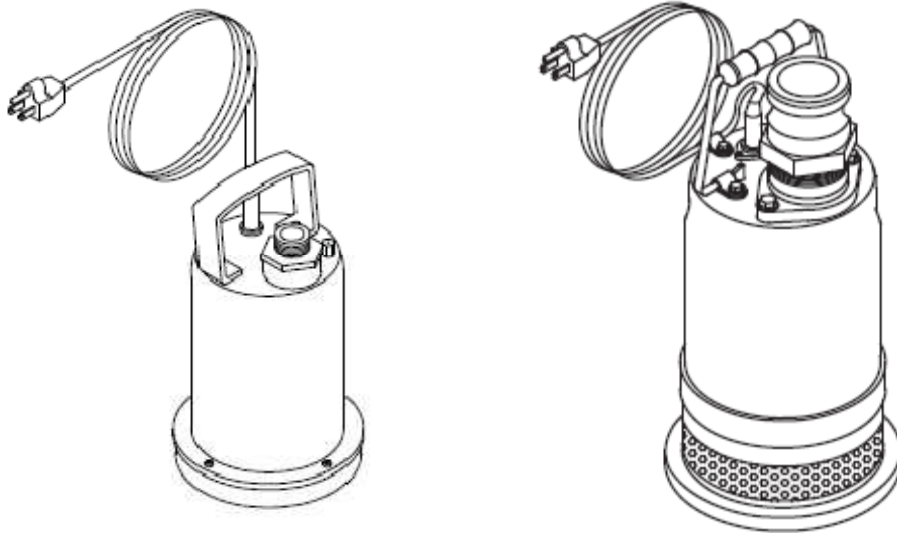




INSTALLATION, OPERATION & MAINTENANCE MANUAL

PSP125ABK / PSP200SSK



TOP DISCHARGE Electric Submersible Pumps

Single Phase
115V



Read this manual carefully before installing, operating or servicing these pump models. Observe all safety information. Failure to comply with instructions may result in personal injury and/or property damage. Please retain these instructions.

TABLE OF CONTENTS

INTRODUCTION.....	4
SAFETY.....	5
INSPECTION.....	6
PRE-INSTALLATION INSPECTION.....	6
OIL FILL QUANTITY/TYPE.....	6
PUMP INSTALLATION.....	7
POSITIONING THE PUMP.....	7
PUMP ROTATION.....	8
PUMP OPERATION.....	9
TYPICAL MANUAL DEWATERING INSTALLATION.....	9
STOPPING.....	10
TYPICAL AUTOMATIC DEWATERING INSTALLATION.....	10
AUTOMATIC OPERATION.....	10
STOPPING.....	11
INTENDED METHODS OF CONNECTION.....	11
SINGLE PHASE WIRING INSTRUCTIONS.....	12
TROUBLE SHOOTING.....	13
PUMP WILL NOT RUN.....	13
PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY.....	13
SERVICING YOUR SUBMERSIBLE PUMP.....	13
MAINTAINING YOUR PUMP.....	14
CHANGING SEAL OIL.....	14
DIMENSIONAL DRAWING.....	15
MODEL: PSP125ABK CURVE.....	16
MODEL: PSP200SSK CURVE.....	16
EXPLODED VIEW OF PWP125ABK.....	17
EXPLODED VIEW OF PSP200SSK.....	18
PSP SERIES PARTS LIST.....	19
SINGLE PHASE WIRING DIAGRAM 115V (PSP125SSK / PSP200SSK).....	20
WARRANTY AND LIMITATION OF LIABILITY.....	21
NOTES:.....	22

INTRODUCTION

This Installation, Operation and Maintenance manual provides important information on safety and the proper inspection, disassembly, assembly and testing of the Kodiak Power submersible pump. This manual also contains information to optimize performance and longevity of your **Kodiak Power** submersible pump.

The submersible PSP Series pumps are designed to pump water. The PSP Series pumps are not explosion-proof. They are not designed to pump volatile or flammable liquids.

Note: Consult chemical resistance chart for compatibility between pump materials and liquid before operating pump.

If you have any questions regarding the inspection, disassembly, assembly or testing please contact your Kodiak Power distributor, or John Brooks Company Limited.

John Brooks Company Limited
2625 Meadowpine Blvd.
Mississauga, ON, L5N 7K5

East Phone: 888-881-6667
West Phone: 800-527-8592

Information is also available on our web site: www.kodiakpower.ca

For assistance with your electric power source, please contact a certified electrician.

Please pay attention to the following alert notifications. They are used to notify operators and maintenance personnel to pay special attention to procedures, to avoid causing damage to the equipment, and to avoid situations that could be dangerous to personnel.

NOTE: Instructions to aid in installation, operation, and maintenance or which clarify a procedure.

⚠ DANGER Immediate hazards that WILL result in severe personal injury or death. These instructions describe the procedure required and the injury which will result from failure to follow the procedure.

⚠ WARNING Hazards or unsafe practices that COULD result in severe personal injury or death. These instructions describe the procedure required, and the injury which could result from failure to follow the procedure.

⚠ CAUTION Hazards or unsafe practices which COULD result in personal injury or product or property damage. These instructions describe the procedure required and the possible damage which could result from failure to follow the procedure.

SAFETY

Pump installations are seldom identical. Each installation and application can vary due to many different factors. It is the owner/service mechanics responsibility to repair, service, and test to ensure that the pump integrity is not compromised according to this manual.

