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> CAARLA DGP-32 Series Rodless Cylinder Instruction Manual

CAARLA DGP-32-1800

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Model: DGP-32-1800 | Brand: CAARLA

1. PRODUCT OVERVIEW

The CAARLA DGP-32 Series Rodless Cylinder is engineered to provide an efficient solution for various pneumatic system applications. This adjustable buffer cylinder is designed for durability and high performance, making it suitable for industrial automation tasks requiring precise linear motion.



Image 1.1: Main view of the CAARLA DGP-32 Series Rodless Cylinder, showcasing its compact design and linear guide

mechanism.

Key Features:

- **Versatile Application:** Designed to provide an excellent solution for all types of pneumatic systems.
- **Durable Construction:** Features perfect workmanship, ensuring strength, durability, and excellent corrosion resistance for long-term use.
- **Optimized Performance:** Engineered for high speed, which helps reduce pressure on the motor and extends the service life of the motor.
- **Simple Installation:** Easy to install and disassemble, requiring no specialized tools.
- **Broad Utility:** Suitable for various applications, including pneumatic rodless guide rails, and can be used to secure other items.



Image 1.2: Side view of the rodless cylinder, highlighting its elongated profile and integrated guide system.

2. SAFETY INFORMATION

Read all instructions carefully before installation and operation. Failure to follow these instructions may result in equipment damage or personal injury.

- Ensure the pneumatic system is depressurized before performing any installation, maintenance, or repair work.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Do not exceed the maximum operating pressure specified for the cylinder.
- Ensure all connections are secure and leak-free before operating the system.
- Keep hands and clothing clear of moving parts during operation.

- Only qualified personnel should install and service this equipment.

3. PACKAGE CONTENTS

Upon unpacking, verify that all components are present and undamaged. Refer to your product packaging for a detailed list of included items. If any parts are missing or damaged, contact your supplier immediately.

4. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of your rodless cylinder.

4.1 Mounting the Cylinder

1. Select a stable and level mounting surface capable of supporting the cylinder and its load.
2. Secure the cylinder using appropriate fasteners through the designated mounting holes. Ensure the cylinder is aligned correctly with the intended path of motion.
3. Tighten all mounting bolts to the manufacturer's recommended torque specifications.

4.2 Pneumatic Connections

1. Connect the air supply lines to the cylinder's inlet ports. Ensure proper port identification for extension and retraction.
2. Use appropriate fittings and sealants to prevent air leaks.
3. Install a pressure regulator and filter-lubricator unit upstream of the cylinder to ensure clean, regulated, and lubricated air supply.

4.3 Load Attachment

1. Attach the load to the cylinder's carriage using suitable mechanical connections.
2. Ensure the load is evenly distributed and does not exert excessive side loads or bending moments on the carriage.
3. Verify that the load's movement path is clear and unobstructed.



Image 4.1: Detailed view of the cylinder, illustrating the various mounting points and pneumatic connections.

5. OPERATING INSTRUCTIONS

Once installed, the CAARLA DGP-32 Series Rodless Cylinder is ready for operation.

1. **Initial Air Supply:** Slowly introduce compressed air into the system, observing the pressure gauge to ensure it remains within the recommended operating range.
2. **Test Movement:** Actuate the cylinder manually or via your control system to perform a few cycles at a reduced speed. Observe for smooth movement, proper extension/retraction, and any unusual noises or vibrations.
3. **Adjust Buffer:** The adjustable buffer allows for fine-tuning of the cushioning at the end of the stroke. Adjust the buffer screws as needed to achieve smooth deceleration and prevent hard impacts at the end positions.
4. **Normal Operation:** Once satisfied with the test movements and buffer settings, the cylinder can be operated at its intended speed and load.



Image 5.1: The rodless cylinder with its end caps and the integrated guide system, ready for operation.

6. MAINTENANCE

Regular maintenance ensures reliable operation and extends the lifespan of your CAARLA rodless cylinder.

- **Daily Checks:** Inspect for air leaks, unusual noises, or signs of wear on the carriage and seals.
- **Lubrication:** Ensure the air supply is properly lubricated if the cylinder requires it (check specifications). If a lubricator is used, maintain the oil level.
- **Cleaning:** Keep the cylinder body and carriage free from dust, debris, and contaminants. Use a soft cloth and mild cleaning agents.
- **Fastener Torque:** Periodically check and re-tighten all mounting and connection fasteners to ensure they remain secure.
- **Seal Replacement:** Over time, seals may wear out. Refer to the manufacturer's guidelines for seal inspection and replacement intervals.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your rodless cylinder.

7.1 Cylinder Not Moving or Slow Movement

- **Check Air Supply:** Verify that the air pressure is within the specified operating range and that there are no blockages in the air lines.
- **Inspect Valves:** Ensure control valves are functioning correctly and are fully open.
- **Examine Load:** Confirm that the load is not excessive or binding.
- **Check for Leaks:** Listen for air leaks around fittings and seals.

7.2 Erratic or Jerky Movement

- **Lubrication:** Ensure proper lubrication if required by the cylinder.
- **Air Quality:** Check for moisture or contaminants in the air supply.
- **Buffer Adjustment:** Re-adjust the end-of-stroke buffers for smoother deceleration.
- **Alignment:** Verify that the cylinder and load are properly aligned and not experiencing side loads.

7.3 Air Leaks

- **Tighten Fittings:** Ensure all pneumatic fittings are securely tightened.
- **Inspect Seals:** Check cylinder seals and O-rings for wear or damage and replace if necessary.

8. SPECIFICATIONS

The following table outlines the general specifications for the CAARLA DGP-32 Series Rodless Cylinder. Specific dimensions and performance characteristics may vary slightly by model variant.

Specification	Value
Brand	CAARLA
Model Series	DGP-32 Series
Item Model Number	CAARLA
Type	Rodless Cylinder, Adjustable Buffer
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.1 pounds
Assembly Required	No
Number of Pieces	1

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact CAARLA customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.