

# THE IDEAL IAQ SOLUTION

## DOAS

The ideal solution for your space.



RESTAURANTS



LABORATORIES /  
CLEAN ROOMS



GROCERY



HOTELS



SCHOOLS



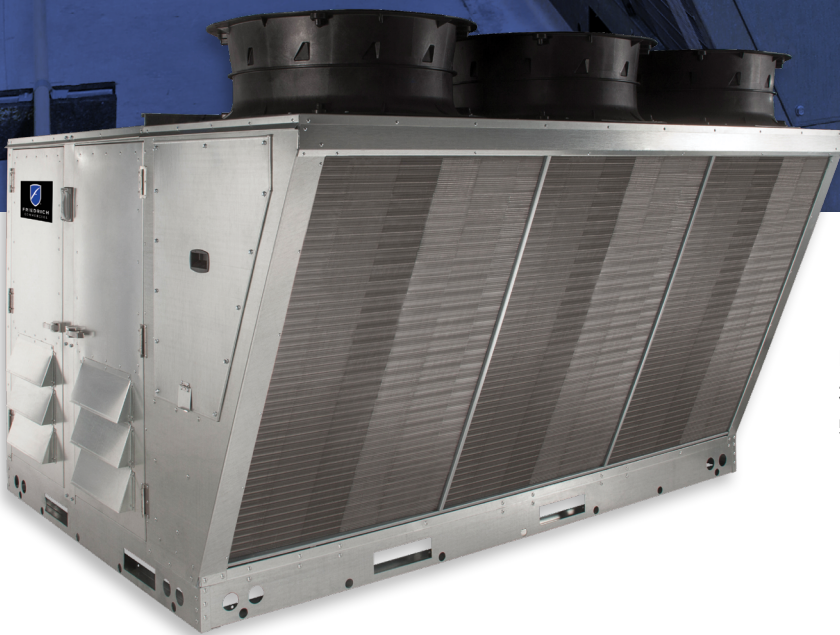
WAREHOUSES



SENIOR LIVING /  
APARTMENTS



INDOOR  
AGRICULTURE



Dedicated Outdoor Air Systems  
3 to 60 Tons  
500 to 15,000 CFMs



**FRIEDRICH** | Commercial Air

# Friedrich® DOAS

## Helping buildings breathe.

Our Dedicated Outdoor Air System offers exceptional energy savings, unprecedented comfort and precise humidity control.



User-friendly with complete control.

Sensors throughout constantly monitor a wide variety of data points—all accessible through the user control panel and remotely configurable via an optional BACnet® or LonWorks® card that ties into a building's BMS system.



Durable top-quality components.

All fans are 100% direct drive for high efficiency and maintenance-free operation. A variable speed inverter duty compressor is standard and aerodynamic bionic fan blades reduce noise emissions.



Engineered to last.

Removable hinged access doors and an insulated drain pan allow for easy maintenance and service. And double wall, insulated galvanized steel construction provides excellent durability.

## System Sizing & Specifications

**LIMITED WARRANTY** 5 years parts and 25 years stainless steel heat exchanger

ENCLOSURE SIZE	1					2		3						4					
UNIT SIZE (Nominal Tonnage)	3.0	4.0	5.0	6.0	7.5	8.0	10.0	12.5	15.0	17.5	20.0	25.0	30.0	22.5	25.0	30.0	40.0	50.0	60.0
Min. Airflow (CFM)	500	500	500	600	750	800	1,000	1,250	1,500	1,750	2,000	2,500	3,000	2,200	2,500	3,000	4,000	5,000	6,000
Max. Airflow (CFM)	1,200	1,600	2,000	2,400	3,000	3,200	4,000	5,000	6,000	7,000	8,000	8,000	8,000	8,800	10,000	12,000	15,000	15,000	15,000
Indoor Coil Rows	4	4	4	4	5	5	5	6	6	7	7	7	7	5	5	6	6	8	8
Cooling Turndown Ratio	5:1	6:1	7:1	7:1	7:1	7:1	7:1	7:1	7:1	6:1	7:1	6:1	7:1	7:1	7:1	7:1	14:1	17.5:1	14:1
IEER	17.9	17.9	17.9	19.5	18.6	20.2	18.6	21.3	18.8	18.2	18.2	14.9	14.9	18.1	17.9	17.8	16.6	17.1	17.0
Max. Heating Turndown Ratio*	20:1	20:1	20:1	17:1	14:1	21:1	16:1	25:1	16:1	16:1	16:1	16:1	16:1	18:1	18:1	18:1	18:1	18:1	18:1
Furnace Input Capacity (MBH)	50-260					50-440		150-685						200-800					
Electric Coil Capacity (kW)	10-60					15-60		15-100						30-240					
Curb Size (L x W)	71" x 41"					75" x 49.5"		91" x 59.5"						111" x 80"					
Unit Dimensions (L x W x H)	77.25" x 62" x 47.5"					81.75" x 80.75" x 60.75"		99" x 89.75" x 69"						174" x 89.75" x 94"					
Approximate Weight (lbs.)	1,000-1,250					1,650-1,800		2,400-3,600						4,250-7,500					

\*Contingent upon heat source



**01 VARIABLE SPEED DIRECT DRIVE SUPPLY FAN**

- + High efficiency variable frequency drive (VFD) or electronically commutated motor (ECM) control options available.

