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# ROOFTOP PACKAGED UNIT



Enviromental  
Respect



Specific Solution  
for each project



Lowest cost  
of ownership



# ROOFTOP PACKAGED UNIT

AEE's range of Rooftop Packaged Units has been developed specifically to suit commercial applications and are designed for flexible and easy installation. Along with the light cream colour, the flat top and compact design gives an aesthetic and neat appearance when installed in the line of sight. The durable powder coated sheet metal and corrosion resistant fixings make this unit ideal for all different climates.

## MAJOR COMPONENTS

**COMPRESSOR**  
Compressor's used in the Rooftop Pakage series packaged units are hermetically sealed scroll type. All compressors are provided with an internal overload protection.



**EXPANSION VALVE**  
For precise control of refrigerant flow, the Rooftop Pakage Series is equipped with an Electric Expansion Valve (EEV).



**Capability of Installation in Small Spaces**

The experienced engineering team with the help of latest world's technology and by using the latest design and modeling software, has made it possible to design different devices and various dimensions according to available space in every project.



**High Efficiency**

By using advanced controllers, precise and principled designs and modern equipments including high-tech fans and compressors, high quality of devices has been guaranteed.



**Using of Original Fragments**

All used parts and fragments in manufactured devices in Arad Energy Ersa company are authenticated by legal and original sources and have customs green sheet which confirms originality and authenticity of fragments.



### **CONDENSER AND EVAPORATOR**

The condenser and evaporator coils are manufactured from seamless inner grooved copper tubes mechanically bonded to aluminium fins to ensure optimum heat transfer. All coils are pressure tested to 4.2 MPa through the use of Nitrogen and are further leak tested with Helium gas at 1.6 MPa. To improve corrosion resistance, a hydrophilic Gold Fin is provided as standard.

### **INSULATION**

To prevent the likelihood of condensation occurring the unit is equipped with 50mm Polyethylene panel insulation throughout.



### **CONDENSER FAN AND MOTOR**

The base beams are fixed and provide a rigid foundation for the entire unit. The beam has forklift slots and rigging holes for easy handling. It is also designed to allow mounting on a roof curb, the dimension of the roof curb should be followed strictly in accordance with the installation manual.

### **CASING / STRUCTURE**

The AEE series casing is made of zinc coated galvanised steel sheets. It is further treated with an electrostatic powder coat then over baked to provide a weather resistant finish to suit the all different climates. The screws are also zinc plated to improved product durability.



### **EVAPORATOR FAN AND DRIVE**

A belt driven, double width double inlet (DWDI) centrifugal forward curved fan is used as the evaporator fan. This configuration with the factory fitted Variable Pitch Pulley (VPP) allows the unit to meet a wide range of air flows and external static pressures.

## STANDARD FEATURES

### •BASE BEAM

The base beams are fixed and provide a rigid foundation for the entire unit. The beam has forklift slots and rigging holes for easy handling. It is also designed to allow mounting on a roof curb, the dimension of the roof curb should be followed strictly in accordance with the installation manual.

### •FLEXIBLE AIR SUPPLY

All units utilise a belt/pulley driven supply air fan, with a variable pitch pulley to enable a wide range of supply air volumes and external static pressures to be met. Furthermore, where required, the supply air fan motors, pulleys and belts can be upgraded easily on site.

### •CONVERTIBLE RETURN AND AIR SUPPLY

Unit can be easily converted from horizontal to vertical (downward) supply and return air duct configuration by relocating the panels and supply air fan mounting.

### •POWDER COATED CONDENSATE DRAIN PAN

The sheet metal condensate drain pan is powder coated for corrosion resistance.

### •RETURN AIR FILTERS

A 50mm filter slot is provided as standard instances where a field supplied filter is required.

### •ARAD ENERGY ERSA EXCEEDS MEPS ENERGY EFFICIENCY REQUIREMENTS

All air conditioners with a cooling capacity of up to 65kW sold in Iran must now comply with the Minimum Energy Performance Standards (MEPS), as set out in International Standards. **ARAD ENERGY ERSA** air conditioners exceed MEPS requirements, in line with **AEE's** commitment to providing energy efficient, quiet, simple to use and reliable air conditioning solutions.



## OPTIONAL FEATURES

- **3rd PARTY INTERFACE**

For applications that require interface with a third party controller, there are control points on the main PCB that allow 2 stages of heating/cooling, OFF/ON and fan only operation.

- **BASIC BMS CONNECTION**

Unit's standard PCB board provides dry contact for basic BMS connection. Input signal will go to dry contact ON/OFF, COOL/HEAT, and 4 to 20mA temperature adjuster while output signal will come from ON/OFF, COOL/HEAT, ALARM and DEFROST dry contact.

