

# Hazardous Location Room Air Conditioners



**FRIEDRICH**

1 8 8 3

**ATEX Certified, CE Ex II 3 G Ex nA nC IIC T4 Gc**  
**IECEX Certified, Ex nA nC II C T4 Gc**

UL LISTED for CLASS 1, DIV 2, GROUPS A, B, C and D  
CERTIFIED in accordance with ISA 12.12.01 and NFPA 70  
(NATIONAL ELECTRIC CODE), ANSI/UL 484 Room Air Conditioners

Models Available in 20,000 Btu & 24,000 Btu

## Hazardgard<sup>®</sup>

**Engineered to perform in the harshest conditions.**



50 | 60  
HERTZ

# Hazardgard®

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


## Hazardgard meets T4 temperature classification

- Unit surface temperatures will not rise above 135° C/275° F.
- Operates at low ambient conditions without freezing at outdoor ambient temperatures as low as 7° C/45° F.
- Tolerates higher outdoor temperatures up to 55° C /130° F.

For more than 30 years, industrial professionals have trusted Hazardgard® to deliver safe and reliable cooling in the most extreme conditions. Hazardgard is specifically designed to cool laboratories, control rooms, living quarters, storage areas and other enclosures situated in hazardous locations; where specific volatile flammable liquids or gases are handled or used within enclosed containers or systems.

Hazardgard® is rated for these conditions:

Model	Hazardous Location Classification: Gases	
SH20N50AT SH24N20AT	ATEX,   II 3 G Ex nA nC IIC T4 Gc IECEEx, Ex nA nC IIC T4 Gc	National Electrical Code, NFPA 70 ARTICLE 501: Class 1, Division 2, Group A/B/C/D, Temperature Class T4/T4A* ARTICLE 505: Class 1, Zone 2, Group II C/ II B/ II A, Temperature Class T4/T4A*



\*T4A Temperature classification for dual frequency ( 50/60Hz ) models - SH24N20AT.

*For global applications, Hazardgard cooling capacities are tested in a certified laboratory at moderate (T1) and hot (T3) climate conditions.*

## The Friedrich Advantage Reliable Design Backed by Robust Engineering

### Quality

Friedrich is an established player in the air conditioning industry and is known for manufacturing quality products.

### Product Reliability

Used across the globe, Hazardgard is a tested and reliable product and not a quick-fix, job shop alteration.

### Durability

Robust engineering, commercial-grade components and extensive field testing provide the durability and safety required in hazardous locations.

### Availability

Off the shelf models allow for efficient manufacturing, shorter lead times and standardized component parts.

# FEATURES

## Durability & Reliability

- **Permanent split capacitor motor**
- **Hermetically sealed refrigeration system**
- **Environmentally sealed on/off switch and gold plated contacts** in thermostat for corrosion resistance
- **Solid-state control relays** for compressor and fan operation
- **Commercial grade, enclosed fan motor with hermetically sealed overload** for arc-free operation
- **Direct-wired** (field supplied) , 15-amp circuit with time-delay fuse that will tolerate current surge without tripping the breaker
- **Powder Coated 22-gauge, G60 steel air conditioner cabinet** for corrosion protection and to withstand years of hard use
- **Stainless Steel Fan Shaft**
- **Coated Coils for Corrosion Protection**
- **Molded Compressor Plug Harnesses**
- **Steel enclosure for solid state relays**
- **Sealed control enclosure for thermostat and on-off control**
- **Durable outdoor industrial electrical cable harnesses and cable glands**

## Coated Coils for Corrosion Resistance

ElectroFin® 5-stage, immersion ecoat process, or Diamonblue Advanced Corrosion Protection® on 100% of metallic surfaces on the outdoor coil provides outstanding corrosion resistance protection and extends the life of the unit, especially in coastal or corrosive environments.

