

Omni-directional-Transfer-Units (OTU) System Mechanical Parts and Components

Maintenance instructions

V1.01

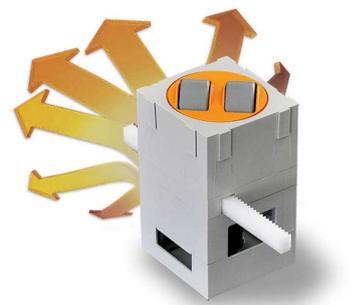


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1 FOREWORD

This manual has been prepared in accordance with CEI EN 62079, "Preparation for instructions - Structuring, content and presentation." The manual is written and checked at the best experience of Avancon.

All necessary information for the assembly, installation and maintenance of the mechanical components of the OTU system are included in this document. Therefore, it must always be accessible to all persons working with or around the system. Responsible persons must make sure that all operators have read and well understood the assembly manual. If, under any unforeseen circumstances, there are questions not or only partially covered by this assembly manual, please contact Avancon.

If you have any questions after reading the operation manual, feel free to contact us.

| | |
|---|--|
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|---|--|

1.1 About AVANCON

The following table lists the Avancon information:

| Info | Description |
|----------|---|
| Name | Avancon SA |
| Address | Via Campagna 27, 6595 Riazzino, Switzerland |
| Tel. | +41 91 222 10 10 |
| Web Site | www.avancon.com |

Table 1 – Avancon information

1.2 Revision record

The following table lists the revision record:

| Revision | Description | Prepared | Checked | Approved | Date |
|----------|-------------|--------------|---------|----------|------------|
| 1.00 | First Draft | Andreotti E. | - | - | 28.05.2019 |
| | | | | | |

Table 2 – Revision record

1.3 Warnings and notes in this manual

The warnings in this document refer to risks which may arise while using the ZPC. The following table lists the symbols adopted in Avancon documents:

| Symbol | Description |
|---|---|
|  | IMPORTANT: Warning and notes about important operations and useful information |
|  | WARNING: Danger to persons, including death |

Table 3 - Symbols

2 SAFETY INSTRUCTIONS

The OTU is designed according to the technical state of the art and are reliable in operation. However, risks may still arise.

| | |
|---|---|
|  | WARNING: Risks of physical injury to the user or bystanders |
|  | WARNING: Disregarding the warnings in this manual may lead to serious injury |
|  | IMPORTANT: Always read the instructions before working with the OTU |
|  | IMPORTANT: Follow the information contained herein in full |
|  | IMPORTANT: Only instructed and qualified persons may work with the OTU |
|  | IMPORTANT: Always comply with relevant national safety regulations |

Table 4 - Symbols

2.1 Intended use

The Avancon OTU is designed to convey goods only. The Avancon OTU is considered as an industrial application operating in an industrial environment.

Any other use or mounting location is not permitted and is deemed to be improper. Any modifications that affect the safety or security systems of the product are not permitted.

Manual loading or unloading of the OTU must happen at dedicated loading or unloading points. Other access to the shall be prevented.

2.2 Qualified persons

Qualified persons are persons who read and understand the manual and can competently perform the required tasks. Only instructed and qualified persons may work with the Avancon OTU, always taking into account:

- The relevant manuals and diagrams
- The warning and safety instructions in this manual
- The system specific regulations and requirements
- National or local regulations and requirements for safety and accident prevention

2.3 Danger and damage prevention

To prevent danger or damage that may occur while working with the Avancon OTU, please observe following notes.

| | |
|---|--|
|  | WARNING: The E200, E201 and E202 have piercing contacts. Although the mounting slider covers the piercing contacts while the E20X is not mounted on the dedicated Avancon profiles, careful handling is mandatory |
|  | WARNING: Before using the Avancon OTU ensure that no unauthorized persons are near the conveyor |
|  | WARNING: Only perform installation and maintenance work after the power has been switched off |
|  | WARNING: Ensure that the power cannot be turned on accidentally |
|  | WARNING: Never put your hands / fingers between the conveyor belts / pulleys |

Table 5 - Symbols

2.4 Malfunctioning during operation

At first always check the MMI. If the MMI reports an error event, please intervene on the slave / zone indicated in the error event message. For more information see chapter 5 Troubleshooting.

3 PRODUCT DESCRIPTION

The avancon OTUs are installed on special Aluminum profiles, which fit into each other. The whole table can be easily screwed under or between any profile-frame construction. They can be assembled in length and width in relation to the largest goods to be transported

One OTU element is 75mm x 75mm (length x width) and for that reason, an OTU table is always a multiple thereof.

