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> Rittenhouse Hypro D30GRGI Diaphragm Pump Instruction Manual

## Rittenhouse D30GRGI

# Rittenhouse Hypro D30GRGI Diaphragm Pump Instruction Manual

Model: D30GRGI

## INTRODUCTION

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This manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your Rittenhouse Hypro D30GRGI Diaphragm Pump. Please read these instructions thoroughly before installation and use to ensure proper function and longevity of the product.

The Hypro D30 Diaphragm Pump is designed for various spraying applications, offering reliable performance with minimal maintenance requirements.

### Key Features:

- Includes 9910-GS40GI Regulator and Gearbox.
- Maximum flow rate of 9.5 gallons per minute (gpm).
- Maximum pressure of 580 psi.
- Operates at a maximum of 3600 RPM.
- Suitable for fluid temperatures up to 140°F.
- Features a 1" HB inlet and 1/2" HB outlet.
- Supports both clockwise (CW) and counter-clockwise (CCW) rotation.
- Two-diaphragm pump design.

## PRODUCT OVERVIEW

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The image below illustrates the Hypro D30GRGI Diaphragm Pump with its key dimensions. Familiarize yourself with the components before proceeding with installation.



**Figure 1:** Hypro D30GRGI Diaphragm Pump. This image shows the pump from an angled perspective, highlighting its overall structure, the red regulator, and the gearbox. Dimensions are indicated as approximately 25 inches in length, 24 inches in width, and 24 inches in height.

## SETUP AND INSTALLATION

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Proper installation is crucial for the performance and longevity of your diaphragm pump. Ensure all connections are secure and leak-free.

- 1. Engine Compatibility:** This pump is designed for use with 5-6.5 HP engines that have 3/4" shafts. Verify your engine meets these specifications.
- 2. Gearbox Attachment:** The pump comes with a gearbox. Ensure it is correctly mounted and aligned with the engine shaft. Refer to the gearbox manufacturer's instructions for specific mounting procedures if necessary.
- 3. Inlet Connection:** Connect your suction hose to the 1" HB (Hose Barb) inlet. Ensure the hose is free of kinks and obstructions and that the connection is tight to prevent air leaks, which can affect pump priming and performance.
- 4. Outlet Connection:** Connect your discharge hose to the 1/2" HB outlet. Ensure the hose is rated for the maximum operating pressure of 580 psi.
- 5. Regulator Setup:** The 9910-GS40GI pressure regulator is pre-installed. Familiarize yourself with its adjustment mechanism to control output pressure. Do not operate the pump without a pressure relief mechanism in place.
- 6. Rotation:** The pump supports both clockwise (CW) and counter-clockwise (CCW) rotation. Ensure the pump's rotation matches that of your engine. Incorrect rotation can lead to damage.

7. **Mounting:** Securely mount the pump assembly to a stable surface to prevent vibration and movement during operation.

## OPERATING INSTRUCTIONS

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Follow these guidelines for safe and effective operation of your Hypro D30GRGI Diaphragm Pump.

1. **Priming the Pump:** Before starting, ensure the pump is primed. This typically involves filling the pump housing and suction line with the liquid to be pumped. Consult your engine manual for starting procedures.
2. **Starting the Engine:** Start the engine according to its manufacturer's instructions. Allow the engine to reach a stable operating speed.
3. **Adjusting Pressure:** Use the 9910-GS40GI pressure regulator to set the desired operating pressure. Turn the adjustment knob clockwise to increase pressure and counter-clockwise to decrease it. Monitor the pressure gauge (if equipped) to ensure it stays within the pump's maximum rating of 580 psi.
4. **Monitoring Performance:** During operation, regularly check for unusual noises, vibrations, or leaks. Ensure the flow rate is consistent with your application requirements, up to 9.5 gpm.
5. **Temperature Limits:** Do not exceed a fluid temperature of 140°F (60°C). Operating above this temperature can damage internal components.
6. **Shutting Down:** Before shutting down the engine, relieve any pressure in the system by opening a valve or adjusting the regulator. Then, turn off the engine.

## MAINTENANCE

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The Hypro D30GRGI Diaphragm Pump is designed for low-cost maintenance and wear-free operation. Regular inspection and basic care will ensure its longevity.

