



Applicable series			
Drf series rotary joint	Drl series rotary joint	Drn series rotary joint	Multi-station rotary joint
Please read this instruction manual carefully and fully understand its contents before using the product. Please keep it in a safe place for your reference.			

Safety Precautions:

This chapter provides information on the safe handling of the Dewel swivel.

□ For your own safety and the safety of others, please read this operating manual carefully before using the Dewel swivel.

This manual describes the rotary joints of the manufacturer Dewey. In a further description/interpretation, the name "Dewel" is omitted for better readability.

□ This operating manual is an important part of the specified rotary joint, and the operator responsible person should pay attention to this manual.

□ Always use the latest version of the operating manual available at www.sddeweier.com.

操作 The operator of the swivel joint shall not make any modifications or additions or modifications to the swivel joint without the manufacturer's consent.

按照 Follow the additional instructions "Installation" for safe and correct swivel joint installation. Installation instructions are included in the federation that has been delivered.

1.1 Field application

The following applications are an example from a variety of applications.

This example shows how to supply cylinders with hydraulic oil or compressed air as the medium.

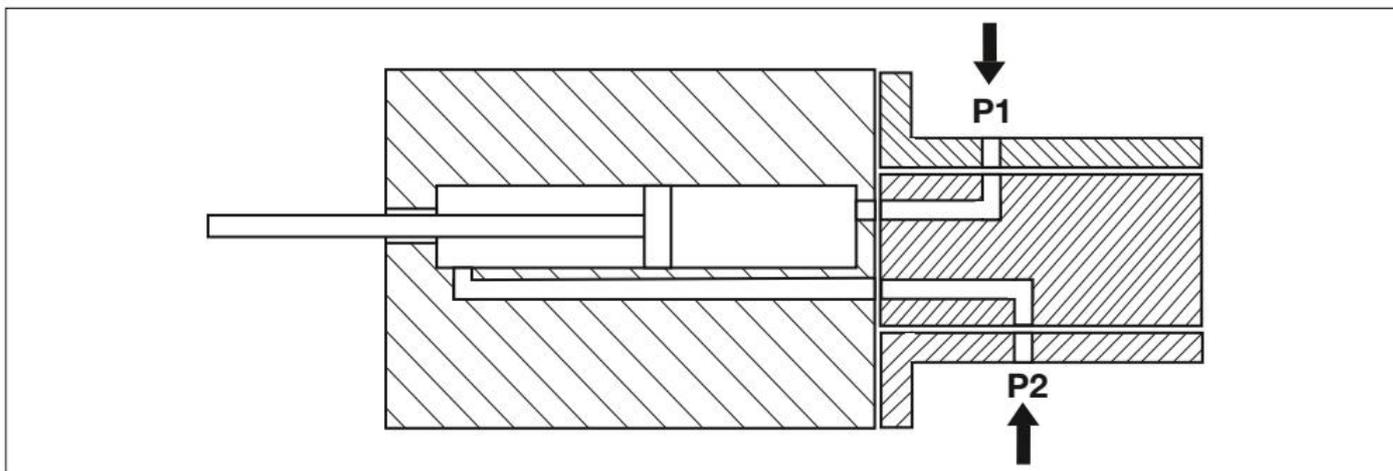


Figure 1: Schematic diagram showing power transmission to a steam (oil) cylinder

The hydraulic oil moves the piston of the cylinder, and the mating connection of the rotary joint is used for pairing;

In order to extend the piston, hydraulic oil is supplied to the mechanism in front of the piston via a rotating connection p1, and p2 is not pressurized.

In order to retract the piston, hydraulic oil is supplied to the mechanism behind the piston via a rotating connection p2, p1 is not pressurized.

Note: Depending on the complexity of each application, the corresponding series has the required number of connections and channels to use.

1.2 disabled

The following areas are prohibited:

Potentially explosive area

The drf/drl/drm rotary joint series must not be used in potentially explosive areas as they are not approved for use in potentially explosive areas. Operation in these areas can cause an explosion.

Outdoor operation

Insufficient protection of weather conditions can lead to premature failure.

The following applications are prohibited:

Transporting combustible media or hydrocarbons

Combustible media or hydrocarbons may ignite or cause an explosion.

