



SPO2AU SERIES

PACKAGED 100% OUTSIDE AIR SYSTEMS

Spinnaker's SPOAU systems make it possible to supply a complete rooftop packaged or split system from one manufacturing source. The DX cooling system consists of single or multiple refrigeration circuits utilizing scroll compressor technology affording the maximum in energy efficiency

- R410A refrigerant
- Onboard microprocessor control with diagnostics
- Single point power connection
- Stainless steel drain pan
- Heavy gauge steel cabinet with exterior powder cat paint finish
- Internally insulated with 2" foam (R 12.4) and inner cabinet liner
- Forward curve DWDI belt drive centrifugal blower
- TEFC premium efficiency motors
- Factory charged and run tested
- 1yr parts warranty (extended compressor warranty available)
- 2" Merv 13 filters as standard
- Modulating hot gas bypass



>> LET US DESIGN ONE FOR YOU





"SPOAU"

DEDICATED 100% OUTSIDE AIR UNITS **Self Contained Single Package or Split System Units**

Spinnaker Industries Inc. Model Series SPOAU 100% Outdoor Air Systems shall be factory assembled, wired and tested prior to shipment. Units shall bear a QPS approval label.

SPOAU systems are a complete Heat / Cool single package or split systems with solid state controls factory installed, and wired. All models are available with a choice of options including; gas, electric, hot water, or steam heat and chilled water cooling or self contained modulating DX cooling with a complete refrigerant R410A charge. The Solid State Electronic DDC onboard Control System provides unlimited flexibility in application and system design and unsurpassed control of temperature and humidity.

SPOAU systems make it possible to specify a complete rooftop packaged or split system from one manufacturing source. The modulating DX cooling system consists of single or multiple refrigeration circuits utilizing fixed scroll compressor technology and modulating hot gas by pass affording the maximum in energy efficiency thru the cooling range. Independent condenser fans utilize TEFC high efficiency motors and are driven by Danfoss variable frequency drives.

TYPICAL MECHANICAL SPECIFICATION

CABINET

Unit construction to suit specified applications. All exterior cabinet screws shall be Clima-seal with bonded washer . Unit casing shall be minimum 18 gauge satin coat steel with weather resistant powder coat finish (Sky Grey). Units with bear metal or an air dried paint finish will not be accepted. All seams to be sealed with weather resistant caulking. All interior cabinet surfaces shall be lined with 2" thick (R 12.4) foam insulation. The floor shall be internally insulated and double skinned . The base shall be constructed with heavy gauge galvanized steel with integral supports. Perimeter base frame designed to be such that it overhangs when mounted on a roof curb. Access doors shall be double wall constructed internally insulated with 2" thick foam insulation. A minimum of 2 latches and hinge assemblies shall be provide for each door and shall be rated for ambient temperatures of -40° F. Each access door shall be provided with a continuous dual durometer extruded automotive style flexible seal rated to-40° F. Units with lift off access doors will not be accepted.

REFRIGERATION CIRCUITS

All models utilize high efficiency (410A) scroll compressors. Compressors are mounted on rubber isolators to minimize vibration transmission. Internal overload protection is provided. External high pressure and low pressure cutout switches are included on each compressor control circuit. Each refrigeration circuit includes an adjustable bi-flow thermal expansion valve (with external equalizer), bi-flow liquid line filter drier, and service gauge ports.

Evaporator / Condenser coils are constructed of internally enhanced copper tubes mechanically bonded to enhanced aluminum plate fins. The evaporator coil is installed in a draw-through configuration for optimum performance, and the large coil face area minimizes potential water carry over.

FANS

Fan(s) shall be DWDI forward curve centrifugal type. Fan drive shafts shall be polished with keyways for drive pulley mounting. Unit fans with machined flats on fan shafts for drive pulley mounting will not be accepted. Fans shall have ball bearings suitable for operation in ambient temperatures of -65 to 250°F . Variable pitch v-belt drives, of cast iron construction and adjustable motor mounts to be provided. Units with fans, motors, and drives that do not meet the above criteria will not be accepted.

