

**CENTROTECNICA**  
*stress to ensure*

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# The Thermal Barriers

**ESSENTIAL FOR PERFORMING COMBINED TESTS**

*(climatic tests combined with vibration or shock)*



# THE THERMAL BARRIER, A VALUE ADDED PRODUCT FOR COMBINED TESTING

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Thermal barriers are very important and highly recommended accessories in systems for combined testing (climate testing with vibration or shock) where they offer a dual benefit:

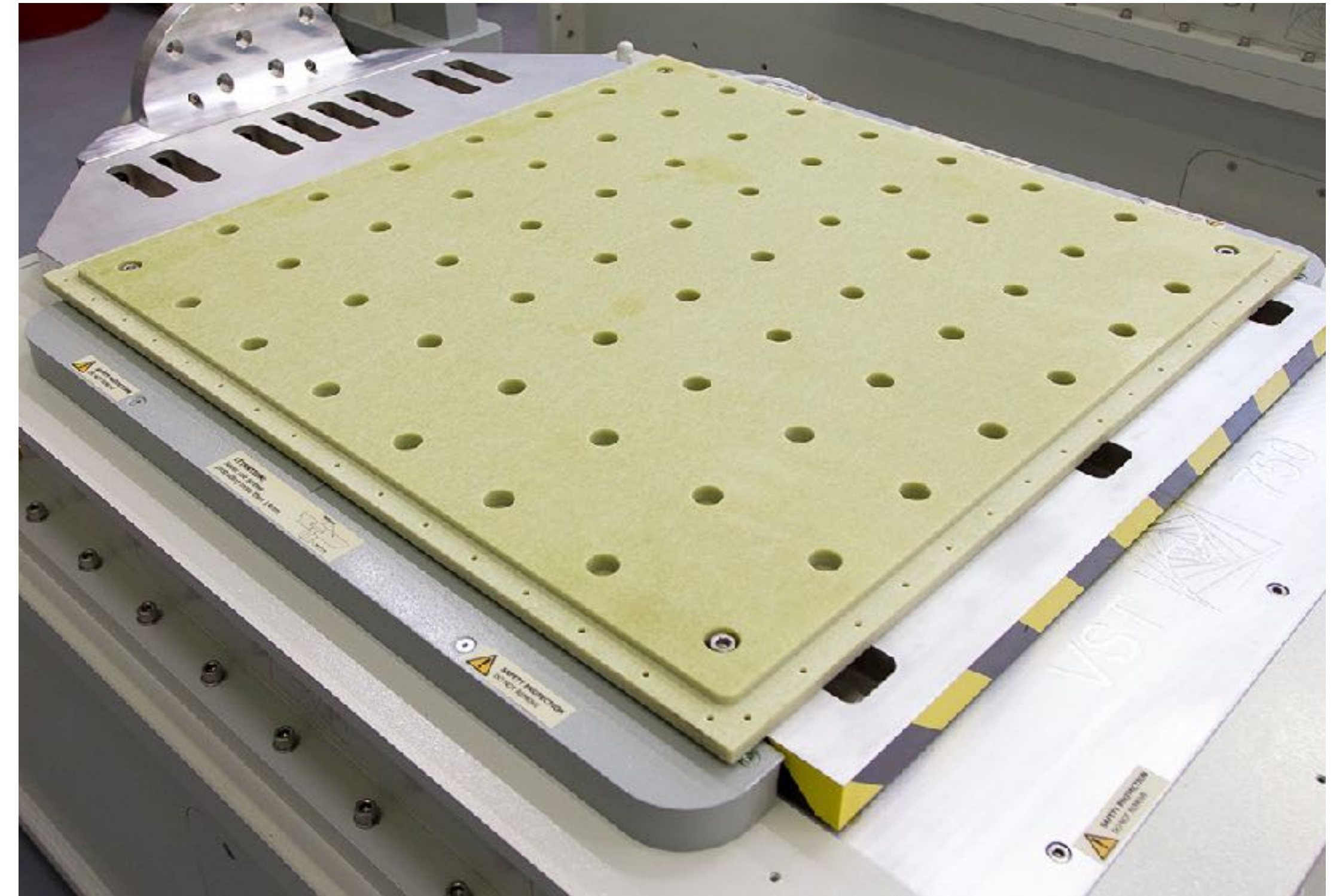
**1. They ensure that the sample is properly insulated from the heat produced by the shaker.**

The shaker armature gets very hot when it is working. If the heat is transmitted to the sample, it changes its condition for testing. Especially if this occurs at very low temperatures.

