

# **USER MANUAL**

## **EPS-AS1 PALLET ROLLER**



**RULMECA®**

MOVING AHEAD



# INDEX

<b>1.</b>	This Technical Manual is protected by copyright	2	<b>12.</b>	Operation	12
<b>2.</b>	Information on using the technical manual	2	12.1	General Information	12
<b>3.</b>	Legislation adopted	3	12.2	Installation of EPS-AS1 in mounting brackets	12
<b>4.</b>	Basic safety instructions	3	12.3	Ambient Temperature	12
<b>5.</b>	General Information on This Manual	3	<b>13.</b>	Conveyor Commissioning Procedure	13
<b>6.</b>	Warning Information	4	<b>14.</b>	Procedure in the event of accidents faults	13
<b>7.</b>	Safety	4	14.1	Reversing Conveyors	13
7.1	Intended Use	4	<b>15.</b>	VFD curve	14
7.2	Unintended Use	5	<b>16.</b>	Transport and Storage	14
7.3	Qualified personnel	5	16.1	General Information	14
7.4	Safety information	5	16.2	Transport	14
7.5	Faults	5	16.3	Storage	14
7.6	Prohibition	5	<b>17.</b>	Maintenance	15
7.7	Installing the product in complex systems	5	17.1	EPS Roller check Cleaning	15
7.8	Residual risk	6	<b>18.</b>	Replacement Parts and Accessories	15
<b>8.</b>	Product description	6	18.1	Motor Thermal Protection	15
8.1	Key Machine Specifications	6	18.2	Integrated electromagnetic brake:	15
8.2	Technical Data	6	18.3	Frequency Converter	16
8.3	Connection Diagrams	7	Disposal	16	
<b>9.</b>	Product Information (label)	8	<b>19.</b>	Appendix	17
<b>10.</b>	Dimensions	9	19.1	Troubleshooting	17
<b>11.</b>	Assembly and Installation	10	<b>20.</b>	Warranty Terms	18
11.1	Assembly	11	<b>21.</b>	Conformity declaration	19
11.2	Installation	11			
11.3	Before installation	11			
11.4	Motor protection	11			
11.5	Electrical connection	11			
11.6	Commissioning	11			

## 1. THIS TECHNICAL MANUAL IS PROTECTED BY COPYRIGHT

---

The owner of the copyright for this Technical Manual is Rulli Rulmeca S.p.A. This document contains design instructions and applicational and technical drawings. No part of this Technical Manual may be reproduced or disclosed.

Any transfer of this manual to third parties must be authorized beforehand by Rulli Rulmeca S.p.A. Rulli Rulmeca S.p.A. is authorized to transmit this document to the end customer and it is recommended to include this document in the machine's technical documentation.

## 2. INFORMATION ON USING THE TECHNICAL MANUAL

---

This technical manual contains instructions for choosing and installing the EPS-AS1 Pallet Roller. Read this technical manual carefully before installing the EPS-AS1 product, and preferably even before designing the electrical circuit that will power and control the roller.

The manufacturer declines all responsibilities for any damages and anomalies of operation resulting from non-observation of this manual.

Rulli Rulmeca S.p.A. and its subsidiaries accepts no liability for damages to objects, personal injury, harm to processes or operating faults arising from noncompliance with the instructions contained in this manual.

This manual is supplied to the customer if it is specifically requested. In addition to the EPS-AS1 product, a simplified installation manual is supplied. This summarizes the main installation and electrical wiring guidelines and contains the relevant notices and warnings.

The validity of this Technical Manual is limited by the edition shown at the bottom.

The product and the technical manual are linked together by the edition of the document, by the date of delivery of the product and by the serial number on the Drive Roller.

The present document may be subject to change at any time without notice.

This document is valid only for standard non-customized EPS-AS1 products. Customized products are all those versions or uses not listed in the catalog when the product is delivered.

If you have further doubts or problems that are not specified in this manual, please contact Rulmeca's Customer Care before starting maintenance work.

**The latest edition of this technical manual can be consulted and downloaded from**

<http://rulmeca.com>

### 3. LEGISLATION ADOPTED

---

The EPS-AS1 roller is classified like a partly completed machinery following the Machinery Directive 2006/42/EC (Annex II B)

### 4. BASIC SAFETY INSTRUCTIONS

---

The EPS-AS1 product is manufactured in compliance with manufacturing regulations and is delivered in perfect working order. Each component is tested before assembly, just as each EPS-AS1 is tested thoroughly before being handed over to the customer.

Failure to comply with the notices in this manual can cause safety problem. We therefore recommend:

- Always read this manual in its entirety before starting to install the EPS-AS1 product.
- Strictly observe the technical and safety instructions contained in this manual.
- Only qualified and trained personnel is authorized to install the EPS-AS1 product.
- Always comply with current safety standards.

### 5. GENERAL INFORMATION ON THIS MANUAL

---

This document refers to the Rulmeca EPS-AS1 Roller.

All information can be accessed in electronic format at <https://www.rulmeca.com/>

This manual contains important information on the operating phases and functions of the EPS-AS1 Roller, as well as its additional components.

