

Water chillers and air/water heat pumps with centrifugal fans and scroll compressors



GENERAL DESCRIPTION

Unit Frame.

Galvanized steel frame with baked-on epoxy-polyester powder paint. RAL 7032 colour.

Hermetic compressors.

Scroll and reciprocating type compressors (mod. 181-201) with thermal overload cutout, mounted on rubber vibration dampers and installed in a technical compartment separated from the air flow.

Refrigerant circuit.

With charging connection, liquid sight glass (except 21-31-36), drier filter, thermostatic expansion valve, high and low pressure switches, safety devices.

Evaporator.

Braze-welded plate type with anti-condensate insulation, anti-freeze protection and mechanical flow switch.

Condenser.

Of the finned-coil type, with galvanized metal protection guard.

Centrifugal fans.

Directly coupled to electric motors (from 21 to 81), with V-belt transmis-

sion and pulleys (from 91 to 201). Accident-prevention guard fitted on delivery outlet.

Electrical panel.

With main switch, power and control circuit automatic breakers, pump motor overload cutout, compressor and pump contactors. Microprocessor-controlled unit with function display mode.

Testing.

Units are factory tested and supplied with refrigerant fluid and oil charge.

AVAILABLE VERSIONS

ALFA CF

Water chiller.

ALFA CF/HP

Heat pump equipped with four-way diverting valve, liquid receiver, second thermostatic expansion valve and suction line separator (mod. 181-201). Defrosting for summer/winter changeover.

ALFA CF/ST

Hydraulic circuit featuring insulated storage tank, water pump, safety valve and expansion vessel (for heat pump only).

ACCESSORIES

- no-frost electric heater on evaporator (for /ST, installed also in tank, pumps and pipes);
- desuperheater for 20% recovery of condensation heat (from 91 to 201);
- 100% condensation heat recovery condenser (from 91 to 201);
- rubber vibration dampers;
- coils with special treatment;
- special voltages;
- expansion vessel (standard on ALFA CF/ST/HP);
- automatic filling unit with gauge;
- additional heaters (for ALFA CF/ST/HP units);
- increased available pressure;
- mufflers on air suction and discharge lines;
- low ambient kit with:
 - speed control (from 21 to 36),
 - air shutters (from 41 to 201),
- remote control terminal;
- card for RS 422 or RS 485 serial line.

ALFA/CF - R407C TECHNICAL DATA

Unit size		21	31	36	41	61	81
Cooling(*)							
Nominal capacity	kW	4,6	7	8,2	10	12,4	14,9
Heating (**)							
Nominal capacity	kW	5,2	8	9,2	11,2	13,6	16,4
Compressor							
Quantity	n°	1	1	1	1	1	1
Type	/	scroll	scroll	scroll	scroll	scroll	scroll
Cooling power input	kW	1,6	2,5	2,8	3,4	4,1	4,8
Heating power input	kW	1,8	2,7	3,1	3,7	4,4	5,1
Fans							
N° x installed capacity	n° x kW	1x0,52	1x0,52	1x0,52	1x1,1	1x1,1	1x1,1
Air flow	m³/s	0,90	0,90	0,90	1,67	1,67	1,67
Available static pressure	Pa	50	50	50	50	50	50
Refrigerant charge							
For water chiller version	kg	1,7	2,0	2,1	3,0	3,2	3,7
For heat pump version	kg	2,2	2,5	2,6	4,0	4,2	4,7
Oil charge	kg	1,00	1,10	1,10	1,85	1,55	1,65
Heat exchanger water volume	dm³	0,50	0,85	0,85	1,03	1,41	1,41
ST version							
Pump nominal power	kW	0,22	0,22	0,22	0,46	0,46	0,46
Water flow rate	l/s	0,220	0,334	0,392	0,478	0,592	0,712
Pump available pressure	kPa	69	67	64	165	155	131
Storage tank capacity	l	70	70	70	70	70	70
Expansion vessel	l	2	2	2	2	2	2
Shipping weight (#)	kg	115	121	122	155	157	160
Shipping weight vers. ST (#)	kg	169	177	178	211	213	216

Unit size		91	101	141	161	181	201
Cooling(*)							
Nominal capacity	kW	20,1	26,3	32,9	38,2	43,0	49,8
Heating (**)							
Nominal capacity	kW	21,9	29,8	36,5	42,9	44,1	52,6
Compressor							
Quantity	n°	1	1	1	1	1	1
Type	/	scroll	scroll	scroll	scroll	reciprocating	reciprocating
Cooling power input	kW	6,5	8,9	10,8	12,7	14,6	17,8
Heating power input	kW	6,8	9,3	11,3	13,4	13,3	16,3
Fans							
N° x installed capacity	n° x kW	1x1,1	1x1,1	1x2,2	1x2,2	1x3,0	1x3,0
Air flow	m³/s	2,12	2,12	5,0	5,0	3,5	3,5
Available static pressure	Pa	50	50	50	50	50	50
Refrigerant charge							
For water chiller version	kg	4,5	5,5	7,2	9,0	10,0	12,0
For heat pump version	kg	6,0	7,0	8,8	10,6	14,0	16,0
Oil charge	kg	2,5	2,5	4,0	4,0	6,6	6,6
Heat exchanger water volume	dm³	1,60	2,35	2,91	3,57	3,57	4,00
ST version							
Pump nominal power	kW	0,62	0,62	0,82	0,82	0,90	0,90
Water flow rate	l/s	0,960	1,256	1,572	1,825	2,054	2,379
Pump available pressure	kPa	116	93	124	110	153	121
Storage tank capacity	l	100	100	200	200	200	200
Expansion vessel	l	2	2	5	5	5	5
Shipping weight (#)	kg	220	275	363	383	420	429
Shipping weight vers. ST (#)	kg	275	325	427	450	511	534

(*) Ambient air temperature 32 °C; evaporator inlet/outlet water temperature 12-7 °C.

(**) Ambient air temperature 8 °C DB, 6 °C WB; condenser inlet/outlet water temperature 40-45 °C.

(#) For heat pump units increase weight by 10%