

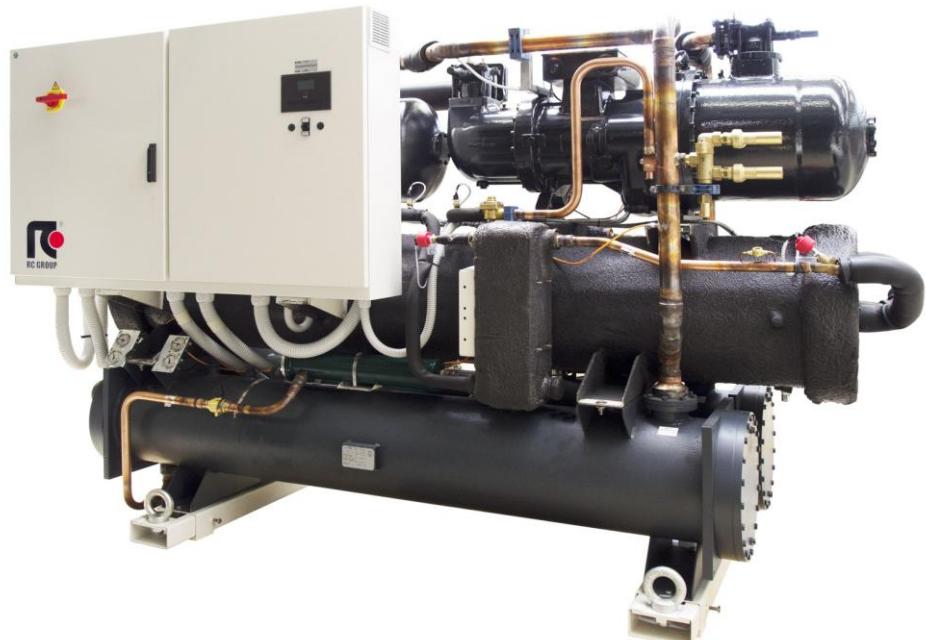


R134a

## frigo screw wp

Heat pump water/water liquid chillers for indoor installation. Inversion on hydraulic circuit.

**394 ÷ 1505 kW COOLING**  
**477 ÷ 1976 kW HEATING**



technical catalogue

T\_FRGSCRWP\_0913\_GB



rcgroupairconditioning

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## GENERAL CHARACTERISTICS

**FRIGO SCREW WP:** Packaged heat pump water/water liquid chiller for chilled water production in summer time and hot water production in winter time (inversion on hydraulic circuit at Customer care).

The machines are made for indoor installation.

Framework with sections of thick steel for high resistance to the greatest stress during handling and transport.

Machines supply fully assembled with refrigerant charge and control systems. The installation requires only electrical and hydraulic connections allowing costs and time savings.

Final assembly on all machines before shipment including running test, reading and monitoring of operating parameters, alarms simulation and visual check.

Design, assembly and test as per the Company Quality Assurance program in full compliance with ISO 9001:2008. RC Group has been the first Italian company in its segment to get the Company Quality Assurance in October 13<sup>th</sup>, 1991 with certificate ICIM 0018.

Environmental Management System Certification according to ISO 14001:2004.

The machines are in full compliance with European Directive 2006/42CE, 2006/95CE, 2004/108CE, 97/23CE and subsequent amendments

## SERIES IDENTIFICATION

**FRIGO SCREW WP** – Packaged heat pump water/water liquid chiller equipped with screw compressors, shell and tube evaporator and condenser.  
R134a refrigerant charge.



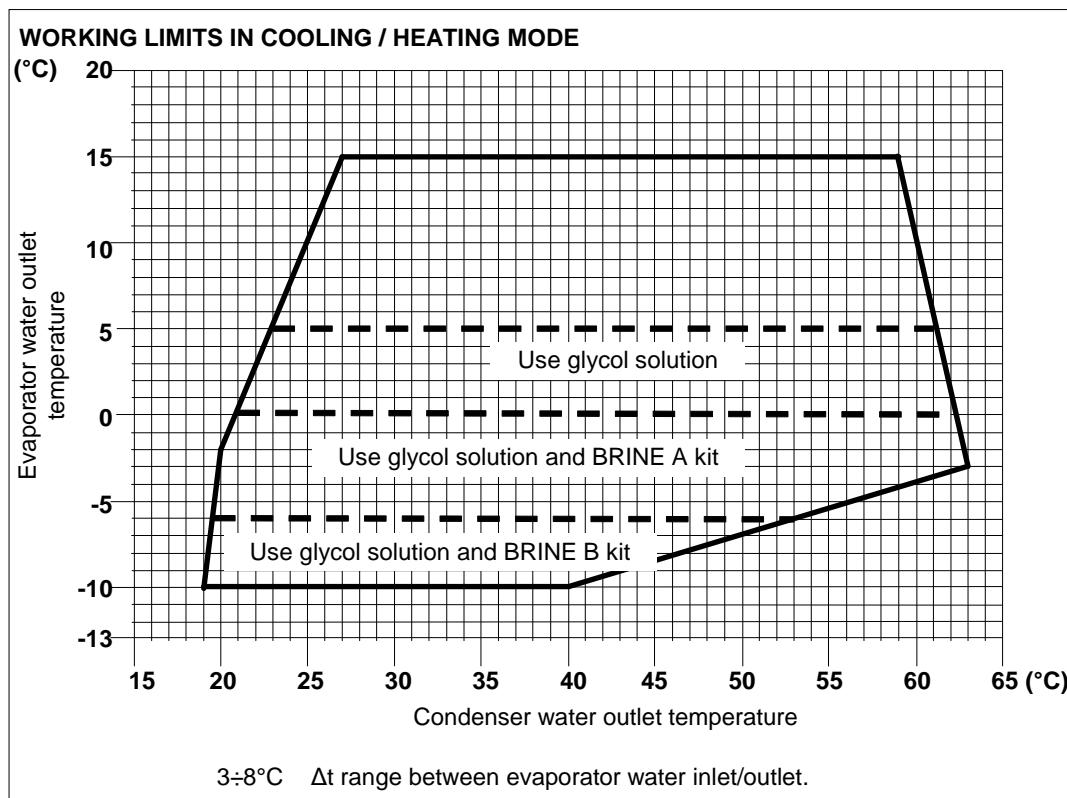
Cooling capacity                    394 ÷ 1505 kW  
Heating Capacity                    477 ÷ 1976 kW

## MODEL IDENTIFICATION

**FRIGO SCREW WP 410 V 2**

**410**              Cooling capacity (kW) at nominal conditions  
**V**                Twin-screw compressor  
**2**                Compressor number

## WORKING LIMITS



### PARTIAL HEAT RECLAIM

Working limits for hot water production from partial heat reclaim system.

The system is not regulated and the heating capacity which is supplied depends on the machine working conditions.

40÷70°C hot water outlet temperature range

5÷15°C Δt range between water inlet/outlet

### ANTIFREEZE MIXTURES

Antifreeze mixtures has to be used when the machine working conditions foresees the chilled outlet liquid temperature as shown in the table:

#### PROPYLENE GLYCOL

Chilled outlet liquid temperature from the machine	°C	4	2	1	-2	-4	-6	-9	-12
Percentage in weight of the mixture	%	5	10	15	20	25	30	35	40

#### ETHYLENE GLYCOL

Chilled outlet liquid temperature from the machine	°C	4	2	0	-4	-7	-9	-10	-13
Percentage in weight of the mixture	%	5	10	15	20	25	30	35	40

#### WARNING

The values are referred to machine working temperature and not to freezing temperature of the used liquid.

