

STANDARD *Pump*

Operation & Parts Manual

Models: SP-430EX & SP-440EX



Introduction

This manual pertains to the SP-430EX & SP-440EX Series drum pump motors. When properly installed and operated, your Standard Pump motor and pump will provide long, trouble-free service; therefore, please read this manual carefully before carrying out any operations on the pump-motor unit. Any use other than that described herein is considered incorrect and; consequently, Standard Pump, Inc. shall not be held responsible for any damages to people or property. In case of doubt or inquiries, please apply to our Technical Service department directly at the following address:

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SAFETY

1. Introduction

This manual contains all the information needed for the correct installation, use and maintenance of your new Standard Pump, Inc. motor. It should be read and understood by all the personnel involved in installation, operating and servicing of the pump before it is started.

2. Operator Qualification and Training

The personnel in charge of the installation, operation and maintenance of the pump unit we produce must be qualified and able to perform the operations described in this manual. Standard Pump, Inc. shall not be held responsible for the training level of personnel and for the fact that they are not fully aware of the contents of this manual.

3. Safety Instructions



FOR YOUR OWN SAFETY:

BEFORE UNDERTAKING ANY SERVICE OPERATION ON YOUR MOTOR OR PUMP, PLEASE MAKE SURE TO WEAR THE PROPER PROTECTIVE GEAR.



GENERAL DANGER

NEVER use a plastic pump or an open, splash-proof, TEFC or non-ATEX motor when pumping or mixing flammable or combustible material. **ALWAYS** use and store the pump and motor in an upright position.



DANGER: POWER SUPPLY

NEVER perform any maintenance operation on the motor while it is running or before it has been disconnected from the power supply. Avoid any possible hazard that might be caused by electric power. **ALWAYS** check the electrical specifications on the motor data plate and make sure they correspond to the power supply to which it will be connected.

ALWAYS place motor in the OFF position prior to connecting the power source. **NEVER** immerse the motor in liquid.

ALWAYS use an ATEX Zone 1 approved plug and receptacle for ATEX motor models.

ALWAYS use a UL/CSA Class I Division 1 Group D approved plug and receptacle for Hazardous Location motor models.

NEVER operate ATEX rated or Haz Loc rated motors outside their rated ambient temperature range of -20°C to +40°C.

Warning: Explosion Hazard - Do not replace the cord on Explosion proof motor models. Replacing the cord will invalidate the safety of the equipment. Return the motor back to the manufacturer for cord replacement. Do not open or repair the flame-proof joints of Explosion proof motors. Contact the manufacturer for cord, fuse, and circuit board replacement.

Static sparking can cause an explosion. Always follow NFPA 77 and CLC/TR 60079-32-1 guidelines for control of static electricity and proper grounding methods when using ATEX and Hazardous Location motor models. When operating in a hazardous area or pumping a hazardous fluid, the motor and entire pump system must be grounded to prevent static discharge using appropriate grounding wires and connectors.

4. Noise Level

At normal operating conditions, SP-430EX and SP-440EX motors produce a sound level equal or less than 81 dBA at a distance of three feet (~ one meter).

5. Modifications and Spare Parts

Any changes concerning the service of the motor as originally purchased, can be executed only after written approval from Standard Pump, Inc. It is recommended to use only genuine Standard Pump, Inc. spare parts and approved accessories. The use of non-original spare parts or non-approved accessories will void warranty and removes any responsibility on our behalf for any damage caused to people or things.

Sécurité

1. Introduction

Ce manuel donne toutes les instructions nécessaires pour assurer l'installation, l'utilisation et l'entretien adéquats du moteur de pompe Standard Pump, Inc. Ces instructions doivent être lues et comprises par tout le personnel participant à l'installation, à l'utilisation et à l'entretien de la pompe avant son démarrage.

2. Qualifications et formation des opérateurs

Le personnel en charge de l'installation, de l'utilisation et de l'entretien de la pompe et de son moteur doit être qualifié et capable d'effectuer les tâches décrites dans ce manuel. Standard Pump, Inc. n'est pas responsable du niveau de formation du personnel et du fait qu'ils n'aient pas pris entièrement connaissance du contenu de ce manuel.

3. Consignes de sécurité



POUR VOTRE SÉCURITÉ

AVANT d'utiliser ou de faire l'entretien de votre pompe, s'assurer de porter les vêtements protecteurs adéquats, les protections oculaires (pour les yeux) et de suivre les procédures de sécurité standard pour manipuler les matières corrosives ou dangereuses pour la santé.



DANGERS GÉNÉRAUX

NE JAMAIS utiliser de pompe en plastique ni de moteur ouvert, étanche aux éclaboussures, de type TEFC ou non conforme à la norme ATEX, pour pomper ou mélanger des matières inflammables ou combustibles.

