



Customer :  
Reference :

Ebara Quotation System 24.4.1

Product Description / Stages	300DSC4GO / 1
Pump speed	1190 rpm

## Pump

Qty	Description
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2	300DSC4CGOFM66075
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### Configuration

#### Construction Details

Pump Application: Wet Pit

Phase: Three

Voltage: 460V

2	Motor Design: FM Explosion Proof Motor
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Internal Cooling System: Yes

Mechanical Seal Material: Carbon-Ceramic-NBR Upper / Silicon Carbide-Silicon Carbide-NBR Lower

2	Impeller Trim: Impeller Trim Required
---	---------------------------------------

Impeller Diameter: 355 mm

2	QDC Base (Includes carbon steel upper guide bracket.): KQDC300
---	--

2	Upper Guide Bracket 304SS
---	---------------------------

2	Intermediate Guide Bracket 304SS
---	----------------------------------

#### Accessories

2	Accessories: Monitor Relay
---	----------------------------

1	HD Custom Duplex Panel - 75HP @ 94FLA 460V
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Cable Length: Standard 50ft (includes power & sensor cables)

Grip Slide Lifting System 50': No

Lower Bearing RTD: No

### Ebara Pumps Americas Corporation

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EBARA



# Submersible Sewage/Wastewater Pumps

Model DSC4/DSCA4



water | wastewater | sewage | flood control



**EBARA** Pumps Americas Corporation

# Model DSC4/DSCA4

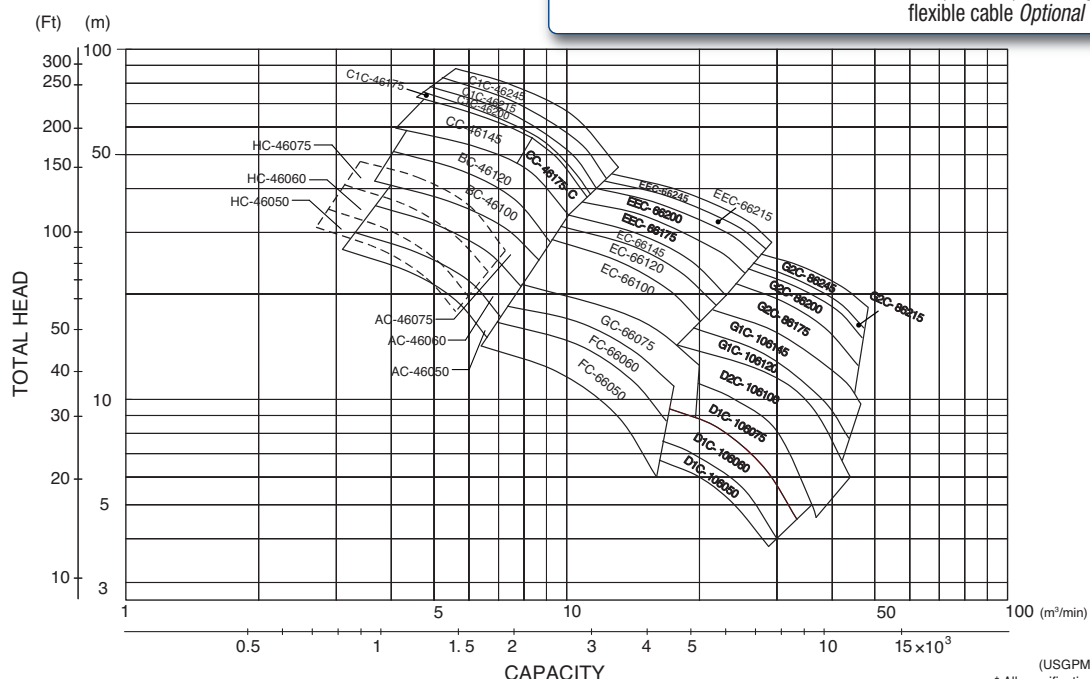
## Features

- **New! 32 enclosed impeller models with extended hydraulics, higher horsepowers, higher flows, larger discharge and suction sizes, and ICS options now available!**
- **Watertight cable entry system with redundant protection** assures safe operation and protects against water leakage into terminal casing; reduces maintenance costs
- **Terminal board provides easy cable connection**
- **Heavy duty, high efficiency, compact designed motor** with thermal detector for each phase of winding; inverter duty rated and FM approved
- **Self cooling system with cooling jacket** eliminates the need for external pumping devices or special heat transfer fluids; offers simplicity and high reliability by effectively dissipating heat, **ICS option available** for 4P/6P 50-145 HP models
- **Float type leakage detector** provides early warning of mechanical seal failure; avoids costly motor repairs
- **Cartridge type\*, duplex mechanical seals** assembled in tandem arrangement; easy maintenance and high reliability (\*standard models)
- Available with semi-open or enclosed impellers

## Standard Specifications

<b>Design</b>	Discharge Horsepower Capacity Total head Max. Liquid temp.	6 to 20 inch 50 to 245 530 to 12500 USGPM (2 to 48 m <sup>3</sup> /min) 12 to 300 ft (3.8 to 91 m) 104°F/40°C
<b>Materials</b>	Casing Impeller Casing Ring Shaft  Motor Frame Cooling Jacket Fastener	Cast Iron Cast Iron 420 Stainless Steel (enclosed impeller models) 420 Stainless Steel (4P/6P 50-145HP models) 403Q Stainless Steel (4P/6P/8P 175-245HP, 10P 50-145HP models)  Cast Iron Steel 304 Stainless Steel
<b>Construction</b>	Impeller Type  Shaft Seal  Material – Upper Material – Lower  Bearing Motor  Mounting method	Semi-open Enclosed <i>Optional:</i> Impeller Ring (enclosed impeller models) Cartridge type* duplex mechanical seals in tandem arrangement (*available on standard models) Carbon/Ceramic Silicon Carbide/Silicon Carbide <i>Optional materials available, consult factory.</i> Grease Lubricated Ball Bearing Class H insulation Air filled water tight with cooling jacket 15 starts/hour : 4P/6P 50-145HP 10 starts/hour : 4P/6P/8P 175-245HP, 10P 50-145HP <i>Optional:</i> FM explosion proof, Class 1, Group C, D Built-in winding temperature detector Built-in float type leak detector <i>Optional:</i> Temperature detector for thrust bearing Wet Pit: Quick discharge connector (QDC) Dry Pit: with baseplate (DSCA4)
<b>Accessories</b>		50 ft (15.24 m) water tight rubber insulated flexible cable <i>Optional cable lengths available.</i>

## DSC4/DSCA4 selection chart



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\* All specifications subject to change without notice.

EFHDS40415

**Specifications-DSC4/DSC4C****A. General:**

Provide FM explosion proof submersible sewage pumps suitable for continuous duty operation underwater without loss of watertight integrity to a depth of 114 feet (35 m). Pump system design shall include a guide rail system such that the pump will be automatically connected to the discharge piping when lowered into place on the discharge connection. The pump shall be easily removable for inspection or service, requiring no bolts, nuts, or other fasteners to be disconnected, or the need for personnel to enter the wet well. The motor and pump shall be designed, manufactured, and assembled by the same manufacturer.

**B. Manufacturer:**

Ebara International Corporation

**C. Pump Characteristics:**

Pumps shall conform to the following requirements:

Number of units

Design flow (gpm)

Design TDH (ft)

Minimum shut off head (ft)

RPM

Maximum HP

Minimum hydraulic efficiency at design (%)

Minimum power factor at design (%)

Voltage/HZ

460V / 60

Phase

3

**D. Pump Construction:**

All major parts of the pumping unit(s) including casing, intermediate casing, impeller, motor frame shall be manufactured from gray cast iron, ASTM A-48 Class 35. Castings shall have smooth surfaces devoid of blow holes or other casting irregularities. Casing design shall be centerline discharge with a large radius on the cut water to prevent clogging. Units shall be furnished with a discharge elbow and 125lb. flat face ANSI flange. A replaceable casing ring shall be provided, manufactured of AISI 403SS material, to maintain working clearances and hydraulic efficiencies. All exposed bolts and nuts shall be 304 stainless steel. All mating surfaces of major components shall be machined and fitted with NBR O-rings where watertight sealing is required. Machining and fitting shall be such that sealing is accomplished by automatic compression of o-rings in two planes and o-ring contact is made on four surfaces without the requirement of specific torque limits. Surfaces in contact with the pumpage shall be surface prepared to SSPC-SP-10 and coated with three (3) coats of coal tar epoxy paint. The internal surface of the motor shall be surface prepared to SSPC-SP-3 and coated with one (1) coat of zinc rich primer paint. Surfaces in air shall be surface prepared to SSPC-SP-10 and coated with one (1) coat of zinc chromate primer and one (1) coat of alkyd resin enamel paint.

The impeller shall be a non-clog, enclosed, multi-vane mixed flow type. It shall be dynamically balanced and shall be designed for solids handling with a long thrulet without acute turns. The inlet edge of the impeller vanes shall be angled toward the impeller periphery so as to facilitate the release of objects that might otherwise clog the pump. The design shall also include back pump out vanes to reduce the pressure and entry of foreign materials into the mechanical seal area. Impellers shall be direct connected to the motor shaft with a slip fit, key driven, and secured with an impeller nut. The design shall include an optional, replaceable wear ring manufactured of AISI 304SS material to maintain working clearances and hydraulic efficiencies.

