

Operating instructions



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MANREVITA4V0125

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Introduzione

Dear Customer,

Thank you for choosing this product. We are confident it will fully meet your expectations thanks to the innovative solutions adopted, the refined design, and the high construction quality.

This pneumatic chuck has been specifically designed for web tension control applications during roll unwinding. It ensures a secure grip in all processing phases through a self-centering, air-powered expanding mechanism.

The product is suitable for core diameters ranging from 3" to 12", covering the most common sizes used in the industry.

One of its main advantages is that **no adapter removal is required when changing the diameter**, significantly reducing machine downtime and improving overall efficiency.

In addition, roll unloading operations are **smooth and automatic, without requiring manual intervention by the operator**, thereby ensuring greater safety and ease of use.

Particular attention has been devoted to the structural robustness: **high-quality, high-strength materials have been used**, combined with heat and galvanic treatments, to ensure excellent resistance to wear, deformation, and the mechanical stresses typical of these applications.

We recommend reading this manual carefully to quickly become familiar with the product, understand its distinctive features, and ensure long-lasting and reliable operation.

We also recommend paying particular attention to the safety instructions to ensure correct and safe use.

Renova Srl

Attention

READ CAREFULLY THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL AND FOLLOW THEM THROUGHOUT THE ENTIRE LIFESPAN OF THE PRODUCT. THEY PROVIDE IMPORTANT INFORMATION REGARDING THE USE AND MAINTENANCE OF THE PRODUCT.

READ AND FULLY UNDERSTAND THE INSTRUCTIONS BEFORE INSTALLING AND USING THE PRODUCT.

IN THE EVENT OF A POSSIBLE PRODUCT MALFUNCTION, THE OPERATOR MUST UNDERSTAND THE MANUFACTURER'S INSTRUCTIONS AND BE AWARE OF THE ASSOCIATED HAZARDS BEFORE PERFORMING ANY TECHNICAL CHECKS OR CONTACTING RENOVA FOR ASSISTANCE.

General Safety



During all phases of **installation, use, adjustment, and maintenance of the pneumatic chuck**, it is mandatory to use appropriate **Personal Protective Equipment (PPE)**, in compliance with Legislative **Decree 81/08** and all applicable workplace safety regulations.



During all installation, operating, and maintenance activities involving the pneumatic chuck, it is mandatory to **wear safety gloves** compliant with **EN 388**.

The gloves protect against risks of **cutting, crushing, and abrasion** caused by contact with mechanical parts that may be moving or under pressure.



Always wear protective goggles during use and maintenance.

There is a risk of eye injury due to projected particles or sudden release of pressurized air.



There is a potential risk of **accidental dropping of the component or associated parts** during handling, installation, or maintenance operations.

It is therefore mandatory to **wear safety footwear with reinforced toecaps** compliant with **EN ISO 20345**, in order to prevent **foot injuries caused by crushing or impact**



During the opening and closing of the chuck, moving parts may cause injuries to hands or fingers. **Never insert limbs or tools into the clamping areas while the unit is in operation.**



Do not perform any operations or disassembly while the system **is still pressurized**.

Before working inside the pneumatic panel or on the chuck, ensure that the system **is fully depressurized**.



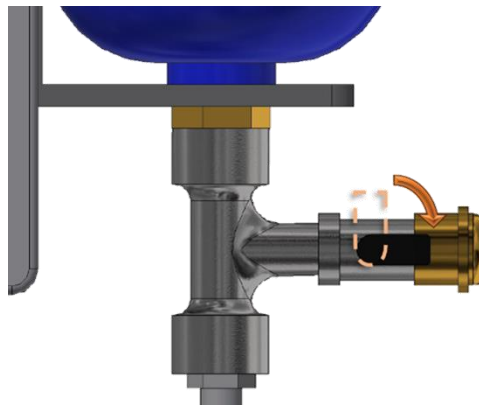
Excessive air pressure or the use of unsuitable piping may cause **sudden breakage**.

Always ensure that the operating pressure does not exceed the maximum value indicated in the technical section.

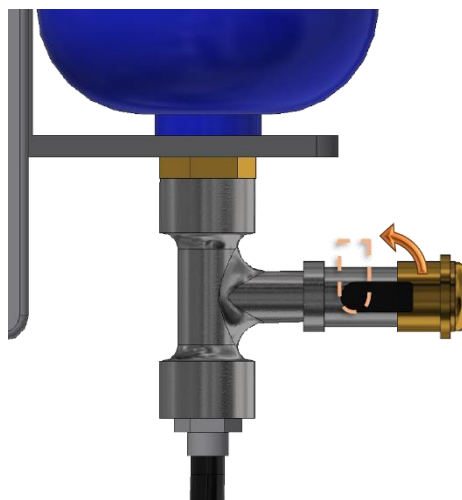
Pressurize the system only after all connections have been correctly secured.

General Warnings

- **Infinity** is designed exclusively for the unwinding of paper or cardboard rolls.
 - Some fundamental rules must be followed when using any type of pneumatic-mechanical device. More specifically:
 - Do not expose the device to weather conditions (rain, sunlight, etc.);
 - Do not allow the device to be used by individuals who are not qualified to operate it without supervision
 - Do not allow the device to be used by personnel who have not been previously trained.
 - Prolonged inactivity may deteriorate the seals and the lubricant used for the movement of the internal components.
 - Follow the recommended torque values in the table when tightening the screws:
- | SCREW | M6 | M8 | M10 | M12 | M14 |
|-------------|------|------|------|------|-----|
| TORQUE [Nm] | 10.4 | 24.6 | 50.1 | 84.4 | 135 |
- Before performing any operation on the pneumatic control panel, ensure that the chuck is completely depressurized. Also make sure that the reservoir is empty; open the discharge valve to allow the residual air to escape.



At the end of the operations, close the valve to ensure proper system functioning.



Assistance

If needed, please contact our service center.

Contact Renova Support

support@renova-srl.com

General Instructions

SHIPPING MATERIALS



A	control box	2 PCS .
B	chucks	4 PCS. (2 per axis)
C	supplementary pallets	CUSTOM, IF APPLICABLE

DESCRIPTION OF THE CONTENTS

CONTROL BOX: panels for the pneumatic control of the chucks. Connection materials are the responsibility of the customer.

CHUCK CRATE: each crate contains one chuck and its custom machine-mounting flange.
The crate includes the screws for connecting the chuck to the flange (not the flange to the machine) and the gasket.

SUPPLEMENTARY PALLET: any general accessories or non-standard mechanical mounting accessories.

PACKAGING

Please do not discard the wooden packaging of your **Infinity** system, as it may be useful for storage, handling, or, in the event of a malfunction, for shipping the unit back to renova srl.

SERIAL NUMBER

Each **Infinity** unit is supplied with its own Serial Number.

The Serial Number is engraved on one of the metal plates mounted on the jaw.

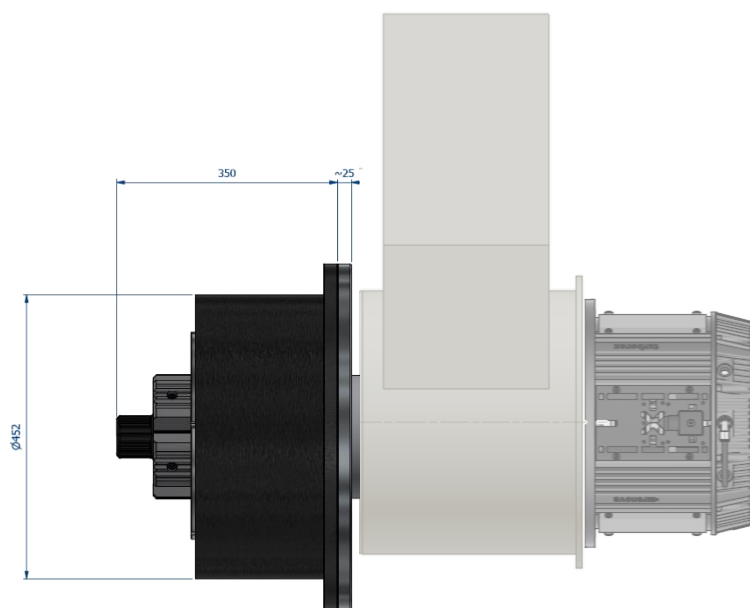
The Serial Number is also indicated on the Warranty Certificate provided with the **Infinity** system.

