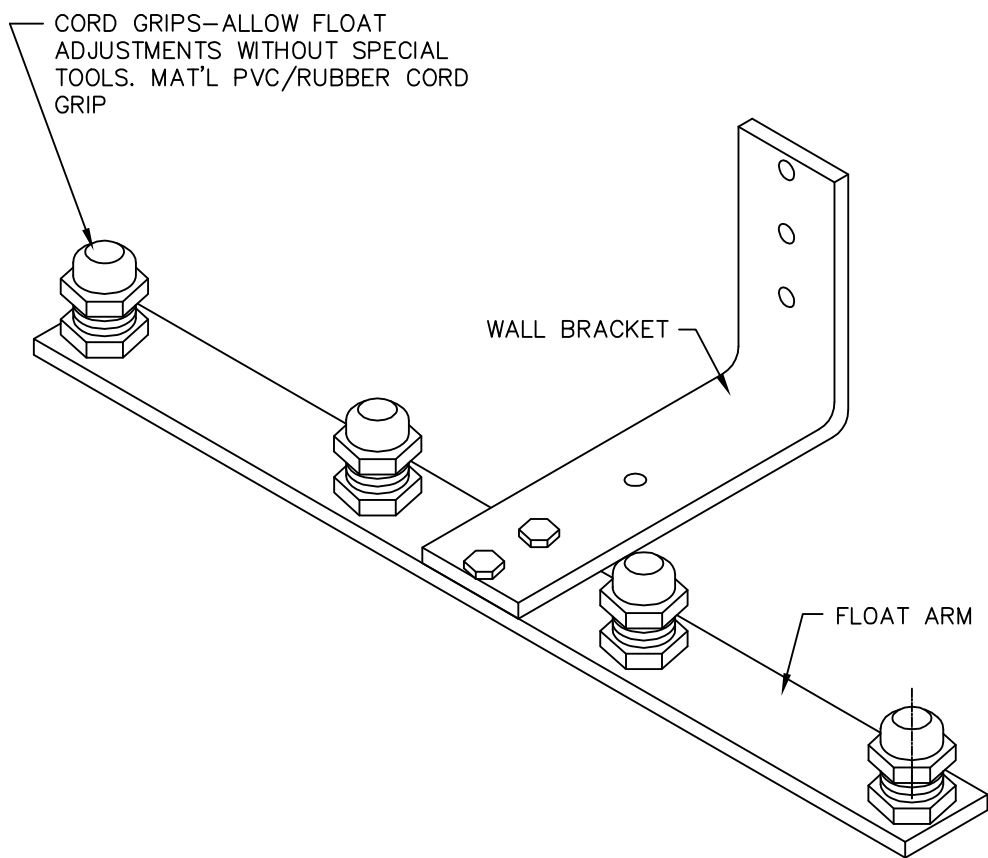
ELECTRICAL RATINGS: 10A 120/240 AC 60HZ, 24VDC