The thermal barrier safeguards the climatic integrity imposed by the test environment.

**2. They safeguard the vibrating system from the large temperature variations that occur in the climate chamber.**

The large temperature changes that can occur in the climate chamber, if transmitted to the vibrating system, can lower or impair its performance. The expansions, contractions, and structural deformations that a slip table or guided head expander would undergo can cause it to cause detrimental consumption, testing that is not true to the set profile, or even blocking of the system.





# INCREASINGLY ADVANCED AND SPECIALIZED

The design of a thermal barrier is a complex task because it has to fulfil more requirements than is usually thought:

- **INSULATING CAPABILITY:** of course, within a temperature range functional to the type of test it is intended for and with appropriate thermal radiation and expansion coefficients.
- **STIFFNESS:** it is a connecting plate between the vibrating system and the sample to be tested, it must transmit the imposed test profile as faithfully as possible.
- **TOUGHNESS:** must be able to withstand weights, loads and vibrations over long test sessions.
- **DURABILITY:** a thermal barrier must be able to accompany the slip table or head expander to which it is paired for years.
- **PROCESSING:** holes, cuts, grooves and trims must be made with great precision to ensure an ideal fit.
- **SIZE STABILITY:** it must not generate stresses between the fixture and the vibrating system that could lead to deformations and consequent malfunctions, even serious ones.

CENTROTECNICA's thermal barriers are increasingly advanced and dedicated to different uses.



