

ARWC - ARWH



Water-cooled water chillers and heat pumps with centrifugal fans for indoor installations

Range:

Cooling capacity: 50 ÷ 110 kW
Heating capacity: 57 ÷ 132 kW

Available versions:

- basic
- condensation control

Refrigerant R407C Scroll compressors

STANDARD FEATURES

- Self-supporting frame in galvanised steel with panels finished in epoxy powders (colour RAL9001) in compliance with ASTM B117: protection grade IP44
- Hermetic scroll compressors with internal thermal protection and anti-vibration supports
- Crankcase heaters (ARWH)
- Stainless steel brazed plate heat exchangers insulated with closed-cell expanded polyurethane
- Exchange of the cycle on the refrigerant side with 4-way reversing valve (ARWH)
- Two refrigerant circuits in compliance with EC norms (PED 97/23/EC directive) including filter dryer, water flow dryer, thermostatic valves with external equalisation and high and low pressure switches
- Electric panel conforming to EC Directive 73/23/EC and Directive EMC 89/336/EC with auxiliary transformer 24V circuit, general door lock switch, magneto-thermal protection cut-off switches
- Sequence phase control
- differential pressure switch
- Microprocessor controlling system including:
 - local user control and monitoring terminal with LCD display and LED signals for all working parameters
 - chilled water temperature regulation (and hot water on ARWH)
 - anti-freeze protection
 - compressor timing and protection
 - compressor function display
 - alarm code signalling and centralisation for general alarm control transmission
 - remote ON-OFF switch

OPTIONS

Units can be supplied with the following construction options:

- External pump groups supplied by Uniflair with 1 or 2 pumps (1 + 1 in stand-by) including: expansion tank safety valve: motor guarantees IP55 protection
- External reservoir tank
- Remote user terminal (up to 150 meters) for:
 - display / entering of commands
 - display unit status and alarms
- Remote user terminal mP20 II (up to 200 meters)
- Rubber anti-vibration kit

TECHNICAL DATA

ARWC/ARWH MODELS		0182A	0202A	0232A	0252A	0302A	0403A	0504A
Power supply	V/ph/Hz	400 / 3 + N / 50						
Cooling only (ARWC)								
Cooling capacity (1)	kW	46.5	54.9	62.4	71.4	82.6	97.8	112.3
Absorbed power (1)	kW	12.71	14.23	17.06	18.92	21.63	24.01	26.41
Circuits / compressors	nr.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 3	2 / 4
Water flow evaporator	l/h	7990	9470	10750	12880	14220	16830	19330
Water flow condenser	l/h	10260	11990	13770	15660	18070	21110	24050
Pressure drop evaporator	kPa	25	28	30	32	31	28	45
Available head pressure (evaporator)	kPa	193	162	158	148	140	160	135
Noise pressure level (4)	dB(A)	50.5	51.0	52.5	54.5	55.5	56.0	56.0
Hydraulic connections in/out		2" gas f.						
Partial heat recovery (2)	kW	12.1	13.5	16.2	18.0	20.5	22.8	25.1
Water flow (2)	l/h	2080	2330	2790	3100	3540	3930	4320
Pressure drop (2)	kPa	15	7	10	9	11	13	12
Heat pump (ARWH)								
Heating capacity (3)	kW	57.1	66.5	76.7	87.0	100.2	116.6	132.3
Absorbed power (3)	kW	15.05	17.59	20.38	23.17	26.5	29.61	32.71
Circuits / compressors	nr.	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 3	2 / 4
Water flow evaporator	l/h	7240	8420	9700	10980	12670	14900	17140
Water flow condenser	l/h	9920	11560	13350	15140	17420	20210	23010
Pressure drop evaporator	kPa	21	23	25	26	25	30	36
Available head pressure (evaporator)	kPa	210	187	168	161	155	179	160
Noise pressure level (4)	dB(A)	50.5	51.0	52.5	54.5	55.5	56.0	56.0
Hydraulic connections in/out		2" gas f.						
Dimensions and weight								
Height	mm	1452	1452	1452	1452	1452	1452	1452
Width	mm	1191	1191	1191	1191	1191	1191	1191
Depth	mm	905	905	905	905	905	905	905
Weight (basic version) (5)	kg	320	330	350	360	390	460	530

(1) Data refer to nominal conditions: chilled water temperature 12/7°C; condenser inlet/outlet water temperature 30/35°C; R407C refrigerant

(2) Data refer to nominal conditions: chilled water temperature 12/7°C; recovery water temperature 45/40°C; condenser inlet / outlet water temperature 30/35°C; R407C refrigerant

(3) Data refer to nominal conditions: evaporator inlet/outlet water temperature 40/45°C; Condenser inlet/outlet water temperature 12/7°C; R407C refrigerant

(4) Measured in free field conditions at 1 mt., from the front of the unit (at nominal conditions)

(5) Data refer to empty unit

Available pump groups (external)

ARWC/ARWH	0182A	0202A	0232A	0252A	0302A	0403A	0504A
A (1.34 kW)	opz.	opz.	n.d.	n.d.	n.d.	n.d.	n.d.
B (1.50 kW)	opz.	opz.	opz.	opz.	opz.	n.d.	n.d.
C (2.35 kW)	opz.	opz.	opz.	opz.	opz.	opz.	opz.

opz. = option; n.a. = not available

Available water tank (external)

ARWC/ARWH	0182A	0202A	0232A	0252A	0302A	0403A	0504A
A (210 l)	opz.	opz.	opz.	opz.	opz.	opz.	opz.
B (300 l)	opz.	opz.	opz.	opz.	opz.	opz.	opz.
C (500 l)	opz.	opz.	opz.	opz.	opz.	opz.	opz.

opz. = option; n.a. = not available

CONSTRUCTION OPTIONS

- Modulating condenser head pressure control through presostatic valves
- Low noise version and condensation pressure control version
- Prearrangement of the external Uniflair pump group
- Partial condensation heat recovery and control of condensation pressure (ARWC)
- Microprocessor mP20 II (ARWC only)
- Electronic expansion valve (ARWC only) (*)
- RS485 serial adapter used to communicate with Uniflair supervision system or to interface with external BMS
- LAN card for local network connection mP20 II (ARWC)
- Cascade management ready for 2, 3 or 4 units installed on a parallel hydraulic circuit connection (only standard controls)
- High and low pressure gauges
- Production of glycol water mixture at low temperatures (up to - 8 °C) (*)
- Compressor power phase correction capacitors
- Compressor crankcase heaters (standard for ARWH)
- R22 refrigerant (available on request according to UE 2037/2000 standards)
- R134a refrigerant (*)

(*) on request