



BLUE STAR



CONDENSING UNIT


NON-STOP COOLING, EVEN AT 54°C



AHRI Rated in accordance with AHRI-365

 Inbuilt Hot Gas By Pass System

 IPX5 - Suitable for outdoor

 Microprocessor Controller

 BMS Compatibility

 Suitable for 100% FAHU & Recirculating AHU

FEATURES



Compressor

Compressors used in Blue Star R-410A ACUS Series Condensing unit are hermetically sealed, compact scroll with the following features:

- High efficiency.
- Quiet operation, low sound levels.
- Internal motor protection / Advanced scroll temperature protection.
- Suction gas motor cooling.

Crankcase Heater

Crankcase Heater are provided as standard feature for compressor in all model. Crankcase Heater provide protection against liquid flood back and refrigerant migration during low load conditions and low temperature operation.



Condensers Coil

Condenser coils are manufactured of seamless copper tubes mechanically bonded to aluminum fins to ensure optimum heat transfer. All coils are tested against leakage upto 650 psig (4.5mPa).

In bigger models V shaped coil are used which has following advantages.

- V shape condenser coil reduce air side fouling factor by preventing dust accumulation.
- Two path air flow maintain homogeneous air distribution over the condenser coil.
- No-air recycling.
- Additional special coating can be provided from factory as an option for severe coastal applications.

Condenser Fans & Motors

Condenser fans are propeller type, aluminum alloy blades, directly driven by electric motors. Motors are Totally Enclosed Air Over (TEAO) with class 'F' insulation and minimum IP55 protection. The TEAO and class 'F' insulation features ensure long life and durability.

Casing/Structure

Designed for ease of handling and low cost to install. The ACUS Air cooled condensing Units are factory assembled and mounted on a rigid base. This finish and coating pass a 1008 hours in 5 % salt spray testing at 95°F (35°C) and 95% relative humidity as per ASTM B117.

Refrigerant Charge

These condensing units are shipped from factory without refrigerant charge. The units are supplied with sealed connections having positive pressure inside to prevent against contamination of foreign particles.



Hot Gas Bypass

These condensing units have inbuilt hot gas bypass systems as standard features. These hot gas bypass systems permit continuous and stable operation when the units are operating at extremely low load conditions. It also prevents compressor from excessive cycling.

Refrigeration Safety Controls

High pressure and low pressure safeties are provided as standard features for all the models. Inbuilt factory installed liquid line shut off valve, sight glass cum moisture indicator & filter drier are provided as standard features in all models.

Electrical Safety Controls

Contactors, MCB, Overload relay, fuse & single phase/phase reversal protections are provided as standard features in all models.

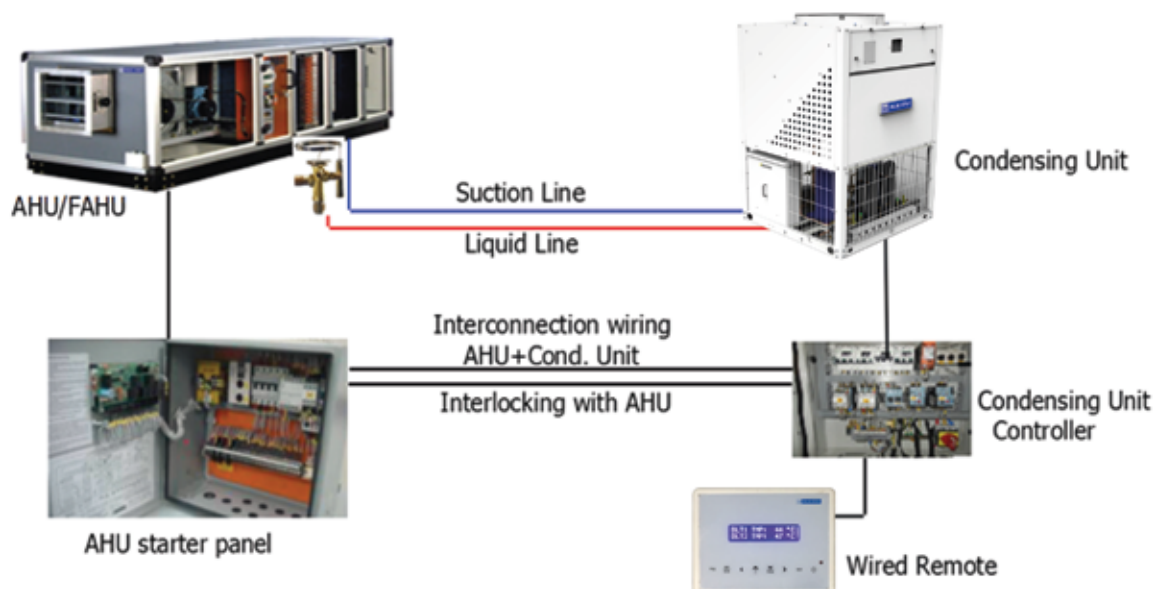
Microprocessor Controller

The Blue Star ACUS series condensing units are supplied with microprocessor based controller as a standard feature. The controller comprises of LCD display which has complete operational control for the unit. The main features of the controller are as follows:



- LCD Remote Display
- Non-Volatile Memory
- Auto-reset after power failure
- Alarm management
- Interlocking with AHU & Electrical safety
- Compatible with 3rd Party BMS (Modbus protocol)
- Time-Delays
- Proprietary algorithms for operation for re-circulating & FAHU application
- Monitor and measure system parameters

SYSTEM ARCHITECTURE



TECHNICAL SPECIFICATION

R410A

Description	Models	ACUS1-05ER3	ACUS1-08ER3	ACUS2-11ER3	ACUS2-17ER3	ACUS2-21ER3	ACUS2-25ER3	ACUS2-39ER3	ACUS2-45ER3	
Power Supply	V/Hz/P	380-415/50/3N~								
Nominal Cooling Capacity ⁽¹⁾	TR	5	8	11	17	21	24.5	39	45	
Nominal Cooling Capacity ⁽²⁾	TR	4.42	7.13	9.37	14.54	17.88	20.56	33.57	38.9	
Compressor	Type	Hermetically sealed Scroll								
	Qty.	No.	1	1	2	2	2	2	2	
Sound Pressure level	Avg @ 1 Mtr	dB(A)	73	74	75	77	78	80	85	86
	Fan	Type	Axial							
Fan	Qty.	No.	1	1	1	2	2	2	4	4
	Dia	mm[Inch]	610[24]	660[26]	660[26]	660[26]	660[26]	660[26]	914[36]	914[36]
Motor	Type	AC Induction motor								
	Qty.	No.	1	1	1	2	2	2	4	4
	Output	HP	0.5	0.75	0.75	0.75	0.75	0.75	1.5	2.5
	Speed	RPM	920	920	920	920	920	920	710	920
Condenser Coil	Air Flow	CFM	4250	9000	8750	18000	18000	17500	48000	58000
	Tube Type	Inner Grooved Cu Tube								
	Tube Diameter	mm	7	9.52	9.52	9.52	9.52	9.52	9.52	9.52
	Rows	No.	3	3	4	3	3	4	3	4
Dimension	Fin Material	Corrosion resistant blue coated aluminium								
	Area	Sq. ft.	13.66	18.93	20	40	40	40	88.64	88.64
	Length	mm	1400	1146	1146	2233	2233	2233	2815	2815
Weight	Width	mm	445	861	1116	1146	1146	1146	2035	2035
	Height	mm	924	1071	1687	1686	1686	1686	2491	2491
Refrigerant*	Net	Kg	159	244	326	602	615	630	1553	1567
	Shipping	Kg	171	262	346	642	655	670	1603	1617
Refrigerant Connection	Type	R410A								
	Quantity	Kg	3.5	5.6	3.8/3.8	6.0/6.0	7.4/7.4	8.6/8.6	13.6/13.6	15.7/15.7
	Suction Line	Inch	7/8	1-3/8	7/8	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8
Electrical Data	Liquid Line	Inch	1/2	5/8	1/2	5/8	3/4	3/4	7/8	1-1/8
	Circuit	No.	1	1	2	2	2	2	2	2
	MCA	Amp	16	25.3	31.6	50.6	53.1	68.1	108.2	131.5
Controller	MOC	Amp	28	44.3	40.6	64.9	68.1	87.6	136.7	166.8
	Cable size (4 core)	CU in sq mm	4	6	10	25	25	35	70	120 or 2x35
		AL in sq mm	6	10	16	35	35	50	120 or 2x50	185 or 2x50
Accessories	Sight Glass, Liquid line shut off valve, filter drier, Expansion valve (optional), Vibration isolator									
Refrigeration Safeties	HP, LP cutout, Anti recycle, internal motor protection, DOL start									
Electrical Safeties	MCB, Contactor, OLR, SPPR									

February 2019; Flyer; Unitary Products; Room Air Conditioner

*Blue Star has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.

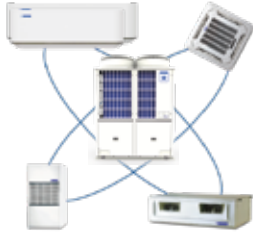
⁽¹⁾ Nominal Cooling Capacity @ 95°F Ambient temperature and 45°F Saturated suction temperature.

⁽²⁾ Nominal Cooling Capacity @ 115°F Ambient temperature and 45°F Saturated suction temperature.

Sound values are with tolerance up to ± 2dB(A)

* Refrigerant to be field charged. Refer refrigerant charging and piping guidelines from installation manual.

Widest Range Of Products



VRF Systems



Packaged ACs & Ducted Splits



Condensing Units



Inverter scroll chillers



Process Chillers



Tank Chillers



Air cooled & Water cooled
VFD Screw Chillers



Air-Cooled Configured Screw
Chiller - High Efficiency Series



Air Cooled and
Water Cooled Scroll Chiller



Water-Cooled Screw Chillers
Configured Series



Turbocor Chillers



Water Cooled Falling Film
Screw Chillers

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