The manual describes the EPS-AS1 Roller at the time of delivery by RULMECA.

Non-compliance with the instructions and indications may shorten the service life and damage the product.

**CAUTION! The manufacturer assumes no liability for malfunctions or damage resulting from non-compliance with these instructions.**

- Follow these instructions for the correct and safe use of the product!
- Keep this manual close to the EPS Roller for future reference!
- If you have any further questions, please contact RULMECA.

## 6. WARNING INFORMATION

---

The following signal words are used to identify and classify possible hazardous situations when handling the EPS Roller.

### **DANGER**

Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

### **WARNING**

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

### **CAUTION**

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

### **NOTICE**

Indicates information considered important but not hazard related. Used for activities that result in property damage.

## 7. SAFETY

---

The EPS Roller has been designed in accordance with the current state of the art and is delivered in a safe and reliable condition. However, hazards may arise during use.



**WARNING** Read and follow all operating instructions carefully to prevent possible injury or death!



**WARNING** All work carried out on the device may only be performed by authorised qualified personnel in compliance with applicable regulations.



**WARNING** Hazardous voltage! Installation and maintenance work must only be carried out when the unit is disconnected from the power supply. Secure the motor against unintentional switching on.



**DANGER** Explosion risk! Do NOT use the EPS Roller in hazardous areas.

### 7.1 Intended Use

---

- in conveyor systems
- in material handling
- in unit handling

The EPS-AS1 roller must be integrated into a conveyor unit or system in industrial environments.

The EPS AS1 is designed exclusively for the described range of use.

All other types of use are considered improper.

The EPS AS1 is designed exclusively for intermittent periodic duty S3: a sequence of identical duty cycles, made up with a time of operation at constant load and a time at rest. Unauthorized modifications that impair the safety of the product are not permitted.

**Operate the EPS Roller only within the specified power limits and specified cycle.**

## 7.2 Unintended Use

---

The EPS-AS1 cannot be a drive for lifting ropes.

The EPS-AS1 roller is not designed for transport of people and cannot withstand shock or impact stress.

The EPS-AS1 is not designed for continuous rotation (S1 cycle, S2 cycle).

Do not use the EPS-AS1 in ATEX environment.

Underwater use is considered highly improper. It might cause damage to people due to electric shock.

All applications beyond the intended use of the EPS-AS1 need the authorization of Rulmeca. Rulmeca has no responsibility for damages or failure of the product resulting from improper use.

The EPS-AS1 cannot be installed in outdoor applications.

## 7.3 Qualified personnel

---

Qualified personnel are persons who are able to read and understand this technical manual and perform tasks competently, in compliance with local regulations.

Only qualified and trained persons are authorized to work with the EPS-AS1 roller. They are able to use and understand perfectly:

- manuals and technical drawings;
- instructions on intended use and unintended use;
- mechanical assembly and electrical wiring;
- national and international health and safety regulations.

## 7.4 Safety information

---

All the maintenance and repair work on the machine where the EPS-AS1 roller is integrated must only be performed by qualified and authorized persons in strict compliance with current regulations.

Before starting up the system, make sure that no unauthorized persons are near the conveyor. Any presences must be known and there must be no misunderstandings or difficulties in immediate communication.

Electrical installation and maintenance work

must be performed only after electrical tension has been disconnected and locked out and electrical discharges have been eliminated.

During maintenance and/or installation, make sure that it is not possible to unintentionally start parts that are able to cause the conveyor to move (including EPS-AS1 roller). Do not walk on the EPS-AS1 roller or on the conveyor / facility in which it is installed. When working on the conveyors (whether assembling or maintaining them), all the required personal protective equipment (PPE) must be worn to avoid possible accidents.

## 7.5 Faults

---

Visually inspect EPS-AS1 roller regularly. If smoke or noises come from the EPS-AS1 roller or components splined on or connected to it, stop the conveyor immediately and put the system in a safety stop state. Inform qualified personnel and assigned workers immediately to identify the cause of the problem and fix it.

## 7.6 Prohibition

---

It is explicitly forbidden to tamper any part of the EPS-AS1 roller.

It is forbidden to dismantle the product. Dismantling the product (or part of it) and removing the product by breaking its parts voids the warranty.

Do not dump the product when it comes to the end of its life, comply strictly with the waste disposal regulations in force in the country in which it is disposed of.

## 7.7 Installing the product in complex systems

---

The EPS-AS1 roller can be installed in conveyors that are part of complex logistic systems and logics. This technical manual refers to the EPS-AS1 roller only.

Consult the system documentation delivered by the conveyor manufacturer to understand the general hazard points.

New dangerous factors and areas may come as a result of the EPS-AS1 integration into a complete system. These factors and zones

are not part of this manual and have to be analyzed during the design, installation and commissioning of the complete system.

**It is recommended to position the EPS-AS1 roller at the center of the motorized zone. This ensures the optimal distribution of torque transmitted through the chain loops. The EPS-AS1 roller must not be exposed to accidental impacts that may occur during packages handling, both during loading and unloading operations from the roller conveyor.**

**It is responsibility of the machine manufacturer to deliver specific documentation and certification for the machine that are required by the regulations of the country in which the conveyor is going to be used.**

## 7.8 Residual risk

Feeding the EPS-AS1 drive roller with a different power supply voltage from that indicated in this Technical Manual may cause damage to people and/or things located nearby the conveyor.