The use of antifreeze mixtures causes a reduction of the machine performance,

Please refer to the RC WORLD electronic catalogue to obtain the effective performance.

#### STORING TEMPERATURE

If the machine is not installed on receipt and is stored for a long time, store it in a protected place, at temperatures ranging between -20°C and 50°C in absence of superficial condensation and direct sun light.

## COMPONENTS

### FRAMEWORK

- Base and self supporting frame in steel plate with protective surfaces treatment in compliance with UNI ISO 9227/ASTMB117 and ISO 7253, and painted with epoxy powders.
- Colour: RAL 9005

### COMPRESSORS

- Twin screw semi-hermetic compressors with highly efficient screw profile and high peripheral speed, optimized for R134a refrigerant.
- Integrated discharge check valve.
- Flanged-on oil separator.
- Integrated overpressure valve.
- Replaceable cartridge type oil filter.
- Oil flow switch.
- Valves for oil filling and discharge.
- Sight glass
- Electronic protection device that includes:
  - Electric motor thermal protection via internal winding temperature sensors.
  - Phase sequence electronic relay
  - Sensor on refrigerant discharge for temperature monitoring,
- 2-pole 3-phase electric motor with Part-Winding starting for models 410 V2 / 460 V2 / 510 V2 / 540 V2 / 610 V2
- 2-pole 3-phase electric motor with Star / Delta starting for all other machines.
- Stepless capacity control, 50÷100% for each compressor.
- Crankcase heater.
- Terminal box with IP54 enclosure class.
- Rubber supports.

### EVAPORATOR

- Shell and tube evaporator optimized for R134a refrigerant.
- Tubes with a helical rifled internal surface.
- Intermediate baffles positioned to ensure optimum speed of the fluid and low pressure drops.
- Single circuit on water side and independent circuits, one for each compressor, on refrigerant side.
- Shell, header, tube sheets, made of carbon steel, tubes in Cu.
- Anticondensate insulation made of polyurethane.
- Temperature sensors on water inlet and outlet.
- Threaded hydraulic connections or with grooved end arranged for flexible joint (the flexible joint and the adapter pipe are optional accessories).

### CONDENSER

One condenser for each refrigerant circuit:

- Shell and tube condenser optimized for R134a refrigerant.
- Shell, header, tube sheets made of carbon steel, tubes in Cu.
- Insulation made of polyurethane.
- Temperature sensor on water outlet.
- Threaded hydraulic connections or with grooved end arranged for flexible joint (the flexible joint and the adapter pipe are optional accessories).

### REFRIGERANT CIRCUIT

Components for each refrigerant circuit:

- Electronic expansion valve that allows high performance and system efficiency thanks to a timely and accurate response to changes in temperature and pressure.
- Sight glass.
- Filter dryer on liquid line.
- Service valves on liquid line.
- Service valves on gas discharge.
- Safety valve on low pressure side.
- Safety valve on high pressure side.
- Pressure transducers with indication, control and protection functions, on low and high refrigerant pressure and oil pressure.
- High pressure safety switch with manual reset.
- Refrigerant circuit with copper tubing with anticondensate insulation of the suction line.
- Plastic capillary hoses for pressure sensors connection.
- R134a refrigerant charge.

## ELECTRICALPANEL

In accordance with EN60204-1 norms, suitable for indoor installation, complete with:

- Main switch with door lock safety.
- Fuses for each compressors.
- Contactors for each compressors (2 contactors for Part-Winding start system – 3 contactors for Star / Delta start system).
- Compressor Part-Winding start system for model 410 V2 / 460 V2 / 510 V2 / 540 V2 / 610 V2
- Compressor Star / Delta start system for all other machines.
- Transformer for auxiliary circuit and microprocessor supply.
- Panel with machine controls.
- Summer / Winter working mode selector.
- Power supply: 400/3/50.

## CONTROL SYSTEM

- MP.COM microprocessor system with graphic display for control and monitor of operating and alarms status. The system includes:
  - Voltage free contact for remote general alarm.
  - Main components hour-meter.
  - Integrated "Data logger" function for the recording of events and alarms.
  - Non-volatile "Flash" memory for data storage.
  - Menu with protection password.
  - Driver for the additional module.
  - Additional module "1" for condenser water outlet temperature sensor.

## HYDRAULIC CONNECTIONS OF HEAT EXCHANGERS

- Heat exchangers threaded hydraulic connections ISO 228/1 – G M, available up to a diameter of 3" included.
- Pipes threaded hydraulic connections ISO 7/1 – R, available up to a diameter of 3" included.
- The hydraulic connections with flange (FL) are not supplied with counter flange.
- The hydraulic connections with grooved end are not supplied with flexible joint (optional accessory).

## OPTIONAL ACCESSORIES

The descriptions of these optional accessories can be found in Chapter ACCESSORIES

- "Brine A" kit for chilled water production up to -6°C,
- "Brine B" kit for chilled water production lower than -6°C.

### **WARNING**

**With BRINE Kit it is mandatory to use antifreeze mixture.** Refer to the paragraph ANTIFREEZE SOLUTION.

The use of antifreeze mixtures causes a reduction of the machine performance,  
Please refer to the RC WORLD electronic catalogue to obtain the effective  
performance.

- Partial heat recovery system.

## OTHER OPTIONAL ACCESSORIES

- Chilled water safety flow switch.
  - Hydraulic connections of the evaporator and the condensers:
    - Flexible joint with adapter pipe (solder type).
    - Flexible joint with adapter for flange connection (FL). The counter-flange is not supplied.
- The optional is not available for unit with threaded hydraulic connections.
- Compressor thermal protection relay.
  - Power factor capacitor for motor compressor -  $\cos\phi$  0,9.
  - Stop valve on compressor suction.
  - Rubber supports - not installed.
  - Compressor soundproof box (For further information please refer to the units acoustic data)
  - MP.COM microprocessor accessories:
    - Clock card for alarms date and time displaying and storing.
    - Serial port RCcom, MBUS/JBUS.
    - Serial port LON.
    - Serial port BACnet for Ethernet – SNMP – TCP/IP.
    - Serial port BACnet for MS/TP.
    - Serial port for GSM modem.
    - Data logger for the memorization of the intervened alarms.
    - Accessories that can be connected to the additional module "1":
      - Water flow measurement / Line voltage indication / Line current indication
      - Compensation / Line voltage indication / Line current indication
      - Ambient air temperature
    - Additional module "2" with the following inlets / outlets:

### INLETS

- External alarm 1
- External alarm 2
- External alarm 3
- External alarm 4

### OUTLETS

- External alarm 1
- External alarm 2
- General alarm 3
- General alarm 2

### **WARNING**

**RC GROUP reserves the right to determine the compatibility of combinations of accessories required in the order.**

## TECHNICAL DATA

MODEL		410 V2	460 V2	510 V2	540 V2	610 V2	700 V2	790 V2
<b>SUMMER WORKING MODE (1)</b>								
<b>COOLING CAPACITY</b>	kW	394	443	494	551	603	656	740
Compressors power input	kW	82,5	92,4	103	109	134	144	163
Compressors operating current [OA]	A	148	178	195	202	225	250	273
<b>EVAPORATOR</b>								
Water flow rate	m <sup>3</sup> /h	67,7	76,1	84,7	94,6	103	113	127
Pressure drop	kPa	10	16	17	22	24	14	12
<b>CONDENSER</b>								
Water flow rate	m <sup>3</sup> /h	82,6	92,8	103	114	128	139	156
Pressure drop	kPa	10	12	15	1	23	18	22
<b>WINTER WORKING MODE (2)</b>								
<b>HEATING CAPACITY</b>	kW	477	533	598	666	736	830	963
Compressors power input	kW	94,8	106	119	128	144	159	182
Compressors operating current [OA]	A	244	247	289	295	240	271	304
<b>EVAPORATOR</b>								
Water flow rate	m <sup>3</sup> /h	65,7	73,4	82,4	92,6	102	115	134
Pressure drop	kPa	13	18	19	22	26	8	6
<b>CONDENSER</b>								
Water flow rate	m <sup>3</sup> /h	67,7	76,1	84,7	94,6	103	113	127
Pressure drop	kPa	7	2	1	4	16	16	17
<b>PARTIAL HEAT RECOVERY (3)</b>								
<b>HEATING CAPACITY</b>	kW	49,7	55,5	62,3	70,0	77,0	87,2	101,0
Heat recovery water flow	m <sup>3</sup> /h	8,56	9,57	10,7	12,1	13,3	15	17,5
Heat recovery pressure drop	kPa	4,6	4,2	3,7	3,5	3,3	3,4	3,8
<b>COMPRESSORS</b>								
Quantity	n.	2	2	2	2	2	2	2
Maximum current	A	205	236	270	288	330	367	414
Starting current	A	383	469	630	639	811	544	568
Stepless capacity control		25...100	25...100	25...100	25...100	25...100	25...100	25...100
<b>EVAPORATOR</b>								
n.	1	1	1	1	1	1	1	1
Water volume	l	149	142	255	255	255	255	237
Max water flow rate	m <sup>3</sup> /h	95	100	127	127	127	127	154
<b>CONDENSER</b>								
n.	2	2	2	2	2	2	2	2
Total water volume	l	78	78	99	99	99	99	109
Max water flow rate	m <sup>3</sup> /h	98	98	116	116	116	116	170
<b>PARTIAL HEAT RECOVERY EXCHANGERS</b>								
n.	2	2	2	2	2	2	2	2
Total water volume	l	14,4	14,4	19,2	19,2	19,2	27,0	37,0
Max water flow rate	m <sup>3</sup> /h	37	37	37	37	37	37	37
<b>REFRIGERANT</b>								
R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Total refrigerant charge (optional excluded)	kg	65	65	155	155	155	155	142
Gas circuits	n.	2	2	2	2	2	2	2
<b>POWER SUPPLY</b>								
V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>ENERGY EFFICIENCY INDEXES</b>								
EER - Energy Efficiency Ratio		4,78	4,79	4,80	5,06	4,50	4,56	4,54
COP - Coefficient of Performance		5,03	5,03	5,03	5,20	5,11	5,22	5,29
ESEER - Eurovent Standard		5,41	5,34	5,25	5,72	5,12	5,19	5,16
IPLV - ARI Standard 550/590		5,72	5,42	5,39	6,04	5,44	5,51	5,49
<b>SOUND LEVEL</b>								
Average sound pressure level [L <sub>PA</sub> ] (4)	dB(A)	74,0	74,0	74,0	74,0	79,0	79,0	79,0
Sound power level [L <sub>W</sub> ] (5)	dB(A)	91,8	91,8	91,8	91,8	96,8	96,8	97,6
<b>DIMENSIONS</b>								
Length	mm	3359,5	3359,5	3349,5	3349,5	3435	3514	3894
Width	mm	975	975	1013	1013	1007	1060	1210
Height	mm	1498	1498	1618	1618	1740	1780	1888
<b>NET WEIGHT</b>								
kg	3237	3268	3498	3498	3590	3720	3967	
<b>HYDRAULIC CONNECTIONS</b>								
<b>EVAPORATOR</b>								
Inlet/outlet – (OD) (6)	Ø mm	168,3	168,3	168,3	168,3	168,3	168,3	219,1
<b>CONDENSER</b>								
Inlet/outlet – (ISO228/1)	n x Ø	2 x 3"						
Inlet/outlet – (OD) (6)	n x Ømm	--	--	--	--	--	--	--
<b>PARTIAL HEAT RECOVERY</b>								
Inlet/outlet – (ISO228/1)	n x Ø	2 x 2"						

1. Gross value - Referred to chilled water temperature 12/7°C; water to the condenser 30/35°C.
2. Gross value - Referred to chilled water temperature 15/10°C; water outlet to the condenser 45°C.
3. Gross value - Referred to chilled water temperature 12/7°C; water to the condenser 30/35°C and hot water temperature 40/45°C.
4. Average sound pressure level [L<sub>PA</sub>] 1m far according to ISO EN 3744.
5. Sound power level [L<sub>W</sub>] according to ISO EN 9614 – 2.
6. With flexible joint predisposition.

