



# PICS™

Portable Isolation Containment System



**PICS provides health authorities and emergency management agencies with a cost effective solution for portable and modular multi-patient isolation or containment, surge capacity, triage or field hospital for any large scale medical emergency.**

PICS 40 Patient Field Medical Complex



Photo courtesy of Calgary EMS

## Modular Field Hospital

- Total turn-key facilities provided to assist in the isolation and treatment of suspected or confirmed airborne viral or biological contamination naturally occurring or through an act of bioterrorism.
- Create a field medical hospital anywhere quickly and easily with multi-patient isolation rooms connected through a series of ante-room passageways.
- Offers health authorities and emergency management organizations a cost effective alternative to building new infrastructure.

Portable Community Triage Facility



Photo courtesy of Capital Health Edmonton and Area

## PICS Multi-Patient Isolation Complex

- Emergency Medical Assistance Response Teams increase hospital bed capacity to accommodate mass admissions from an infectious disease or pandemic event.
- Stand-alone 10 patient facilities offered with multiple modular medical unit expansion options.
- PICS is a series of stand-alone quick-erect rigid, aluminum framed, soft-walled structures that allow health care workers the ability to efficiently establish a field medical complex in any location.
- PICS protects valuable infrastructure by deploying the facility to people located in rural or remote areas or in the case of permanent health care facilities, a parking lot based surge capacity solution located outside the walls of the hospital.
- Unique ante-room design allows for transition ways between outdoor ambient conditions and inside the PICS complex.

All in one PICS-HVAC Environmental Control Unit



## PICS-HVAC Environmental Control Unit

- All weather ( $\pm 40^{\circ}\text{C}$ ) combination air filtration and purification system complete with remote thermostat controlled forced air heating and air conditioning.
- Offers real-time microprocessor controlled negative or positive pressure atmosphere designed to exceed CDC guidelines for permanent health care facilities.
- Air filtration utilizes a pre-filter and a micro-fiberglass high efficiency particulate arresting (HEPA) filter at 99.97% at 0.3 microns. Unique HEPA directed germicidal ultraviolet light employed for maximum bug killing efficiency.
- Includes post event ozone gas decontamination cycle

# PICS Advantages

## Field Applications



Photo courtesy of Ornge EMAT

- Hospital Surge Capacity.
- Community Triage Clinic.
- Field Medical Hospital.
- Multi-Patient Isolation or Containment Facilities.
- Emergency Disaster Medical Assistance Centre.
- Emergency Operations Centre.
- Portable Corporate Business Continuity Facilities.
- Field Morgue

## Modular Portable Shelter Technology

- PICS is a field proven portable shelter system utilizing aircraft grade 6063-T6 aluminum framework and vinyl coated polyester scrim cover set with UV protection, heat welded water proof seams and anti-microbial inhibitors meeting government building code for flame resistance and smoke retardance.
- Each PICS-10 shelter is 5.9 m wide by 10.7 m long (19' by 35') elongated octagonal by providing comfortable unencumbered floor space with vertical sidewall of 1.83 m tall (72") clear height .
- Each PICS-HUB shelter is designed to provide a 90° interconnecting link to adjacent PICS modules maximizing the flexibility of each configuration. All PICS modules are designed as stand-alone facilities.
- Structural mainframe shape is engineered to evenly distribute snow and wind loads for superior integrity in demanding weather conditions .



Photo courtesy of Capital Health Edmonton and Area

## PICS-HVAC Environmental Control Unit



- The PICS-HVAC ECU utilizes heat pump technology to maximize the efficiency of cooling and heating cycles across a wide ambient temperature range.
- The unit is available in two models – the PICS-HVAC-4 and the PICS-HVAC-5.
- The PICS-HVAC-4 is employed for northern and southern deployment destinations greater than and less than 40° latitude. The PICS-HVAC-4 requires 230V 50A single phase service. For extreme northern and southern climates, an integrated PICS supplementary indirect fired diesel air heater is required for each PICS module.
- The PICS-HVAC-5 has been designed for equatorial deployment destinations – between -40° and +40° latitude. Due to the equatorial deployment range, the PICS-HVAC-5 is supplied with supplemental forced air electric heating coils. Two circuits each of 230V 50A single phase service is required for each PICS-HVAC-5 machine.
- Both PICS-HVAC-4 and PICS-HVAC-5 machines operate on either 50 Hz or 60 Hz electrical frequencies for global deployment applications.
- Both units offer real time microprocessor controlled negative or positive pressurization to exceed CDC guidelines of delta 2.5 Pa for permanent hospital facilities.
- Both units delivers a minimum of 12 air changes per hour up to a maximum of 22 to exceed CDC guidelines for permanent hospital facilities.
- The PICS-HVAC machine is ergonomically designed to be field rugged and to be utilized in harsh weather environments. Crash bars, maneuvering handles and extra wide puncture proof wheels are provided for most deployment terrain. The PICS-HVAC is provided with a reinforced frame for fork lifting capability.
- Each unit is supplied with all required 35.6 cm (14") diameter field ducts and a specially designed interior air plenum for maximum dispersal of air and to provide uniform air mixture and return for air filtering and purification.
- PICS makes use of an unique application of ozone gas for post event decontamination of the portable shelter and all equipment left inside.