- **Regular Inspection:** Periodically inspect all hoses, connections, and fittings for wear, damage, or leaks. Replace any worn components immediately.
- **Diaphragm Check:** Although designed for durability, diaphragms can eventually wear. If you notice a significant drop in pressure or fluid leakage from the pump head, inspect and replace the diaphragms as needed. Refer to the manufacturer's service manual for specific diaphragm replacement procedures.
- **Oil Level:** Check the oil level in the pump's crankcase regularly. Maintain the oil at the recommended level using the specified type of oil.
- **Cleaning:** After each use, especially when pumping corrosive or abrasive liquids, flush the pump with clean water to prevent residue buildup and corrosion.
- **Winterization:** If operating in freezing temperatures, ensure the pump is properly drained or filled with an appropriate antifreeze solution to prevent damage from ice expansion.

## TROUBLESHOOTING

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This section provides solutions to common issues you might encounter with your diaphragm pump.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
<b>No Flow or Low Flow</b>	<ul style="list-style-type: none"> <li>• Pump not primed.</li> <li>• Suction line air leak.</li> <li>• Clogged suction filter or inlet.</li> <li>• Damaged diaphragms.</li> <li>• Incorrect engine speed.</li> </ul>	<ul style="list-style-type: none"> <li>• Prime the pump by filling with liquid.</li> <li>• Check all suction connections for tightness.</li> <li>• Clean or replace suction filter/clear inlet.</li> <li>• Inspect and replace diaphragms.</li> <li>• Ensure engine is running at recommended RPM.</li> </ul>
<b>Low Pressure</b>	<ul style="list-style-type: none"> <li>• Regulator set too low.</li> <li>• Worn diaphragms.</li> <li>• Air in the system.</li> <li>• Leaking discharge hose or fittings.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust regulator clockwise to increase pressure.</li> <li>• Inspect and replace diaphragms.</li> <li>• Check suction line for air leaks.</li> <li>• Inspect and tighten/replace discharge components.</li> </ul>
<b>Excessive Vibration/Noise</b>	<ul style="list-style-type: none"> <li>• Loose mounting.</li> <li>• Cavitation (air in liquid).</li> <li>• Internal component wear.</li> </ul>	<ul style="list-style-type: none"> <li>• Securely fasten the pump.</li> <li>• Ensure adequate liquid supply and no air leaks.</li> <li>• Consult a qualified technician for internal inspection.</li> </ul>
<b>Fluid Leakage</b>	<ul style="list-style-type: none"> <li>• Loose fittings or connections.</li> <li>• Damaged O-rings or seals.</li> <li>• Cracked housing.</li> </ul>	<ul style="list-style-type: none"> <li>• Tighten all connections.</li> <li>• Inspect and replace O-rings/seals.</li> <li>• Contact seller for replacement if housing is cracked.</li> </ul>

## SPECIFICATIONS

Detailed technical specifications for the Hypro D30GRGI Diaphragm Pump.

Specification	Value
<b>Brand</b>	Rittenhouse
<b>Manufacturer</b>	Hypro
<b>Model Number</b>	D30GRGI
<b>Part Number</b>	9910-D30GRGI
<b>Style</b>	Diaphragm
<b>Material</b>	Brass, Bronze
<b>Power Source</b>	Gas Powered (requires 5-6.5 HP engine with 3/4" shaft)
<b>Maximum Flow Rate</b>	9.5 Gallons Per Minute (gpm)
<b>Maximum Pressure</b>	580 psi

Specification	Value
Maximum RPM	3600 RPM
Maximum Fluid Temperature	140°F (60°C)
Inlet Connection	1" HB (Hose Barb)
Outlet Connection	1/2" HB (Hose Barb)
Product Dimensions (L x W x H)	25"L x 24"W x 24"H
Item Weight	35 Pounds
UPC	734943062541

## WARRANTY AND SUPPORT

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For specific warranty information regarding your Hypro D30GRGI Diaphragm Pump, please refer to the documentation provided with your purchase or contact the original seller or manufacturer directly. Warranty terms typically cover manufacturing defects for a specified period.

If you require technical assistance, replacement parts, or have questions not covered in this manual, please contact your authorized Rittenhouse dealer or the seller from whom you purchased the product. Provide your model number (D30GRGI) and any relevant purchase details for efficient support.