## TECHNICAL DATA

MODEL		940 V2	1050 V2	1110 V2	1140 V2	1310 V2	1460 V2	1610 V2
<b>SUMMER WORKING MODE (1)</b>								
<b>COOLING CAPACITY</b>	<b>kW</b>	<b>880</b>	<b>973</b>	<b>1031</b>	<b>1073</b>	<b>1224</b>	<b>1365</b>	<b>1505</b>
Compressors power input	kW	196	218	228	236	269	297	335
Compressors operating current [OA]	A	299	349	362	385	463	516	567
<b>EVAPORATOR</b>								
Water flow rate	m³/h	151	167	177	184	210	234	258
Pressure drop	kPa	17	24	23	21	24	33	41
<b>CONDENSER</b>								
Water flow rate	m³/h	186	206	218	227	259	288	319
Pressure drop	kPa	17	18	23	20	16	17	20
<b>WINTER WORKING MODE (2)</b>								
<b>HEATING CAPACITY</b>	<b>kW</b>	<b>1115</b>	<b>1257</b>	<b>1346</b>	<b>1412</b>	<b>1569</b>	<b>1766</b>	<b>1976</b>
Compressors power input	kW	215	240	255	271	298	333	378
Compressors operating current [OA]	A	335	386	406	441	516	575	642
<b>EVAPORATOR</b>								
Water flow rate	m³/h	155	175	187	196	218	246	275
Pressure drop	kPa	13	25	21	22	20	35	43
<b>CONDENSER</b>								
Water flow rate	m³/h	151	167	177	184	210	234	258
Pressure drop	kPa	13	12	15	13	11	12	14
<b>PARTIAL HEAT RECOVERY (3)</b>								
<b>HEATING CAPACITY</b>	<b>kW</b>	<b>117,0</b>	<b>132,0</b>	<b>142,0</b>	<b>148,0</b>	<b>165,0</b>	<b>186,0</b>	<b>208,0</b>
Heat recovery water flow	m³/h	20,2	22,8	24,4	25,6	28,5	32,1	35,8
Heat recovery pressure drop	kPa	4,6	5,2	7,2	8,3	10,9	13,5	16,5
<b>COMPRESSORS</b>								
Quantity	n.	2	2	2	2	2	2	2
Maximum current	A	474	536	567	615	710	798	896
Starting current	A	611	721	827	903	1058	1182	1324
Stepless capacity control		25...100	25...100	25...100	25...100	25...100	25...100	25...100
<b>EVAPORATOR</b>								
Water volume	l	229	276	276	370	368	357	431
Max water flow rate	m³/h	172	172	172	220	245	267	312
<b>CONDENSER</b>								
Total water volume	l	109	135	135	155	171	182	210
Max water flow rate	m³/h	186	216	216	240	260	284	320
<b>PARTIAL HEAT RECOVERY EXCHANGERS</b>								
n.		2	2	2	2	2	2	2
Total water volume	l	32,0	34,0	34,0	39,0	39,0	54,0	54,0
Max water flow rate	m³/h	67	67	67	67	67	67	67
<b>REFRIGERANT</b>								
Total refrigerant charge (optional excluded)	kg	136	130	130	121	180	176	172
Gas circuits	n.	2	2	2	2	2	2	2
<b>POWER SUPPLY</b>								
V/Ph/Hz		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
<b>ENERGY EFFICIENCY INDEXES</b>								
EER - Energy Efficiency Ratio		4,49	4,46	4,52	4,55	4,55	4,60	4,49
COP – Coefficient of Performance		5,19	5,24	5,28	5,21	5,27	5,30	5,23
ESEER - Eurovent Standard		5,08	5,06	5,16	5,04	5,04	5,10	4,99
IPLV - ARI Standard 550/590		5,37	5,34	5,46	5,17	5,18	5,24	5,12
<b> SOUND LEVEL</b>								
Average sound pressure level [L <sub>PA</sub> ] (4)	dB(A)	82,0	82,0	82,0	82,0	82,0	84,0	84,0
Sound power level [L <sub>W</sub> ] (5)	dB(A)	100,6	100,6	101,2	101,2	101,2	103,6	103,6
<b>DIMENSIONS</b>								
Length	mm	3894	3894	3932,5	3874	4273	4273	4352
Width	mm	1210	1210	1218	1287	1284	1284	1284
Height	mm	1888	1888	1890	1975	2084	2084	2108
<b>NET WEIGHT</b>								
	kg	4071	4835	4949	5031	5549	6407	6537
<b>HYDRAULIC CONNECTIONS</b>								
<b>EVAPORATOR</b>								
Inlet/outlet – (OD) (6)	Ø mm	219,1	219,1	219,1	219,1	219,1	273	273
<b>CONDENSER</b>								
Inlet/outlet – (ISO228/1)	n x Ø	2 x 3"	2 x 3"	2 x 3"	--	--	--	--
Inlet/outlet – (OD) (6)	n x Ømm	--	--	--	2 x 114,3	2 x 114,3	2 x 114,3	2 x 141,3
<b>PARTIAL HEAT RECOVERY</b>								
Inlet/outlet – (ISO228/1)	n x Ø	2 x 2"						

1. Gross value - Referred to chilled water temperature 12/7°C; water to the condenser 30/35°C.
2. Gross value - Referred to chilled water temperature 15/10°C; water outlet to the condenser 45°C.
3. Gross value - Referred to chilled water temperature 12/7°C; water to the condenser 30/35°C and hot water temperature 40/45°C.
4. Average sound pressure level [L<sub>PA</sub>] 1m far according to ISO EN 3744.
5. Sound power level [L<sub>W</sub>] according to ISO EN 9614 – 2.
6. With flexible joint predisposition.

# frigo screw wp

## ACOUSTIC DATA

MODEL	410 V2	460 V2	510 V2	540 V2	610 V2	700 V2	790 V2	
Sound power level [Lw] (1)	dB(A)	91,8	91,8	91,8	96,8	96,8	97,6	100,6
Sound pressure level at [L <sub>Pm</sub> ] 1m (2)	dB(A)	74,0	74,0	74,0	79,0	79,0	79,0	82,0
MODEL	940 V2	1050 V2	1110 V2	1140 V2	1310 V2	1460 V2	1610 V2	
Sound power level [Lw] (1)	dB(A)	100,6	101,2	101,2	101,2	103,6	103,6	103,6
Sound pressure level at [L <sub>Pm</sub> ] 1m (2)	dB(A)	82,0	82,0	82,0	82,0	84,0	84,0	84,0

## FRIGO SCREW CLA WITH SOUNDPROOF BOX

MODEL	410 V2	460 V2	510 V2	540 V2	610 V2	700 V2	790 V2	
Sound power level [Lw] (1)	dB(A)	85,8	85,8	85,8	90,8	90,8	91,6	94,6
Sound pressure level at [L <sub>Pm</sub> ] 1m (2)	dB(A)	68,0	68,0	68,0	73,0	73,0	73,0	76,0
MODEL	940 V2	1050 V2	1110 V2	1140 V2	1310 V2	1460 V2	1610 V2	
Sound power level [Lw] (1)	dB(A)	94,6	95,2	95,2	95,2	97,6	97,6	97,6
Sound pressure level at [L <sub>Pm</sub> ] 1m (2)	dB(A)	76,0	76,0	76,0	76,0	78,0	78,0	78,0

1. Sound power level according to ISO EN 9614 – 2
2. Average sound pressure level 1m far according to ISO EN 3744

### **IMPORTANT**

For further information about units acoustic data, please refer to “The Noise” bulletin of RC GROUP technical literature.

## ELECTRIC DATA

### MAXIMUM ELECTRIC ABSORPTION CALCULATION

This chapter is showing the maximum electrical absorption calculation of unit (A), corresponding to extreme working conditions.

The involved components are the following:

- Compressors electric motor

The electrical data of the various components are indicated in the relative technical data sheets.

Calculation for FRIGO SCREW WP 410 V2:

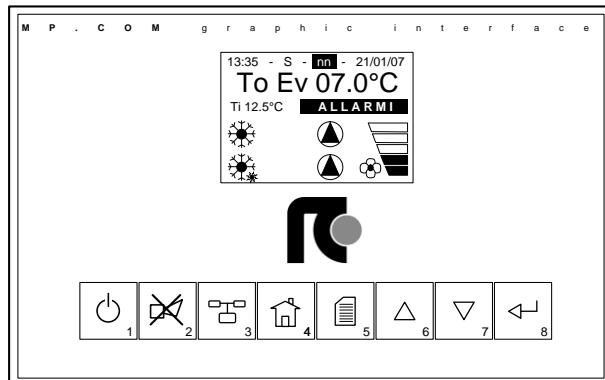
### MAXIMUM ELECTRIC ABSORPTION [FLA]

- Compressors	A	205
<b>Maximum electric absorption</b>	<b>A</b>	<b>205</b>

## MP.COM: MICROPROCESSOR CONTROL SYSTEM

The MP.COM microprocessor control system is equipped with 8 keys terminal and back lighted graphic display on which all information in different languages or easily identifiable symbols are displayed.

The system disposes of a "flash" memory that preserves the information even in absence of power supply.



