



AIR ZONE INTERNATIONAL

Series: RTAH

Custom Air Handling Units



Quality & Dependability

Versatile & Modular

Independent Ratings

ARI Certified Coils

UL Electric Heating

AMCA Certified Fans

ETL CERTIFIED



AIR ZONE INTERNATIONAL (AZI) was founded to manufacture quality equipment for the HVAC industry. The mission was to formulate improved designs of air handling equipment. The goal was to manufacture premium products with reasonable delivery schedules. *AIR ZONE* continues to meet both the mission and the goal. In addition, *AZI* has become known for its attention to detail and dedicated service to customers.

The Custom Air Units manufactured by *AIR ZONE* using only national recognized components. The rugged yet flexible designs offered by *AZI* employ state of the art components applied with knowledge and skill. The rigid specifications prepared by quality engineers continue to challenge the HVAC industry. A custom manufacturer can meet these challenges by simply providing the exact components required by the project specifications. At *AIR ZONE*, we believe as the manufacturer it is our duty and responsibility to deliver the specified product. Further, we are dedicated to bring forth the completed product according to the understood requirements of the purchaser.

The project of tomorrow depends on the research of today. Therefore, *AIR ZONE* has a continuing policy of product research and development. As owners and engineers strive to meet the requirements of challenging projects, we continue to explore new manufacturing methods and techniques. The *AZI* product line will continue to expand to meet the requirements of an expanding market.

The rugged flexible designs offered by *AIR ZONE* have been installed from Connecticut to California even in the frozen tundra of Alaska and in the humid conditions of India. The installations include many owner occupied buildings including pharmaceuticals, universities, office buildings, hospitals, surgical care facilities, schools, manufacturing, government projects, state facilities and retail spaces.

AIR ZONE owns and occupies more than two acres of crane served manufacturing facilities including the corporate headquarters, located at 5220 Ted St. Houston, Texas 77040.





AIR ZONE INTERNATIONAL high quality Air Handling Units offer many features:

- Available in sizes from 1,000 to 100,000 CFM for indoor or outdoor application.
- Available as a Single Zone or Multi-Zone including Triple Deck design.
- ARI Certified coil performance for CW, DX or glycol solutions.
- AMCA Certified fan performance for airflow and sound.
- AGA Certified gas heaters and UL Certified electric heaters.
- UL Certification or listing on all electrical components.
- ETL Certified with all wiring in accordance with NEC.
- Designed and independently tested for performance and sound.
- Unique tongue and groove low-leak panel design available in 2"-6" panels.
- Casing materials may be the standard G-90 galvanized steel, aluminum or stainless.
- Painted casings with the standard gray, special colors and exotic coatings are optional.
- Structural bases may be one piece or modular for pad or curb mounting.
- Pipe chase within the curb for outdoor curb mounted units.
- Constant or Variable Volume with controls and piping options for any application.
- Single point power connection including disconnect and starter options.



AIR ZONE INTERNATIONAL provides Air Handling Units designed to meet the rigid specifications of astute engineers, property owner and managers who demand high performance quality products.

The rugged designs of the Series RTAH have been provided for projects from California to Connecticut even in the frozen tundra of Alaska and the humid regions of India.

"Quality is never an accident it is a commitment"



INDEPENDENT TEST DATA

AIR ZONE Custom Air Handling Unit designs have been independently tested to produce a average NC 40 in the office space adjacent to the mechanical room for a typical high rise office building

Testing of *AZI* air units were conducted at Energistics Laboratory in Houston, Texas. This state of the art facility produces extremely accurate test data that may be witnessed by third parties and documented according to the project specifications. The laboratory offers an air unit mock up facility complete with mechanical room and adjoining office space to measure and document NC levels in the adjoining space.

Independent testing of acoustical/thermal panels have been conducted in accordance with ASTM E95-93 and ASTM C423 at Acoustic Systems Acoustical Research Facility in Austin, Texas. An independent laboratory accredited under the National Bureau of Standards, National Voluntary Laboratory Accreditation Program.