There are no further residual risks that may damage the conveyor or the operators near it. Please contact the Rulmeca technical office for the complete residual risks analysis related to the EPS-AS1 roller use.

## 8. PRODUCT DESCRIPTION

The EPS-AS1 roller is a completely enclosed electrical drive roller, with the gear box, electric motor and bearings located inside the drive drum. This construction results in an EPS-AS1 roller with a very compact design and all the internal components are protected against external factors. The EPS-AS1 roller runs oilless and can be used in different environments with fine dust exposure.

### 8.1 Key Machine Specifications

Technical data and specifications, as well as additional information and illustrations regarding the technical specifications of the EPS Roller and its accessories can be found in our catalogue.

### 8.2 Technical Data

Type of motor	Asynchronous squirrel-cage
Insulation class	Class F, IEC 34 (VDE 0530)
Voltage	400 V $\pm$ 5% (IEC 34/38)
Frequency	50/60 Hz
Protection rate	IP54
Thermal protection	Bimetallic Contact 140°C
Ambient temperature,	
3-phase motor	-5 to +40 °C
Cycle times	
(duty cycle D50)	130 pallets per hour
Ramp time	$\geq$ 0.5 s
Cable	Standard cable, screened, length: 3 m

#### Technical data electric PS Roller 50Hz - Standard

$P_N$ [kW]	np	rpm	$f_N$ [Hz]	$U_N$ [V]
0,07	2	2778	50	400

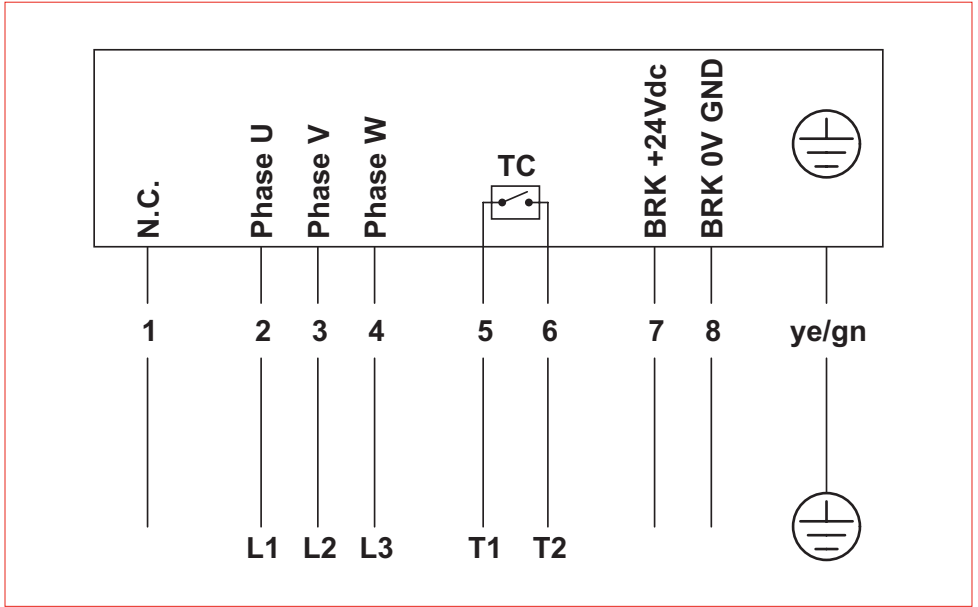
  

$I_f$ [A]	Cosphi	$V_N$ [m/s]	$M_N$ [Nm]	$R_m$ [ $\Omega$ ]
0,25	0,74	0,2	14,60	90,00