MOTORS

Fan motor(s) shall be TEFC ribbed frame type with ball bearings rated for continuous duty and have class F insulation. Motors shall be 2010 energy efficiency compliant. Units with motors that do not meet the above criteria will not be accepted.

FILTERS

Unit(s) shall be equipped with 2" deep MERV 8 pleated filters mounted in permanent tracks. Filters shall slide out for replacement.

CONTROLS AND ELECTRICAL

An onboard microprocessor controller shall be provided for flexibility in application and system design. Unit controls shall be mounted within integral enclosure(s) with exterior hinged access doors enabling fan access doors to remain fully closed to maintain accurate fan performance during control and drive adjustments. The exterior hinged access doors shall be the same construction as the unit access doors as described in " UNIT CONSTRUCTION ". Unit shall be provided with side power entry or optional bottom power entry if specified.

Unit controls shall include: fan motor / compressor fuses, contactors, and manual reset thermal overload, control transformer(s) with primary and secondary fusing. Unit wiring shall be color coded with a numbered terminal strip for low voltage wiring and field connections. Unit shall have single point power input terminals. Units without separate motor fusing and contactors will not be accepted

HOODS & DAMPERS

Outdoor units shall be provided with outdoor air and condenser air hoods as required. Hoods shall be constructed with minimum 18 gauge satin coat steel with the same finish as the unit. All flanges that meet the unit shall be sealed with caulking. Outdoor air intake shall be equipped with a 2 position motorized low leak damper .

WARRANTY

A parts only warranty is provided with each system for a period of one year from the date of shipment for **vendor verified defective components** . Refer to Spinnaker Limited Warranty for all details . An optional extended compressor warranty is available .

ACCEPTANCE

Verify prior to bidding that the unit(s) meet the specified construction, scheduled performance and electrical characteristics. Units that do not meet the specified criteria will not be accepted.

ADDITIONAL ACCESSORIES

SPRING ISOLATION HEAD

The isolation head assembly for rooftop units will ship with the unit for installation prior to unit mounting. The isolation head assembly shall have 1" deflection open type spring isolators mounted within a full perimeter fully welded two piece frame constructed from minimum 18 gauge satin coat steel with baked enamel finish that matches unit finish, complete with a full perimeter dual durometer extruded flexible vinyl seal rated to -40 deg. F to allow movement and maintain a water resistant seal. Flex connectors shall factory installed in the duct openings of the isolation head.

Extended Compressor Warranty

An optional, four year extended compressor warranty is available at additional cost at the time of original purchase of the equipment only. This is limited one time replacement only warranty and obligates Spinnaker Industries Inc. to replace f.o.b. factory, a defective compressor of equal capacity free of charge. No responsibility is assumed by Spinnaker Industries Inc. for refrigerant, labor, or freight to and from the factory.

OTHER OPTIONS :

- Rotary Energy Recovery Wheel
- Knockdown or welded roof curbs
- Direct drive plenum fan(s)
- Chilled water coils
- Hot Water / Steam or Glycol heating coils
- Modulating Natural gas indirect fired heating with 409 or 304 stainless steel heat exchangers
- Modulating Electric heat with SCR control
- Modulating Hot Gas re heat
- Modulating Hot Gas by pass for capacity control
- Dirty filter pressure differential switches
- Air flow monitoring station with digital readout in CFM
- Variable frequency drives
- Water Cooled or Water Source Heat Pump Systems
- 22 gauge inner cabinet liner
- Non-fused disconnect switch

Spinnaker Industries maintains a continuous improvement policy , therefore this information is subject to change without notice

