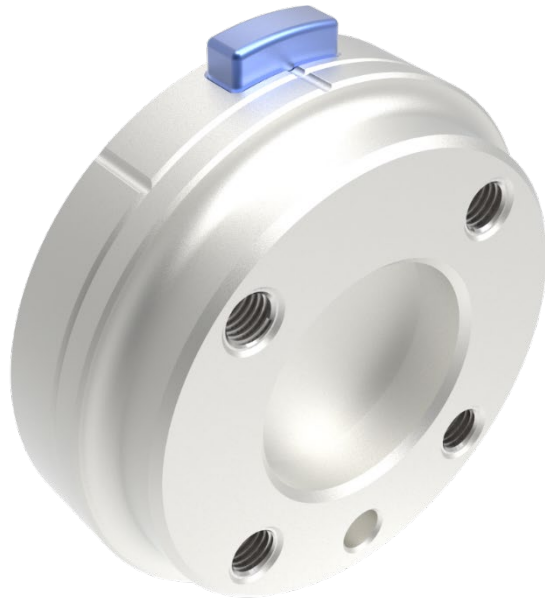




*future of assembly*

# USER MANUAL

## SpinMount



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## 1. INTRODUCTION

The SpinMount is a flexible tool changer made for easy and fast mounting of end-of-arm tools on collaborative robots. Its main function is to ensure stable and safe mounting when fixing tools to the robot. SpinMount makes the tool work without excessive movements that could potentially be dangerous or damaging.

## 2. TECHNICAL SHEET

The key measures for the technical specification can be found in Table 1.

**Specification sheet**

|                      |                    |
|----------------------|--------------------|
| Input/Output flange  | ISO 9409-1-50-4-M6 |
| Number of cycles     | 5000               |
| Tool side weight     | 72 g               |
| Robot side weight    | 113 g              |
| <b>All up weight</b> | <b>185 g</b>       |

*Table 1 - Specification Sheet*

### 2.1 LOAD CAPACITY

The Load capacity with the following specification for each axis can be found in Table 2 and Figure 1.

**Static load capacity**

|       | <b>Moments [Nm]</b> |          | <b>Force [N]</b> |
|-------|---------------------|----------|------------------|
| $M_x$ | 100                 | <b>X</b> | 1000             |
| $M_y$ | 100                 | <b>Y</b> | 1000             |
| $M_z$ | 50                  | <b>Z</b> | 500              |

*Table 2 - Load Capacity*

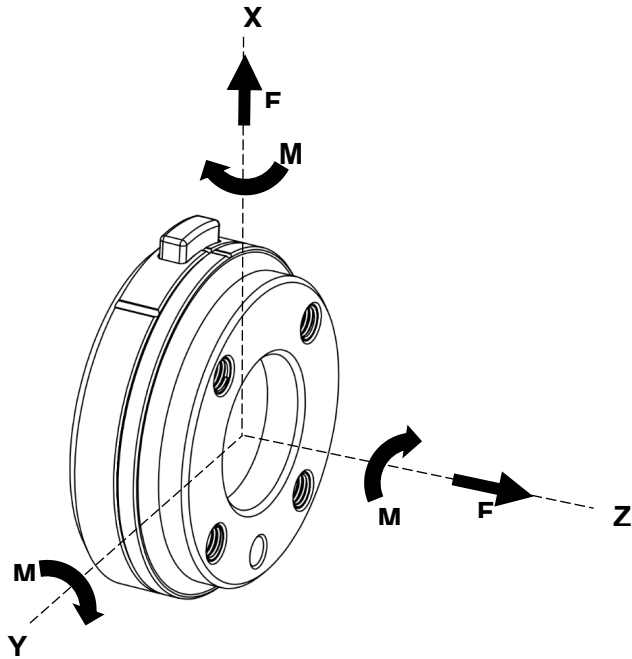


Figure 1 - Load capacity Axis

## 2.2 MECHANICAL DESIGN

Figure 2 Shows the SpinMount and the mechanical specifications as seen from the tool side.