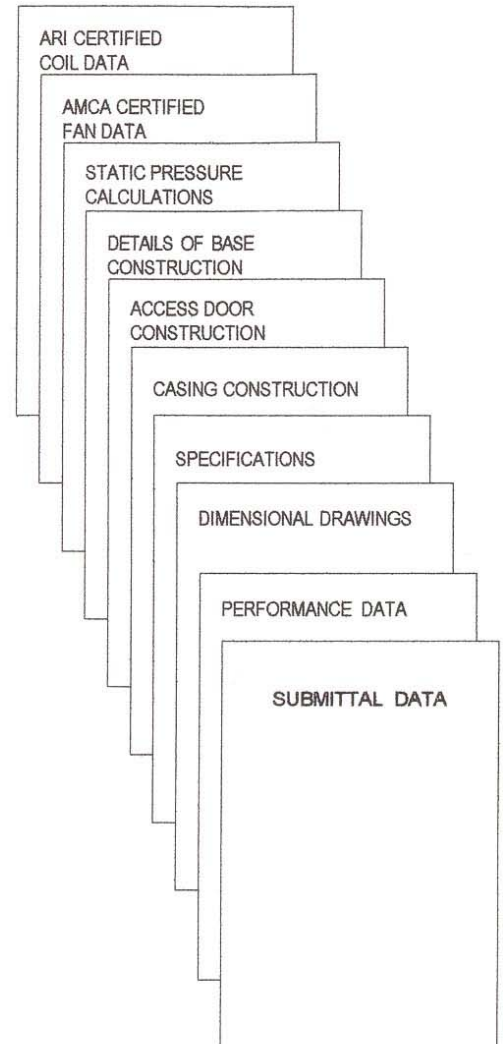
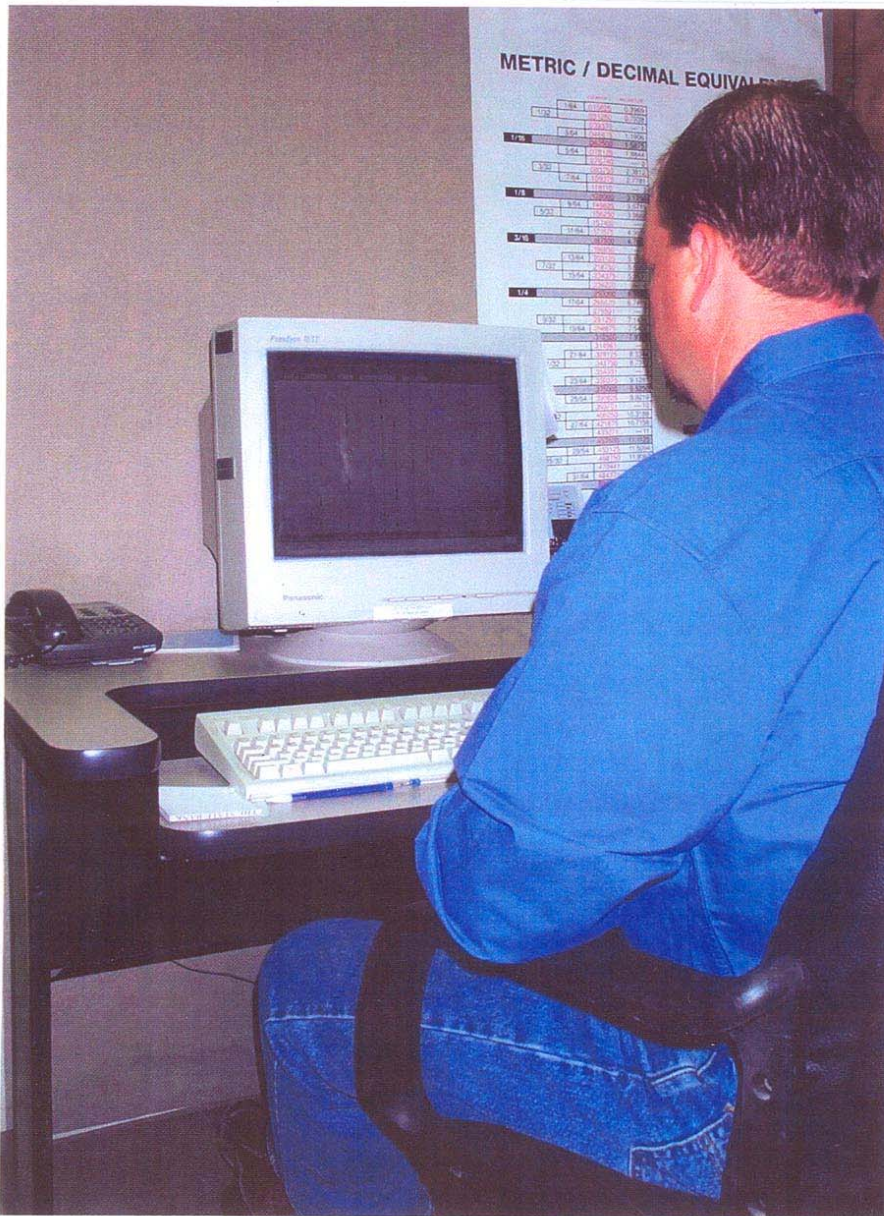
Utilizing ARI Certified coils, AMCA Certified fans, AGA Certified gas heaters, UL Certified electric heaters and ETL Certification provides dependable product performance.



