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# LEGEND 13D PUMP



up to 3HP



5HP

7.5HP

Instruction and Operation Manual

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## Legend I --- 13D Residential Pump Systems

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.75 – 3 hp



5 – 7.5 hp



### LEGEND I SPECIFICATIONS

#### Basic System Includes:

- Stainless Steel Pump Components (304L)
- Stainless Steel Sensing Line (316)
- Pressure Switch (pre-wired to motor): factory set at 40psi On & 60 psi Off, cut in setting range 5-60 psi w/ 20-30 psi differential, cut out range 25-80 psi. Call if different range is required.
- Industrial-grade, unidirectional, non-overloading motor
- Discharge Check Valve
- Lockable/Indicating Control Valve (Per NFPA 13D)
- Liquid filled gauge
- Drain
- All piping/valves are bronze/brass
- Stainless-lined Expansion Tank (Pre-charged & re-chargeable to 35 psi, minimizes surges, stored energy acts like jockey pump)

#### Basic System Specifications:

- Suction Connection: 1.25" / 1.5" / 2" fnpt depending on model
- Discharge Connection: 1¼" fnpt
- 1Ø / 60hz ODP continuous duty unidirectional motors (optional TEFC motors)
- Std voltage 230v (per NFPA 13D)
- 5 hp & 7.5 hp incorporates auxiliary motor starter in addition to the pressure switch
- 5 hp & 7.5 hp includes adjustable overload protection

Service Factor Amps Required at 230V							
HP	¾	1	1-½	2	3	5	7.5
Amps Req'd	8.6	8.6	11.1	13.5	15.9	27.6	42.6

\* Amps may vary depending on motor manufacturer

Subject to change without notice.

RP Equipment. PO Box 69 Maple Park IL 60151 Phone  
630.272.7268  
rpequipment.net



## Legend I --- 13D Residential Pump Systems

### Installation & Maintenance Instructions

1. Anchor base to floor as per enclosed instructions
2. Pipe to suction & discharge as per enclosed instructions
3. Wire to pressure switch as per enclosed instructions
4. It is the contractor's responsibility to field test pump operation per NFPA 13D, test the pressure switch settings and check the pressure gauge to ensure proper operation.



#### WARNING

Any and all wiring must be performed by a licensed electrician, following all safety standard protocols.

5. Exercise pump once every month. Per NFPA 13D A.4.1.1 - Circuit breaker should not trip!
  - a. If water source is a storage tank, circulating water back to tank is recommended.
  - b. If water source is from a municipal supply, it is recommended that the contractor pipe the test/drain piping to a drain or sunp that is capable of handling the flow of the pump, or outside of dwelling (provided the piping will not be subject to freezing.) A hose may also be connected to the hose valve on the pump riser and run to an area that will not introduce water to the dwelling.
6. Wall brackets should not be utilized with pumps pulling water from tanks. Air in the piping can cause the pump to lose suction and the pump may not operate or cause damage. When pumps are operating off of tanks, suction inlet should be located at or below tank suction fitting to ensure a continuous flooded suction.
7. Do not subject the pump to freezing temperatures.
8. It is of the contractor's responsibility to inform the homeowner of proper pump-testing procedures.
9. It is of the homeowner's responsibility to ensure the legend valve remains locked into ON position. To lock valve, valve must be in ON position, then slide is moved up to reveal opening for padlock.