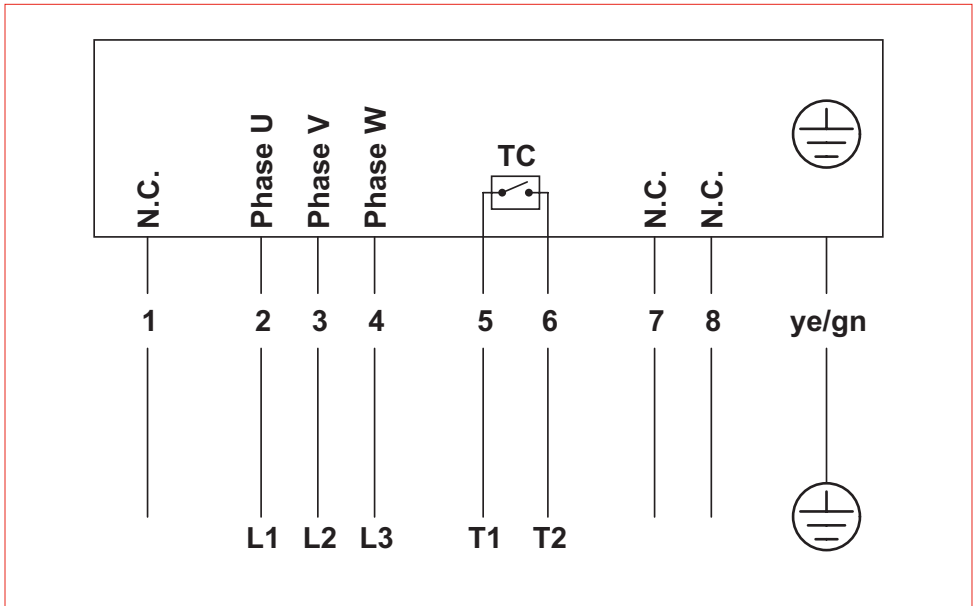


### 8.3 Connection Diagrams

#### EPS-AS1 brake version

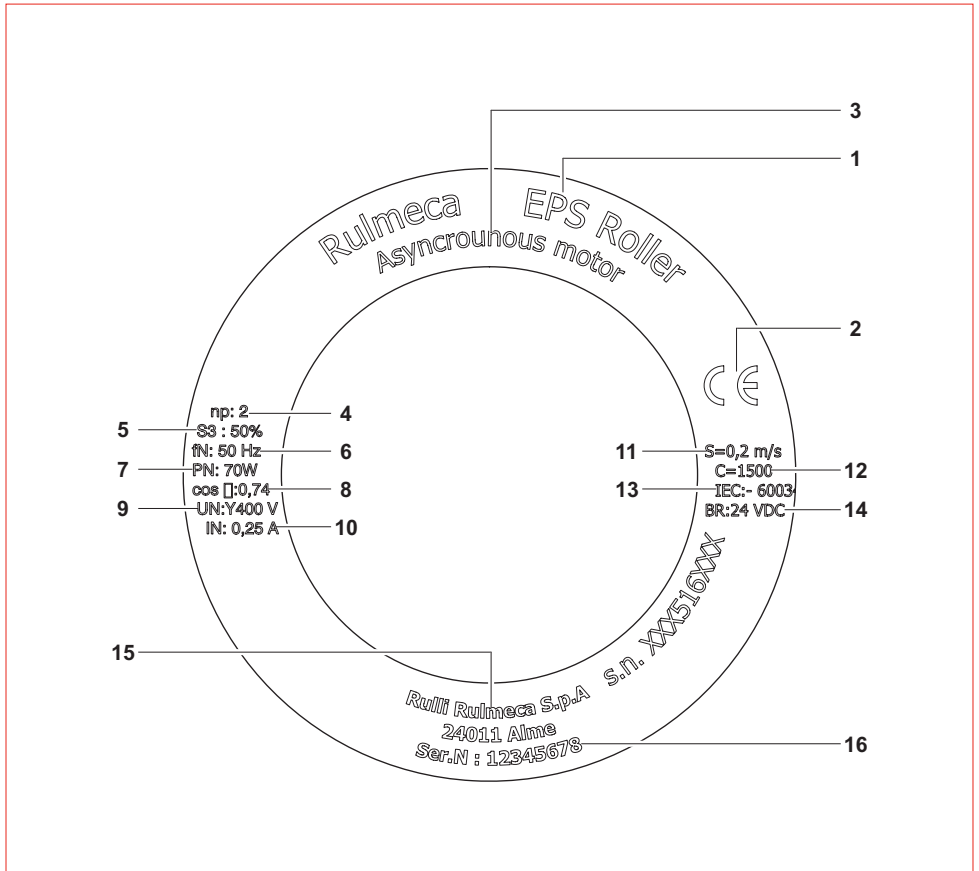


#### EPS-AS1 std version



## 9. PRODUCT INFORMATION (LABEL)

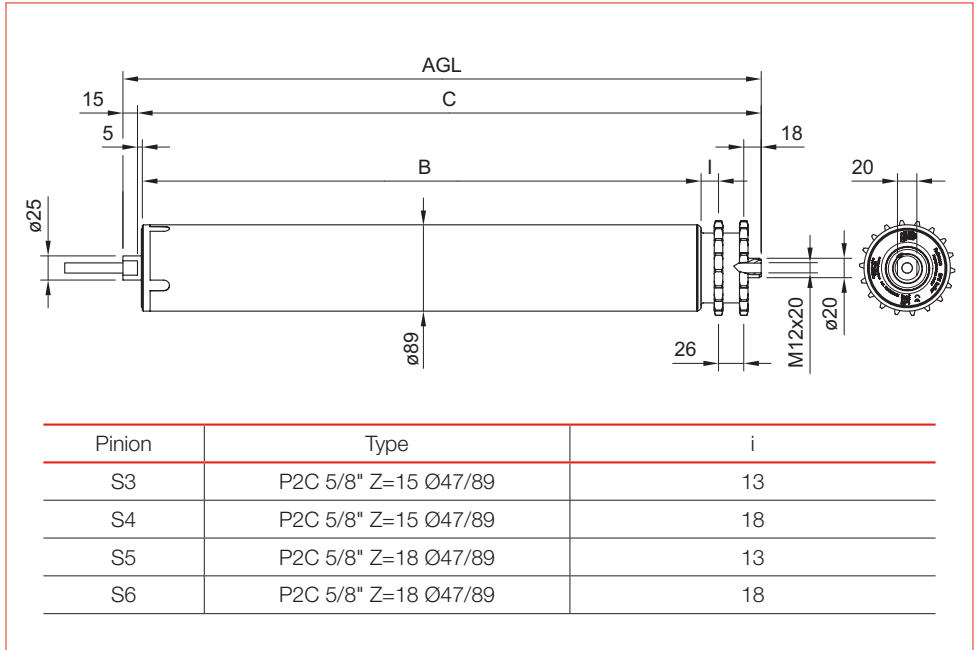
The data on the Pallet Drive nameplate are used to identify it.



