



## ↘ CUBES & PRISMS

**Purpose** : to perform the vibration test along three orthogonal directions by rotating the items on the cube or prism's faces.

**Key features:**

- High resonance frequencies than L- or T-fixture
- Machined and casted solutions with a lightened design to save the mass
- Material = aluminium or magnesium alloy
- Customized hole insert patterns and thread sizes available upon request

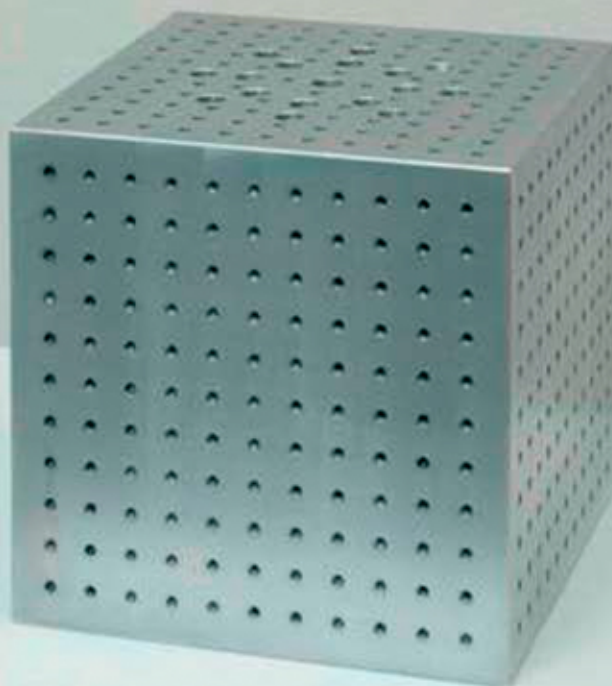




## STANDARD CUBES

Centrotecnica cubes are the most solid solution for the vibration testing. They are provided with inserts pattern on the 5 faces to mount the DUTs. The small sizes are machined from solid material, while the big sizes are manufactured from the casting model with a special inner lightening.

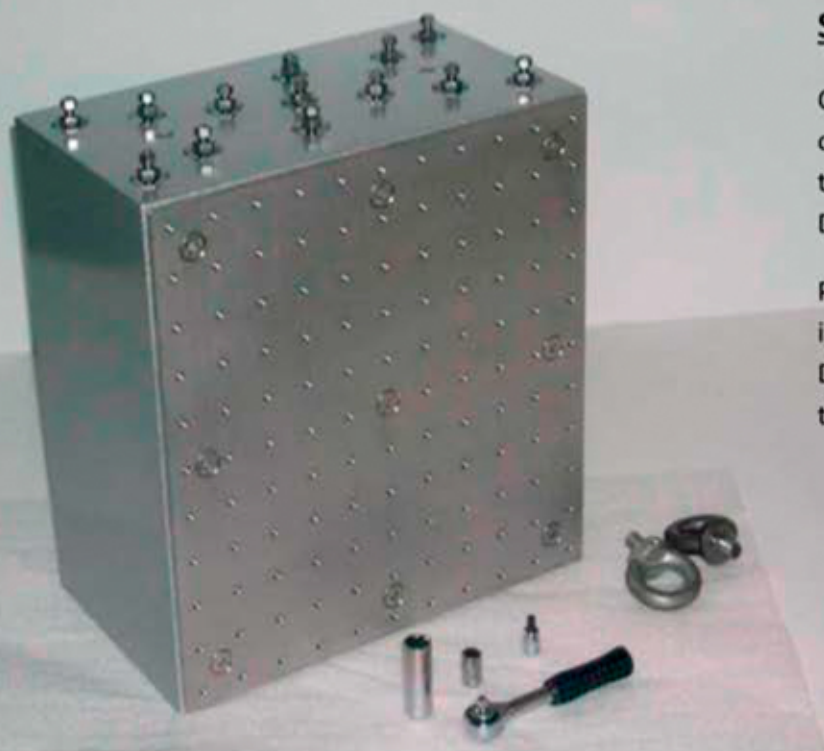
Cubes are typically installed on shaker armatures, interface plates or slip tables for tests on many DUTs at a time, in different orientations, and therefore save time.