## LEGEND 13D PUMPS

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### Instructions and Operation

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#### **WARNING**

#### **IMPORTANT SAFETY INSTRUCTIONS**

#### **Rules for Safe Installation and Operation**

1. Read these rules and instructions carefully. Failure to follow them could cause serious bodily injury and/or property damage.
2. Check your local codes before installing. You must comply with their rules
3. For maximum safety, this product should be connected to a grounded circuit equipped with a ground fault interrupter device.
4. Before installing this product, have the electrical circuit checked by an electrician to make sure it is properly grounded.
5. Before installing or servicing your pump, BE CERTAIN pump power source is disconnected.
6. Make sure the line voltage and frequency of the electrical current supply agrees with the motor wiring. If motor is dual voltage type, BE SURE it is wired correctly for your power supply. All LEGEND pumps are factory-wired to accept 1 phase / 230V
7. Complete pump and piping system MUST be protected against below freezing temperature. Failure to do so could cause severe damage and void the warranty.
8. Avoid system pressures that may exceed one and a half times the operating point selected from the pump performance curve.
9. Do not run your pump dry. If it is, there will be damage to the pump seal.

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### **General Description**

LEGEND 13D pumps may be used for the pumping of clean water that is compatible with 304 stainless steel. These pumps are not to be used for handling abrasive water or water with suspended solids, water containing acids, or corrosive liquids, seawater, and flammable or dangerous liquids. Please see pump specifications for fluid temperature ranges. These pumps are not designed to run without water.

LEGEND 13D pumps are similar in function and construction. The differences between the models include:

- single impeller vs. twin impeller
- flow rate
- heads
- weight
- dimensions.

## LEGEND 13D PUMPS

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### Instructions and Operation

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#### Rules for Safe Installation and Operation

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##### PACKAGE CONTENTS

1. Be sure all parts have been furnished and that nothing has been damaged in shipment.
2. OPEN PACKAGES AND MAKE THIS CHECK BEFORE GOING TO JOBSITE.

PIPING – Pipes must line up and not be forced into position by unions. Piping should be independently supported near the pump so that no strain will be placed on the pump casing. Where any noise is objectionable, pump should be insulated from the piping with rubber connections. Always keep pipe size as large as possible and use a minimum of fittings to reduce friction losses.

SUCTION PIPING – Suction pipe should be direct and as short as possible. It should be at least one size larger than suction inlet tapping and should have a minimum of elbows and fittings ( 10 pipe diameters of straight pipe before inlet is recommended). The piping should be laid out so that it slopes upward to pump without dips or high points so that air pockets are eliminated. The highest point in the suction piping should be the pump inlet except where liquid flows to the pump inlet under pressure .

The suction pipe must be tight and free of air leaks or pump will not operate properly.

DISCHARGE PIPING – Discharge piping should never be smaller than pump tapping and should preferably be one size larger.

ELECTRICAL CONNECTIONS – Be sure motor wiring is connected for voltage being used. Unit should be connected to a separate circuit. A fused disconnect switch or circuit breaker must be used in this circuit. Wire of sufficient size should be used to keep voltage drop to a maximum of 5%.

Single phase motors have built-in overload protection. Flexible metallic conduit should be used to protect the motor leads .

PRIMING – The pump must be primed before starting. The pump casing and suction piping must be filled with water before starting motor. Remove vent plug in top of casing while pouring in priming water. A hand pump or ejector can be used for priming when desired. When water is poured into pump to prime, remove all air before starting motor.

STARTING – When the pump is up to operating speed, open the discharge valve to obtain desired capacity or pressure .

**WARNING! DO NOT ALLOW THE PUMP TO RUN WITH THE DISCHARGE VALVE TIGHTLY CLOSED. IF THE PUMP RUNS FOR AN EXTENDED PERIOD OF TIME WITHOUT LIQUID BEING DISCHARGED, THE LIQUID IN THE PUMP CASE CAN GET EXTREMELY HOT CAUSING SEVERE DAMAGE TO THE PUMP AND POSSIBLY CAUSE INJURY TO PEOPLE.**

ROTATION – All single phase 230V motors are single rotation and leave factory with proper rotation.

FREEZING – Care should be taken to prevent the pump from freezing during cold weather. It may be necessary, when there is any possibility of this , to drain the pump casing when not in operation. Drain by removing the pipe plug in the bottom of the casing.