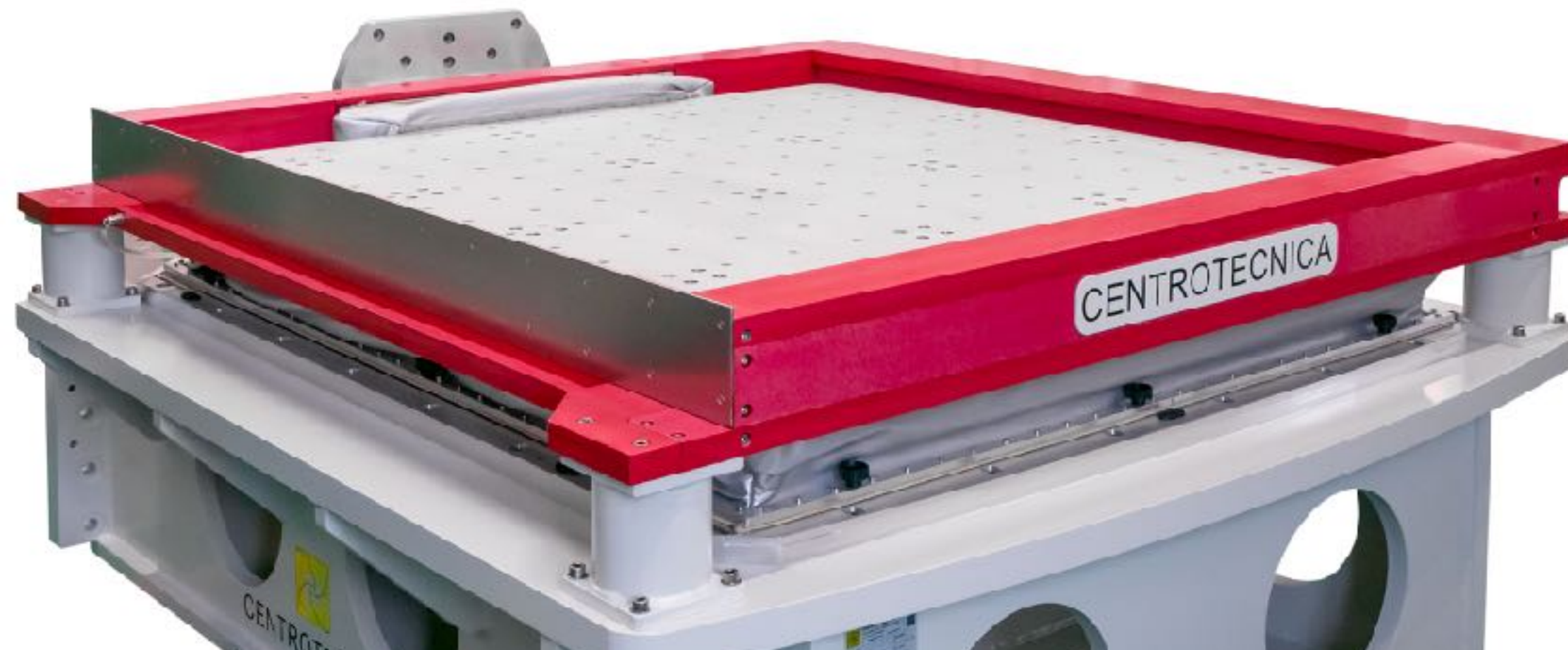


# OPTIONS AND UPGRADES FOR TESTING WITH THERMAL BARRIERS

## WATER DRAINING SYSTEM (OPTIONAL)

Grooves allow condensation water to drain to the lowest level and be discharged through drainage holes. The drained water is then collected in a practical tank via connection pipes.

This makes the system safe and clean when conducting climate tests with high levels of condensation or in the presence of samples containing liquids.



## DIRECT COUPLING SOLUTIONS

CENTROTECNICA has developed various systems to make the coupling between slip table and climatic chamber more effective, faster and safer.

Some are exclusively applicable to its own RT series slip tables and represent an added value, while other solutions are universally applicable.

# DIMENSIONS AND FEATURES OF STANDARD THERMAL BARRIERS

DIMENSIONS AND WEIGHTS OF THE ROUND MODELS																				
MODEL	TB 65R	TB 114R	TB 128R	TB 150R	TB 174R	TB 180R	TB 190R	TB 200R	TB 240R	TB 290R	TB 320R	TB 335R	TB 400R	TB 440R	TB 560R	TB 610R	TB 640R	TB 700R	TB 750R	TB 812R
DIAMETER Ø (mm)	65	114	128	150	174	180	190	200	240	290	320	335	400	440	560	610	640	700	750	812
THICKNESS (mm)	20																			
WEIGHT ± 5% (kg)	0,1	0,4	0,5	0,7	0,9	1,0	1,1	1,2	1,7	2,5	3,1	3,3	4,8	5,8	9,4	11,1	12,2	14,6	16,8	19,7
DIMENSIONS AND WEIGHTS OF THE SQUARE MODELS																				
MODEL	TB 300SQ	TB 400SQ	TB 500SQ	TB 600SQ	TB 640SQ	TB 750SQ	TB 800SQ	TB 900SQ	TB 1000SQ	TB 1200SQ	TB 1350SQ	TB 1400SQ	TB 1500SQ	TB 2000SQ						
SIDE (mm)	300	400	500	600	640	750	800	900	1.000	1.200	1.350	1.400	1.500	2.000						
THICKNESS (mm)	20																			
WEIGHT ± 5% (kg)	3,4	6,1	9,5	13,7	15,6	21,4	24,3	30,8	38,0	54,7	69,3	74,5	85,5	152,0						

Material: fiberglass

**Thermal range: up to 220°C**

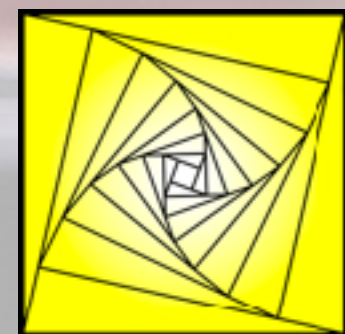
**Thermal conductivity: 0,22 W / mK**

Drilling template to customer specification

Other modular models are available to match any KRT-type slip table

Our design department will consider any request to meet specific requirements for not standard products





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## REFERENCE LINKS

[design department](#)

[production department](#)

[Direct Coupling Solutions](#)

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