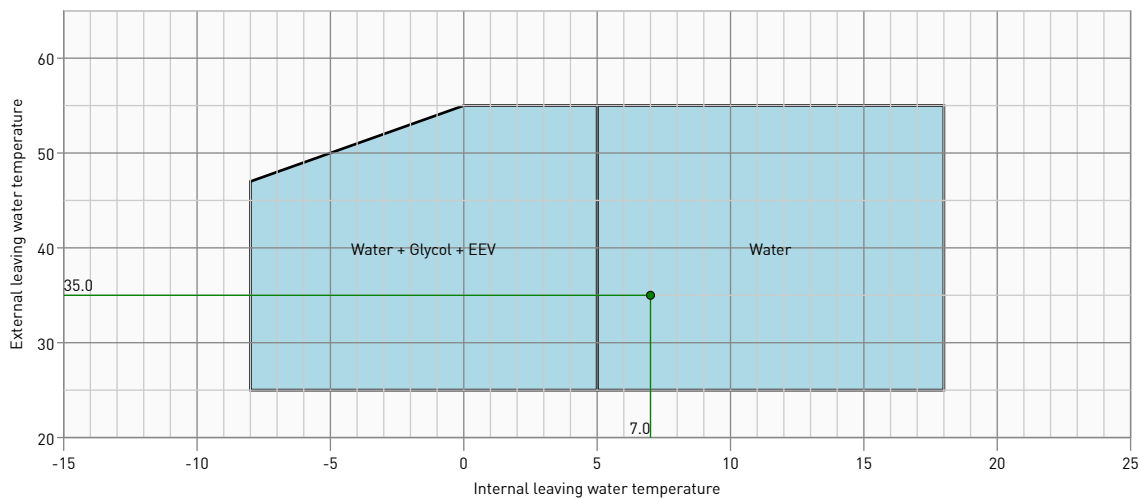


Configuration

Parameter	Value
Size	1004
Acoustic options	Standard
Recovery option	No
Refrigerant	R410A
Pump source side (C)	Without pump
Pump plant side (E)	Without pump
EcoDesign compliant (european market)	Erp

Calculation

Cooling



Parameter	Value
Unit	ECOi-W WQ C 1004
Size	1004
Acoustic options	Standard
Recovery option	No
Refrigerant	R410A
Pump source side (C)	Without pump
Pump plant side (E)	Without pump
EcoDesign compliant (european market)	Erp

Operating conditions	Value
Source side entering water temperature	30,0 °C
Source side leaving water temperature	35,0 °C
Source side fluid	Water
Source fouling factor	0,000
Plant side entering water temperature	12,0 °C
Plant side leaving water temperature	7,00 °C
Plant side fluid	Water
Plant side fouling factor	0,000
Altitude	0 m

Performance	Value
Capacity	296 kW
Power input	69,0 kW
Full load efficiency (EER)	4,29
Energy efficiency class (SEER)*	C
nsc/nsh*	241

N [°]	PL (%)	TIN-PLANT [°C]	TOUT-PLANT [°C]	TIN-SOURCE [°C]	TOUT-SOURCE [°C]	Cc (kW)	Cpi (kW)	EER
1	100	12,0	7,00	30,0	35,0	295	65,4	4,51
2	75	X***	7,00	26,0	X***	221	44,9	4,93
3	50	X***	7,00	22,0	X***	148	25,3	5,83
4	25	X***	7,00	18,0	X***	73,8	12,4	5,94

General data	Value
Power supply [V/Ph/Hz]	400/3/50
Capacity steps (%)	0-25-50-75-100
Startup current	433 A
Maximum running current	195 A
Maximum input power	108 kW
Number of refrigerating circuits	2
Refrigerant	R410A
Indicative refrigerant charge for the unit	42,60 kg

Compressor	Value
Number of compressors	4
Compressor type	SCROLL
Compressor startup type	D

Plant side heat exchanger	Value
Number of exchangers	1
Exchanger type	Plates
Total fluid flow rate*	51602 l/h
Minimum fluid volume [At nominal conditions]	1479 L
Pressure drop	23,2 kPa
Water connection type	Victaulic
Water connection inlet diameter	4"
Water connection outlet diameter	4"

* The plant side exchanger water-flow rate is equal to the standard rating water flow rate

Source side heat exchanger	Value
Number of exchangers	1
Exchanger type	Plates
Total fluid flow rate	63385 l/h
Pressure drop	41,8 kPa
Water connection type	Victaulic
Water connection inlet diameter	4"
Water connection outlet diameter	4"

Sound level	Value
Sound power level	90,0 dB(A)
Distance from sound source	10,0 m
Sound pressure level*	58,3 dB(A)

* Sound pressure levels refer to ISO Standards 3744 with parallelepiped shape

Hz	125	250	500	1k	2k	4k
dB	84	88	88	86	80	78

All the data are including options

Options

111 - BLD - Back light display (Option)

User Display panel mounted. Suggested for outdoor installation

123 - DSP - Double set point (Option)

Can manage two different applications (set point) selected by remote dry contact Circuit 1 and Circuit 2. On/Off or Part Load by remote Dry contact.

