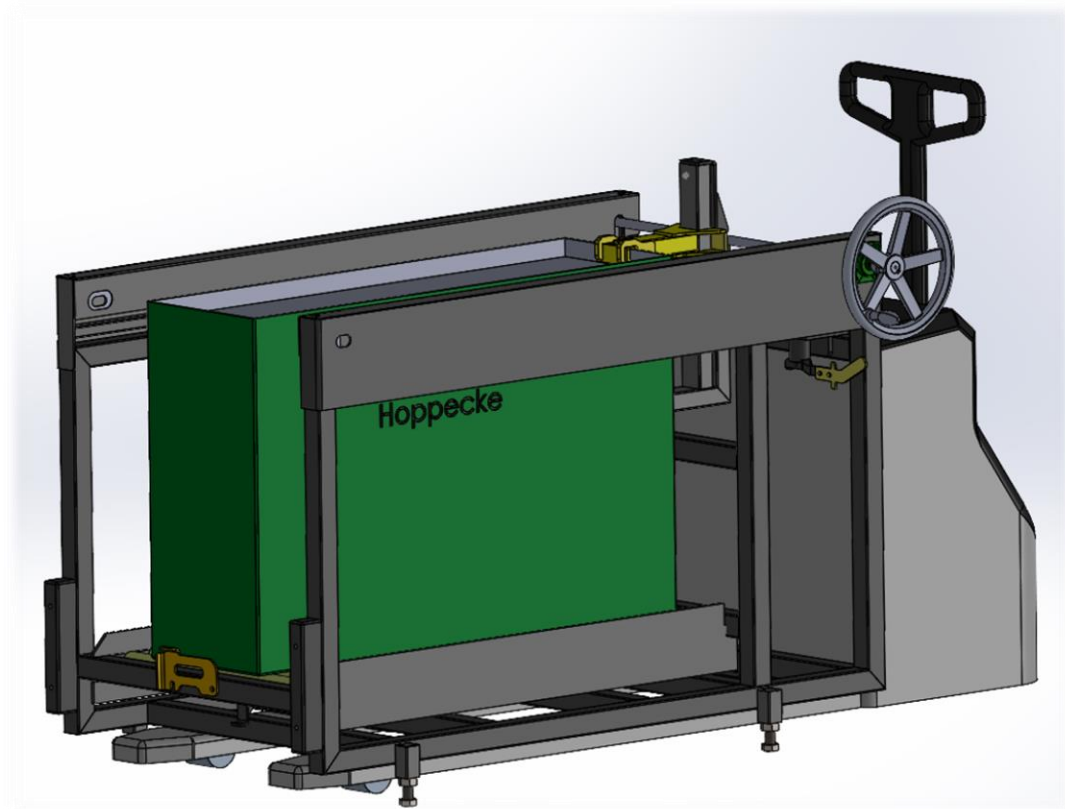


# ORIGINAL OPERATION MANUAL

## *manual battery replacement unit trak / Xchange MU*



**Modell:** MU

## Inhaltsverzeichnis

1	General remarks.....	3
2	General description .....	4
3	Operation instruction .....	5
3.1	Loading batteries into the MU.....	6
3.2	Unloading batteries from the MU .....	7
4	Basic maintenance .....	8
4.1	Current maintenance.....	8
4.2	Periodic maintenance.....	8
4.3	Refurbishment of the unit .....	9
5	Occupational health and safety requirements.....	9
5.1	IT IS STRICTLY PROHIBITED TO:.....	9
6	Spare parts list .....	10
7	Warranty .....	10
8	contact .....	11
8.1	HOPPECKE Service: .....	11
8.2	Centrale - Brilon: .....	11