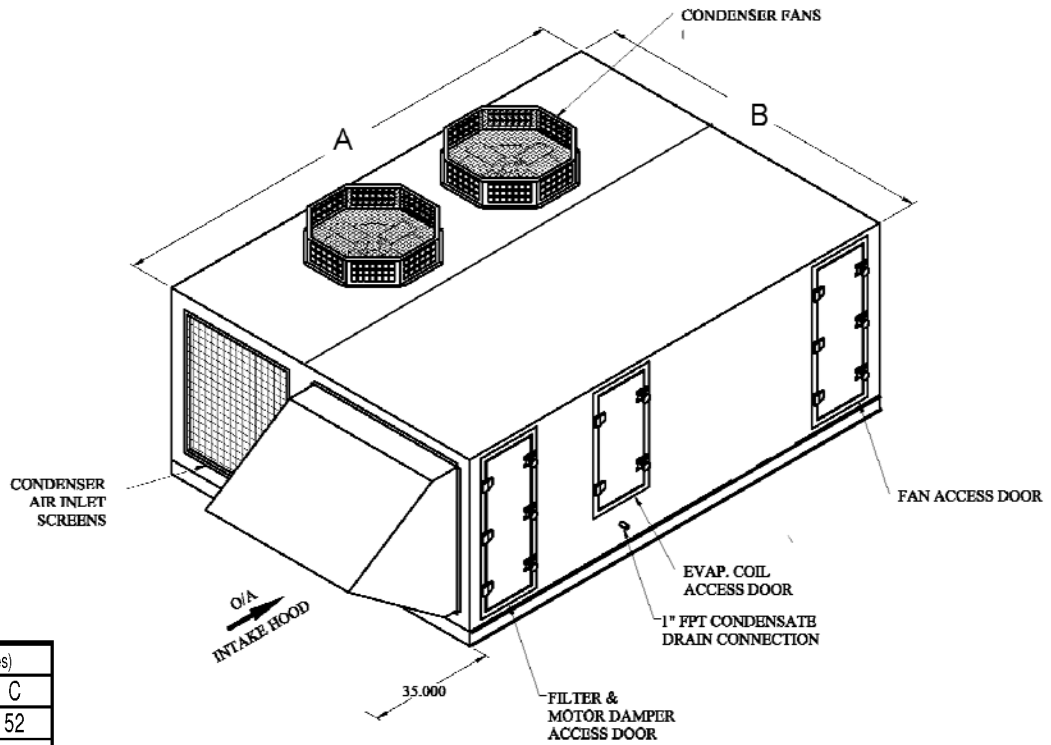


COOLING ONLY UNITS

Cabinet Size	CFM Range	Max. Cooling Capacity BTUH *
A	600-1500	150,000
B	2000-4000	396,000
C	4500-4800	480,000
D	5000-5400	540,000

* Cooling Capacities are based on the following conditions :
 OAT: 93°FDB / 79°FWB
 LAT: 54°FDB / 53°FWB