AIR ZONE publishes a casing leakage design of 1% or less at 10.0' W.G. and panel deflection not to exceed 1/250 of an inch.

Independent third party testing of casing leakage, panel deflection and fan performance were performed by Engineered Air Balance a highly regarded, Independent Test and Balance firm with offices in Dallas, Houston and San Antonio, Texas.

All testing may be witnessed upon written request. All air handling unit fans are standard with factory balancing in all directions at the maximum RPM.



The high tech buildings in today's market place demand careful attention to every detail. The selection and application of Custom Air handling Units incorporate state of the art computer programs and Auto-Cad drawings. Trained personnel at *AZI* provide detail drawings to document the exact requirements of each application. Auto-Cad drawings and details bring to life the written specifications and schedules providing to the purchaser a quality presentation of integrated data.

A complete submittal package is provided for each order including a complete schedule of all performance data, detailed specifications of the manufactured product, computer generated ARI coil performance data, AMCA Certified sound and air performance, detailed wiring diagrams, construction features, section drawings and assembly drawings. At *AIR ZONE* each Custom Air Handling Unit is unique and intended to be exact to the purchaser's requirements.

Modular Air Handling Unit designs with custom modifications are also available from *AIR ZONE*. The HVAC industry demands a wide variety of accessories, construction features, arrangements and components that are available at a moderate cost with prompt delivery in any of our standard 18 sizes of single zone and multi-zone Modular Air Units that are cataloged from 600 to 60,000 CFM in single wall and double wall for indoor or outdoor installation.



Versatile & Dependable:

The rugged versatile design of *AIR ZONE* Custom Air Handling Units provides the consulting engineer with outstanding flexibility and high quality durability. The Series RTAH has no limitation in size, function or concept. There are no accessories or options desired that are not available. The product design provides an infinite number of arrangements that meet the demands of any project and satisfied the project requirement with high quality results.

Features & Benefits:

The structural frame is mig welded to provide a unitized assembly.

The structural base is designed to separate into sections when required for shipping or installation. Lifting lugs are provided for each section.

The floor is recessed 4" into the structural frame with structural cross members. A 20 gauge solid galvanized steel sub-floor is standard however, any gauge is available.

The drain pan is recessed into the floor and slopped in all directions a minimum of 1/8" per foot in accordance with ASHRAE requirements for IAQ designs.



Rugged Quality:

Factory prepared de-mount sections are often required due to transportation limitations or job site conditions. De-mounted sections are provided with matching flanges, gaskets and fasteners. Each de-mounted section is complete with the necessary removable or fixed lifting lugs that have 1" draw bolts to assist in pulling the large sections together.

Field start-up supervision service with factory trained personnel is optional.



VA HOSPITAL

**PHILADELPHIA,
PENNSYLVANIA**

**ALUMINUM
CONSTRUCTION**

12,000 CFM

**COMPUTER
ASSOCIATES**

**DALLAS,
TEXAS**

**(2) RTAH
206CDW**

**98,000CFM
EACH**



**PASEO
VERDE
LIBRARY**

**LAS VEGAS,
NEVADA**

**1 OF 4 UNITS
UP TO
16 000 CFM**



TYPICAL SPECIFICATIONS

Unit Base is constructed of structural steel channels sized for the service intended reinforced and braced for rigidity with an all welded construction to form a unitized assembly. The unit base serve as a curb cap for curb mounting when required and structural support during shipment and installation. Lifting devices are an integral part of the base for proper handling with appropriate spreader bar during installation. De-mounted units have lifting lugs on each section.

