

revolution

Energy-recovery hybrid brakes



assembly and maintenance instructions



 **renova**
WE NEVER LOSE CONTROL

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Questo prodotto è conforme alla Direttiva 2006/42/CE relativa alle macchine

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introduction

Dear costumer,

Thank you for purchasing **revolution – energy-recovery hybrid brakes**.

We also thank you for the preference you have reserved for this innovative product. We are certain it will satisfy you with its technologically advanced solutions, its in-line and elegant design and its professional quality.

In this manual you will find our instructions for a proper use of this product and the necessary technical information, as well as our advices, to ensure excellent performance over time.

All information in this manual has been compiled in accordance with current standards, the current state of knowledge of design and construction, our knowledge and our many years of experience.

The warranty on this product does not apply to products which have been subjected by the customer, as a result of violation of the recommendations for use, to misuse, improper application, negligence (including but not limited to improper maintenance and storage), accidents, improper installation, modifications (including but not limited to the fitting of non-original parts or accessories not authorised by Renova), improper repairs and overhauls. All parts subject to normal wear and tear are excluded from the guarantee.

attention

CAREFULLY READ THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL AND KEEP THEM FOR FURTHER REFERENCE FOR ENTIRE PRODUCT LIFE. THEY SUPPLY IMPORTANT INSTRUCTIONS REGARDING OPERATIONS AND SAFETY FOR INSTALLING, USING AND MAINTAINING THE PRODUCT.

PLEASE TAKE THE TIME TO READ AND UNDERSTAND THE SAFE PRECAUTIONS TO BE RESPECTED FOR A SAFE AND PROPER USE OF THIS PRODUCT.

IN THE EVENT OF A POSSIBLE PRODUCT FAILURE, THE OPERATOR MUST UNDERSTAND THE MANUFACTURER'S INSTRUCTIONS AND BE AWARE OF THE DANGERS BEFORE ANY TECHNICAL INSPECTION OR RECOURSE TO SERVICE.

general warnings

- **revolution** is exclusively designed to adjust the unwinding tension of the coil and to help the coil in the initial phase of splice.
- There are rules that must be observed when using any type of electrical appliance.
 - More specifically:
 - do not leave the device exposed to the weather (rain, sun, etc.);
 - do not use the appliance near flammable materials;
 - do not allow the appliance to be used by children or unsupervised persons.

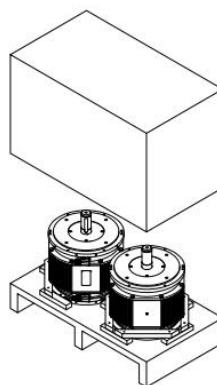
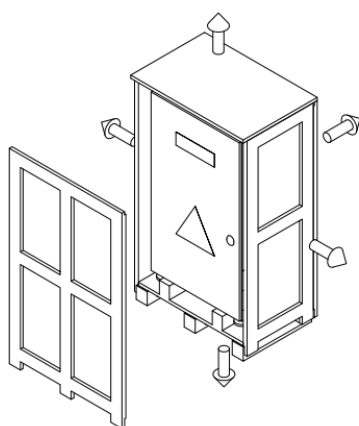
assistance

In case of need, please contact our service centre.

support@renova-srl.com

general instructions

INITIAL CONTENTS OF WOODEN CRATES



A	cabinet plus colour display	x1 + x1
B	motors with cables	x 4 (motors) + x 8 (cables)

CONTENTS DESCRIPTION

CABINET CASE: **revolution** control cabinet complete with display with connection cable and mains connection cable with plug.

ENGINE CASE: each case contains a pair of left and right motors, with corresponding cable kit and connectors.

PACKAGING

Please do not throw away the wooden packaging of your **revolution** system as it may be useful for storage, moving or, in the event of a malfunction, for shipping it to Renova srl.

SERIAL NUMBER

Each revolution comes with its own **serial number**.