⚠ WARNING Risk of electric shock – this pump has not been investigated for use in swimming pool areas.

⚠ DANGER Do not pump flammable, inflammable or volatile liquids. Death or serious injury will result.

⚠ WARNING Before attempting to open or service the pump:

- 1) Familiarize yourself with this manual.
- 2) Unplug or disconnect the pump power cable to ensure that the pump will remain inoperative.
- 3) Allow the pump to cool if overheated.

⚠ WARNING Do not operate the pump with a worn or damaged electric power cable. Death or serious injury could occur.

⚠ WARNING Never attempt to alter the length or repair any power cable with a splice. The pump motor and pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

⚠ WARNING After the pump has been installed, make sure that the pump and all piping are secure before operation.

⚠ WARNING Do not lift the pump by the power cable piping or discharge hose. Attach proper lifting equipment to the lifting handle (or lifting rings) fitted to the pump. Do not suspend the pump by the power cable.

⚠ WARNING Obtain the services of a qualified electrician to troubleshoot, test and/or service the electrical components of this pump.

⚠ CAUTION Pumps and related equipment must be installed and operated according to all national, local and industry standards.

INSPECTION

Review all safety information before servicing pump.

The following are recommended installation practices/procedures for the pump. If there are questions in regards to your specific application, contact your local Kodiak Power distributor, or John Brooks Company Limited.

PRE-INSTALLATION INSPECTION

- 1) Check the pump for damage that may have occurred during shipment.
- 2) Inspect the pump for any cracks, dents, damaged threads, etc.
- 3) Check power cord for any cuts or damage.
- 4) Check for, and tighten any hardware that appears loose.
- 5) Carefully read all tags, decals and markings on the pump.

If anything appears to be abnormal, contact your Kodiak Power distributor, or John Brooks Company Limited. If damaged, the pump may need to be repaired before use. Do not install or use the pump until appropriate action has been taken.

Lubrication:

No additional lubrication is necessary. The shaft seal and bearings are fully lubricated from the factory. Seal oil should be checked once per year. See table below.

OIL FILL QUANTITY/TYPE

Pump Models	Qty. oil in seal chamber		Type of oil
	(U.S. fl. oz.)	Metric C.C.	
PSP125ABK	9.5	280	ISO 32 NSF Food Grade Oil
PSP200SSK	1.35	40	ISO 32 NSF Food Grade Oil

PUMP INSTALLATION

PSP Series pumps have been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.

⚠ WARNING **Risk of electric shock.** Pump models; PSP125ABK, PSP200SSK (115v) are supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

Lifting:

Attach a rope or lifting chain (not included) to the handle (or lifting rings) on the top of the pump.

⚠ CAUTION Do not lift the pump by the power cable or discharge hose/piping. Proper lifting equipment (rope/chain) must be used.

POSITIONING THE PUMP

Kodiak Power, PSP Series pumps are designed to operate fully or partially submerged. Avoid running the pump dry for extended periods of time. Refer to data sheet for minimum submersion depth for your particular model. As a general rule, PSP Series top discharge pumps can pump down to a level above the suction screen. Pumping lower than screen will permit air to enter the pump and cavitate, lose prime or become air bound.

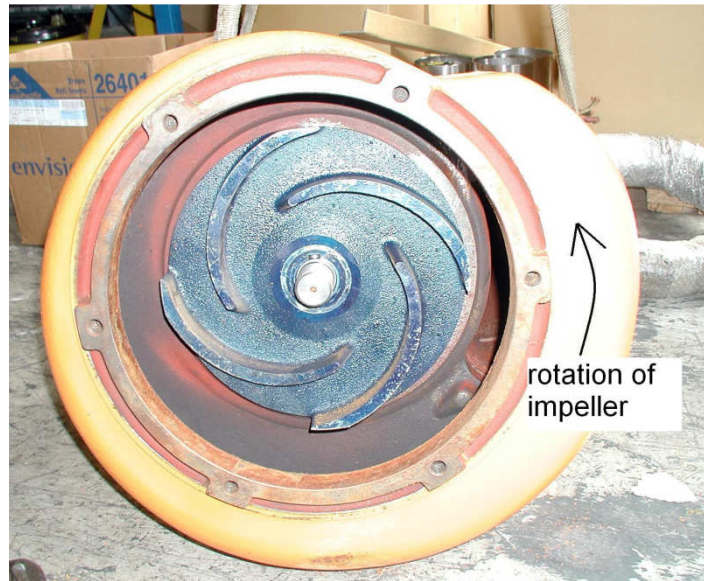
⚠ CAUTION

- Do not run pump dry.
- Pump liquid should not exceed a maximum temperature of 104°F. (40°C)
- Never place the pump on loose or soft ground. The pump may sink, preventing water from reaching the impeller. Place on a solid surface or suspend the pump with a lifting rope/chain. The PSP Series pumps are provided with a suction strainer to prevent large solids from clogging the impeller. Any spherical solids which pass through the strainer should pass through the pump.
- For maximum pumping capacity, use the proper size non-collapsible hose or rigid piping. A check valve may be installed after the discharge to prevent back flow when the pump is shut off.

PUMP ROTATION

Two ways to check the correct pump rotation:

1. By looking at the impeller; the rotation of the impeller should be counter clockwise as shown in the picture below.



2. By looking from the top of the pump. Since the impeller cannot be seen, the best way to check the rotation is to check the kick back motion of the pump when the pump just starts. The kick back motion of the pump should be counter clockwise as shown in the picture below.



