

PRODUCT CATALOGUE



PROVIDING **GLOBAL SYSTEM SOLUTIONS**

**CHILLER
ECOLEAN**

ECOLEAN



INTRODUCTION TO THE RANGE

The Ecolean range benefits from the latest technological innovations such as scroll compressors, microprocessor control, brazed plate exchanger, etc. Each unit is available in the cooling only or heat pump version.

The original design of each cabinet provides the following advantages :

- Small overall dimensions
- Optimal access to the various components
- Hydraulic modules incorporated in the same cabinet
- Condenser fan with available pressure (FP version - up to 350 Pa and more, depending on size)

OPTIONS

- Flow switch ⁽¹⁾
- Water filter ⁽¹⁾
- Evaporator anti-freeze heater
- Anti-freeze heater for the buffer tank
- Coil protection grille
- Low temperature kit (to -10 °C)
- Hot gas injection
- Anti-corrosion coil treatment
- Rubber anti-vibration mountings
- Sound insulation of compressors
- Main switch
- General fault relay
- Phase monitor
- Softstarter ⁽²⁾
- Remote control for microprocessor
- Pump ⁽³⁾
- Isolation valves
- Double pump ⁽⁴⁾
- HP & LP refrigerant gauges
- Square discharge duct ⁽⁵⁾
- Water tank electrical heater ⁽⁶⁾
- Heating low ambient kit (-15 °C - EAR)
- Low ambient kit (-15 °C - EAC) ⁽⁷⁾
- Inlet plenum
- BMS (Mod-Bus interface)
- Dynamic setpoint ⁽⁸⁾
- Drip tray (EAR)

(1)Standard for "HYDRAULIC" or "HYDRONIC" version

(2)Available only for 400/3/50 Hz

(3)Available only on single units

(4)Available only for "HYDRONIC" version or "HYDRAULIC", models EAC/EAR 0251 to 1303

(5)Only on FP1 & FP2 versions

(6)Only for heat pumps units

(7)Not available for units EAC 0251 to 0812 FP2

(8)Not available for EAC 0472 to 0812

CONSTRUCTION

- Galvanized sheet steel framework with fork lift pockets for ease of maintenance
- Pre-painted galvanized sheet steel casing
- Colour RAL 9002
- Sealed scroll compressor
- R407C refrigerant
- Insulated stainless steel 316 brazed plate evaporator
- Axial condenser fan - Available pressure depending on version
- Control and protection panel according to EN 60 204-1
- 1 or 2 independent cooling circuits according to size
- Filter dryer, solenoid valve, thermostatic expansion valve, HP/LP pressure switches, liquid accumulator and 4-way valve (heat pump only)
- CLIMATIC™ electronic controller with display unit
- *All-season control as standard*
- Threaded hydraulic connection



CLIMATIC™ CONTROL

- Control module with microprocessor
- Timer :
 - Balanced compressor operation
 - Short-cycling prevention
- Display of water inlet/outlet temperatures
- Control and display of faults for each component
- General alarm with report
- Remote stop/start
- Antifreeze protection
- De-frosting control (heat pump only)
- Hydraulic module control (pump, safety devices, etc.)
- Digital screens with function keys
- Remote control module (100 metres of cable)
 - Read-out : Cold/hot set point
 - Water inlet/outlet
 - Defrosting temperature (PAC)
 - Failure codes
 - Operating states
 - Selection : Start/stop
 - Operating mode: Heat/cool

