

turborex

pneumatic brake

TX CS 240

COOL SHIVER



operating instructions



 **renova**
WE NEVER LOSE CONTROL

renova srl a socio unico – viale Rimembranze 93 – 20099 Sesto San Giovanni - Italy

tel: +39.02.2700.7394 – fax: +39.02.2570.8635

www.renova-srl.com – e-mail: support@renova-srl.com

This product complies with the Directive 2006/42/CE

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MANTXCS240EN052023

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introduction

The following manual is intended for installers and users of the product and provides descriptions and explanations on the Turborex brake in the Cool Shiver series (TX/CS) 240, and on all its parts and/or options that can be supplied by Renova.

Inside you will find:

- Unpacking instructions for our TX CS 240 brakes
- Instructions for assembly and storage of our brakes and related maintenance
- Electric/pneumatic connections of our brakes
- Instructions for replacing the component parts of our brakes and various kits
- Assembly instructions for the various optionals that Renova can supply for our Turborex brakes
- Dimensions and technical data of our brakes

Since the product and Renova itself are constantly changing in order to improve the quality and performance of our products, Renova reserves the right to update the manuals without obligation to update products already marketed and/or any previous manuals.

warnings

CAREFULLY READ THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL AND KEEP THEM FOR FURTHER REFERENCE FOR THE ENTIRE LIFE OF THE PRODUCT. IN THIS MANUAL THERE ARE IMPORTANT INSTRUCTIONS RELATED TO OPERATION AND SAFETY FOR INSTALLING, USE AND MAINTENANCE OF THE PRODUCT.

WE STRONGLY RECOMMEND THAT THE DEVICE BE ASSEMBLED AND INSPECTED BY A QUALIFIED TECHNICAL STAFF IN ORDER TO AVOID ANY RISK OF DAMAGE TO PERSONS OR TO THE PRODUCT ITSELF.

IN THE EVENT OF ANY BREAKAGE OF THE PRODUCT, THE OPERATOR SHOULD BE AWARE OF THIS MANUAL AND THE INFORMATION INSIDE IT, KNOWING AND KNOWING TO AVOID ANY RISKS AND / OR DANGERS, BEFORE AN INTERVENTION BY OUR SPECIALIZED TECHNICIAN.

assistance

Renova is worldwide present with Agents and Distributors.

To contact Renova service, please, write to:

support@renova-srl.com

description

The Turborex TX CS 240 brakes, made entirely by Renova in its factory, are mainly designed for use in the field of tension control of unwinding materials, an application that requires excellent heat dissipation and great sensitivity. Tension control on core, which by varying the diameter, requires a continuous variation of the braking parameters to guarantee the quality of production. A brake with excellent cooling capacity was thus created to ensure constant performance during its work, infinitesimal wear of the friction elements with consequent practically zero emission of fine dust to protect the health of the personnel present next to the machine. Maintenance costs are therefore very low and limited over the years. Particular attention was then paid to the flexibility of the brake in order to offer performance adaptable to the various types of processing. There are thus numerous possibilities to customize the brake by varying the number of pistons that operate it, their size, the number of discs, the material of the friction pads.



THIS COMPONENT IS DESIGNED TO BE INCORPORATED IN A MACHINE AND CANNOT WORK INDEPENDENTLY.

IT IS FORBIDDEN TO USE IT IF ITS USE ON THE MACHINE DOES NOT COMPLY WITH THE REGULATIONS IN FORCE.

functioning

The brake is activated by a series of pneumatic actuators (cylinder + piston), mounted uniformly in the cover; the number can vary from 2 to 8 according to the needs of the couple. These actuators (which we will call from now on simply pistons) can be connected all together or even in groups (2 + 4) (4 + 4) per poter diversificare la coppia a seconda del tipo di utilizzo: in order to diversify the torque according to the type of use: voltage control braking and emergency braking, braking of papers with different weights or reel sizes, etc. The maximum operating pressure is 6 bar.

The pistons compress the pressure disc, used as a wear indicator, which in turn presses a series of steel discs, which slide on teeth, against brake linings mounted on supports that slide on 4 guides. A series of springs separates the discs in absence of pressure, eliminating residual torques that can hinder the positioning of the coils or other.

The heat generated by the action of the brake is disposed of by 8 ventilatori periferici, peripheral fans, four under pressure and the others in suction, which force the air to pass through the disc pack, cool the surfaces and maintain constant working temperatures.

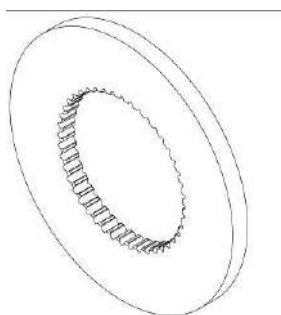


The maximum operating pressure of our TX CS 240 brakes is 6 Bar. Renova strongly advises against using a higher pressure in order to avoid breakdowns and malfunctions harmful to the machine and/or to the operator. We also remind you that incorrect use of the brake does not fall within our warranty coverage guidelines.

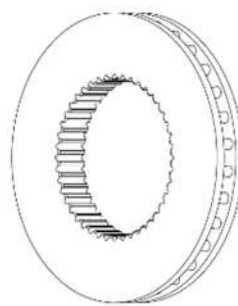
High Dissipation series version

The High Dissipation series version (abbreviated to HD) has now become the Renova standard. The operation of these brakes is identical to its standard version, but they differ, as indicated by the name of the brake itself, as they possess a high working heat dissipation thanks to the innovative design of our self-ventilating central discs.

These discs, with a different profile from the standard ones, provide greater heat dissipation, making the brake more performing.



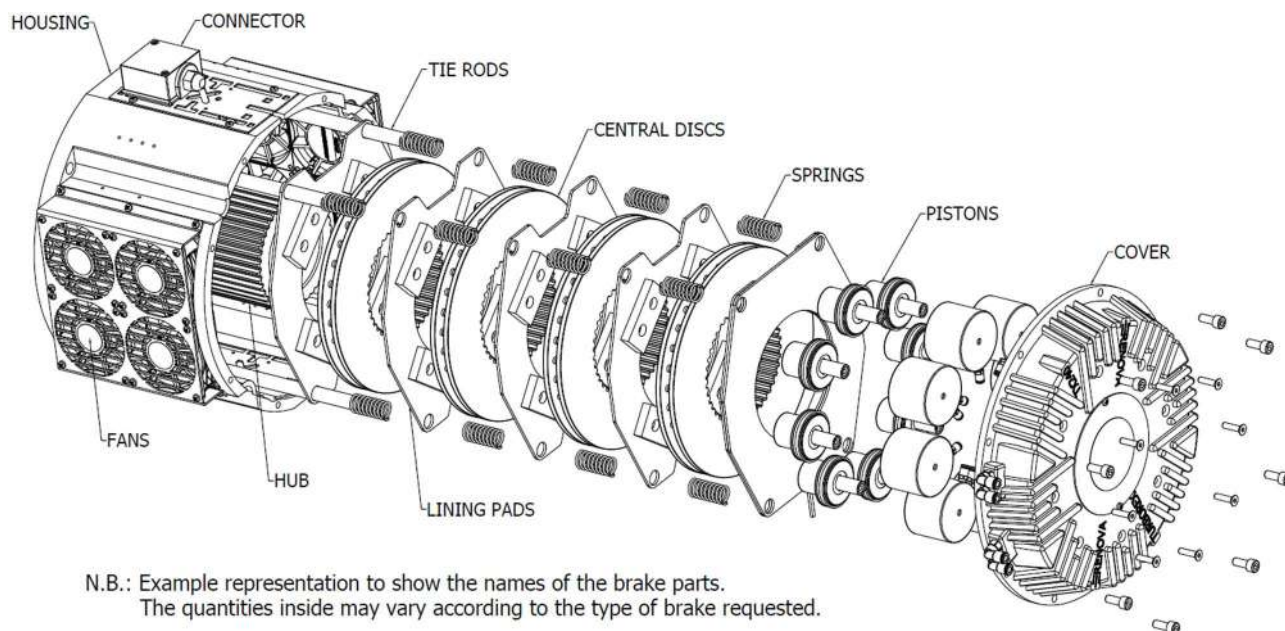
Standard disc TX



Self-venting disc TX/HD

This innovative design also allows the use of one less disc than the standard version of the brake, making the brake itself lighter and more efficient.

brake parts name



N.B.: Example representation to show the names of the brake parts.
The quantities inside may vary according to the type of brake requested.

disassembly, inspection, and storage

Check that the packaging has not been damaged during transport.

