

Airborne Vapour Compression System

CAPABILITY SHEET - COMPACT REFRIGERATION PACKS AND ACCESSORIES FOR AIRBORNE AND MOBILE COOLING

THE SYSTEM

WHAT	Compact vapour compression refrigeration packs and accessories for airborne, mobile and shelter loads - air-cooled or liquid-cooled.
OUR ROLE	Cycle design and sizing, compressor and drive integration, compact heat exchangers, line routing and brazing, charge and oil management, control, AMC.
STATUS	Quoted against successive airborne vapour compression system requirements for a defence research organisation; no delivered system of the class is claimed.

THE GOVERNING IDEA

THE HEAT SINK MOVES	Ram air changes temperature, pressure and density with altitude and speed, so the cycle is sized for the worst point of the envelope, not the average.
MASS AND VOLUME ARE THE SPEC	Specific watts per kilogram and per litre drive compressor speed, heat exchanger surface and charge. A ground design on a diet is not the same machine.
THE CHARGE IS THE QUALIFICATION	Performance and oil return under vibration, manoeuvre load, attitude and thermal cycling are qualified properties, not commissioning checks.

THE MACHINE

COMPRESSOR + DRIVE	Compact, high speed, on anti-vibration mounts, taken from the platform's electrical supply, with soft start and defined protection.
CONDENSER + LOAD SIDE	Heat rejected within the air-side pressure drop available; evaporator serving air or liquid loads with superheat held steady as loads step.
CONTROL + ACCESSORIES	Receiver, filter drier, service valves, sensors and control laws - proven against cold-soak starts and conditions beyond the envelope.

DISTINCT & HONEST

MAKE COLD VS MOVE HEAT	A liquid loop cannot take a load below its own sink. That limit is why a refrigeration pack exists - the two are partners, not alternatives.
THE GROUND CART	Same thermodynamics, none of the same constraints - a fixed ambient, a ground supply, and no mass budget to answer to.
ENGAGEMENT	Send the heat load, ambient and altitude envelope, mass budget and electrical supply to sales@neometrixgroup.com for a compliance matrix in two days.

DEFENCE PROGRAMMES DESK

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

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