EAC/EAR 9 → 127 kW

□ GENERAL DATA - STD VERSION

ECOLEAN STD	EAC/EAR	0091	0111	0151	0191	0211
Cooling mode						
Cooling capacity ⁽¹⁾	kW	8,8	11,1	13,3	17,3	19,1
Absorbed power ⁽¹⁾	kW	3,1	3,8	4,9	6,4	7,1
EER		2,84	2,91	2,69	2,70	2,69
Heating mode						
Heating capacity ⁽²⁾	kW	9	11,1	13,1	17,5	19,8
Absorbed power ⁽²⁾	kW	3,1	4,1	4,8	6,3	7,1
COP		2,9	2,71	2,71	2,78	2,79
Electrical data						
Voltage	V/Ph/Hz	400/3/50 ⁽⁴⁾⁽⁵⁾				
Start-up intensity	A	38	44	54	83	82
Maximum current	A	8	12	14	18	17
Refrigeration circuit						
Number of circuits	Nr	1				
Compressor	Nr	1				
Evaporator	Type	Braze plates				
Capacity steps	Nr	1				
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	3/3,1	3/3,1	3,4/3,9	4/5	5,5/6,5
Pressure drop						
Nominal water flow	m ³ /h	1,51	1,91	2,3	2,99	3,29
Pressure drop without water filter	kPa	24,8	38,9	28,5	46,5	41,0
Pressure with optional water filter	kPa	49	66	58	81	78
Hydraulic connection						
Type		Threaded - Female				
Diameter	Inches	1"				
Condenser fan (helicoïdal)						
Number	Nr	1	2	2	2	2
Nominal air flow	m ³ /h	3500	6500	6700	6500	6300
Total motor power input	kW	0,15	0,3	0,32	0,3	0,28
Fan speed	RPM	900				
Acoustic						
Sound power level ⁽³⁾	dB(A)	73	75	75,7	76,2	78,6
Operating limits (cooling only/heat pump unit)						
Maximum outside air temperature	°C	46/23				
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)				
Maximum inlet water temperature	°C	17/43				
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C				
ECOLEAN STD	EAC/EAR	0251	0291	0351	0431	
Cooling mode						
Cooling capacity ⁽¹⁾	kW	23	27	32	38,5	
Absorbed power ⁽¹⁾	kW	9,3	10,4	12,1	14,8	
EER		2,48	2,6	2,64	2,6	
Heating mode						
Heating capacity ⁽²⁾	kW	24	27,5	34	39	
Absorbed power ⁽²⁾	kW	8,9	10	12,6	14,3	
COP		2,7	2,75	2,7	2,72	
Electrical data						
Voltage	V/Ph/ Hz	400/3/50 ⁽⁴⁾⁽⁵⁾				
Start-up intensity	A	102	112	138	164	
Maximum current	A	21	24	29	33	
Refrigeration circuit						
Number of circuits (cooling/heating mode)	Nr	1				
Compressor	Nr	1				
Evaporator	Type	Braze plates				
Capacity steps	Nr	1				
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	6/6,2	6,5/7	8,2/9	9,5/10,5	
Pressure drop						
Nominal water flow	m ³ /h	3,96	4,64	5,50	6,62	
Pressure drop without water filter	kPa	50,9	54,4	40,3	34,0	
Pressure drop with optional water filter	kPa	69	78	71	73	
Hydraulic connection						
Type		Threaded - Female				
Diameter	Inches	1 1/2"				
Condenser fan (helicoïdal)						
Number	Nr	1	1	1	1	
Nominal air flow	m ³ /h	9500	11500	11000	10500	
Total motor power input	kW	0,75	0,9	0,85	0,83	
Fan speed	RPM	900				
Acoustic						
Sound power level ⁽³⁾	dB(A)	78,9	81	82,5	82,1	
Operating limits (cooling only/heat pump unit)						
Maximum outside air temperature	°C	46/23				
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)				
Maximum inlet water temperature	°C	17/43				
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C				

(1) Water : 12 °C / 7 °C - Air : 35 °C • (2) Water : 45 °C - Air : 7 °C • (3) EUROVENT conditions • (4) Also available in 230/3/50 • (5) Size 0091 also available in 230/1/50 and in 230/3/50 • (6) With 30% glycol

