



criticalsystems

NEW ENGLAND

ENGINEERING WITHOUT COMPROMISE

ABOUT US

Mission and Vision.

We are a professional services firm specializing in the design and manufacture of critical cooling and power solutions for myriad clientele markets. Our associates dedicate themselves to the pursuit of symbiotic balance demanded by clients with regards to financial performance, system efficiency, and sustaining resiliency. Our portfolio includes completed projects on six continents, including the most grueling environments on earth.

GOVERNMENT and INSTITUTIONAL

Federal State & Local Government
Military Facilities
Embassies and Consulates

EDUCATION

Early Childhood
K-12
College and University
Vocational Training

MISSION CRITICAL

Data Centers
Laboratories
Life Science
Pharmaceutical

COMMUNITY and CULTURAL

Performing Arts Centers
Hospitality
Mixed Residential/Commercial
Natatoriums

HEALTHCARE

Hospitals
Medical Office and Surgical
Patient Urgent Care
Long Term Care

Critical Systems is one of the fastest-growing engineering services firms in the DC, Maryland, Northern Virginia, and New England markets. As a representative of HVAC manufacturers from all over the world we offer products, knowledge, and services to forward-thinking building owners, architects, engineers, development, and construction teams to meet their current and future challenges.

Our mission is to support customer needs and green initiatives with high-quality, innovative solutions. Our sales, engineering, building services, operations, and account management teams consist of highly trained, technically focused individuals with over 700 years of experience. We are committed not only to helping our partners save valuable budget dollars but also to doing our part to make the world a better place.





OUR INSPIRATION +

Technology Partners

CRITICAL SYSTEMS provides professional services within industries as diverse as our clientele. Since 2008, our associates have served building owners and their chosen construction partners, whether requirements be smaller in scale or campus wide modernizations. We're proud of the portfolio of projects we have accumulated and appreciate the opportunity to share their stories.

TECHNOLOGY PARTNERS

	WATER-COOLED CHILLERS	Magnetic bearing centrifugals using Turbocor compressors (75-880 TR), traditional centrifugals chillers (300-3000 TR), VFD screw chillers (60-1000 TR). Made in the USA.
	AIR-COOLED CHILLERS	High efficiency scroll chillers, single packaged or modular design (10-185 TR), high efficiency VFD inverter screw chillers (115-470 TR), low noise, high ambient, microprocessor controls. Made in the USA.
	AIR HANDLING UNITS	Modular and semi-custom air handling units with No-Thru-Metal casing, 2 inch or 4 inch double wall construction, energy recovery wheels, flat plate heat exchangers, wrap around heat pipes. Outdoor or indoor. 1000 - 56000 CFM. Made in the USA.
	PRECISION ENVIRONMENTAL CONTROL UNITS (CRAC/CRAH)	High efficiency scroll compressors, DX, chilled water, dual coil, touch screen control panel, high ambient operation, R410A or R407C, 2-30 TR.
	WATER-COOLED SELF-CONTAINED	Modular and semi-custom air handling units with No-Thru-Metal casing, 2 inch or 4 inch double wall construction, energy recovery wheels, flat plate heat exchangers, wrap around heat pipes. Rooftop or indoor. 1000 - 56000 CFM. Made in the USA.
	AIR-COOLED ROOF-TOP UNITS AND SPLIT-SYSTEMS	100% outside air, semi-custom, and custom split systems when energy wheel, heat pipe, or flat plate heat exchanger. 3-135 TR.
	ICE THERMAL STORAGE SYSTEMS	Dunham-Bush patented ice thermal storage systems. Modular and high efficiency tanks, only 25.7 F brine required in freezing mold. Fiberglass double wall tanks, high density polyethylene (HDPE), heat exchanger for durability and efficiency.
	INDUSTRIAL LOW TEMP ICE RINK CHILLERS	Customized design, manufactured to requirements. R507 refrigerant.