## EXTENSIVE CONTROLS CAPABILITY

**This Unit is equipped with more than 27 functional and control capabilities.**

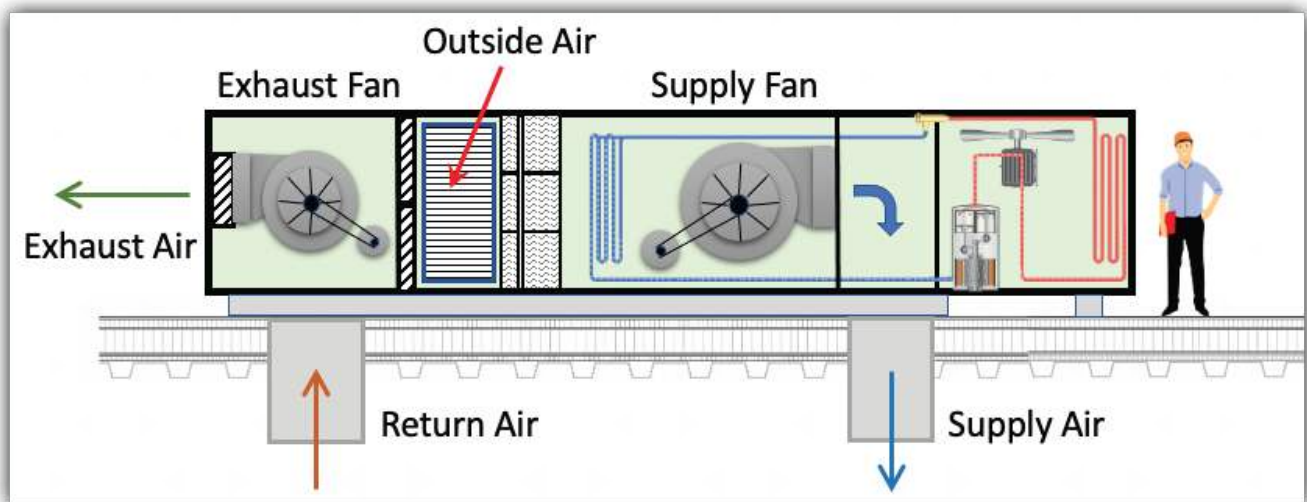
**Key features include:**

- Variable head pressure control for low ambient cooling
- Electronic expansion valves for precise refrigerant control
- Self diagnostic and error warning codes
- Standard 7days programmable timer and LCD thermostat
- Sequential compressor and load balancing operation
- Simple BMS and third party interface
- Ability to connect remote sensor with 25m cable
- Simple auxiliary booster with 3 adjustable differential settings
- Auto-changover (heat/cool) functionality can be configured on the controller

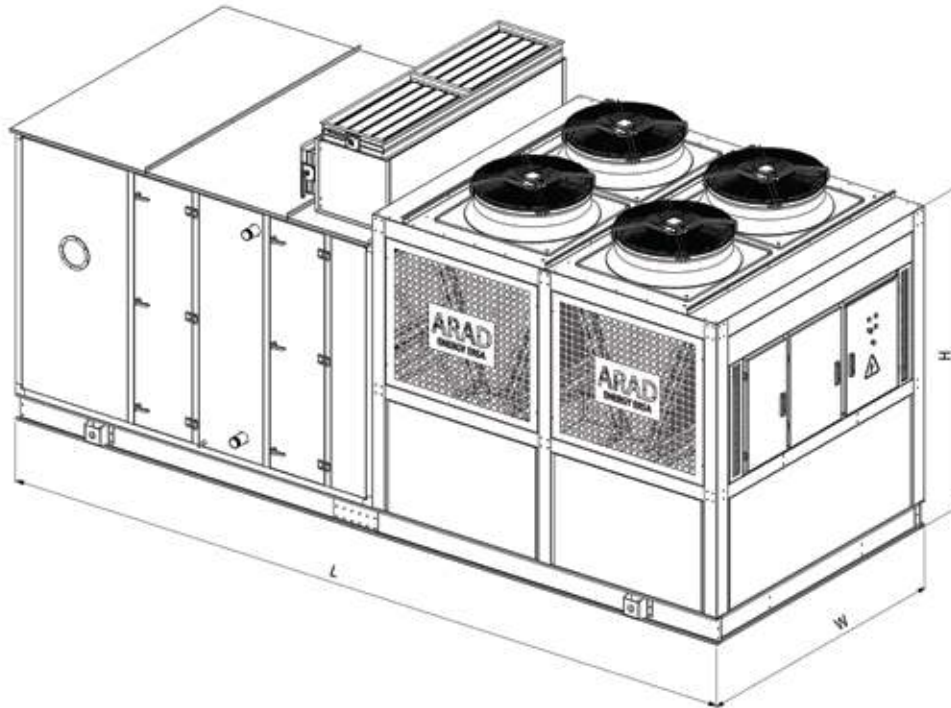
## ROOFTOP PACKAGED UNIT

### ● ASSUMPTIONS

All representations made in **AEE** marketing and promotional material are based on the assumptions that the correct equipment has been selected, appropriately sized and installed in accordance with **AEE's** installation instructions and standard industry practises.








## ROOFTOP PACKAGED UNIT





Model		Roof Top Package Unit							
		AEE-RP-05	AEE-RP-10	AEE-RP-15	AEE-RP-20	AEE-RP-25	AEE-RP-30	AEE-RP-40	AEE-RP-50
Cooling Capacity	Ton	5	10	15	20	25	30	40	50
Cooling Capacity	Kw	17.5	35	52.5	70	87.5	105	140	175
Circuit No		1	1	2	2	2	2	2	2
Power	V/Ph/Hz	380/3/50							
Refrigerant		R22/R407°C							
Compressor	Type	Hermetic Scroll Compressor							
Cond. Fan	Type	Axial							
	Drive	Direct							
Supply Fan	Type	Centrifugal							
Air Flow	CFM	2000	4000	6000	8000	10000	12000	16000	20000
Max ESP	(in H <sub>2</sub> O)	0.8	0.8	1.0	1.0	1.2	1.2	1.3	1.3
Heating Coil	Type	Water							
	Model	1Row/8FPI	1Row/8FPI	1Row/8FPI	1Row/8FPI	1Row/8FPI	1Row/8FPI	1Row/8FPI	1Row/8FPI
Heating Capacity	MBH	45	87	135	170	225	270	350	410
Power Input	kW	8	15	23	30	35	50	60	70
Dimension(mm)	Length	3500	4000	4500	4500	5000	6000	6500	6700
	Width	2500	2500	2500	2500	2500	2500	2500	2500
	Height	2000	2000	2000	2500	2500	2500	2500	2500




 Special installment sale  Design to execution  24-hour support  High quality parts


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