PUMP OPERATION

⚠ WARNING

This pump is designed to handle dirty water that contains some solids. It is not designed to pump volatile or flammable liquids. Do not attempt to pump any liquids which may damage the pump or endanger personnel as a result of pump failure.

⚠ DANGER

Do not operate this pump where explosive vapors or flammable material exist. Death or Serious injury will result.

TYPICAL MANUAL DEWATERING INSTALLATION

NOTE: Maximum recommended starts should not exceed 10 times per hour.

Models PSP125ABK, PSP200SSK are provided with a 33' (10 m) power cord. NEVER splice the power cable due to safety and warranty considerations. Always keep the plug end dry.

⚠ WARNING

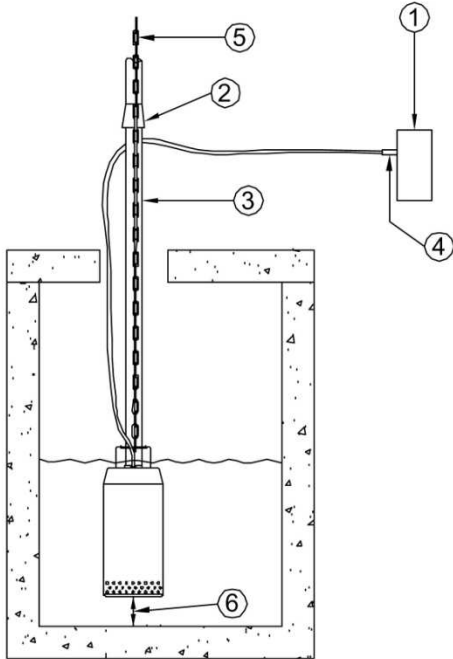
Do not alter the length or repair any power cable with a splice. The pump motor and cable must be completely waterproof. Damage to the pump or personal injury may result from alterations.

For manual operation: 115 volt: plug the power cable into any 115 volt grounded receptacle. It is recommended that a Ground Fault Interrupter (GFI) type receptacle (or equivalent) be used.

⚠ WARNING

Single phase pumps always use a three-prong grounded receptacle. It is recommended that a Ground Fault Interrupter (GFI) type receptacle (or equivalent) be used.

TYPICAL MANUAL DEWATERING INSTALLATION (WITHOUT PIGGY-BACK FLOAT CONTROL)



- 1)** Electrical wiring and protection must be in accordance with National Electrical Code in U.S.A. or Canadian Electrical Code in Canada and state / provincial and local electrical codes.
- 2)** Optional (approx. 50' / 15 meters) : If pumping in a small confined space at high head, it may be beneficial to install a check valve 3' (1 meter) above the discharge of the pump. This will help eliminate backflow and unnecessary running of the pump. For best results use a section of PVC.
- 3)** PVC pipe or rigid hose recommended. Collapsible vinyl hose will work but not as efficiently.
- 4)** All electrical connections must be kept dry.
- 5)** Always lower the pump by a separate rope or chain. Never lift or lower the pump by the power cord, piggy-back cord or discharge hose.
- 6)** For best results, place the pump on a solid object, or suspend pump 4" - 6" (100 mm - 150 mm) above the bottom. This will keep the pump from digging itself into silt, sand and mud.

STOPPING

To stop the pump (manual and automatic mode), unplug it from the power source, turn off the breaker, or turn the power source off (generator).

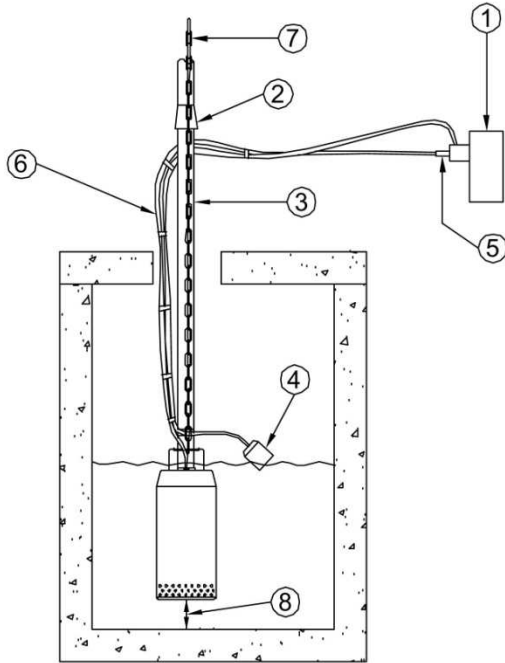
TYPICAL AUTOMATIC DEWATERING INSTALLATION

NOTE: Maximum recommended starts should not exceed 10 times per hour.

AUTOMATIC OPERATION

Float switches (wired into the pump motor or piggy-back style) are available from the factory as an option.