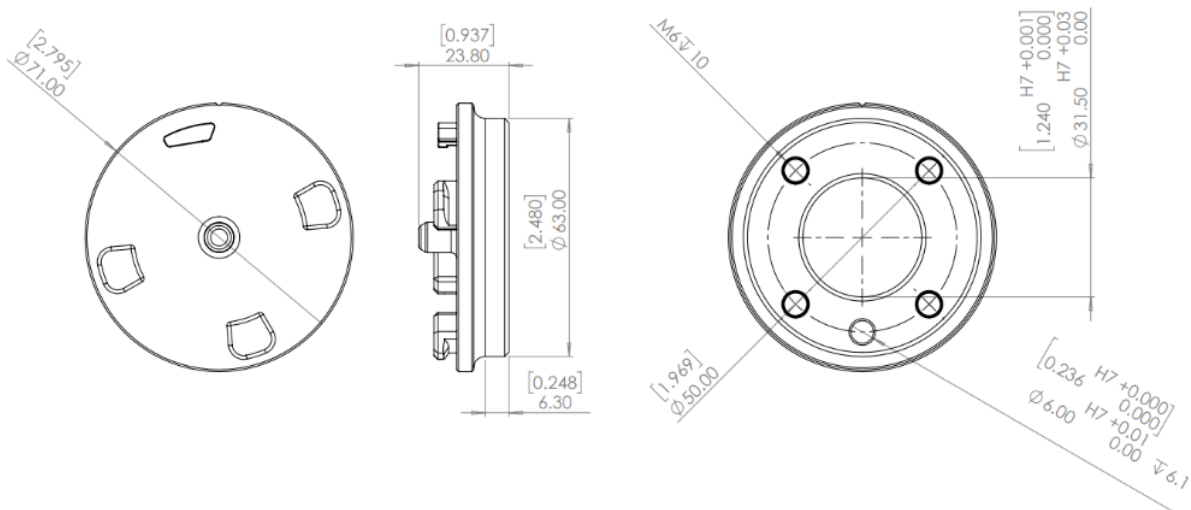


Figure 2 - SpinMount Tool side

Figure 3 shows the Spin Mount and the mechanical specifications as seen from the Robot side.

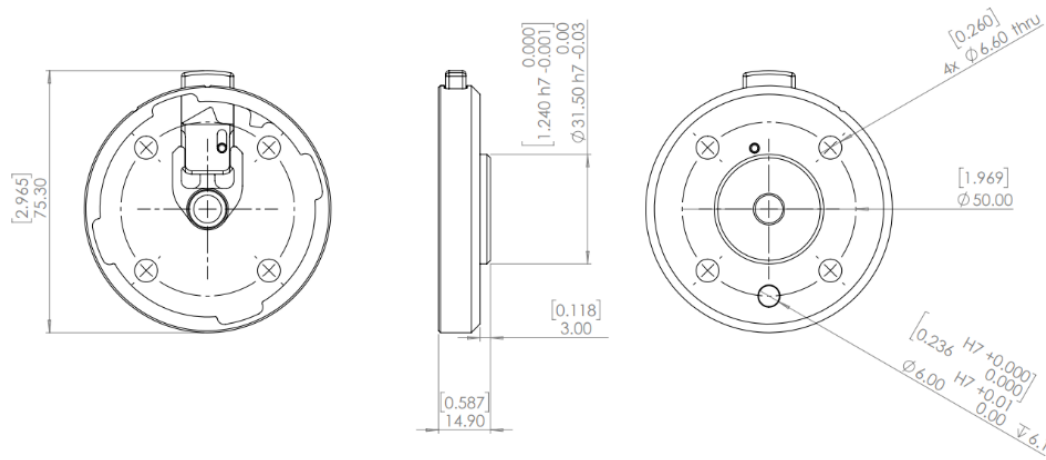


Figure 3 - SpinMount Robot side

### 3. INCLUDED HARDWARE

Included in the **package of the SpinMount** is the following parts:

- 8 x M6 x 12 screws
- Hex wrench
- Pin  $\varnothing 6$  x 10

The male pin is to be inserted into the pin hole on the robot to assure precise alignment.

