

# Congratulations!

Thank you for your decision to purchase the Friedrich Hazardgard (Hazardous Duty Room Air Conditioner). Your new Friedrich has been carefully engineered and manufactured to give you many years of dependable, efficient operation, maintaining a comfortable temperature and humidity level. Many extra features have been built into your unit to assure quiet operation, the greatest circulation of cool, dry air, and the most economic operation.

## General Instructions

This Installation and Operation Manual has been designed to insure maximum satisfaction in the performance of your unit. For years of trouble-free service, please follow the installation instructions closely. We cannot overemphasize the importance of proper installation. We have added new information to the basic instructions to help you achieve proper installation.



### WARNING

#### Refrigeration system under high pressure.

Do not puncture, heat, expose to flame or incinerate.

Only certified refrigeration technicians should service this equipment.

R410A systems operate at higher pressures than R22 equipment. Appropriate safe service and handling practices must be used.

Only use gauge sets designed for use with R410A. Do not use standard R22 gauge sets.



### WARNING

Please read this manual thoroughly prior to equipment installation or operation.

It is the installer's responsibility to properly apply and install the equipment. Installation must be in conformance with the NFPA 70-2008 National Electric Code or current edition, International Mechanic Code 2009 or current edition and any other applicable local or national codes.

Failure to do so can result in property damage, personal injury or death.

## Here are some suggestions to help you use your new Friedrich most efficiently:

1. Carefully read and follow the installation instructions.
2. Make sure the unit is the right capacity for the area to be cooled. An undersized unit makes the unit work too hard, using more electricity than needed and increases wear. An oversized unit will cycle on and off too rapidly, and therefore cannot control humidity very well.
3. When you first turn on your Friedrich, set the thermostat to its coldest position to cool the room. When the desired temperature is reached, turn the thermostat control toward the "warmer" position until you hear a click and the compressor goes off. The thermostat will then cycle the compressor to maintain the selected temperature.
4. Clean the filter frequently (See Filter Information)
5. Do not block the air flow to and from the unit. Make sure the louvers are directed to give even distribution of air throughout the room. Caution: If air directed into a restricted area such as a corner, this may cause the unit to cycle on and off rapidly, which could damage your unit.
6. A dirty filter or improperly set controls can affect the cooling ability of the unit.
7. If cooling is weak and you have verified that the filter is clean and the controls are properly set, the unit may be low on refrigerant, and you should call your Friedrich service provider to check the unit.
8. Keep blinds, shades and drapes closed on the sunny side of the room being cooled.
9. Proper room insulation helps your unit maintain the desired inside temperature.
10. Whenever possible, shade west-facing windows with awnings, trees, or window tinting.
11. Keep window treatments away from the unit to provide free air flow.

### Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is a safety Alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol with the word "WARNING" or "CAUTION". These words mean:

#### WARNING

Indicates a hazard which, if not avoided, can result in severe personal injury or death and damage to product or other property.

#### CAUTION

Indicates a hazard which, if not avoided, can result in personal injury and damage to product or other property.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what will happen if the instructions are not followed.

#### NOTICE

Indicates property damage can occur if instructions are not followed

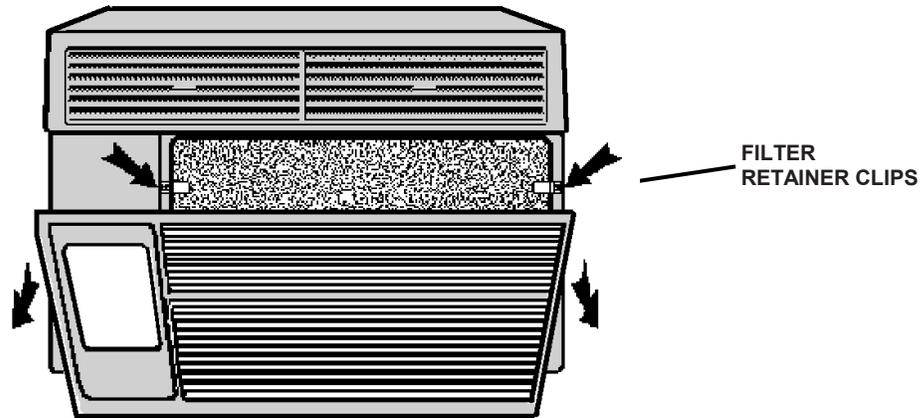
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## Filter Information

The filter in your Friedrich removes dust, pollen and other impurities from the air as they are drawn through the unit. The filter is permanent and reusable, and has a germicidal treatment which is not affected by periodic washing.