TYPICAL AUTOMATIC DEWATERING INSTALLATION (WITH PIGGY-BACK FLOAT CONTROL)



- 1) Electrical wiring and protection must be in accordance with National Electrical Code in U.S.A. or Canadian Electrical Code in Canada and state / provincial and local electrical codes.
- 2) Optional (approx. 50' / 15 meters) : If pumping in a small confined space at high head, it may be beneficial to install a check valve 3' (1 meter) above the discharge of the pump. This will help eliminate backflow and unnecessary running of the pump. For best results use a section of PVC.
- 3) PVC pipe or rigid hose recommended. Collapsible vinyl hose will work but not as efficiently.
- 4) Attach float to the pump top or PVC pipe. Never place the float lower than the top of the strainer inlet.
- 5) All electrical connections must be kept dry.
- 6) Piggy-back float switch cord should be tied or taped to the pump power cord every 3' (1 meter).
- 7) Always lower the pump by a separate rope or chain. Never lift or lower the pump by the power cord, piggy-back cord or discharge hose.
- 8) For best results, place the pump on a solid object, or suspend pump 4" - 6" (100 mm - 150 mm) above the bottom. This will keep the pump from digging itself into silt, sand and mud.

STOPPING

To stop the pump (manual and automatic mode), unplug it from the power source, turn off the breaker, or turn the power source off (generator).

INTENDED METHODS OF CONNECTION

CAUTION Use with approved motor control that matches motor input in full load amperes. "UTILISER UN DÉMARREUR APPROUVÉ CONVARIANT AU COURANT À PLEINE CHARGE DU MOTEUR."

Kodiak Power has been evaluated for use with water or water based solutions. Please contact the manufacturer for additional information.

SINGLE PHASE WIRING INSTRUCTIONS

⚠ WARNING

FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING. Single phase pumps are supplied with a three prong grounded plug to help protect you against the possibility of electrical shock. **DO NOT UNDER ANY CIRCUMSTANCES REMOVE THE GROUND PIN.** The three prong plug **must** be inserted into a mating three prong grounded receptacle. **IF** the installation does not have such a receptacle it must be changed to the proper type, wired and grounded in accordance with the National Electrical Code and all applicable local codes and ordinances.

⚠ WARNING

“Risk of electrical shock” Do not remove power supply cord and strain relief or connect conduit directly to the pump.

⚠ WARNING

Installation and checking of electrical circuits and hardware should be performed by a qualified licensed electrician.

TROUBLE SHOOTING



Disconnect the power source to the pump BEFORE attempting any type of trouble shooting, service or repair.

PUMP WILL NOT RUN

1. Check power supply (fuses, breaker). Reset power.
2. Blocked impeller. Remove strainer, check and clean.
3. Defective cable or incorrect wiring.
4. Strainer clogged. Check and clean as necessary.
5. Float switch tangled/obstructed. Clean and free float switch from obstruction.
6. Float switch defective. Replace float switch.
7. Pump overheated or temperature of liquid exceeds pump operating temperature.

Warning: Pump will restart automatically when motor over-heat protection switch cools.

PUMP RUNS BUT DOES NOT DELIVER RATED CAPACITY

1. Discharge line clogged, restricted or hose kinked. Check discharge hose/pipe.
2. Worn impeller and/or suction cover. Inspect and replace as necessary.
3. Pump overloaded due to liquid pumped being too thick.
4. Pumping air. Check liquid level and position of pump.
5. Excessive voltage drops due to long cables.
6. Three phase only; pump running backwards, check rotation.

SERVICING YOUR SUBMERSIBLE PUMP

Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.

To service or repair your pump, please contact your local Kodiak Power distributor. Service should only be performed by a qualified electrician.

MAINTAINING YOUR PUMP

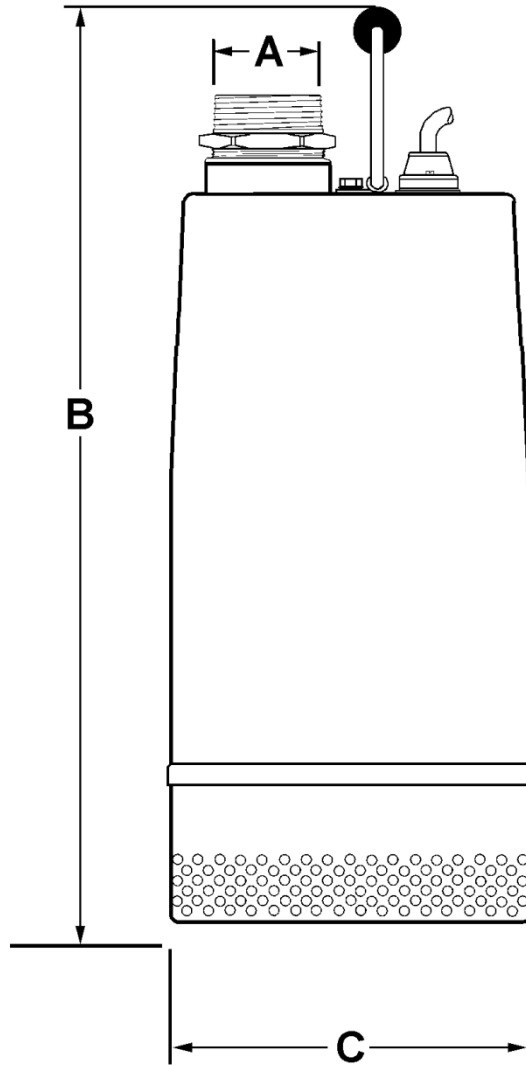
- Pump should be disconnected from the electric power supply before proceeding to do any service or maintenance.
- Pump should be inspected at regular intervals.
- More frequent inspections are required if the pump is used in a harsh environment.
- Preventative maintenance should be performed to reduce the chance of premature failure.
- Worn impellers and lip seals should be replaced.
- Cut or cracked power cords must be replaced. **(Never operate a pump with a cut, cracked or damaged power cord.)**
- Seal oil should be checked once per year.
- Maintenance should always be done when taking a pump out of service before storage.
 - 1) Clean pump of dirt and other build up.
 - 2) Check condition of oil around the shaft seals.
 - 3) Check hydraulic parts: check for wear.
 - 4) Inspect power cable. Make sure that it is free of nicks or cuts.