ECOLEAN STD	EAC/EAR	0472	0552	0672	0812
Cooling mode					
Cooling capacity ⁽¹⁾	kW	44	51,4	62,5	75,5
Absorbed power ⁽¹⁾	kW	17	19,7	24	29,9
EER		2,6	2,6	2,6	2,5
Heating mode					
Heating capacity ⁽²⁾	kW	47,5	54,5	64,5	79
Absorbed power ⁽²⁾	kW	17,3	19,9	23,4	29,3
COP		2,75	2,7	2,75	2,7
Electrical data					
Voltage	V/Ph/Hz	400/3/50 ⁽⁴⁾⁽⁵⁾			
Start-up intensity	A	121	133	163	194
Maximum current	A	42	48	58	67
Refrigeration circuit					
Number of circuits (cooling/heating mode)	Nr	1 / 2			
Compressor	Nr	2			
Evaporator	Type	Braze plates			
Capacity steps	Nr	2			
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	12/2x6,2	14/2x7	17,6/2x9	20,5/2x10,5
Pressure drop					
Nominal water flow	m ³ /h	7,57	8,86	10,75	13
Pressure drop without water filter (EAC/EAR)	kPa	31,9/38	33,8/37,3	40,2/41,0	47,3/42,9
Pressure drop with optional water filter (EAC/EAR)	kPa	50/56	57/60	71/72	87/82
Hydraulic connection					
Type		Threaded - Female			
Diameter	Inches	2"			
Condenser fan (helicoidal)					
Number	Nr	2	2	2	2
Nominal air flow	m ³ /h	19000	23000	22000	21000
Total motor power input	kW	1,5	1,8	1,7	1,66
Fan speed	RPM	900			
Acoustic					
Sound power level ⁽³⁾	dB(A)	81,9	84,0	85,5	85,1
Operating limits (cooling only/heat pump unit)					
Maximum outside air temperature	°C	46/23			
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)			
Maximum inlet water temperature	°C	17/43			
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C			
ECOLEAN STD	EAC/EAR	1003	1103	1203	1303
Cooling mode					
Cooling capacity ⁽¹⁾	kW	90	101	114,5	127
Absorbed power ⁽¹⁾	kW	34,5	38,6	43,9	48,5
EER		2,6	2,6	2,6	2,6
Heating mode					
Heating capacity ⁽²⁾	kW	91	102,5	117	130
Absorbed power ⁽²⁾	kW	33,5	38,0	43,7	49,1
COP		2,7	2,7	2,7	2,6
Electrical data					
Voltage	V/ Ph/Hz	400/3/50			
Start-up intensity	A - High/Low	200,6/198,8	210,6/208	241,2/238,6	282,7/279,9
Maximum current	A - High/Low	76/74,2	87,4/84,8	97,6/95	107,2/103,8
Refrigeration circuit					
Number of circuits (cooling/heating mode)	Nr	2/2			
Compressor	Nr	3			
Evaporator	Type	Braze plates			
Capacity steps	Nr	3			
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	13+9,5/14+10,5	16,5+9,5/17+10,5	16,5+13/17+14	16,5+16,5/17+17
Pressure drop					
Nominal water flow	m ³ /h	15,48	17,4	19,7	21,8
Pressure drop without water filter	kPa	32,0	37,8	43,2	48,4
Pressure drop with optional water filter	kPa	41	50	61	70
Hydraulic connection					
Type		Threaded - Female			
Diameter	Inches	2 1/2"			
Condenser fan (helicoidal)					
Number	Nr	1+1	1+1	1+1	1+1
Nominal air flow	m ³ /h - High/Low	32250/27250	36250/29250	36000/29000	40000/31000
Total motor power input	kW - High/Low	1,05+1,05/0,77+0,77	2+1,05/1,25+0,77	2+1,05/1,25+0,77	2+2/1,25+1,25
Fan speed	RPM	700+700/550+550	900+700/700+550	900+700/700+550	900+900/700+700
Acoustic					
Sound power level ⁽³⁾	dB(A)	85,1	87,1	87	88,6
Operating limits (cooling only / heat pump unit)					
Maximum outside air temperature	°C	46 / 23			
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)			
Maximum inlet water temperature	°C	17 / 43			
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C			

(1) Water : 12 °C/ 7 °C - Air : 35 °C • (2) Water : 45 °C - Air : 7 °C • (3) EUROVENT conditions • (4) Also available in 230/3/50 • (5) Size 0091 also available in 230/1/50 and in 230/3/50 • (6) With 30% glycol