ROTARY SEAL – PRO STEEL pumps are fitted only with rotary seal. This seal is recommended for LIQUIDS free from abrasives.

LOCATION OF UNIT – The pump should be installed as near to the liquid source as is practical so that the static suction head (vertical distance from the center line of the pump to water level) is maximized, and so that a short, direct suction pipe may be used. The piping should be as free from turns and bends as possible, as elbows and fittings greatly increase friction loss. Place the unit so that it is readily accessible for service and maintenance and on a solid foundation, which provides a rigid and vibration-free support. Protect the pump against flooding and excess moisture.

## LEGEND 13D PUMPS

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### Instructions and Operation

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### Maintenance

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#### Service

Keep ventilation openings clear of extraneous objects which may hinder free flow of air thru motor. Motor bearings are lubricated during manufacture. Additional lubrication is not required during their normal lifetime.



#### CAUTION

##### Draining

The pump and piping should always be protected against freezing temperatures. If there is any danger of freezing, the unit should be drained. To drain the pump, remove the drain plug at the bottom of the volute, and remove the priming plug to vent the pump. Drain all piping.

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### Disassembly Instructions – 13D LEGEND PUMP

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#### WARNING

POWER SUPPLY - Open the power supply switch contacts and remove fuses. Disconnect the electrical wiring from the motor.



#### WARNING

LEGEND Pump must be exercised every month to assure proper operation per NFPA 13D

IF PUMP IS DAMAGED OR MALFUNCTIONING, CALL (708) 202-0033 FOR SERVICE INSTRUCTIONS.



## LEGEND 13D PUMPS

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### Instructions and Operation

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The Manufacturer warrants to the original purchaser only ("Customer") that the Pump/Product ("Pump") will be free of defects in workmanship and material for a period of twelve (12) months from the date of installation or fifteen (15) months from the date of shipment by the Manufacturer, whichever comes first, provided that notification of any such defect is promptly given in writing to The Manufacturer. Customer may be required to verify that it is the Customer of the Pump and that the Pump was installed and operated in accordance with The Manufacturer's instructions. All motors are subject to the motor manufacturer's warrantee.

The Manufacturer's sole obligation under this warranty will be to provide repair parts or replace with a new or reconditioned Pump, such Pump as has failed or has been found to be defective during the warranty period, or at The Manufacturer's sole option, to refund to the customer an equitable part of the purchase price. In no event shall Manufacturer's cost responsibility exceed the initial purchase price paid by the Sprinkler Contractor for the Pump.

The Manufacturer shall be liable only for the cost of the Pump, or the cost of repair or replacement of any defective Pump. Customer shall be responsible for labor, cost of removal and installation at Customer's premises, transportation and insurance costs and any other incidental costs.

This warranty is void and does not apply if damage is caused by improper installation, improper maintenance, accident, alteration, abuse, misuse or if the Pump has been disassembled prior to warranty evaluation without written authorization from The Manufacturer.

Warranty service and information for return procedures will be provided by The Manufacturer upon receipt of written notice describing the defect or problem to:

RP Equipment Warranty/  
Claims  
PO Box 69 Maple Park IL  
60151  
630.272.7268 Phone

THE FOREGOING WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY ON THIS PUMP, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED AND EXCLUDED FROM THE TERMS OF THIS WARRANTY. THE MANUFACTURER'S SOLE OBLIGATION IN CASE OF ANY DEFECT WILL BE TO PROVIDE THE WARRANTY SERVICE SPECIFIED ABOVE. THE FOREGOING IS CUSTOMER'S SOLE AND EXCLUSIVE REMEDY, WHETHER IN CONTRACT, TORT OR OTHERWISE AND THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND WHATSOEVER.







**Pumptrol™**  
**Pressure Switch**  
**Interruptor de presión**  
**Pressostat**

**Class / Clase / Classe**  
**9013**  
**Types / Tipos / Types**  
**FSG, FYG, FSW, FYW**

**⚠ CAUTION**

**EXCESSIVE PRESSURE HAZARD**

Do not use this switch where the pressure exceeds  
220 psi (1517 kPa).