Exception: Hot oil is within the permissible temperature range.

Please pay attention to the data sheet of the heat-conserving oil used safely.

food

Food, detergent and disinfectant residues cannot be removed from the swivel and may be poisoned.

Connected to an overstressed piping system

If excessive pressure is applied to the rotary joint, the supply pipe will fall off and cause personal injury or property damage.

Connection fixed pipe

If connected by a fixed pipe, the swivel joint may leak and the ball bearing may leak and break.

Transporting too hot media

If the media exceeds the maximum allowable temperature of the swivel joint, damage to the seal may result in leakage of the swivel joint, personal injury or property damage.

Suitable for ambient temperature / medium temperature below 3 ° c

If the swivel is operated at temperatures below 3 ° C (ambient temperature or medium), the swivel may be damaged.

No media operation (dry run)

If the swivel joint is operated without media, the sealing surface of the swivel joint may fail prematurely.

Run at maximum speed and maximum pressure

Speed and pressure must be adjusted to each other so that the swivel joint does not age or prematurely fail.

1.3 Safety Instructions

This chapter provides information on hazards when using swivel joints.

This chapter provides information on hazards through a swivel joint.

1.3.1 Danger due to surface overheating

The rotating joint is heated by the temperature of the medium. Skin contact with heated swivel joints may result in injury.

⌚ When operating the swivel, use safety gloves and ppe (personal protective equipment) to prevent heat.

Visible A visible hazard sign can be seen on/beside the swivel to warn of danger.

1.3.2 Hazard of improper hose

For the connection of the swivel to the machine, you must select the appropriate hose for the appropriate media to meet the application's specifications.

If you use an incorrect hose, they may become porous or burst. This can result in personal injury and/or property damage to the components of the machine.

❑ If the media has water, steam, and heat transfer oil, use a hose that is suitable for the maximum system pressure of the machine and the maximum temperature of the media.

1.3.3 Danger caused by the media

Skin or eye contact with the media may cause injury when working on the swivel.

❑ Please pay attention to the safety instructions of the flow media. Observe the coshh safety data sheet for the flow media.

1.3.4 Danger caused by installation errors

If the swivel is not installed correctly, the hose and connections may leak. The media can escape. Depending on the media, personal injury or property damage can result from machine components.

之前 Before installing the swivel joint, make sure that no feed pressure and residual pressure are applied to

the piping of the machine.

安装 Install the swivel on the machine using only the hose to avoid pressure on the swivel.

Install the hose to avoid pressure.

Install the swivel joint so that the leaking media can safely move down at the lowest point and the drain line shows a drop (minimum 15°).

安装 Attach the hose to the swivel joint before installing the hose onto the machine shaft.

Information about this manual

2 Information about design

This chapter provides information about which items must be followed in the design.

A positive impact on the service life of the swivel joint.

You can get a drawing of the swivel joint from Dewel for reference.

The rotary joint in the figure.

2.1 filter media

Unfiltered media having a particle size in excess of 60 μm can result in increased wear of the rotary joint.

The larger the particles in the medium, the higher the wear of the swivel joint. The

higher the total amount of all particles (contamination load), the higher the wear.

插入 Insert a filter in front of the rotary joint to filter particles with a particle size of 60 μm or larger

From the media.