The serial number can be found on a stainless steel plate riveted to the right side of the cabinet and stamped on the flange of the 4 motors.

Example in the drawing on the right.

The serial number is also indicated on the warranty card supplied with the revolution.

IMPORTANT:

Always communicate the serial number of your **revolution** in case of service or spare parts requests.



Operating instructions

- Unpack the device and keep the packaging system
- After unpacking, ensure that the device is intact with no visible signs of transport damage. If in doubt, do not use the device and contact Renova srl
- After installing **Revolution**, follow the instructions below

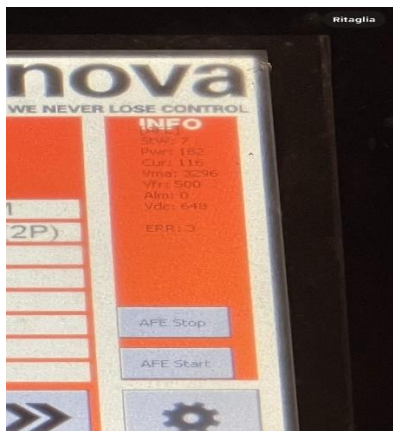


- Set the main switch on the cabinet from 0 to 1 and energise the system. The white indicator light to the left will light up to confirm that the system is energised.
- Choose the language by pressing one of the two flags ITA or ENG
- To activate the motors and the regenerative brake function, press ON on the display.

The button turns from grey to green.



- Check in the right-hand column (INFO) that STW is at 7.



- **If STW is different from 7 (THE SYSTEM DOES NOT WORK!)**

In the right-hand column at the bottom, proceed by pressing the AFE STOP button, wait a few seconds, then the AFE START button and check that the STW figure returns to 7.

The parameters on the display will change when Revolution is running.

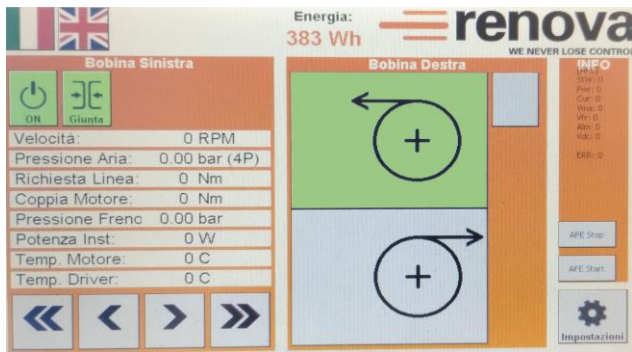
The parameter values visible on the display are:

- Speed: number of revolutions at which the coil is rotating;;
- Air pressure: air pressure value at the air brakes set by the line;
- Line demand: braking torque value set by the line;
- Motor torque: braking torque delivered by the motor;
- Brake pressure: air pressure supplied to the air brake;
- Instantaneous power: instantaneous power generated by the motor;
- Temp. Motor: Temperature of internal motor parts;
- Temp. Driver: Motor drive temperature;
- Energy in centre of display: Indicates in kWh the total energy fed back into the grid by Revolution.

ENABLE JOINT / SPLICE FUNCTION

- To enable the **splice** function, press the splice button on the display for the relevant coil, which will turn from grey to green;
- Perform the reel loading and splice preparation procedure as a routine operation. After that, move to the panel and check that the system has read the unwind direction correctly.

ATTENTION: When using the splice function for the first time, the machine will not propose the direction of rotation automatically, but needs the operator to set the correct direction of rotation.



- The Revolution at this point prepares for splicing and the screen changes, **proposing the direction of rotation selected by the device which, if it is incorrect, must be reversed by the operator** by pressing the grey button;
- Revolution will thus be ready to perform the operation, which will only begin when the operator in manual mode, or the machine in automatic mode, starts the splicing phase.