**02 LOW-LEAKAGE OUTDOOR AIR DAMPER / INTAKE LOUVER**

- + Modulates to accurately meet variable outdoor air requirements.

**03 AVERAGING TEMPERATURE SENSOR / HUMIDITY SENSOR**

- + Outdoor air, mixed air, and discharge air temperature and humidity sensors standard. Multiple temperature control options available.

**04 UP TO THREE LAYERS OF OUTDOOR AIR FILTRATION**

- + Standard 2" metal mesh outdoor air filters with optional MERV-8, -13, -15 and HEPA filters, and clogged filter monitoring.

**05 STAINLESS STEEL SLOPED CONDENSATE DRAIN PAN**

- + Insulated drain pan for easy maintenance and serviceability with integrated float switch.

**06 SMOKE DETECTOR (OPTIONAL)**

- + Monitors "fire activity" in the return airstream.

**07 WIDE INDOOR COIL DESIGN**

- + Up to 10-row coil allows for optimal equipment efficiencies, full conditioning of outdoor air, and moisture control through increased residence time of airstream.

**08 ELECTRONIC EXPANSION VALVE**

- + Provides automated superheat control and monitoring (0-100%), preventing liquid migration during off-duty cycles.

**09 FULLY MODULATING HOT GAS REHEAT COIL (OPTIONAL)**

- + Provides highly accurate humidity / temperature control, while the electronic reheat valve allows for precise capacity control.

**10 MODULAR / SPLIT MANIFOLD HEATING (OPTIONAL)**

- + Multi-efficiency natural gas, propane, heat pump and modulating SCR electric heat options available as AC only, AC with electric heat, gas packaged or air source heat pumps with enhanced turndown (18:1).

**11 INTEGRATED CONTROLS**

- + In-house developed controls using multiple PID loops with optional integration to BAS/DDC. Low ambient DX cooling down to -25°F available.  
**NOTE:** Friedrich also offers a chilled water / hot water coil option for DOAS units where the DX refrigerant loop is removed.

**12 DANFOSS VARIABLE SPEED INVERTER SCROLL COMPRESSOR**

- + Variable Frequency Drive compressors provide precise load matching, reducing energy consumption and maximizing equipment life.

**13 HUMAN MACHINE INTERFACE (HMI)**

- + Total control of the unit through HMI with access to real-time data including temperature, humidity, refrigerant, and pressure data space monitoring.

**14 HEAVY DUTY PIPING & SUPPORTS**

- + Hanging supports and vibration isolators prevent refrigeration piping from moving during transport and operation.

**15 CONDENSING COIL HAIL GUARD (OPTIONAL)**

- + Protects outdoor coil from damage.

**16 VARIABLE SPEED OUTDOOR FANS WITH EC MOTORS**

- + 10:1 turndown maintains peak efficiency for all outdoor air conditions.

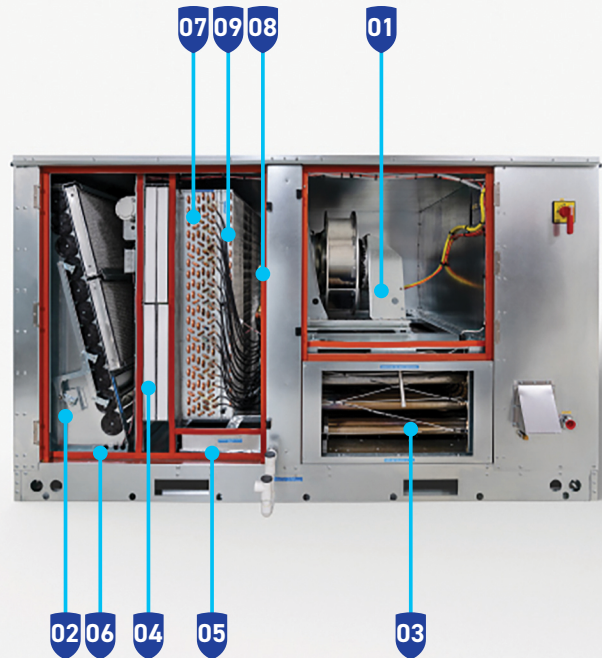
**17 DOUBLE WALL, CORROSION- RESISTANT, G-90 GALVANIZED STEEL**

- + Insulated with 2" thick, R13 closed cell foam or 1" thick, R4.3 fiberglass board.