A clogged, dirty filter reduces the air flow through the unit and reduces its efficiency. You should check the filter every seven to ten days, depending on the amount your unit is used. Clean the filter regularly

**Figure 1**



The filter can be removed for cleaning by opening the front of the unit and releasing the filter from its retaining clips.

# Hazardgard Special Features

- Permanent Split-Capacitor, totally enclosed fan motor to assure efficient operation even under adverse electrical conditions.
- Motor has a special stainless steel shaft to resist corrosion and a hermetically sealed overload for arc-free operation.
- High capacity compressor with internal hermetically sealed overload.
- Contains transient voltage suppressor to protect controls against transient voltage spikes. Provides solid state switches for arc-free operation.
- Hot gas bypass low ambient control to permit operation without freezing at outdoor ambient temperatures as low as 45°F (7°C).
- IP44 Environmentally sealed electrical components protect against ingress of moisture (ATEX & IECEx)
- Polyester powder finish, oven-baked for an attractive, long-lasting finish
- Copper tubing/aluminum hydrophilic coated fin coils
- Galvanized steel cabinet and base pan, all bonderized.
- Slide-out chassis for easy installation in window or through-the-wall.
- Extra insulation inside, including completely insulated plenum chamber for quieter, more efficient cooling.
- Entire unit test run in environmental chamber before crating.
- Eight-way air flow control for uniform circulation
- Condensate drain with exclusive mosquito trap.
- 15amp or 20amp circuit with time-delay fuse required. Accommodates direct wiring.
- Long lasting 3/8" (10mm) thick air filter, germicidally treated, easily removed for cleaning

Friedrich Air Conditioning quality has been proven by more than 30 years of successful experience from the Gulf of Mexico to the searing sands of the Arabian Desert.

## Control Panel

### Function Control (Power)

This switch is a double pole, single throw toggle switch.

ON - Turns everything on.

OFF - Turns everything off.

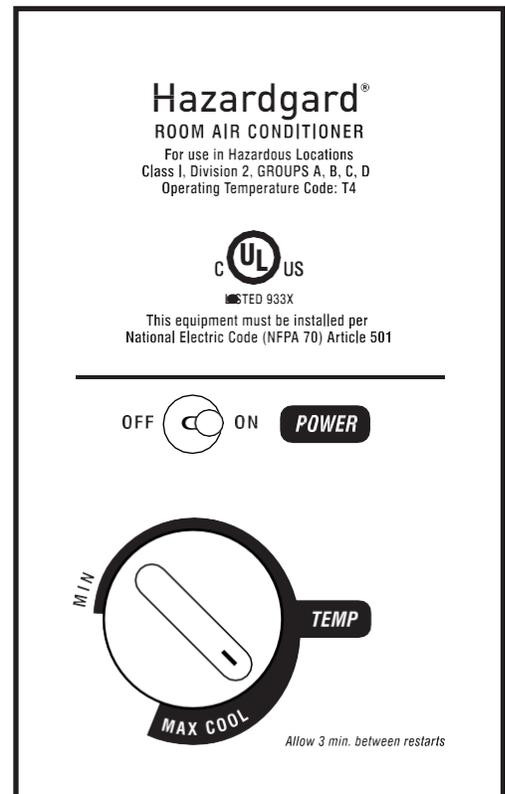
**WARNING** POWER MUST BE DISCONNECTED AT CIRCUIT BREAKER/FUSE BEFORE SERVICING!

### Temperature Control

The knob at the bottom is the thermostat which is a cross ambient type used to maintain the desired comfort level. The thermostat reacts only to a change in temperature at the bulb location - turn the knob clockwise to set cooler, counter-clockwise for warmer.