ATTENTION:

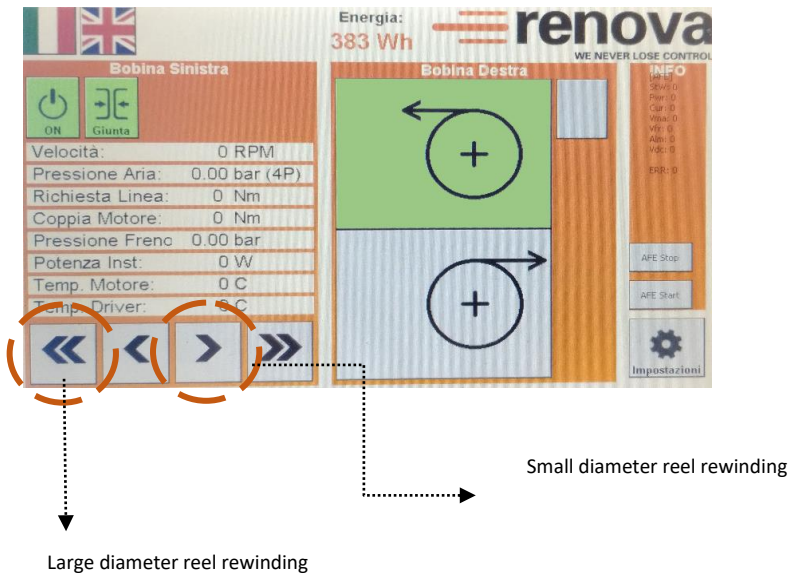
- if the proposed direction is wrong, select the correct one: the correct direction will always be green.
- if the direction of rotation read is null, i.e. both are grey, select the correct one manually.

If the direction of unwinding is wrong, the paper will tear. If, on the other hand, the direction of unwinding is not read, and the buttons will therefore be grey, there will be no motor to launch the reel.

- On the panel screen, joints are activated in both axes
When a machine stop occurs, the system can also detect the preparation of the joint on the axis being worked on. In this case, you must deactivate the joint by pressing the joint button (it must turn grey) and then reactivate it and you will notice that the request for the direction of rotation on the working axis is cancelled.
- I have problems with splices and the system does not launch
Only deactivate the couplings and continue working with the motors engaged and call for assistance.
- I have braking problems with the motors engaged
Switch off the motors and couplings, switch off the ignition and call for assistance.

ROLL WINDING / UNWINDING

For each axis (right/left) we find in the bottom row 4 buttons that allow us to wind the coil. The buttons with two arrows are to be used when the coil is heavy, and those with a single arrow, when the coil is light.



telematic connection

ETHERNET PORT NETWORKING INSTRUCTIONS

IMPORTANT!!

This part of the instructions must be used by personnel familiar with software, PCs and Ethernet networks

4.0 DATA TRANSFER CONNECTION

The connection to the company management system can be made via the Ethernet port available on the Revolution display.

With this connection, it is then possible to transfer the data shown on the display to the company server.