□ GENERAL DATA - HIGH STATIC VERSION

ECOLEAN FP	EAC/EAR	0091	0111	0151	0191	0211
Cooling mode						
Cooling capacity ⁽¹⁾	kW	8,8	11,1	13,3	17,3	19,1
Absorbed power ⁽¹⁾	kW	3,85	5,36	6,5	7,95	8,65
EER		2,3	2,1	2,0	2,2	2,2
Heating mode						
Heating capacity ⁽²⁾	kW	9	11,1	13,1	17,5	19,8
Absorbed power ⁽²⁾	kW	3,85	5,65	6,4	7,85	8,65
COP		2,3	1,9	2,0	2,2	2,3
Electrical data						
Voltage	V/Ph/Hz	400/3/50 ⁽⁴⁾⁽⁵⁾				
Start-up intensity	A	41	50,5	60,7	89,4	87,9
Maximum current	A	11	18	20,4	24	23,1
Refrigeration circuit						
Number of circuits	Nr	1				
Compressor	Nr	1				
Evaporator	Type	Braze plates				
Capacity steps	Nr	1				
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	3/3,1	3/3,1	3,4/3,9	4/5	5,5/6,5
Pressure drop						
Nominal water flow	m ³ /h	1,51	1,91	2,3	2,98	3,29
Pressure drop without water filter	kPa	24,8	38,9	28,5	46,5	41,0
Pressure with optional water filter	kPa	49	66	58	81	78
Hydraulic connection						
Type		Threaded - Female				
Diameter	Inches	1"				
Condenser high static fan						
Nominal available static pressure	Pa	50				
Maximum available static pressure	Pa	200				
Number	Nr	1	2	2	2	2
Nominal air flow	m ³ /h	2700	5700	5900	5700	5500
Total motor power input	kW	0,8	1,75	1,8	1,75	1,7
Fan speed	RPM	1450				
Acoustic						
Sound power level ⁽³⁾	dB(A)	78,8	81,5	81,7	81,8	82,6
Operating limits (cooling only / heat pump unit)						
Maximum outside air temperature	°C	45/23				
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)				
Maximum inlet water temperature	°C	17/43				
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C				
ECOLEAN FP1 / FP2						
Cooling mode						
Cooling capacity ⁽¹⁾	kW	23	27	32	38,5	
Absorbed power ⁽¹⁾ - FP1/FP2	kW	10,1/10,8	11,2/11,9	13/13,6	15,6/16,3	
EER - FP1/FP2		2,3/2,13	2,4/2,27	2,5/2,35	2,5/2,36	
Heating mode						
Heating capacity ⁽²⁾	kW	24	27	33	41	
Absorbed power ⁽²⁾ - FP1/FP2	kW	9,7/10,4	10,8/11,5	13,4/14,1	15,2/15,8	
COP - FP1/FP2		2,46/2,31	2,49/2,35	2,45/2,34	2,71/2,59	
Electrical data						
Voltage	V / Ph / Hz	400/3/50 ⁽⁴⁾⁽⁵⁾				
Start-up intensity - FP1/FP2	A	106,6/103,1	116/112,5	142,3/138,8	168,7/165,2	
Maximum current - FP1/FP2	A	26/22,5	28,7/25,2	33,6/30,1	37,8/34,3	
Refrigeration circuit						
Number of circuits (cooling/heating mode)	Nr	1				
Compressor	Nr	1				
Evaporator	Type	Braze plates				
Capacity steps	Nr	1				
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	6/6,2	6,5/7	8,2/9	9,5/10,5	
Pressure drop						
Nominal water flow	m ³ /h	3,96	4,64	5,50	6,62	
Pressure drop without water filter	kPa	50,9	54,4	40,3	34,0	
Pressure drop with optional water filter	kPa	69	78	71	73	
Hydraulic connection						
Type		Threaded - Female				
Diameter	Inches	1 1/2"				
Condenser high static fan						
Nominal available static pressure - FP1/FP2 version	Pa	50/200				
Maximum available static pressure - FP1/FP2 version	Pa	120/350				
Number	Nr	1	1	1	1	
Nominal air flow - FP1/FP2 version	m ³ /h	11500/10800	11500/10800	11000/10400	10500/10000	
Total motor power input- FP1/FP2 version	kW	1,7/2,3	1,7/2,3	1,65/2,3	1,65/2,25	
Fan speed	RPM	1450				
Acoustic						
Sound power level - FP1 version ⁽³⁾	dB(A)	86,3	86,3	86,8	86,6	
Sound power level - FP2 version ⁽³⁾	dB(A)	89,7	89,7	90	89,9	
Operating limits (cooling only / heat pump unit)						
Maximum outside air temperature - FP1 version	°C	46/23				
Maximum outside air temperature - FP2 version	°C	44/23				
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)				
Maximum inlet water temperature	°C	17/43				
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C				

(1) Water : 12 °C / 7 °C - Air : 35 °C • (2) Water : 45 °C - Air : 7 °C • (3) EUROVENT conditions • (4) Als o available in 230/3/50 • (5) Size 0091 also available in 230/1/50 and in 230/3/50 • (6) : with 30% glycol