## 1 General remarks

- 1) This manual is part of the unit and must:
  - a. be accessible to maintenance and operation personnel at all times;
  - b. be read before using the unit; and
  - c. be complied with during operation.
- 2) The user is obligated to observe the health and safety requirements contained in this documentation and to comply with all applicable occupational health and safety regulations that are in force at the facility.
- 3) If the safety notes contained in the documentation are observed, there is no imminent danger to life or health of the operating and maintenance personnel.
- 4) Operation and maintenance personnel are those persons who are responsible for the installation, operation, maintenance, and repair of the unit.
- 5) All rights to this documentation, especially the right of reproduction and distribution, as well as translation rights, remain the property of the manufacturer.
- 6) The manufacturer reserves the right to make changes to the contents of the documentation in the interest of technical progress.
- 7) It is prohibited to:
  - a. allow persons who have not been trained in the operation of the unit to operate or manipulate the unit;
  - b. carry out any repair or maintenance work while the unit is in operation.
- 8) The user is obliged to assess the compliance of the unit with the requirements of the Regulation of the Minister of Economy of 3 October 2009, Journal of Laws no. 206, implementing Directive 2009/104/EC concerning the minimum safety and health requirements for the use of work equipment by workers at work.

### NOTE:

**OPERATION OF THE UNIT MAY BE PERFORMED ONLY BY AUTHORIZED PERSONS!**

**THE OPERATOR MUST READ THIS INSTRUCTIONS BEFORE WORKING!**



Any changes in the construction of this unit unauthorized by Imponex Mariusz Kubiak or failure to comply with the provisions of this **DOCUMENTATION** will result in the loss of warranty rights. Imponex Mariusz Kubiak shall not be liable for accidents and damage resulting from failure to comply with this manual.

## 2 General description

The MU manual battery replacement unit, hereinafter referred to as unit, is designed solely for the replacement and installation of batteries that power electric transport trucks of the weight and size (listed below) from a transport truck (including a forklift) into the compartment of the unit.

Maximal battery dimensions: **1250 (L) x 1000 (B) x 784 (H) mm**

Maximal battery weight: **2.250 kg.**

The device is designed for use with a powered pallet truck with an adapted nominal operating load.

The battery change with the MU car may only be carried out at walking pace.

The device must not be used for applications that are incompatible with the areas of application intended by the manufacturer.

### 3 Operation instruction

The design of the MU type battery changing unit is shown in the figure below.