CORD RATING: 16/2 SJOW 13 AMPS, WATER AND OIL RESISTANT

FLOAT: 2.69" DIAMETER X 2.44" HIGH, CORROSION RESISTANT PVC FOR USE IN LIQUIDS UP TO 140 DEG F

NOTE: THIS SWITCH REQUIRES A MINIMUM TETHER LENGTH OF 4 INCHES

QTY (1)
1 FLOATS BRACKET PER DUPLEX
PUMP PACKAGE



SULZER

DESCRIPTION:	DRAWN BY: CC
FLOAT SWITC BRACKET,4FLT	DATE: 10/16/2018
	REV: I
	DWG NO.
	CA000051

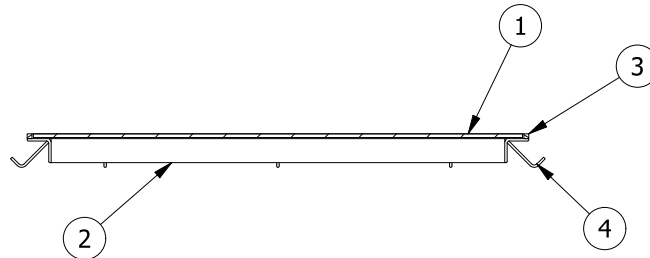
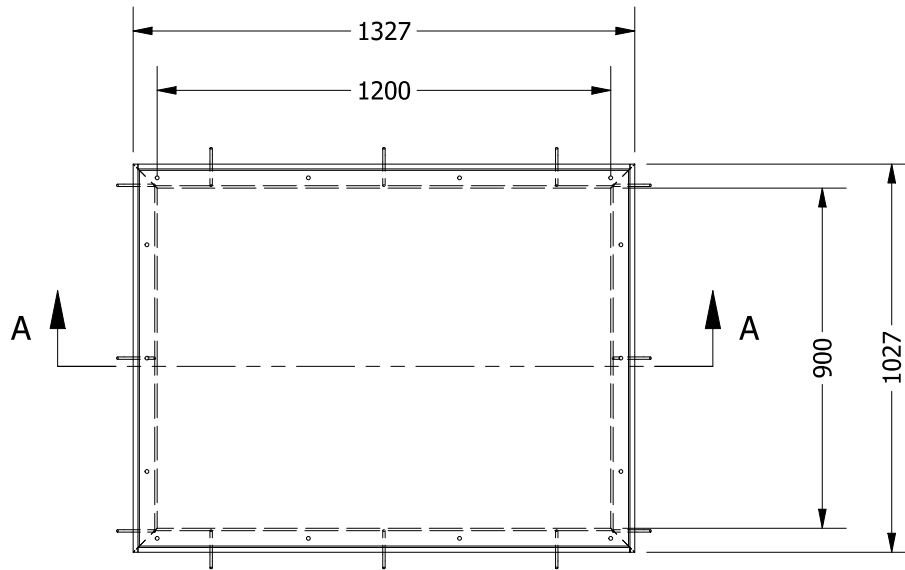
FRAME & COVERS

2

1

FRAME & COVER
QTY (1)

PARTS LIST			
ITEM	QTY	DESCRIPTION	MATERIAL
1	1	PLATE 3/8" THK	CSA-G40.21 44W
2	4	L 2 1/2 x 2 1/2 x 1/4	CSA-G40.21 44W
3	4	SQUARE BAR 1/2"	A-36/44W
4	12	HOOK 1/4" DIAM.	A-36/44W
5	1	GASKET 1/8" THK	EPDM
6	14	SCREW 3/8-UNC COUNTERSUNK	SS



SECTION A-A

NOTE: DIMENSIONS ARE MM

DRAWN	WMM	2021-04-07
CHECKED		
QA		
MFG		
APPROVED		



process equipment design

SULZER

SULZER PUMPS (CANADA) INC
MISSISSAUGA, ONTARIO L5T 1G8
(905)670-4677 FAX(905)670-3709

RECTANGULAR PIT COVER

RATED FOR PEDESTRIAN TRAFFIC ONLY

SIZE		DWG NO	REV
A		639137	0
SCALE		SHEET 1 OF 1	

2

1

STORAGE INSTRUCTIONS

INSPECTION ON RECEIPT OF PUMP

The shipping container should be immediately inspected for damage that may have occurred in shipment. Exercise care in opening the shipping container to avoid damage to the pump. Remove any blocking and cushioning from within the container. Check all cushioning for spare parts before discarding. Visually check the pump and any spare parts for damage. Check for damaged inlet and outlet port threads, flanges, and electrical wires, especially where they exit the pump/mixer housing. Report any damage or shortage of parts directly to the carrier.

STORAGE BEFORE USE

ABS pumps/mixers are shipped from the factory ready for installation and use. They should be held in storage if the pump station is not complete. If storage is necessary, the pump/mixer should remain in its shipping container. It should be stored in a warehouse or storage shed that has a clean, dry, temperature-stable area. The pump/mixer and its container should be covered to protect it from water, dirt, dust, etc. The ends of the cables must be protected against moisture.

CAUTION!

**AT NO TIME SHOULD THE PUMP/MIXER BE STORED
WITHIN AN INCOMPLETE WET PIT.
THE PUMP/MIXER SHOULD NOT BE PLACED
INTO THE PIT UNTIL IT CAN BE FULLY INSTALLED
AND OPERATED.
THE PUMP/MIXER SHOULD ALWAYS BE
STORED VERTICALLY**

LONG TERM STORAGE

If it is necessary to store a pump/mixer for a long period of time, it should be stored in a clean, dry temperature-stable environment. The pump/mixer should be covered to protect it from dust, dirt and water. The ends of the cable must be protected against moisture.

Do not allow the pump/mixer to freeze. Any water trapped inside the pump/mixer during testing may expand and cause damage. If the pump/mixer must be stored in a sub-freezing environment, consult the factory for specific recommendations and precautions.

During storage, the motor should be rotated a few turns once a month. This can be accomplished by turning the impeller by hand. Spinning the motor will lubricate the mechanical seals and prevent their seizing.

Prior to installation, the pump/mixer motor should be rotated by hand to ensure the mechanical seals are free-spinning.

Installed pump/mixers which are idle for long periods of time should be jogged once a month to lubricate the mechanical seals.