124 - PHC - Sequence phases control (Option)

Relay detecting wrong unit cabling (phase loss or phase rotation)

126 - 3PH - Power supply without neutral (Option)

Additional transformer mounted in electrical board to avoid the use of neutral

136 - OAS - Outdoor air sensor for weather compensation (Accessory)

Accessory to allow the unit managing the control of water temperature, according outdoor air temperature

139 - HM - Hour meter (Option)

Total running hours recorded for each compressors and for total unit. Also record of total scroll compressors starts

141 - CLK - Set point timer/Clock card (Option)

To schedule 4 different interval time with different active water T setpoint

152 - Remote set point setting board (Option)

Remote keyboard panel, enabling the operator to completely control the unit by remote

200 - R410A - Refrigerant R410A (Option)

Unit with full charge of refrigerant R410A

250 - PED Approval (Option)

PED Approval

800 - RP - Rubber pad (Accessory)

Rubber pad to protect the unit from direct contact with the floor

909 - VTP - Victaulic-to-Welded pipe connection (Accessory)

Victaulic-to-Welded pipe connection

914 - Differential pressure switch (Option)

1000 - Polyethylene film (Option)

Standard packing made of a polyethylene film

1001 - Wooden pallet (Option)

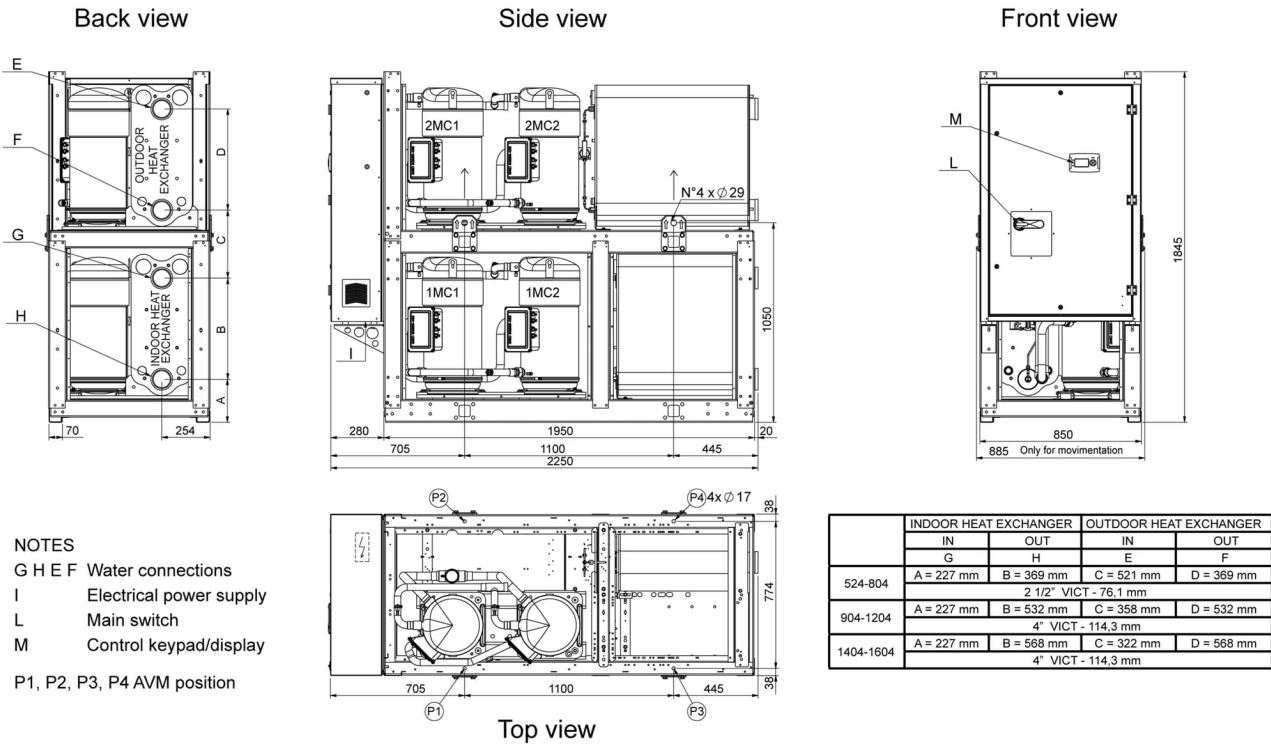
Standard packing wooden pallet

1101 - fork lifting kit (Option)