## STANDARD PRISMS

Centrotecnica prisms are designed with two opposite faces with the same inserts pattern so that both can be used as mounting surface for the DUTs.

Prisms are typically installed on shaker armatures, interface plates or slip tables for tests on many DUTs at a time, in different orientations, and therefore save time.



### **Cube/Prism Kit includes:**

- inserts installed on the faces
- full mounting kit with screws and tools
- lifting eyebolt
- technical user manual
- certification document





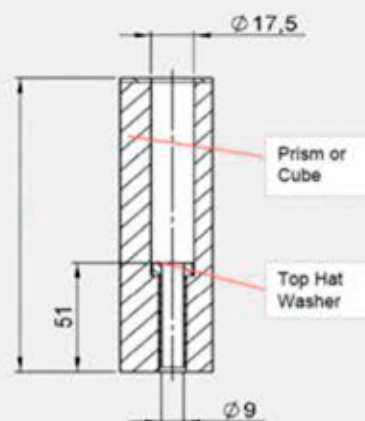


## FOCUS POINTS

### ➤ **Top Hat Washers**

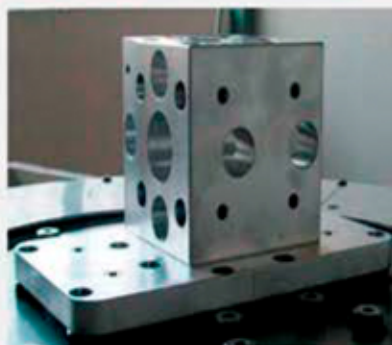
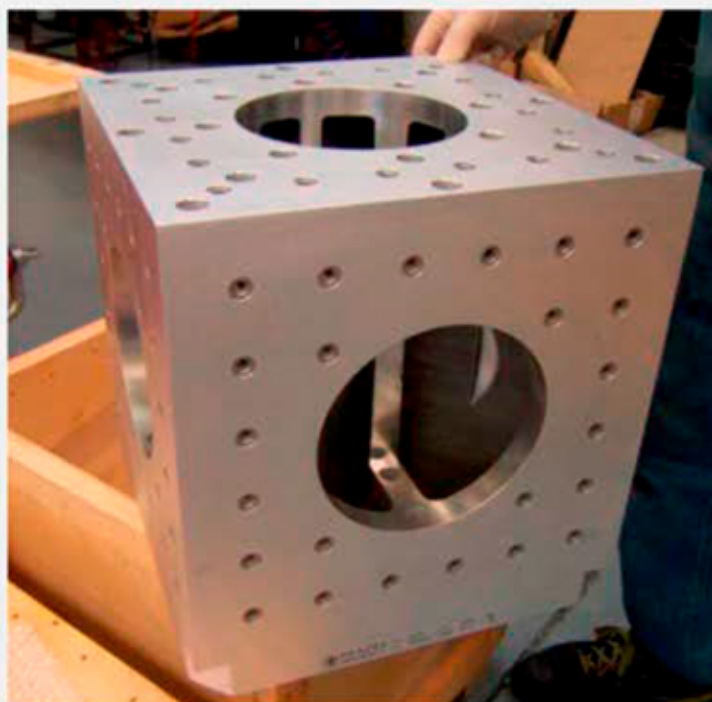
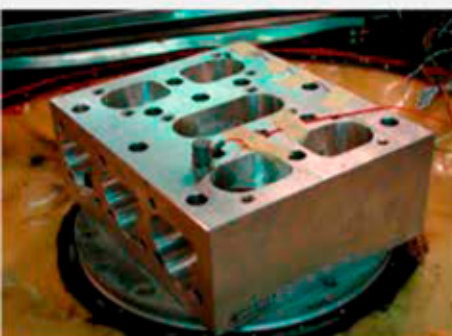
Stainless steel Top-Hat-Washers are installed into the counter-bored holes.

