HDT Global, in business for over 75 years, acquired Nordic Air® in 2010. Nordic Air was founded in Geneva, Ohio in 1988. As a manufacturer of industrial air conditioners for work areas subject to extreme conditions, HDT Nordic Air is the industry standard for heavy duty and severe duty air conditioners, and power generation equipment to industrial and military customers around the world.

HDT Nordic Air excels in:

- Engineering design and development
- Innovative product development
- Customer service and support
  - 24-hour toll-free hotline connecting customers to HDT employee service professionals and product technical experts
- Quality manufacturing and operations
  - Strict adherence to ISO 9001:2008 Standard requirements, extending to HDT Nordic Air subcontractors and suppliers

What separates HDT Nordic Air from other manufacturers of air conditioning systems?

- Our industry experts, design engineers and support personnel have decades of experience in delivering best-in-class manufacturing solutions
- We design and build air conditioning and humidity control units to withstand the extreme conditions found in heavy duty/severe duty manufacturing facilities
- HDT Nordic Air products are a significant upgrade when compared to commercial-grade products that, when used in these environments, often have an extremely short lifecycle

235,000 square foot manufacturing plant on 35 acres in Geneva, Ohio
HDT UNDERSTANDS THE STEEL MANUFACTURING ENVIRONMENT

- We understand that the steel industry requires a high degree of reliability and performance regarding maintaining critical temperature and humidity levels in locations such as:
  - Machine control centers
  - Switch gears
  - Electrical control rooms
  - Computer control centers
  - Operator control pulpits
  - Labs and office space

- All of our custom-built configurations are assembled by a skilled team of certified technicians. There is no assembly line mentality here.

- Every product we build is subject to quality review and hours of testing before shipping

- Our products operate in extreme environmental conditions including:
  - **Corrosive Environment** — Sulphurous and hydrochloric gases, lime and chlorine can destroy exposed aluminum and copper, and reduce air conditioners to scrap metal quickly. Nordic Air air conditioners, with their heavy duty frames (1.5mm thick) and epoxy-coated coils are protected from these types of destructive and corrosive elements.
  - **Extreme Temperature** — The operating range for HDT Nordic Air Severe Duty air conditioners is -40°F to 200°F (-40°C to 93.3°C)
  - **High Humidity** — HDT Nordic Air air conditioners are designed to maintain and control specific relative humidity requirements from 40% to 50% RH
  - **Extreme Levels of Air-Latent Particulates** — Airborne particulates found in steel and other metal manufacturing environments are taken into consideration in the design of HDT Nordic Air’s heat exchangers, resulting in 8 fin-per-inch spacing in our evaporator and 6 or 8 fin-per-inch spacing in our condenser units
  - **Excessive Vibration** — Steel yard and overhead cranes cause a high degree of vibration. HDT Nordic Air units are designed with flexible lines and hoses along with rugged frames made of heavy gauge steel to protect equipment from the effects of high vibration environments
The HDT Nordic Air® HDE, HDR and HDSP series of air and water cooled units are rugged, heavy duty industrial air conditioners designed to withstand demanding environments. Unlike other industrial/commercial air conditioners on the market, the HDT Nordic Air series products have inherent design characteristics that make them more durable and cost effective.

Our HDE economy series units are basic water-cooled package units. Ranging from 3 to 20 ton systems, the HDE series is a solid base unit with a 10 fin-per-inch epoxy-coated evaporator coil (standard industrial/commercial units contain up to 22 fins-per-inch, allowing dirt and corrosion to build up quickly leading to system malfunction), heavy gauge galvanized steel cabinetry and many other standard features.

In our upgraded HDR robust series, available in both air and water cooled designs, units can be customized to meet specific customer requirements. HDR series air conditioners include many additional standard features over the standard features found in the HDE series units.