CHANGING SEAL OIL

Changing the seal oil in the PSP series pumps is very easy.

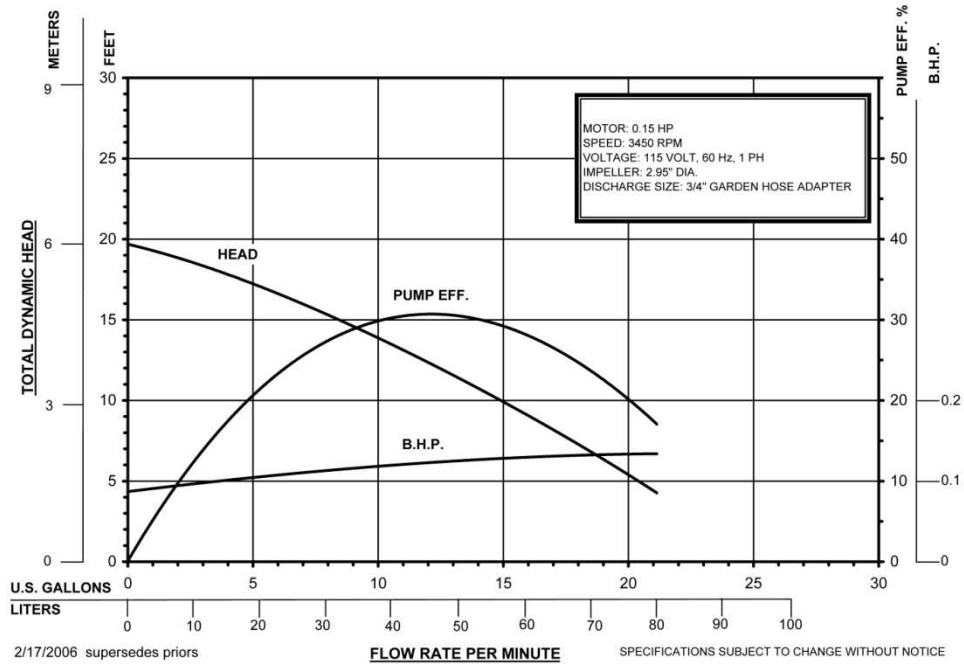
- 1) Make sure that the pump cable is disconnected from the power source.
- 2) Lay the pump down on its side.
- 3) Remove the screws that hold the bottom plate in place.
- 4) Remove bottom plate.
- 5) Remove screws holding the suction cover.
- 6) Remove the suction cover.
- 7) Remove the impeller.
- 8) Remove the inspection screw for the oil chamber (pos#50-08). Pour out a small sample of the oil. If it is milky white, or contains water, then the oil and possible, the mechanical seal, should be changed. If an oil change is needed:
- 9) Remove the screws that hold the oil chamber cover in place & remove the oil.
- 10) Replace the mechanical seal if necessary.
- 11) Replace the oil.
- 12) Assemble the pump.

DIMENSIONAL DRAWING

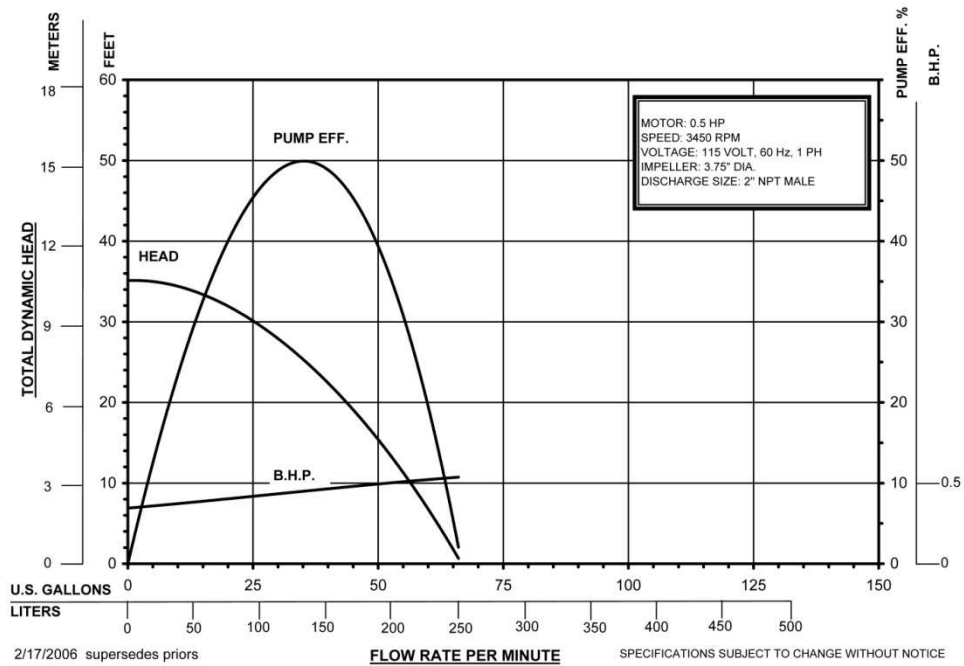


Model	A	B	C
PSP125ABK	1.0"	9.0"	5.5"
PSP200SSK	2.0"	14.6"	6.5"