The mechanical seal system shall be a cartridge mounted double mechanical seal in a tandem arrangement. Each seal shall be positively driven and act independently with its own spring system. The upper seal operates in an oil bath, while the lower seal is lubricated by the oil from between the shaft and the seal faces, and in contact with the pumpage. The oil filled seal chamber shall be designed to prevent over-filling and include an anti-vortexing vane to insure proper lubrication of both seal faces. Lower face materials shall be Silicon Carbide, upper faces Carbon vs. Ceramic. NBR elastomers shall be provided in the oil chamber and viton elastomers where in contact with the pumpage. The mechanical seal hardware shall be 304SS. Seal system shall not rely on pumping medium for lubrication.



**Specifications-DSC4/DSC4C****E. Motor Construction:**

The pump motor shall be FM Explosion Proof, Class 1, Division 1, Groups C, D. The design shall be an air filled induction type with a squirrel cage rotor, shell type design, built to NEMA MG-1, Design B specifications. Stator windings shall be copper, insulated with moisture resistant Class H insulation, rated for 311°F. The stator shall be dipped and baked three times in Class H varnish and heat shrunk fitted into the stator housing. Rotor bars and short circuit rings shall be manufactured of cast aluminum. The motor junction area shall include a terminal strip for wire connections and shall be sealed with gaskets and o-rings from the motor stator housing. The motor shaft shall be one piece AISI403SS material, rotating on two permanently lubricated ball bearings designed for a minimum B-10 life of up to 100,000 hours. Motor service factor shall be 1.10 and capable of up to 10 starts per hour. The motor shall be designed for continuous duty pumping at a maximum sump temperature of 104°F. Voltage and frequency tolerances shall be a maximum 10 / 5% respectively. A thrust bearing RTD temperature monitor is optional.

Motor over temperature protection shall be provided by miniature thermal protectors embedded in the windings. Mechanical seal failure protection shall be provided by a mechanical float switch located in a chamber above the seal. This switch shall be comprised of a magnetic float that actuates a dry reed switch encapsulated within the stem. Should the mechanical seal fail, liquid shall be directed into the float chamber, in which the rising liquid activates the switch opening the normally closed circuit. The float switch components shall be 304SS material. The motor shall be non-overloading over the entire specified range of operation and be able to operate at full load continuously with the motor unsubmerged in air.

Power cable jacket shall be manufactured of an oil resistant chloroprene rubber material, designed for submerged applications. Cable shall be watertight to a depth of at least 114 feet (35 m). The cable entry system shall comprise of primary, secondary, and tertiary sealing methods. The primary seal shall be achieved by a cylindrical elastomeric grommet compressed between the cable housing and cable gland. Secondary sealing is accomplished with a compressed o-rings made of NBR material. Compression and subsequent sealing shall preclude specific torque requirements. The system shall also include tertiary sealing to prevent leakage into the motor housing due to capillary action through the insulation if the cable is damaged or cut. The cable wires shall be cut, stripped, re-connected with a copper butt end connector, and embedded in epoxy within the cable gland. This provides a dead end for leakage through the cable insulation into the motor junction area. The cable entry system shall be the same for both the power and control cables.

The motor design shall also include an integral cooling jacket constructed of steel, A283, Grade D. The cooling medium shall be the pumpage. Re-circulation through the jacket shall be achieved by discharging the pumpage into the cooling jacket from the periphery, high pressure area, of the impeller, and returning it into the low pressure behind the impeller, at the hub. Riser pipes within the jacket shall be utilized to facilitate circulation. The cooling passage ways shall be non clogging by virtue of the dimensions; screening solids from entering the jacket. The jacket shall have external NPT connections to be used for external cooling as an option, as well as for venting the jacket. The jacket cooling system shall provide heat dissipation for the motor whether the unit is submerged or operating in air.

**F. Guide Rail system:**

Design shall include two (2) 304SS schedule 40 guide rails sized to mount directly to the quick discharge connector, QDC, at the floor of the wetwell and to a guide rail bracket at the top of the wetwell below the hatch opening, (refer to project drawings). Intermediate guide brackets are recommended for rail lengths over 15 feet.

The QDC shall be manufactured of cast iron, A48 Class 30. It shall be designed to adequately support the guide rails, discharge piping, and pumping unit under both static and dynamic loading conditions with support legs that are suitable for anchoring it to the wet well floor. The face of the inlet QDC flange shall be perpendicular to the floor of the wet well. The discharge flange of the QDC shall conform to ANSI B16.1 Class 125.

The pump design shall include an integral self-aligning sliding bracket. Sealing of the pumping unit to the QDC shall be accomplished by a single, linear, downward motion of the pump. The entire weight of the pump unit shall be guided to and wedged tightly against the inlet flange of the QDC, making metal to metal contact with the pump discharge forming a seal without the use of bolts, gaskets or o-rings.

Lifting chain, are stainless steel, is suitable for removing and installing the pump unit.



## Model Designation

	200	x	150	DSC4	A	O	FM	4	6	075
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**SUCTION BORE SIZE – mm** \_\_\_\_\_

200mm – 8”      500mm – 20”  
400mm – 16”      600mm – 24”

**DISCHARGE BORE SIZE – mm** \_\_\_\_\_

150mm – 6”  
250mm – 10”  
300mm – 12”

**MODEL TYPE** \_\_\_\_\_

DSC4 – submersible sewage pump: wet pit  
DSCA4 – submersible sewage pump: dry pit  
DSC4C – submersible sewage pump: wet pit (ICS)  
DSCA4C – submersible sewage pump: dry pit (ICS)

**MODEL CODE** \_\_\_\_\_

**HYDRAULIC MODEL** \_\_\_\_\_

**IMPELLER TYPE** \_\_\_\_\_

O-Semi-open  
C-Enclosed

**FM – FM Explosion Proof** \_\_\_\_\_

**POLE** \_\_\_\_\_

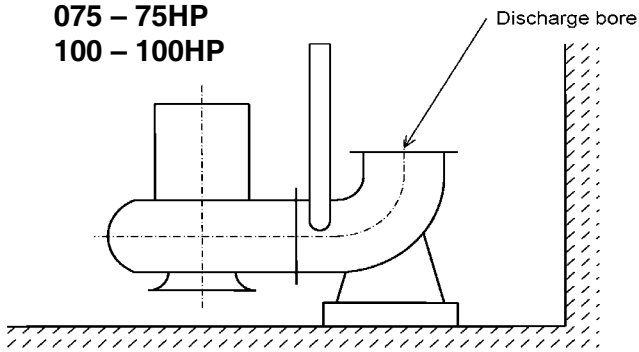
4 – 1800 RPM      8 – 900 RPM  
6 – 1200 RPM

**HERTZ** \_\_\_\_\_

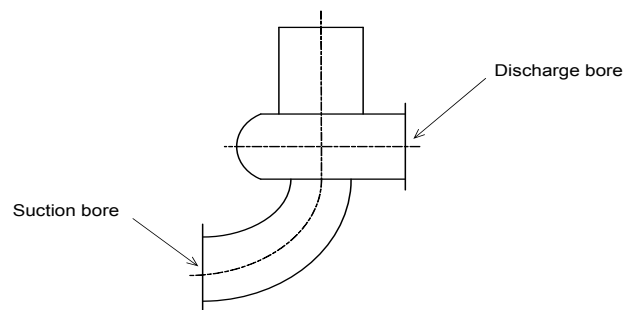
6 – 60HZ

**HORSEPOWER** \_\_\_\_\_

050 – 50HP      120 – 120HP  
060 – 60HP      145 – 145HP  
075 – 75HP  
100 – 100HP



Model DSC4(C) Wet Pit Installation



Model DSCA4(C) Dry Pit Installation





Customer :  
Reference :

## Pump Performance Datasheet

Ebara Quotation System 24.4.1

Item number	: 300DSC4GOFM66075	Product Description	: 300DSC4GO
Service	:	Stages	: 1
Quantity	: 2	Based on curve number	: GO
Quote number	: 2411719	Date last saved	: 03 Jan 2025 10:18 AM

### Operating Conditions

Flow, rated	: 5,600.0 USgpm
Differential head / pressure, rated (requested)	: 36.00 ft
Differential head / pressure, rated (actual)	: 36.22 ft
Suction pressure, rated / max	: 0.00 / 0.00 psi.g
NPSH available, rated	: Ample
Site Supply Frequency	: 60 Hz

### Performance

Speed criteria	: Synchronous
Speed, rated	: 1190 rpm
Impeller diameter, rated	: 355 mm
Impeller diameter, maximum	: 359 mm
Impeller diameter, minimum	: 317 mm
Efficiency	: 82.87 %
NPSH required / margin required	: 50.41 / 0.00 ft
Ns (imp. eye flow) / Nss (imp. eye flow)	: 4,358 / 6,745 US Units
MCSF	: 1,957.3 USgpm
Head, maximum, rated diameter	: 82.92 ft
Head rise to shutoff	: 130.33 %
Flow, best eff. point	: 4,553.1 USgpm
Flow ratio, rated / BEP	: 122.99 %
Diameter ratio (rated / max)	: 98.89 %
Head ratio (rated dia / max dia)	: 94.13 %
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Selection status	: Acceptable