 PETRA Petra Engineering Industries Co.	PACKAGED RTU / DOAS	100% Outside Air, Semi-Custom and Fully Custom Packaged DOAS or Rooftop Units with energy wheel, heat pipe, or flat plate heat exchanger. Water-cooled indoor and outdoor units. Copeland digital scrolls and Danfoss VFD compressor options available.
	CUSTOM AIR HANDLING UNITS	Custom Air Handling Units with No-Thru-Metal casing, 2" or 4" double wall construction, energy recovery wheels, flat plate heat exchangers, wrap-around heat pipes.
	AIR-COOLED CHILLERS	Scroll or Screw compressors. Options for ultra low noise, VFD compressors, and many custom options.
	WATER-COOLED SELF-CONTAINED	Modular systems available sized to fit through mechanical room access doors. Copeland Digital Scroll and Danfoss VFD compressors available. Modulating hot gas reheat available. Heat recovery available to supplement hot-water VAV reheat coils.
	SPLIT SYSTEMS	100% Outside Air, Semi-Custom, and Custom split systems with energy wheel, heat pipe, or flat plate heat exchanger.
 TANDEM CHILLERS	AIR-COOLED MODULAR CHILLERS	2-pipe and 4-pipe (heat recovery) chillers, scroll and screw compressors, split system available, free cooling modules or stacked coils.
	WATER-COOLED MODULAR CHILLERS	4-pipe and 6-pipe (heat recovery) chillers, scroll and screw compressors, refrigerant base heat recovery (triple heat exchanger for independent water loops – no mixing).
	LOW AMBIENT HIGH WATER TEMP HEAT PUMP BOILERS	Hot water temperature up to 165 F, double wall heat exchanger for domestic hot water, cascading refrigeration circuit for high temperature water production.
 KLIMAK srl	CUSTOM AIR HANDLING UNITS	1"(R-8), 2.25"(R-17), 3"(R-22), and 4"(R-28) double-wall panels. Foam injected or fiberglass insulation. Galvanized, stainless steel, aluminum, fiberglass reinforced polyester (FRP) cabinet liners. Standard No-Thru-Metal construction. Enthalpy and sensible wheels, plate heat exchangers, energy recovery heat pipes. Full wash down construction. ECM plenum fan array, NEMA premium + VFD, TEFC with VFD. Chilled water, hot water, steam, DX heat pump. Airfoil aluminum dampers, humidification, UV lamps, airflow monitoring stations, sound attenuators, HEPA/ULPA filtration. Lab/medical grade. Up to 100,000 CFM.
 VTS	SEMI-CUSTOM MODULAR AHUS	Standard 2" Double Wall Foam-Injected No-Thru-Metal Casing with 2400 hour salt spray rating. Indoor or Outdoor Construction. Standard 3-Week Lead Time. Ships as single piece, modular, or field erected. Energy recovery wheels and cross-flow heat exchangers. EC plenum fans. Horizontal or vertical configurations. DX Cooling/Heating, Chilled/Hot Water, SCR Electric Heat. VRF interoperability.
 INFINITY CRITICAL SYSTEMS' DEDICATED OUTDOOR AIR SYSTEM	ROOFTOP DOAS	100% Outside Air Packaged DOAS Rooftop Units. Energy Recovery Wheels, modulating hot gas reheat, VFD inverter compressors, 90% AFUE furnaces. Factory remote monitoring. Three week lead time.