Warranty

ONE YEAR PRODUCT WARRANTY

XFP, AFP, AFL, VUP, Piranha, AS, Scavenger, RCP, & Robusta Series Pumps; Mixers, Aerators, Control Panels, Installation Accessories*

Manufacturer warrants the above referenced ABS brand equipment ("Products") to be free from defects in workmanship and materials as follows:

The warranty period shall expire on the earliest of the below dates:

- i) one (1) year from date of installation of the Products; or
- ii) eighteen (18) months from date of shipment of the Products from Manufacturer.

Products or parts thereof that are replaced or repaired under warranty during the original warranty period, shall be covered under this warranty until the expiration of the original warranty period or ninety (90) days from the date of such replacement or repair, whichever is later. In any event, such extended warranty period shall not exceed ninety (90) days after the expiration of the original warranty period.

The warranties stated above are contingent upon start-up of the equipment on site by an authorized Manufacturer's representative, as verified by receipt of start-up reports completed and signed by an authorized Manufacturer's representative. Robusta Series pumps and Piranha 09 Series pumps are exempt from this requirement, though any supporting documentation is requested for all warranty claims.

If during the warranty period, any Products fail to meet the requirements set out in this warranty, the purchaser or end user shall give written notification to Manufacturer stating the reasons therefor. Upon receipt of prior written authorization from Manufacturer, Products shall be transported to Manufacturer's authorized service center, prepaid, at purchaser or end-user's cost. Manufacturer's sole obligation shall be to repair, modify or replace Products or parts thereof, at Manufacturer's sole option. Products repaired under this warranty will be returned with freight prepaid. Products must be repaired by an authorized Manufacturer repair center for warranty coverage to be considered. Explosion Proof or other Agency Approved pumps must be repaired at a Manufacturer's authorized service center in order to retain the agency's approval rating.

All protection features (such as moisture sensors, bearing monitors, and thermal overloads) incorporated in the Products must be connected and operable for warranty coverage. This warranty is valid only if Manufacturer supplied or authorized alarm monitoring components, cables and control components/panels are used.

This warranty shall not apply to any Products or parts thereof which have been (i) subjected to misuse, misapplication, accident, alteration, neglect, failure to act in a timely manner to address alarms/warnings, or physical damage; (ii) installed, operated, and/or maintained in a manner which is contrary to Manufacturer's written instructions as it pertains to installation, operation and maintenance of the Products, including but without limitation to being operated without being connected to monitoring devices supplied with specific products for protection; (iii) used in an application or for pumping liquids other than the use for which it is intended as specified in Manufacturer's product literature; (iv) damaged due to a defective power supply, improper electrical protection, faulty repair, ordinary wear and tear, corrosion, erosion or chemical attack, an act of God, an act of war or by an act of terrorism; (v) damaged resulting from the use of accessory equipment not sold by Manufacturer or not approved by Manufacturer for use in connection with Manufacturer's products; or (vi) repaired or altered without Manufacturer's written consent.

This warranty does not cover costs for standard and/or scheduled maintenance that is performed, nor does it cover Manufacturer's parts that, by virtue of their operation, require replacement through normal wear (aka: Wear Parts), unless a defect in material or workmanship is determined by Manufacturer. Wear Parts are defined as cutters, cutting plates, seals, bearings, impellers/propellers, diffusers, wear rings (stationary or rotating), volutes (when used in an abrasive environment), oil, grease, cooling fluids and/or any items deemed necessary to perform and meet the requirements of normal maintenance on all Manufacturer's equipment.

Manufacturer shall not be liable for any special, indirect, consequential, or punitive damages, or profit loss of any kind. Major components not manufactured by the Manufacturer are covered by the original manufacturer's warranty in lieu of this warranty. In addition to any other special, indirect or consequential damages referenced above, Manufacturer shall not be responsible for travel expenses, rented (replacement) equipment, pump removal fees, installation fees, outside contractors fees, or unauthorized repair shop expenses.

This warranty shall extend only to the initial end user.

ALL OTHER WARRANTIES, CONDITIONS AND REPRESENTATIONS, EXPRESSED OR IMPLIED BY STATUTE, COMMON LAW OR OTHERWISE, IN RELATION TO THE SUPPLY OF THE PRODUCTS INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED TO THE EXTENT PERMITTED BY LAW.

*This warranty is applicable to Products supplied by Sulzer Pump Solutions (US) Inc. or Sulzer Pumps Wastewater Canada, Inc. for installation in the U.S.A. or Canada, unless specifically indicated otherwise in writing by Manufacturer.