2.2 Connection options for rotary joints on the machine shaft

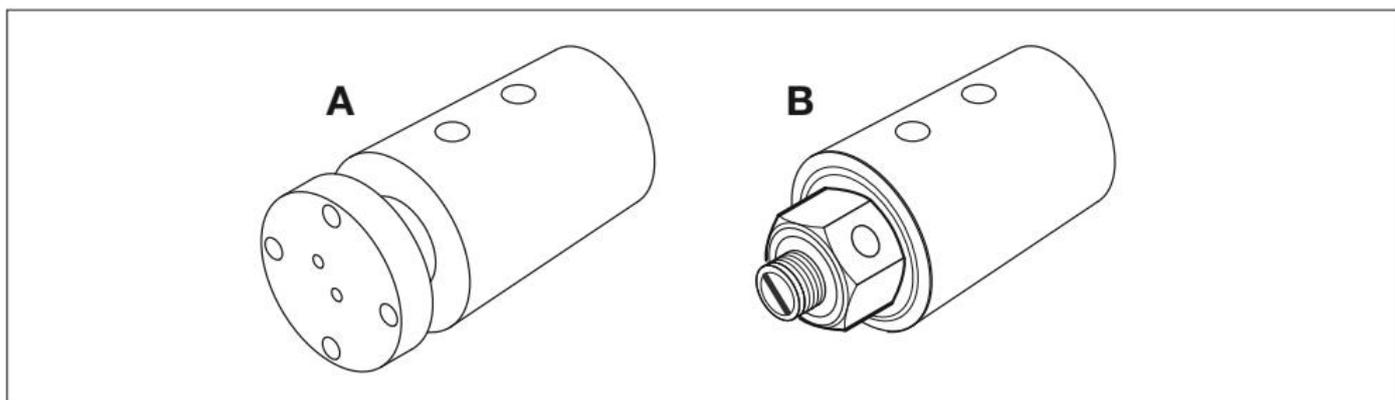


Figure 2: Options installed on the machine shaft

The swivel joint is mounted on the machine shaft by a rotor.

The following rotor options are available:

Option (a): The rotor is equipped with a flange.

Option (b): The end of the rotor is threaded.

The rotor provides a connection between the swivel joint and the shaft. Therefore, the design of the rotating mechanism must be completely designed for each specific axis in strict accordance with the specifications in the installation drawings. Deviations may cause leakage and uneven motion of the rotary joint.

2.3 Hose Installation Options

The following example shows how to install a hose at a swivel joint.

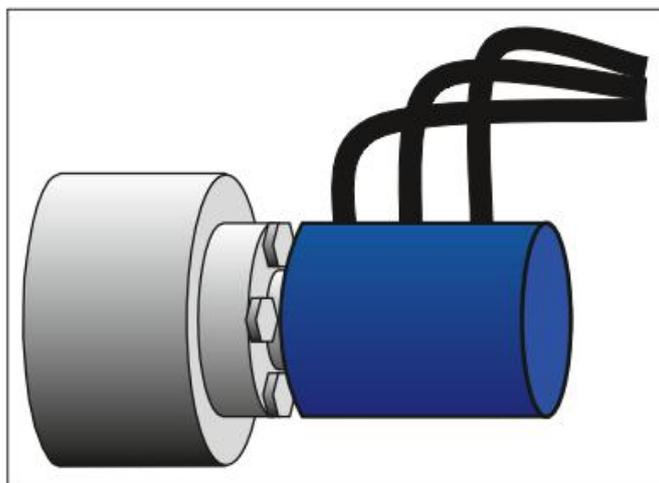
These connection options ensure that the hose does not transfer stress to the swivel when it is rotated. The machine axis moves.

Please pay attention to the "1.3 Safety Instructions" section of the design.

2.3.1 Connection of hose and rotary joint

The hoses must be installed and bent without stress so that they do not exert any force on the swivel joint.

The figure below shows an example of the installation.

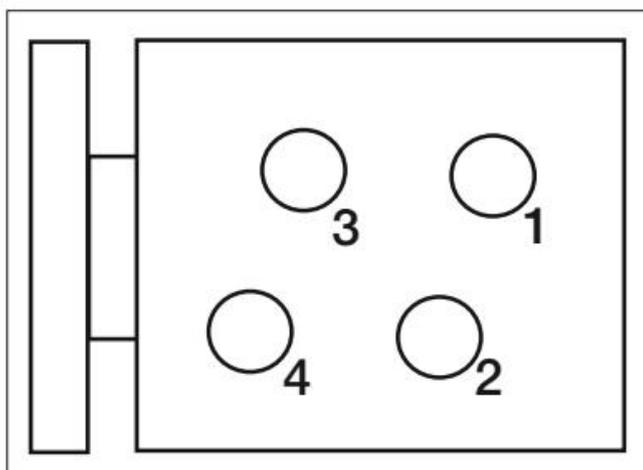


Connect the swivel joint to the flexible hose.
The flexible hose prevents the bearing of the rotary joint from being laterally loaded during operation.
Please observe Chapter 1.3.4.

