

AME-S SATELLITE MULTICOMPRESSOR UNITS

These multicompressor units are employed as a part of refrigeration systems for modern retail companies and supermarkets of small and middle size with an approximate sales area from 200 sq. m to 600 sq. m.

Refrigerant: R22, R404A, R507A.

Total amount of unit variants: 99 with refrigerant R22,
110 with refrigerant R404A/R507A.

Cooling capacity range: from 2 to 45 kW.

Refrigerant evaporating temperature range: from -40 to +10 °C.

Refrigerant condensing temperature range: from +35 to +50 °C.



Unit description

These units are completely manufactured at the factory and mounted on a single frame. All components of the refrigerant circuit are connected with piping; the circuit has passed strength and leakage tests. During delivery the unit's refrigerant circuit is filled with high purity nitrogen up to excess conservation pressure; with all inlets and outlets plugged. The electrical components of each unit include automatic operation and power controls for the unit and condenser; the components are assembled and tested.

The unit is certified for compliance with national standards.

Having installed the unit in its new location, connect it with the refrigeration system circuit and then wire to the electrical network.

Basic components

Compressor: two for $T_{ev} = -10\text{ °C}$ and one or two for $T_{ev} = -35\text{ °C}$.

The semi-hermetic piston compressor has a common housing with an electric motor and is charged with oil; the oil level can be monitored through a sight glass. A charging connection and an oil drain plug are built in the housing. The compressor crankcase is equipped with an oil heater; the electric motor has a protective relay against winding superheat. The compressor is also equipped with suction and discharge shut-off valves and pressure switches.

Discharge line: discharge header, oil separator.

Suction line of low temperature circuit: header (for two compressors), cleaning filter, low pressure cut-out (for units 2+1).

Suction line of medium temperature circuit: header, cleaning filter.

Frame: The frame is the supporting structure of the unit. It is made of steel and has sufficient rigidity. The frame is painted with a high quality anti-corrosion composition, resisting environmental climatic factors. It provides a possibility of mounting the unit on its base and an easy access to its maintenance.

Options

Liquid refrigerant separation in suction line of each compressor

Option A1: thermal insulated liquid separator.

Discharge line pressure sensors

Option B6: discharge line pressure sensor.

Suction line pressure sensors

Option B16: suction line pressure sensor.

Air cooled condenser fan control for combined use with option C15

Option B51, B52: condenser fan speed regulator.

Unit control

Option C4: terminal box combined with unit;

Option C15: control cabinet for unit and condenser with mRack (Carel) controller(s) including power controls and combined with unit. It provides signaling in order to connect control cabinets for single and

three-phase condenser fans with step and stepless control; the condensers are different from recommended models.

Condensing pressure regulation

Option D1: discharge line pressure regulator, regulator or differential pressure valve in refrigerant by-pass line into receiver, check valve in refrigerant drain line into receiver;

Option D2: regulator or differential pressure valve in refrigerant by-pass line into receiver, pressure regulator in refrigerant drain line into receiver;

Option D3: check valve in the refrigerant drain line into receiver.

Air cooling of each compressor at low evaporating temperature

Option F1: additional fan.

Voltage control of three-phase network (included in option C15)

Option G1: voltage relay, circuit breaker.

Control cabinet LED indications for option C15

Option G2: indication: compressor operation, compressor failure, CIC system failure, lubrication system failure, refrigerant pressure outside of limits, additional oil heating.

Refrigerant injection cooling (only for R22) for each compressor at low evaporating temperature

Option I1: (from 4TCS8) liquid refrigerant injector, pulse solenoid valve, injection controller, refrigerant temperature sensor, filter-drier, sight glass.

Additional crankcase heating of each compressor

Option K1: additional crankcase heater, thermostat, compressor crankcase thermal insulation.

Maintenance facilities

Option L1: shut-off valves in suction and discharge lines (in each suction line).

Oil level regulation in each compressor crankcase

Option Q2: oil receiver with shut-off valves at inlet and outlet, oil differential check valve, shut-off valve, oil filter, oil level float regulator;

Option Q3: oil receiver with shut-off valves at inlet and outlet, oil differential check valve, shut-off valve, oil filter, oil level digital regulator.

Oil receiver oil charge

Option R1: oil charge.

Pressure monitoring

Option V1: pressure gauges with glycerin pointer vibration damper for suction and discharge lines (for each suction line).

Embodiment

Option X2: two level embodiment.

Technical documentation

Operating manual, product passport.

Label structure

AME-S – 2 x 4TCS12Y / 2 x 4CC6Y – H – XX...X R404A/R507A

1 2 3 4 5 6 7 8 9

1 – Product type:

AME - multicompressor unit with a semi-hermetic piston compressor;

2 – Unit type: S - satellite;

3 – Number of compressors at medium evaporating temperature in the unit;

4 – Model of compressor at medium evaporating temperature (letter Y means synthetic compressor oil, no letter means mineral compressor oil);

5 – Number of compressors at low evaporating temperature in the unit;

6 – Model of compressor at low evaporating temperature (letter Y means synthetic compressor oil, no letter means mineral compressor oil);

7 – Version;

8 – Additional options;

9 – Refrigerant.