Unit Floor is constructed of properly sized galvanized double wall panels (minimum 16 gauge) reinforced and supported to form a rugged platform for all components. The floor is insulated with a 4"-3# density sound absorbing thermal barrier in accordance with NFPA 90A and UL 181

Unit Panels are constructed as described for the floor with identical properties. All panels are fully framed, stiffened, spot welded and screwed with internal supports, designed to insure safe operation up to 12" WG. Each panel has a unique tongue and groove design which is installed with a fire retardant, industrial grade elastomer sealing compound. All casing joints are attached with 3/8" x 3/4" self tapping screws on 12" centers. Unit casing is designed in accordance with ASTM with structural properties computed in accordance with AISC and AISI, deflection is designed not exceed 1/250 of the span when under design conditions. The standard panel design is 2" thick with 3# density insulation encapsulated between the inner and outer skin (*3", 4" and 6" panels are optional*).

Access Doors are constructed similar to the above panels with a continuous stainless steel piano hinge and heavy duty ventlock style latches with both external and internal handles. A full perimeter omega type extruded bulb seal gasket is installed for a tight air seal. Full size doors are installed where possible up to a maximum frame size of 24" x 72". (*Access doors with windows and lights with switches are optional.*)

Drain Pan is of the double pan design, constructed of galvanized steel (*stainless steel optional*) adequately reinforced and continuously welded, sloped a full 1/8" per foot to the drain connection on either side in complete accordance with current IAQ standards. The standard drain pan is constructed to be "Drain Dry" during shutdown.

Coils may be 1/2" or 5/8"OD, copper tubes on staggered centers with all joints brazed. Secondary fin material consist of aluminum fins for maximum efficiency and structural strength. All fins have full drawn collars to provide a continuous surface over the entire tube for maximum heat transfer. All tubes are mechanically expanded into the fins to provide a continuous primary surface and maximum heat transfer. Coils are tested with 315 pounds air pressure under warm water and suitable for operation at 250 psig working pressure. (*Higher test and operating pressures are optional.*) Casings are standard galvanized steel (*stainless steel optional*) with internal supports on all coils exceeding 48" fin length. Steam coils may be 5/8" or 1" tube steam distributing type. Coils are tested and rated in accordance with ARI Certification program. Complete ARI Certified performance calculations are furnished as a part of each submittal.

Fans are standard Arrangement 3, DIDW either Forward Curved, Backward Inclined or Air Foil as may be required for the service intended (*Vane Axial, Plug and Plenum fans are optional*). All fans, shaft and bearings are AMCA Certified assemblies, the standard design has a single internal motor and drive. All fans are statically and dynamically balanced with a solid type, high carbon steel shaft designed with the operating speed below the first critical speed. Bearings are self aligning pillow block type selected for an L 50 average life of 200,000 hours. Fans and motor are mounted on a common base complete with spring vibration isolation and a flexible connection at the fan. Seismic restraints are applied when specified.

Motors and Drives are standard high efficiency open drip proof type suitable for use with any VF drive (*enclosed and special motors are optional*). All drives are selected for not less than 125% of design horsepower. The motor pulley is standard up to 10 HP with a variable pitch design for field adjustment. All units 15 HP and larger are standard with a fixed pitch pulley (*vari pitch is optional*).

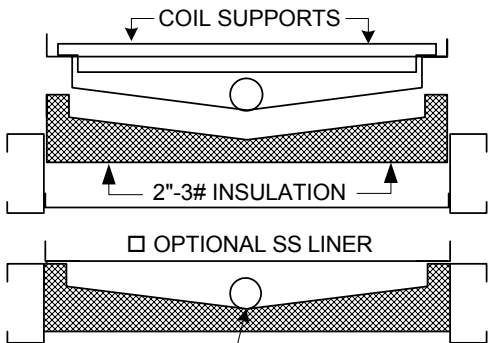
Exterior Finish is standard mill galvanized (*optional polyurethane, epoxy or custom paint*) as may be required. All galvanized steel is G 90 with a minimum 1.25 ounces of zing per square foot on both sides and conform to ASTM A525, coating class, lock forming quality. All welds are cleaned and protected with a minimum 4 mils zing rich paint.