### Liquid

Liquid type	: Cold Water
Additional liquid description	:
Solids diameter, max	: 0.00 mm
Solids concentration, by volume	: 0.00 %
Temperature, max	: 68.00 deg F
Fluid density, rated / max	: 1.000 / 1.000 SG
Viscosity, rated	: 1.00 cP
Vapor pressure, rated	: 0.34 psi.a

### Material

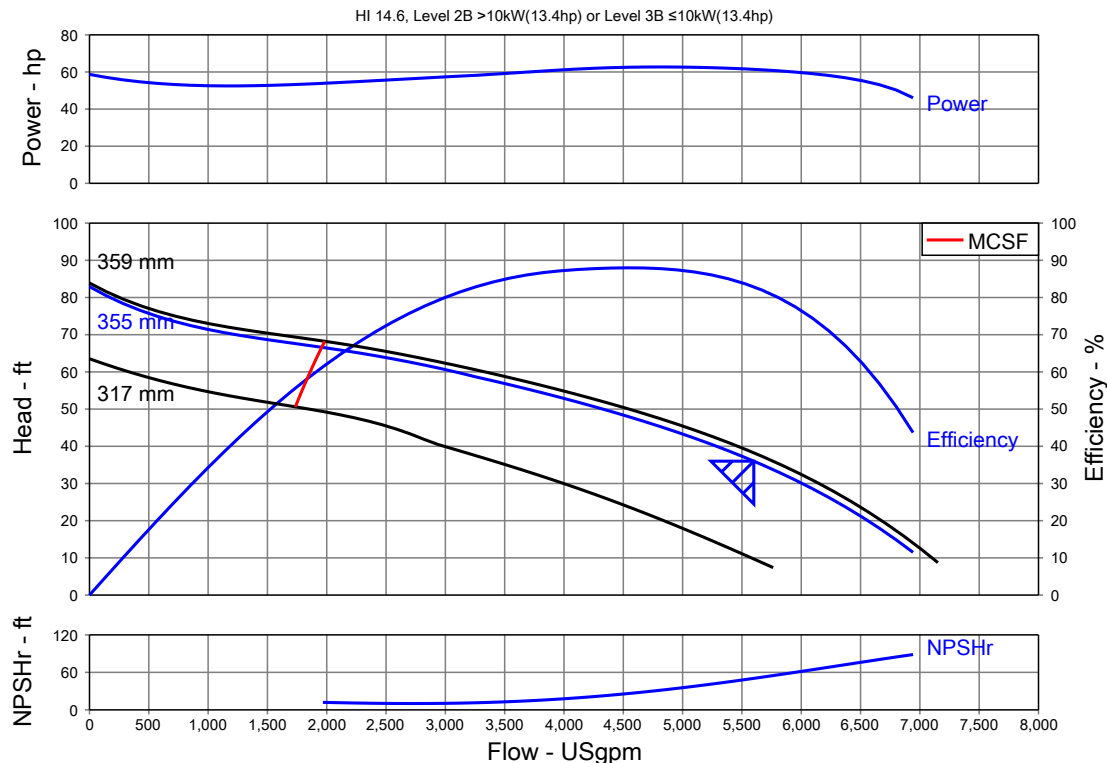
Material selected	: Standard
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### Pressure Data

Maximum working pressure	: 35.88 psi.g
Maximum allowable working pressure	: N/A
Maximum allowable suction pressure	: N/A
Hydrostatic test pressure	: N/A

### Driver & Power Data (@Max density)

Driver sizing specification	: Rated power
Margin over specification	: 0.00 %
Service factor	: 1.00
Power, hydraulic	: 50.89 hp
Power, rated	: 61.41 hp
Power, maximum, rated diameter	: 62.70 hp
Motor rating	: 75.00 hp / 55.93 kW (Fixed)



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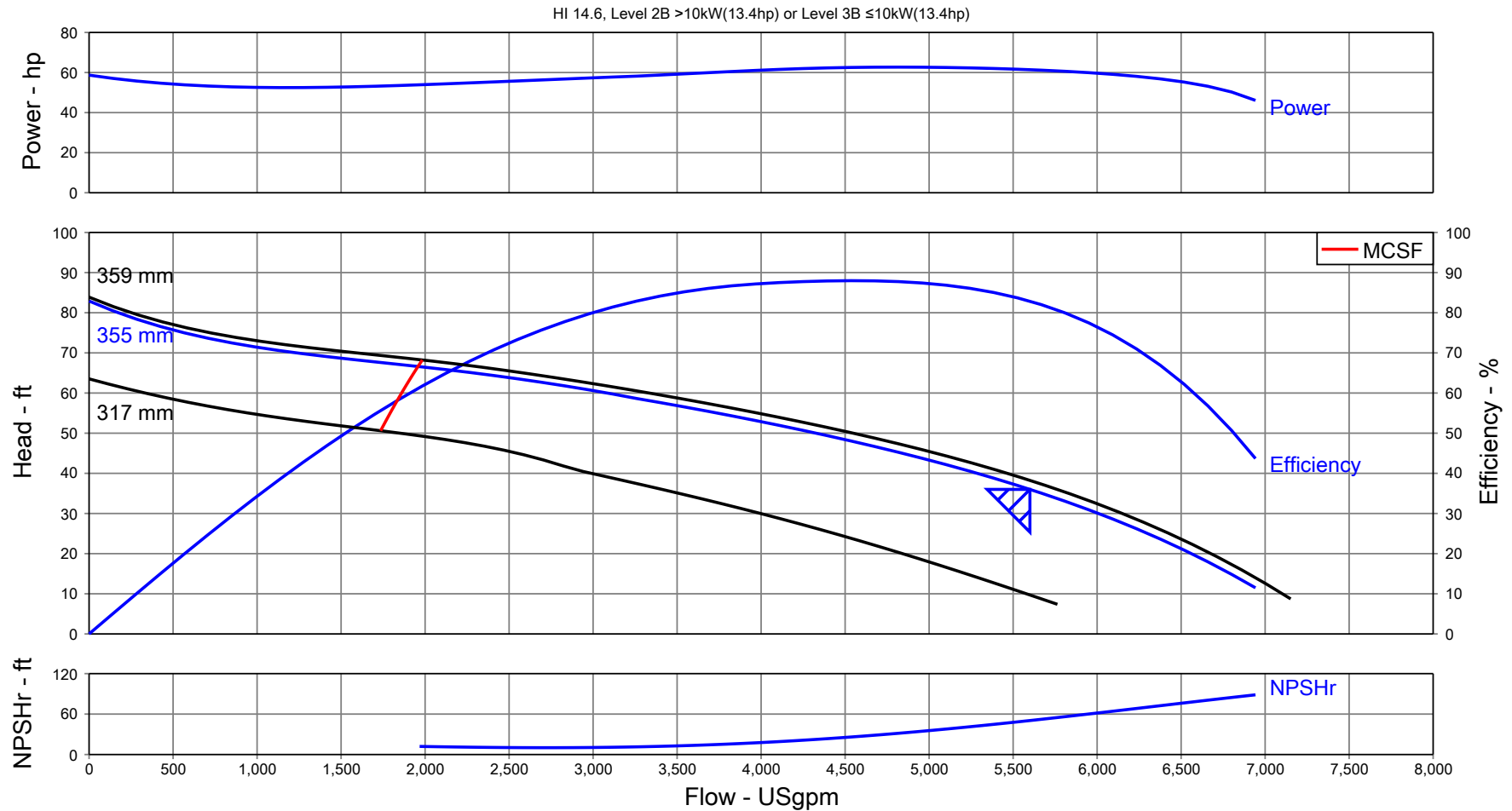




Customer :  
Reference :

## Pump Performance Curve

Ebara Quotation System 24.4.1



Item number : 300DSC4GOFM66075  
Service :  
Quantity : 2  
Quote number : 2411719  
Date last saved : 03 Jan 2025 10:18 AM

Product Description : 300DSC4GO  
Stages : 1  
Speed, rated : 1190 rpm  
Based on curve number : GO  
Efficiency : 82.87 %  
Power, rated : 61.41 hp

Flow, rated : 5,600.0 USgpm  
Differential head / pressure, rated : 36.00 ft  
NPSH required : 50.41 ft  
Fluid density, rated / max : 1.000 / 1.000 SG  
Viscosity : 1.00 cP  
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010] : 1.00 / 1.00 / 1.00 / 1.00