IMPORTANT:

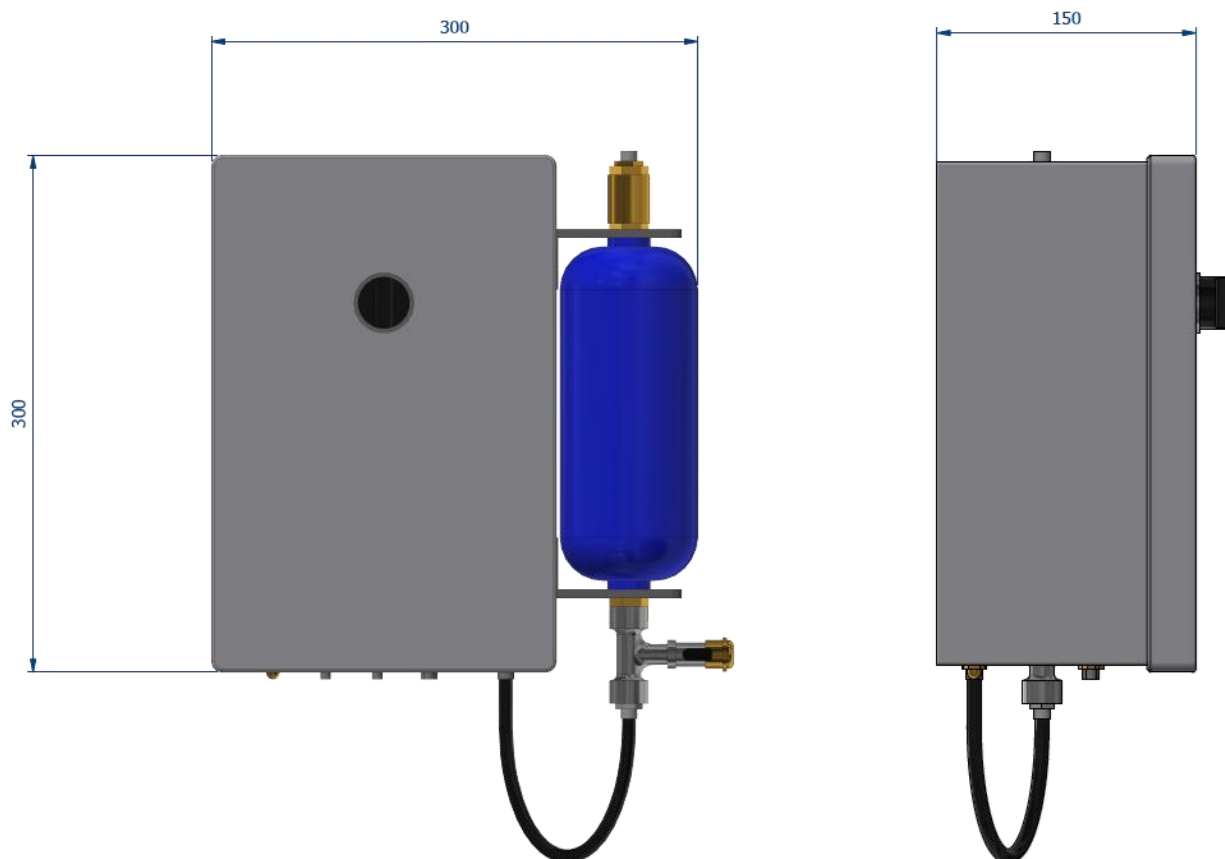
Always provide the Serial Number of your **Infinity** system when requesting assistance or spare parts.



CHUCK OVERALL DIMENSIONS



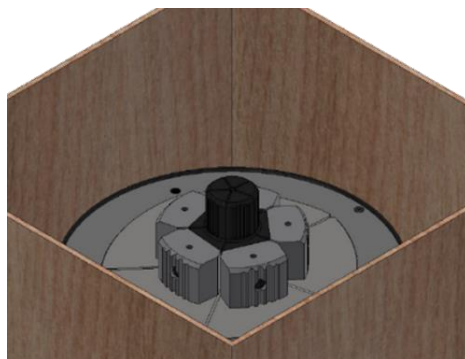
CONTROL BOX OVERALL DIMENSIONS



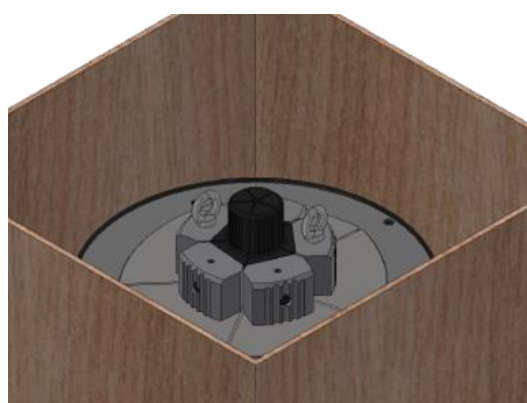
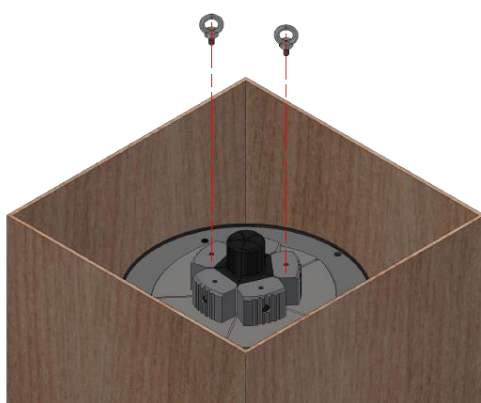
Installation Instructions

UNBOXING AND MECHANICAL INSTALLATION

1. Open the wooden crates containing the chucks, preferably without damaging them.



2. Screw two DIN 580 – M10 – 230 kg lifting eye bolts into the designated holes on the jaws of the chuck



3. Infinity can now be lifted using UNI EN 1492-1 lifting straps.



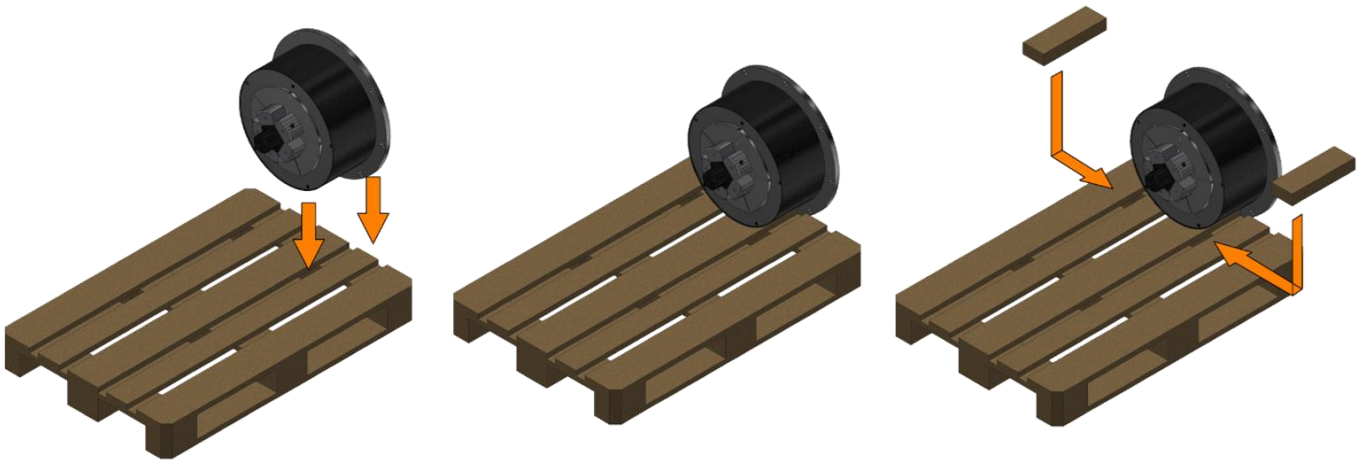
4. Move the chuck according to the following **RECOMMENDED MOUNTING PROCEDURE** or according to your installation requirements. Once positioning is completed, reassemble the removed jaws, applying threadlocker and tightening them to the specified torque.