Certified Ratings

- ◆ All coils are rated in accordance with the ARI 410 Certification program.
- ◆ All units are constructed in accordance with ARI 310 with sound ratings in accordance with ARI 430.
- ◆ All panels are independently rated according to ASTM standards.
- ◆ All insulation is in accordance with NFPA 90A and UL.
- ◆ All fans are rated in accordance with AMCA
- ◆ All motors are NEMA rated and UL listed.
- ◆ All electrical components are UL listed. all wiring is in accordance with NEC and all units are ETL Certified.

STANDARD DESIGN FEATURES

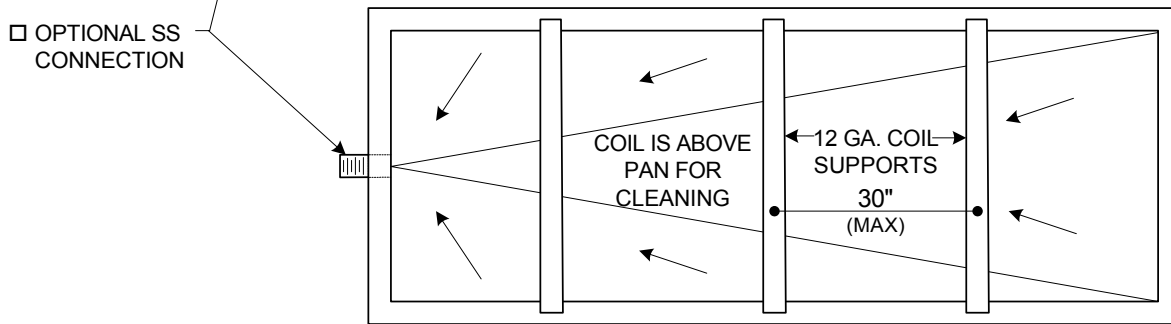
DRAIN PAN DETAILS



DRAIN PAN CONSTRUCTION

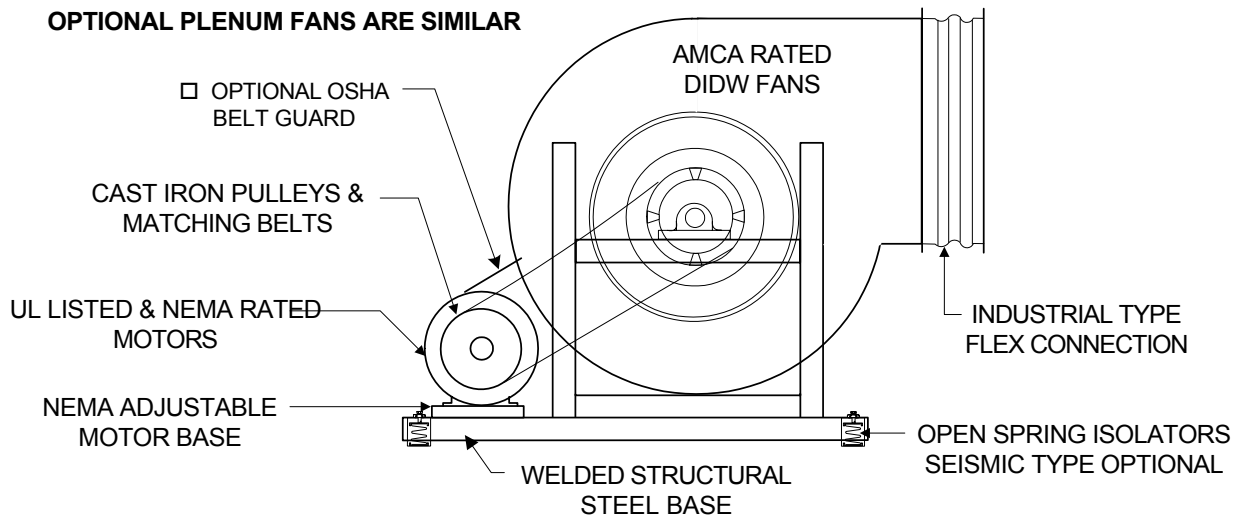
- GALVANIZED DOUBLE SKIN - IAQ DRAIN PAN STANDARD
- OPTIONAL 304 & 316 STAINLESS STEEL DRAIN PANS
- COIL IS ABOVE PAN WITH SUPPORTS 24" ON CENTER
- 2"-3# INSULATION ENCAPSULATED & SURROUNDING PAN
- RUGGED STEEL CHANNEL BASE WITH SOLID BOTTOM
- WELDED UNITIZED ASSEMBLY-FACTORY LEAK TESTED
- 1 1/4" MPT DRAIN CONNECTION AT THE LOWEST POINT
- DRAIN DRY DESIGN IN ACCORDANCE WITH ARI & ASHRAE