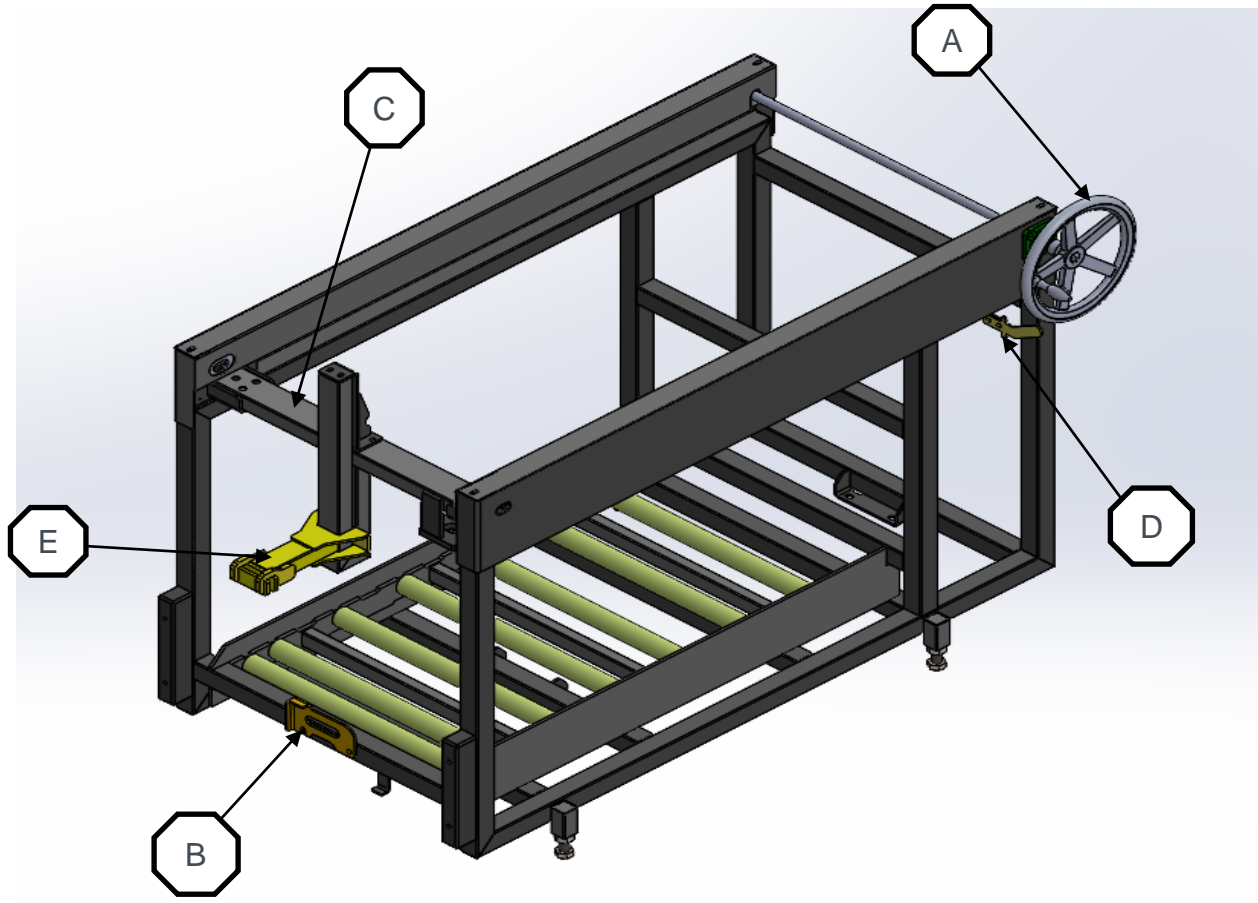


Fig. 1 Design of the unit

The unit is used to replace and transport batteries with the dimensions specified above. It consists of a battery frame (compartment) with a roller conveyor in the lower part and a mechanism for introducing batteries into the compartment. The unit is operated by a single operator.

#### NOTE

The unit may only be operated by authorized personnel who have been fully trained in its use and its limitations.

### **3.1 Loading batteries into the MU**

- Check the overall technical condition of the unit and that its various parts are in a perfect working order. Also check all connections of the components of the conveyor system for any play. Never use a damaged unit.
- Verify that the battery that needs to be moved has been disconnected from all power terminals.
- Adjust the safety latch (B) to a horizontal position so that it does not restrict the transport of the battery to the unit.
- Place the entire unit on the same level opposite the battery that needs to be replaced. Check the level between the top of the roller and the bottom of the battery. Also check if the center of the unit is aligned with the center of the battery being transported.
- The transport drawbar (E) must be raised as far as possible.
- Use the crank (A) to drive the truck (C) to the battery hitch.
- Lower and secure the drawbar (E) to the battery.
- Use the crank (A) to start removing the battery from the truck compartment. During this operation, make sure that the battery is level with the rollers (a minor adjustment may be necessary, which should be done before removing the battery completely).
- When the battery is fully transferred, the battery safety lock (B) on the lower front part of the unit must be in the vertical position to prevent the battery from sliding out of the unit. When the battery is fully retracted, the rear locking mechanism (D) on the transport arm and the rear end of the MU (C) will be locked, preventing the battery from moving. Leave the battery bracket (E) on the battery until you need to move the battery from the unit.

### **3.2 Unloading batteries from the MU**

Discharge the battery from the MU in the same way but in the reverse order.

- To remove the battery from the unit, place the front surface of the battery on a rack or a truck, checking the heights of the rollers and the bottom of the battery (they must be at the same level), and checking the alignment of the sides of the battery before performing the transfer.
- Slide the battery safety latch (B) to the lower position to allow the battery to pass over it.
- Unlock the lock latch (D) of the transport truck (C) - it must be raised.
- Use the crank (A) to start moving the battery from the truck compartment.
- Once the battery is in a safe position, remove the bracket (E) from the battery, taking care not to touch the terminals. Then, using the crank (A), move the truck to the initial position.

Upon completion of the battery replacement process, return the unit to the assigned safe storage location and document its use as required.

## 4 Basic maintenance

**NOTE: Failure to comply with the following recommendations may contribute to damage of the MU and an accident.**

Observing the following instructions will considerably reduce the wear and tear of individual parts of the roller table and will therefore have a decisive impact on the reliability and service life of the entire conveying unit. Personnel operating the unit must be absolutely familiarized with the principle of operation, with the design of the entire system, with the maintenance schedule and methods in order to properly diagnose the technical condition and, consequently, to make the appropriate repair and maintenance decisions.