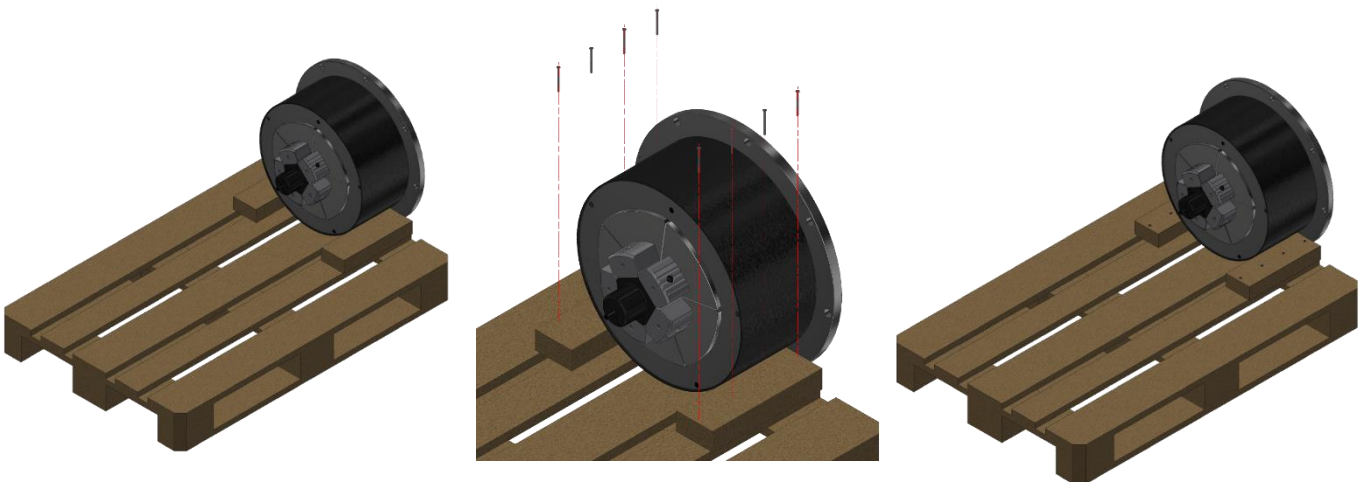
ATTENTION: ensure that the handling operation is carried out in complete safety. The weight of a single chuck is approximately 200 kg.

RECOMMENDED MOUNTING PROCEDURE:

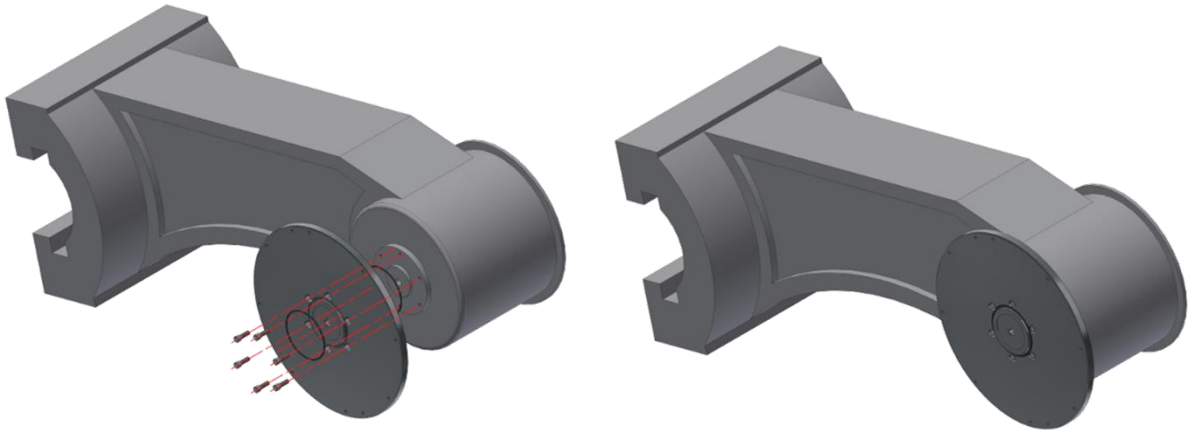
5. Place the chuck horizontally on a pallet so that the end plate is positioned at the edge of the pallet.



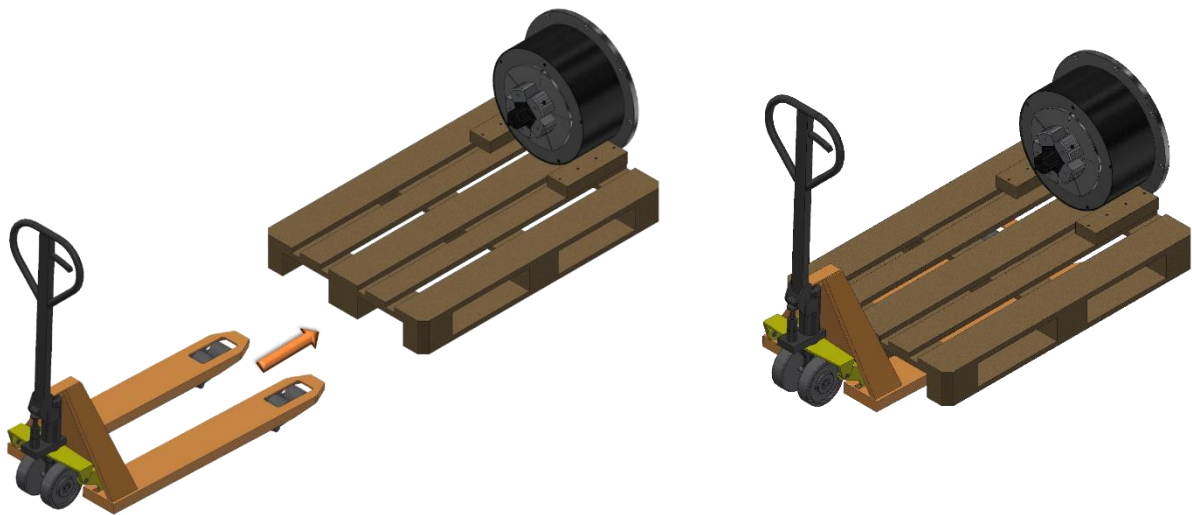
ATTENTION: place blocks on the sides of the chuck to prevent it from rolling.



- Secure the adapter flange onto the machine shaft, lubricating the supplied O-rings and applying threadlocker to the screws. (The screws that fasten the adapter flange to the machine are the customer's responsibility)

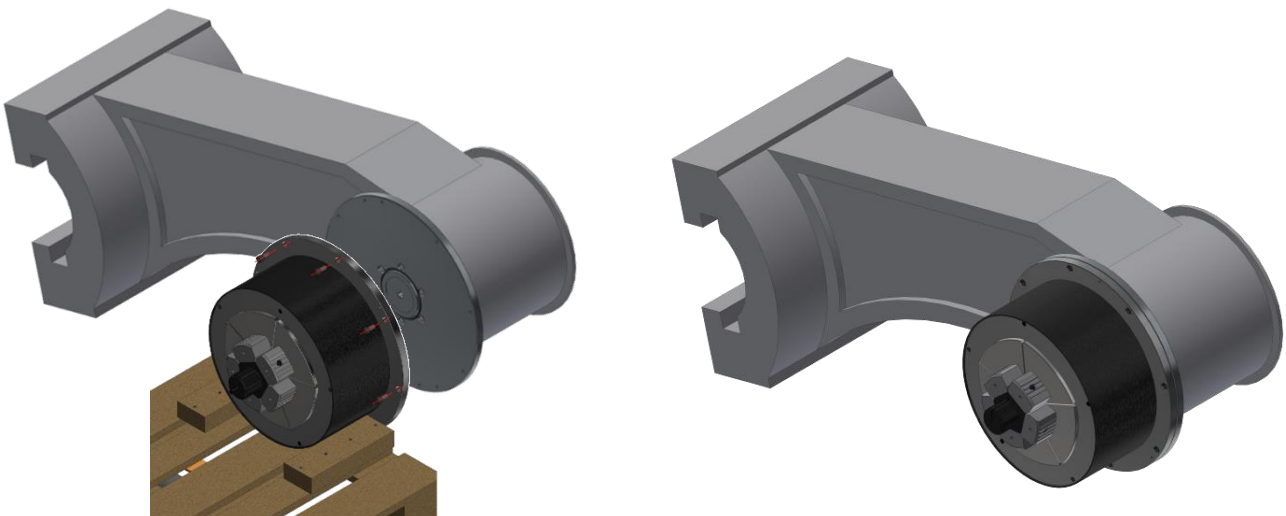


- Using a handling device, bring the pallet with the chuck close to the arm on which it will be mounted.

