



di Cicerchia Franco & C.

s.a.s.

40033 Ceretolo di Casalecchio di Reno (Bologna)

Via Scarlatti, 2 - Tel. +39 051 758888

Telefax +39 051 752893

E-mail: info@remet.it - www.remet.it

CERTIFICATE N° 17296/2021

Date 17/12/2021

Messrs

**MASINARA S.p.A.**

Via Einstein, 8

Loc. Monteveglio

40053 Valsamoggia (BO)

Attn Mr Antonio Isola

Subject: N°3 spring boxes for rolling shutters, axis  $\varnothing 60$  mm, identified as follows:

1. 22-60 03-N POM bushing;
2. 22-60 12-F Nylon rollers;
3. 22-60 07-M steel bearing.

-----  
**FUNCTIONALITY TEST**

*Performed test, reference standard:*

*Used instruments:*

*Operation condition:*

*Testing parameters:*

*Date:*

*Functionality test*

*Freezer OCEAN*

*Oven OTV 60*

*Thermometer TESTO mod. 925 matr. N° 0010220188*

*Room temperature*

*After conditioning at -30°C for 10 hours and +100°C for 10 hours*

*16-17/12/2021*

The functionality test of the above-mentioned spring boxes (photo N°1) is performed by subjecting them to a manual verification of the axial sliding and of the oscillation in the circumferential direction after conditioning at the temperatures of -30°C for 10 hours and + 100°C for 10 hours.

The results of the tests performed is shown in the table and in the following images:

BOX	FUNCTIONALITY CHECK				PHOTO N°
	TEMP. (°C)	TIME	RESULT		
			AXIAL SLIDING	OSCILLATION	
22-60 03-N POM bushing	-30	10 hours	POSITIVE	POSITIVE	2
	+100	10 hours	POSITIVE	POSITIVE	
22-60 12-F Nylon rollers	-30	10 hours	POSITIVE	POSITIVE	3
	+100	10 hours	POSITIVE	POSITIVE	
22-60 07-M Steel bearing	-30	10 hours	POSITIVE	POSITIVE	4
	+100	10 hours	POSITIVE	POSITIVE	