DOUBLE SLOPE DESIGN IN ACCORDANCE WITH IAQ STANDARDS



PLAN VIEW OF STANDARD DRAIN PAN

OPTIONAL PLENUM FANS ARE SIMILAR



FAN ASSEMBLY DETAILS

Series: RTAH Quick Selection

Model No.	04	07	10	13	15	17	21	26	30	33	36	40	51	59	69	77	85	103
Coil "W"	28.0"	44.0"	55.0"	59.0"	63.0"	70.0"	77.0"	83.0"	87.0"	94.0"	94.0"	105.0"	105.0"	105.0"	105.0"	105.0"	117.0"	129.0"
Coil "H"	1,460																	
15.0"	1,700																	
17.5"	1,945	2,675	3,820															
20.0"		3,440	4,297	4,610														
22.5"		3,820	4,775	5,122	5,470	6,075												
25.0"			5,250	5,635	6,016	6,684												
27.5"				6,146	6,565	7,290	8,020											
30.0"				6,660	7,109	7,899	8,689	9,365										
32.5"					7,655	8,505	9,360	10,087										
35.0"							10,026	10,807	11,330	12,240								
37.5"							10,695	11,530	12,083	13,056	13,055	14,580						
40.0"								12,248	12,839	13,872	13,572	15,495						
42.5"								12,970	13,595	14,690	14,688	16,406						
45.0"									14,349	15,503	15,503	17,318						
47.5"									15,105	16,320	16,320	18,230						
50.0"											17,135	19,140	19,140					
52.5"											17,950	20,050	20,050					
55.0"													21,875	21,875				
60.0"													23,698	23,698				
65.0"													25,520	25,520	25,520			
70.0"														27,344	27,344			
75.0"																		
80.0"															29,165	29,165	32,500	
85.0"															30,990	30,990	34,531	38,073
90.0"															32,813	32,815	35,415	40,313
95.0"															34,635	34,635	38,594	42,552
100.0"																36,458	40,625	44,792
105.0"																38,280	42,655	47,031
110.0"																		49,271
115.0"																		51,510

Notes:

- Double wide units are used for selections in excess of 51,510 CFM at 500 FPM.
- For quality sound and effective moisture control 450-550 FPM face velocity is recommended.

 Represents a single coil.

 Represents stacked or staggered coils.

 Coil CFM at 500 FPM face velocity.

SELECTION PROCEDURE

- Step 1:** Determine unit type and arrangement from the Basic Unit Arrangement diagrams.
- Step 2:** Determine unit size based on CFM, coil face area and the desired face velocity. Normally a face velocity between 500 and 550 FPM is acceptable for most applications. A careful review of the purchasers specifications should be made to determine if a maximum face velocity is required.
- Step 3:** Select cooling and heating coils that meet the required face velocity & provide performance as required. Utilize the computerized coil selection program to select the required coil rows and fin type.
- Step 4:** Review the basic unit and accessories to determine if the selected model will fit within the available space. See the dimensional drawings contained in this catalog when selecting each section.
- Step 5:** Select a fan type suitable for the application and utilize the computerized fan selection program.
- Step 6:** A complete selection procedure may require factory assistance. If you need assistance with a selection or if training is required contact the factory by fax or E-mail.