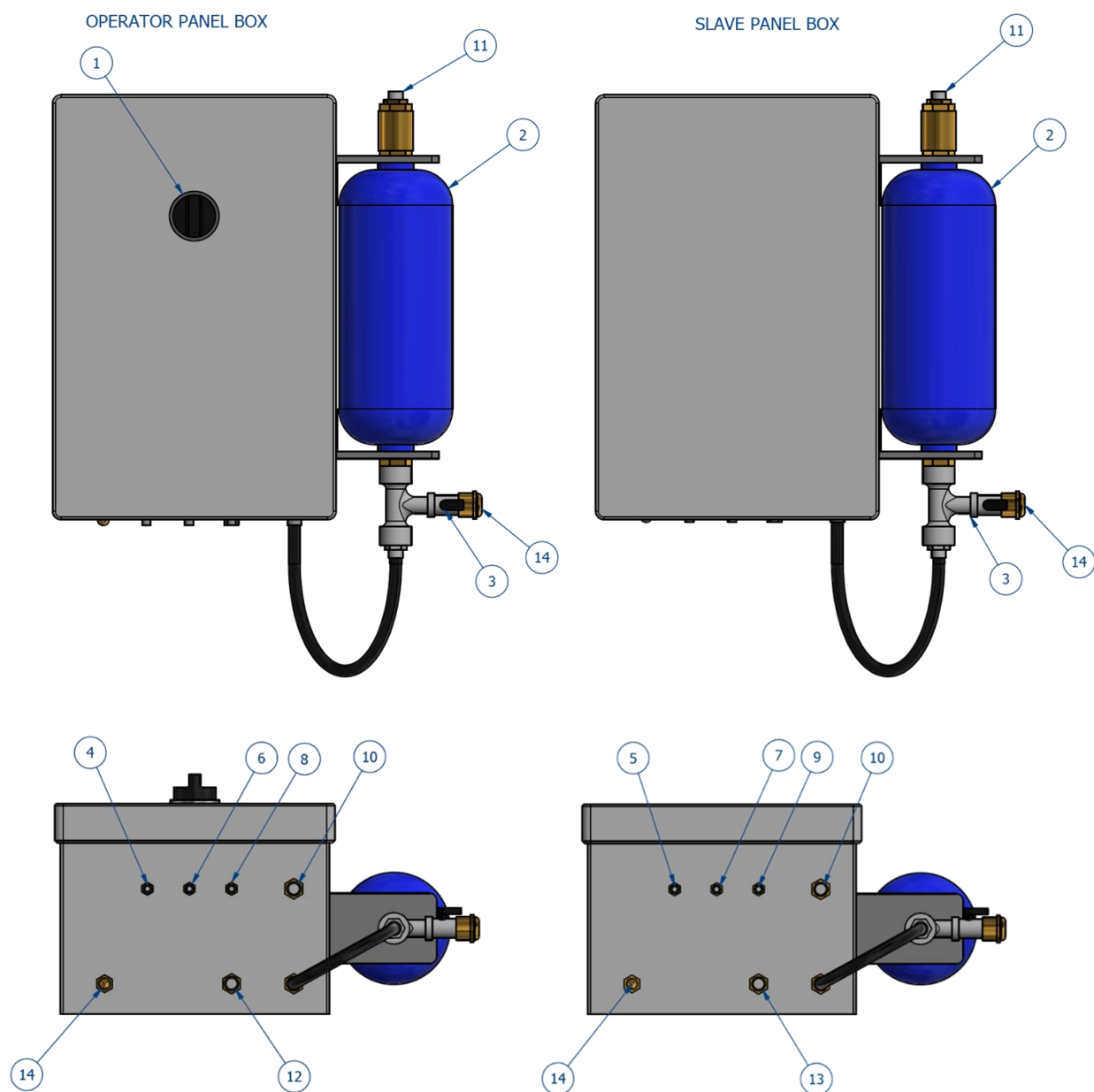


- Lower the arm and connect the shaft to the pneumatic chuck.

Connect the chuck, with its lubricated O-ring, to the flange using the supplied screws. Apply threadlocker and tighten to the specified **torque**:

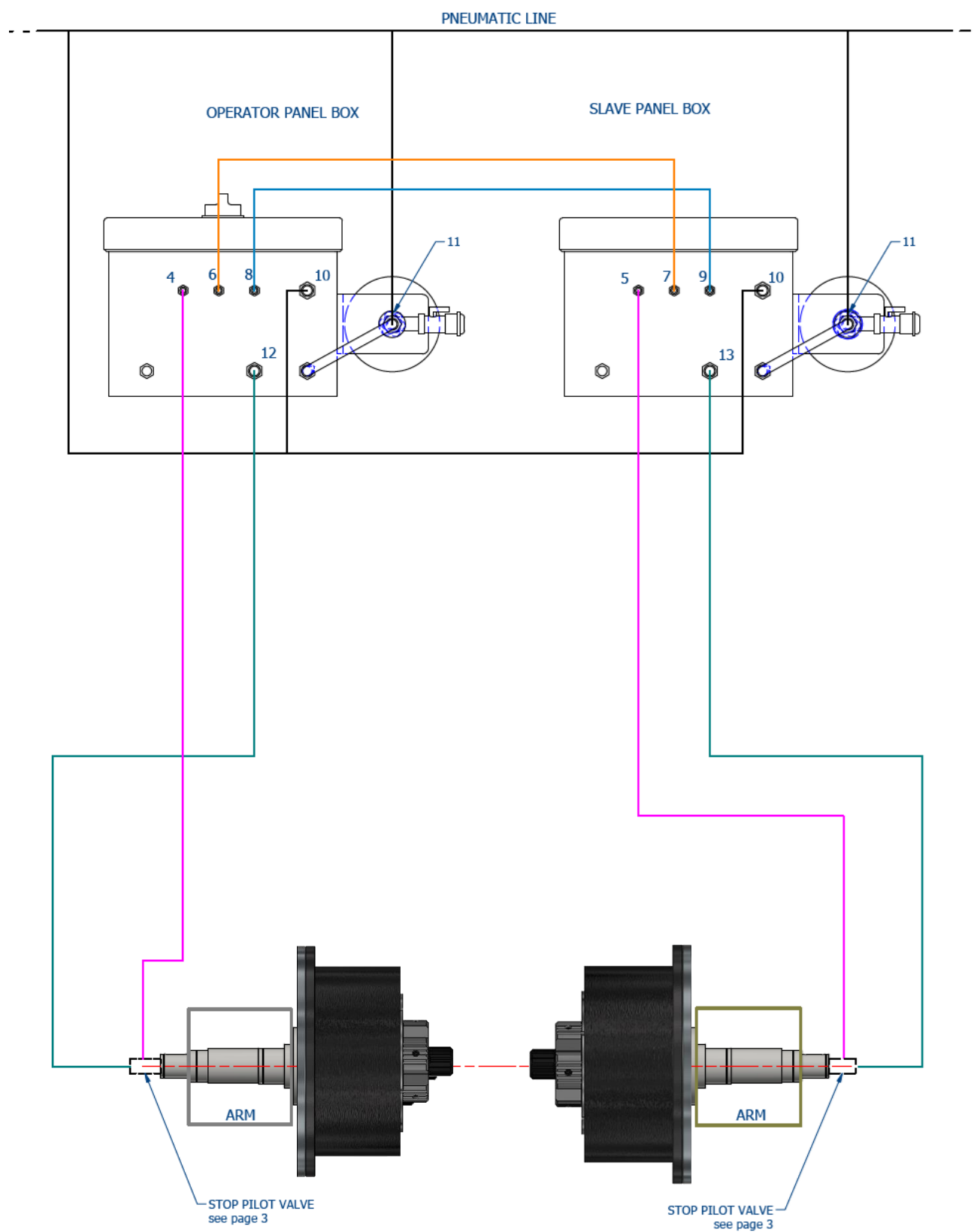


PNEUMATIC INSTALLATION

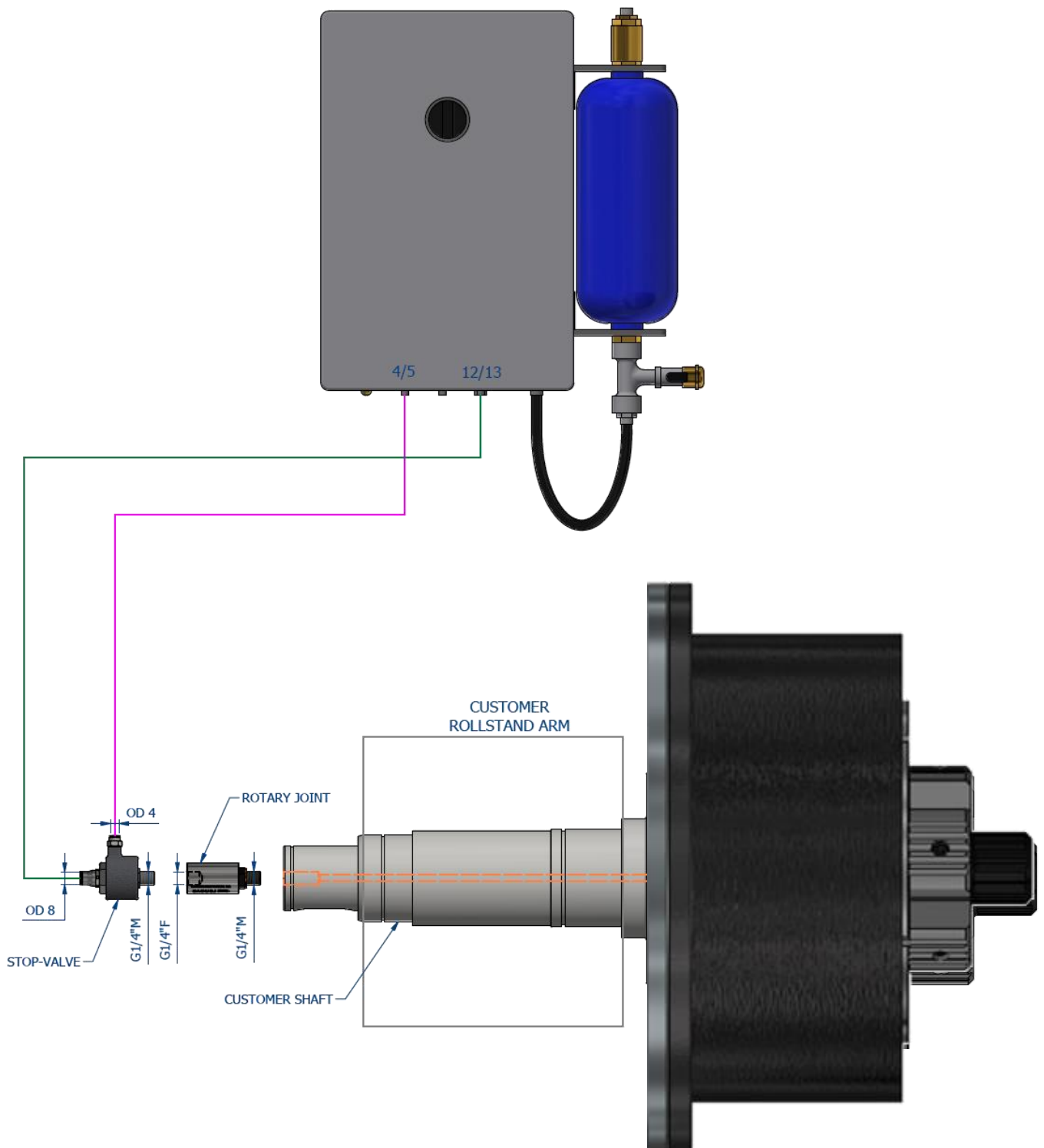


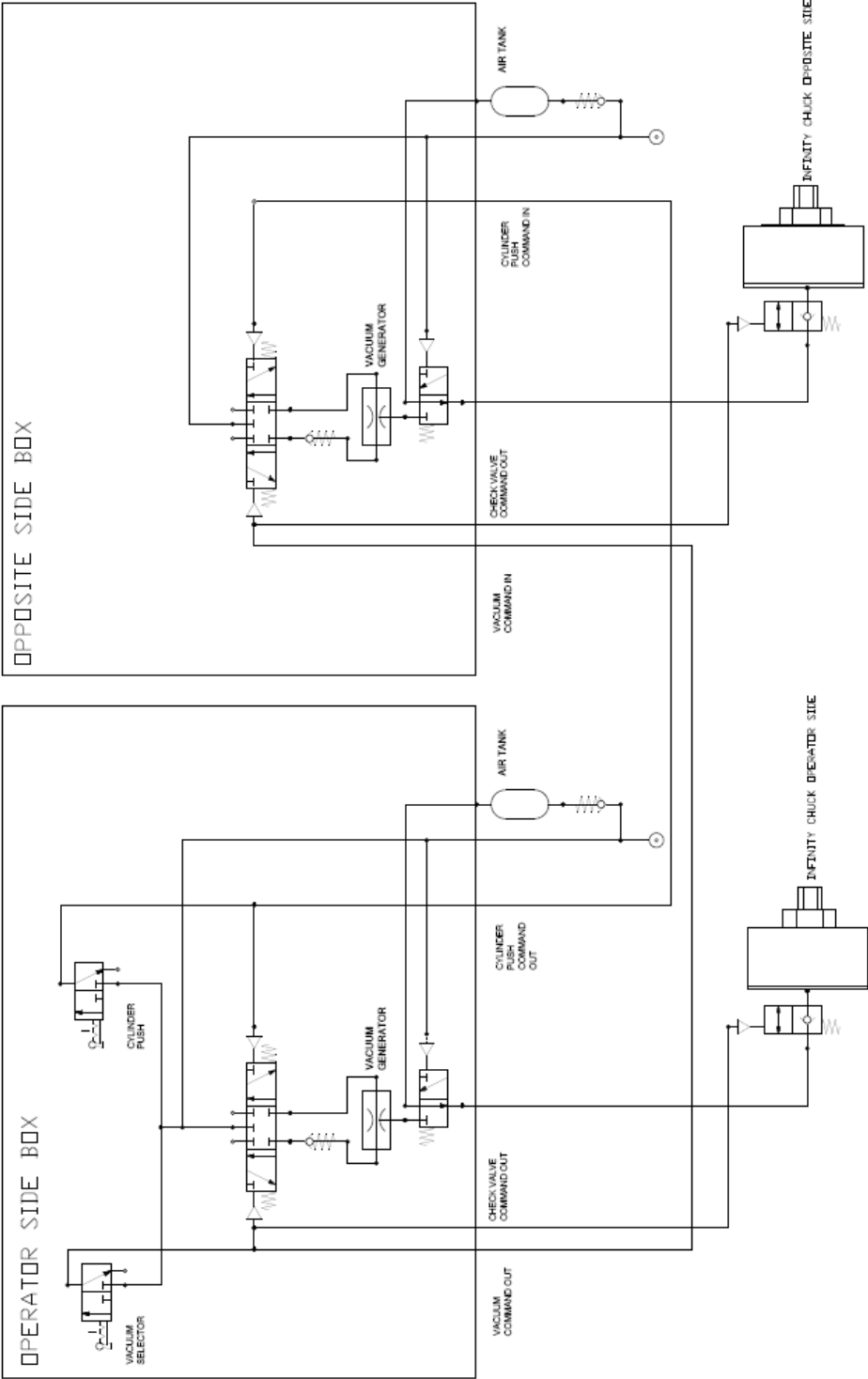
POS.	DESCRIPTION	PIPE Ø
1	SELETTORE 3 VIE	-
2	SERBATOIO ARIA	-
3	VALVOLA DI SCARICO SERBATOIO	-
4	USCITA PILOTA VALVOLA LATO OPERATORE	8
5	USCITA PILOTA VALVOLA LATO SLAVE	8
6	USCITA MASTER 1	4
7	INGRESSO SLAVE 1	4
8	USCITA MASTER 2	4
9	INGRESSO SLAVE 2	4
10	INGRESSO ARIA	8
11	INGRESSO ARIA SERBATOIO	8
12	USCITA ARIA ALIMENTAZIONE TESTATA 1	8
13	USCITA ARIA ALIMENTAZIONE TESTATA 2	8
14	SCARICO ARIA	-