<b>1</b>	Product name	<b>10</b>	Rated current
<b>2</b>	CE mark	<b>11</b>	Average speed (50 Hz)
<b>3</b>	Motor type	<b>12</b>	C roller dimension
<b>4</b>	Poles number	<b>13</b>	International Electrotechnical Commission: standard for drum motors
<b>5</b>	Duty cycle	<b>14</b>	Brake data (optional)
<b>6</b>	Rated frequency	<b>15</b>	Manufacturer address
<b>7</b>	Rated power	<b>16</b>	Serial numbers
<b>8</b>	Power factor		
<b>9</b>	Rated voltage		

## 10. DIMENSIONS

All length-related dimensions in the catalog and in the manual comply with the requirements of DIN/ISO 2768 (medium quality).



	Standard version	Stationary brake version
<b>C min</b>	550 mm	610 mm
<b>C max</b>	1500 mm	1500 mm

# 11. ASSEMBLY AND INSTALLATION

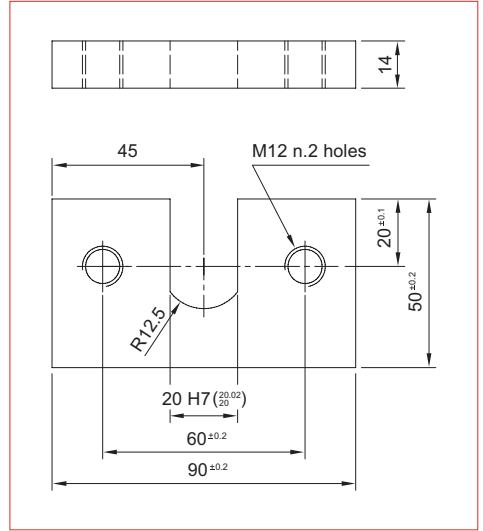
## 11.1 Assembly

- Ensure that the date plate information corresponds to your specification.

### NOTICE

**Overload of the conveyor drive motor and premature wear of EPS Roller surface due to high friction!**

- Avoid roller misalignment.
- Assemble the EPS Roller as follows:
  - horizontal
  - parallel to the idler rollers and
  - perpendicular to the conveyor centerline.
- Using the mounting bracket included with EPS-AS1 is recommended
- Please check that 100% of the EPS-AS1 key flats are supported by the bracket (cable side)
- Please check that the distance between the flats and the holder is free of play.
- When installed without brackets, EPS AS1 shaft end, cable side, must be mounted in a suitable recess in the frame of the roller conveyor. Please refer to mounting bracket design.



EPS-AS1 mounting bracket



## 11.2 Installation

---

The electrical installation/connection must be carried out by a licensed electrician and comply with local electrical standards. The motor must be connected and secured in accordance with the code of the National Electrical Standard.



**DANGER Hazardous voltage! Failure to follow the instructions below may result in electric shock, severe burns or death.**

## 11.3 Before installation

---

1. Make sure that the mains voltage corresponds to the voltage of the EPS roller.
2. Switch off the power supply.
3. Secure the power supply against being switched on again by third parties.

## 11.4 Motor protection

---

- **Always install the motor control system together with a suitable motor protection (e.g. an overload switch).**



Always install the motor together with a soft starter or a VFD to make sure that the ramp time is  $\geq 0,5$  s. to avoid mechanical shocks in the gearbox.

- Protect the motor from possible voltage spikes and excessive jogging.
- Adjust the motor protection device according to the rated current (see data plate) of the EPS roller.
- Long life tests carried out during product development, employed the soft start Schneider Altistart01 ATS01N103FT.

## 11.5 Electrical connection

---

- Connect the EPS Roller according to the connection diagram.
  1. Check that the motor protection is set correctly.
  2. Ensure protection against electric shock.
- Cable option: Connect the green/yellow wire to the protective conductor of the main supply.



Marking of the earth screw

## 11.6 Commissioning

---

Whenever the devices are required to run at an exact speed value, frequency inverter needs to be used.

**The actual speed can differ from rated speed of 8%. Rated speed is measured at full load, rated frequency and rated voltage.**

Before commissioning:

- Make sure that the data plate and the customer specification match.
- Ensure that:
  - the electrical connections are correct.
  - the EPS Roller is free to rotate.

## 12. OPERATION

---



**CAUTION** Do not put the EPS Roller into operation until the machine in which it is to be installed complies with the Machinery Directive 2006/42/EC.