ECOLEAN FP1 / FP2	EAC/EAR	0472	0552	0672	0812
Cooling mode					
Cooling capacity ⁽¹⁾	kW	44	51,4	62,5	75,5
Absorbed power ⁽¹⁾ - FP1/FP2	kW	18,7/20	21,4/22,7	25,7/27	31,6/32,9
EER - FP1/FP2		2,3/2,2	2,4/2,26	2,4/2,31	2,4/2,29
Heating mode					
Heating capacity ⁽²⁾	kW	47	52	65	81
Absorbed power ⁽²⁾ - FP1/FP2	kW	19/20,3	21,6/22,9	25,1/26,4	31/32,3
COP - FP1/FP2		2,5/2,32	2,4/2,27	2,6/2,46	2,6/2,5
Electrical data					
Voltage	V/Ph/Hz	400/3/50 ^{(4),(5)}			
Start-up intensity - FP1/FP2 version	A	130,6/123,6	142,3/135,3	172,3/165,3	202,7/195,7
Maximum current - FP1/FP2 version	A	52/45	57,4/50,4	67,2/60,2	75,6/68,6
Refrigeration circuit					
Number of circuits (cooling/heating mode)	Nr	1 / 2			
Compressor	Nr	2			
Evaporator	Type	Braze plates			
Capacity steps	Nr	2			
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	12/2x6,2	14/2x7	17,6/2x9	20,5/2x10,5
Pressure drop					
Nominal water flow	m ³ /h	7,57	8,86	10,75	13
Pressure drop without water filter - FP1/FP2	kPa	31,9/38	33,8/37,3	40,2/41,0	47,3/42,9
Pressure drop with optional water filter - FP1/FP2	kPa	50/56	57/60	71/72	87/82
Hydraulic connection					
Type		Threaded - Female			
Diameter	Inches	2"			
Condenser high static fan					
Nominal available static pressure - FP1/FP2	Pa	50/200			
Maximum available static pressure - FP1/FP2	Pa	120/350			
Number	Nr	2	2	2	2
Nominal air flow - FP1/FP2	m ³ /h	23000/21600	23000/21600	22000/20800	21000/20000
Total motor power input - FP1/FP2	kW	3,4/4,6	3,4/4,6	3/4,6	3/4,5
Fan speed	RPM	1450			
Acoustic					
Sound power level - FP1 version ⁽³⁾	dB(A)	89,3	89,3	89,8	89,6
Sound power level - FP2 version ⁽³⁾	dB(A)	92,7	92,7	93,0	92,9
Operating limits (cooling only / heat pump unit)					
Maximum outside air temperature - FP1 version	°C	46/23			
Maximum outside air temperature - FP2 version	°C	44/23			
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)			
Maximum inlet water temperature	°C	17/43			
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C			
ECOLEAN FP1 / FP2	EAC/EAR	1003	1103	1203	1303
Cooling mode					
Cooling capacity ⁽¹⁾	kW	90	101	114	127
Absorbed power ⁽¹⁾ - FP1/FP2	kW	38,3/41,8	42/45	47,3/50,3	51,4/53,9
COP - FP1/FP2		2,35/2,15	2,40/2,24	2,42/2,28	2,47/2,36
Heating mode					
Heating capacity ⁽²⁾	kW	91	102	117	130
Absorbed power ⁽²⁾ - FP1/FP2	kW	37,3/40,8	41,4/44,4	47,1/50,1	51,4/53,9
COP - FP1/FP2		2,44/2,23	2,48/2,31	2,48/2,34	2,50/2,39
Electrical data					
Voltage	V / Ph / Hz	400/3/50			
Start-up intensity - FP1/FP2 version	A	205,4/212	213,8/220,4	244,4/251	284,3/290,9
Maximum current - FP1/FP2 version	A	80,8/87,4	90,6/97,2	100,8/107,4	108,8/115,4
Refrigeration circuit					
Number of circuits (cooling/heating mode)	Nr	2/2			
Compressor	Nr	3			
Evaporator	Type	Braze plates			
Capacity steps	Nr	3			
Refrigerant charge per circuit (cooling only/heat pump unit)	kg	13+9,5/14+10,5	16,5+9,5/17+10,5	16,5+13/17+14	16,5+16,5/17+17
Pressure drop					
Nominal water flow	m ³ /h	15,48	17,4	19,7	21,8
Pressure drop without water filter	kPa	32,0	37,8	43,2	48,4
Pressure drop with optional water filter	kPa	41	50	61	70
Hydraulic connection					
Type		Threaded - Female			
Diameter	Inches	2 1/2"			
Condenser high static fan					
Nominal available static pressure - FP1/FP2 version	Pa	30/175			
Maximum available static pressure - FP1/FP2 version	Pa	125/250			
Number	Nr	2	2	2	2
Nominal air flow - FP1/FP2 version	m ³ /h	38000/42000	38000/42000	38000/42000	38000/42000
Total motor power input - FP1/FP2 version	kW	5,25/9,2	5,25/9,2	5,25/9,2	5,25/9,2
Fan speed	RPM	1450			
Acoustic					
Sound power level - FP1 version ⁽³⁾	dB(A)	88,2	88,3	88,3	88,6
Sound power level - FP2 version ⁽³⁾	dB(A)	97	97	97	97,1
Operating limits (cooling only / heat pump unit)					
Maximum outside air temperature - FP1 version	°C	46/23			
Maximum outside air temperature - FP2 version	°C	46/23			
Minimum outside air temperature	°C	0 °C (-15 °C as an option ⁽⁶⁾)/-10 °C (-15 °C as an option ⁽⁶⁾)			
Maximum inlet water temperature	°C	17/43			
Minimum outlet water temperature	°C	+5 °C and -10 °C (as an option ⁽⁶⁾)/+20 °C			

(1) Water : 12 °C / 7 °C • Air : 35 °C • (2) Water : 45 °C • Air : 7 °C • (3) EUROVENT conditions • (4) Also available in 230/3/50 • (5) Size 0091 also available in 230/1/50 and in 230/3/50 • (6) : with 30% glycol