### 4. INTENDED USE

The product is to be used in an indoor environment on robots where easy and fast tool change is wanted. Make sure that the load capacity specified in this datasheet is not exceeded.

**⚠ Inappropriate use may cause injury or damage.**

Risk assessment is a must before starting the work. Risk assessment should be conducted for any application of a robot.

Following are the examples of misuse:

- Using before risk assessment,
- Using it before ensuring the work environment is suitable.

## 5. INSTALLATION



### Warning

You must read, understand, and follow all safety information in this manual, and the robot manual and all associated equipment before initiating the robot motion. Failure to comply with the safety information could result in death or serious injury.

- Step 1:** Following figure 4, insert the Dovel pin into the robot flange. Then press the Spin Mount onto the flange and find a position where the pin fits right into the SpinMount. Fasten the parts together with the 4 screws that come in the package, using a hex key. The screws are to be placed as seen in Figure 4 - Fastening of SpinMount. Pay attention to not fasten the screws too tight because that can result in damaging the robot.

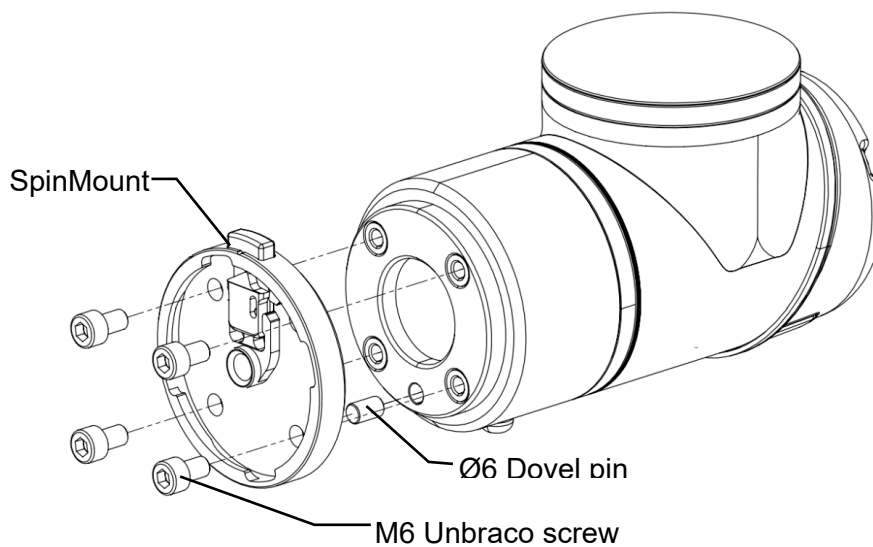
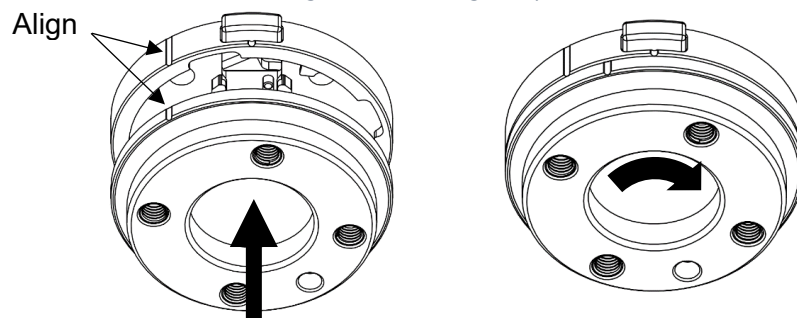


Figure 4 - Fastening of SpinMount

- Step 2:** Take the male part of SpinMount and align the engravings on both of the SpinMount parts as shown in Figure 5. Connect the parts together by pressing and then turning clockwise.

Figure 5 - Mounting the SpinMount



When the above steps have been conducted the mounting of the SpinMount has been completed, and the tool is ready to be mounted for use.