For larger size or custom units contact the factory

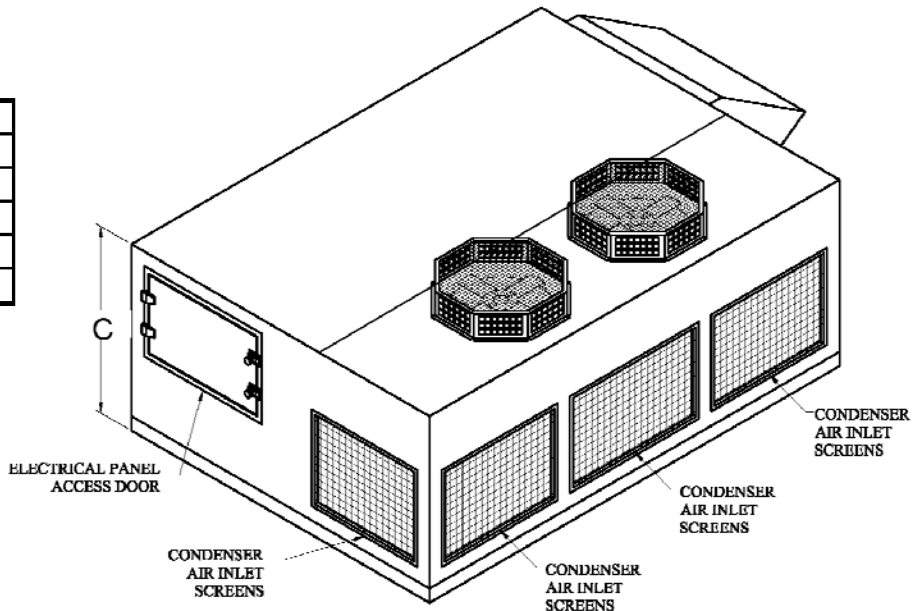


COOLING ONLY UNITS

Cabinet Size	Dimensions (inches)		
	A	B	C
A	102	90	52
B	124	96	58
C	156	96	82
D	156	96	94

COOLING UNITS with RE HEAT

Cabinet Size	Dimensions (inches)		
	A	B	C
A	132	90	52
B	154	96	58
C	186	96	82
D	186	96	94





LIMITED WARRANTY

COVERAGE AND TERMS

SPOAU Model Series units, and all related accessories as manufactured by Spinnaker Industries, are warranted to the original buyer to be free from defects in materials or workmanship provided that these units and accessories have been installed and maintained in accordance with instructions and operated under normal conditions. Spinnaker Industries sole obligation under this Limited Warranty is to repair or replace, at its opinion, free of charge to the customer (except as provided below), FOB factory, any part determined by Spinnaker Industries (in its sole discretion) to be defective. Warranty terms, from original ship date are as follows:

- ◆ All components (excluding filters and fan belts) 1 year from date of shipment
- ◆ Stainless Steel Heat Exchanger (s) 10 years from date of shipment (pro rated as follows)
 - Year 1 customer pays 0 % of list price
 - Year 2 customer pays 10% of list price
 - Year 3 customer pays 20% of list price
 - Year 4 customer pays 30% of list price
 - Year 5 customer pays 40% of list price
 - Year 6 customer pays 50% of list price
 - Year 7 customer pays 60% of list price
 - Year 8 customer pays 70% of list price
 - Year 9 customer pays 80% of list price
 - Year 10customer pays 90% of list price

EXCLUSIONS

Spinnaker Industries Limited Warranty does not cover defects, reduced performance, or failure caused, directly or indirectly, by improper installation, abuse, misuse, misapplication, improper maintenance, lack of maintenance, negligence, accident, or normal deterioration, including wear and tear. This Limited Warranty shall not apply to items that require replacement due to normal wear i.e. fan drive belts, filters, etc., or to failures, defects, or reduced performance resulting, directly or indirectly, from use of its products exposed to corrosive gasses or liquids.

Warranty claims that are not supported with a copy of the original start up report will not be considered.

Spinnaker Industries Limited Warranty does not include costs for transportation (including, without limitation, freight and return freight charges, costs, and insurance), costs for removal or re-installation of parts or equipment, cranes and hoisting, premiums for overtime, labor for performing repairs or replacement made in the field, roofing contractors or any other sub trades. Spinnaker Industries is not responsible for damages occurring during transport of any product to or from its facilities.

RETURN PROCEDURE

To return defective parts under these warranty terms, please contact Spinnaker Industries at 1-800-932-6210 to confirm the ship to address. The serial number located on the rating label of the unit must be provided so that the original ship date of the unit can be verified. All defective parts must be authorized for return and shipped pre-paid to Spinnaker Industries for inspection. A purchase order must be received prior to shipment of repaired or replacement parts. Repaired or replacement parts will be invoiced and shipped collect FOB Factory. A credit will be issued only if the defective parts are deemed the responsibility of Spinnaker Industries. Spinnaker Industries is not responsible for any damage or loss occurring during shipment to or from Spinnaker Industries.

THE OBLIGATION AND LIABILITY OF Spinnaker Industries UNDER THIS LIMITED WARRANTY DOES NOT INCLUDE LOSSES, DIRECT OR INDIRECT, FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS LIMITED WARRANTY IS PROVIDED EXCLUSIVELY TO THE ORIGINAL BUYER OF PRODUCTS AND MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.