### KEYBOARD FUNCTIONS

- KEY 1     Switches on/off the unit.
- KEY 2     Stops the alarm acoustical signal and displays the intervened alarm.
- KEY 3     Accedes to the parameters of possible units connected in LAN network.  
LAN connection with 3 wires without additional accessories. It is possible to connect in network different capacity units and with different number of compressors.
- KEY 4     Home key – displays the main screen.
- KEY 5     Accedes to control and visualization menus as:  
  - Unit working status
  - Set-points
  - Alarms reset (protected by password)
  - Service parameters setting (protected by password)
  - Intervened alarms history
  - Setting for main components manual operation (protected by password)
  - Date and time setting
  - Setting of communication system for SMS messages dispatch
- KEY 6     Scroll the pages inside each menu and decreases the displayed value
- KEY 7     Scroll the pages inside each menu and increases the displayed value
- KEY 8     Shift the cursor inside each menu and confirm a parameter insertion

# frigo screw wp

## MP.COM: MICROPROCESSOR CONTROL SYSTEM

### REMOTE CONTROLS/ALARMS

#### MP.COM MICROPROCESSOR CONTROL

##### INLETS

<u>External enabling</u>	•
<u>Cooling enabling</u>	•
<u>Cooling set-point changeover (xK1 - xK2)</u>	•
<u>Compressor 1 enabling</u>	•
<u>Compressor 2 enabling</u>	•

##### OUTLETS

<u>General alarm 1</u>	..
------------------------	----

#### ADDITIONAL MODULE 1

<u>Ambient air probe</u>	
<u>Hot water outlet probe</u>	
<u>Water flow measurement/voltage/current line</u>	
<u>Set point compensation</u>	•

#### ADDITIONAL MODULE 2 (on request)

##### INLETS

<u>External alarm 1</u>	•
<u>External alarm 2</u>	•
<u>External alarm 3</u>	•
<u>External alarm 4</u>	•

##### OUTLETS

<u>External alarm 1</u>	..
<u>External alarm 2</u>	..
<u>External alarm 3</u>	..
<u>General alarm 2 (programmable)</u>	..

- remote controls/alarms
- .. voltage free controls/alarms

## OPTIONAL ACCESSORIES – “BRINE A” KIT

The accessory allows the production of glycol solution leaving the machine down to a temperature of -6°C.

The kit includes:

- Set of the working parameters.
- Compressor oil cooling system through liquid injection.

## OPTIONAL ACCESSORIES – “BRINE B” KIT

The accessory allows the production of glycol solution leaving the machine lower than -6°C.

The kit includes:

- Set of the working parameters.
- Evaporator in special execution for low temperature.
- Special thermal insulation of the evaporator.
- Compressor oil cooling system with welded plate heat exchangers oil / refrigerant liquid.

### **WARNING:**

**With BRINE Kit it is mandatory to use antifreeze mixture.** Refer to the paragraph ANTIFREEZE SOLUTION.

The use of antifreeze mixtures causes a reduction of the machine performance,  
Please refer to the RC WORLD electronic catalogue to obtain the effective performance.

## OPTIONAL ACCESSORIES - PARTIAL HEAT RECOVERY SYSTEM

The partial heat recovery exchangers are installed on every refrigerant circuit of the machine before the main condenser.

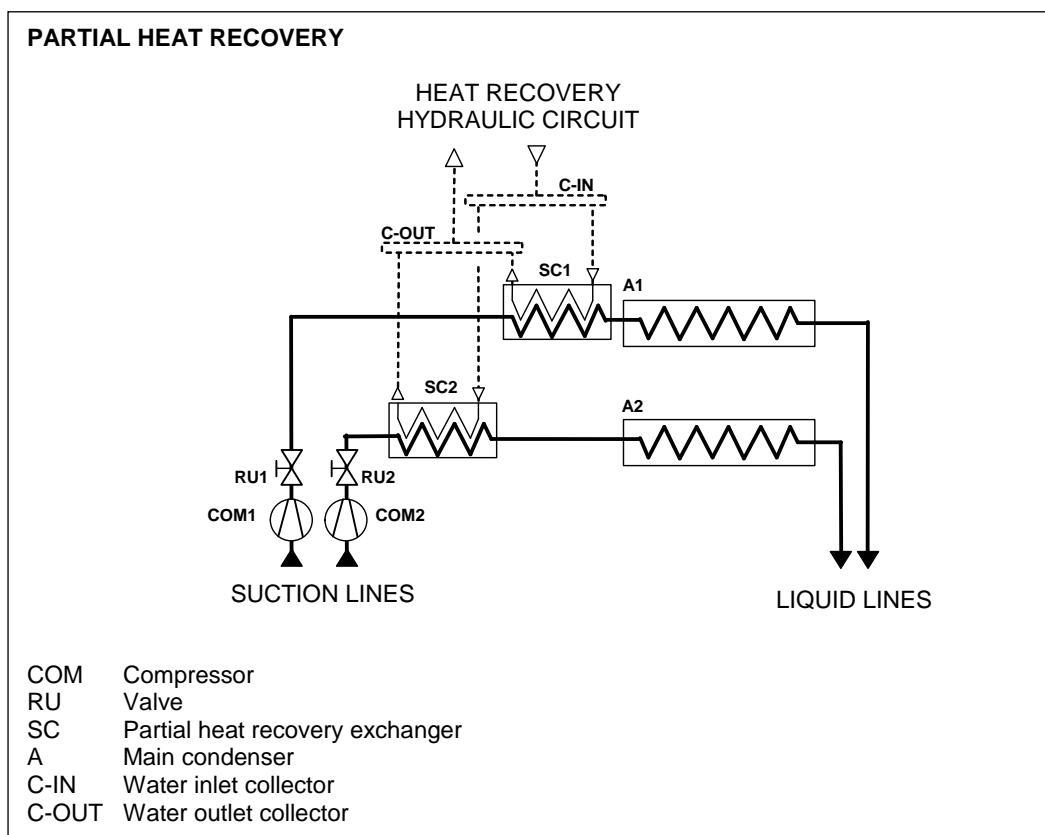
The system is not regulated and the control is ON-OFF type. The heat recovery system's operation is subject to the supply demand of cooling capacity.

The system includes:

- Copper brazed plate type heat exchanger with cover plates, plates and connections in AISI 316 stainless steel.
- Anticondensate insulation made of polyurethane.

The heating capacity which is supplied depends on the kind of refrigerant gas which is used and working temperatures.