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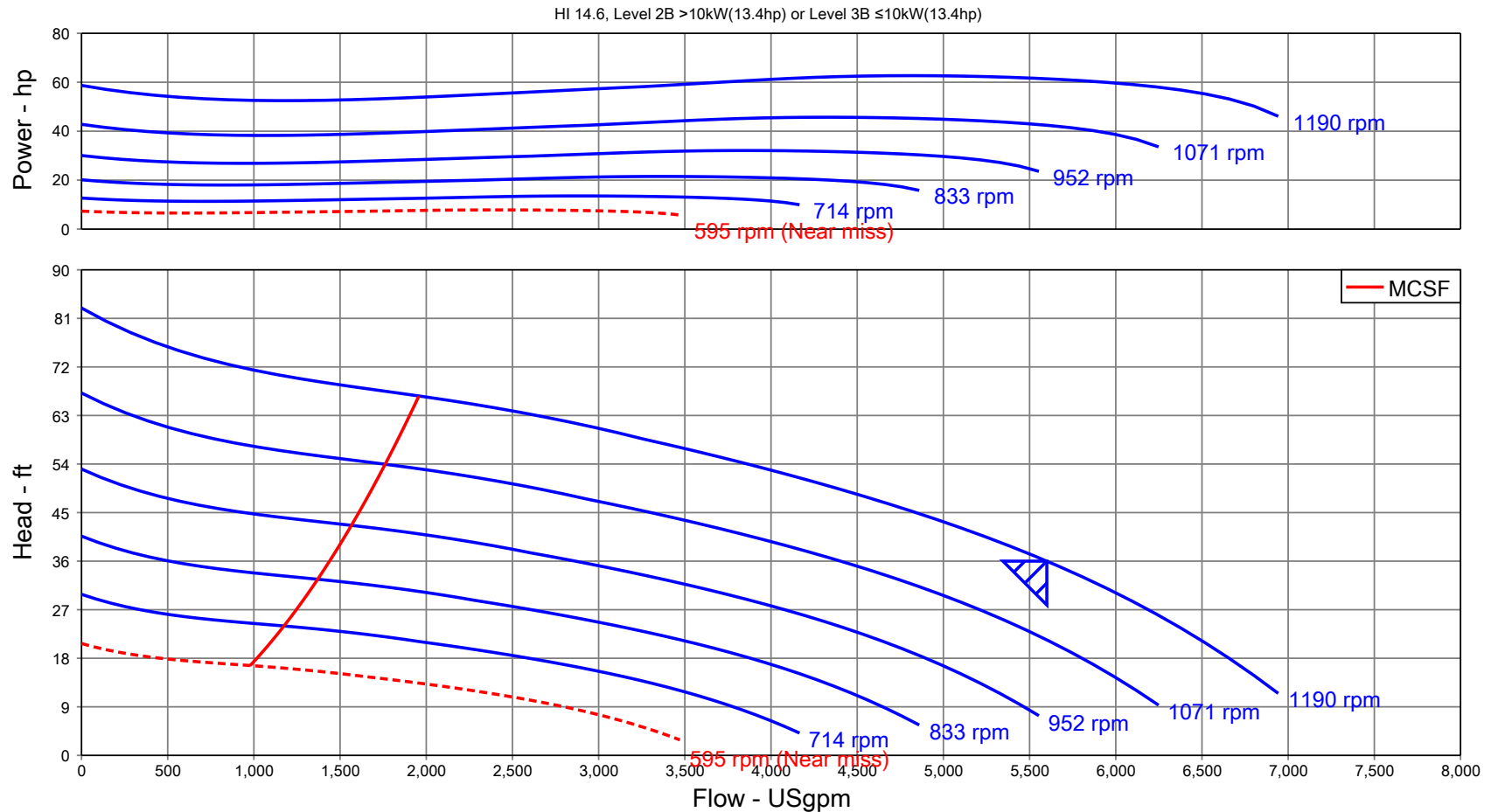




Customer :  
Reference :

## Multi-Speed Performance Curve

Ebara Quotation System 24.4.1



Item number	: 300DSC4GOFM66075	Product Description	: 300DSC4GO	Flow, rated	: 5,600.0 USgpm
Service	:	Stages	: 1	Differential head / pressure, rated	: 36.00 ft
Quantity	: 2	Efficiency	: 82.87 %	Speed, rated	: 1190 rpm
Quote number	: 2411719	Power, rated	: 61.41 hp	Impeller diameter, rated	: 355 mm
Based on curve number	: GO	NPSH required	: 50.41 ft	Fluid density, rated / max	: 1.000 / 1.000 SG
Date last saved	: 03 Jan 2025 10:18 AM	Site Supply Frequency	: 60 Hz	Viscosity	: 1.00 cP
		Nominal speed	: 1187 rpm	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00

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## Construction Datasheet

Customer	:	Quote number	: 2411719
Customer reference	:	Pump Model	: 300DSC4GO4
Sales Order	: -	Quantity	:2
Job Name	: -	Date last saved	: 03 Jan 2025 10:18 AM
<b>Pump Data</b>			
FM Approved	Yes	Insulation Class	H
Discharge Size (in)	12	Service Factor	1.15
Discharge Size (mm)	300	Motor Protection	
Hertz	60	Thermal Detection	Klixons
Rated KW	55	Leakage Detection	Float Switch
Horsepower	75	Cable Length (ft)	50.00 ft
Phase	-	Max Submergence	114
Voltage	460V	Impeller Type	Semi-Open
Max Water Temperature °F	104	Impeller Design	Mixed Flow
Max Water Temperature °C	40	Number of Vanes	3
Synchronous Speed (RPM)	1200	Back P.O. Vanes	-
<b>Pump Materials of Construction</b>			
Casing	Cast Iron	Shaft	420 SS
Impeller	Cast Iron	Cooling Jacket	Rolled Steel
Intermediate Casing	-	Motor Frame	Cast Iron
Suction Cover	Cast Iron	O-Rings	NBR
Casing Ring	-	Lifting Handle	304 SS
		Fastener	304 SS
<b>Mechanical Seal and Ball Bearing Data</b>			
Mechanical Seal Size (mm)	-	Lubricating Oil	
Mechanical Seal Material		Capacity (l)	2.3
Upper Side	Carbon/Ceramic	Name	Turbine Oil #32
Lower Side	Silicon Carbide/Silicon Carbide	Coolant	
Ball Bearing		Capacity (l)	NA
Upper	7222BDB	Name	NA
Lower	6216ZZ		
<b>QDC and Accessories</b>			
QDC Model	KQDC300	Lifting Chain	-
Upper Guide Bracket	-	Material	-
Intermediate Guide Bracket	-	Size (mm)	-
		Standard Length (ft)	-
<b>Estimated Weights (lbs)</b>			
Pump	3,119.0 lb	Intermediate Guide Bracket	0.00 lb
QDC	507.0 lb	Lifting Chain	0.00 lb
Upper Guide Bracket	0.00 lb	Total Weight	3,626.0 lb

### Ebara Pumps Americas Corporation

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## Motor Datasheet

Customer	:	Quote number	: 2411719
Customer reference	:	Pump Model	: 300DSC4GO4
Sales Order	: -	Quantity	: 2
Job Name	: -	Date last saved	: 03 Jan 2025 10:18 AM

### Motor Data

Horsepower	75	Efficiency (%)	
Rated KW	55	1/2 Load	86.7
Phase	-	3/4 Load	83.1
Voltage	460V	1/1 Load	88.1
Poles	6	Power Factor (%)	
Insulation Class	H	1/2 Load	79.3
Service Factor	1.15	3/4 Load	70.8
Frame	380	1/1 Load	83.2
Full Load (A)	94	Start	
		Current (%)	691
		Torque (%)	264

### Power Cable Data

Gauge (AWG)	1	Nominal O.D.	
Number of Cables	1	Inch	1.595
Number of Conductors	4	mm	40.51
Type	W	Resistance at 20Â°C	
Conductor Strand	259	Ohm/MFT	0.078
Nominal Insulator Thickness		Ohm/km	0.256
Inch	0.08		
mm	2.03		

### Control Cable Data

Gauge (AWG)	14	Nominal O.D.	
Number of Cables	1	Inch	0.645
Number of Conductors	5	mm	16.26
Type	SOOW	Resistance at 20Â°C	
Conductor Strand	41/30	Ohm/MFT	2.53
Nominal Insulator Thickness		Ohm/km	8.29
Inch	0.045		
mm	1.14		