GENERAL DATA - INTEGRATED HYDRAULIC MODULE

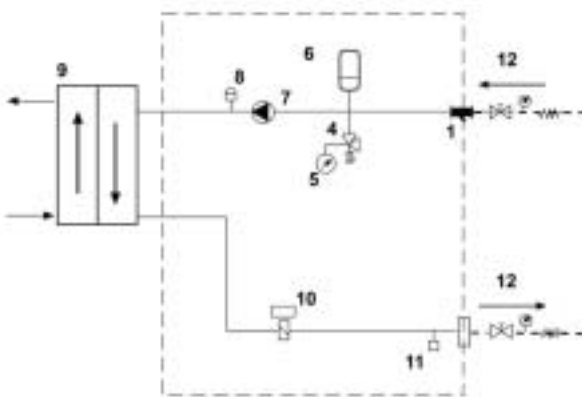
ECOLEAN HY / HN	EAC/EAR	0091	0111	0151	0191	0211	0251	0291	0351	0431
Pump module										
Nominal water flow	m ³ /h	1,51	1,91	2,3	2,98	3,29	3,96	4,64	5,50	6,62
Available static pressure	kPa	196	161	152	140	126	131	106	140	96
Voltage	V/Ph/Hz	230/1/50				400/3/50 ⁽²⁾				
Absorbed power	kW	0,49	0,49	0,49	0,72	0,72	0,72	0,72	1	1
Maximum current	A	2,3	2,3	2,3	1,4	1,4	1,4	1,4	1,7	1,7
Expansion vessel volume	l	5	5	5	5	5	12	12	12	12
Maximum pressure - Expansion vessel	Bar	4								
Weight	kg	14	14	14	14	15	16	16	17	17
Buffer tank⁽⁴⁾										
Volume	l	50	50	50	50	50	75	75	75	75
Weight	kg	30	30	30	30	30	31	31	31	31
Antifreeze heater (option)	kW	2,25								
Additional electrical heater (option for heat pump units only)	kW	6				9				
ECOLEAN HY / HN										
EAC/EAR										
0472 0552 0672 0812 1003 1103 1203 1303										
Pump module										
Nominal water flow	m ³ /h	7,57	8,84	10,75	13	15,48	17,4	19,7	21,8	
Available static pressure	kPa	122	111	164	107	189	172	151	131	
Voltage	V/Ph/Hz	400/3/50 ⁽²⁾								
Absorbed power	kW	1,17	1,17	1,55	1,55	1,55	1,6	1,7	1,8	
Maximum current	A	2,1	2,1	2,8	2,8	2,64	2,7	2,9	3,1	
Expansion vessel volume	l	18	18	18	18	35	35	35	35	
Maximum pressure - Expansion vessel	Bar	4								
Weight	kg	23	23	24	24	15,4	15,4	15,4	15,4	
Buffer tank⁽⁴⁾										
Volume	l	100	100	100	100	240	240	240	240	
Weight	kg	32	32	33	33	55	55	55	55	
Antifreeze heater (option)	kW	2,25				6				
Additional electrical heater (option for heat pump units only)	kW	12				24				

(1) Available only for the "Hydronic" type version

(2) Also available in 230/3/50 version - only for units 0472 to 0812

PRINCIPLE SKETCH - INTEGRATED HYDRAULIC MODULE

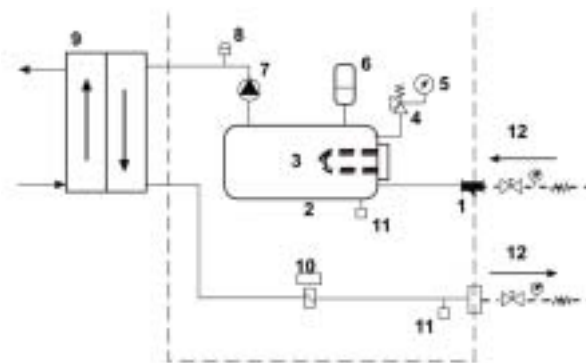
1 «HYDRAULIC» MODULE (HY)



1. Water filter (removable)
2. Tank
3. Immersion heater for tank (optional)
4. Safety valve
5. Pressure gauge
6. Expansion tank
7. Pump