**Excessive pressure can cause seal leakage,  
resulting in injury or equipment damage.**

**⚠ PRECAUCIÓN**

**PELIGRO DE PRESIÓN EXCESIVA**

No utilice este interruptor cuando la presión exceda  
1517 kPa (220 lbs/pulg<sup>2</sup>).

**La presión excesiva puede producir fugas por el sello,  
lo cual puede causar lesiones o daño al equipo.**

**⚠ ATTENTION**

**RISQUE DE PRESSION EXCESSIVE**

N'utilisez pas ce pressostat lorsque la pression dépasse  
1517 kPa (220 lb/po<sup>2</sup>).

**Une pression trop forte peut entraîner des fuites par le joint, ce  
qui peut entraîner des blessures ou des dommages matériels.**

Replacement Contacts / Contactos de repuesto / Contacts de rechange	For Types Para tipos Pour types	Catalog No. No. de catálogo N° de catalogue
Complete Contact Replacement Kit (includes new diaphragm)	9013FSG, 9013FSW	9998PC241
Accesorio completo de repuesto de los contactos (incluye un diafragma nuevo)	9013FYG, 9013FYW	9998PC242
Kit complet de rechange des contacts (inclut un diaphragme neuf)		

See the reverse side for adjustment instructions.

For more product information, visit [www.us.SquareD.com/Pumptrol](http://www.us.SquareD.com/Pumptrol).

Consulte las instrucciones de ajuste al dorso de este documento.  
Para obtener más información sobre el producto, visite el sitio web:  
[www.us.SquareD.com/Pumptrol](http://www.us.SquareD.com/Pumptrol).

Voir au dos pour les directives de réglage. Pour obtenir davantage  
d'informations, visiter [www.us.SquareD.com/Pumptrol](http://www.us.SquareD.com/Pumptrol).

**Form M4 only**—Low water or loss of system pressure will cause the pump  
to be cut off. After the fault in the system has been corrected, move the lever  
to Start and hold it until enough pressure builds up to keep the contacts  
closed.

**Forma M4 solamente**—Un bajo nivel de agua o una pérdida de presión en  
el sistema hará que se desconecte la bomba. Después de haber corregido  
la falla del sistema, mueva la palanca a "arranque" y sosténgala hasta que  
la presión aumente lo suficiente para mantener los contactos cerrados.

**Forme M4 seulement**—Un bas niveau d'eau ou la perte de pression du  
système causera l'arrêt de la pompe. Après avoir corrigé le problème du  
système, amener le levier sur « démarrage » et le laisser jusqu'à ce que la  
pression ait suffisamment augmenté pour maintenir les contacts fermés.



**SQUARE D**



## NOTICE:

Reference pump curve when determining set points.

Pressure may be higher at minimum system flow.

## ADJUSTMENT / AJUSTE / RÉGLAGE

### Adjust in the proper sequence:

1. **Range:** Turn nut down (CW) for higher cut-in pressure, or up (CCW) for lower cut-in.
2. **Differential:** Turn nut down (CW) for higher cut-out pressure, or up (CCW) for lower cut-out.

Check switch operation several times after adjustment to ensure proper pressure setting.

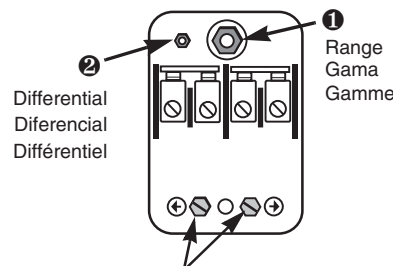
### Ajuste en la secuencia correcta:

1. **Gama:** Gire la tuerca hacia abajo (CW) para aumentar la presión de conexión o hacia arriba (CCW) para disminuirla.
  2. **Diferencial:** Gire la tuerca hacia abajo (CW) para aumentar la presión de desconexión o hacia arriba (CCW) para disminuirla.
- Compruebe el funcionamiento del interruptor varias veces después de ajustarlo para asegurarse de obtener la presión apropiada.