### Diamonblue Advanced Corrosion Protection®

MODEL SH20N50AT

- Anti-corrosive, hydrophilic coating

### ElectroFin® 5-stage, Immersion Ecoat Benefits:

MODEL SH24N20AT

- Excellent adhesion characteristics
- Less than 1% thermal degradation
- Outstanding chemical resistance
- Passed 6048 hrs.ASTM B-117 Salt Spray

### MEETS THE FOLLOWING:

- MIL-C-46168 Chemical Agent Resistance -DS2, HCl Gas
- CID A-A-52474A (GSA)
- MIL-STD 810F, Method 509.4 (Sand and Dust)
- MIL-P-53084 (ME)-TACOM Approval
- MIL-DTL-12468 Decontamination Agent (STB)
- DPG (Douglas Proving Grounds) Soil & Water Exposure Tests
- GM9540P-97 Accelerated Corrosion Test (120 cycles)
- ASTM B117-G85 Modified Salt Spray (Fog) Testing-2,000 hours
- ASTM B117 Salt Spray (tested by ARL for Lockheed Martin)

  
**DIAMONBLUE**  
Advanced Corrosion Protection®



**5-STAGE ecoat**  
Corrosion Protection



## Performance in Extreme Conditions

- **Hot gas bypass** for cooling operation at low ambient temperatures, down to 45°F / 7°C without freezing
- **Hermetically sealed reciprocating compressor** is cooled during the refrigeration cycle, which allows the unit to tolerate higher outdoor temperatures up to 130°F (55°C)



Commercial grade enclosed fan motor



Steel enclosure for solid state relays



Industrial Cable harnesses & cable glands



Molded compressor plug harnesses

## Engineered to perform in the harshest environments

- Offshore oil rigs, on-shore oil company offices and refineries
- Petrochemical sites and Propane fill-up stations
- Paint and varnish storage or processing plants
- Grain alcohol processors or storage sites
- Plant areas using strong solvents or chemicals
- Munitions plants or armories
- PVC or plastics plants and processing points
- Recycling plants
- Furniture refinishing/stripping workshops
- Office complexes where methane is a by-product
- Hazardous materials storage

## SPECIFICATIONS

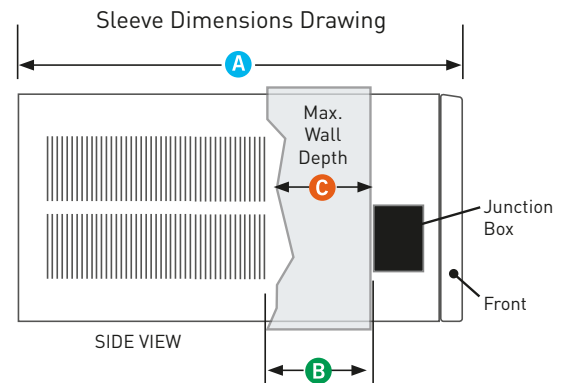
Model	Cooling Capacity (Btu/Hr.)	Volts Rated	Cooling Amps	Cooling Watts	Energy Efficiency Ratio EER	Moisture Removal Pints/ HR	Air Direction Controls	Air Circulation (CFM)	Refrigerant
<b>60 HERTZ - PERFORMANCE</b>									
SH24N20AT	24000/23700	230/208/60	12.6/13.5	2727/2788	8.8/8.5	8.20/7.5	8-way	385	R-410A
<b>50 HERTZ - PERFORMANCE</b>									
SH24N20AT	21000/20500	240/220-50	15.0/13.2	2600/2412	8.1/8.5	7.0/7.0	8-way	360	R-410A
SH20N50AT	19500/19100	240-220-50	9.8/10.3	2167/2156	9.0/9.0	5.6/5.5	8-way	425	R-410A

## INSTALLATION INFORMATION

Model	Unit Dimensions						Window Width		In-Wall Installation Finished Hole			Circuit Rating Breaker or T - D Fuse	Weight Lbs.	
	Height	Width	Depth with Front <b>A</b>	Depth J Box to Louvers <b>B</b>	Minimum Extension Into Room	Minimum Extension Outside	Min.	Max.	Height	Width	<b>C</b> Max. Depth	Volts - Amps	Net	Shipping
SH24N20AT	17 15/16"	25 15/16"	27 3/8"	6"	3 1/16"	16 15/16"	27 7/8"	42"	18 3/16"	26 3/16"	6"	250V-30	180	185
SH20N50AT	17 15/16"	25 15/16"	27 3/8"	6"	3 1/16"	16 15/16"	27 7/8"	42"	18 3/16"	26 3/16"	6"	250V-15	171	175

Due to continuing engineering research and technology, specifications are subject to change without notice. Manufactured under U.S. Design Patent DES 368, 306 decorative front; Utility Patent 5, 662, 058. MAXIMUM outdoor ambient operating temperature is 130°F. (55°C) MAXIMUM TEMPERATURE RATING FOR CLASS 1, DIVISION 2, GROUPS A, B, C, D.

Capacity and efficiency values at each climate conditions are available upon request.  
NOTE: Hazardgard unit must be hard-wired.



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