Check that the following details are included in the package and correspond to the brake ordered whose code is mentioned on the label stuck on the brake casing.

renova srl - Milano Italy
code TXCS240RMB S20000
TXCS240.280.R/STD00
MKT: 2023 715 lot
support@renova-srl.com



Remove the transport guards from the fans.

Also remove the protection on the sensors in models with tachometer, taking care not to damage the sensor cable.



ATTENTION:

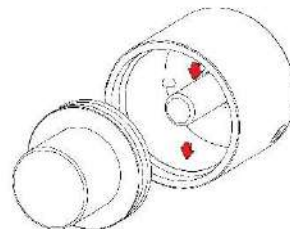
If this requirement is neglected, the ventilation of the brake is compromised and the consequent overheating can damage various components such as brake linings, central discs, electric cables.



Renova guarantees a detailed dimensional and quality control on all the parts that make up our T TX CS 240 brake. We also guarantee total control over any electrical part present in the chosen brake configuration, 100% tested by our operators during the brake assembly phase.

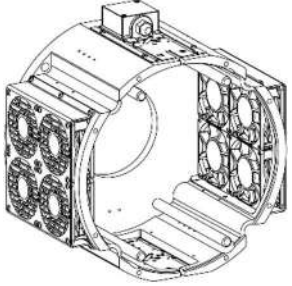
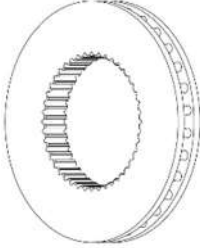
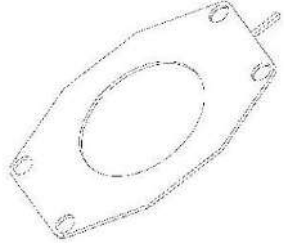
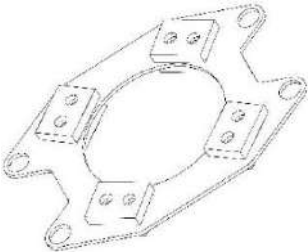
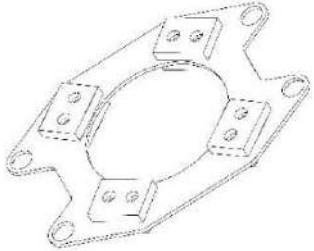
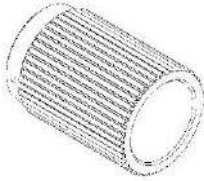
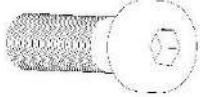
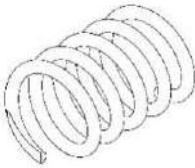
If the brake is stored in stock, leave the brake in its original packaging. Despite the galvanic protections on the metal parts, very humid or aggressive environments can over time affect the surfaces of the hub, central discs and sliding guides and inflate the friction pads.

If the brake is stored for a long time, the film of grease that lubricates the movement of the piston can dry out. It is therefore advisable to relubricate the internal surfaces of the cylinder and the central guide with a very thin film of lubricating, water-repellent, anti-adhesive silicone grease specific for metal-rubber. Be careful not to use excessive amounts of grease which, reaching the brake linings, affect their performance.



Package content

- Turborex CS version (no optional)

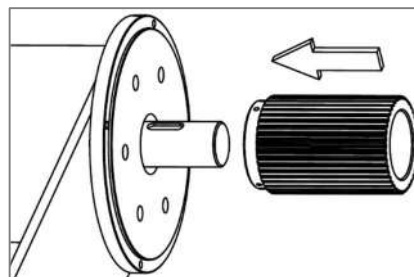
Cover 240 with assembled and wired pistons	1		Housing CS 240 with 4 guides and two carters with fans assembled and connected to the connector	1	
Central discs design HD 240 model	3		Pressure disc 240 model	1	
Double lining pads 240 model	3		Single lining pads 240 model	2	
Hub If purchased by the customer CS 240 model	1		Allen screw M8	8	
Springs 240 HD model	16				

assembly procedure

Hub mounting on the machine shoulder

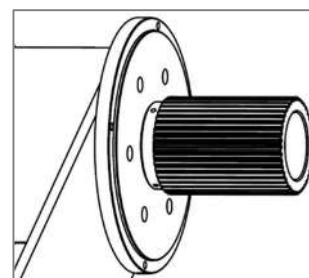
Check that the mounting dimensions on the frame and shaft match those of the brake.

- Check that there is no grease or oil from faulty shaft bearing seals.
- Fit the hub up to the support surface of the brake body.
- Axially block the hub with a screw threaded ring nut or Seeger or screw/washer in the shaft head.



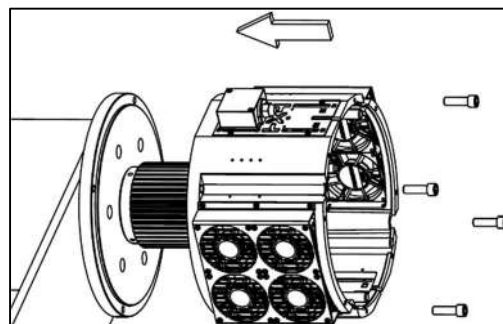
ATTENTION:

A badly locked hub can slide on the shaft and by rotating damage the pistons with consequent detachment of fragments that are thrown.

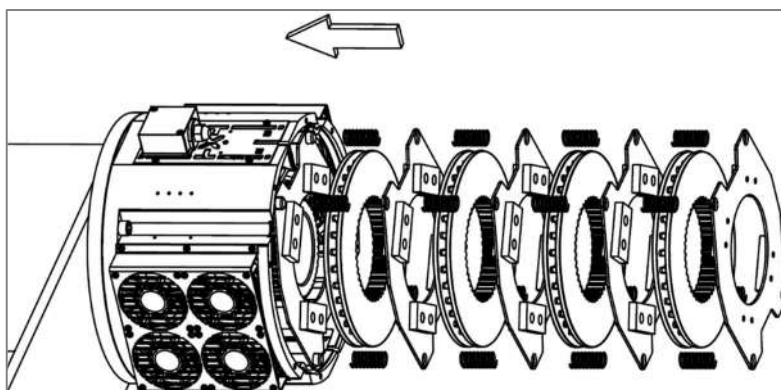
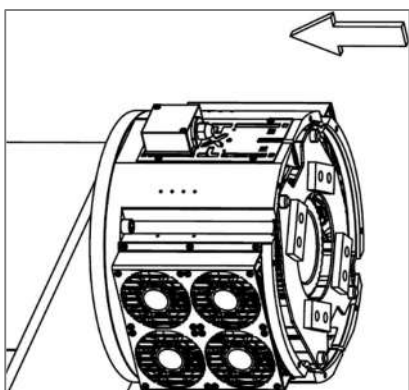


Brake mounting:

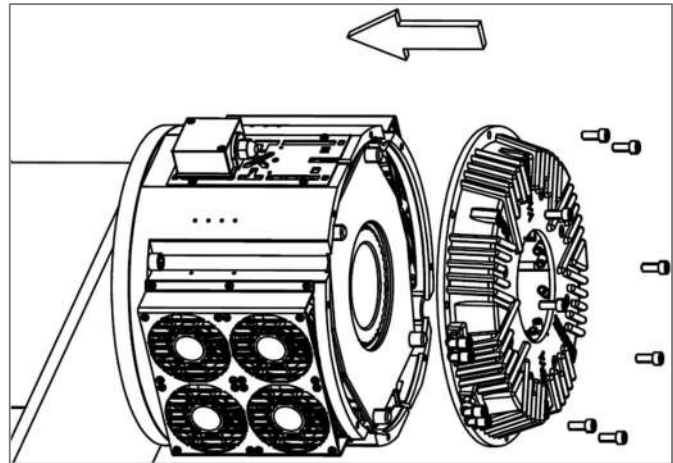
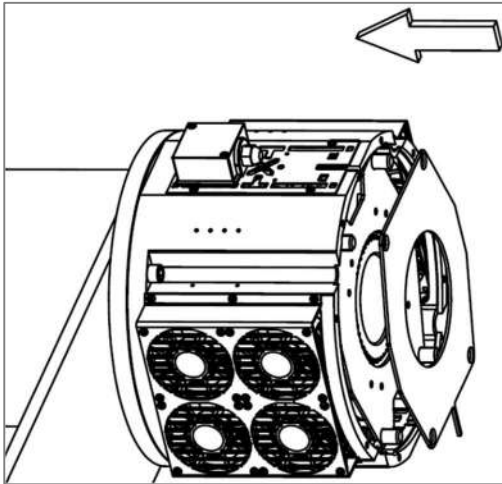
- Open the brake by unscrewing the 8 screws on the cover and remove the discs and springs.
- Fit the brake body centering it on its seat and positioning the fans horizontally to prevent them sucking dirt from the floor.
- Secure it firmly with screws with tightening torque suitable for aluminum alloys (M8>15Nm, M10>20Nm, M12>25Nm).



- Insert the first single lining pad onto the guides with the pads facing the operator.
- Mount the first set of 4 springs on the guides, the central disc, the double lining disc.
- Continue with the other springs, central discs and lining pads in sequence, then install the last single lining disc with the pads facing inside of the brake

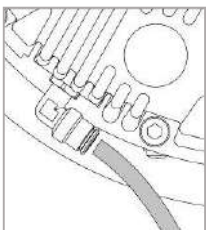


- Fit the pressure disc.
- Press the disc pack to check that it moves freely and with a springy motion.
- Fit the cover by aligning the holes with the guides and close it with a slight pressure. Then tighten the 8 screws that connect it to the brake body with a tightening torque suitable for the aluminium alloy (~6Nm).



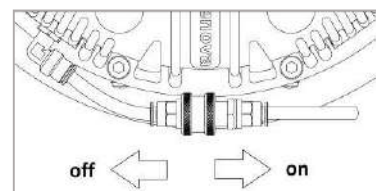
Once all the steps listed have been completed, the mechanical assembly is complete and the pneumatic and electrical connections must be made to make the brake operational.

pneumatic connection procedures

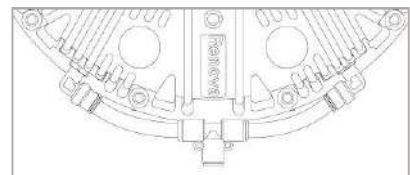


- Connect the air supply pipe to the fitting or fittings in the brake cover.

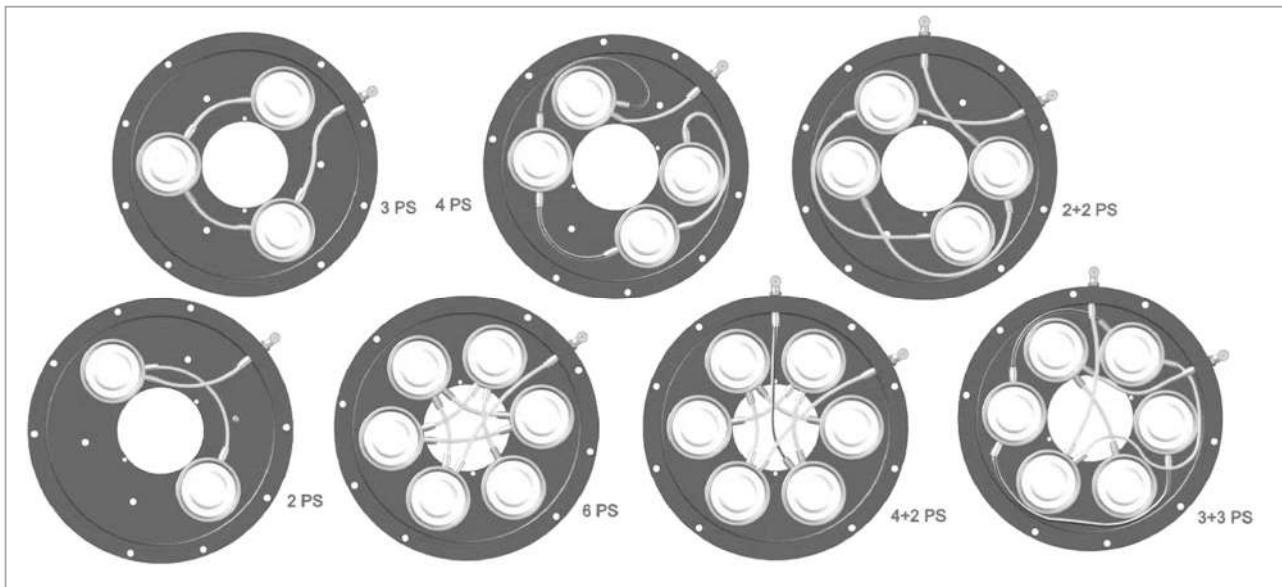
Depending on the number of pistons mounted on the brake and the connection system, there may be several entries which connect separately groups of pistons.



- If there is a manual selection valve for feeding to the piston group, position it open.
- If there is a different differentiated power supply system, such as two solenoid valves that feed groups of pistons, position it in the opening position.
- Bring the brake to maximum pressure (6 bar) and check that there are no load drops or hisses that signal air leaks.
- In the case of drives connected to regulation system with electro pneumatic transducers or proportional valves, etc. controlled by PLC or computer, check that at signal "0" there is 0 bar of pressure and the internal brake discs are completely free to turn.
- The maximum recommended pressure is 6 bar.



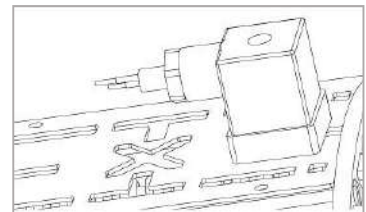
Possible configurations of the pistons present in the cover:



electrical connector procedures

- Connect the power supply wires of the fans and the rev counter (if present) to the connector located on the side carter of the brake, ensuring the correct polarity. The electronic board that controls the fans requires this prescription. The same attention also applies to the connections of the tachometer sensor in models that provide it; in addition to the power contacts, there is also the pulsing signal that will be processed by the PLC.

- Various types of double-polarity or multipolar connectors are used, which are installed according to the brake equipment or customer specifications.