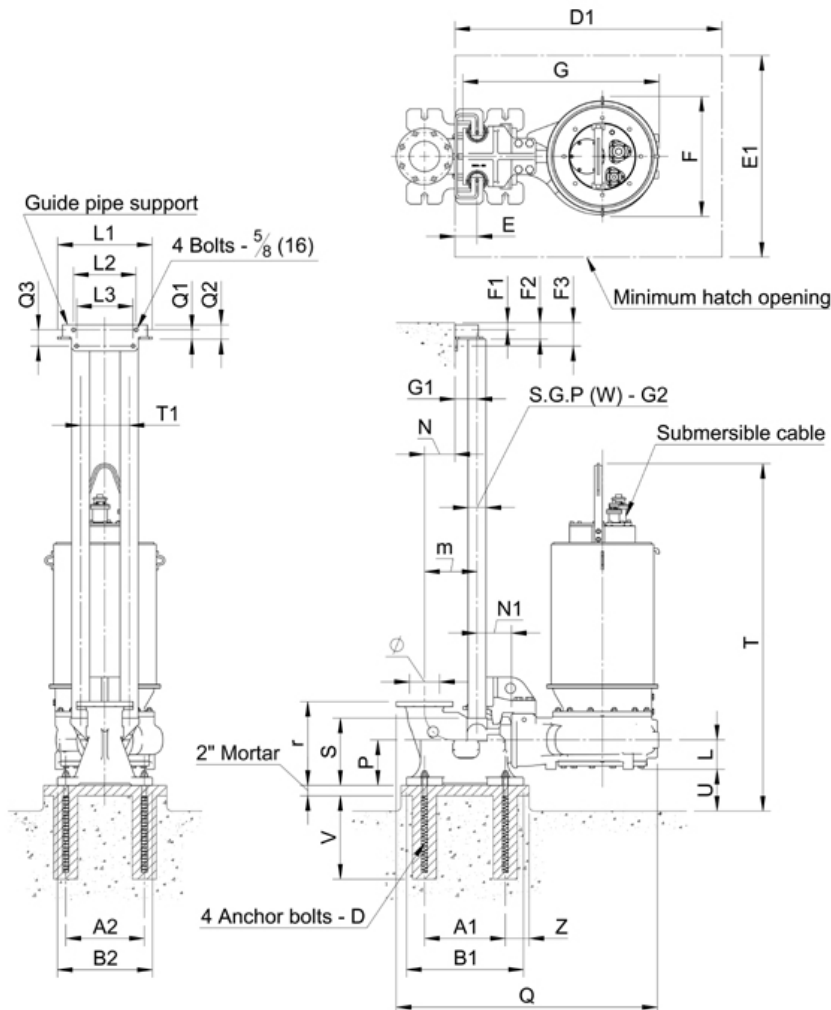
## General Arrangement

### EBARA Pumps

#### Dimensions

Model: 300DSC4CGOFM66075 - Weights 3,119.0 lb

QDC Model: KQDC300 - Weights 507.0 lb



PUMP & MOTOR						Discharge Flange (ANSI 125 PSI FF)							
F	G	L	Q	T	U	ø (mm/ in)	e	f	t	n	h	r	m
-	-	-	-	-	C/F	-	432	483	31.80	12.00	26.00	660	370

QDC												ACCESS HOLE	
ø	A1	A2	B1	B2	D	N	N1	P	S	V	Z	D1	E1
-	-	-	-	-	-	-	-	-	-	C/F	-	-	-

UGB												
E	F1	F2	F3	G1	G2	L1	L2	L3	Q1	Q2	Q3	T1
-	-	-	-	-	-	-	-	-	-	-	-	-

#### NOTES:

1. Dimensions are in mm

**Technical Data**

Project:

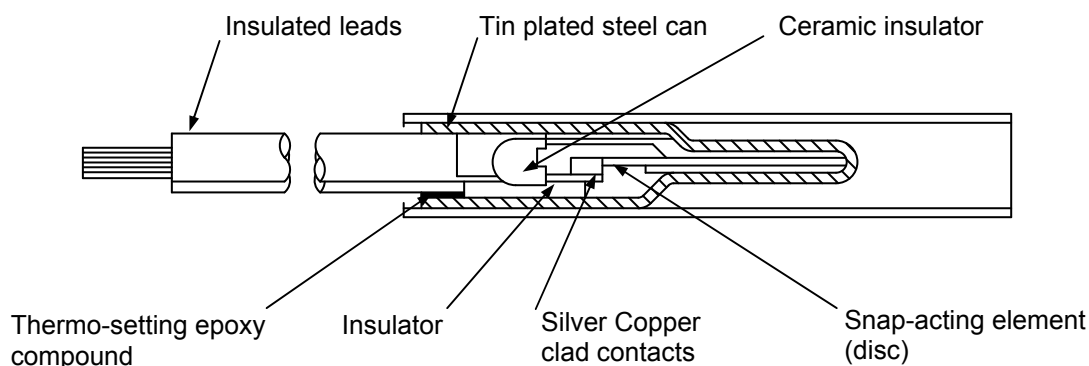
Model:

Chk'd:

Date:

**2. THERMAL DETECTOR FOR MOTOR WINDING**

The motor shall be equipped with a Miniature Thermal Protector (MTP). This MTP is embedded in the windings and will act to protect the motor from over-heating. If the motor winding temperature reaches the MTP acting point it will activate and open the circuit.

**Switch Rating**

CONTACT RATING : AC115V 18A / AC230C 13A  
 CONTACT TYPE : B – CONTACT (NORMALLY CLOSED)  
 OPEN TEMP. :  $140 \pm 5^{\circ} \text{C}$  ( $284 \pm 9^{\circ} \text{F}$ )

**Fig.6-2 THERMAL DETECTOR FOR MOTOR WINDING****CHARACTERISTICS**

The circuit is normally closed.

The disc is operated both by the current passing through it and by heat received from the windings.

When the temperature of the disc reaches a predetermined point corresponding to the maximum allowable temperature of winding, the disc snaps open to interrupt the circuit.

When the winding temperature returns to the safe operation range, the circuit is restored automatically.

## Technical Data

Project:

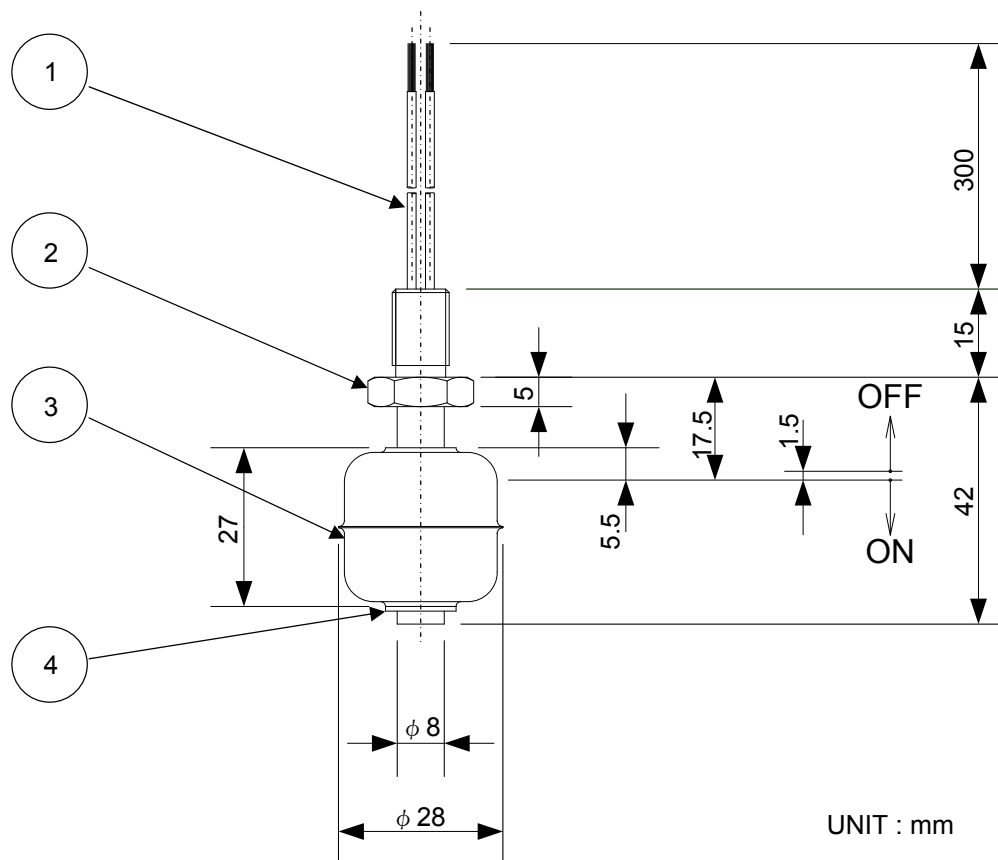
Model:

Chk'd:

Date:

## 3. LEAKAGE DETECTOR

A built-in float type leakage detector is fitted to sense leaking of pumping water and/or seal oil into the motor as a result of failure of the mechanical seal.

**Switch Rating**

CONTACT RATING : Breaking capacity : AC50VA/DC50W  
 Max. breaking current : AC0.5A/DC0.5A  
 Max. operating voltage : AC300V/DC300V

CONTACT TYPE : B-CONTACT (NORMALLY CLOSED)

Part No.	Part Name	Material	Qty/Set
1	LEAD WIRE	Heatproof Polyvinyl Chloride Wire (0.3mm)	2
2	HOUSING	316 Stainless Steel	1
3	FLOAT	316 Stainless Steel	1
4	STOPPER	316 Stainless Steel	1