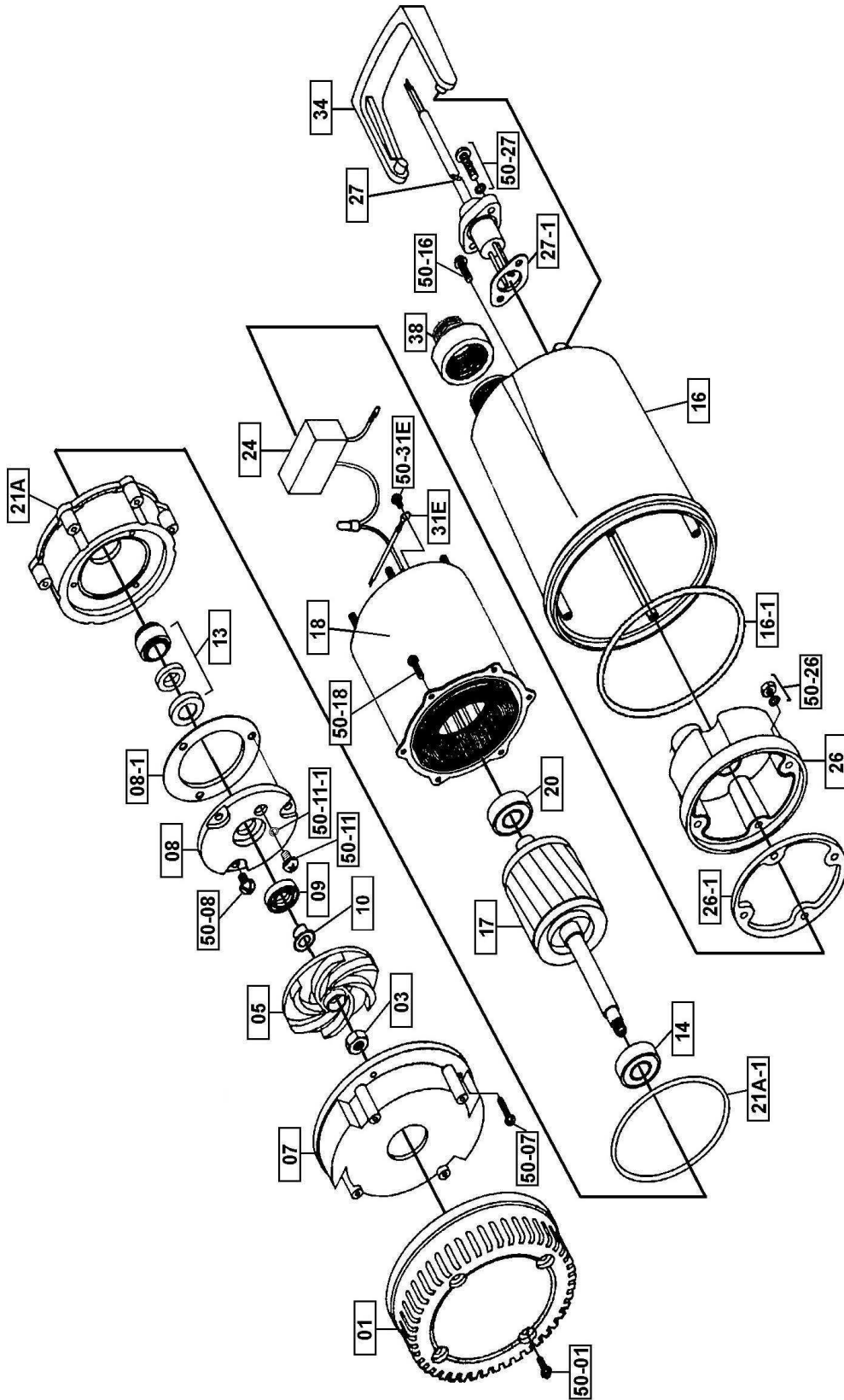
MODEL: PSP125ABK CURVE



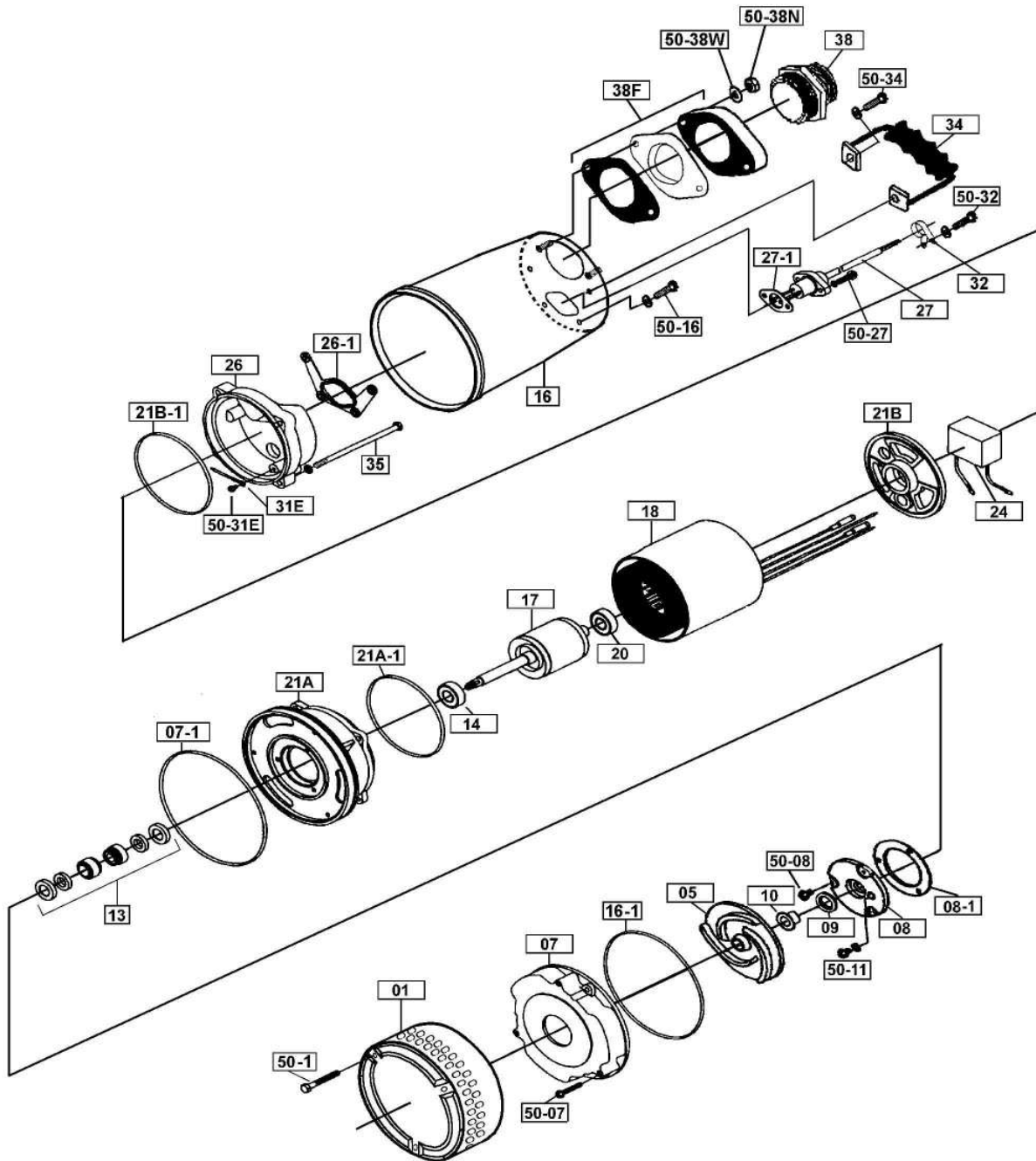
MODEL: PSP200SSK CURVE



EXPLODED VIEW OF PSP125ABK



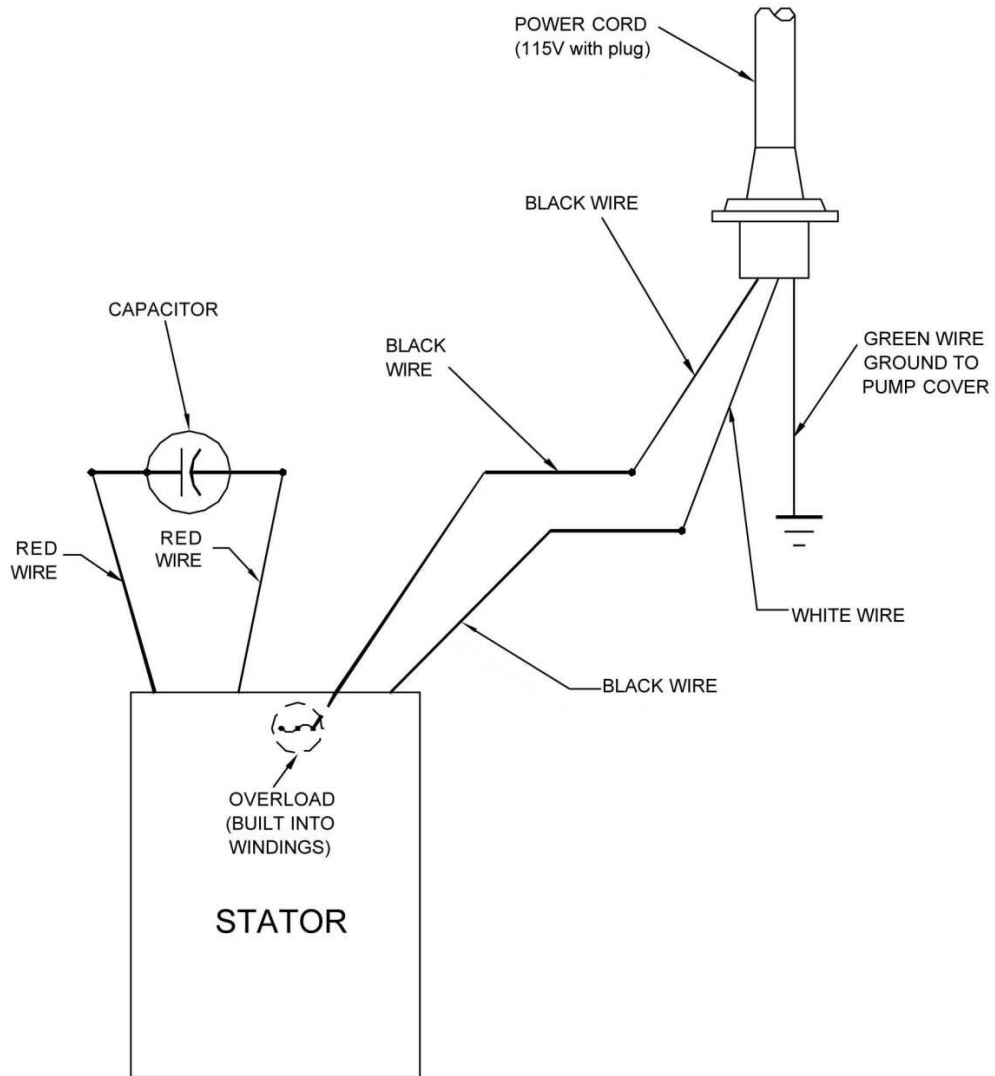
EXPLODED VIEW OF PSP200SSK



PSP SERIES PARTS LIST

Pump Model		PSP125ABK	PSP200SSK
Pos. No.	Part Description	Item #	Item #
01	Strainer	201980	201967
03	Impeller nut	202890	-
05	Impeller, Cast Iron	-	202055
05	Impeller, Fiberglass Reinf. Plastic	202920	
07	Pump Housing/Suction Cover	202155	202195
07-1	O-Ring (Kit Only)	Kit	Kit
08	Oil Chamber Cover	201009	202207
08-1	O-Ring (Kit Only)	Kit	Kit
09	Lip Seal Buna-N	202229	202229
10	Shaft Sleeve	202258	202258
13	Mechanical Seal Buna-N	202269	202259
14	Lower Ball Bearing	200957	200957
16	Pump Casing, Outer	202286	202288
16-1	O-Ring (Kit Only)	Kit	Kit
17	Rotor w/Shaft 115V, 1 PH	N/A	202300
18	Stator Coil w/Casing 115V, 1 PH	N/A	200508
20	Upper Ball Bearing	200966	200957
21A	Oil Chamber	203006	203028
21A-1	O-Ring (Kit Only)	Kit	Kit
21B	Motor Cover (Upper)	-	202364
21B-1	O-Ring (Kit Only)	Kit	Kit
24	Capacitor 115V	202411	202422
26	Pump Top Cover	202432	203115
26-1	O-Ring (Kit Only)	Kit	Kit
27	Power Cable w/Gland, 115V, 1 PH	201682	201683
27-1	O-Ring (Kit Only)	Kit	Kit
31E	Ground Wire w/Ring Terminal	203145	203145
32	Power Cable Line Clip	-	203161
34	Handle	203168	203169
35	Rod Bolts	-	202675