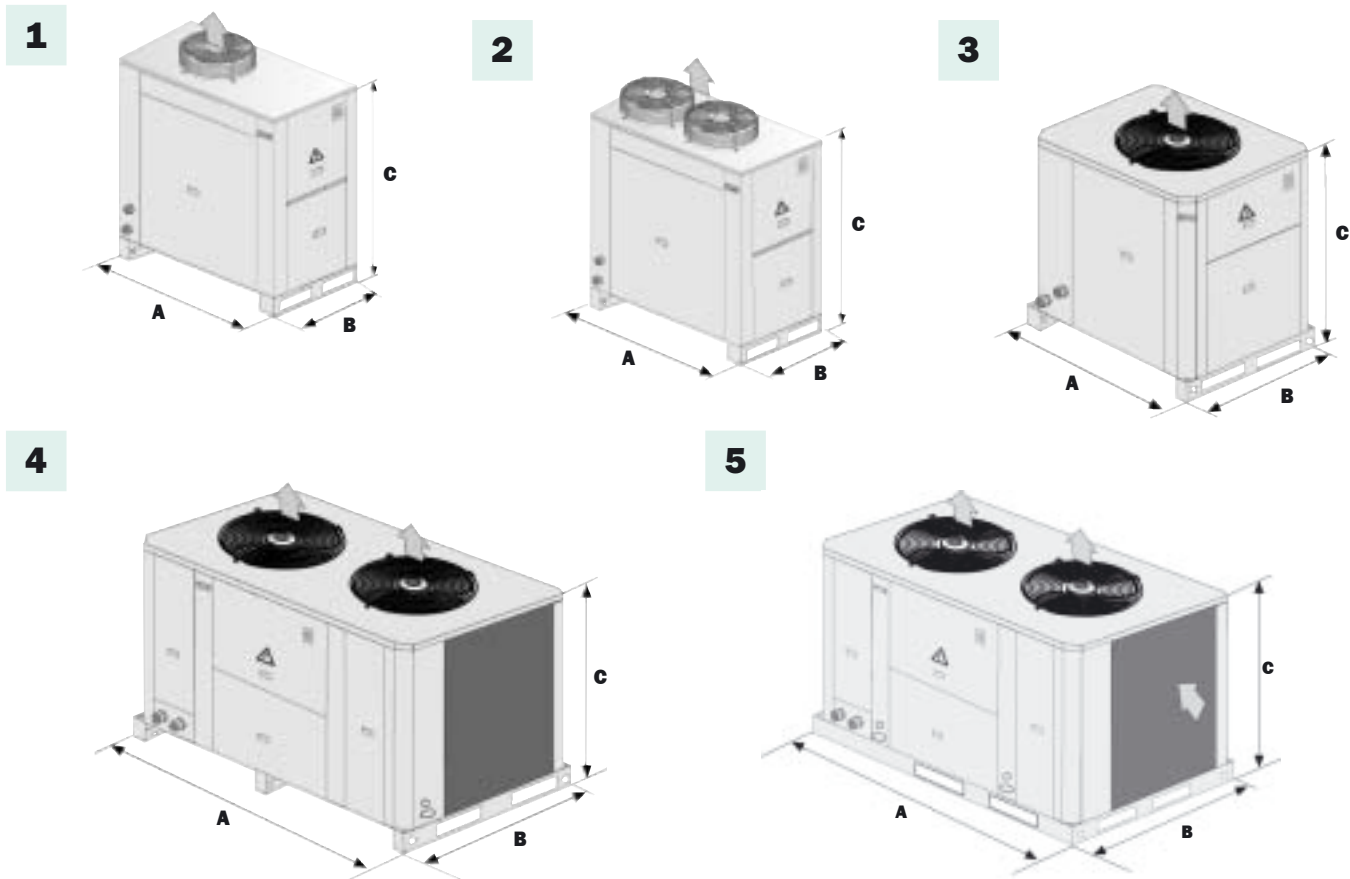


2 «HYDRONIC» MODULE (HN)



8. Air bleed valve
9. Plate exchanger
10. Flow switch
11. Drain valve
12. Water isolation valves (optional)

PHYSICAL DATA



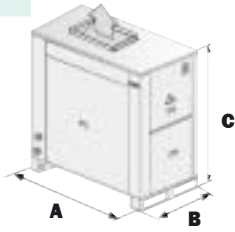
ECOLEAN STD version	EAC/EAR	0091	0111	0151	0191	0211	0251	0291	0351	0431
View		1	2	2	2	2	3	3	3	3
A	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195
B	mm	660	660	660	660	660	980	980	980	980
C	mm	1375	1375	1375	1375	1375	1375	1375	1375	1375
Operating weight										
• Cooling only ⁽¹⁾	kg	147	155	168	181	245	272	281	309	345
• Heat pump ⁽¹⁾	kg	150	158	172	185	250	277	285	317	353
Additional weight										
• "HYDRAULIC" module without water ⁽²⁾	kg	14	14	14	14	15	16	16	17	17
• "HYDRONIC" module without water ⁽²⁾	kg	44	44	44	44	45	47	47	48	48
ECOLEAN STD version	EAC/EAR	0472	0552	0672	0812	1003	1103	1203	1303	
View		4	4	4	4	5	5	5	5	
A	mm	1960	1960	1960	1960	2250	2250	2250	2250	
B	mm	1195	1195	1195	1195	1420	1420	1420	1420	
C	mm	1375	1375	1375	1375	1675	1675	1675	1672	
Operating weight										
• Cooling only ⁽¹⁾	kg	540	551	596	670	803	948	1059	1104	
• Operating weight - heat pump ⁽¹⁾	kg	549	561	612	685	825	971	1084	1129	
Additional weight										
• "HYDRAULIC" module without water ⁽²⁾	kg	23	23	24	24	26	26	26	26	
• "HYDRONIC" module without water ⁽²⁾	kg	55	55	57	57	81	81	81	81	

(1) Not including the "HYDRAULIC" or "HYDRONIC" module

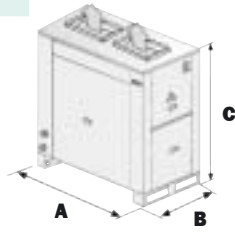
(2) Weight to be added to that of the corresponding machine - Warning! Be sure to allow for the volume of the components when calculating the load weight.