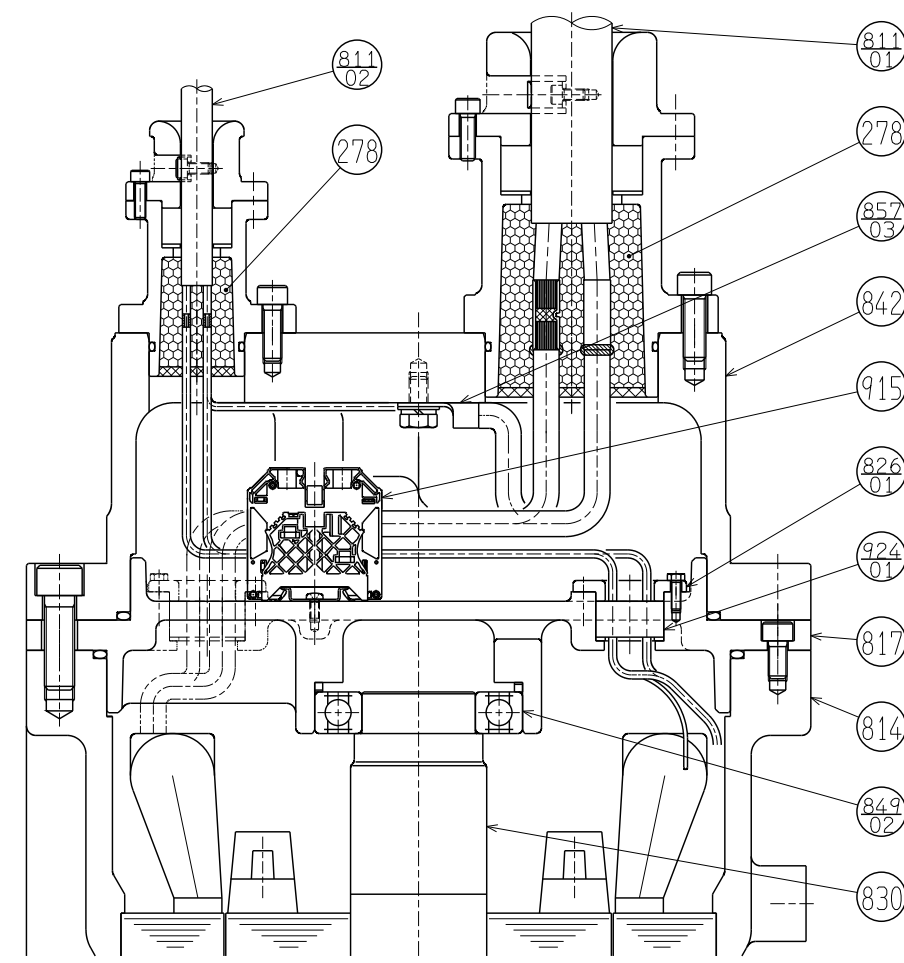
**Technical Data**

Project:

Model:

Chk'd:

Date:

**Cable Entry – Sectional View**


Part No.	Part Name	Material	No. for 1 Unit
278	Sealing Compound	Epoxy Resin	–
811-01	Line Cord	Type W 50 -175HP	1
		200 - 245HP	2
811-02	Control Cord	Type SOOW	1
814	Frame	Cast Iron	1
817	Opposite Side Bracket	Cast Iron	1
826-01	Gland	Cast Iron	1
830	Shaft	420 SS (4P/6P 50-145HP) 403Q SS (4P/6P/8P 175-245HP, 10P 50-145HP)	1
842	Motor Cover	Cast Iron	1
849-02	Ball Bearing	–	1
857-03	Ground Terminal	Copper	–
915	Terminal Board Assy.	–	1
924-01	Packing	NBR	1





Wiring Diagram

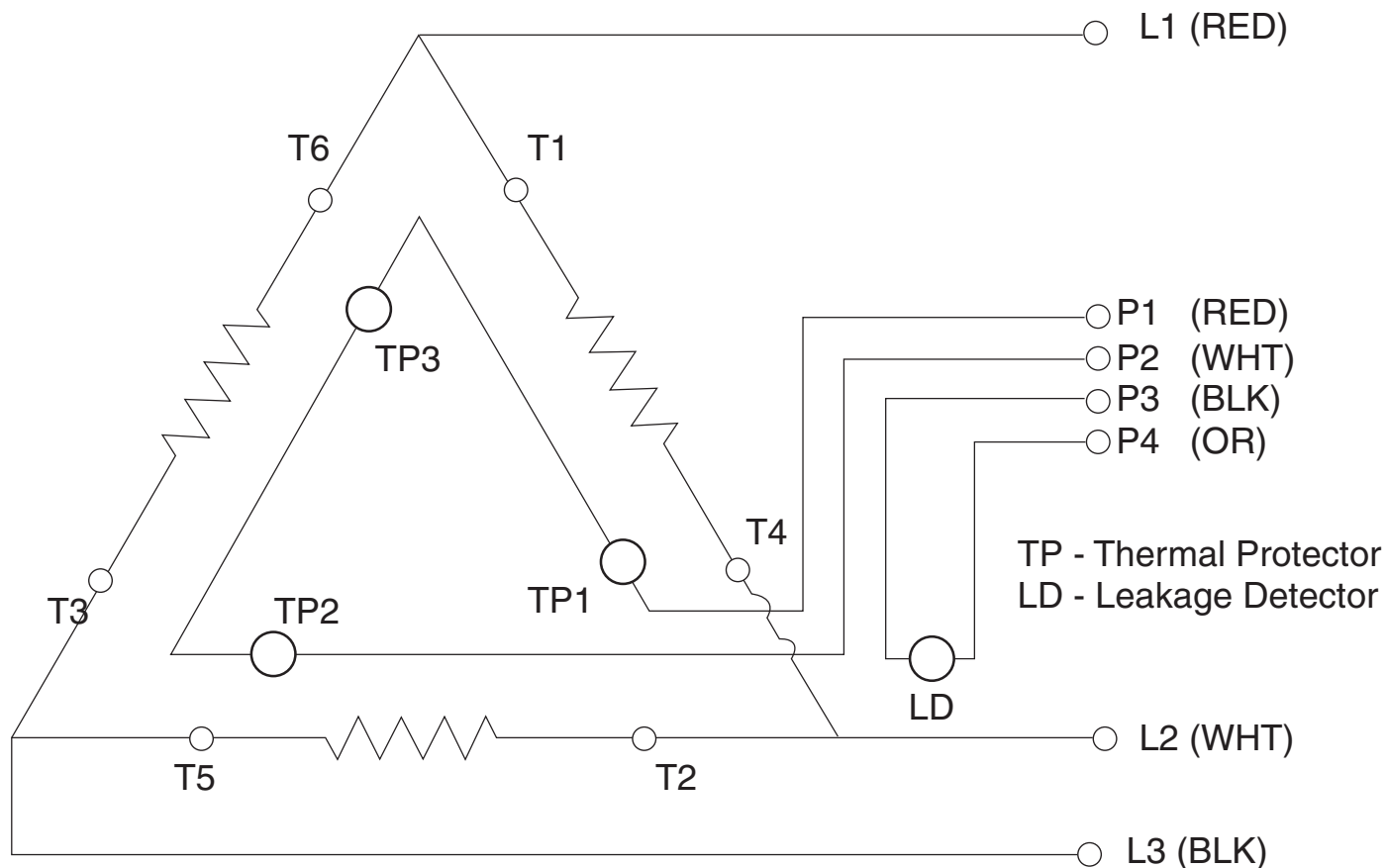
Project:

Model:

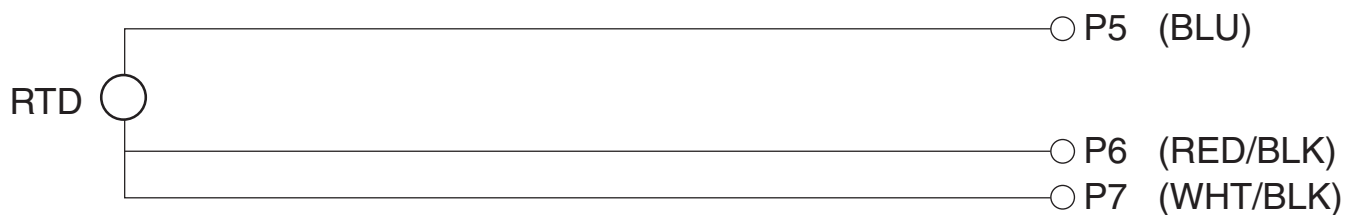
Chk'd:

Date:

Single Power Cable (50HP-175HP models)



OPTION:



RTD - Resistance Temperature Detector



**Technical Data - DSC4**

Project:

Model:

Chk'd:

Date:

**Mechanical Seal**

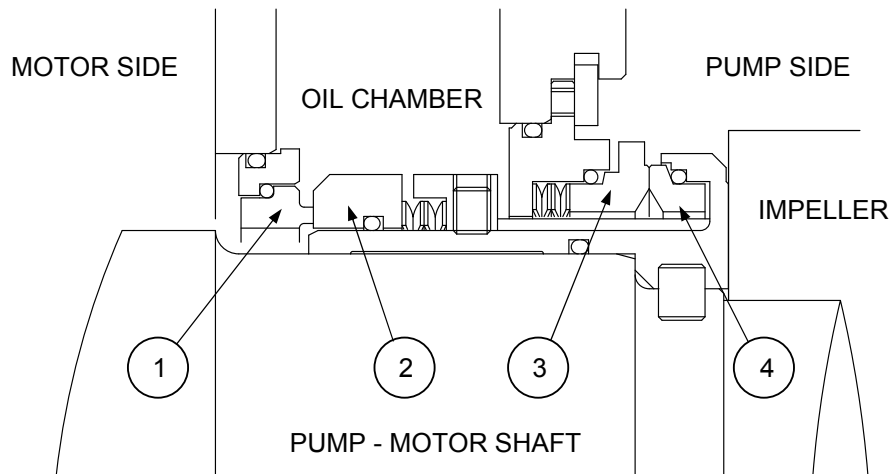
Ebara DSC4 pumps employ **cartridge type, duplex mechanical seals in tandem arrangement**.