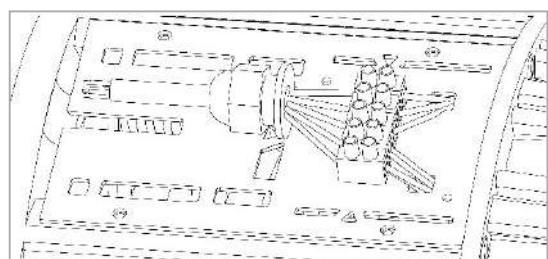
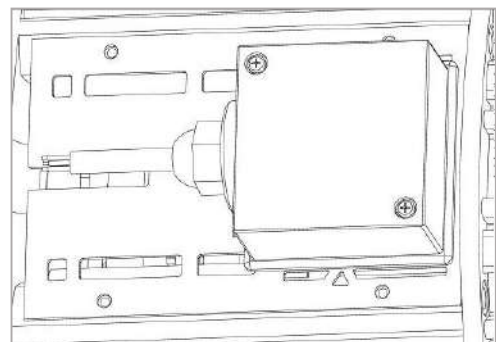


box/mammut code CNTH100F0

Multipolar connector
Cable diameter 2,5 mm
Max rated voltage 380 V AC
Maximum range 2 A
Screw connection
Protection rating IP 54

Used to connect fans, tachometer sensor (in some applications even double) and other sensors such as the temperature sensor

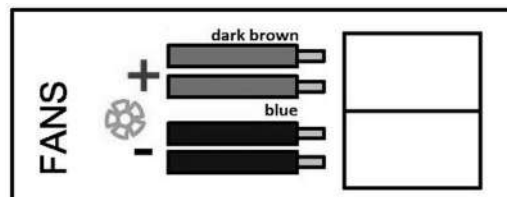
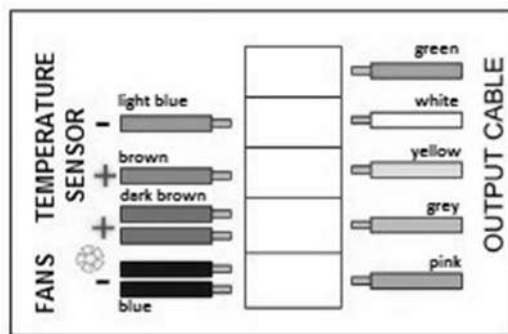
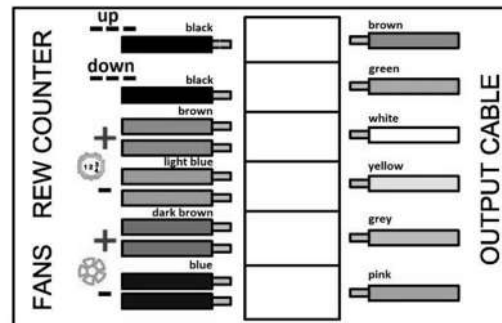
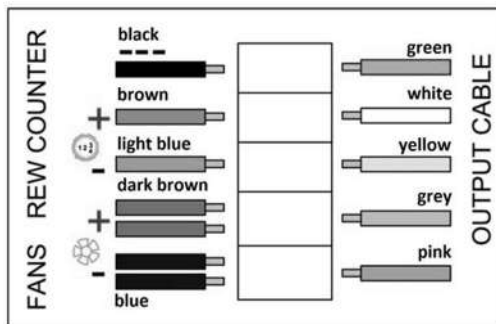
- Diagram 1 shows the inlet connections from the fans and the rev counter; out to the wires of the multipolar cable.
- Diagram 2 shows the inlet connections from the fans and 2 rev counter sensors; out to wires of the multipolar cable.



- Diagram 3 shows the incoming connections from the fans and the temperature sensor; out to the wires of the multipolar cable.
- Diagram 4 shows the connections to the fans only.

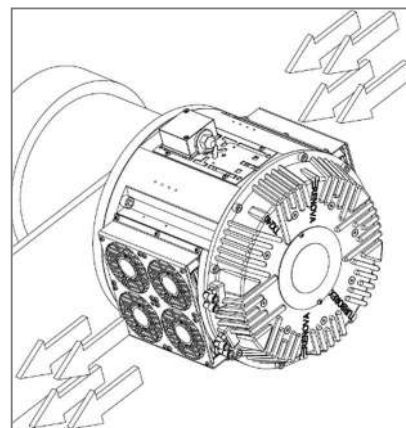
The advantage of this type of connector is the absence, in case of failure and therefore replacement of the fans or the tachometer sensor, of welded contacts that are more complicated to make and which can give to cold welding.

electrical connection diagrams



fans

- After making the various connections, turn on the fans.
The voltage of the standards fans is 24 VDC.



Type	Voltage	Power	Sound level	Renova Code
High performance HP3	24 V CC	30 W	95 dB(A)	VT900380H3
High performance HP4	24 V CC	50 W	100 dB(A)	VT900380H4

Fans dimensions: 92 mm x 92 mm x 38 mm.

- Check that the fans are working correctly, four in suction and the four opposite in pressure.

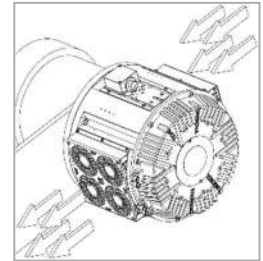
Once all the mechanical, pneumatic and electrical steps have been carried out, the brake is ready for use.

maintenance instructions

Our TX/CS brakes require periodic maintenance as they have parts subject to wear. In order to avoid problems on the brake and to corrupt its operation, below you will find the checks to be carried out on our brakes and the replacement procedures if something should be changed.

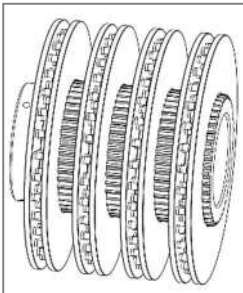
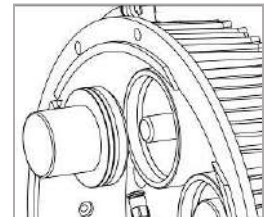
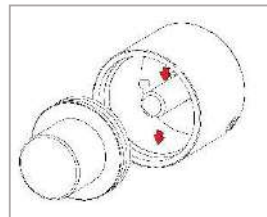
maintenance

- Check when the systems are switched on or in any case on a daily basis that the suction and pressure fans are working correctly. Operation of the brake without sufficient ventilation can lead to excessive overheating which seriously damages brake linings, fans and other components.



- Check the wear indicator on the side carter every month. If the indicator is positioned in the orange area, check the state of the linings and if some are more worn than others, swap their position. If the indicator is positioned in the red area it is necessary to replace them.

- Check every 3 months that the pistons are not full of dust or dirt. Clean the sliding surface with compressed air. Check that the pistons slide freely. If not, spread a thin film of *lubricating, water-repellent, anti-adhesive silicone grease specific for metal-rubber*, the internal surfaces of the cylinder and the guide. Also check the good condition of the lip seals. If not, replace them.



- Check every 3 months that there are no lumps of dirt between the toothing of the hub and the discs that could obstruct their free sliding. If not, clean them with a wire brush.



ATTENTION:

Before working on the brake, always disconnect the power supply to the fans. The moving blades can be dangerous for the operator's fingers

spare kit (replacements)

replacement of the lining pads

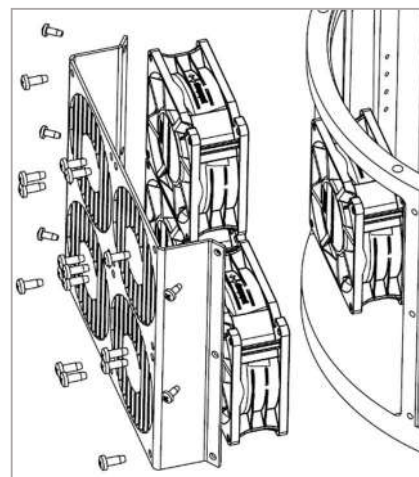
- Remove the power supply to the fans because the moving blades can be dangerous for the operator's fingers.
- Remove the pneumatic power supply.
- Open the brake and remove the old lining pads.
- Check that the 5 lining pads do not have any damages that could affect the sliding.
If necessary, replace the guides
- Fit the new pads on the brake according to the assembly instructions described above (ref. Pag. 9/10)