Other elements like diverter-, merge-, crossing- or junction-elements can be constructed with the same elements and are therefore not specifically described in this operating instruction.

The following table lists some example of conveyor elements:

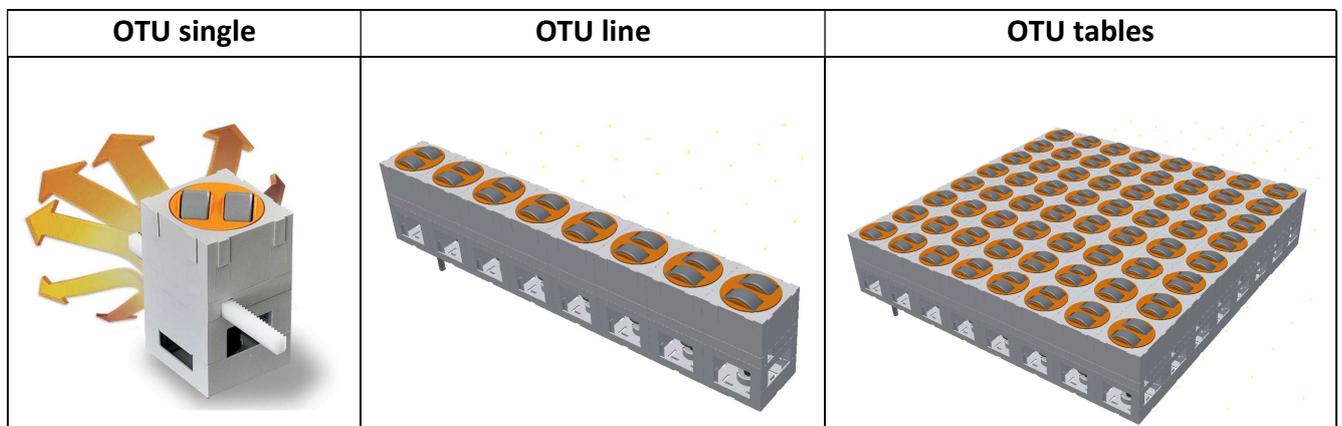


Figure 1 - Example of conveyor elements

There are 2 different aluminium profiles who are used depending of the size of the table as well the purpose of the OTU.

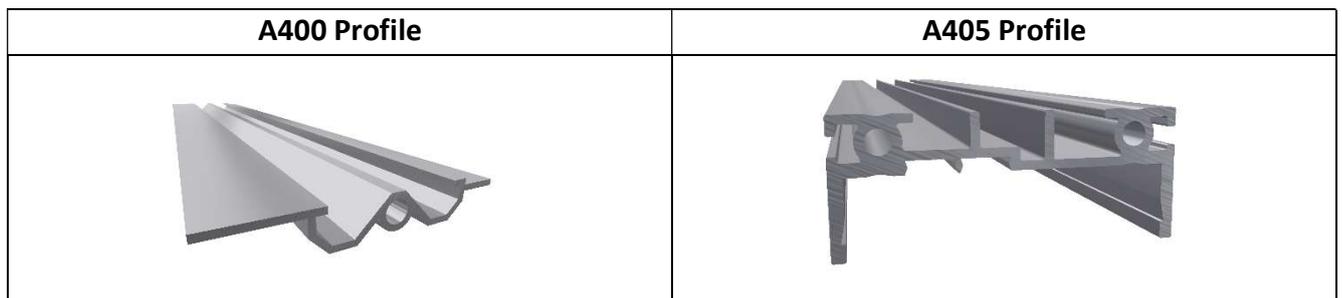


Figure 2 - Example of conveyor elements

Minimum Size using the A405 Profile is an OTU Table

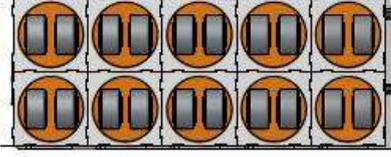
| OTU Table 5x2 (and multiples) | OTU length 1x8 (image right) |
|---|--|
|  |  |

Figure 3 – OTU Minimum Size

4 MAINTENANCE

All Avancon conveyor modules are maintenance free and do not need frequent observation. However, it may occur, that some parts need to be replaced. Depending on what kind of part, a different approach to replace it is needed:

| | |
|---|---|
|  | <p>IMPORTANT: If you clean the conveyor modules from dust, make sure not to use any aggressive cleaners for the cover of the photocell. Otherwise it might become murky.</p> |
|---|---|