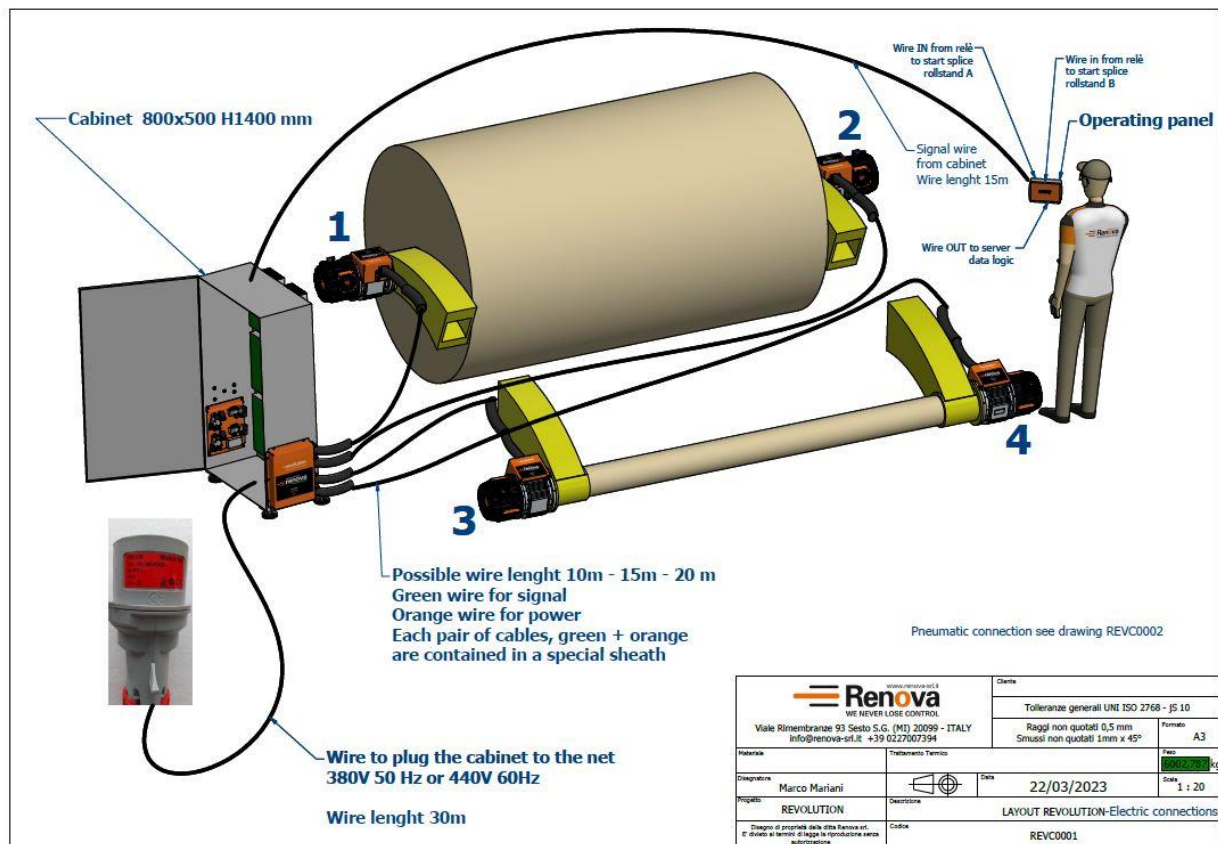
CONNECTION FOR TELEMATIC ASSISTANCE

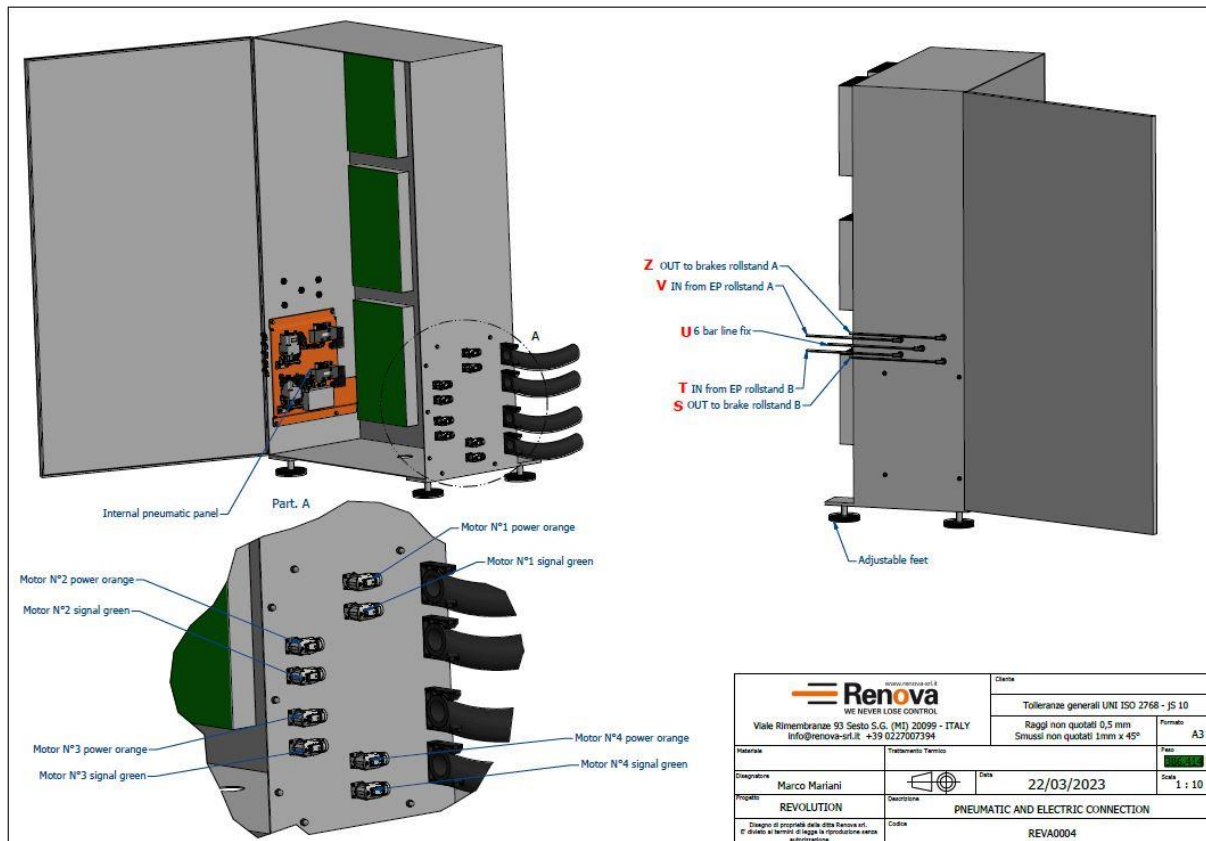
Also by using the Ethernet port and connecting a laptop with a special cable supplied with the Revolution, it is possible to receive telematic assistance from Renova, for troubleshooting, sw updates and more.

Step to follow:

- Call Renova on **+39 0227007394** requesting assistance and providing a mobile phone number of a technician at your plant;
- Then connect a laptop, with anydesk installed, to the Revolution display using the special network cable supplied with the Revolution;
- Connect the Renova technician to your plant technician for help.

