

Электромеханические пружинные тормоза серии АС

Инструкция по сборке

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1- Symbols

Symbol	Meaning	Description
	DANGER!	Danger of personal damage caused by a general source of danger It refers to an imminent danger that could give place to serious personal damage or death if the correspondent measures of protection are not respected.
	RISK OF ELECTROCUTION!	Danger of personal damage caused by high electrical voltage It refers to an imminent danger that could give place to serious personal damage or death if the correspondent measures of protection are not respected.
	STOP!	Danger of property damage It refers to an imminent danger that could give place to property damage, if the correspondent measures of protection are not respected.
	NOTE!	Important note to ensure troublefree operation
	TIP!	Useful tip for simple handling

2- General Alerts

	FEEDING VOLTAGE	The brake feeding voltage may vary of a $\pm 6\%$ in observance to the nominal tension signed on the label. The electromagnet requires a tension near the nominal value: an insufficient tension may cause a general bad working of the brake.
	ROOM TEMPERATURE	The room temperature for the brake correct working is between 5°C and 40°C. Contact technical office for different or further requirements.

3- Toolbox

To follow this manual, you need the following tools:



Wrench set



Allen key set



Dynamometric key



Thickness gauge set



Caliper gauge

	USE STANDARD KEYS	Use standard keys only, without the help of extensions to have a correct bolts and nuts tightening.
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4- Static Torque Values

	AC1	AC2	AC3	AC4	AC5	AC6	AC6/D	AC7	AC7/D	AC8	AC8/D
Nominal Static Torque [Nm]	4.5	10	16	20	40	60	120	90	180	200	400



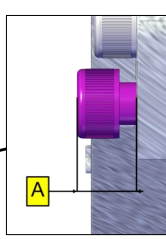
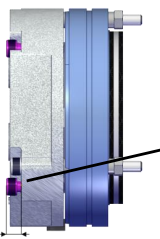
RUNNING IN THE BRAKE

The static braking torque value of the brake without running in can reach up to -20% of the plate value and up to -35% with the special antisticking friction material. Always run in the brake before use.

4.1- Braking torque regulation

Torque percentage	AC1		AC2		AC3		AC4		AC5		AC6(AC6/D)		AC7 (AC7/D)		AC8 (AC8/D)	
	A [mm]	Nm	A [mm]	Nm	A [mm]	Nm	A [mm]	Nm	A [mm]	Nm	A [mm]	Nm	A[mm]	Nm	A[mm]	Nm
100%	4.5Nm FIXED TORQUE		5.4	10	6.5	16	6.5	20	6.5	40	7	60 (120)	8.6	90(180)	8.6	200(400)
75%			6.2	7	8.5	11	8.5	15	8.5	30	8	45 (90)	9.9	67 (134)	9.9	150 (300)
50%			7	5	10	7	10	10	10	20	9.5	30 (60)	11.20	45 (90)	11.2	100 (200)

	Use a caliper gauge to measure the distance "A" and adjust the distance with an allen key
	The values in the chart are approximate. Real torque values must be always verified by measurement



NEVER REMOVE AND NEVER COMPLETELY UNSCREW THE TORQUE SCREWS

Never remove the torque screw: in this case the brake will be able to ensure about the 30% of couple static values



ADJUSTING THE BRAKING TORQUE LESS THAN 50% OF THE MAXIMUM TORQUE VALUE

Adjustment of the torque braking lower than 50% of maximum torque value is not guaranteed or provided from Tempotti srl. For more information, contact the Tempotti technical office.

