

LRAC-LRAH



Air-cooled water chillers and heat pumps with axial fans designed for outdoor installation

Range:
Cooling capacity: 6 ÷ 39 kW
Heating capacity: 7 ÷ 43 kW

Available versions
- Low noise
- Top Operating Performance

Refrigerant R410A
Scroll Compressor/s

STANDARD FEATURES

- Compact, vertically developing unit
- Self-supporting, galvanised steel, RAL7037 frame with panels coated in epoxy powders in compliance with norm ASTM B117
- One hermetic Scroll compressor (023B - 090A models) with internal thermal protection and anti-vibration supports
- Two hermetic Scroll compressors (120A - 180A models) with internal thermal protection and anti-vibration supports
- Crankcase heaters (LRAH)
- Ecological Refrigerant: R410A
- One cooling circuit in compliance with EC norms (PED 97/23/EC directive) in copper tubes comprising a filter dryer, water flow switch, stainless steel thermostatic valve with external equalization, and high pressure switch
- Low pressure limit function carried out by control
- Exchange of cycle on the refrigerant side with reversing valve (LRAH)
- Stainless steel, brazed plate heat exchangers insulated using closed-cell, expanded polyurethane
- Heat exchangers with aluminium fins and mechanically-expanded copper tubes protected by metal grilles
- Statically and dynamically balanced axial fans with sickle-blades and safety protection grilles in polymeric material
- Fan housing nozzle in sound-proofing material
- Condensation control, including continuous fan speed control
- Electric panel conforming to EC Directives 73/23/EC and EMC 89/336/EC with auxiliary 12/24V circuit, general cut-off switch, magneto-thermal protection cut-off switches and anti-condensation heater (LRAH)
- UECH microprocessor control system with local user control and monitoring terminal with LCD display and LED signals for all working parameters, chilled/hot water temperature adjustment, self-adjusting set-point regulations, anti-freeze protection, compressor timing and protection, fan speed adjustment, alarm code signalling, and centralization for general alarm control transmission, remote ON-OFF switch and remote cycle inversion (LRAH)
- Water flow differential pressure switch
- Rubber anti-vibration feet

TOP OPERATING PERFORMANCE

- Electronic Expansion Valve
- Hot gas by-pass disposal guaranteeing constant chilled water temperature even with a 0 to 100% change in load (optional)
- UPCOxs microprocessor control system with specific algorithm to:
 - chiller/hot outlet water temperature regulation guaranteeing a constant chilled water temperature even with no tank
 - E.E.V. total management
 - hot gas by-pass disposal management
 - advanced management of compressors run through automatic set-point sensitivity regulation (optional)
 - advanced defrost function to minimise cycle inversions (LRAH)
 - advanced anti-freeze protection on evaporator
 - integrated LAN card for local network connection of a group of chillers (max. 10 units)
- Moreover, the microprocessor control system permits:
 - management of double set-point and selection
 - free-contact for general alarm and 2 addressable alarm management
 - ability to interface with Modbus protocol directly on RS485 serial card
 - ability to interface with main external communication protocols: Bacnet, Lonworks, Metasys, TCP/IP and SNMP

TECHNICAL DATA

LRAC - LRAH MODEL

		023B	032B	041B	054A	067A	090A	120A	137A	180A	
Power supply	V/ph/Hz	230 / 1 / 50				400 / 3 + N / 50					
Cooling capacity (1)	kW	6	8	10	14	17	19	27	33	39	
Absorbed power (1)	kW	1,5	2,2	2,9	4,4	4,9	6	8,7	10	12	
COP (1)		4,0	3,6	3,5	3,2	3,5	3,3	3,1	3,2	3,2	
Heating capacity (2)	kW	6,7	9	10,9	15,5	18,9	22,1	30,2	36,7	43,5	
Absorbed power (2)	kW	1,7	2,3	2,8	3,9	4,7	5,5	8,5	10	11,9	
Noise pressure level (3)	dB(A)	34	34	34	35	37	38	38	40	41	
N ^o of fans / N ^o of poles		1 / 6	1 / 6	1 / 6	1 / 6	2 / 6	2 / 6	2 / 6	3 / 6	4 / 6	
N ^o circuits / N ^o of compressors		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2	1 / 2	1 / 2	
Compressor type		Scroll									
Evaporator		Plate									
Water tank	l	25	25	25	50	50	50	100	100	100	
Dimensions and weight											
Height	mm	650	650	650	1271	1271	1271	1271	1271	1271	
Depth	mm	458	458	458	458	458	458	615	615	615	
Width	mm	1274	1274	1274	1273	1273	1273	2054	2054	2054	
Weight (without hydronic kit)	kg	100	101	103	152	160	162	262	272	282	
Weight (version with pump)	kg	104	105	107	159	167	169	273	281	291	
Weight (version with water tank and pump) (4) kg		116	117	119	179	187	189	300	308	318	

(1) Data refer to nominal conditions: water temperature 12/7°C; ambient temperature 35°C; R410A refrigerant

(2) Data refer to nominal conditions: water temperature 40/45°C; ambient temperature 7°C d.b. 6°C w.b.; R410A refrigerant

(3) Measured in free field at 10m (Q=2, front) from the unit running in nominal conditions

(4) Data refer to empty unit

CONSTRUCTION OPTIONS

- On-board water tank and pump
- High head pressure pump (*)
- Low external temperature option: unit works down to - 20°C
- Production of glycol water mixture at low temperatures option (down to - 10 °C)
- Anti-freeze protection on evaporator, water tank and pump
- RS485 serial adaptor used to communicate with Uniflair supervisory system or to interface with external BMS
- LON FTT10 serial adaptor used to communicate with external BMS managed with LON protocol
- TCP/IP serial adaptor used to interface with external BMS
- Condensing coils equipped with safety grilles and filter

(*) on request

OPTIONS

- Remote user terminal for:
 - display / entering of commands
 - display unit status and alarms
- Chilled / hot water piping filter