4.1 Electronical Visal check

| | |
|---|--|
|  - | |
|  AS-i | |
|  Fault | |
|  IRD | |

Figure 4 – Visual check

4.2 Replacement of an AS-i Box using the avancon Profile.

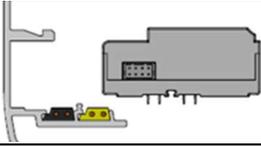
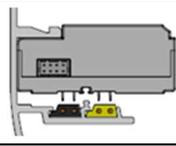
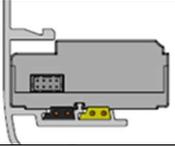
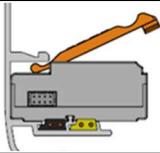
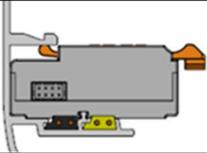
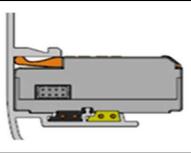
| | | |
|---|---|---|
| <p>Step 1 Take the E200 in your hands</p> | <p>Step 2 Put the E200 in the dedicated slots</p> | <p>Step 3 Push the E200 towards the bottom</p> |
|  |  |  |
| <p>Step 4 Insert the slider</p> | <p>Step 5 Push the slider towards the E200</p> | <p>Step 6 Push the slider towards the profile</p> |
|  |  |  |

Figure 4 – ASI Replacement - A400

In the pictures it is used an A100 Profile. This also applies for the A400 Profile as the base concept is the same

4.3 Replacement of an AS-i Box using the A405 Profile

In order to ensure a quick and easy replacement in case of maintenance or damage on the OTU elements and/or tables, avancon has established following new concept, which is further explained by the following example

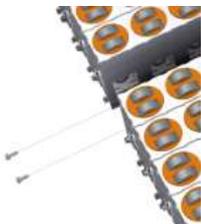
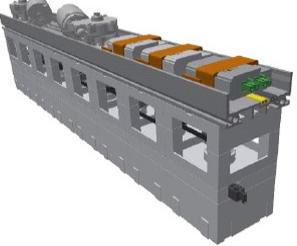
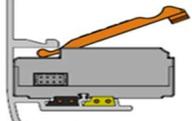
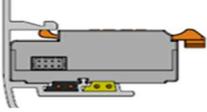
| | | |
|---|--|---|
| <p>Step 1 Remove the OTU Stripe (2x2 screws)</p> | <p>Step 2 Turn the OTU</p> | <p>Step 3 Remove the clipping tool from the AS-I</p> |
|  |  |  |
| <p>Step 4 Remove the AS-I control</p> | <p>Step 5 (replacement) Perform the process from step 4 to 1</p> | |
|  |  | |

Figure 5 – ASI Replacement - A405

4.4 Replacement OTU Line (A405 Profile)

| | |
|---|--|
|  | WARNING: The E200, E201 and E202 have piercing contacts. Although the mounting slider covers the piercing contacts while the E20X is not mounted on the dedicated Avancon profiles, careful handling is mandatory |
|  | WARNING: Before using the Avancon OTU ensure that no unauthorized persons are near the conveyor |
|  | WARNING: Only perform installation and maintenance work after the power has been switched off |
|  | WARNING: Ensure that the power cannot be turned on accidentally |
|  | WARNING: Never put your hands / fingers between the conveyor belts / pullies |

Table 6 - Symbols

1. Stop pack flow in the affected area
2. Disconnection of the power plug
3. Disconnecting the 48V and ASi supply lines
4. Removal of the 4 fastening screws