installation layout



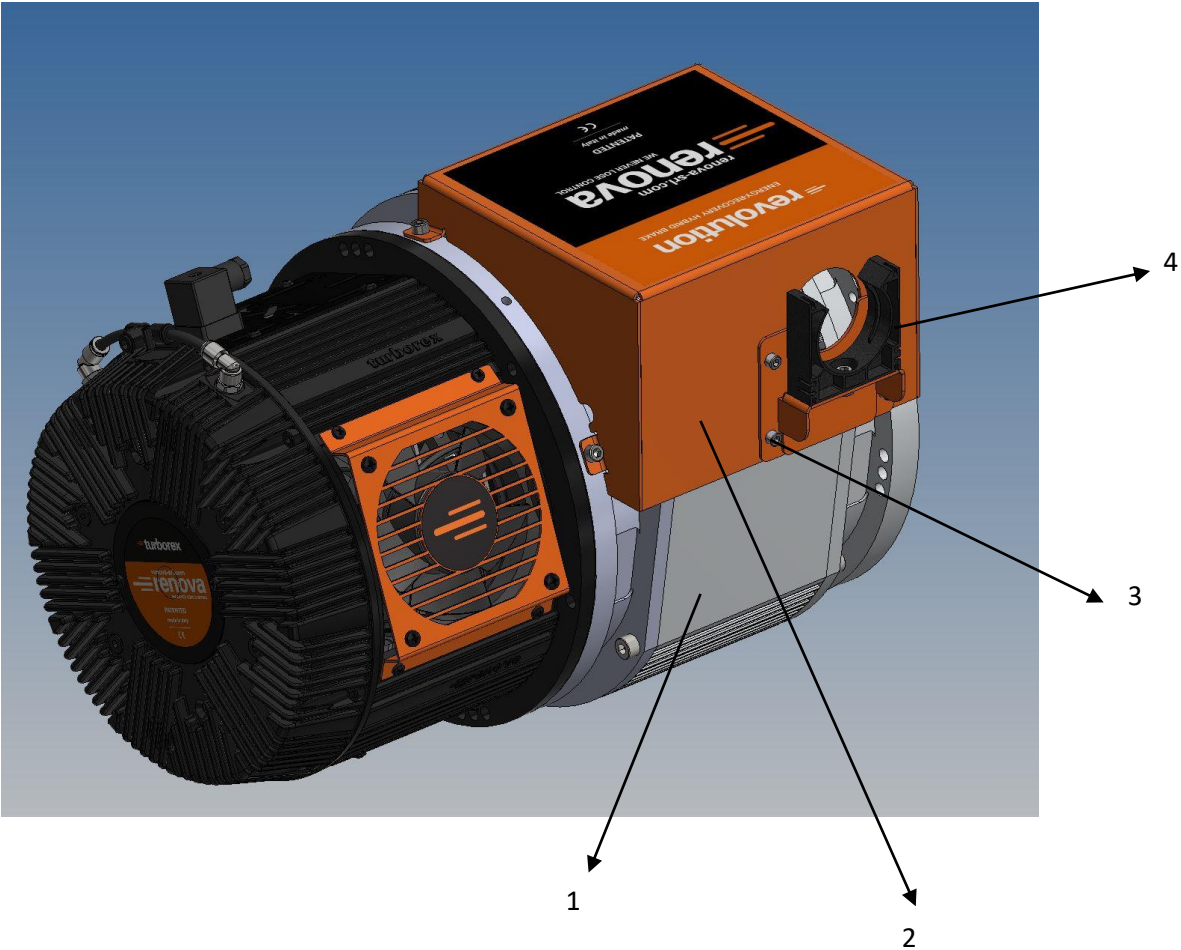


IMPORTANT!!

The cabinet is supplied with four adjustable and insulating feet. **Installation cannot be achieved without their use, so it is important not to remove them.**

Do not drill holes and do not fasten cable ducts and other objects to the cabinet, which must always be unrestrained.

description of components and codes



POSITION	RIGHT SIDE	LEFT SIDE	DESCRIPTION
1	M65-00	E50-0096	MOTOR
2	REVP0003	REVP0005	CARTER ENGINE CABLES
3	REVP0004	REVP0004	SUPPORT
4	E50-0096	E50-0096	STOP GUARD

SPARE PARTS REQUEST

Always indicate the Serial Number of your revolution when requesting spare parts together with the part number of the spare parts required.

Each revolution comes with its own serial number.

The serial number can be found on the nameplate of the cabinet and on the motor housings.
Example in the drawing on the right.

The serial number is also indicated on the Warranty Card supplied with the revolution and Declaration of Conformity within this manual.

quick instruction for proper use

After setting the main switch (located on the cabinet door) to 1 and checking that the white indicator light beside it is lit, press the two ON buttons on the display, which will turn from grey to **green**.

At this point Revolution is ready for use in brake mode, which is fully automatic without the need for any operator intervention.

On the display, the parameters shown will begin to change in real time relative to the coil being unwound.

By pressing the two **splicing** buttons, the Revolution sets itself up for the splicing operation.

The reel being unwound is not affected by this operation, while the reel that has just been loaded on the rollstand with the paper already inserted in the machine, will cause the screen with the direction of rotation detected by the system to appear in the part of the display referring to it.