### **DANGER**

**Load instability on the conveyor**

An unexpected start of the device could make the loads on the roller conveyor unstable. As a result, loads can fall and hit or fatally injure people.

### 12.1 General Information

---

#### **Attention!**

- Operate the EPS Roller only, when:
  - it is correctly installed;
  - It is correctly connected to the power supply;
  - its rotating parts are secured from accidental touch;
  - people are at safe distance from the conveyor.



**WARNING** Rotating parts! Moving parts can crush and cut. Do not reach between EPS Roller and chain. Operate the EPS Roller only with a suitable guard.

### 12.2 Installation of EPS-AS1 in mounting brackets

---

Install sturdy mounting brackets to the machine frame to oppose the motor torque and resist to the weight. Check parallelism and right distance among elements. 100% of the key surfaces of the EPS-AS1 are inside the brackets, free from play. The EPS-AS1 roller can also be installed without mounting brackets if a corresponding recess in the conveyor belt frame has been designed to be in compliance with the previously listed features.

#### **Test run:**

1. Attach the shaft of the EPS Roller to a test frame or conveyer frame.
2. Secure the shell against shell against accidental touch.
3. Start the Electric pallet roller.

### **NOTICE**

Make sure that the body temperature of the EPS Roller does not exceed 70 °C.

### 12.3 Ambient Temperature

---

- EPS Roller are designed and tested under full load for a use in a maximum ambient temperature of +40 °C.
- In case of transport of hot materials and/or ambient temperatures higher than +40 °C the heat dissipation deteriorates.
- This may result in:
  - Motor winding protection being switched off
  - Motor winding burning out due to constant overtemperature.
- In case of ambient temperatures lower than -5 °C and higher than +40 °C, **contact RULMECA.**



## 13. CONVEYOR COMMISSIONING PROCEDURE

---

- Check that the rollers of the roller conveyor rotate freely.
- Check that all the fixing screws are tightened correctly and with the correct torque setting.
- Check that electrical wiring complies with specifications.
- Check that function settings are correct.
- Check that all the connection cables are properly posed to avoid short circuits with metal structures.
- Make sure that any movable items (gate or carriages) do not damage cables or electrical parts as they move.
- Make sure that all the protection systems are working.
- Before starting up the machine, make sure that there are no people in hazard areas.
- Make sure that all the moving parts, transmission items are properly guarded (where necessary) or protected from accidental contact.
- Keep fingers, hair and loose clothing at a safe distance from moving parts.
- Check the roller conveyor for damage occurred during assembly. If any problem is found, the foreman must proceed to fix it before running the conveyor.
- Make sure the environmental conditions are compatible with the specifications for every single component of the machine.
- Make sure that all metal parts (roller support profiles, rollers, EPS-AS1 rollers and any movable parts of the roller conveyor) are grounded.
- Make sure that all the emergency pushbuttons are working and are connected correctly.
- Only after the check list has been successfully completed, the conveyor can be commissioned.

After a period of monitoring of the operating cycles and the material flow, proceed with logic (software) or mechanical corrections.

After a certain period, upon completion of the system test, check again that the fixing screws have been tightened by the correct amount and check the wiring again.

## 14. PROCEDURE IN THE EVENT OF ACCIDENTS FAULTS

---

### DANGER

#### Load instability on the conveyor

**An unexpected stop of the device could make the loads on the roller conveyor unstable. As a result, loads can fall and hit or fatally injure people.**

If accidents or faults occur, proceed as follows:  
Press the emergency switches to stop the conveyor IMMEDIATELY.

Wait for all the packages in transit on the conveyor to come to a stop before occupying the transit routes.

In the event of an accident, give first aid and alert the competent authorities, describing the accident as accurately as possible.

Inform the person responsible for machine safety. With the emergency state activated (with power supply units disconnected) and in total safety of all the other systems operating on the conveyor, remove the cause of the fault.

When system status has been restored, make sure that no persons are working on it and restart the system.

### 14.1 Reversing Conveyors

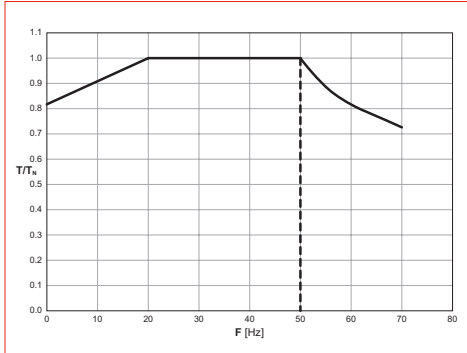
---

- All EPS Roller are reversible.
  - Design the conveyor drive control system so that the EPS Roller comes to a standstill before it starts in the reverse direction.

## 15. VFD CURVE

### VFD parameters

Clock frequency	8 or 16 kHz
Rated Voltage increase rate	1 kV/ $\mu$ s
Maximum frequency	10-50Hz



Frequency [Hz]	10	15	20	25	30-50
<b>Available motortorque (% rated torque at 50Hz)</b>	85	90	95	100	100

## 16. TRANSPORT AND STORAGE

### 16.1 General Information

- Remove the packaging.
- Do an inspection of the product for transport damage or any missing parts.
- Contact RULMECA in case of any problems.