Figure 6 – OTU Screw

5. Pull out the OTU stripe

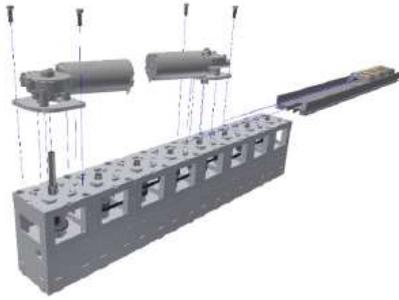


Figure 7 – OTU Screw

6. Replace the OTU line following the reverse procedure

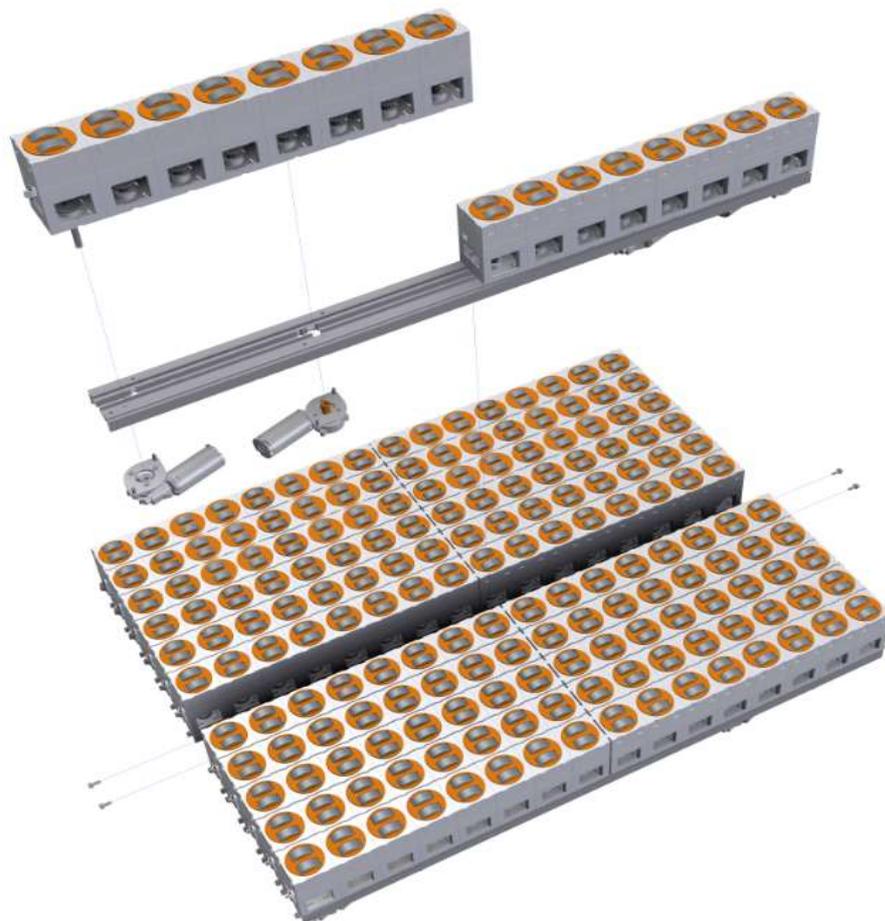


Figure 6 – Replacement of an OTU Stripe

4.5 Rack Replacement

Manually rotate the heads until the rack comes out completely, insert the new rack in such a way that all the heads have the same alignment and the same protrusion as the adjacent, at the same time the direction of rotation of each head will have to be checked. To check the direction of rotation, simply rotate the crankshaft of the rotation with an 8mm spanner. The final configuration of the internal components must be as follows:

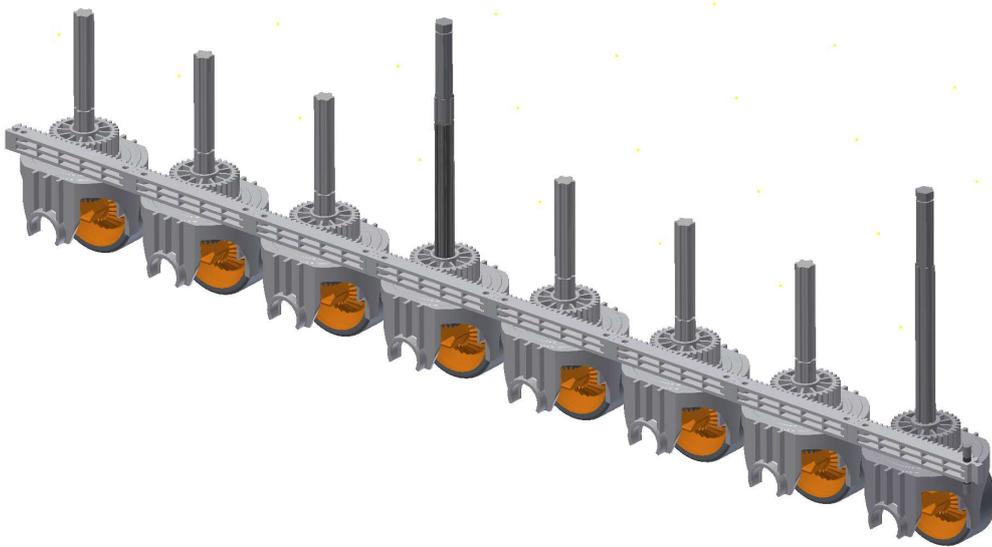


Figure 6 – OTU Racks

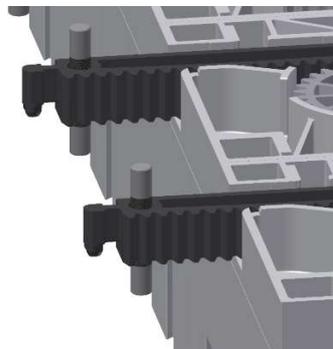


Figure 7 – OTU Rack with Pin

4.6 Exploded view of the OTU

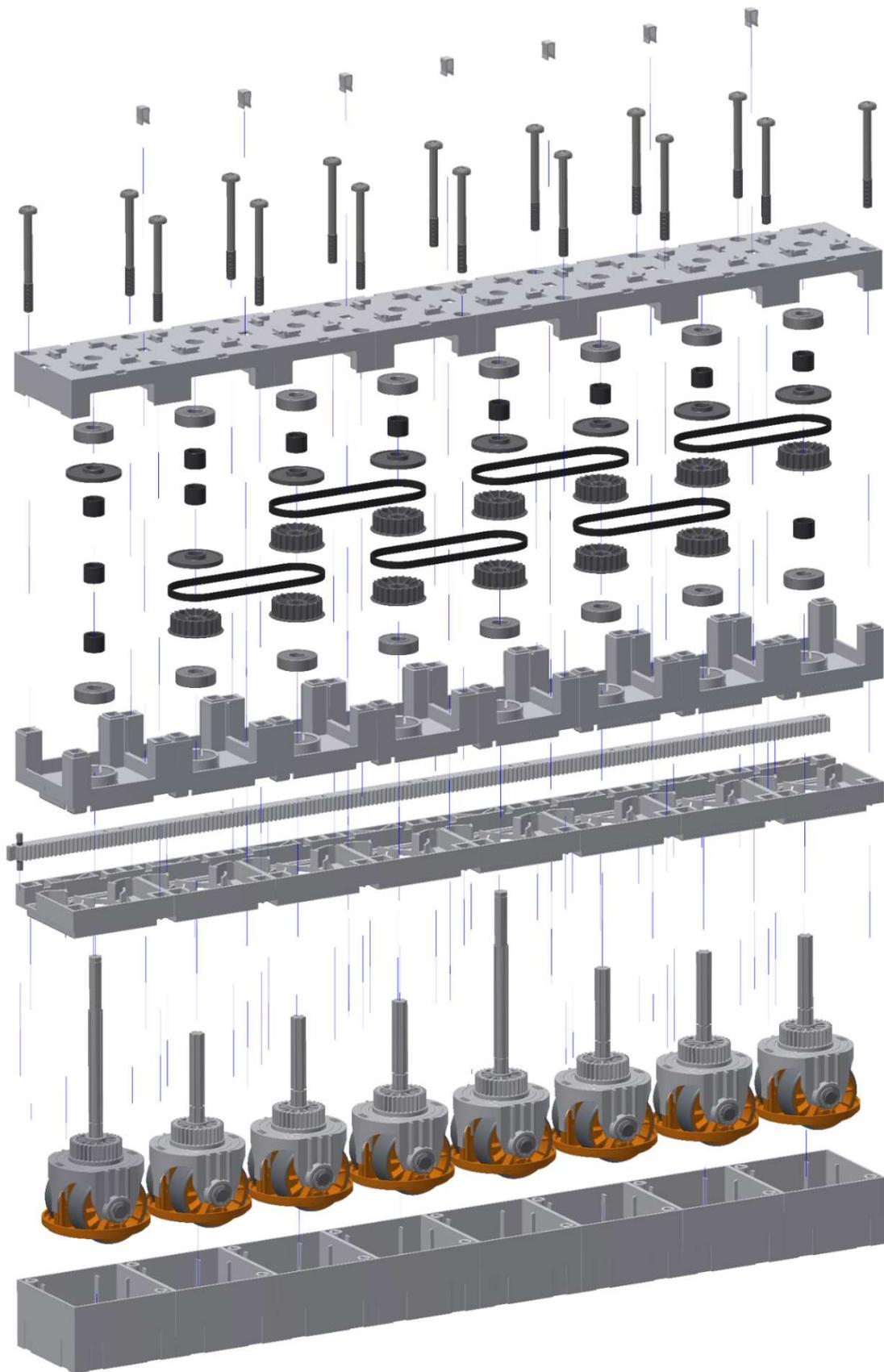


Figure 8 – OTU Exploded

5 TROUBLESHOOTING

For further help please contact Avancon.

6 DISCLAIMER



IMPORTANT: The material in this manual is for informational purposes only. The products it describes are subject to change without prior notice, due to the manufacturer's continuous development program



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