### Cleaning

Dry cleaning of the conveyor is recommended, but damp cloths moistened with a detergent solution may also be used for cleaning. The conveyor must dry after cleaning. Its use may be started after the unit has become dry.

### 4.1 Current maintenance

A routine maintenance check should be performed by the operator **daily before using the unit**. It consists in checking the general technical condition of the unit, checking the condition of the screw connections, and observing the unit during operation. When the unit is running, watch for excessive noise or vibration of the system. If these problems occur, stop operation immediately and determine the cause of this condition.

Special attention should be paid to the work of:

- The battery lock mechanism B;
- The transport truck lock latch mechanism D;
- The chain tension;
- The technical condition of the drawbar E; and
- The technical condition of the conveyor rollers.

### 4.2 Periodic maintenance

As a part of periodic maintenance, the grease of the locking latch of the transport truck should be refilled once a month.

We recommend the use of lithium grease based on mineral oil compliant with DIN 51502.



#### 4.3 Refurbishment of the unit

**The unit should be refurbished once a year or after 6,000 hours of unit operation, whichever occurs earlier.**

Refurbishment activities:

- tighten all bolts and nuts, and replace them if necessary;
- clean the entire system and the mating surfaces;
- check of the general technical condition of the unit;
- replace all idle rollers and fasteners (bolts), regardless of their condition;
- check the condition of the welded joints of all components of the conveyor system;
- check the correct operation of the unit;
- replace the fast wearing parts as listed below in section 8.

### 5 Occupational health and safety requirements

1. Before starting work, the operator must be properly trained and the particularly dangerous areas must be pointed out to him or her.
2. Persons over 18 years of age may operate the unit, after appropriate training on this type of equipment.
3. The operator should be thoroughly familiar with the operating regulations for mechanical equipment, and should know and strictly follow the maintenance instructions for the unit.
4. Operating the unit after consumption of alcohol is strictly prohibited.
5. Before starting work, check if the unit is ready for operation and that no danger to personnel or other equipment, systems, etc. will occur when using the unit.

#### 5.1 IT IS STRICTLY PROHIBITED TO:

1. Use the unit contrary to this manual;
2. Allow operation of the unit by unauthorized persons;
3. Make any repairs to the unit while it is in motion or with batteries loaded; and
4. Use a unit that is defective or not ready for operation.
5. ein defektes oder nicht betriebsbereites Gerät zu nutzen.

## 6 Spare parts list

No.	Name	Parameters	Type	Quantity [pcs]	Manufacturer Supplier
1	<b><i>Adjustment feet</i></b>	M22, L=80 mm		4	HOPPECKE Poland
2	<b><i>Support roller</i></b>	Ø 48.3, L=650 mm,	R48/650	10	HOPPECKE Poland
3	<b><i>Chain</i></b>	08B1 ½	roller	3.4 m	HOPPECKE Poland
4	<b><i>Toothed wheel</i></b>	16Z 08B-1	DIN 8192	2	HOPPECKE Poland
5	<b><i>Toothed wheel</i></b>	12Z 08B-1	DIN 8192	2	HOPPECKE Poland
6	<b><i>Crank</i></b>	D315	DIN 950	1	HOPPECKE Poland

## 7 Warranty

The equipment is covered by a warranty for a period of 12 months from the date of purchase or hand over.

The warranty does not cover fast wearing parts, as well as:

- flexible elements, slides;
- bolted connections;
- bearings; and
- the chain.

## **8 contact**

### **8.1 HOPPECKE Service:**

In the event of a malfunction, contact Hoppecke Service:

Tel: +49 (0) 800 246 77 32

Fax: +49 (0) 2963 61-543

E-Mail: [service@hoppecke.com](mailto:service@hoppecke.com)

Please have the data on the nameplate ready if you have any questions or problems.

### **8.2 Centrale - Brilon:**

#### **HOPPECKE Batterien GmbH & Co. KG**

Bontkirchener Str. 1

D - 59929 Brilon

Tel: +49 (0) 2963 61-0

Fax: +49 (0) 2963 61-449

E-Mail: [info@hoppecke.com](mailto:info@hoppecke.com)