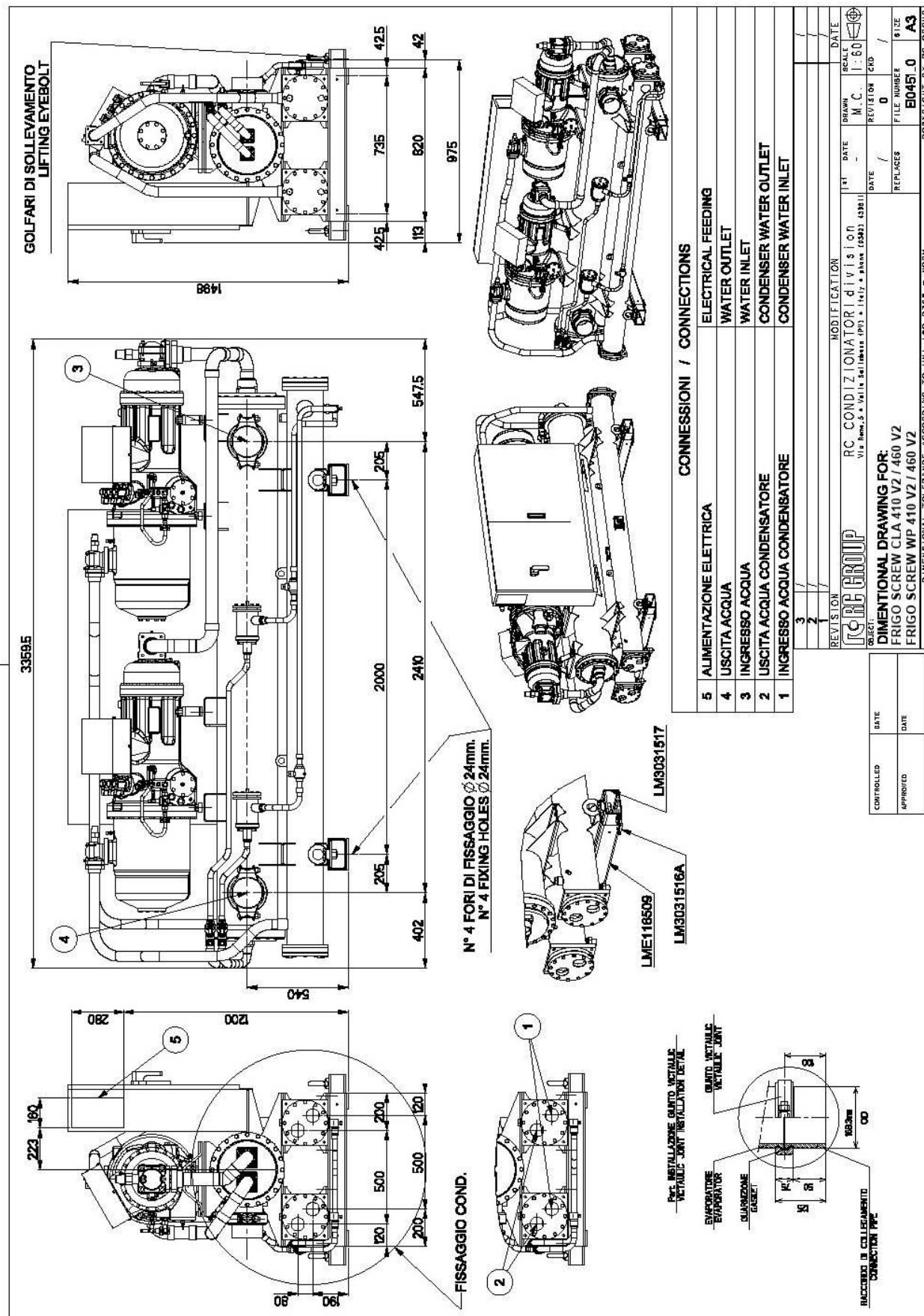
The heat exchangers can produce hot water up to the maximum temperature of 70°C and according to the working conditions of the unit.