38	Discharge, F200 Quick Connect 2"	-	204057
38	Discharge, 3/4 " Garden Hose Adapter	202608	-
38F	Discharge Flange Kit 2"	-	202658
50-01	Screw for Strainer	202691	202690
50-07	Screw for Suction Cover	203233	203248
50-08	Screw for Oil Chamber Cover	202702	203215
50-11	Screw for Oil Fill	203218	203218
50-11-1	O-Ring (Kit Only)	Kit	-
50-16	Screw for Outer Casing	202699	203220
50-18	Screw for Stator	202702	-
50-26	Nut and Washer for Top Cover	202701	-
50-27	Screw for Power Cable	203232	203216
50-31E	Screw for Ground Wire	202692	202692
50-32	Screw for Line Clip	-	203220
50-34	Screw for Handle	-	203220
50-38N	Acorn Nut for Disch. Flange	-	203182
50-38W	Washer for Disch. Flange	-	203183
O-Ring Kit - Buna N		202622	202624

SINGLE PHASE WIRING DIAGRAM 115V (PSP125ABK / PSP200SSK)



NOTES: 1) SINGLE PHASE STATORS ARE NOT DUAL VOLTAGE.

WARRANTY AND LIMITATION OF LIABILITY

Unless otherwise expressly authorized in writing, specifying a longer or shorter period, John Brooks Company Limited warrants for a period of one (1) year, that all products or parts thereof furnished by John Brooks Company Limited under the brand name Kodiak Power, hereinafter referred to as the "Product" are free from defects in materials and workmanship and conform to the applicable specification.

To make a warranty claim within the time period, please return this product to the dealer from whom it was purchased. The dealer will advise the validity and procedure of the claim. Once the claim has been accepted by John Brooks Company Limited, the unit and parts should be shipped to John Brooks Company Limited or the specified authorized service centre at customer's expense. All approved repairs under warranty will be returned by John Brooks Company Limited free of charge.

Warranties expressed in this document are void if repairs are attempted by anyone other than an authorized service centre or John Brooks Company Limited or if the unit has been modified from original factory design in anyway. This warranty is expressly conditioned upon customer's compliance with all precautions and instructions contained in this manual and excludes any claims made as a result of abuse, neglect, accident, normal wear and tear and misuse. This warranty is nontransferable.

John Brooks Company Limited liability under warranty is limited to repair of the product and /or replacement of parts and is given to the purchaser in lieu of all other remedies including incidental and consequential charges. There are no expressed warranties other than those specified herein. For the nearest authorized service centre, please contact:



Customer Service Hotline:
East Phone: 888-881-6667
West Phone: 800-527-8592