Replacement of the central discs

- Remove the power supply to the fans because the moving blades can be dangerous for the operator's fingers.
- Remove the air supply.
- Open the brake and remove the old central discs
- Check that the hub toothing does not show any cracks that could affect the free sliding of the discs. If necessary, replace the hub. If there is dirt, clean with a wire brush.
- Fit the new central discs on the brake according to the assembly instructions described above (ref.Pag.9/10).

replacement of the fans

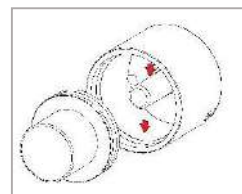
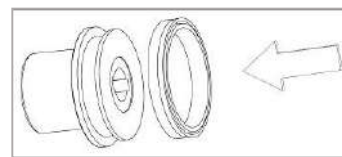
- Remove the power supply to the fans because the moving blades can be dangerous for the operator's fingers.
- Remove the pneumatic power supply.
- Disassemble the carter of the fan to be replaced and then the fan **taking note of the direction of assembly** that characterizes the function of air suction or compression.
- Disconnect the corresponding cables from the mammut near the fans and remove the fan/fans to be replaced paying attention to where the connection cables are positioned.
- Cut the cables of the new fan to the same length as the fan to be replaced, insert the insulating sheath taken from the non-functioning fan and position the cables as seen previously.
- Fix the ends of the cables to the mammut, fix the fans to the carter and then the carter to the brake body.
- Power up the fans and check that it is working properly.



replacement of the pistons

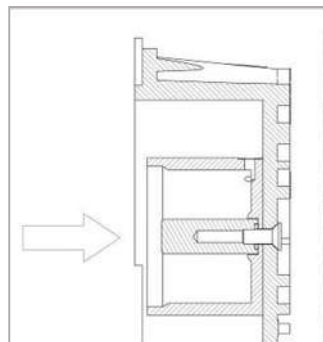
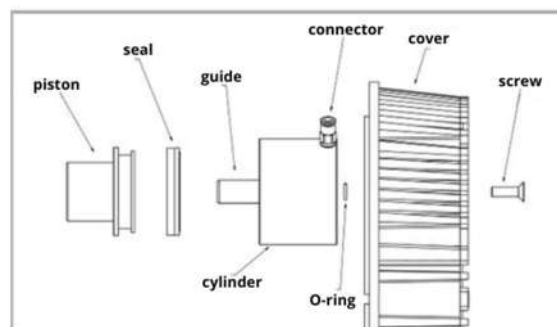
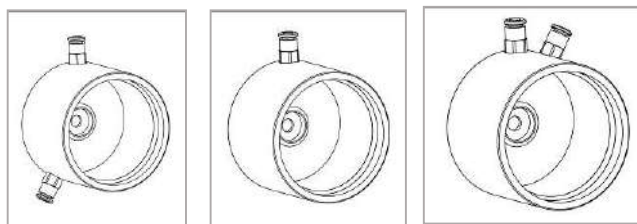
Piston lip seal replacement.

- Remove the piston from the cylinder, if it is stuck, feed the brake at very low pressure until the piston comes out of its seat.
- Remove the damaged seal carefully and replace it, taking care not to cut it on the edge of the groove.
- Check that the inner surface of the cylinder is smooth and free from any marks or scratches.
- Spread a thin film of lubricating, **water-repellent, anti-adhesive silicone grease specific for metal-rubber**, on the internal surfaces cylinder and guide.
- Put the piston back in its seat.
- Check the piston seal at maximum pressure.

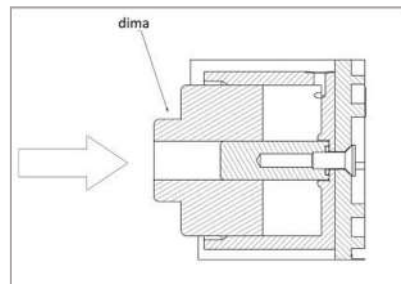


Piston and cylinder replacement

- Disconnect the air pipe from the connector or connectors. Depending on the position inside the cover, there may be three types of cylinder.
- Unscrew the corresponding screw on the brake cover to remove the piston and the cylinder.



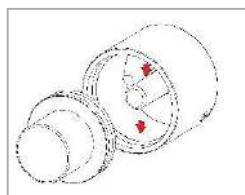
- Insert the new cylinder, the O-ring, the piston guide and tighten the screw without tightening.
- Insert the template (available as an option) for centering the piston guide and tighten the screw on the cover.



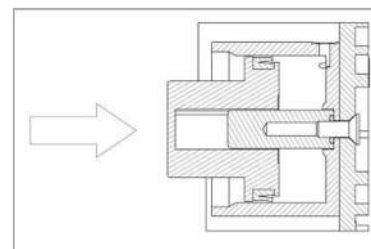
- Spread a thin film of lubricating, **water-repellent, anti-adhesive silicone grease specific for metal-rubber**, on the internal surfaces cylinder and guide.
- Insert the piston inside the cylinder, taking

care not to damage the gasket on the inner edge of the cylinder.

- Connect the air pipes to the connectors.
- Check the piston seal at a pressure of 6 bar.



If present, check your configuration of pistons on the label on the cover.

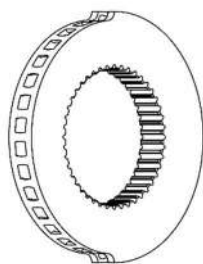


accessories

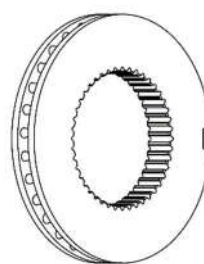
Our TX/CS brakes can have, on customer request, some accessories that are not present in our standard versions.

RPM counter

One of the most used and requested accessories not present in our standard is the tachometer with its sensor. These brakes will be supplied in the same composition as the standard brakes, except that a central disc (the last in the assembly phase) will be replaced by a specially built central disc with one or more "notches" for the tachometer.

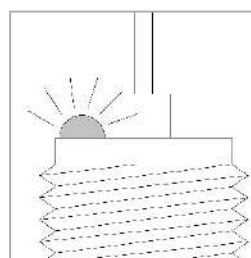
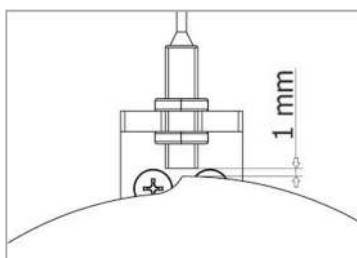


Disc with cam per tachometer HD



Disc with notches for tachometer HD

- Position the sensor at a distance of about one millimeter from the central disc, shaped with notches whose number and shape depend on the type of PLC management.
- Then power up the sensor and check by turning the shaped central disc that the warning light on its upper end flashes.

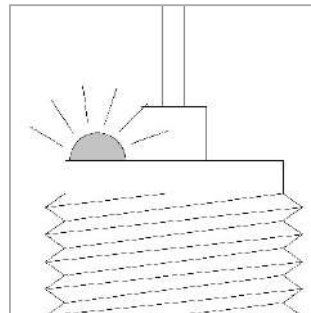
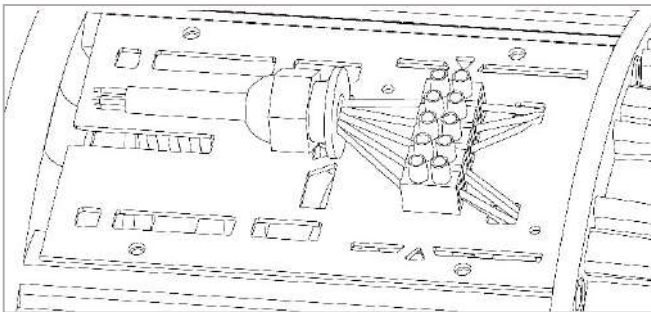
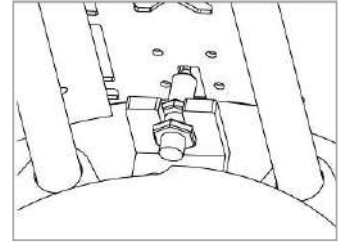