# PICS Standard Product Features

**PICS has been independently verified as meeting or exceeding all CDC specifications required for negative pressure isolation and positive pressure containment in a field hospital configuration.**



- Each PICS field module is supplied with a specially designed interior air plenum for maximum dispersal of air and to provide uniform air mixture and return for air filtering and purification.

- PICS offers complex entry/exit and pass through ante-rooms specifically designed to be stretcher friendly.
- Ante-rooms provide a dead air space between the outside environment and the interior of the complex as well as between adjacent PICS modules to minimize cross contamination of airborne microbes.



- Extra wide French style doors are provided to be located at each end of an ante-room.
- Doors are reversible but designed to swing out from the ante-room to maximize patient transfer from PICS module to module.
- Ergonomic threshold ramps are provided for ease of gurney and wheelchair access to and from the PICS complex.

- All PICS modules are supplied with a dedicated electrical distribution panel that provide 15A service with ground fault, overload and electromagnetic interference protection to each of 10 patient bed locations.
- A separate 20A circuit is provided per module for miscellaneous medical equipment.



- All PICS module are supplied with refillable water anchor bladders designed to anchor the shelter in high wind conditions.
- Each anchor weighs in excess of 225 kg (500 lbs) when full of water. Optional sand bladders can be substituted upon request.

# PICS Optional Support Equipment

PICS has been specially designed as turn key facility. Design Shelter's primary objective is to ensure that our clients field personnel have reliable ergonomic equipment from which to utilize. The company continually strives to develop and present additional products to meet the demanding needs of our customers. PICS field hospitals remain on the leading edge of innovation.



- The PICS high capacity, integrated, on-demand, indirect diesel supplemental air heater has been specially designed to adequately heat any PICS module in ambient temperatures as low as -40°C. On/off control is provided by the PICS-HVAC remote micro-processor controller.
- The PICS high capacity on-demand diesel fired water heater will provide your team with unlimited quantities of pre-set temperature water in the 35°C to 100°C temperature range. Unit is ideal for hot water supply to hand wash stations and field shower kits.

- Design Shelter offers a unique self contained 3 station gang sink and hand wash station for any medical deployment.
- PICS ergonomic double stall shower and single stall ablation stations are ideal for remote applications. Design Shelter toilets are offered in single use and incineration style configurations.



- Design Shelter water support kits provide a well rounded portfolio of fittings, hose and other water support products to configure any sized field medical facility.
- All potable water systems are based on garden hose thread and unable to be used in the grey water system.
- 2,300 liter reusable potable and grey water storage bladders provide sufficient on-site clean and grey water capacity

- Design Shelter offers several capacities of field power generators to deliver clean and reliable power to any sized field medical facility.
- All PICS generators offer optional 3 phase site back-up power capability.
- On-site all-weather electrical distribution panels and large capacity self contained electric panel trailers are offered to accommodate any sized PICS configuration



- Design Shelter offers custom designed storage trailers for storage and transport of all PICS field gear. Any sized trailer based on mission specific objectives can be accommodated.
- Ergonomically designed aluminum storage cases are offered to provide kit protection and ease of use in the field for all PICS field equipment. Cases are stackable and designed for configuring on standard military aircraft pallets. All cases are robustly manufactured of powder coated aluminum.

- Other field accessories offered by Design Shelter include integrated desk and shelf sets for any PICS module, bunk beds and roll up self inflating mattresses for staff accommodations and a comprehensive list of pre-packaged spare parts kits.
- Water purification systems are available upon request utilizing both filtered and reverse osmosis technology.
- Comprehensive service offerings include project management, deployment, life cycle management and extended warranties.