### Régler dans la bonne séquence :

1. **Gamme :** Tourner l'écrou vers le bas (CW) pour augmenter la pression de connexion, ou vers le haut (CCW) pour la diminuer.
2. **Différentiel :** Tourner l'écrou vers le bas (CW) pour augmenter la pression de coupure, ou vers le haut (CCW) pour la diminuer.

Après le réglage, vérifier le fonctionnement du pressostat plusieurs fois afin d'assurer une réglage correcte de la pression.



Grounding provisions: #10-32 screws.  
Torque screws to 15–20 lb-in (1.7–2.3 N•m).

Provisiones de puesta a tierra: tornillos no. 10-32.  
Apriete los tornillos en 1,7–2,3 N•m (15–20 lbs-pulg).

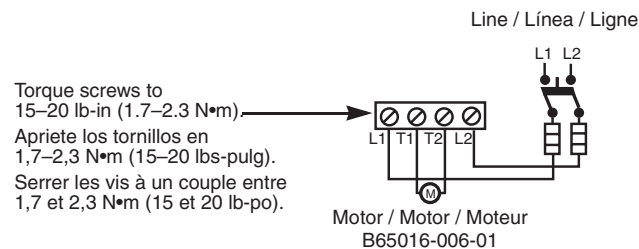
Provisions de m.à.l.t. : vis n° 10-32.  
Serrer les vis à un couple entre 1,7 et 2,3 N•m (15 et 20 lb-po).

- ♦ CW = en sentido de las manecillas del reloj / sens horaire
- CCW = en sentido contrario de las manecillas del reloj / sens anti-horaire

## WIRING DIAGRAM

## DIAGRAMA DE ALAMBRADO

## SCHÉMA DE CÂBLAGE



Electrical equipment should be serviced only by qualified electrical maintenance personnel. No responsibility is assumed by Square D for any consequences arising out of the use of this material.

**Schneider Electric USA**  
8001 Knightdale Blvd.  
Knightdale, NC 27545  
1-888-SquareD  
(1-888-778-2733)  
www.us.SquareD.com

Solamente el personal de mantenimiento eléctrico especializado deberá prestar servicios de mantenimiento al equipo eléctrico. La Compañía no asume responsabilidad alguna por las consecuencias emergentes de la utilización de este material.

**Schneider Electric México**  
Calz. J. Rojo Gómez 1121-A  
Col. Gpe. del Moral 09300  
México, D.F.  
Tel. 55-5804-5000  
www.schneider-electric.com.mx

L'entretien du matériel électrique ne doit être effectué que par du personnel qualifié. La Société n'assume aucune responsabilité des conséquences éventuelles découlant de l'utilisation de ce matériel.

**Schneider Electric Canada**  
19 Waterman Avenue  
Toronto, Ontario  
M4B 1 Y2  
1-800-565-6699  
www.schneider-electric.ca

# Operations and Maintenance Manual

## For 5 hp and 7.5 hp Motor Starters

**NOTE:** Installation or any service work performed on any control panel must be done by a qualified industrial electrician.

### Operation:

Motor Overload – The overload has a dial setting. This must be set to the service factor Amps (SFA) plus 10%. If an overload condition exists, this device will trip, shutting down power to the motor.

Overload Reset – In the event of the motor tripping the overload, it will need to be reset. After taking necessary corrective action to eliminate what caused the motor overload condition, reset the overload with the external “RESET” pushbutton.

### Maintenance:

**Power must be removed to panel and motor starter before removing cover.**

**Overload Adjustment**  
(Dial setting resembles Phillips head)