## UNIT DRAWINGS

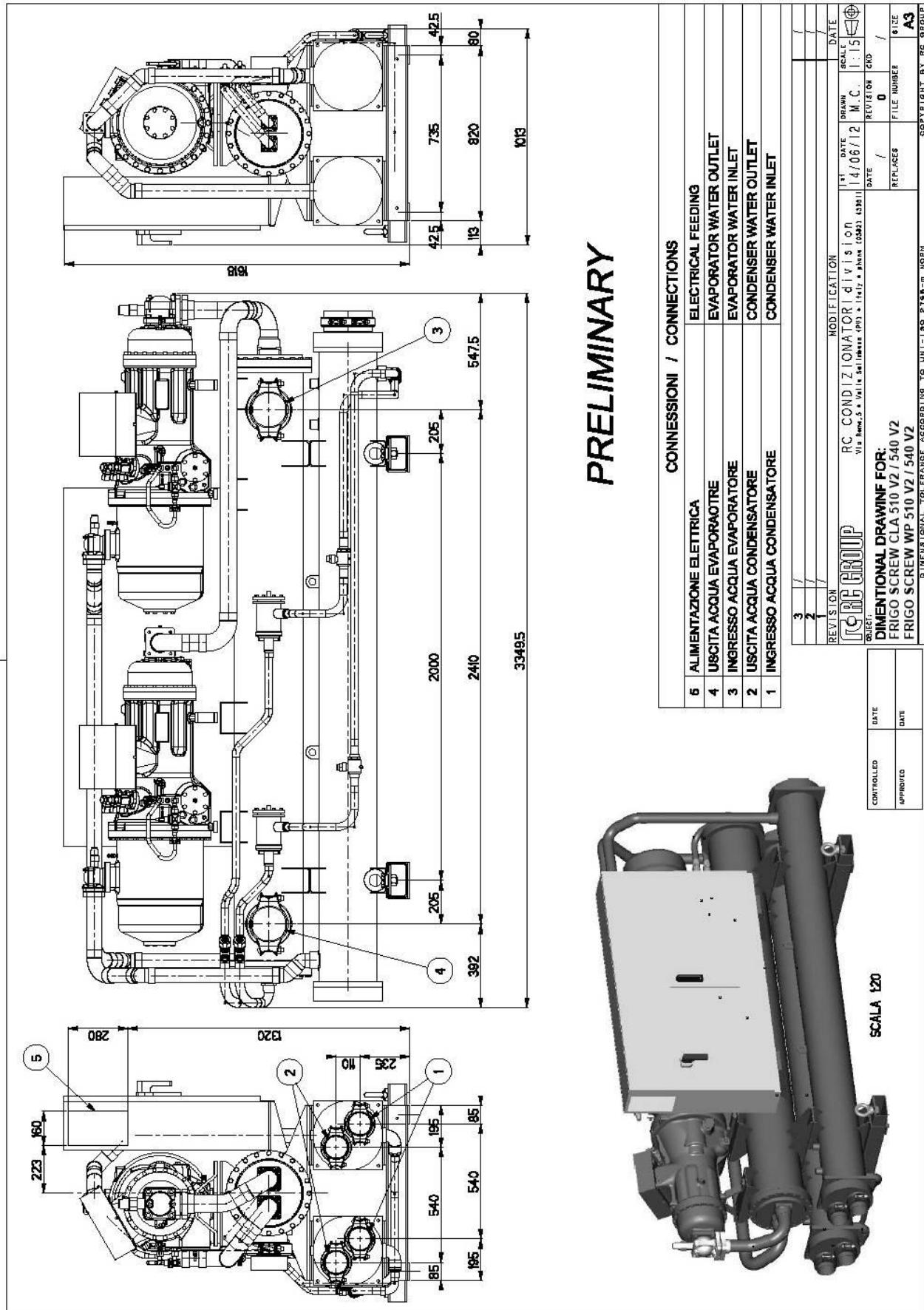
Dimensions in mm

FRIGO SCREW WP 410 V2 / 460 V2



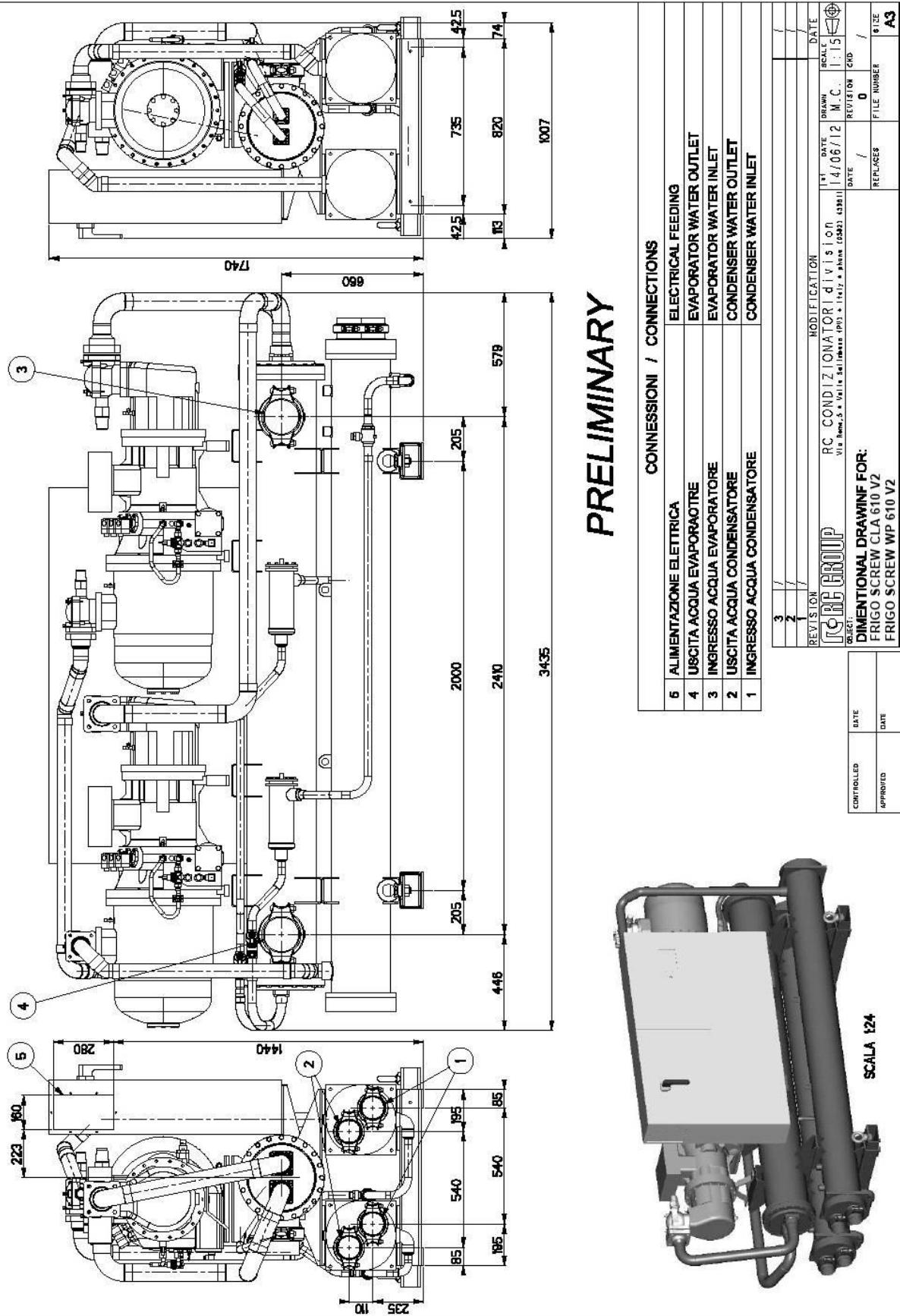
## UNIT DRAWINGS Dimensions in mm

### FRIGO SCREW WP 510 V2 / 540 V2



**UNIT DRAWINGS**  
Dimensions in mm

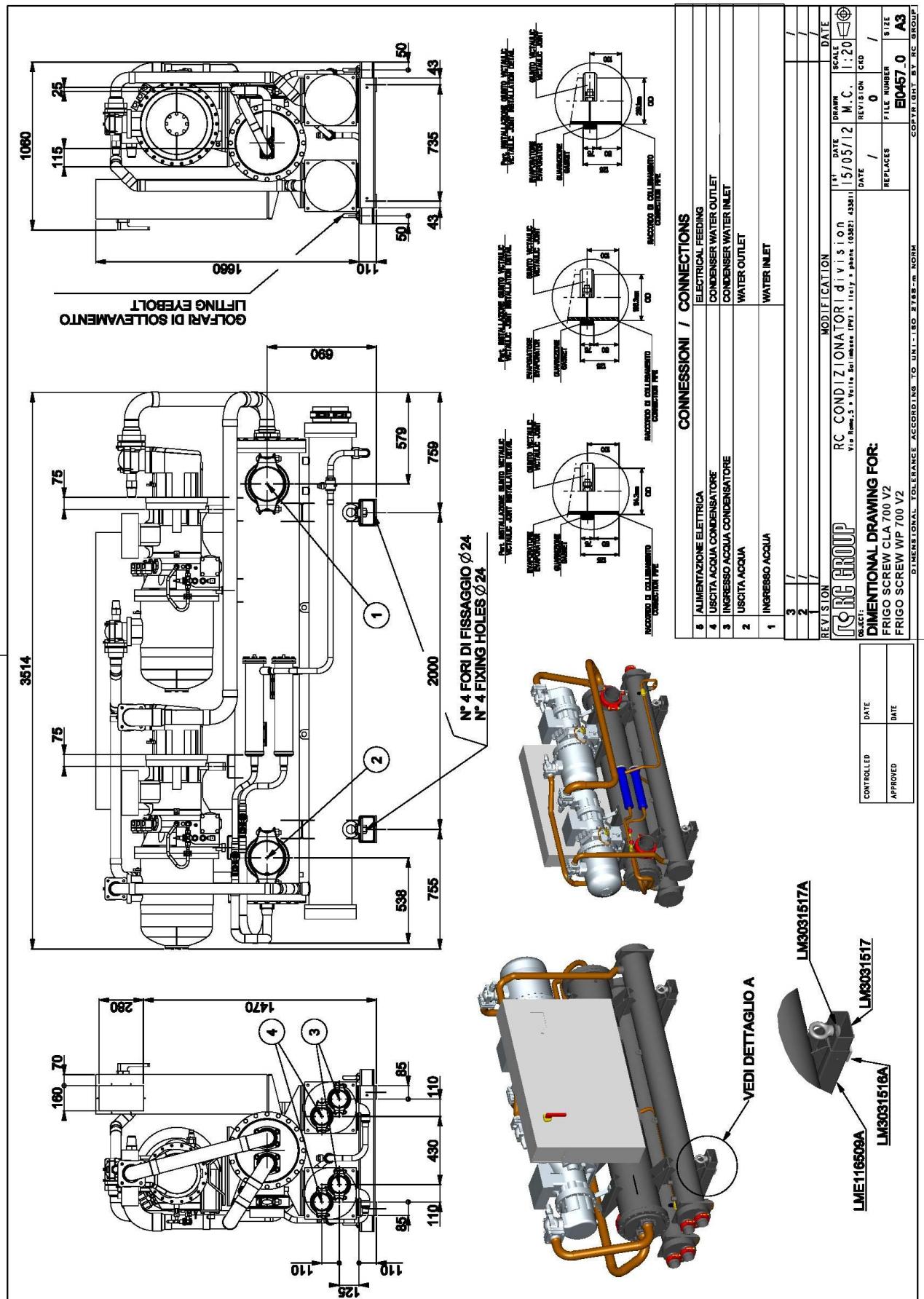