Below is the list of our available tachometers. By default, Renova supplies on its brakes a tachometer with PNP connection normally open (NO), but on request the PNP versions normally closed (NC) and the NPN versions both normally closed and normally open are also available

Type	Voltage	Current	Signal distance	Wiring	Renova Code
Standard	10 - 30 V CC	<200 mA	1,5mm	PNP (NO)	CG00000000
On request	10 - 30 V CC	<200 mA	1,5mm	NPN (NO)	CG00000NPN
On request	10 - 30 V CC	<200 mA	1,5mm	PNP (NC)	CG00000000-NC
On request	10 - 30 V CC	<200 mA	1,5mm	NPN (NC)	CG00000NPN-NC

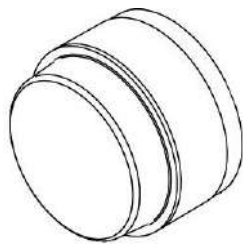
replacement of the RPM counter

- Remove the power supply to the fans because the moving blades can be dangerous for the operator's fingers.
- Remove the pneumatic power supply.
- Disconnect the sensor from the connector.
- Remove the sensor by unscrewing the nut that locks it on the bracket.
- Remove it from the eyelets and from the thermal protection sheath.
- Mount the new sensor on the bracket and adjust the distance from the central disc to about 1mm.
- Insert the cable into the eyelets and into the thermal protection sheath.
- Connect the 3 poles to the connector contacts according to the previously shown diagram (ref page 12).
- Power up the tachometer and check for proper operation by turning the central cam disc and observing the light on the sensor head turning on.

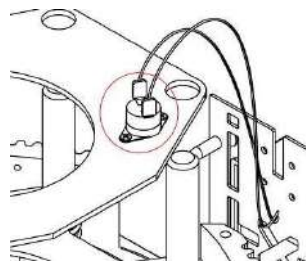


kit temperature sensor - lamp (KT000000011)

Another optional that Renova provides concerns the kit including the temperature sensor and signaling lamp. Thanks to these options it is possible to monitor that the brake temperature does not rise above the threshold and if this happens it will be signaled by a light signal emitted by the lamp.



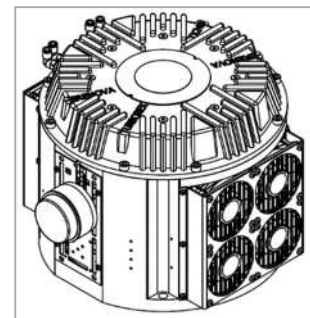
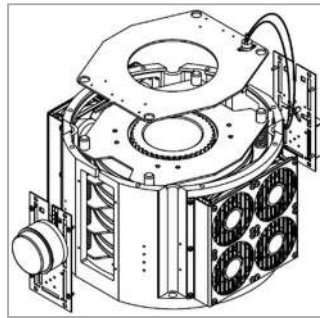
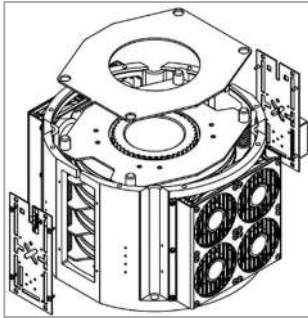
Signal lamp



Temperature sensor

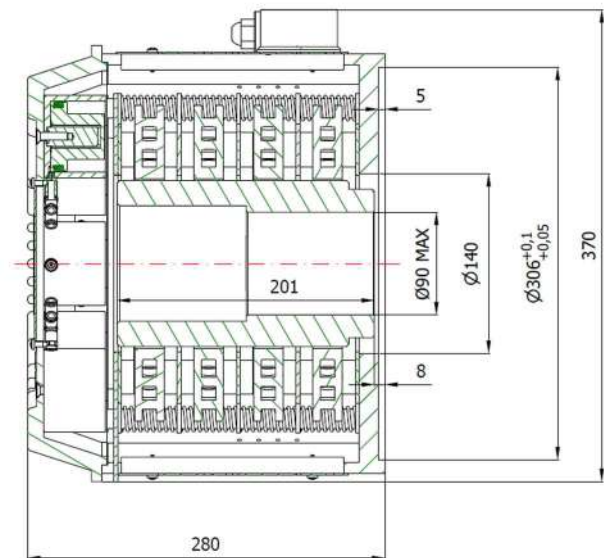
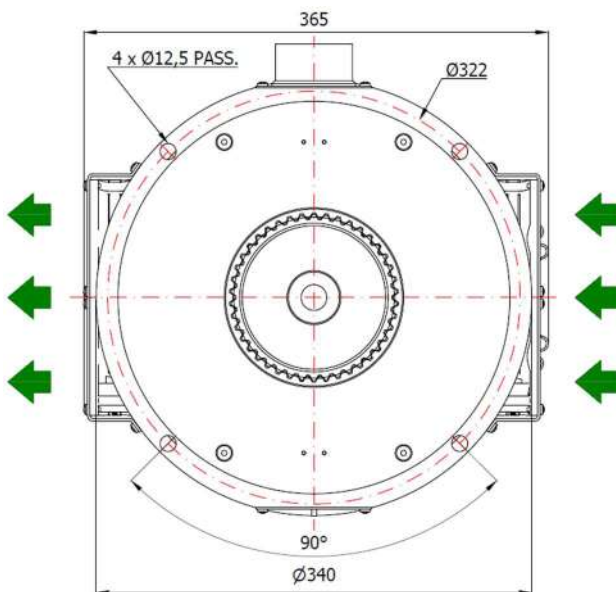
installation

- Disconnect the fans from the power supply; moving blades can be dangerous for the operator's fingers.
- Remove the pneumatic power supply.
- Remove the cover and the pressure discs.
- Remove the carter from each side, being careful, if a 3-pole plug is present, to cut the power wires of the fan near the connector.
- Place the new kit and store the pressure disc with the bimetal thermostat facing the cover.
- Reassemble the brake.
- Power up the fans and check that they are working properly.



dimensions

- R Flange ($\varnothing 340\text{mm}$) → drawings with maximum overall dimensions.



technical data

Performance:

Torque	Dependent on cover configuration. For more technical information, consult the brake drawing which presents more detailed and specific data of the brake selected
Speed	max 2500 rpm
Thermal capacity	18 kW
Max pressure	6 bar