CONNECTION DIAGRAM



ON BOTH SIDES





 WE NEVER LOSE CONTROL Viale Rimembranze 93 Sesto S.G. (MI) 20089 - ITALY www.renova-srl.com - info@renova-srl.com +39 0227007364		Raggio - Smusso / Radius - Chamfer R-min : Sm-min x 45° Tol. Gen. / Gen. Tol. UNI EN-ISO 22768-4H		Foglio / Sheet 1 di 1			
Materiali / Material		Data / Date 02/10/2025		Progetto / Project INFINITY		Scala / Scale A3	
Area / Area		Peso / Weight		Descrizione / Description INFINITY CONTROL PANEL - FOR 1 AXLE PANNELLO DI CONTROLLO TESTATE INFINITY - 1 ASSE			
Tratt. Termico - Superficie / Heat - Surface Treatment				Codice / Code CKCECTRL-001		Rev. 0	
QUESTO DOCUMENTO È UNA PRODUZIONE ESCLUSIVA DI RENOVASRL. È VIETATA LA RIPRODUZIONE, L'USO, LA TRASMISSIONE, LA VENDITA, LA CONCESSIONE E LA PUBBLICAZIONE E/O L'ADDEBITAMENTO IN QUALSIASI FORMA E PER QUALSIASI MODALITÀ. È VIETATA LA RIPRODUZIONE E L'USO IN QUALSIASI FORMA E PER QUALSIASI MODALITÀ. È VIETATA LA RIPRODUZIONE E L'USO IN QUALSIASI FORMA E PER QUALSIASI MODALITÀ.							

Instructions for Proper Use

Before proceeding with the functional check, refer to the instructions in “General Safety” on page 5.

FUNCTIONAL CHECK

After completing the **mechanical installation** and the **pneumatic connection**, proceed with **verifying the correct operation of the chuck**:

1. **Set the selector** located on the front of the master panel to the “**pressure**” position:



- 1.1. In this mode, **the chuck sectors must expand**.



2. **Set the selector** located on the front of the master panel to the “**release**” position:



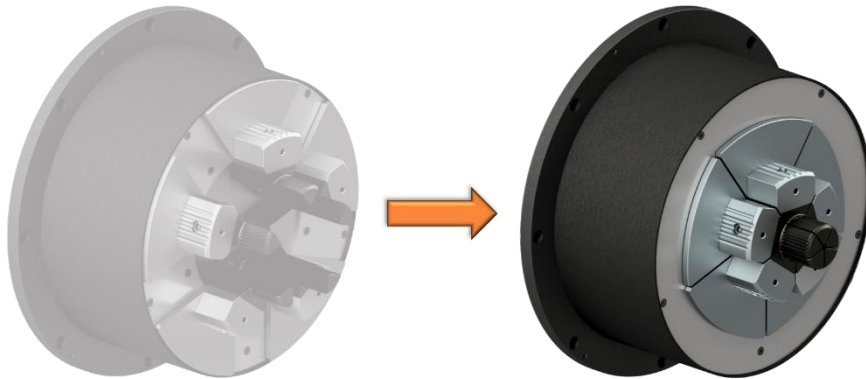
ATTENTION: CRUSHING HAZARD

During the return-to-zero phase (“release” mode), the chuck sectors retract with high force and with a movement that cannot be controlled manually.

It is strictly forbidden to insert hands, fingers, or any part of the body inside the chuck during this phase.

The operator must remain outside the hazardous area until the movement has fully stopped.

2.1. The **chuck sectors must retract**.



3. **Selector in the central position (rest):**

3.1. The chuck maintains its **current state** (no sector movement).



ATTENTION: If the behavior of the chucks matches the descriptions above, it is possible to proceed with loading the first roll.
If not, check the pneumatic connections.

ROLL LOADING

If the functional check **has been completed successfully**, proceed with the following steps as described below:

1. Ensure that **the roll** to be loaded **does not exceed** the load capacity supported by the Infinity chuck.
Below are the torque values and maximum load capacity:

MAXIMUM ROLL WEIGHT – EXP. RANGE Ø69-Ø189mm	2500 Kg
MAXIMUM ROLL WEIGHT – EXP. RANGE Ø198 - Ø316mm	5000 Kg
MAXIMUM TORQUE	4500 Nm

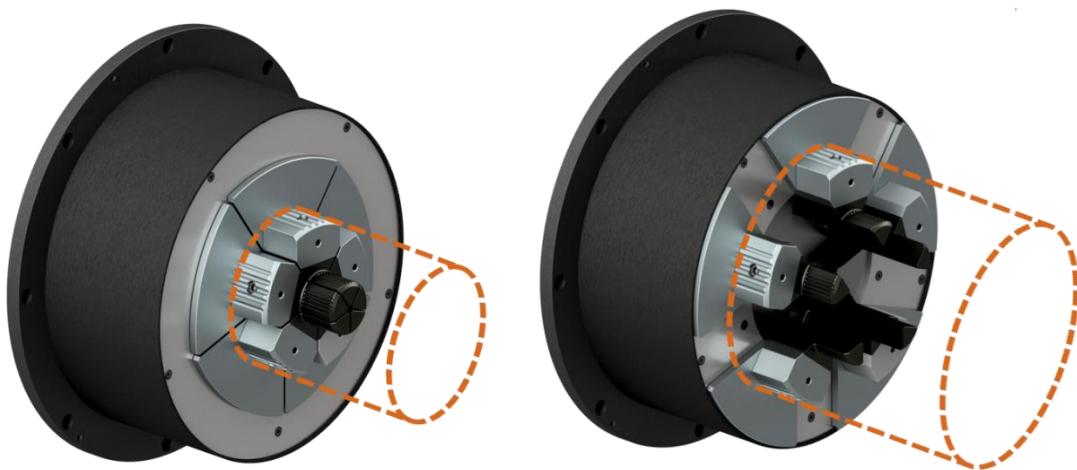


ATTENTION: **Never exceed** the maximum load values specified for the pneumatic chuck. Exceeding these limits may cause **structural failures** and **damage to internal mechanisms**, compromising the integrity of the entire system and putting the operator's safety at risk.

2. **Position the roll** centered on the axes.
3. **Adjust the arms** so that the chuck (**not yet expanded**) can be inserted into the roll core.
The chuck has 2 expansion ranges:
 - A. **Ø69-Ø189mm** outer sectors.



- B. **Ø198-Ø316mm** inner sectors:



4. **Set the selector to “pressure”** to expand the chuck and lock the roll in place.
5. **Start the machine** to begin processing the roll.

ROLL UNLOADING

1. At the end of the processing cycle, **lower the arms as much as possible.**
2. **Turn the selector to “release” and wait for the sectors to retract,** returning to the rest position.