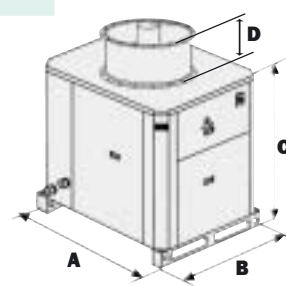
1



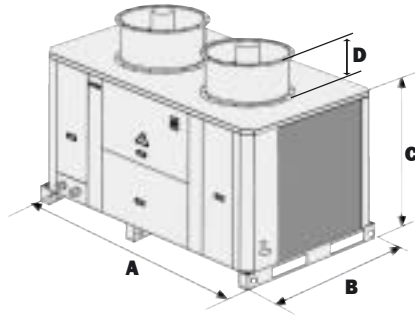
2



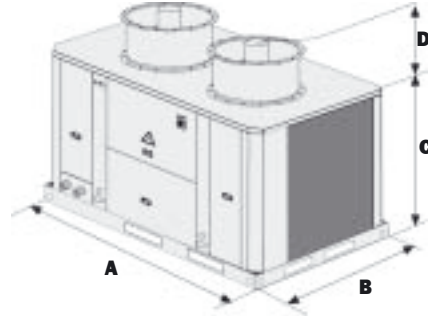
3



4



5



ECOLEAN FP		EAC/EAR	0091	0111	0151	0191	0211	
View			1	2	2	2	2	
A	mm		1195	1195	1195	1195	1195	
B	mm		660	660	660	660	660	
C	mm		1375	1375	1375	1375	1375	
Operating weight - cooling only ⁽¹⁾	kg		156	173	186	199	263	
Operating weight - heat pump ⁽¹⁾	kg		159	176	190	204	268	
Additional weight - "HYDRAULIC" module without water ⁽²⁾	kg		14	14	14	14	15	
Additional weight - "HYDRONIC" module without water ⁽²⁾	kg		44	44	44	44	45	
ECOLEAN FP1 / FP2		EAC/EAR	0251	0291	0351	0431	0472	0552
View			3	3	3	3	4	4
A	mm		1195	1195	1195	1195	1960	1960
B	mm		980	980	980	980	1195	1195
C - FP1 version	mm		1615	1615	1615	1615	1615	1615
C - FP2 version	mm		1800	1800	1800	1800	1800	1800
D - FP1 version	mm		240	240	240	240	240	240
D - FP2 version	mm		425	425	425	425	425	425
Operating weight - Cooling only FP1 ⁽¹⁾	kg		297	296	324	360	590	581
Operating weight - Cooling only FP2 ⁽¹⁾	kg		317	316	344	380	630	621
Operating weight - Heat pump FP1 ⁽¹⁾	kg		302	301	332	368	599	592
Operating weight - Heat pump FP2 ⁽¹⁾	kg		322	321	352	388	639	632
Additional weight - "HYDRAULIC" module without water ⁽²⁾	kg		16	16	17	17	23	23
Additional weight - "HYDRONIC" module without water ⁽²⁾	kg		47	47	48	48	55	55
ECOLEAN FP1 / FP2		EAC/EAR	0672	0812	1003	1103	1203	1303
View			4	4	5	5	5	5
A	mm		1960	1960	2250	2250	2250	2250
B	mm		1195	1195	1420	1420	1420	1420
C - FP1 version	mm		1615	1615	1955	1955	1955	1955
C - FP2 version	mm		1800	1800	1955	1955	1955	1955
D - FP1 version	mm		240	240	280	280	280	280
D - FP2 version	mm		425	425	280	280	280	280
Operating weight - Cooling only FP1 ⁽¹⁾	kg		626	700	843	988	1099	1144
Operating weight - Cooling only FP2 ⁽¹⁾	kg		666	740	843	988	1099	1144
Operating weight - Heat pump FP1 ⁽¹⁾	kg		642	716	865	1011	1124	1169
Operating weight - Heat pump FP2 ⁽¹⁾	kg		682	756	865	1011	1124	1169
Additional weight - "HYDRAULIC" module without water ⁽²⁾	kg		24	24	26	26	26	26
Additional weight - "HYDRONIC" module without water ⁽²⁾	kg		57	57	81	81	81	81

(1) Not including the "HYDRAULIC" or "HYDRONIC" module

(2) Weight to be added to that of the corresponding machine - Warning! Be sure to allow for the volume of the components when calculating the load weight



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