 ruskinrooftopsystems.com	ENERGY RECOVERY VENTILATORS	Single or Double Wall Construction. Indoor or outdoor installation. Up to 12,000 CFM. DX Cooling/Heating, Hot water/Chilled Water, Electric/Gas Heat w/10:1 modulation. Factory installed controls w/BACnet interface. VRF condensing unit interoperability.
 dstamerica.com	DESICCANT DEHUMIDIFICATION	DST America is a subsidiary of DST Seibu Giken who is a world leader in desiccant dehumidification technology. Complement any indoor or outdoor DST dehumidifier with a fully modulating invertor driven Samsung heat pump condensing units to provide optimum temperature and humidity control for low dew point applications in any installation arrangement.
 1-act.com	AIR-AIR HEAT PIPES	Pump assisted air-air energy recovery heat pipe. 70% thermal effectiveness. Winter and summer recovery. Fractional horsepower refrigerant pumps. Similar to glycol run-around without the pumping skid, controls, or boiler injection. Custom coil sizes and capacities. BACnet capable.
	WRAP AROUND HEAT PIPES	Single air tunnel design. Directly before and after active (DX/Chilled water) cooling coil. Capacity reduction. Custom coil sizes and capacities. BACnet capable.
 criticalsystemsllc.com	AIR FILTRATION HOUSINGS	P&G offers a wide variety of air filtration equipment including Bag-In/Bag-Out Containment Housings, HEPA and Carbon Side Access Housings, ASHRAE Housings, Room Side Replaceable Terminal Modules, HEPA Holding Frames, and Bubble Tight Isolation Dampers.
 pghvac.us	HYDRONIC FAN COILS INVERTER PTACS/VTACS	VRF-Style Hydronic Cassettes, Low Static, Medium Static, High Static, Vertical, Horizontal, Consoles, PTACs and VTACs with Inverter Compressors.
 islandaire.com	PTACS/ VTACS / WSHPS	PTACs/VTACs for New Construction or Replacements for Amana, Friedrich, GE, McQuay. Also provide direct fit replacement WSHPs for ClimateMaster, AAF, Singer, McQuay, ElectroHydronic.
 reymsa.com	COOLING TOWERS	Non-Corrosive Fiberglass Cooling Towers and Fluid Coolers. High-Efficiency Cooling Towers to compete with partial/full Stainless Steel. Custom Color Configurations and Logos available.
 bosch-thermotechnology.us	CONDENSING MODULAR BOILERS	High efficiency modular condensing boilers. 1,000 - 4,000 MBH per bank, up to 8,000 MBH per controller. Common flue, gas, and water headers. Stainless steel burner. 10:1 turndown. 96.8% thermal efficiency. 194°F max LWT. Internal circulator pumps. Condensate neutralization.
 lynxspring.com	BMS/ATC	Lynxspring embraces open software and hardware using JENEsys powered by the Niagra Framework, Onyx and Helixx edge-to-enterprise products, and solutions used for Intelligent Buildings, Energy Management, CyberProtection, Equipment Control, and other specialty applications.



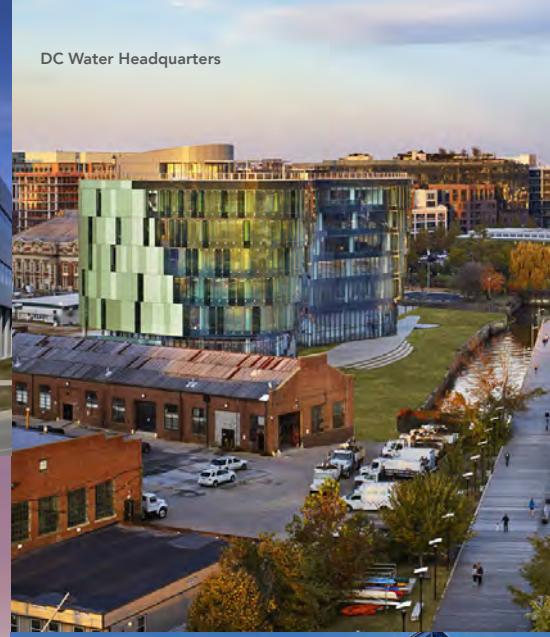
Providence Community
Health Centers – Atwood