The operator must **not perform any operation if the direction of rotation shown in green on the display is correct**.

If the direction is not correct, the operator must press the button that appears in grey on the display to reverse the direction of rotation.

At this point the Revolution is ready to launch the new reel and start unwinding it for production.

SECURITY

The Revolution cabinet complies with the following standards:

- **CE** (European regulations)
- **UL** (USA regulations)



ATTESTAZIONE DI VERIFICA DELLA CONFORMITÀ CONFORMITY VERIFICATION STATEMENT

in accordo all'ultima revisione del Fascicolo Tecnico costituito dall'azienda di seguito riportata.
according to the last revision of the Technical File issued, by the following company.

Verifica effettuata secondo i requisiti sotto riportati.
Verification done according to the below requirements.

RENOVA S.r.l.

Sede legale / Registered site: Via Palmanova 24 20132 Milano

Sede operativa e amministrativa / Operative and Admin. site:
Viale Rimembranze 93, 20099 Sesto San Giovanni – Italia

dichiara che il/i seguente/i prodotto/i: / declares that the following product(s)

Descrizione description	FRENO CON RECUPERO / brake with energy recovery
----------------------------	---

è/sono conforme/i ai seguenti requisiti: / fulfills the following requirements
alla Direttiva 2006/42/CE relativa alle macchine (procedura di valutazione in accordo all'allegato VIII)
directive 2006/42/EC "Machinery directive" (conformity assessment according to annex VIII)

Norme applicate/applied standards
EN ISO 12100; EN 60204-1

Altre direttive applicabili/other applicable directives
Direttiva relativa alla bassa tensione 2014/35/UE
LVD "Low Voltage Directive" 2014/35/EU

Direttiva relativa alla compatibilità elettromagnetica 2014/30/UE
EMC "Electromagnetic Compatibility directive" 2014/30/EU

Controllo interno della fabbricazione in accordo alla ISO 9001:2015
Internal Fabrication Control according to ISO 9001:2015

Revisione / Revision: A
Prima Emissione / First issue: 07/05/2021
Data di Revisione / Revision date: 07/05/2021

Procuratore Speciale
EUROCERTIFICATIONS S.r.l.
Eleonora Angioletti



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Sede Legale: e Uffici Operativi: via Puccini, 1 - 24040 - Madone (BG)
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	DICHIARAZIONE DI CONFORMITÀ UE EU DECLARATION OF CONFORMITY
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Ragione sociale / manufacturer	RENOVA SRL Sede legale/legal site: Via Palmanova 24 20132 Milano Sede operativa/operative site: Viale Rimembranze 93 20099 Sesto San Giovanni(MI)-Italy
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dichiara che / declare that

Prodotto/Product Name	FRENO CON RECUPERO <i>brake with energy recovery</i>
Codice-Matricola code / serial number	XXX (se prototipo in fase di validazione potrebbe essere possibile mettere NA oppure Indicare prototipo o campione n° 2 , n° 3 ecc.)

E' CONFORME
FULFILS

alla Direttiva 2006/42/CE relativa alle macchine
(procedura di valutazione in accordo all'allegato VIII)
directive 2006/42/EC "Machinery directive"
(conformity assessment according to annex VIII)
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 EMC "Electromagnetic Compatibility directive" 2014/30/EU

Controllo interno della fabbricazione in accordo alla ISO 9001:2015
Internal Fabrication Control according to ISO 9001:2015

RENOVA applicando il marchio **CE** garantisce che il progetto, la costruzione delle attrezzature sopra menzionate rispondono ai requisiti della Direttiva **2006/42/CE**
 La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.

RENOVA by using the **CE** marking guarantee that design, construction of equipment mentioned above fulfil the requirements of the Directive **2006/42/EC**
 This declaration of conformity is issued under the sole responsibility of the manufacturer.

Luogo/place Data/date

Timbro e firma/ Stamp & signature



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