TOUJOURS utiliser et remiser la pompe et le moteur en position verticale.



DANGER : ALIMENTATION ÉLECTRIQUE

NE JAMAIS effectuer aucune tâche d'entretien sur le moteur lorsqu'il est en marche, ou avant de le débrancher de son alimentation électrique. Éviter toute condition dangereuse en rapport avec l'alimentation électrique.

TOUJOURS vérifier les spécifications électriques sur la plaque signalétique du moteur et s'assurer qu'elles correspondent à l'alimentation électrique à laquelle il est raccordé. **TOUJOURS** mettre le moteur en position d'arrêt («OFF») avant de le raccorder à l'alimentation électrique.

NE JAMAIS immerger le moteur dans un liquide.

TOUJOURS utiliser une prise et une prise homologuées ATEX Zone 1 pour les modèles de moteurs ATEX.

TOUJOURS utiliser une prise et un réceptacle homologués UL / CSA Classe I Division 1 Groupe D pour les modèles de moteurs à emplacement dangereux.

AVERTISSEMENT: Risque d'explosion - Ne remplacez pas le cordon sur les modèles de moteur antidéflagrants. Le remplacement du cordon annulera la sécurité de l'équipement. Retournez le moteur au fabricant pour le remplacement du cordon. Ne pas ouvrir ou réparer les joints ignifugés des moteurs antidéflagrants. Contacter la manufacture pour le remplacement du cordon, du fusible et du circuit imprimé. Les étincelles statiques peuvent provoquer une explosion. Respectez toujours les directives NFPA 77 et CLC / TR 60079-32-1 pour le contrôle de l'électricité statique et les méthodes de mise à la terre appropriées lors de l'utilisation de modèles de moteurs ATEX et de sites dangereux. En cas de fonctionnement dans une zone dangereuse ou de pompage d'un fluide dangereux, le moteur et l'ensemble du système de pompe doivent être mis à la terre pour éviter une décharge statique à l'aide d'un kit de protection statique Standard Pump.

4. Niveau de bruit

En conditions normales d'utilisation, les moteurs électriques SP-430EX et SP-440EX génèrent un niveau de bruit égal ou inférieur à 81 dBA à une distance de 3 pieds (env. 1 mètre).

5. Modifications et pièces de rechange

Toute modification concernant l'entretien du moteur/pompe, tels qu'achetés initialement, peut être exécutée seulement après en avoir obtenu l'autorisation écrite de Standard Pump, Inc. On demande d'utiliser seulement les pièces de rechange originales de Standard Pump, Inc. et les accessoires approuvés. Le fait de ne pas utiliser les pièces de rechange originales de Standard Pump, Inc. ou les accessoires approuvés annulera la garantie et dégagera le fabricant de toute responsabilité liée aux blessures ou dommages matériels.

INSTALLATION - SP-6600, SP-7600, SP-8600 & SP-8850 Series

- 1 Unpack motor from carton. Check for shipping damage. If damage is detected, save the packaging and notify the carrier immediately.
- 2 Couple motor to pump by manually threading handwheel or connection nut (depending on pump tube model) onto male threads at bottom of motor until they are hand tight (see figure 1).
- 3 Ensure that motor is fully engaged with pump tube prior to operation.

Note: Do not use hand tools to tighten the nut as this may cause damage to the motor casing.

Warning: Do not position the motor handle and cord over and in front of the pump discharge.

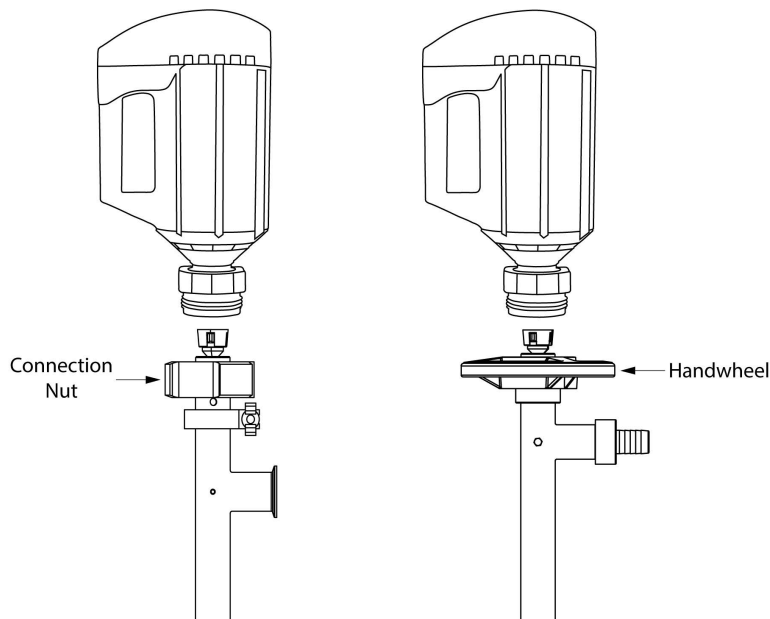


Figure 1



Figure 2

Grounding of ATEX & Haz Loc Motors (Models SP-430EX & SP-440EX)