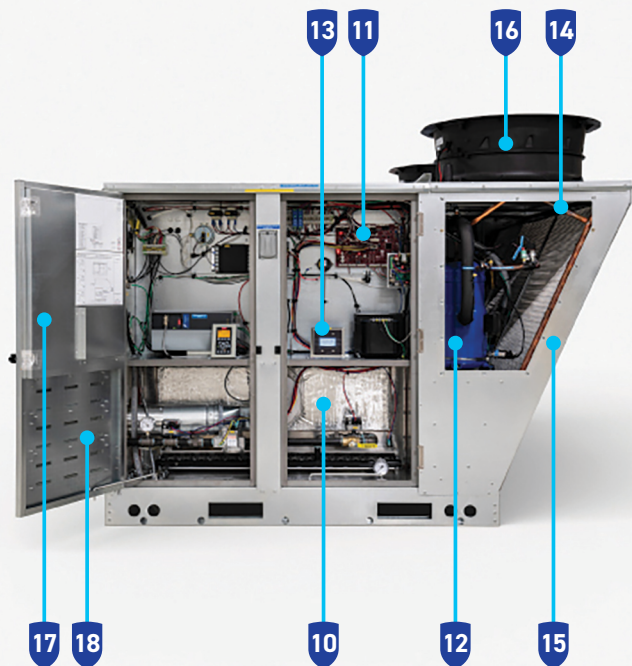
**18 REMOVABLE HINGED ACCESS DOORS**

- + Easier maintenance and serviceability.

**FRIEDRICH DOAS DETAILS: BACK OF UNIT**



**FRIEDRICH DOAS DETAILS: SIDE OF UNIT**



# your provider for essential solutions.

We're in the business of delivering precise, efficient and reliable comfort. Our broad commercial portfolio is packed with innovations flexible enough to meet a variety of applications and supported by local experts who can help make your commercial project a success—from spec to install and beyond. Feel confident with Friedrich.



Through our partnership with Fernwood Capital & Leasing, Friedrich Commercial KwikComfort® Financing Program makes it easy to get the business equipment you need, when you need it. This includes heating and cooling systems, IT systems, machinery, titled equipment, furniture—or nearly any equipment that helps your business grow.



With our Protection Plus® extended service agreement program, protect your investment from unexpected, unbudgeted repairs after the limited warranty expires. Protection Plus limited warranty can also be extended.

## sustainability

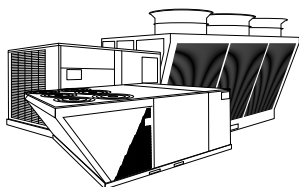
We are focused on innovating with intent, engineering solutions with lifetime sustainability in mind. Our products are designed to give businesses greater control over their energy consumption, lowering their environmental impact.

Look for the Sustainability Standout® seal to quickly identify products that are a cut above the others in energy efficiency, longevity, CO<sub>2</sub> reduction and more.

To learn more about our commitment to sustainability, visit [Friedrich.com/Sustainability](http://Friedrich.com/Sustainability)

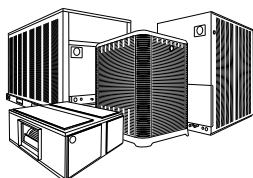


## Friedrich air portfolio



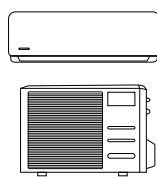
### Packaged Units

- Gas Electric, A/C & Heat Pumps (2 to 30 Tons)
- DOAS (3 to 60 Tons | 500 to 15,000 CFM)



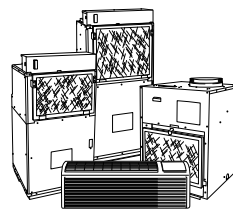
### Split Systems

- 1.5 to 20 Tons
- Air Conditioners
- Heat Pumps



### Mini-split Systems

- Single-zone (9k to 36k Btu/h)
- Multi-zone (18k to 42k Btu/h)
- Low Ambient Heating
- Universal Heat Pump (25k to 60k Btu/h)



### Hospitality and Industrial Systems

- VRP® Variable Refrigerant Packaged Air Conditioners (7k to 36k Btu/h)
- Vert-I-Pak® (9k to 22.5k Btu/h)
- FreshAir® Inverter PTACs (9k to 12k Btu/h)
- ZoneAir® PTACs (7k to 15k Btu/h)
- Hazardgard® Room Air Conditioners (15.7K to 21K Btu/h)
- Cooling and Heat Pumps

## delivering boldly crafted comfort

Founded in 1883, Friedrich Air Conditioning Co. is an expert in providing residential and commercial comfort solutions—from premium room air conditioners to whole-home / whole-building equipment and more.

Designed to be among the most advanced and quietest available, all Friedrich products are engineered to deliver precise temperature control to make spaces comfortable—quickly and efficiently.

### Friedrich.com/Commercial

For additional information, contact your local Friedrich sales representative.

[Applications.HVAC@rheem.com](mailto:Applications.HVAC@rheem.com)

Friedrich is a part of the Rheem® Family of Brands. In keeping with its policy of continuous progress & program improvement, Rheem reserves the right to make changes without notice.

DOAS units have been tested in accordance to the following standards:  
ANSI/AHRI Standard 340/360 - 2007 and ANSI/ASHRAE Standard 37 - 2009.

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**FRIEDRICH** | Commercial Air