ZXRWSJ DBF-10

DBF-10 Pneumatic Disc Brake

Instruction Manual

Brand: ZXRWSJ | Model: DBF-10

1. Introduction

The ZXRWSJ DBF-10 Pneumatic Disc Brake is an industrial component designed to provide reliable braking and precise positioning functions for main shafts in various machinery. Utilizing air pressure for operation, this disc brake offers a safe, environmentally friendly, and efficient solution for industrial applications.
It is widely applicable in processes such as turning, drilling, tapping, winding, lifting, trimming, discharging, positioning, and tension control, ensuring stable and precise operation.

2. Safety Information

Please read and understand all safety instructions before installing, operating, or maintaining the DBF-10 Pneumatic Disc Brake. Failure to follow these instructions may result in serious injury or equipment damage.

- **WARNING: Do not use without brake disc.** Operating the unit without a properly installed brake disc can lead to malfunction and potential hazards.
- Ensure all air pressure connections are secure and free of leaks before operation.
- Always disconnect air supply before performing any maintenance or adjustments.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.
- Ensure the operating environment is free from excessive dust, moisture, and extreme temperatures that could affect performance.

Image: Side view of the DBF-10 Pneumatic Disc Brake showing the 'WARNING: Do not use without brake' label.

3. Product Features

The DBF-10 Pneumatic Disc Brake incorporates several design advantages for superior performance and reliability:

1. **Air Pressure Operation:** Utilizes air pressure for actuation, eliminating the need for electric sparks, ensuring anti-riot capabilities, and providing safe and reliable operation.
2. **Enhanced Efficiency:** Compared to hydraulic disc brakes, the pneumatic action is faster, more economical, energy-saving, and environmentally friendly with no pollution.
3. **Adjustable Braking Force:** The braking force can be precisely adjusted by varying the air pressure, allowing for a wider range of braking torque.
4. **Durability:** Designed to be resistant to water, dust, and high temperatures, ensuring stable performance even with frequent use.
5. **Easy Maintenance:** Features a two-piece brake pad design that is wear-resistant, offers good heat dissipation, and is easy to replace, simplifying maintenance.

6. **Scalable Torque:** Multiple pneumatic disc brakes can be installed on a single brake disc to multiply the torque and improve torsion resistance for heavy-duty applications.

Image: Detailed diagram illustrating the DBF Series Pneumatic Disc Brake, including its key features and a specification table.

4. Specifications

Key technical specifications for the DBF-10 Pneumatic Disc Brake:

Parameter	DBF-10
Disk Thickness	10mm
Disk Diameter	220mm
Max. Pressure	0.7Mpa
Braking Force	77Kg
Pneumatic Cylinder Area	19.63cm²
Friction Plate Wear	7mm
Weight	1.2Kg

Dimensions (mm)

The following diagram illustrates the key dimensions of the DBF-10 Pneumatic Disc Brake:

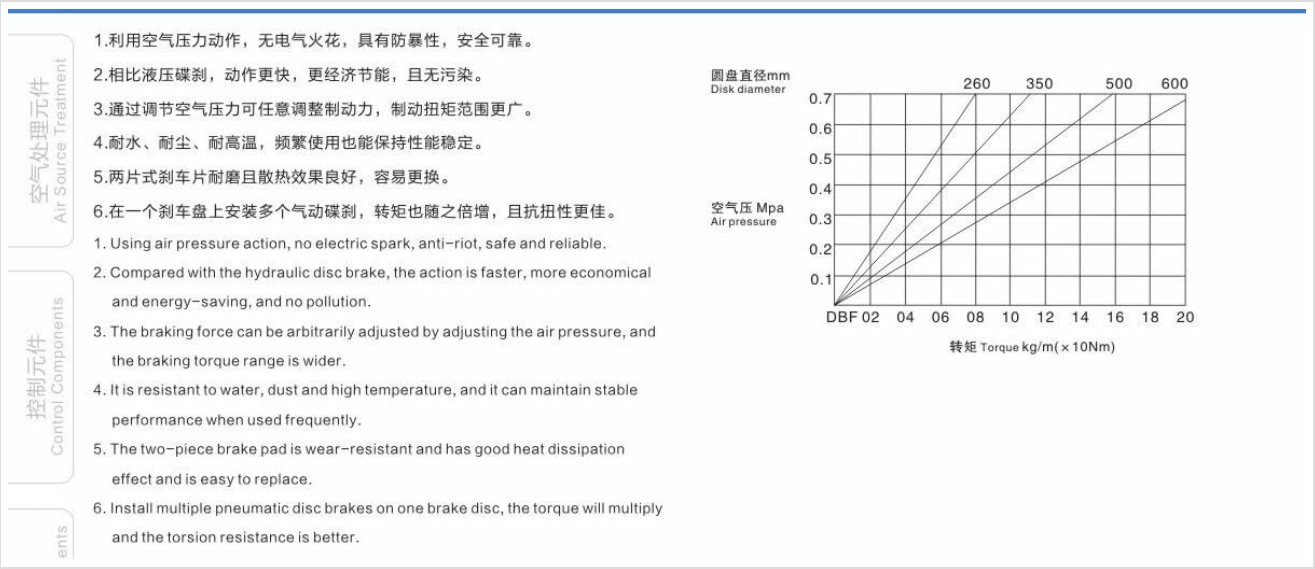

Image: Technical drawing detailing the dimensions of the DBF-10 unit and a graph showing the relationship between air pressure and torque.

Air Inlet: Rc1/8

Package Dimensions: 5.91 x 3.94 x 3.15 inches; 2.43 Pounds

Manufacturer: Yueqing Hongchang electromechanical equipment Co., LTD

ASIN: B0F1DDPFPG

5. Setup and Installation

Proper installation is crucial for the optimal performance and safety of the DBF-10 Pneumatic Disc Brake. While specific installation steps will vary based on your machinery, general principles apply:

- **Mounting:** Securely mount the brake unit to the machine frame or designated mounting point, ensuring proper alignment with the brake disc. Refer to the dimension diagram for mounting hole specifications.
- **Brake Disc Integration:** Ensure the brake disc is correctly installed on the main shaft and aligned with the brake pads. The brake unit is designed to engage with a 220mm diameter disc.
- **Air Supply Connection:** Connect a clean, dry, and regulated air supply to the Rc1/8 air inlet port. Ensure the air pressure can be adjusted to control braking force.
- **Testing:** After installation, perform a series of low-speed tests to verify proper engagement and disengagement of the brake, and to confirm the braking force can be adjusted as required.

Application Examples

The DBF-10 Pneumatic Disc Brake is versatile and can be integrated into various industrial setups. Below are illustrative examples of its application:

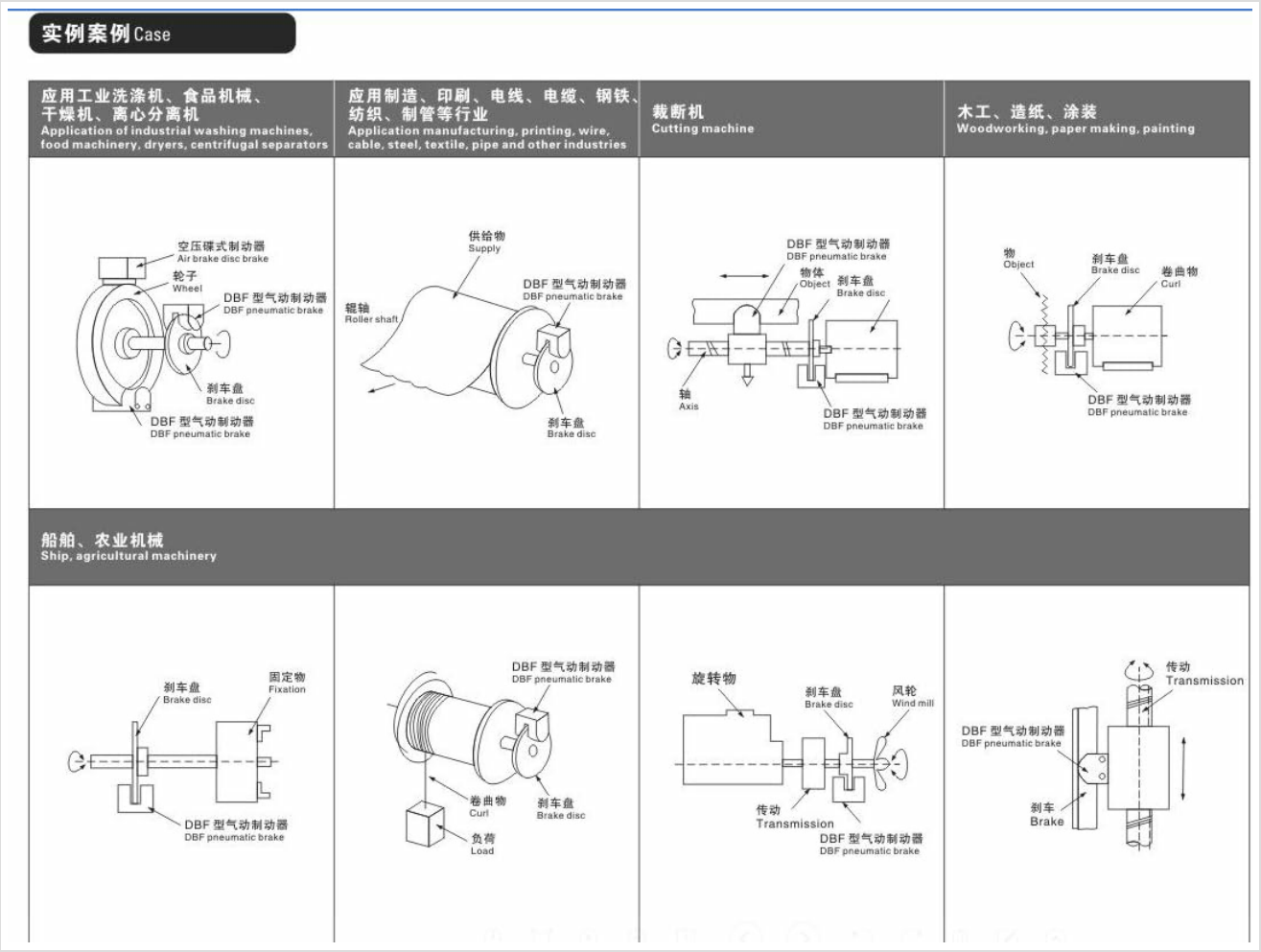

Image: Multiple diagrams illustrating typical industrial applications of the DBF pneumatic brake in different machinery and processes.

- **Industrial Washing Machines & Food Machinery:** For precise stopping and positioning of rotating components.
- **Printing, Wire, Cable, Steel, Textile, Paper Industries:** For tension control and rapid braking of winding/unwinding shafts.
- **Cutting Machines:** For accurate positioning and holding of materials during cutting operations.
- **Woodworking, Paper Making, Painting:** For controlled stopping and holding in various processing stages.
- **Ship & Agricultural Machinery:** For robust braking and control in demanding environments.

6. Operating Instructions

The DBF-10 Pneumatic Disc Brake operates by applying air pressure to engage the brake pads against the disc. The primary control for operation is the air pressure supply.

- **Braking Engagement:** Apply air pressure to the brake unit. The internal mechanism will push the brake pads against the disc, generating braking force.
- **Braking Disengagement:** Release the air pressure. The brake pads will retract, allowing the shaft to rotate freely.
- **Torque Adjustment:** The braking torque is directly proportional to the applied air pressure. Adjust the air pressure regulator to achieve the desired braking force for your application. Refer to the 'Relationship between air pressure and torque' graph in the specifications section for guidance.
- **Continuous Operation:** For applications requiring continuous tension control, maintain a consistent air pressure to provide a steady braking torque.

7. Maintenance

Regular maintenance ensures the longevity and reliable performance of your DBF-10 Pneumatic Disc Brake.

- **Brake Pad Replacement:** The two-piece brake pads are wear-resistant but will eventually require replacement due to normal wear. Inspect pads periodically for wear and replace them when the friction material reaches its minimum thickness (7mm). Replacement is straightforward due to their design.
- **Cleanliness:** Keep the brake unit and disc free from dust, debris, and oil. Contaminants can reduce braking efficiency and accelerate wear.
- **Air Supply Quality:** Ensure the air supply is clean and dry. Moisture and contaminants in the air line can damage internal components. Use an air filter and dryer if necessary.
- **Fastener Check:** Periodically check all mounting bolts and fasteners for tightness. Vibrations during operation can cause them to loosen over time.

8. Troubleshooting

This section provides basic troubleshooting steps for common issues. For more complex problems, contact technical support.

- **Insufficient Braking Force:**
  - Check air pressure supply; ensure it meets the required 0.7Mpa maximum.
  - Inspect brake pads for excessive wear and replace if necessary.
  - Verify proper alignment between the brake unit and the disc.
- **Brake Not Releasing Fully:**
  - Ensure air pressure is completely released from the system.
  - Check for any mechanical obstructions preventing the pads from retracting.
  - Inspect internal components for damage or debris.
- **Unusual Noise During Operation:**
  - Check for foreign objects between the brake pads and disc.
  - Inspect brake pads for uneven wear or damage.
  - Ensure all mounting hardware is tight.

9. Warranty and Support

For information regarding product warranty, technical support, or spare parts, please contact your supplier or the manufacturer, Yueqing Hongchang electromechanical equipment Co., LTD. Please have your product model (DBF-10) and ASIN (B0F1DDPFPG) available when contacting support.