PHYSICAL DATA

UNIT SIZE		04	07	10	13	15	17	21	26	30
COOLING COIL	LARGE COIL	3.89	7.64	10.50	13.32	15.31	17.01	21.39	25.94	30.21
	FH x FW	20 x 28	25 x 44	27.5 x 55	32.5 x 59	35 x 63	35 x 70	40 x 77	45 x 83	50 x 87
	MED. COIL	3.40	6.88	9.55	11.27	13.13	14.58	18.72	23.06	27.19
	FH x FW	17.5 x 28	22.5 x 44	25 x 55	27.5 x 59	30 x 63	30 x 70	35 x 77	40 x 83	45 x 87
	SMALL COIL	2.92	5.35	7.64	9.22	10.94	12.15	16.04	18.73	22.66
	FH x FW	15 x 28	17.5 x 44	20 x 55	22.5 x 59	25 x 63	25 x 70	30 x 77	32.5 x 83	37.5 x 87
HEATING COIL	LARGE COIL	3.89	7.64	10.50	13.32	15.31	17.01	21.39	25.94	30.21
	FH x FW	20 x 28	25 x 44	27.5 x 55	32.5 x 59	35 x 63	35 x 70	40 x 77	45 x 83	50 x 87
	MED. COIL	3.40	6.88	9.55	11.27	13.13	14.58	18.72	23.06	27.19
	FH x FW	17.5 x 28	22.5 x 44	25 x 55	27.5 x 59	30 x 63	30 x 70	35 x 77	40 x 83	45 x 87
	SMALL COIL	2.92	5.35	7.64	9.22	10.94	12.15	16.04	20.17	22.66
	FH x FW	15 x 28	17.5 x 44	20 x 55	22.5 x 59	25 x 63	25 x 70	30 x 77	32.5 x 83	37.5 x 87
	MULTI-ZONE	1.94	3.82	5.73	7.17	7.66	8.51	10.69	12.97	15.10
FH x FW	10 x 28	12.5 x 44	15 x 55	17.5 x 59	17.5 x 63	17.5 x 70	20 x 77	22.5 x 83	25 x 87	
CFM _(D) LARGE COIL	350 FPM	1,362	2,674	3,675	4,662	5,359	5,954	7,487	9,079	10,574
	400 FPM	1,556	3,056	4,200	5,328	6,124	6,804	8,556	10,376	12,084
	450 FPM	1,751	3,438	4,725	5,994	6,890	7,655	9,626	11,673	13,595
	500 FPM	1,945	3,820	5,250	6,660	7,655	8,505	10,695	12,970	15,105
	550 FPM	2,140	4,202	5,775	7,326	8,421	9,356	11,765	14,267	16,616
	600 FPM	2,334	4,584	6,300	7,992	9,186	10,206	12,834	15,564	18,126
UNIT SIZE		33	36	40	51	59	69	77	85	103
COOLING COIL	LARGE COIL	32.64	35.90	40.10	51.04	58.33	69.27	76.56	85.31	103.02
	FH x FW	50 x 94	55 x 94	55 x 105	70* x 105	80* x 105	95* x 105	105* x 105	105* x 117	115* x 129
	MED. COIL	29.38	32.64	36.46	43.75	54.69	61.98	65.63	70.83	94.06
	FH x FW	45 x 94	50 x 94	50 x 105	60* x 105	75* x 105	85* x 105	90* x 105	90* x 117	105* x 129
	SMALL COIL	24.48	26.11	29.16	38.28	43.75	51.04	58.33	65.00	76.15
FH x FW	37.5 x 94	40 x 94	40 x 105	52.5 x 105	60* x 105	70* x 105	80* x 105	80* x 117	85* x 129	
HEATING COIL	LARGE COIL	32.64	35.90	40.10	51.04	54.69	65.63	72.92	81.25	89.58
	FH x FW	50 x 94	55 x 94	55 x 105	70 x 105	75 x 105	90* x 105	100* x 105	100* x 117	100* x 129
	MED. COIL	29.38	32.64	36.46	43.75	54.69	54.69	61.98	70.83	80.63
	FH x FW	45 x 94	50 x 94	50 x 105	60 x 105	75 x 105	75 x 105	85* x 105	90* x 117	90* x 129
	SMALL COIL	24.48	26.11	29.17	38.28	43.75	51.04	54.69	60.94	71.67
	FH x FW	37.5 x 94	40 x 94	40 x 105	52.5 x 105	60 x 105	70 x 105	75 x 105	75 x 117	80* x 129
	MULTI-ZONE	16.32	17.95	20.05	25.52	29.17	34.64	40.1	44.69	51.51
FH x FW	25 x 94	27.5 x 94	27.5 x 105	35 x 105	40 x 105	47.5 x 105	55 x 105	55 x 117	57.5 x 129	
CFM _(D) LARGE COIL	350 FPM	11,424	12,565	14,035	17,864	20,416	24,245	26,796	29,859	36,057
	400 FPM	13,056	14,360	16,040	20,416	23,332	27,708	30,624	34,124	41,208
	450 FPM	14,688	16,155	18,045	22,968	26,249	31,172	34,452	38,390	46,359
	500 FPM	16,320	17,950	20,050	25,520	29,165	34,635	38,280	42,655	51,510
	550 FPM	17,952	19,745	22,055	28,072	32,082	38,099	42,108	46,921	56,661
	600 FPM	19,584	21,540	24,060	30,624	34,998	41,562	45,936	51,186	61,812