And finally our HDSP series is considered a special purpose environmental control unit designed to maintain specific humidity levels (40% – 45% range), and includes such additional features such as cupro-nickel coaxial or shell-in-tube condensers, and our positive-sealed and removable tool-free service doors with captive fasteners design. The HDSP series includes many more standard features shown on the next page.
### Product Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>HDE Economy Series</th>
<th>HDR Robust Series</th>
<th>HDSP Special Purpose Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>36K - 240K BTU Capacities</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>300K - 480K BTU Capacities</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>600K - 720K BTU Capacities</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>10 Fin-per-inch Evaporator Coil, Epoxy-coated for Corrosion Protection</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>8 Fin-per-inch Condenser Copper Tube/Aluminum, Epoxy-coated Coils (Air-Cooled Units)</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Tool-Free Removable Service Doors</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Positive-sealed, Removable, Tool-free Service Doors With Captive Fasteners</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Totally Enclosed Blower Motor</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>R-134a Refrigerant</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>R-410a Refrigerant</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Stainless Steel Drain Pan</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>High and Low Pressure Switches for Component Protection</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Powder-Coated, Heavy Gauge G-90 Galvanized Steel Cabinetry</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Stainless Steel Cabinetry Construction</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Single Drive Motor for Single or Dual Blower Arrangement</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Independent Dual Blowers/Dual Motors With External Backdraft Dampers</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>General Purpose Controls Integral To Unit</strong></td>
<td>Standard</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>IEC Controls in NEMA-rated Enclosure for Remote Field Mounting or Mounted to Unit</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Available</td>
</tr>
<tr>
<td><strong>NEMA Controls in NEMA 12 NEMA 4 or NEMA 4X Enclosures</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Return Air Filters</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Scroll Compressors</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Semi-hermetic Compressors</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Permanent Heavy Gauge Steel Fork Pocket Base</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Supply Air Plenums</strong></td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Various-Sized Duct Heaters</strong></td>
<td>Available</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Coaxial Copper Tube Condensers (Water-Cooled Units)</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Cupro-Nickel Coaxial Tube Condensers (Water-Cooled Units)</strong></td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Shell and Tube Condensers (or Marine Service Condensers on Water-Cooled Units)</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Water Regulating Valves</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Sealed Ball Bearings on Blower Shafts</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Grease Fittings to Exterior of Cabinet</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Schrader® Service Valves</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Compressor Crankcase Heater</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Replaceable Filter Dryers With Flare Fittings and Isolation Valves</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><em>(No Brazing or Burn Permit Required)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exterior Cabinet Liquid Refrigerant Circuit Sight Glass</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Two-Part/Take-Apart type “H” TXV’s With Flare Fittings and Isolation Valves</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><em>(no soldering or burn permit required)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Additional Product Features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fused Disconnect Switch</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>External, Single Stage Filter Box With Removable End Covers. 2” or 4” Pleated MERV-rated Filter</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Remote Room Thermostat</strong></td>
<td>N/A</td>
<td>Standard</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Electric kW Open Coil Heater</strong></td>
<td>Available</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>SCR Controlled – Electric Finned Tubular or Open Wire kW Heater</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Tinned Copper Control Wiring</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Corrosion Protection: Blower Housing and Copper Plumbing</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Split Configurations for Condensers and Air Handlers</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Distribution Supply Air Plenum</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Maintains Specific Humidity Levels from 40% – 45%</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Digital Hot Glass Bypass</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>PLC Unit Control</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Magnahelic® Gauges With Air Differential Switch Across Filter Bank</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Double Wall Construction on Air Handler</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>Available</td>
</tr>
<tr>
<td><strong>Smoke Detector With Fire Alarm Sensor</strong></td>
<td>N/A</td>
<td>Available</td>
<td>Available</td>
</tr>
</tbody>
</table>
HDT’s severe duty condensers, evaporators, and air handlers are designed for operation in environments with extremely high temperatures, high particulate or dirt content, corrosive elements in the air and high vibration.

**HDT Severe Duty Condenser Features**

- Condenser frames constructed with ¼” tubular steel, angle iron reinforcements and 16 gauge covers, all powder-coated or stainless steel
- 6 or 8 fin/inch epoxy-coated condenser coils to allow heavy dirt latent air to pass straight thru and enable the unit to work in extremely corrosive environments
- Open drive, semi-hermetic or scroll compressors for high temperature applications
- High temperature refrigerants allow for operation from -40°F to 200°F (-40°C to 93.3°C)
- GH134 multipurpose high temperature refrigerant hose and fittings to enable use in high vibration applications
- Oil separators, filter dryers, receiver, sight glass and adjustable high and low pressure controls are all standard
- Capacities ranging from 6,000 – 300,000 BTU’s in a single condenser unit are available
- Custom designs are also available in many configurations
HDT Severe Duty Evaporators

- Evaporator frames are constructed from 11 gauge steel with reinforcing angle and sheet metal all powder-coated or stainless steel
- 8 fin/inch epoxy-coated evaporator coils to minimize dirt build up on coils and allow for easy cleaning
- Units designed to operate with high temperature refrigerant and utilize hoses and fittings for high vibration applications
- Both high speed and low speed blowers can be utilized for maximum capacity and to allow quiet operation where necessary
- Designs available for ceiling, floor, wall, thru-wall and thru-roof applications are all standard. Ducted versions also available
- Capacities ranging from 6,000 – 36,000 BTU's in a single unit
- Custom designs are also available in many configurations, including ducted units
HDT Severe Duty Air Handlers

- Air Handler is constructed from 16 gauge galvanized steel (this is the minimum gauge steel used) with reinforcing members
- 8 fin/inch epoxy or Heresite-coated coil to minimize dirt build up on the coil and allow for easy cleaning
- Single or dual circuit designs available
- Serviceable pillow block blower bearings standard
- Vertical and horizontal configurations available
- Cabinet internally is sprayed with Henry 794 coating material and cured before a one inch thick 1.5 pound density fiber glass duct liner is applied
- Access doors have formed edges and steel locking handles
- Units designed to be lifted from the bottom or lifted from above with the addition of lifting lugs
- Capacities ranging from 12,000 – 720,000 BTU’s are available
- Custom designs are also available in many configurations
High efficiency gas and particulate filters for large industrial applications

Four filtering stages
- First stage – washable electrostatic filter (66% average arrestance)
- Second stage – 4” disposable filter (93% average arrestance)
- Third stage – gas phase, utilizing disposable activated Alumina and Potassium Permanganate pellets
- Fourth stage – HEPA filter (99.97% efficient on particulates @ 0.3µ or larger)

HDT Nordic Air® ECU engineers are available to assist in the design, engineering, and manufacturing of custom industrial units to meet specific customer requirements.
HDT Nordic Air® portable air conditioning units are designed for a variety of special purpose, heavy duty air conditioning applications.