Figure 3: Horizontal connection of the hose

2.3.2 Observing the "pairing" connection of the media

The connections of the swivel joints are arranged in a "paired" connection, which are separate seals. In order to prevent mixing of different media, you must ensure that only one media is provided and returned via a "pairing" connection;



Possible "pairing" connections:

- Connect 1 and 2
- connect 3 and 4

For rotary joints with further connections, the "pairing" connections are arranged in the same way

Figure 4: Example of a "pairing" connection

2.2.3 Using the rotation stop element

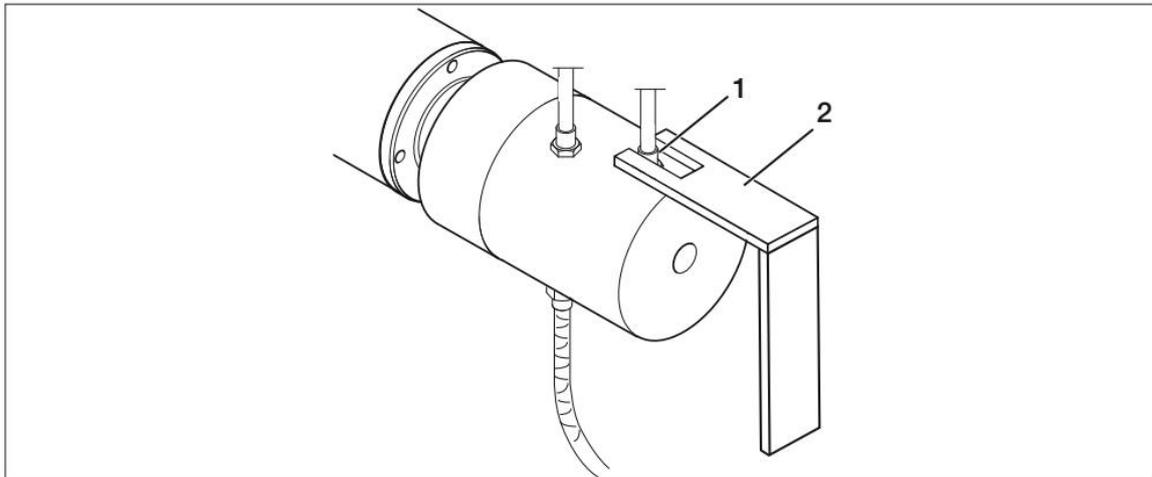
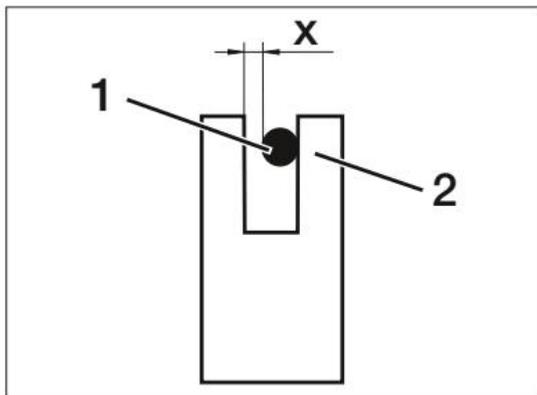


Figure 5: Example of preventing rotating elements



During operation, the anti-rotation element must be used to prevent rotation of the swivel joint (2). The connection of the hose (1) can be used as a torque support.

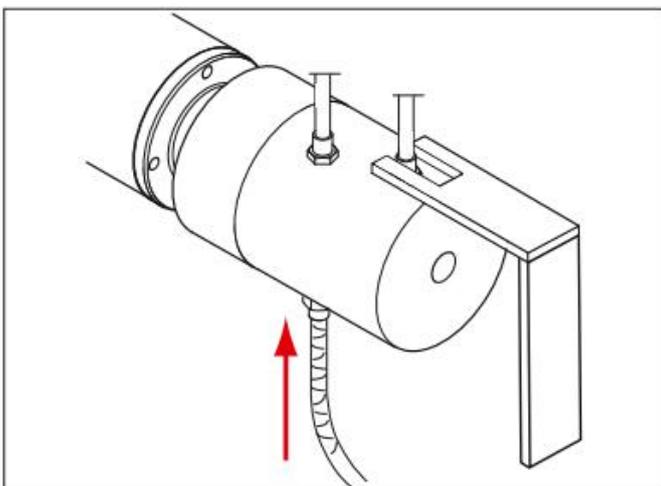
The prong may be, for example, a prong. Installed on site as an anti-rotation component at the hose connection.

