

MISSION

To develop and integrate Microclimate Cooling and Heating Systems for Military, Emergency Response, Commercial, and Medical applications

BENEFITS

- Heat stress relief for personnel encapsulated in protective clothing such as body armor and chemical/biological (CB) protective clothing in hot environments
- Personal body heating in cold environments
- Increased mission duration
- Thermal comfort

TESTIMONIALS

"...I just got back from my first flight with it a couple of hours ago. We flew 5.5 hours in 120 degrees and it worked awesome. The crew agreed this system is the best thing we've done for the helicopter since we put a rotor on it!!!"

- Helicopter Pilot in Iraq

"I wanted to pass on to you that since we have had the vests they have become increasingly popular with the platoon...they argue over who gets to wear them. They wanted me to ask for more of them."

- Infantry Soldier in Iraq



**US ARMY NSRDEC
TECHNOLOGY, SYSTEMS & PROGRAM
INTEGRATION DIRECTORATE**

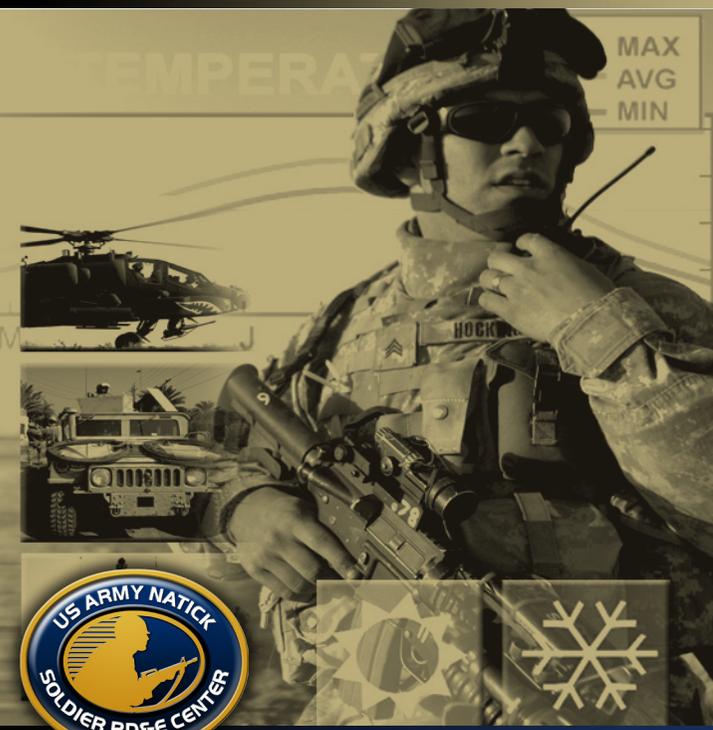
15 Kansas Street
Natick, MA 01760-5017
COMM: 508-233-4495, DSN: 256-4495
FAX: 508-233-6976
EMAIL: amsrd-nsc-ad-b@us.army.mil

ON THE WEB:

nsrdec.natick.army.mil

MEDIA INQUIRIES:

(508) 233-4300
nati-amsrd-nsc-ad-b@conus.army.mil



**MICROCLIMATE
CONDITIONING
SYSTEMS**



MICROCLIMATE CONDITIONING SYSTEMS

AIR WARRIOR MICROCLIMATE COOLING SYSTEM (AWMCS)

- Vapor compression, liquid circulating chiller
- Used on CH-47, UH-60, OH-58D aircraft and the M9ACE, Stryker ICV
- High level of cooling
- In production



AIR WARRIOR MICROCLIMATE COOLING GARMENT (AWMCG)

- Tube-lined heat transfer vest
- Hands free break-away connector
- Three sizes
- Interfaces with AWMCS and VMPCS
- In production



VEHICLE MOUNTED PERSONAL COOLING SYSTEM (VMPCS)

- Supplements air conditioning system; liquid circulating chiller
- Used on HMMWV
- High level of cooling
- In production



WARRIOR INDIVIDUAL MICROCLIMATE COOLING SYSTEM (WICS)

- Vapor compression, liquid circulating chiller
- 6 pounds
- Portable - battery operated
- Compact (1.5 liters)
- Medium level of cooling
- Prototype



PERSONAL ICE COOLING SYSTEM (PICS)

- Ice based, liquid circulating chiller
- Used with Level A and B protective ensembles
- 11 pounds
- Portable - battery operated
- Medium level of cooling
- In production



COMBAT VEHICLE CREWMAN (CVC) MICROCLIMATIC CONDITIONING AIR VEST

- Air Distribution Vest
- Mates with conditioned air system in M1 Abrams
- In production



BODY VENTILATION SYSTEM (BVS)

- Forced ambient air
- Worn under the Interceptor Body Armor (IBA) and duty uniform
- 4 pounds
- Portable-battery operated
- Active ventilation
- In production



INTERCEPTOR VENTILATION VEST (IVV)

- Spacer liner worn between duty uniform and Interceptor Body Armor
- 0.5 pound
- Enhances sweat evaporation
- Fire retardant fabric
- Passive ventilation
- Available



PERSONAL HEATING SYSTEM (PHS)

- Propane combustion, liquid circulating heating system
- 3.6 pounds
- Portable
- High level of heat
- Prototype

