Cryocooler Test Facility

CAPABILITY SHEET · A CRYOCOOLER'S COOLING POWER IS A CURVE, NOT A NUMBER. · A VACUUM CRYOSTAT, A H

THE ONE IDEA

PRINCIPLE	A cryocooler's cooling power is a curve, not a number.
WHY IT MATTERS	The cooling power is largest when the cold end is warm and falls to nothing at the coldest temperature the cooler can reach with no load, so one rating at one temperature says little about the temperature that matters.

THE FACILITY

CRYOSTAT AND SHIELD	A vacuum cryostat holds the cold plate behind a radiation shield, so that the heat leaking in stays small and known.
HEATER AND SENSORS	A heater and temperature sensors on the plate, wired so that the wires add almost no heat, with the kind of sensor that suits each range.
GAS AND VACUUM	A vacuum system and a helium line for the cooler's own gas, with a leak check before every run.
FORCE AND TILT	A three-axis force platform under the cooler and a tilt stage that holds it at set angles.

THE METHOD

ORDER	Duty, cryostat and shield, heater and sensors, gas and vacuum, force and tilt, build and prove. The heater and sensors and the heat-leak run are the two that a quick job skips.
LIMITS	Temperatures, heat loads, forces and times come from the customer's duty, and are not printed here.

CONFIGURATIONS

PERFORMANCE	A performance bench: a vacuum cryostat with a shield, a heater and sensors, and a logger that records the curve and the cool-down.
VIBRATION	A vibration and orientation bench: a force platform and a tilt stage under the cooler.
LIFE	A life and soak bench: a long run at a set load, logging temperature, input power and gas pressures.

SCOPE

SCOPE BOUNDARY	It is the cryocooler test facility: not a thermal vacuum chamber, not a helium charging station and not a cryogenic liquid system.
STATUS	Neometrix engineers cryocooler test facilities to order, and no delivered cryocooler test facility is claimed.

DEFENCE PROGRAMMES DESK

sales@neometrixgroup.com · +91 7777 876 876 · neometrixgroup.com

Neometrix Defence Limited · E-148, Sector 63, Noida, Uttar Pradesh, India