Kit for fork lifting

Dimensions & weight

Dimensions



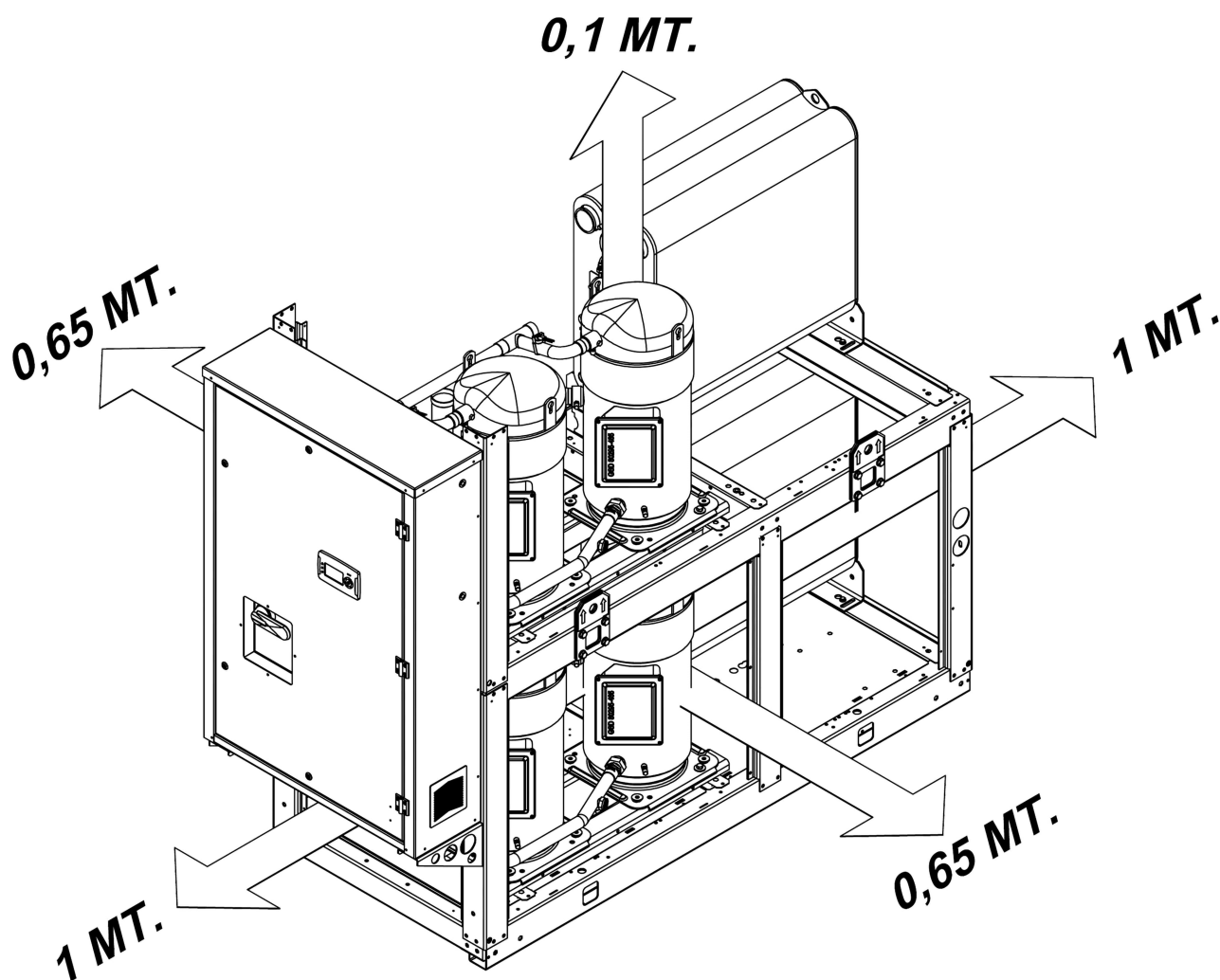
Dimensions	Value (mm)
Height	1845
Length	2250
Width	850

Weight

Part	Weight (kg)
Shipping weight	1363.0
Operating weight	1453.0

Space Requirements

Space Requirements (mm)





R410A

Pictures and drawings of Dimensions and Hydraulic/Electrical Connection tabs are only illustrative. They can differ from the visual shape of the selected product variant.