In this example, the connector of the hose (1) can only be in contact Resisting one side of the bracket (2) of the anti-rotation element such that the gap (x) remains between the other side Bracket and hose connector.

Figure 6: Top view torque support

2.2.4 Optional: Connect the leak line

To prevent damage to the surrounding components from being removed from the media, you can connect the leak wires to some rotary joints with separate leak lines if needed.



Some models of swivel joints have pressure relief holes (leakage ventilation and leak discharge).

When used in a dirty environment, we recommend protecting the leak from infiltrated dirt. If you close all the pressure relief holes, the pressure increases, causing the seal to wear out.

Position the swivel joint at any time to connect the leak line to the 6 o'clock lock position (lowest point) to the leak hole. The leaked

media must be delivered back to the tank without pressure.

Figure 7: Connection of the leak line

3. Installation

- ❑ Make sure that the person installing the swivel receives the following information:
 - the position of the swivel joint in the machine
 - Information about circulating media
 - Planned connection hose
 - Location of the leak line
 - Information on how to install customer-supplied anti-rotation components
 - Installation drawings for each specific model

4. Information about the operation

No component damage caused by media operation (dry running)

If your rotating mechanism is suitable for media operation but it has been operated without media, the sealing surface of the swivel will be damaged.

- ❑ Make sure the swivel joint is operated with media.

关闭 If the swivel is running without media, turn off the device/machine.

5. Storage

Component damage due to incorrect storage

If the swivel is stored incorrectly, they will leak or be damaged.

存放 Store the swivel in a dry space of 3 ° C to 40 ° C.

- ❑ Rotating unions should not be stored for more than two years

6. Maintenance

This chapter provides information on how to extend the service life of the swivel joint in the following ways.

6.1 maintenance cycle

If you follow the maintenance intervals described, you can avoid the early wear of the swivel joints.

Overheating or undercooling of the surface may cause the injured rotating joint to heat or cool through the temperature of the medium.

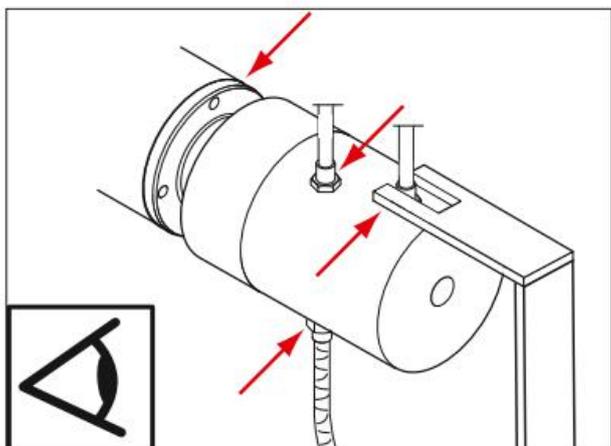
Skin contact with these heated or cooled rotary joints can cause serious injury.

让 Let the machine cool down before starting to install the swivel joint.

- ❑ Use safety gloves and ppe (personal protective equipment) to prevent heat or cold, depending on the application of the rotating union.

6.2 daily inspection

Check the tightness of the swivel joint.



Applying line pressure can cause injury. If it is necessary to work on a swivel joint, the feed pressure of the applied medium or residual pressure in the piping of the machine can withstand the pressure when the connection is released. You and others may suffer severe injuries, ensuring that no feed pressure is applied and that there is no residual pressure in the piping system.

Leakage may occur during operation of the machine, depending on the extent to which the swivel is used. Perform a daily visual inspection to check for leaks at the swivel joint (see arrow).

If you find a leak:

1. Stop the machine.
2. Replace worn or leaking swivel joints with new swivel joints.
3. Replace the defective hose with a new one.
4. Seal the leak connection.

⚠ “警告”

如果在流体泄漏的情况下继续运转，就有可能引起重大的事故。请迅速修理或更换新品。

Figure 8: Visual inspection