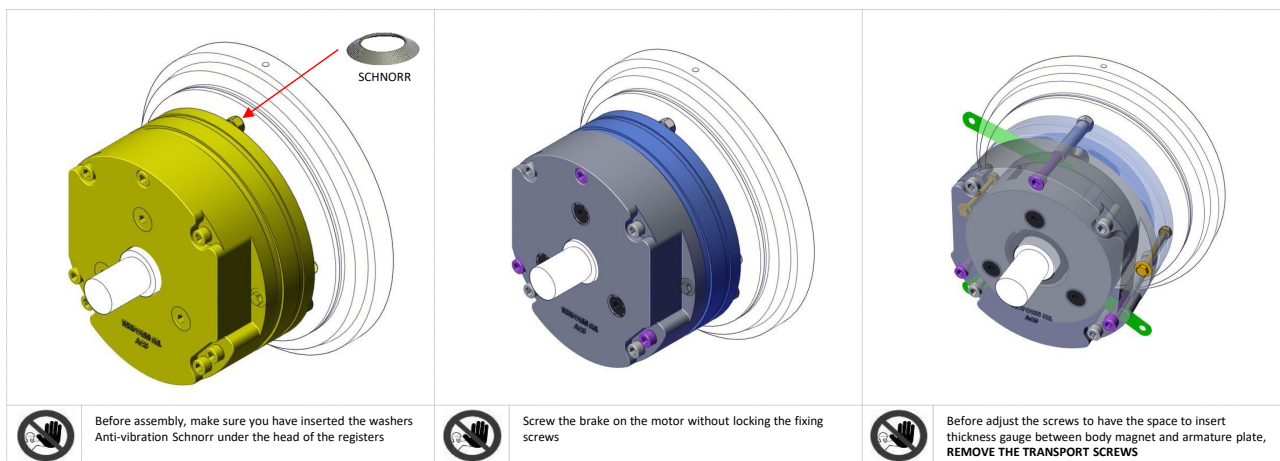
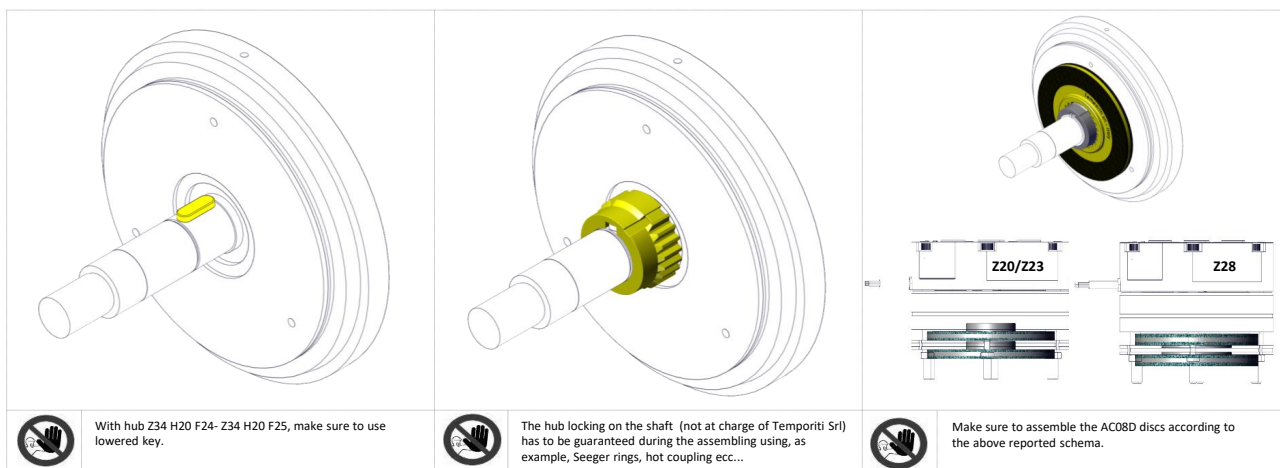
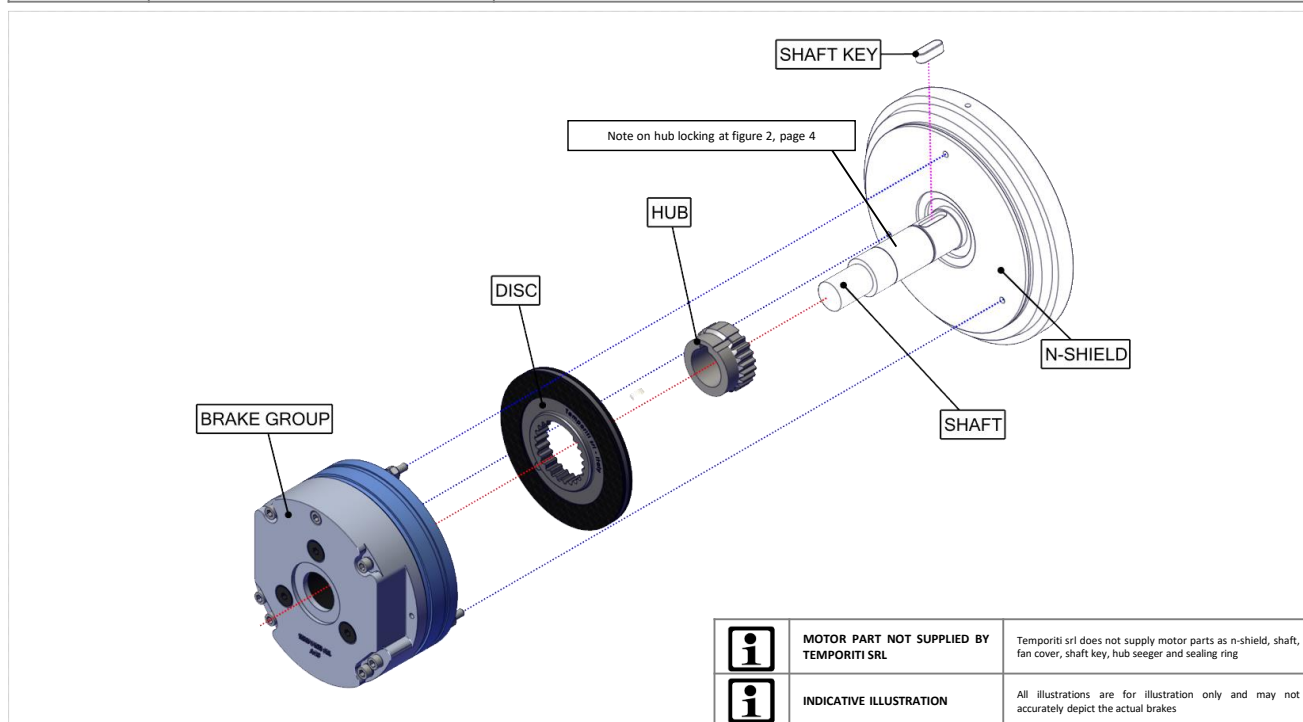