This feature prevents deformation of the material due to the fixing screws.



### ➤ **Special Design**

Upon request, Centrotecnica can design and machine the special solutions.



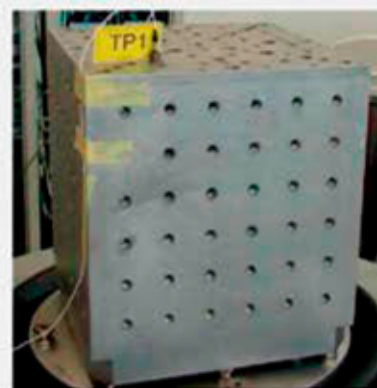
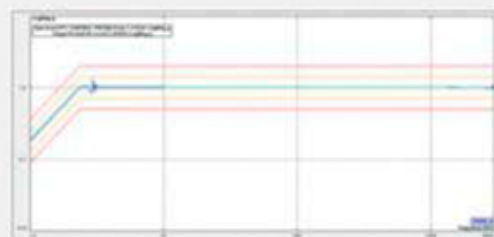
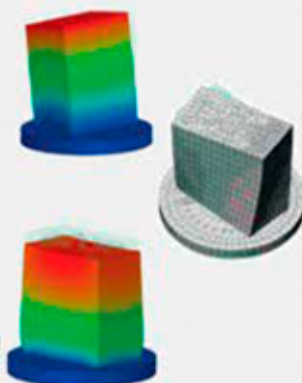
### ➤ **Dynamic Behaviour**

Each cube/prism is analyzed by a FEM model to predict the dynamic response and to study the best control strategy. Before the delivery, a vibration test is performed on the shaker or with an instrumented hammer in order to identify the three main vibration shapes:

- TRANSVERSAL MODE  
excited only with unbalanced payloads

- TORSIONAL MODE  
negligibly excited by the shaker

- AXIAL MODE  
excited by the shaker (main resonance)



**TECHNICAL SPECIFICATIONS - STANDARD CUBES & PRISMS**

Length	Width	Height	Weight $\pm$ 5% Aluminium version	Weight $\pm$ 5% Magnesium version
78 mm	78 mm	78 mm	0.8 kg	0.6 kg
110 mm	110 mm	130 mm	2.6 kg	2 kg
110 mm	110 mm	110 mm	2.2 kg	1.5 kg
156 mm	156 mm	176 mm	7 kg	5 kg
127 mm	127 mm	127 mm	3 kg	2 kg
198 mm	198 mm	223 mm	12 kg	8 kg
180 mm	180 mm	180 mm	7 kg	5 kg
240 mm	240 mm	275 mm	22.6 kg	15 kg
240 mm	240 mm	240 mm	15 kg	10 kg
180 mm	180 mm	215 mm	11 kg	7.5 kg
335 mm	335 mm	370 mm	63 kg	43 kg
350 mm	350 mm	380 mm	53 kg	35 kg

Length	Width	Height	Aluminium version Weight $\pm$ 5%	Magnesium version Weight $\pm$ 5%
180 mm	180 mm	100 mm	7 kg	5 kg
280 mm	280 mm	190 mm	31 kg	21 kg
280 mm	280 mm	190 mm	31 kg	21 kg
330 mm	330 mm	190 mm	42 kg	28 kg
440 mm	440 mm	245 mm	68 kg	46 kg
440 mm	440 mm	245 mm	68 kg	46 kg
445 mm	525 mm	245 mm	95 kg	64 kg
445 mm	525 mm	245 mm	95 kg	64 kg

An approval design is shared with the customer before the production starting.

Please always ask for technical feasibility:

compatibility between armature and our casting model has to be checked.