Cartridge type mechanical seal provide:

- Easy maintenance because it is handled as one unit
- High reliability due to assembly and adjustment separate from the bowl unit

Duplex mechanical seals in tandem arrangement provide:

- High reliability because of dual seals construction
- Long life operation with oil lubrication



Part No.	Part Name	Material
1	STATIONARY RING (UPPER)	CARBON
2	SEAL RING (UPPER)	CERAMIC+STAINLESS STEEL
3	STATIONARY RING (LOWER)	SILICON CARBIDE
4	SEAL RING (LOWER)	SILICON CARBIDE

## Sectional View

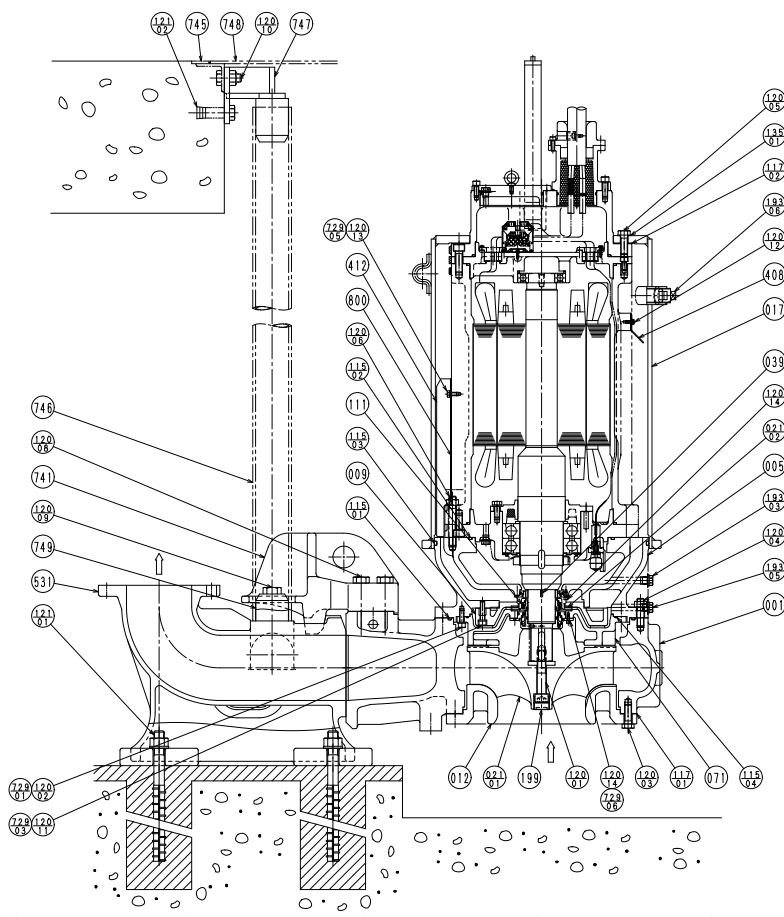
Project:

Model:

Chk'd:

Date:

### Model DSC4C with Quick Discharge Connector Semi-open Impeller – ICS option



Part No.	Part Name	Material	No. for 1 Unit
800	Motor	-	1 Set
749	Guide Pipe Bush	AISI 420	2
748	Floor Plate	ASTM A283	1
747	Guide Pipe Holder	ASTM A283	1
746	Guide Pipe	AISI 304	2
745	Floor Frame	ASTM A283	1
741	Sliding Guide	ASTM 536	1
729-06	Spring Washer	AISI 304	8
729-05	Spring Washer	AISI 304	8
729-04	Spring Washer	AISI 304	4
729-03	Spring Washer	AISI 304	4
729-01	Spring Washer	AISI 304	8
531	Quick Discharge Connector	ASTM A48 CL35	1
412	Guide Plate	AISI 304	4
408	Baffle Plate	AISI 304	2
199	Impeller Bolt Cap	ASTM A48 CL30	1
193-06	Plug (Coolant Supply)	AISI 304	2
193-05	Plug (Coolant Drain)	AISI 304	1
193-03	Plug (Leak Check)	AISI 304	1
135-01	Seal Washer	AISI 304/NBR	8
121-02	Hole-In Anchor	AISI 304	2
121-01	Anchor Bolt	AISI 304	4
120-14	Hex. Socket Cap Screw	AISI 304	8
120-13	Hex. Head Bolt	AISI 304	8
120-12	Hex. Head Bolt	AISI 304	4
120-11	Hex. Socket Cap Screw	AISI 304	4
120-10	Holder Bolt	AISI 304	2
120-09	Hex. Head Bolt	AISI 304	2
120-08	Hex. Head Bolt	AISI 304	4
120-06	Stud Bolt/Nut	AISI 304	8
120-05	Hex. Head Bolt	AISI 304	8
120-04	Stud Bolt/Nut	AISI 304	12
120-03	Hex. Head Bolt	AISI 304	12
120-02	Hex. Socket Cap Screw	AISI 304	8
120-01	Impeller Bolt	AISI 304	1
117-03	Sheet Gasket	-	2
117-02	Sheet Gasket	NBR	1
117-01	Sheet Gasket	Non-Asbestos	1 Set
115-04	O-Ring	NBR	1
115-03	O-Ring	NBR	1
115-02	O-Ring	NBR	1
115-01	O-Ring	NBR	1
111	Mechanical Seal	-	1 Set
071*	Side Plate	See Left*	
039	Key	AISI 316	1
021-02	Impeller	ASTM CF8	1
021-01	Impeller	ASTM A48 CL35	1
017	Cooling Jacket	ASTM A283 Gr. D	1
012	Suction Cover	ASTM A48 CL35	1
009	Inner Casing	ASTM A48 CL35	1
005	Intermediate Casing	ASTM A48 CL35	1
001	Pump Casing	ASTM A48 CL35	1

Part No.	Part Name	Model PH/HP	Material	No. for 1 Unit
071*	Side Plate	4P 50HP-100HP/6P 50HP-145HP	Cast iron ASTM A48 CL35	1
		4P 120HP-145HP	Copper alloy casting ASTM B584 C83600	1

**For reference only;  
consult spare parts pricing for available spare parts**



**EBARA Pumps Americas Corporation**  
[www.pumpsebara.com](http://www.pumpsebara.com)  
 (803) 327-5005 (p) • (803) 327-5097 (f)

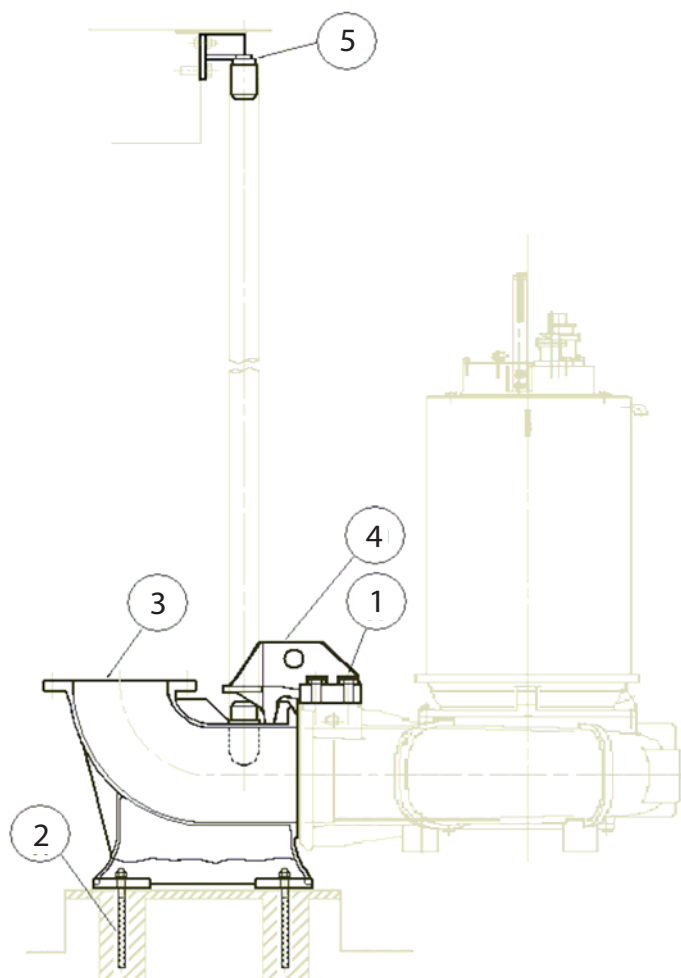
**Sectional View**

Project:

Model:

Chk'd:

Date:

**QDC (Quick Discharge Connector) for Model DSC4**


Part #	Part name	Material	Number for set
1	Bolt	Stainless steel	4
2	Anchor bolt, nut, washer	Stainless steel	4
3	Quick discharge connector	Cast iron	1
4	Sliding guide	Ductile iron	1
5	Guide pipe support	Carbon steel	1



# Pump Monitor Relay EPMR4A

MADE IN  
THE U.S.A.



UL FILE #E101681

## OPERATION

The Pump Monitor Relay provides Motor Over Temperature and Seal Leakage alarms for Submersible Pumps.