3. Roll unloading will occur **automatically, without any need for operator intervention.**

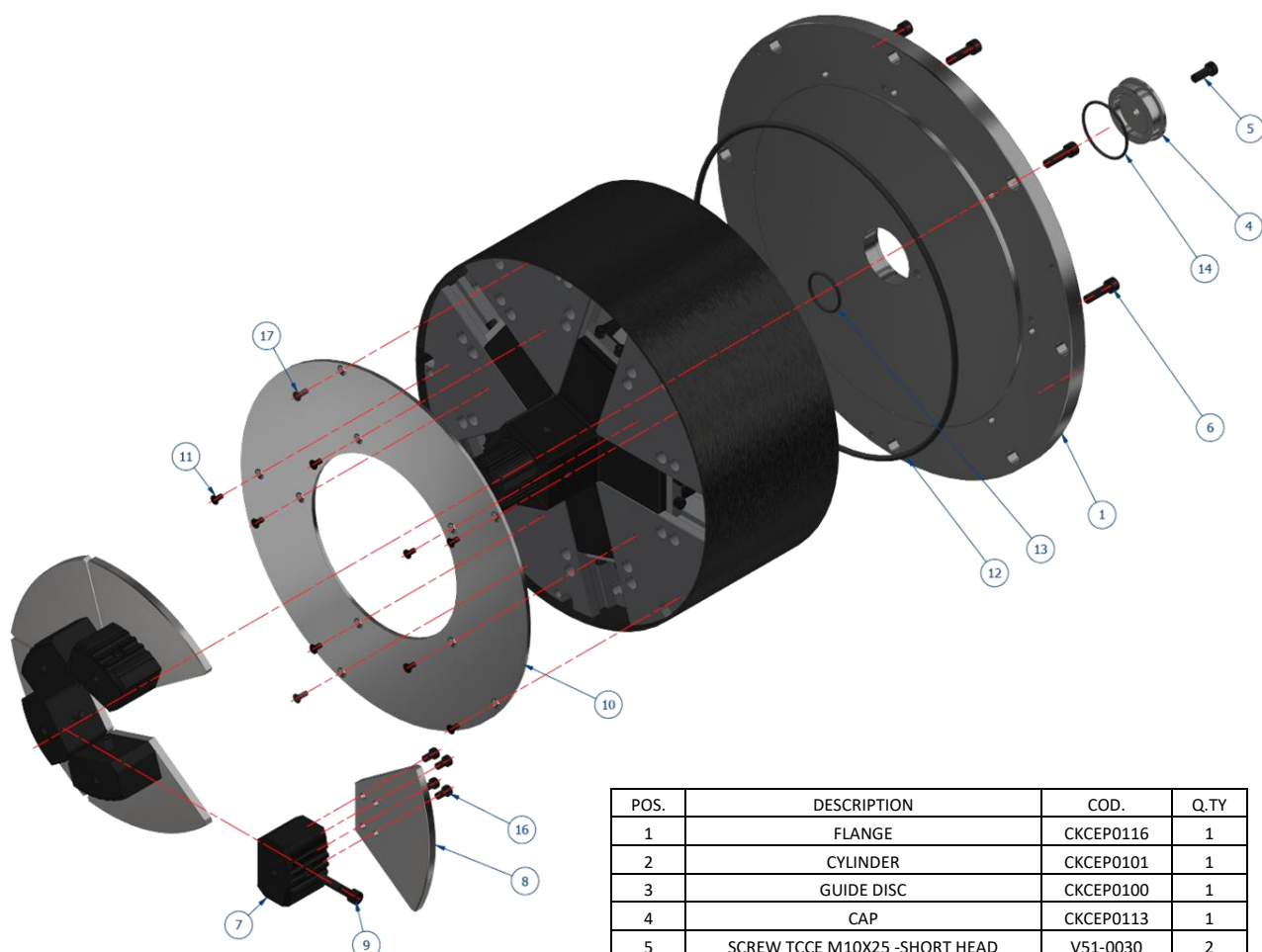


ATTENTION: Do not select the “release” mode with the arms raised.

In this condition, the roll may fall and bounce, causing damage to people, equipment, or surrounding materials.

Always ensure that the arms are fully lowered before proceeding with unloading.

Components and Codes Description



POS.	DESCRIPTION	COD.	Q.TY
1	FLANGE	CKCEP0116	1
2	CYLINDER	CKCEP0101	1
3	GUIDE DISC	CKCEP0100	1
4	CAP	CKCEP0113	1
5	SCREW TCCE M10X25 -SHORT HEAD	V51-0030	2
6	SCREW TCCE M10x35 BURNISHED	V50-0161	36
7	JAW	CKCEP0103	5
8	STOPPER DISC	CKCEP0104	5
9	SCREW M10x50 - 12.9 - BURNISHED	V50-0149	5
10	GUARD DISC	CKCEP0117	1
11	SCREW TSCE M6x12 - BURNISHED	V53-0004	8
12	O-RING 81550 De410 Di397.8 S6.99	G50-0056	2
13	O-RING 149 - De51.2 Di44.45 S3.53	G50-0086	1
14	O-RING 167	G50-0060	1
15	SCREW TCCE M8x20 ISO4762 - BURNISHED	V50-0159	10
16	SCREW TCCE M8X14 SHORT HEAD	V51-0022	20
17	SCREW TSCE M6x16 - BURNISHED	V53-0001	2

SPARE PARTS REQUEST

Always provide the **Serial Number** of your product when requesting spare parts, along with the **codes** of the **required replacement components**.

Each Infinity chuck is supplied with its own Serial Number.

The Serial Number is laser-marked on the protective plate.

Basic Maintenance Instructions

First-level maintenance operations are limited to **visual inspections and lubrication of moving parts and/or O-ring seals**. **Disassembly of components** is **not** permitted beyond what is expressly indicated in this manual. Before proceeding, refer to the “**General Safety**” chapter on page 5.

ANY OPERATION NOT SPECIFICALLY PROVIDED FOR IN THIS DOCUMENT MUST BE CARRIED OUT EXCLUSIVELY BY AUTHORIZED TECHNICAL PERSONNEL OR BY THE MANUFACTURER.



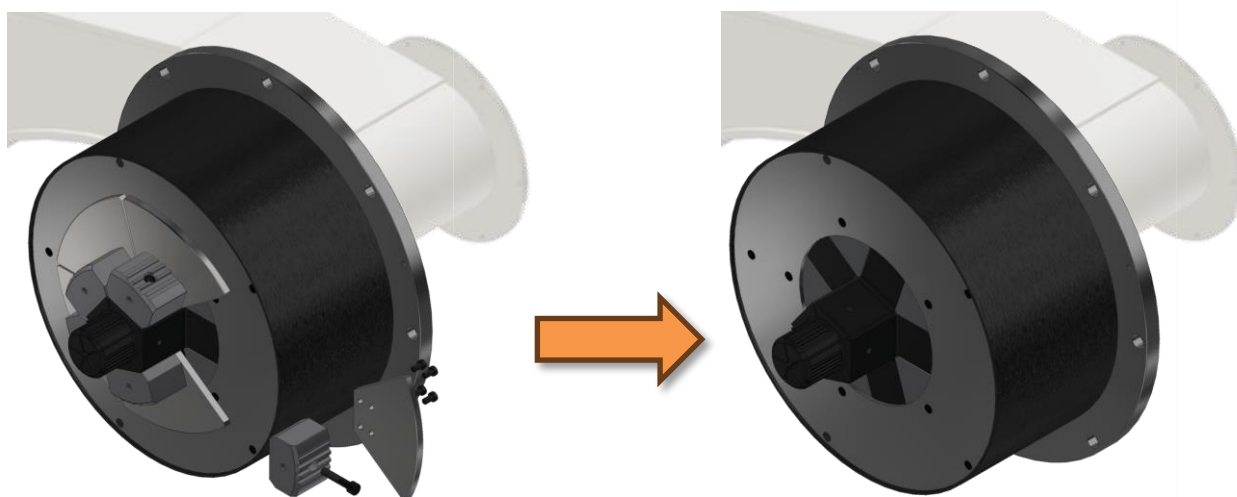
ATTENTION: Tampering with any component may compromise the operation of the chuck and, in the event of a malfunction, may cause **damage or hazardous situations** during use. Always follow the instructions provided in this manual.