VALUES AFTER RUNNING-IN

The values in graphic are concerning to the brake runned in

5- Installation and Regulation

	KEEP METICULOUSLY THE INSTRUCTION ON THIS MANUAL	Adjusting operations carried out without following the operations of this manual, lead to a bad brake working.
	DISCONNECT THE BRAKE FROM POWER SUPPLY	Carry out the inspection, servicing and adjusting operations only after the brake electrically disconnection.
	SURFACES CLEANING	Good plane and braking surfaces cleaning, by using de-greasers that do not leave oily wasters, is necessary for good brake performance



Remove



Install



Adjust



Measure



Torque

AIRGAP CHART VALUES*

Insert the thickness gauges in correspondence to countersunk screws to be sure of the correct measurement

AIRGAP CHART VALUES*

To choose the right thickness gauges dimensions, follow the chart at point 5.2, page 6 and use **start** value as thickness gauge dimension for this step

1 TORQUE CHART VALUES*

*For the right torque value follow the chart at point 5.1, page 6

AIRGAP CHART VALUES*

To choose the right thickness gauges dimensions, follow the chart at point 5.2, page 6 and use **control** airgap value as thickness gauge dimension for this step

Torque test

If torque test is failed due a higher or lower torque measured value than necessary, adjust the purple screws as you can see at point 4.1, page 2

