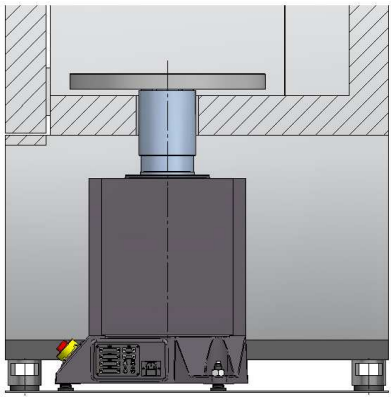
Series TES-4V with Temperature Chamber

Features

- Single Axis precision Rate Table TES-4H with mounted in stand with vertical table axis and according Data Sheet TES-4.
- Free standing thermal chamber with integrated mechanical cooling or with gas cooling LN2
- Vibration isolation between test table and thermal chamber.
- Mechanical cooling assembly can be seperated from the thermal chamber.



Description

The Test System TES-4V_TM or TG consists of:

- Single axis table TES-4V with vertical instrument axis, Data Sheet TES-4 describes the single axis test instrument.
- **TES-4V_TM:** Freestanding thermal chamber with mechanical refrigeration unit for cooling. The cooling unit is a sepeart assembly and can be placed outside the testing laboratory. The performance of the integrated system is described below.
- **TES-4V_TG:** Freestanding thermal chamber with LN_2 gas cooling. Below is the performance of the integrated system

TES-V modifications
The standard TES-4V test fixture is equipped with a thermally isolating shaft extension penetrating the chamber bottom and reaching into the thermal chamber. The table top fastens to the shaft extension. The aluminum platen has a pattern of threaded mounting holes for the mounting of the payload. If required the table can be made of stainless steel to match the coefficient of expansion of the payload.

Chamber with mechanical cooling system _TM
The thermal chamber assembly has air-cooled cascading compression system for cooling. Heating is by resistive heaters. Forced air ventilation accelerates thermal exchange and uniformity inside the chamber.
Isolation mounts avoid transmission of the compressor vibration from the freestanding refrigeration assembly. There is no mechanical contact with the rotating table axis shaft. Adjustable feet allow the alignment of the two units within the clearance of the penetrating shaft.

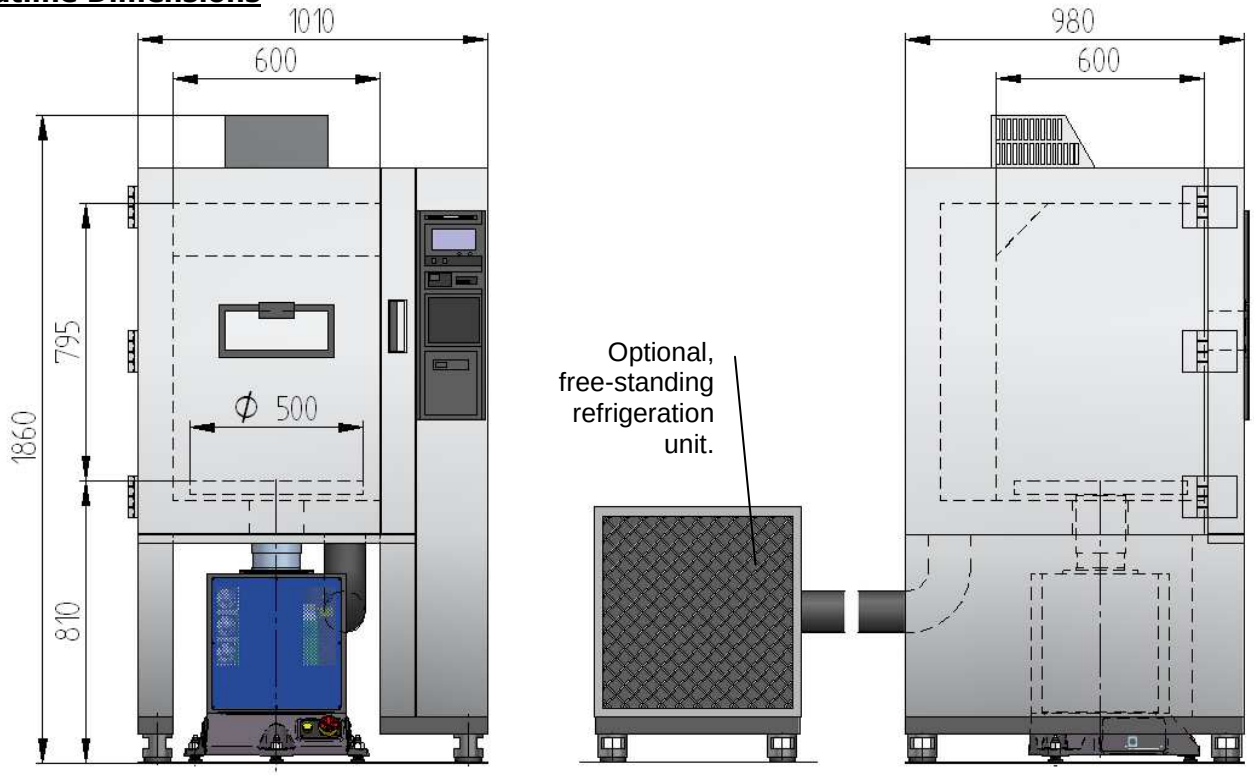
Chamber with gas cooling System _TG
As an option, the thermal chamber can be delivered with gas cooling. Expanding liquid Nitrogen LN2 provides cooling in place of the mechanical refrigeration system. The system performance is similar to the TES-4V_TM.

Test System TES-4V with temperature chamber

Specification Summary (amending and superseding the specifications of TES-4)

General Configuration:	Payload nominal,	350 mm x 350 mm x 350 mm, 40 kg;
	Table top	500 mm dia., aluminum hard anodized with grid of threaded mounting holes, M6 HeliCoil inserts on 50 mm spacing,
	Options:	-different platen diameter up to 560mm -stainless steel table top
Table Axis	Axis wobble	±<2 arcsec
	Axis inertia, (no load)	1.4 kgm^2
	Acceleration (no load)	±3'000 deg/s^2
	Bandwidth (-3dB)	>40 Hz
Dynamic performance	Position accuracy	±<5 arcsec peak-peak
	Position repeatability	better ±0.5 arcsec
	Rate range	±600 deg/sec
	Resolution	<1 arcsec/s
Temperature chamber		
	Temperature range	-60 degC to +100 degC (+/-2degC)
	Temp. rate of change	Heating 2.0 degC/min averaged (-55 to 85) Cooling 2.0 degC/min averaged (85 to -55)
	Temperature stability	+/- 0.5 deg C
	Temp. uniformity	+/- 1 to +/-2 deg C
	Chamber volume	600mm wide x 600mm deep x 600mm high
	Sound pressure level	59 dB (A) mechanical cooling
	Power	2.5 kW heating plus 9 kW for mech. cooling
	Electrical connection	3 phase/N/PE AC 400V+/-10%, 50Hz 16A

Outline Dimensions



All dimensions in mm and subject to change without notice.