Materials

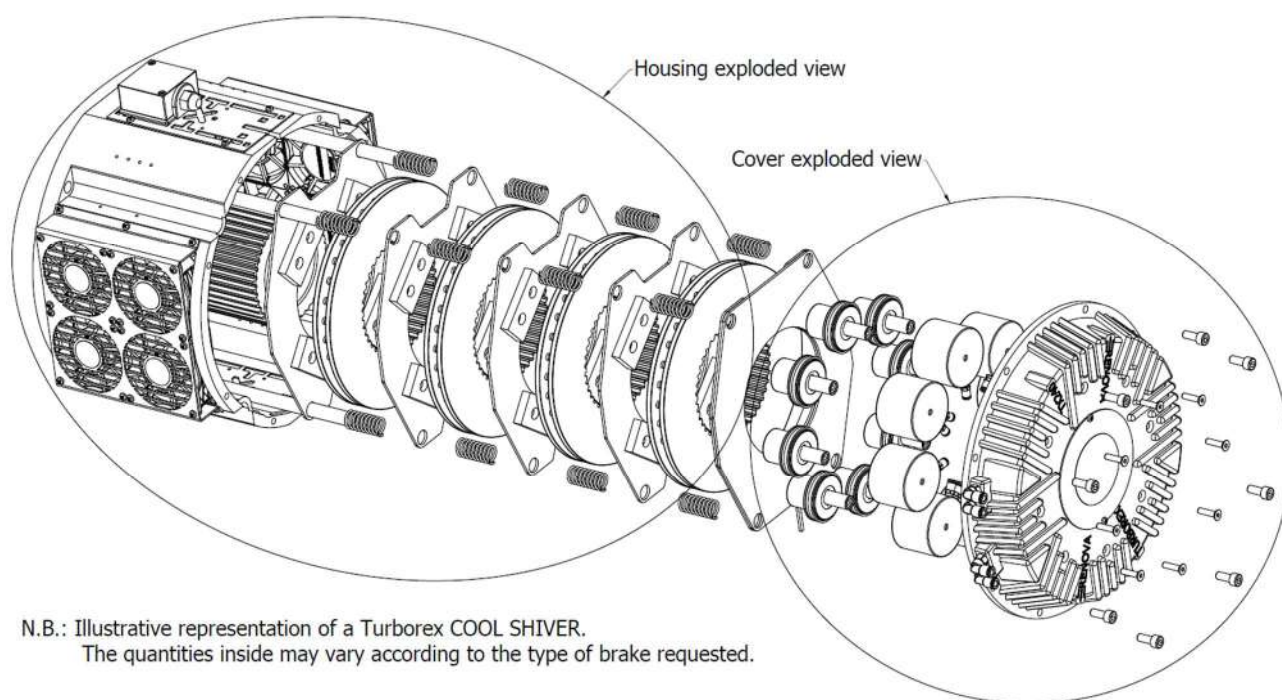
Housing and brake cover	aluminum alloy
Central discs	high carbon index steel
Linings	compound for continuous high temperature slip
Pistons	aluminum alloy
Pistons seal	Viton
Hub	Steel with induction hardened toothing

Weights

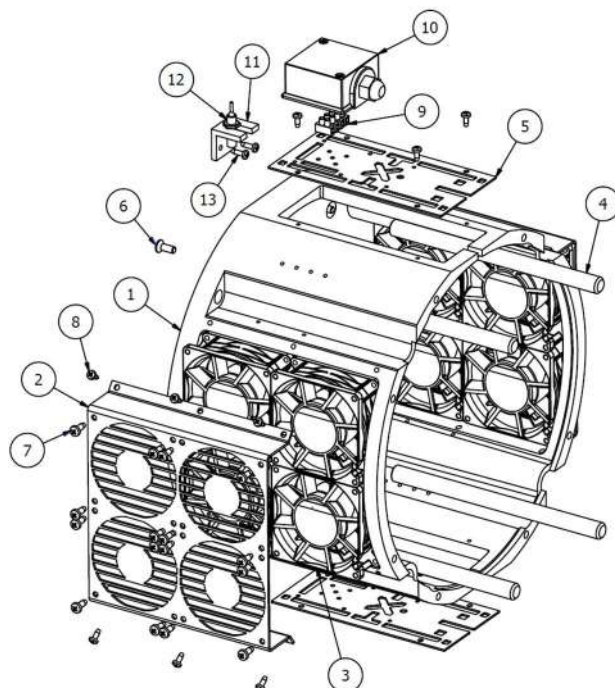
Brake weight (without hub)	About 39,5 kg*
Hub weight	About 13,5 kg*
Central discs weight	4 Kg
J central discs	0,0288 kgm ²

*the exact weight depends on the required configuration

Parts replacement



exploded view of the carter

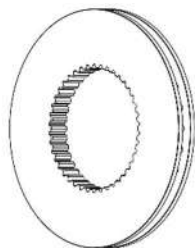


POSITION	CODE	DESCRIPTION
1	CPTXCS240000	Carter TXCS240 flange R (external flange diameter 340mm)
2	CVTXCS240000	Carter standards fans CS240 model
3	VT900380H3	Fan 90x90x38 - 24V - DC 1.2A - 30W
	VT900380H4	Fan 90x90x38 - 24V - DC 2.08A - 50W
4	GUTXCS240000	Tie Rod TXCS240
5	CATXCS240000	Lateral carter for multipolar connector
6	VITSM60200	Tapered screw
7	VITBM5016A	Button head screw for fans
8	VITBM4012A	Button head screw for carter
9	MAMMUT	Terminal block
10	CNTH100FO	Electrical box for carter
11	STCG000000	RPM counter bracket
	STCG0000B	RPM counter bracket – TXHD
12	CG00000000	RPM counter PNP – Normally open
	CG00000NPN	RPM counter PNP – Normally open
	CG00000000-NC	RPM counter PNP – Normally closed
	CG00000NPN-NC	RPM counter PNP – Normally closed chiuso
13	VITSTRPM1	Button head screw for RPM counter bracket

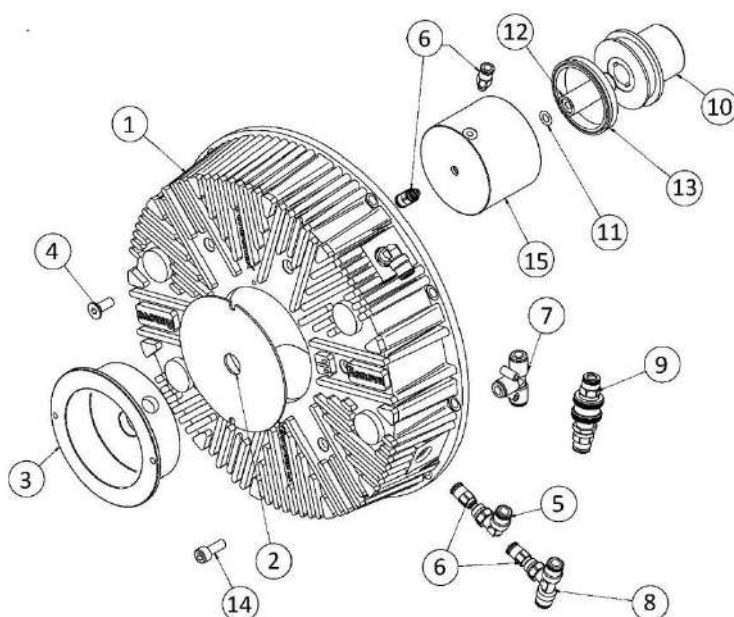
discs

Central discs design
HD 240 model

Code:
TXP0030

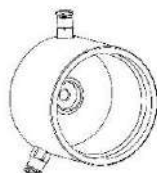


exploded view of the cover

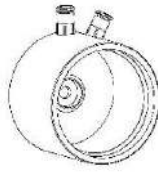


POSITION	CODE	DESCRIPTION
1	COTX240000	Cover 240 model
2	TPTX240000	Cap TX240
3	SFTX180018	Photocell support
4	VITSM60200	Countersunk head screw M6 – cylinder
5	I40-0046	Elbow fitting - pipe 6 mm
6	RAM505ARM5	Pipe fitting 5mm – M5
7	TU108PLA	Fitting T form - pipe 6mm
8	TU108G06AR	Fitting T form 1/8" – pipe 6mm
9	00TXDIS610-G1/8	Selector thread G1/8"
10	PSTXP180060-R20	Piston diameter 60mm
	PSTX180050	Piston diameter 50mm
	PSTX180040	Piston diameter 40mm
11	ORTX180	Cylinder O-ring
12	GPTX180000	Piston guide
	GPTXP180000-R20	Piston guide (for Ø60mm piston)
13	DEM060050V	Lip seal for piston diameter 60mm
	DEM055045V	Lip seal for piston diameter 50mm

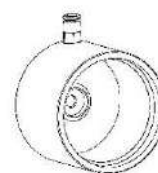
	DEM040045V	Lip seal for piston diameter 40mm
14	V50-0005	M8 screw for cover
15	CLTXP180L60-R20	Cylinder diameter 60mm with two opposed holes
	CLTXP180F60-R20	Cylinder diameter 60mm with two paired holes
	CLTXP180M60-R20	Cylinder diameter 60mm with one hole
	CLTX180L50	Cylinder diameter 50mm with two opposed holes
	CLTX180F50	Cylinder diameter 50mm with two paired holes
	CLTX180M50	Cylinder diameter 50mm with one hole
	CLTX180L40	Cylinder diameter 40mm with two opposed holes
	CLTX180F40	Cylinder diameter 40mm with two paired holes
	CLTX180M40	Cylinder diameter 40mm with one hole