GENERAL DESCRIPTION

ECOi-W WQ 524-1604 C water cooled units have been designed and optimized to operate with R410A refrigerant and scroll compressors. These units are available in ten sizes, with a nominal capacity range from 154 to 478 kW. All units are equipped with two separated refrigerant circuits, each one with two compressors in tandem installation.

CABINET

The cabinet is made of heavy gauge galvanized steel. All galvanized steel components are individually painted by a special painting process before the assembly of the unit. This painting system performs a homogeneous protection to the corrosion. The painting is a polyester powder based type. The units are suitable for indoor installation.

VERSION

Standard low noise version units are supplied without compressors box

REFRIGERANT CIRCUIT

ECOi-W WQ 524-1604 C units are equipped with double refrigerant circuit. Each refrigerant circuit is equipped with two fixed speed scroll compressors in tandem configuration, true dual brazed plates heat exchanger as outdoor heat exchanger, filter-drier with solid core, sight glass, thermostatic expansion valve (electronic expansion valve for sizes 1104, 1204, 1404 and 1604) and true dual brazed plates heat exchanger as indoor heat exchanger.

COMPRESSOR

Compressors are hermetic scroll type, equipped with three-phases 2-poles asynchronous motor and inherent motor protection device ensuring protection against overheating. All compressors have direct-on-line start-up and are mounted on rubber vibration isolators in order to minimize noise and vibration transmission. A belt electric heater is switched on during compressor off time in order to protect against flooded start.

INDOOR HEAT EXCHANGER

Indoor heat exchangers are brazed stainless steel plate type. They are insulated with a 19 mm thick material composed by a coupling between closed cell polyethylene and a Aluminum / polypropylene film.

OUTDOOR HEAT EXCHANGER

Outdoor heat exchangers are brazed stainless steel plate type. They are insulated with a 19 mm thick material composed by a coupling between closed cell polyethylene and a Aluminum / polypropylene film

ELECTRICAL BOARD

Electric equipment is built in compliance with CE standards. Easy accessible in front of the unit - through an access panel fixed with screws - the equipment is complete with:

- Door lock main isolating switch
- Compressor contactors and fuses
- Compressor overload protection (optional)
- Automatic circuit breaker switches (optional)
- Phase sequence control
- Clamps for remote start/stop switch
- Clamps for remote summer/winter switch
- Clamps for external flow switches (both exchangers)
- Clamps for remote double set-point
- Clamps for external interlock
- Clamps for remote general alarm
- Connection clamps to remote keyboard (optional)
- Clamps for evaporator/condenser pump relay control (optional)
- Clamps for boiler relay control (optional)
- Clamps for dynamic set-point compensation (4-20 mA, 0-1 V, 0-5 V, 0-10 V)

- Clamps for outdoor air temperature probe (accessory)
- Electronic control SC655
- Soft-starter (optional)
- Power factor correction capacitors (optional)
- 0-10 V clamps for condensing control (optional)

ELECTRONIC CONTROL

A new optimized control is supplied on all the units with a simple user interface (possibility to customize keys functions and to set menus visibility). In addition to standard features as water temperature control (with possibility to choose LWT/EWT probe), the control can also manage following functions:

- Dynamic set point (4-20 mA, 0-1V, 0-5V, 0-10V)
- Double set point
- OAT compensation
- Boiler integration
- Condensing control
- Auto adaptative function to reduce the water content of the plant
- Advanced pump management (both primary circuit and source side)
- Remote keyboard (accessory) with possibility to connect (up to 100 m distance) without any serial interface

SAFETY

Each unit is equipped with following electrical / refrigerant / hydraulic safety devices :

- Door lock main isolating switch
- Phase monitor control
- High pressure switch with manual reset
- Discharge safety valve
- Low pressure switch with automatic / manual reset
- Anti-freeze probe (leaving water temperature)
- Differential pressure switch (source / plant side)

CONFORMITY WITH STANDARDS

Units are in conformity with the following standards:

- Machine Directive: 2006/42/EC
- Electromagnetic Compatibility Directive: 2014/30/EU
- Pressure Equipment Directive: 2014/68/EU