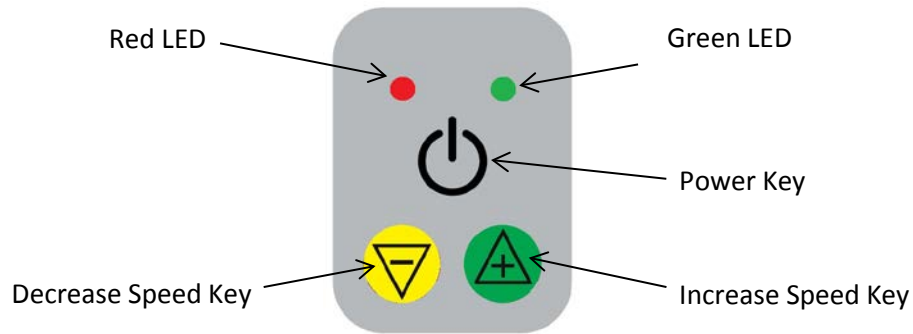
When operating in a hazardous area or pumping a hazardous fluid, the motor and entire pump system must be grounded to prevent static discharge using appropriate grounding wires and connectors.

- 1 Unscrew the #10-32 wing nut from the side of the motor housing, and attach a grounding wire with a #10 ring terminal. Screw the wing nut back on and tighten firmly by hand. Ground the motor, pump, and all containers (see figure 2).
- 2 Follow the safety instructions for the appropriate pump.

OPERATION

The SP-430EX & SP-440EX motors utilize an electronic motor controller and membrane keypad to provide precise speed control and superior motor protection. An electronic circuit board within the housing controls the motor's speed, overload protection, motor temperature, and electronics' temperature. The keypad incorporates two colored LED lights to provide feedback to the user.

Make sure the pump's discharge hose is properly secured prior to operating the motor. When the unit is plugged into a power outlet, the "Green" LED will blink indicating it is in "Standby mode", meaning that power is provided, but the motor is "Off". Pressing the "Power" key will turn the motor "On" and it will begin to ramp up to speed. The "Green" LED will change from blinking to solid indicating the motor is "On". Pressing the "Down" or "Up" keys will change the 10 available motor speeds, and can also be held in for quicker adjustment. Pressing the "Power" Key will switch the motor "Off" and the "Green" LED will again blink indicating the unit is in "Standby" mode. When the "Power" key is pressed again, the motor will ramp up to the previously set speed. When the unit's power is disconnected, the stored speed is set back to the default speed.



Keypad –Figure 2

The "Red" LED indicates a motor fault. When the motor faults, it will turn off into "Standby" mode with the "Green" LED blinking. The blink pattern of the "Red" LED will indicate the fault type:

"Red" LED Blink Pattern	Fault Type	Solution
Solid RED	Over Current	Reduce motor speed. Ensure fluid viscosity is within pump limits.
Blinking RED	Over Temperature	Allow motor to cool. Reduce motor speed. Ensure fluid viscosity is within pump limits. If motor is cool, brushes may have reached end of life.

Press the "Power" key to reset the fault and the motor will turn "On". The motor will not turn "On" until it has cooled to an acceptable level.

It may be necessary to operate the pump at a slower speed for high viscosity fluids. Contact factory for troubleshooting tips. At slower speeds, ensure the motor is running to prevent it from overheating, of which can reduce the motor's life. Unplug the unit when not in use.

Depending on the application, motor brush life is approximately 200-300 hours. Models SP-430EX & SP-440EX must be sent to Standard Pump, Inc. for factory brush replacement.

MOTOR SPECIFICATIONS

Model	SP-430EX	SP-440EX
Rated Voltage	115V	230V
Hertz	60 Hz	50/60 Hz
Input Watts	1000	1000
Output Watts	680	680
Certifications/Approvals		
	Haz Loc, CLASS I, DIVISION 1, GROUP D, T4	 II 2G Ex db ib IIB T5 Gb
Plug Type	None	None
RPM's (Variable Speed)	3,000-12,000 RPM	3,000-12,000 RPM
Duty Cycle	Continuous Duty	
Enclosure	TEFC	IP55 (TEFC)