MAINTENANCE PERFORMABLE WITH THE CHUCK INSTALLED ON THE MACHINE

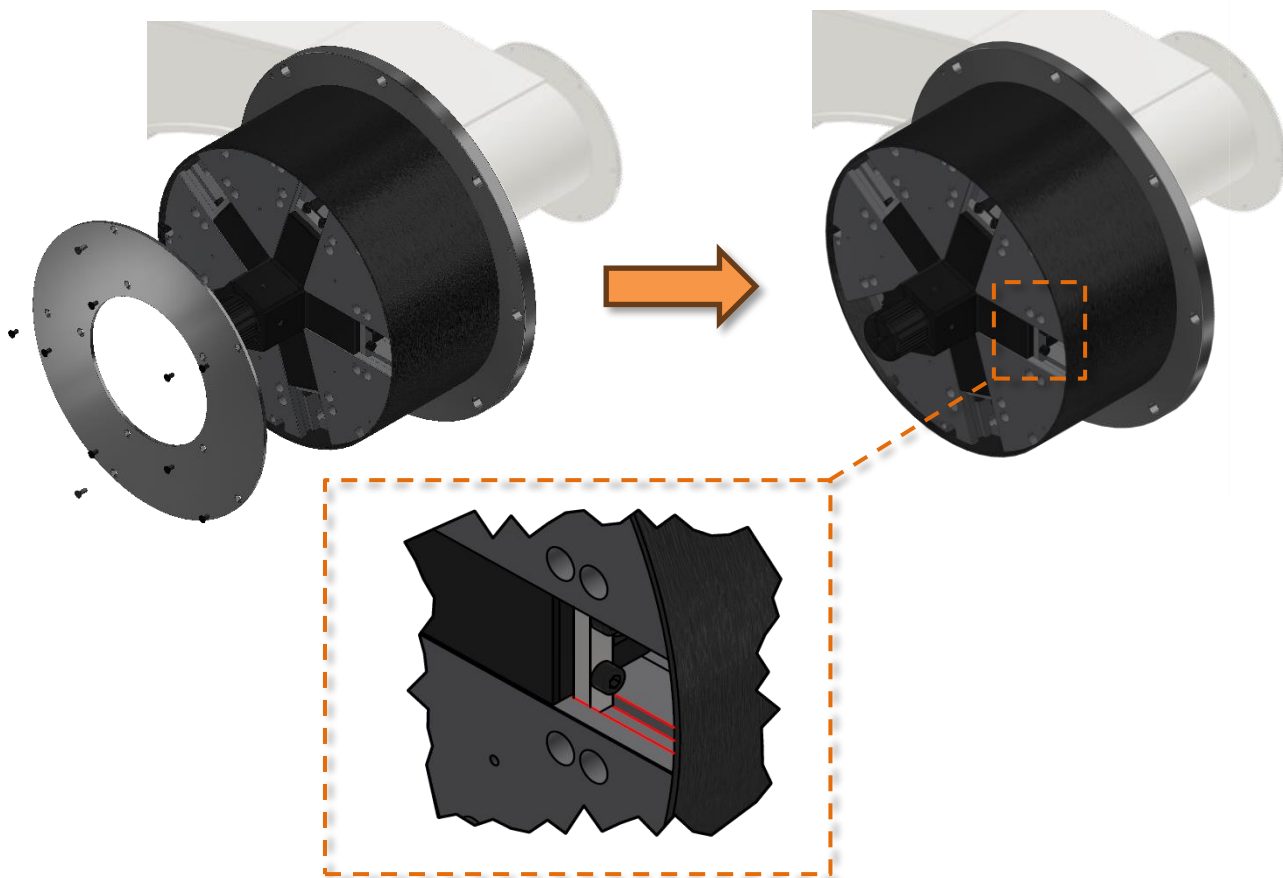


ATTENTION: Ensure that the chuck is depressurized before proceeding with the operation.

1. Remove the outer sectors using the central M10 screw. It is possible, but not necessary, to also remove the rear plates of the jaws.



2. Remove the front protection disc.
3. Use compressed air to clean the moving parts, taking care not to blow debris into the internal areas



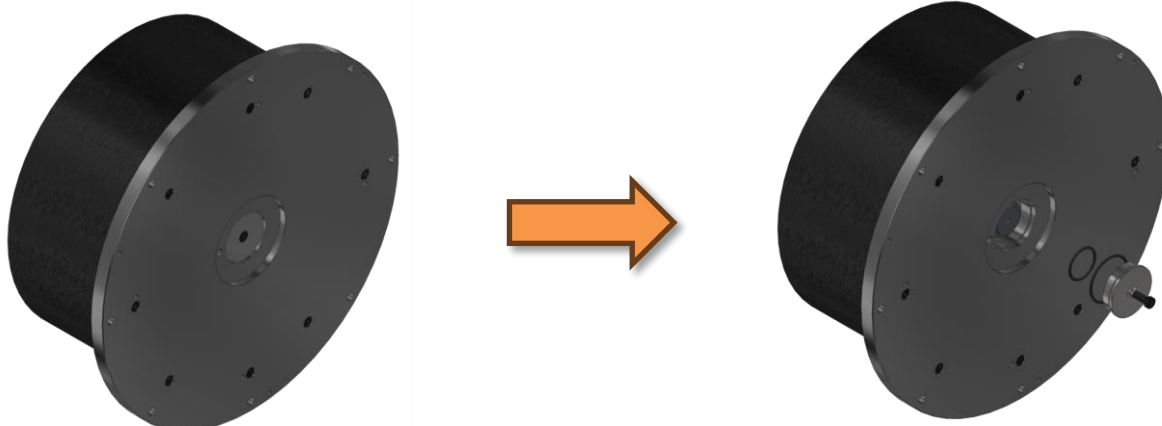
4. Check that there are no signs of mechanical seizure or excessive metallic residue in the sliding seats of the sectors (highlighted in red)
5. Apply a layer of silicone grease to the moving parts.
6. Reassemble the chuck following the reverse procedure. If possible, **replace all removed screws and apply medium-strength threadlocker to them, then tighten to the specified torque.**



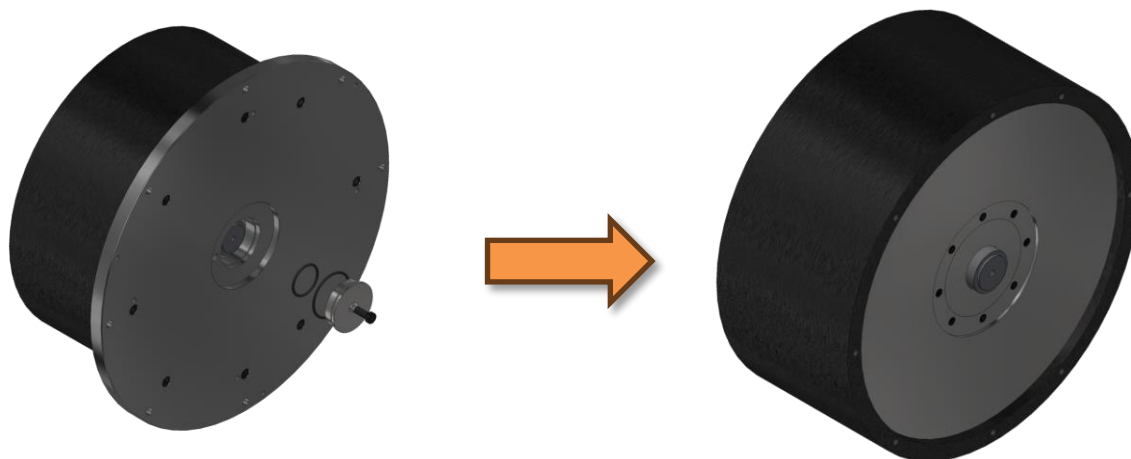
ATTENTION:

Before disassembling the chuck, ensure that the system is not pressurized. Make sure the chuck is in a stable position and cannot rotate or fall, which could cause damage to people, equipment, or surrounding materials.

1. Remove the central cap by unscrewing the M10 screw.



2. Remove the chuck end plate by unscrewing the 8 M10 screws.



3. Check that there are no signs of seizure and/or metallic residue inside the cylinder (where the piston slides).
4. Clean and grease all sliding parts; replace the O-rings if damaged (or in poor condition) and grease them before installation.
5. Reassemble the chuck following the reverse procedure. If possible, **replace all removed screws and apply medium-strength threadlocker to them, then tighten to the specified torque.**

Conclusions

The **Infinity** pneumatic chuck has been designed to ensure long-term efficiency, reliability, and safety.

This technical manual has been prepared to provide all the information necessary for installation, proper use, and both routine and extraordinary maintenance of the chuck.

Compliance with the instructions contained herein will ensure optimal performance, operational safety, and an extended service life of the equipment.

To maintain the efficiency of the pneumatic system, it is recommended to:

- Perform regular inspections and maintenance as described in the previous chapters.
- Use **only spare parts** and **components supplied by Renova**
- Avoid any unauthorized modifications or interventions on the machine, as these may compromise safety and void the warranty.

For technical assistance, spare parts supply, or further information, please contact our **Customer Support Service**:

support@renova-srl.com



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