Axcelis Technologies



DC Water Headquarters

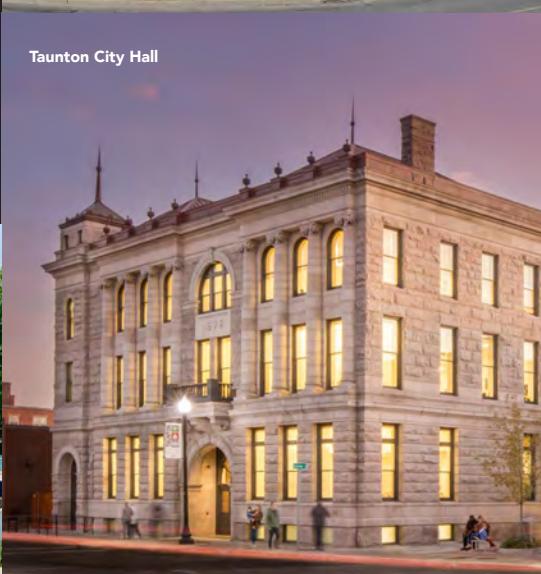


Case Studies

The Works – Wentworth - Douglass Hospital



Taunton City Hall



660 North Capitol Street



Smithsonian Tropical Research Institute



The Kennedy Center



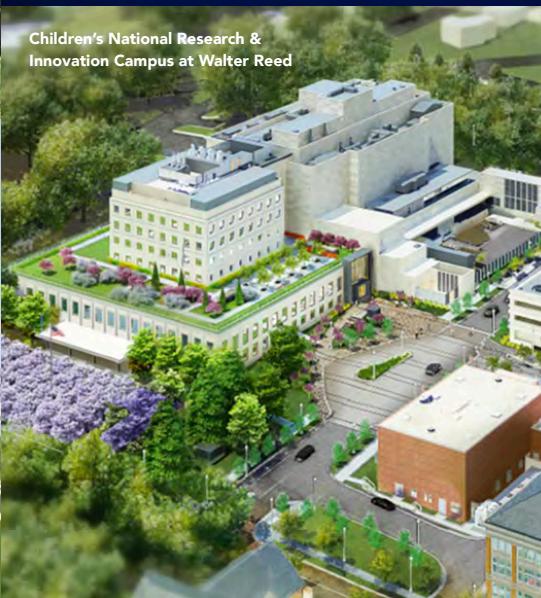
MedStar Georgetown University Hospital Surgical Pavilion



Walter Reed National Military Medical Center



Children's National Research & Innovation Campus at Walter Reed



Kaiser Permanente North Baltimore



CRITICAL SYSTEMS SERVICES

DESIGN & CONSTRUCTION

HVAC Engineering Services
Code Compliance
Application Expertise
Procurement Flexibility

SUSTAIN & RECOMMISSION

Evaluation of System Performance
Recommissioning
Space Reutilization Planning
Contingency Planning

OPERATE & MAINTAIN

Factory Certified Commissioning
Preventative Maintenance
Measurement & Verification
24/7/365 Service Availability

MODERNIZE

Evaluation of Leading Technologies
Capital Planning
Financial Analysis of System Options
Retrofit and/or Replacement Services



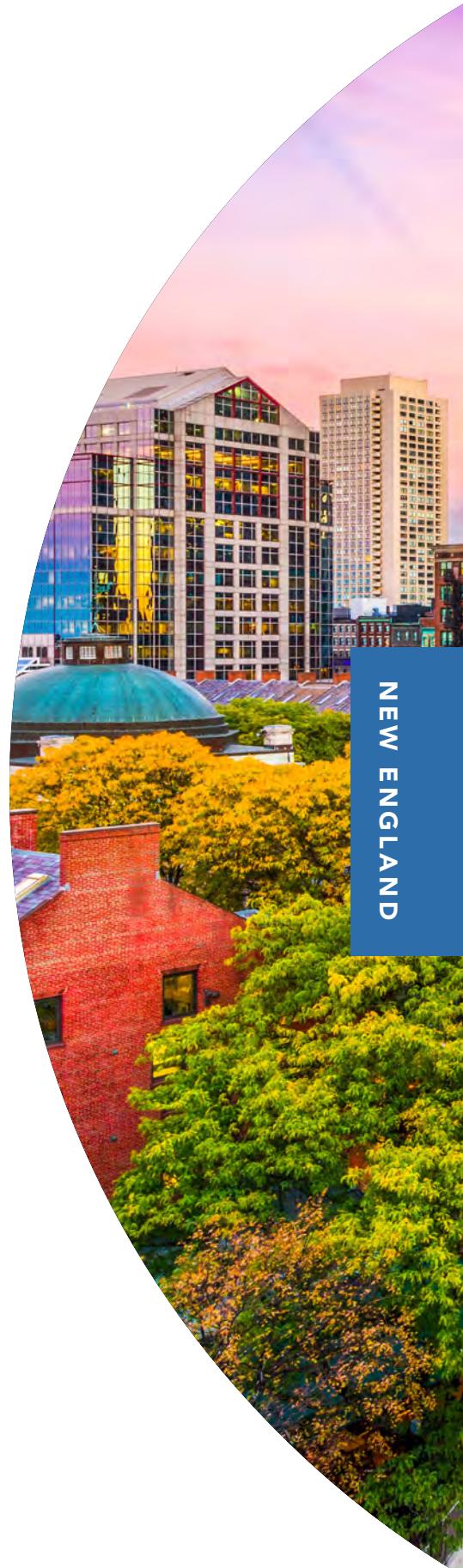
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