- Humidity Control
- Extreme Environments
- Portable units range in capacities from 10 Ton – 60 Ton capacities
  - MBA10; 10 Ton Portable air-cooled ECU
  - MBA30; 30 Ton Portable air-cooled ECU
  - MBA60; 60 Ton Portable air-cooled ECU
- Applications include spot cooling, emergency cooling, or temporary cooling for short term needs

2KR Series Heavy Duty Room Conditioners

In addition to HDT’s larger air conditioning units, heavy duty room air conditioners are available. The 2KR series units are typically found in control rooms and offices within the mill or plant where the atmosphere is heavy with dust or corrosive elements. Standard residential window units will not withstand the harsh conditions present in this environment. The units are available in a self-contained, window style or as a split system.

2KR Series Advantages

- Epoxy-coated heat exchanger coils with 2.5mm fin (10 fin-per-inch) spacing
- Scroll compressors
- Totally enclosed motors with stainless steel shaft
- Slide out chassis
- High and low pressure controls
- R-407C refrigerant all models or R-134a high temperature refrigerant on 12,000 BTU or 18,000 BTU models
- All refrigerant copper tubing is epoxy coated for protection
- Stainless steel drain pan in evaporator section
- TXV used on evaporator rather than cap tubes for better refrigerant distribution
- Exterior 25.6mm (1 in.) thick filter and filter rack available for all models
- Heavy duty military-rated selector switch
- Chassis is available in G-90 galvanized, aluminum, or stainless steel construction
- One common sleeve size fits all models

Mobile Air Conditioners

HDT Nordic Air® portable air conditioning units are designed for a variety of special purpose, heavy duty air conditioning applications.

- Humidity Control
- Extreme Environments
- Portable units range in capacities from 10 Ton – 60 Ton capacities
  - MBA10; 10 Ton Portable air-cooled ECU
  - MBA30; 30 Ton Portable air-cooled ECU
  - MBA60; 60 Ton Portable air-cooled ECU
- Applications include spot cooling, emergency cooling, or temporary cooling for short term needs
The Carolina Cooler is designed for a variety of special purpose, heavy-duty air conditioning applications. The unit can be used with duct work or it can be supplied with a distribution plenum for on-the-spot air delivery. The optional caster kit adds mobility to the unit for greater application flexibility.

**Portable and Permanent Water Cooled Air Conditioners**

- Water cooled designs from 12,000 BTU to 60,000 BTU's
- Epoxy-coated heat exchanger coils with 2.5 mm fin (10 fin-per-inch) spacing
- Scroll compressors
- Totally enclosed motors with stainless steel shaft
- High and low pressure controls
- R-407C refrigerant utilized in all models
- All refrigerant copper tubing is epoxy coated for protection
- Stainless steel drain pan in evaporator section
- TXV used on evaporator rather than cap tubes for better refrigerant distribution
- Exterior 25.6 mm (1 in.) filter and filter rack available for all models
- Heavy duty military-rated selector switch
- Chassis is available in G-90 galvanized, aluminum, or stainless steel construction
- Options include 4 – 8 kW heat, exterior filter rack and pleated filter, supply air plenum, casters and condensate pump
- Voltages available 208/230-1-60Hz, 230-3-60Hz, and 460-3-60Hz

**HDT's line of Nordic Air® industrial air conditioners is designed to protect critical industrial processes and work flows that require maximum productivity. Steel Mills can ill-afford down time due to excessive heat or humidity causing equipment, or electrical components found in control rooms, to become inoperable. HDT Nordic Air understands this and builds air conditioners to withstand these elements. Unlike any other supplier in this market today, we are eager to consult with you and design custom air conditioning solutions built to your exact specifications. Contact us at 800-969-8527 to schedule a meeting with one of our industrial experts and discover the positive impact that HDT Nordic Air can make for your business!**

**Call to Action**

**Carolina Coolers Series**

**MBH 4000**

- Delivers 4000 watts of heat
- Designed for use on overhead crane cabs where 240 Volt DC is the only power supply
- Utilizes a true mill duty DC rated contactor, TENV DC fan motor, and adjustable thermostat
AIR CONDITIONING SOLUTIONS FOR THE STEEL AND METALS PROCESSING INDUSTRY

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