2 opposed holes

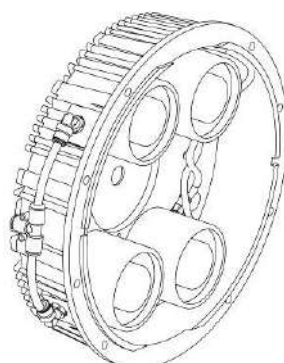


2 paired holes



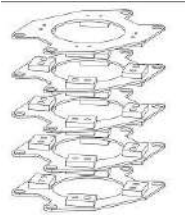
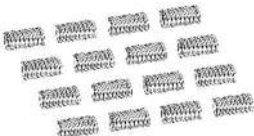
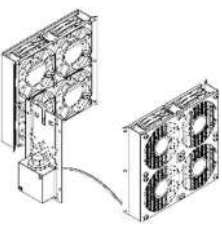
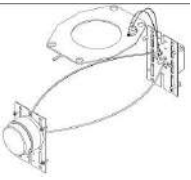
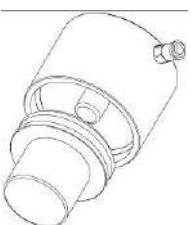
one hole

assembled cover (spare parts codes)



TXA0037	Assembled cover Turborex 240 - 2 ps 50
TXA0038	Assembled cover Turborex 240 - 3 ps 50
TXA0039	Assembled cover Turborex 240 – 2 ps 50 + 2 ps 50
TXA0040	Assembled cover Turborex 240 - 4 ps 50 + 4 ps 50
TXA0041	Assembled cover Turborex 240 - 4 ps 50 + 2 ps 50
TXA0042	Assembled cover Turborex 240 - 2 ps 50 + 2 ps 50 + 2 ps 50
TXA0043	Assembled cover Turborex 240 - 2 ps 50 + 2 ps 50 + 4 ps 50
TXA0044	Assembled cover Turborex 240 - 2 ps 50 + 2 ps 50 + 2 ps 50 + 2 ps 50
TXA0045	Assembled cover Turborex 240 - 2 ps 40 + 2 ps 40
TXA0046	Assembled cover Turborex 240 - 3 ps 40 + 3 ps 40
TXA0047	Assembled cover Turborex 240 - 3 ps 30 + 3 ps 40
TXA0065	Assembled cover Turborex 240 - 2 ps 50 + 2 ps 50 + 4 ps 50 - SELECTORS
TXA0067	Assembled cover Turborex 240 - 4 ps 50 + 2 ps 50 – EXTERNAL PIPES
TXA0068	Assembled cover Turborex 240 – 2 ps 50 + 2 ps 40 - SELECTORS
TXA0072	Assembled cover Turborex 240 - 3 ps 50 + 3 ps 50
TXA0078	Assembled cover Turborex 240 - 2 ps 50 + 2 ps 50 + 4 ps 50 – EXTERNAL PIPES
TXA0086	Assembled cover Turborex 240 - 4 ps 60 + 4 ps 60
TXA0087	Assembled cover Turborex 240 - 2 ps 60 + 2 ps 60 + 2 ps 60 + 2 ps 60

Replacement KIT for Turborex COOL SHIVER

Illustration	Code	Description
	Kit pastiglie	
	KPTX240000	Composed of: - 3 double lining disc - 2 single lining disc
	Kit dischi	
	KTXHD0015	HD discs Kit composed of 4 central discs STANDARD
	Kit molle	
	KMTXCS240F22	16 wire springs 2,2mm STANDARD
	Pre-wired fan kit consisting of Fans, carter, and multi-pole socket.	
	KVTXCS2400H3	Kit with 8 High Power 24 V CC 30W fans
	KVTXCS2400H4	Kit with 8 High Power 24 V CC 50W fans STANDARD
	Lamp Kit composed: - Alarm lamp - Double lateral carter - multipolar connector - pressure disc with bimetallic thermostat N/O 140°C	
	KT000000011	Lamp kit and bimetallic thermostat for overheating alarm upon 140°C
	Complete pneumatic actuator kit including cylinder, piston, seal, guide, O-ring, fittings and screw	
	KPSTX240F60	Piston diameter 60mm with two paired fittings
	KPSTX240L60	Piston diameter 60mm with two opposed fittings
	KPSTX240M60	Piston diameter 60mm with one fitting
	KPSTX180F50	Piston diameter 50mm with two paired fittings
	KPSTX180L50	Piston diameter 50mm with two opposed fittings
	KPSTX180M50	Piston diameter 50mm with one fitting
	KPSTX180F40	Piston diameter 40mm with two paired fittings
	KPSTX180L40	Piston diameter 40mm with two opposed fittings
	KPSTX180M40	Piston diameter 40mm with one fitting
		
Code: KPSTX240M60 Code: KPSTX240L60 Code: KPSTX240F60 Code: KPSTX180M50 Code: KPSTX180L50 Code: KPSTX180F50 Code: KPSTX180M40 Code: KPSTX180L40 Code: KPSTX180F40		

warranty

Renova srl guarantees this device from any defects relating to materials and manufacturing for a period of 12 months from the date of delivery of the brake itself.

In the event that, during the period covered by the guarantee, the device exhibits malfunctions, please contact the representative of the Company in the country of origin, or, in the absence of these, Renova srl directly.

The warranty includes spare parts and labor, but the shipping costs for delivery or collection of the device are exempt.

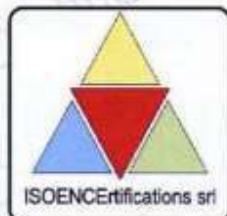
The warranty becomes invalid in the following cases

- Improper use of the product
- Incorrect installation
- Lack of maintenance
- Modifications or interventions with non-original components or with personnel not authorized by Renova srl
- Total or partial non-compliance with the instructions

Exceptional events

Once the warranty period has expired, technical support will be carried out by the assistance network which will carry out repairs according to the rates in force.

ISOENCertifications s.r.l.



DICHIARAZIONE DI CONFORMITA' **DECLARATION OF CONFORMITY**

Dichiariamo che l'esame è stato effettuato secondo i sotto citati requisiti che il sottoscritto soggetto recepisce
We declare that the examination has been carried out according with the following requirements
to which the undersigned is subject transposing

RENOVA S.r.l.
Via Pompeo Mariani, 16
I - 20128 MILANO (MI)

DICHIARA CHE
/ DECLARE THAT

il prodotto/
the product

TURBOREX BRAKE

Modello / Model

TX180

Anno di fabbricazione /
Production year

2012

E' CONFORME
/FULFILS

alle seguenti Direttive Europee:
/ the requirements of the Directive

Direttiva 2006/42/CE relativa alle Macchine
directive 2006/42/EC "Machinery directive"

Milano,
Data di Emissione del Certificato: 25/09/2012



L'amministratore unico
ing. Sergio Müller

Sede legale: Via Londonio, 28 - 20154 Milano - Italy
Uffici operativi: Via Puccini, 1 - (Via Verdi, 1/F) - 24040 Madone (BG)
Tel. : +39 035 4997726 - Fax : +39 035 4943471

NOTE

Manual revision index

Rev. n.	Revision date	Changes description
0	24/05/2023	Emission



renova srl a socio unico – viale Rimembranze 93 – 20099 Sesto San Giovanni - Italy
tel: +39.02.2700.7394 – fax: +39.02.2570.8635
www.renova-srl.com – e-mail: support@renova-srl.com