### 16.2 Transport

- Transport of EPS Roller must be carried out by authorized persons only.
- Ensure that the EPS Roller is properly secured prior transport.

### 16.3 Storage

- Keep the roller in a dry and enclosed/ roofed place, shielded from direct sunlight.
- In case of storage longer than half a year:
- Do a test of the EPS Roller before operation.
- Properly attach the EPS Roller to a test frame for a test run.
- Do a check of:
  - the motor winding with an insulation tester,
  - the winding resistance, and the thermal protector with a continuity tester.
- Furthermore, connect the EPS Roller to the power supply and do a test run for a minimum of 30 min
- Do not stack more than four cardboard boxes on top of each other.
- Store the EPS-AS1 in a clean, dry and enclosed location at +15 to +30 °C;



## 17. MAINTENANCE

---

Always bring the system up to the latest technical safety standard during/after maintenance work or when replacing the EPS Roller.

**Caution: Risk of injury due to improper handling or accidental starting of the motor.**

**Only qualified and authorized persons may perform maintenance work. Only perform maintenance work after switching off the power supply. Make sure that the EPS Roller cannot be switched on accidentally.**

EPS Roller do not necessarily require maintenance and do not need any special care. Nevertheless, they should be checked at regular intervals.

### 17.1 EPS Roller check

---

- Visual check of the roller, cables and connections according to damages.
- Make sure that the roller shafts are firmly fastened to the conveyor frame.

#### Cleaning

Material deposited on the EPS Roller should be removed regularly. Regular cleaning ensures long trouble-free operation and running. To do this, remove as much foreign material as possible from the drum shell and avoid sharp-edged tools when cleaning.

## 18. REPLACEMENT PARTS AND ACCESSORIES

---

### 18.1 Motor Thermal Protection

---

All EPS Roller motors are supplied with a built-in thermal protector.

- heat-sensitive, bi-metallic switches built into each motor phase winding (140°C)
- maximum permissible current 2.5 A
- voltage 230 V

Connect the switches to the closed control circuit (in series with a magnetic coil/relay device and contactor).

- The switch opens if motor temperature elevates to an inappropriately high level: 140°C
  - The motor will shut down.

#### WARNING

**Thermal switches will automatically close as the motor cools.**

- Cooling time = 30 – 60 min at an ambient temperature of 20 °C
  - Investigate the reason for the shutdown during this time.
  - Do not operate the motor until the causes of the heating/overloading have been eliminated.
  - Thermal circuit breaker must be connected in series with a relay or contactor able to switch off the current supply to the motor when the temperature rises over 140°C.
  - A confirmation button is mandatory to enable the system to start after a stop for overheating.
  - Wait for the motor to cool off before restarting the system. Make sure that no people are close to the conveyor when the system is started.

### 18.2 Integrated electromagnetic brake:

---

An optional integrated electromagnetic brake acts as holding device. It needs to be operated by a rectifier. The rectifier is not included and must be chosen and purchased by the customer.

The brake is on whenever rectifier is powered off. The brake is a stationary brake, and it is meant to be activated when the APS-AS1 has already stopped rolling. The brake is not a safety brake. The braking torque is 50% of the nominal torque. The brake is subject to wear with a limited-service life. Brake, as a wear part, is not included in the warranty. Operating temperature from -5 °C to +100 °C.

 **WARNING**

**Make sure that the brake is deactivated before starting the motor.**

 **DANGER**

**Risk of injuries when used as safety brake.**

If the brake is holding large loads the motor can unexpectedly rotate in the opposite direction. As a result, loads may fall down and hit or fatally injure persons.

- Do not use the electromagnetic brake as safety brake.
- Install a well-designed safety brake device if needed.

## 18.3 Frequency Converter

---

Standard EPS Roller can be operated in a frequency range between 20 Hz and 50 Hz.

- Do not operate the motor in a frequency range other than this one.
- Select and set the frequency converter according to the full-load amperage given on the Electric pallet roller's data plate.
- To avoid interferences, only install shielded cables during installation/assembly.

Frequency converter is not included and must be chosen and purchased by the customer. To prevent any malfunctions, screen and properly fix the motor cables from the motor to the frequency inverter in accordance with the

**European Directive for  
Electromagnetic Compatibility  
EMV - 2014/30/EU**

## NOTICE

**Damage to the motor insulation due to short voltage rise times in the motor cable! Follow one of the two instructions below to prevent those:**

- Assemble a motor filter to the output of the frequency inverter or
- by limiting the distance between the frequency converter and the motor (a cable length of 10 m or less is recommended).

### Disposal

The operator is responsible for the disposal of the EPS Roller. Local regulations must be observed for the disposal of the pallet roller and its packaging.