Friedrich leads with the first UL Listed Room Air Conditioners designed to cool living quarters and other enclosures situated in hazardous locations where specific volatile flammable liquids or gases are handled or used with enclosed containers or systems.

Friedrich Hazardgard room air conditioners are designed to meet the National Electrical Code, Article 500 requirements for Class I, Division 2, Groups A,B,C,D Hazardous locations, CERTIFIED BY UNDERWRITERS LABORATORIES FOR USE IN CLASS 1, DIVISION 2, GROUPS A,B,C,D HAZARDOUS LOCATIONS.



# ATEX & ICEX Standards Specific to Models SH20N50AT & SH24N20AT

SH20N50AT and SH24N20AT Adhere to the following certifications:

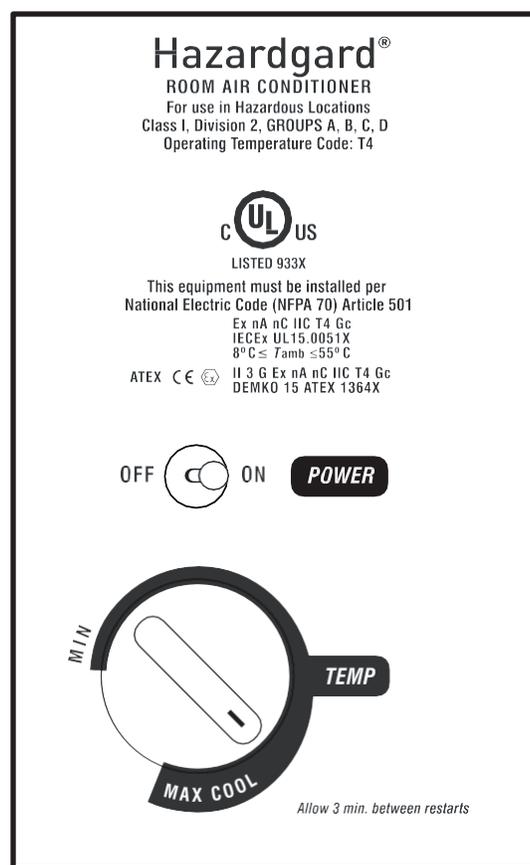
CERTIFIED PER STD. NO. ANSI/ISA 12.12.01,2013  
 PER STD. NO. IEC 60079-0, 6th Edition PER STD. NO. IEC 60079-15, 4th Edition  
 PER STD. NO. CAN/CSA C22.2 NO. 213-M1987  
 PER STD. NO. CENELEC EN 60079-0: 2012 + A11: 2013  
 PER STD. NO. CENELEC EN 60079-15: 2010

CERTIFICATION DEMKO 15 ATEX 1364X II 3 G Ex nA nC IIC T4 Gc  
 IECEX UL15.0051X DEMKO 15 ATEX 1364X

## SH20N50AT & SH24N20AT Specific Conditions of Use:

- Provision shall be made to prevent the rated voltage being exceeded by the transient disturbances of more than 140% of the peak rated voltage..
- The equipment must be installed only for use in locations providing adequate protection against the entry of solid foreign objects or water capable of impairing safety.
- Only permanently wired cables may enter the cable glands. The user shall provide for the required strain relief.
- Degree of protection will be safeguarded only when sealing and cable entry fittings are properly fitted. The Manufacturer's instructions must be followed.
- Cable Glands shall be mounted into the enclosure in such a way that they are mechanically protected against impact force.
- To avoid the buildup of electrostatic charge, regularly clean the unit with a damp cloth.
- The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children to be supervised not to play with the appliance.

The following additional previous editions of Standards noted under the "Standards" section of this Certificate where applied to integral Components as itemized below. There are no significant safety related changes between these previous editions and the editions noted under the "Standards" section.	
Junction Box, Part No. 25. 10 16 08, manufactured by Rose.	IEC 60079-7:2006-07, IEC 60079-31:



Friedrich Part No. 618-226-66

NOTICE: To maintain IP44 protection, the Hazardgard unit must be installed in accordance to the installation instructions stated in this document.