Per il Laboratorio

Andrea Tesini

**PHOTOGRAPHIC DOCUMENTATION**

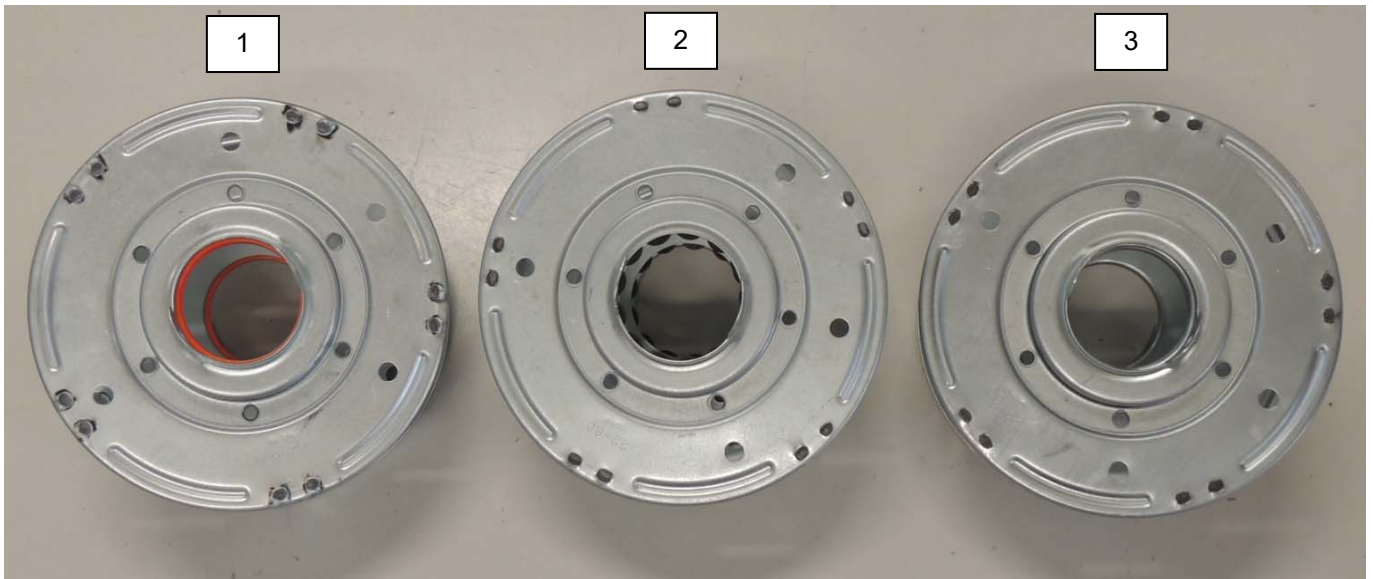
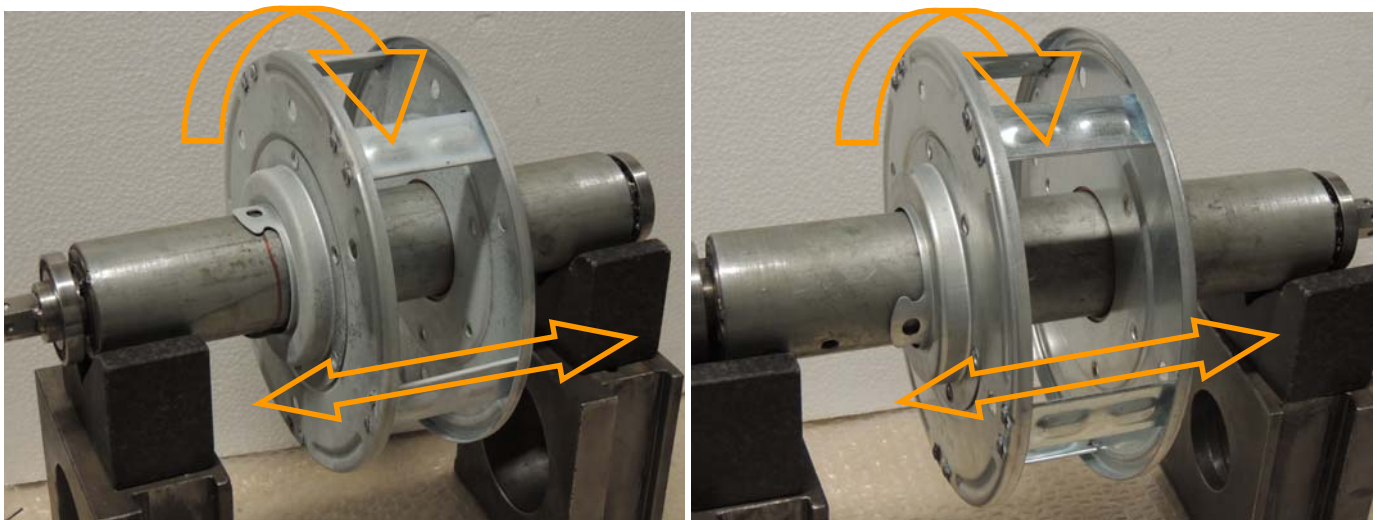