## 6. MAINTENANCE

All maintenance and repairs must be performed in compliance with this manual, including safety instructions. Only authorized distributors or Spin Robotics A/S shall perform repairs. Only original spare parts may be used.

Cleaning of the SpinMount can be done with a moist cloth and to be wiped off with a dry cloth before mounting the SpinMount again.

## 7. WARRANTIES

### 7.1 PRODUCT WARRANTY

Without prejudice to any claim the user (customer) may have in relation to the dealer or retailer, the customer shall be granted a manufacturer's warranty under the conditions set out below:

In the case of new devices and their components exhibiting defects resulting from manufacturing and/or material faults within 12 months of entry into service (maximum of 15 months from shipment), Spin Robotics ApS shall provide the necessary spare parts, while the customer (user) shall provide working hours to replace the spare parts, either replace the part with another part reflecting the current state of the art or repair the said part. This warranty shall be invalid if the device defect is attributable to improper treatment and/or failure to comply with information contained in the user guides. This warranty shall not apply to or extend to services performed by the authorized dealer or the customer themselves (e.g., installation, configuration, software downloads). The purchase receipt, together with the date of purchase, shall be required as evidence for invoking the warranty. Claims under the warranty must be submitted within two months of the warranty default becoming evident. Ownership of devices or components replaced by and returned to Spin Robotics A/S shall vest in Spin Robotics A/S. Any other claims resulting out of or in connection with the device shall be excluded from this warranty. Nothing in this warranty shall attempt to limit or exclude a customer's statutory rights nor the manufacturer's liability for death or personal injury resulting from its negligence. The duration of the warranty shall not be extended by services rendered under the terms of the warranty. Insofar as no warranty default exists, Spin Robotics A/S reserves the right to charge the customer for replacement or repair. The above provisions do not imply a change in the burden of proof to the detriment of the customer. In case of a device exhibiting defects, Spin Robotics A/S shall not be liable for any indirect, incidental, special or consequential damages, including but not limited to, lost profits, loss of use, loss of production or damage to other production equipment. In case of a device exhibiting defects, Spin Robotics A/S shall not cover any consequential damage or loss, such as loss of production or damage to other production equipment.

## 8. CERTIFICATIONS

Declarations, certificates and applied standards are listed in this chapter.

### Applied standards

Standards applied under development of the product is listed in this section. When an EU Directive number is noted in brackets it indicates that the standard is harmonized under that Directive.

#### ISO 12100:2010

##### EN ISO 12100:2010 (E) [2006/42/EC]

*Safety of machinery – General principles for design – Risk assessment and risk reduction* the product is evaluated according to the principles of these standards.

#### ISO 10218-2:2011

##### EN ISO 10218-2:2011(E) [2006/42/EC]

##### ANSI/RIA R15.06-2012

##### CAN/CSA-Z434-14

*Robots and robotic devices – Safety requirements for industrial robots Part 2: Robot systems and integration* the product is prepared for compliance with robot system requirements defined in these standards.

#### ISO/TS 15066:2016

##### RIA TR R15.606

*Robots and robotic devices – Safety requirements for industrial robots – Collaborative operation*

This is a Technical Specification (TS), **not** a standard. The product is prepared for easy integration in compliance with provisions in this Technical Specification, see more *in the safety chapter*.

#### ISO/TR 20218-1:2018

*Robotics – Safety requirements for industrial robots Part 1: Industrial robot system end of arm tooling (end-effector)* This is a Technical Report (TR), **not** a standard. The product is designed according to principles in this Technical Report.

#### ISO 9409-1:2004 [Type 50-4-M6]

*Manipulating industrial robots – Mechanical interfaces* Both parts of the SpinMount system conform to type 50-4-M6 of this standard. Robots should also be constructed according to this standard to ensure proper fitting.

#### UL 1740:2018, edition 4

*Standard for Robots and Robotic Equipment* The product is designed to meet the requirements in both this and other relevant UL standards. For more information about UL compliance and field certification in US, contact your supplier.