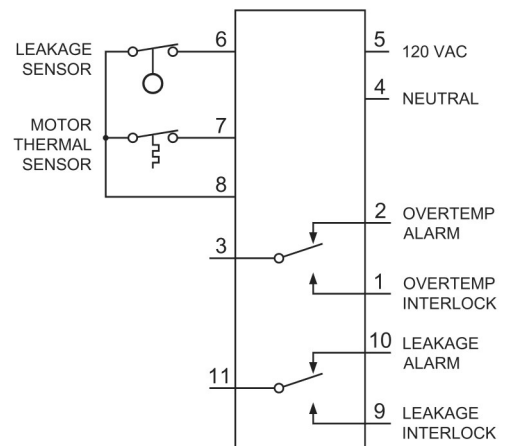
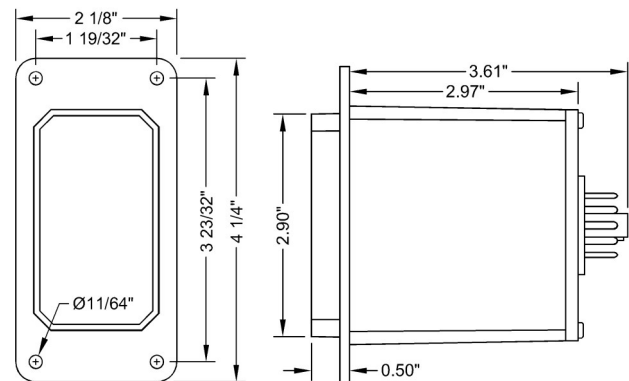
**Motor Over Temperature Alarm** - The unit applies a low voltage DC signal to the Motor Thermal Sensor to check its status. If the unit detects that the Motor Thermal Sensor contacts are closed (normal condition), the Overtemp indication remains off, and the Overtemp Relay is energized closing the contacts between terminals 3 and 1.

If the Motor Thermal Sensor contacts open (Over Temperature condition), the Overtemp Indication is turned on and the Overtemp Alarm Relay is de-energized opening the contacts between terminals 3 and 1 and closing the contacts between terminals 3 and 2.

When the High Motor Temperature condition has cleared, the unit will reset based on the position of Alarm Reset Mode Select Switch (Auto or Manual). When in the Auto position, the Overtemp Alarm resets automatically. If the switch is in the Manual position, the Overtemp Reset Push-button must be pushed for approximately 1.5 seconds to clear the alarm.

**Seal Leakage Alarm** - The unit applies a low voltage DC signal to the Leakage Sensor to check its status. If the unit detects that the Leakage Sensor contacts are closed (normal condition), the Seal Leakage indication remains off, and the Leakage Relay is energized closing the contacts between terminals 11 and 9.

If the Leakage Sensor contacts open (Seal Leakage condition), the Seal Leakage Indication is turned on and the Leakage Alarm Relay is de-energized opening the contacts between terminals 11 and 9 and closing the contacts between terminals 11 and 10.



## SPECIFICATIONS

Input Power:	120 VAC $\pm 10\%$ , 7.0 VA max
Output Rating:	8A Resistive @ 120VAC
Operating Temp:	-20°C to +65 °C
Storage Temp:	-45°C to +85 °C
Temp Sensor Voltage:	6.6 VDC $\pm 10\%$
Leak Sensor Voltage:	6.6 VDC $\pm 10\%$
Enclosure:	White Lexan
Base:	Phenolic

## ORDERING INFORMATION

Part Number: EPMR4A



## EBARA Pumps Americas Corporation

**Quote Number:** 2411719  
**Company:** CAASI Flow Control.  
**Contact Name:** Serge Bouchard  
**Phone Number:** 925-470-6600  
**Cell Number:**  
**E-mail / Fax:**  
**Job Name:**

### CONTROL PANEL SPECIFICATIONS:

**Station Type:** Duplex  
**Pump Model:** 75HP @ 94FLA  
**Panel Voltage:** 460V, 3Ø without Neutral  
**SCCR Minimum Rating:** 5000 Amps  
**UL Listed:** 508A  
**PDF Specs Attached:** Yes

Quote valid for sixty (60) days  
Current production time 12 to 16 weeks at time of quote depending on part availability.  
FOB Ashland, OH

### OTHER REQUIREMENTS :

Quantity	Part Description	Construction Notes
1.0	NOTE: PANEL NOTES	PANEL NOTES AND EXCEPTIONS
1.0	SCHEMATIC	FULL SIZE SCHEMATIC DIAGRAM PROVIDED IN PRINT POCKET
1.0	CUSTOMER SUPPLIED DEVICES	ALL CUSTOMER SUPPLIED ITEMS MUST MEET UL REQUIREMENTS OF THE PANEL
1.0	NOTE	EBARA TO SUPPLY PMR4A SHIP TO OEC FOR INSTALL
1.0		
1.0	TYPE 4X LPPL STAINLESS STEEL 60X48X18	
1.0	BACK PANEL	
2,880.0	SUB DOOR	
2.0	SUB DOOR KNOB ASSEMBLY	
1.0	POWER BLOCK	POWER DISTRIBUTION
2.0	PUMP T-BLOCK	
8.0	PUMP SENSOR T-BLOCK	HEAT SENSOR / SEAL FAIL
4.0	FLOAT T-BLOCK	2 FLOAT SYSTEM BACKUP
10.0	AUX TERMINAL BLOCK	HWA, OVER TEMP, SEAL FAIL
1.0	TERMINAL BLOCK	

Quantity	Part Description	Construction Notes
1.0	END PLATE DARK BGE 1.5MM	
2.0	GROUND BAR	5 POSITION FOR PUMPS
1.0	3 PHASE MONITOR WITH UL SOCKET 208/230/460 VOLT	
1.0	LIGHTNING ARRESTOR 3 PHASE DELTA 3 WIRE	
2.0	PUMP CB - 150 AMP	MOUNTED THROUGH SUB DOOR
2.0	CIRCUIT BREAKER SHUNT TRIP 110-130V AC	
4.0	CLASS CC FUSE 600V 1AMP	
2.0	FUSEBLOCK 2 POLE	
2.0	SOFT START	
2.0	BYPASS CONTACTOR	50 AMP
2.0	PRIMARY FUSES	
1.0	PRIMARY FUSE DISCONNECT	
1.0	TRANSFORMER	CONTROL TRANSFORMER 1000VA 208/230/460V PRIMARY 115V SECONDARY
2.0	CONTROL/ALARM FUSES	GLASS FUSE 250V 3AMP
2.0	GLASS FUSE 250V 3AMP	SPARE FUSES
2.0	FUSE BLOCK FOR GLASS FUSE	
1.0	1/8 DIN PROCESS DIGITAL PANEL	
1.0	PROVU 4 SPST RELAY EXPANSION MODULE	
1.0	BIRDCAGE TRANSDUCER 10PSI 40FT 3.75" FLNG	SHIPPED LOOSE
2.0	SOFT START CALL RELAY	
2.0	SOFT START FAIL RELAY	
2.0	TIME DELAY RELAY	FOR SOFT START FAIL
1.0	ON DELAY TIMER	LAG DELAY TIMER
2.0	LOW/ HIGH FLOAT RELAY	
1.0	FLOAT ENABLE RELAY	
1.0	HIGH LEVEL RELAY	
1.0	SILENCE RELAY	
2.0	HEAT FAIL RELAY	INDICATE, INTERLOCK, AUX
2.0	SEAL FAIL RELAY	INDICATE, INTERLOCK, AUX
2.0	EBARA PMR	CUSTOMER SUPPLIED SHIPPED TO OEC FOR INSTALL
3.0	RELAY SOCKET 2 POLE OCTAL	
13.0	RELAY SOCKET	
2.0	HAND OFF AUTO SWITCH 22MM	OIL TIGHT MOUNTED IN SUB DOOR
1.0	ALARM ON OFF TEST SWITCH 22MM	OIL TIGHT MOUNTED IN SUB DOOR
1.0	SILENCE SWITCH 22MM	OIL TIGHT MOUNTED ON EXTERIOR RIGHT SIDE
2.0	SOFT START FAIL RESET 22MM	OIL TIGHT MOUNTED IN SUB DOOR
2.0	RUN LIGHT 22MM - AMBER	OIL TIGHT MOUNTED IN SUB DOOR
2.0	SEAL FAIL LAMP 22MM - RED	OIL TIGHT MOUNTED IN SUB DOOR
2.0	HEAT FAIL LAMP	OIL TIGHT MOUNTED IN SUB DOOR
3.0	HWA/ LWA LAMPS	OIL TIGHT MOUNTED IN SUB DOOR
2.0	SOFT START FAIL LAMP 22MM - RED	OIL TIGHT MOUNTED IN SUB DOOR
2.0	ELAPSED TIME METER ETM	MOUNTED IN SUB DOOR
1.0	ALARM LIGHT	MOUNTED ON TOP MIDDLE OF ENCLOSURE
1.0	HORN TYPE 4X 115 VOLT AC	MOUNTED ON RIGHT SIDE OF ENCLOSURE



Quantity	Part Description	Construction Notes
1.0	UL LABEL	
1.0	ENGRAVED LABELS	
1.0	WIRE WAY	
1.0	WIRING HARNESS	

OTHER NOTES/REQUIREMENTS:

Initial \_\_\_\_\_ Date \_\_\_\_\_