CONNECT THE BRAKE TO POWER SUPPLY AT MOTOR CONNECTION BOX AND TEST BRAKE FUNCTIONING

To carry out this operation, follow the connection diagrams at point 5.3, page 6

Remove

Install

Adjust

Measure

Torque

5.1- Torque Values

ASSEMBLING TORQUE CHART								
	AC1	AC2	AC3	AC4	AC5	AC6 AC6/D	AC7 AC7/D	AC8 AC8/D
Nuts tightening torque [Nm]	3	6	6	10	10	23	23	46

5.2- Airgap values

AIRGAP CHART [mm]															
AC1		AC2		AC3		AC4		AC5		AC6 (AC6/D)		AC7 (AC7/D)		AC8 (AC8/D)	
CONTROL		CONTROL		CONTROL		CONTROL		CONTROL		CONTROL		CONTROL		CONTROL	
0.15 GO – 0.25 NO GO		0.20 GO – 0.30 NO GO		0.20 GO – 0.30 NO GO		0.20 GO – 0.30 NO GO		0.20 GO – 0.30 NO GO		0.30 GO – 0.40 NO GO (0.50 GO – 0.60 NO GO)		0.30 GO – 0.40 NO GO (0.50 GO – 0.60 NO GO)		0.30 GO – 0.40 NO GO (0.50 GO – 0.60 NO GO)	
START	MAX	START	MAX	START	MAX	START	MAX	START	MAX	START	MAX	START	MAX	START	MAX
0.15	0.50	0.20	0.60	0.20	0.60	0.20	0.70	0.20	0.70	0.30 (0,50)	0.80 (1.00)	0.30 (0,50)	0.80 (1.00)	0.30 (0,50)	0.80 (1.00)

	MAX AIRGAP VALUE	Max airgap value is the airgap value for which, once reached, it is compulsory restore to starting airgap value		AIRGAP VALUE WITH MICROSWITCH	In case of brake equipped with microswitch, minimum air gap: Single disc: 0.4mm Double disc: 0.5mm
	THICKNESS GAUGE POSITIONING	For a correct airgap measuring, the thickness gauge has to be positioned in correspondence of the magnet surface and not on the external border of the magnet container or resin			

5.3- Electrical connection

Connect the brake to motor according to the following schema connection

W1 ● ● B2 W3 ● ● B4 W5 ● ● B6	B6 B2 B4 W1 W3 W5 R S T Start connection	B6 B2 B4 W1 W3 W5 R S T Delta connection
Search for coils using a tester (check continuity by setting measurement)		

6- Servicing

A frequent brake inspection is necessary for all parts as the wear depends on a series of factors and mainly on the load inertia, the shaft speed and the operation frequency. Verify the main parts of the brake group and, in case, replace them with original spare parts supplied by Temponti SRL. The principal values that has to be checked are the airgap and the disc thickness.
The brake airgap value has to be lower than max airgap value stated at point 5.2, page 6.
The disc thickness value has to be higher than the value stated at point 6.1, page 7.

Servicing may be roughly determined according to what is pointed out on the site.

6.1- Disc replacement

The disc must be replaced after a consumption of 1,5mm per friction material ring, that is when the minimum total thickness value is reached.

Disc replacement thickness limit – B [mm]									
BRAKE SIZE	AC1	AC2	AC3	AC4	AC5	AC6	AC7 AC7/D	AC8 AC8/D	
STANDARD FRICTION MATERIAL	4.80	5.50	5.50	5.50	6.30	6.30	7.50	8.10	

7-Disposal and recycle information



Recycle in eco-friendly way the packaging, metals and all the parts of no longer working brakes.

DO NOT THROW USED ELECTROBRAKES, OR PARTS THEREOF

Dispose separately from household rubbish the friction material (asbestos-free) after removing it from the metal part of the disk with a proper tool. Remove the resin from the electromagnet with a proper tools and dispose of it in accordance with current law regulations. According the European Directive 2002/96/CE on waste electrical and electronic equipments (RAEE) and its implementation of national law, the electrical equipments no longer usable must be collected separately and must be sent to a recycling step



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