

AME MULTICOMPRESSOR UNITS

These multicompressor units are employed as a part of refrigeration systems for technological processes and air conditioning at industrial and cold storage plants, in warehouses and freezers, in food manufacturing and wholesale or retail companies.

Refrigerant: R22, R404A, R407C, R507A.

Total amount of unit variants: 106 with refrigerant R22,
106 with refrigerant R404A/R507A,
53 with refrigerant R407C.

Cooling capacity range: from 3 to 416 kW.

Refrigerant evaporating temperature range: from -40 to +15°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 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: the number of compressors may vary from 2 to 5.

The Bitzer 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. Starting from the 4J22 (Y) model the compressors have a built-in oil pump with an oil pressure switch. The compressor is also equipped with suction and discharge shut-off valves and pressure switches.

Discharge line: pipeline, discharge header, oil separator.

Oil return line: sight glass, shut-off valve.

Suction line: suction header, cleaning filter, thermal insulation.

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.

Air cooled condenser fan control

Option B1: one pressure switch for condenser fan control;

Option B2: two pressure switches for condenser fan control;

Option B3: three pressure switches for condenser fan control.

Discharge line pressure sensors

Option B4: discharge line pressure sensor for options C3, C23 or C4;

Option B6: discharge line pressure sensor for options C5, C25 or C4.

Option B7: discharge line pressure sensor for options C1, C2 or C4.

Suction line pressure sensors

Option B14: suction line pressure sensor for options C3, C23 or C4;

Option B16: suction line pressure sensor for options C5, C25 or C4.

Option B17: suction line pressure sensor for options C1, C2 or C4.

Unit control

Option C1: control cabinet with AKPC 530 controller combined with unit;

Option C2: control cabinet with EKC 331T controller combined with unit;

Option C3: control cabinet with EWCM4180 controller combined with unit;

Option C4: terminal box combined with unit;

Option C5: control cabinet with mRack (Carel) controller combined with unit.

Option C23: control cabinet with EWCM9100 controller combined with unit;

Option C25: control cabinet with pCO (Carel) controller combined with unit.

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 refrigerant drain line into receiver.

Air cooling of each compressor

Option F1: additional fan.

Control cabinet LED indications for options C1, C2, C3, C5, C23, C25

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)

Option I1: (from compressor model 4VCS6) liquid refrigerant injector, pulse solenoid valve, injection controller, refrigerant temperature sensor, filter-drier, sight glass.

Regulation of each compressor's capacity

Option J1: (from 4FC) one compressor capacity regulator;

Option J2: (from 6J) two compressor capacity regulators.

Additional compressor crankcase heating

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

Maintenance facilities

Option L1: shut-off valves in suction and discharge lines.

Oil level regulation in each compressor crankcase

Option Q1: (from 4J) oil and gas equalization line in compressor crankcases;

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.

Technical documentation

Operating manual, product passport.

Label structure

AME - L - 2 x 4H15 Y - H - XX...X R407C

1 2 3 4 5 6 7 8

1 – Product type:

AME – multicompressor unit with semi-hermetic piston compressors;

2 – Temperature application:

L – low temperature;

M – medium temperature;

3 – Number of compressors in the unit;

4 – Compressor model;

5 – Oil type

No letter – mineral;

Y – synthetic;

6 – Version;

7 – Additional options;

8 – Refrigerant.