## 19. APPENDIX

---

### 19.1 Troubleshooting

---

#### ■ EPS ROLLER STOPS OR DOES NOT START

<b>Cause</b>	<b>Solution</b>
Incorrect connection	Check if wires are loose or defective, witch off power and check and remove the overload root cause.
No power supply	Check power supply.
Overload situation	Switch off power and check and remove the overload root cause.
Motor overheated	<ul style="list-style-type: none"><li>- Motor power too low. Compare the application requirements with EPS Roller specification.</li><li>- Wrong inverter setting. Check and adjust settings according to the EPS Roller specifications.</li><li>- Too many frequent start/stops. Reduce number of start/stops or utilize an inverter for optimized operation.</li></ul>
Short circuit	Send the EPS Roller back to RULMECA for inspection. Replace EPS Roller

---

#### ■ EPS ROLLER OPERATES NOISY

<b>Cause</b>	<b>Solution</b>
Mounting play	Check mounting. Assemble the motor without any clearance between the support and the shaft.
Wrong inverter setting	Check and adjust settings according to the EPS Roller specifications.
Loose wire	Check connection
Gearing damaged	Send the EPS Roller back to RULMECA for inspection.

---

#### ■ TOO MUCH EPS ROLLER VIBRATION

<b>Cause</b>	<b>Solution</b>
Mounting play	Check mounting. Assemble the motor without any clearance between the support and the shaft.
Wrong inverter setting	Check and adjust settings according to the EPS Roller specifications.

---

#### ■ EPS ROLLER RUNS FASTER OR SLOWER THAN SPECIFIED

<b>Cause</b>	<b>Solution</b>
Wrong inverter setting	Check and adjust settings according to the EPS Roller specifications.

---

## 20. WARRANTY TERMS

---

RULMECA grants a manufacturer's warranty up to 24 months for the RULMECA product from the date of invoice, against defective materials and/or manufacturing failure. The invoice date is to be regarded as the delivery date or as the readiness for delivery of the goods. The warranty period is based on an 8-hour operating time per day, unless otherwise agreed in writing. All RULMECA products returned to our company within the warranty period will be repaired or replaced free of charge if the case is covered by warranty in accordance with our warranty conditions.

### RULMECA accept no liability for damage or failure of the product due to:

- damage caused by disregarding the instructions.
- too high belt tension or overload, incorrect assembly or incorrect electrical connection, incorrect installation, or non-compliance with the assembly instructions.
- inadequate motor protection or incorrectly connected thermal protector (only when this is installed).
- reversing a motor without the use of a suitable time delay mechanism to ensure the motor has completely stopped before reverse operation.
- use of the product in case of non-compliance with the technical data and operating conditions specified in the valid catalogue.

### The RULMECA warranty does not include:

- performance guarantee regarding special load, performance, speed, noise level or protection against unfavorable conditions, unless specified in writing and signed by RULMECA.
- wear of shaft seals, rubber lagging and/or other surfaces due to normal use or abuse.
- costs incurred in the replacement of the product by other companies, as well as packaging, transport, dismantling and/or assembly costs for the purpose of repair during the warranty period.

### Operational wear and tear is generally excluded from the warranty.

### List of abbreviations

<b>P<sub>N</sub></b>	Nominal mechanical power
<b>np</b>	Number of poles
<b>rpm</b>	Actual rotor rpm at full load
<b>I<sub>f</sub></b>	Amperage (230/400V) at full load
<b>gs</b>	Gear stages
<b>i</b>	Gear ratio
<b>V<sub>N</sub></b>	Nominal belt (tangential) speed
<b>V<sub>A</sub></b>	Theoretical actual belt (tangential) speed at full load*
<b>n<sub>A</sub></b>	Revolutions of shell at full load*
<b>M<sub>N</sub></b>	Nominal Torque at full load
<b>F<sub>T</sub></b>	Belt pull (tangential force) on shell at full load*
<b>TE</b>	Maximum allowable belt tension (radial load)
<b>RL</b>	Reference length

## 21. CONFORMITY DECLARATION

---

In accordance with the EC Machinery Directive 2006/42/EC, Appendix II 1 B.

**The manufacturer**

Rulli Rulmeca

**hereby declares with sole responsibility that the product series**

- EPS Roller

**fully complies with the safety and health requirements of the Machinery Directive 2006/42/EC Appendix I.**

The relevant technical documents according to EC Machinery Directive 2006/42/EC, Annex VII B are available and will be presented to the competent national authorities electronically, if required.

Person authorized to prepare the technical documents: "\*\*\*name\*\*\*", Rulli Rulmeca.

**The partly completed machinery complies with the following EC directives:**

- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- RoHS Directive 2011/65/EC

**Initial startup of the partly completed machinery is not permitted until the partly completed machinery is incorporated into a machinery which complies with the machinery directive. The EC declaration of conformity must be available according to appendix II A. The EC declaration of conformity must be available according to Machinery Directive 2006/42/EC Annex II 1 A.**







**Rulmecca Holding S.p.A**

Via A. Toscanini 1 - I-24011 Almè (BG) Italy - Tel. 035 430 0111 - [export-it@rulmecca.com](mailto:export-it@rulmecca.com)

Please contact your local Rulmecca Company, you will find our contact details in our web site: **[rulmecca.com](http://rulmecca.com)**