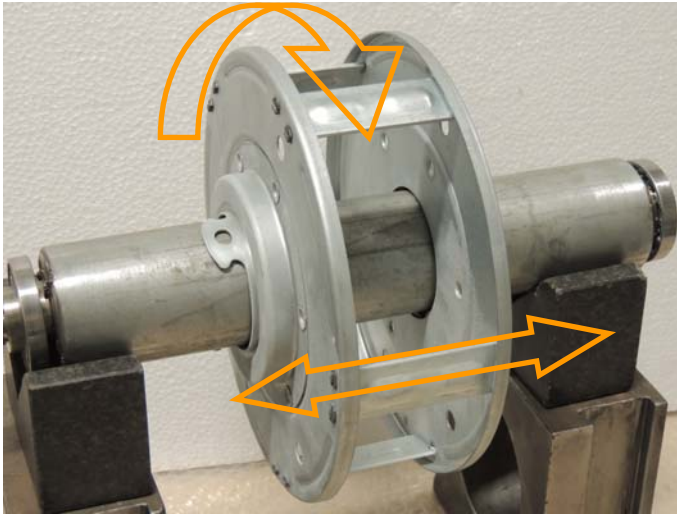
Photo N°1 – Examined spring boxes



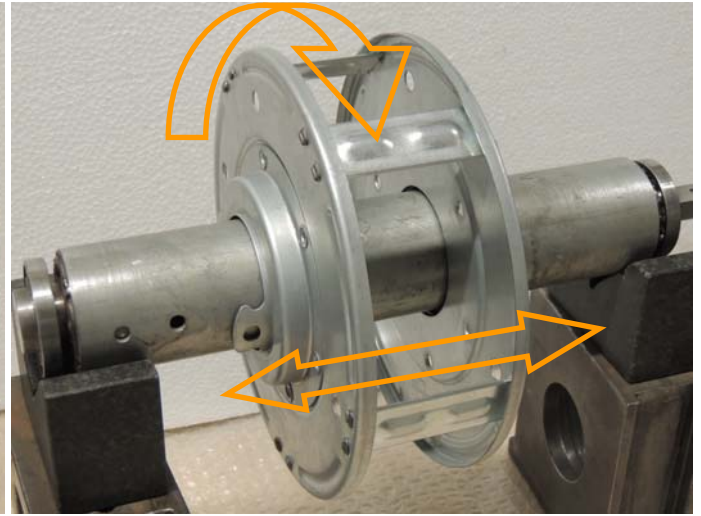
Temperature: - 30°C

Temperature: + 100°C

Photo N°2 – 22-60 03-N POM bushing – Functionality check

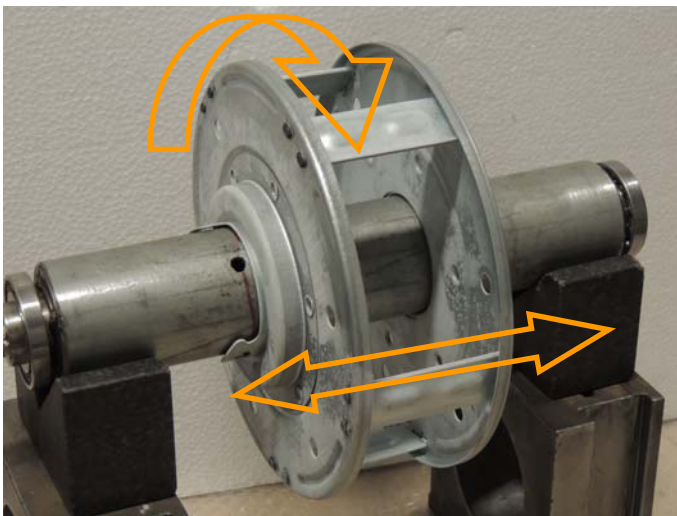


Temperature: - 30°C

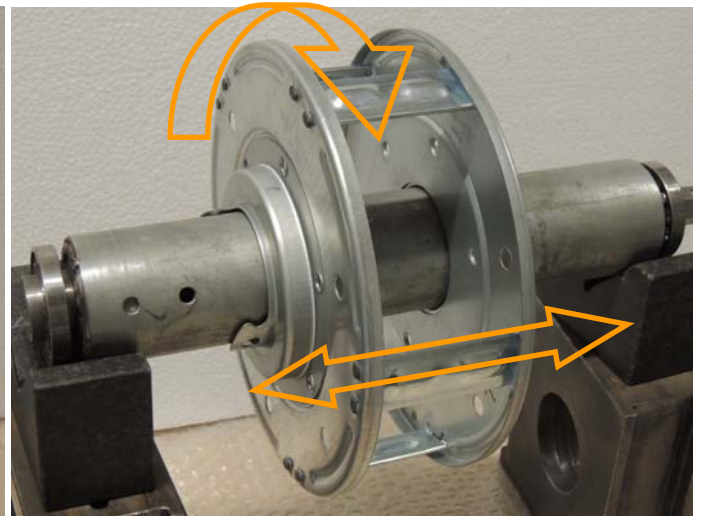


Temperature: + 100°C

Photo N°3 – 22-60 12-F Nylon rollers – Functionality check



Temperature: - 30°C



Temperature: + 100°C

Photo N°4 – 22-60 07-M steel bearing – Functionality check