NOTES:

- A. Coils with an * are divided into two or more coils that are stacked or staggered. Cooling coils also have an intermediate drain pan.
- B. The small coil is used for internal face & by-pass. Heating coils may be full height to allow heating to by-pass over cooling.
- C. The Multi-Zone coil is the standard heating coil utilized in Multi-Zone, Dual Dal Duct units and Triple Deck Units.
- D. The nominal CFM shown above is based on the large cooling coil
- E. All coil FH dimensions are based on coils with 1/2" tubes; if coils with 5/8" tubes are used coil height must be based on 1.5" tube centers.

QUALITY AIR HANDLING EQUIPMENT

Compact Air Units

Series: HDT / VDT-FC

Available 600 thru 8,800 CFM
Horizontal or Vertical
Enclosed Cabinet Type
Belt or Direct Drive
Single or Double Wall

Multi-Zone Air Units

Series: HMZ/VMZ

Available 600 through 60,000 CFM
Modular Design up to 12.0" TSP
FC, BI, AF or Plenum Fans
Indoor, Outdoor or Roof Top Design
Single or Double Wall

Custom Air Units

Series: VDT-CU

Available 5,000 through 20,000 CFM
Modular Design Under Floor Units
Ultra Quiet Direct-Drive Plenum Fans
DDC Controls and VF Drive
Double Wall Design-Laboratory Tested

Commercial Roof-Top Units

Series: HDT-RT

Available 600 through 60,000 CFM
Modular Design up to 6.0" TSP
FC, BI, AF, Plenum or Vane Axial Fans
IRoof Ready Roof-Top Units
Single or Double Wall

Partial List of Installations

ABN-AMBRO 30-Story Tower

Chicago, IL

Atlas Refinery

Lake Charles, LA

ARCO Refinery

Long Beach, CA

Atlantic Surgery Center

Atlantic City, NJ

Bernhard College

New York, NY

Bio-Immune Laboratory

Long Island, New York

Bristol Meyers Squibb

Philadelphia, PA

Computer Associates Hdq.

Dallas, Texas

Duke University

Durham, NC

E.I Du Ponte

Orange, Texas

Empire State Building

New York, NY

Enron 33-Story Office Tower

Houston, Texas

FAA LAB & Tech. Center

Atlantic City, NJ

Firestone Rubber

Orange, Texas

Fluor-5-Office Buildings

Houston, Texas

First India Place

New Delhi, India

Ft. Bend 2-Schools

Houston, Texas

General Electric Corp.

Mt. Vernon, IN

Huntsman Industries

Philadelphia, PA

Legacy Bank

Dallas, Texas

Middleton Tobacco Co.

Philadelphia, PA

Mitertek Headquarters

Chicago, IL

Merck & Co. Laboratories

Philadelphia, PA

Methodist Hospital

Houston, Texas

Mobil Refinery

Port Naches, Texas

Moses Industries

Fairfield, NJ

Mulholand School

Los Angeles, CA

Naval Foundry

Philadelphia, PA

N. E. School District

El Paso, Texas

Pennzoil Office Towers

Houston, Texas

Phibro, USA

Deer Park, Texas

QVC Sound Studio

Philadelphia, PA

Randolph AFB

San Antonio, Texas

River Oaks Baptist Sch.

Houston, Texas

SVGL Lithography

Ridgefield, CT

Sunny Farmingdale

Farmingdale, NY

Thomas Jefferson Univ.

Philadelphia, PA

San Antonio ISD

San Antonio, Texas

Sam Houston Univ.

Huntsville, Texas

San Jacinto College

Houston, Texas

Top Flight Corp.

Philadelphia, PA

University of Texas

Galveston, Texas

TSU University

Dallas, Texas

U.S. Navy

Virginia Beach, VA

Univ. of Pennsylvania

Philadelphia, PA

USA Today Hdq.

Mc Lean, VA

VA Hospital

Philadelphia, PA

US Navy

Okinawa, Japan