**FRIGO SCREW WP 610 V2**



# frigo screw wp

UNIT DRAWINGS  
Dimensions in mm

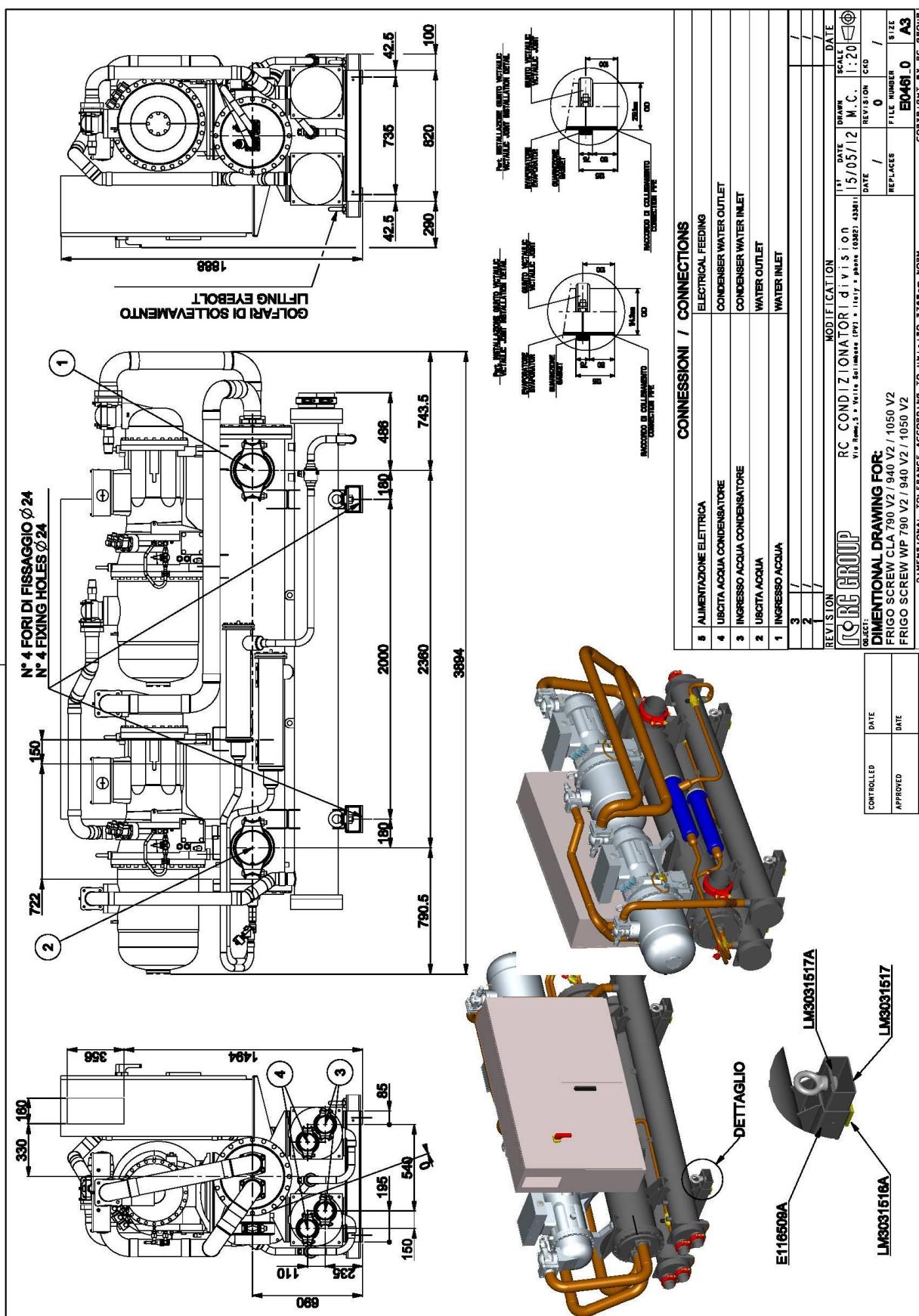
## FRIGO SCREW WP 700 V2



# frigo SCREW WP

## UNIT DRAWINGS Dimensions in mm

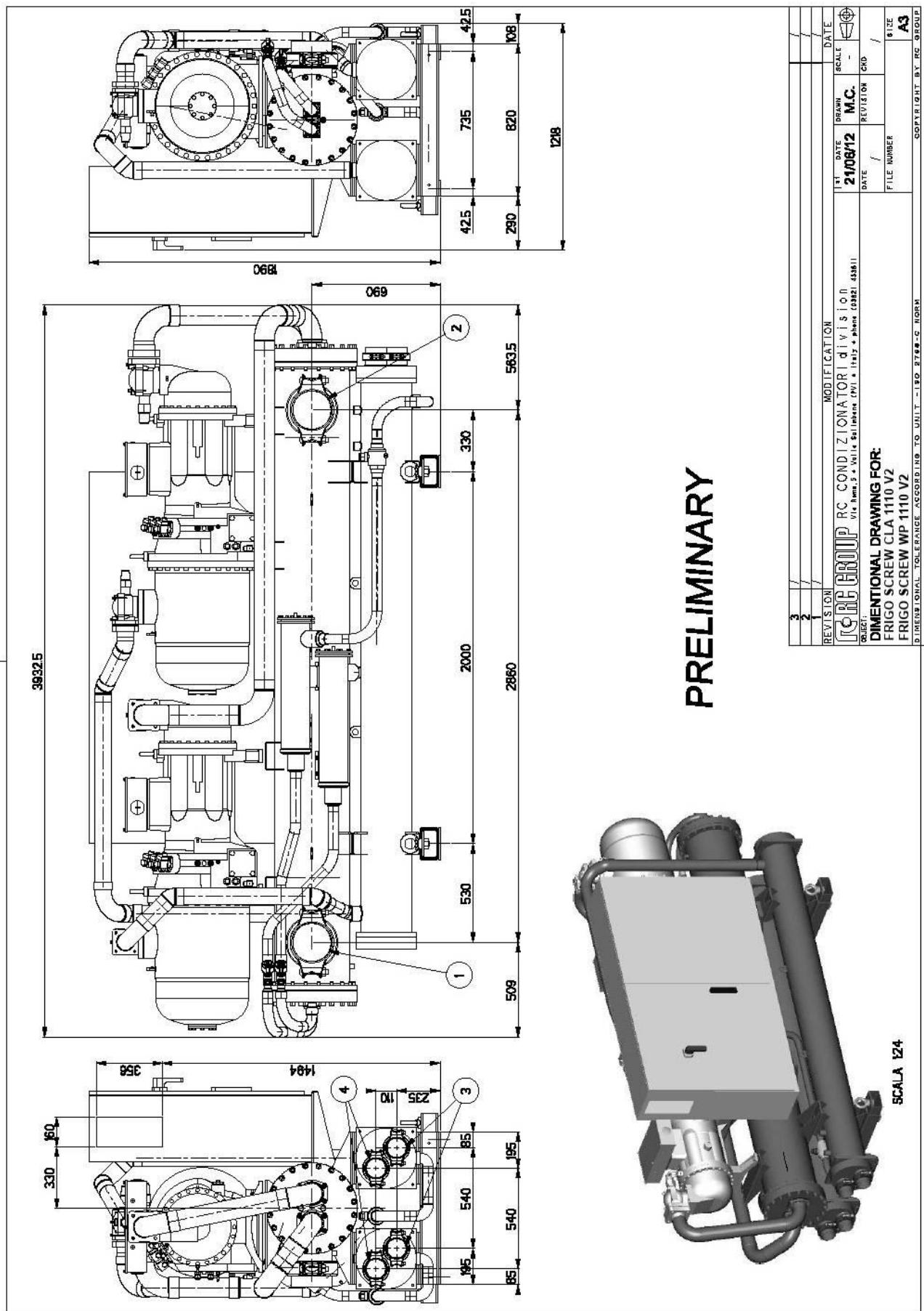
FRIGO SCREW WP 790 V2 / 940 V2 / 1050 V2



# frigo screw wp

UNIT DRAWINGS  
Dimensions in mm

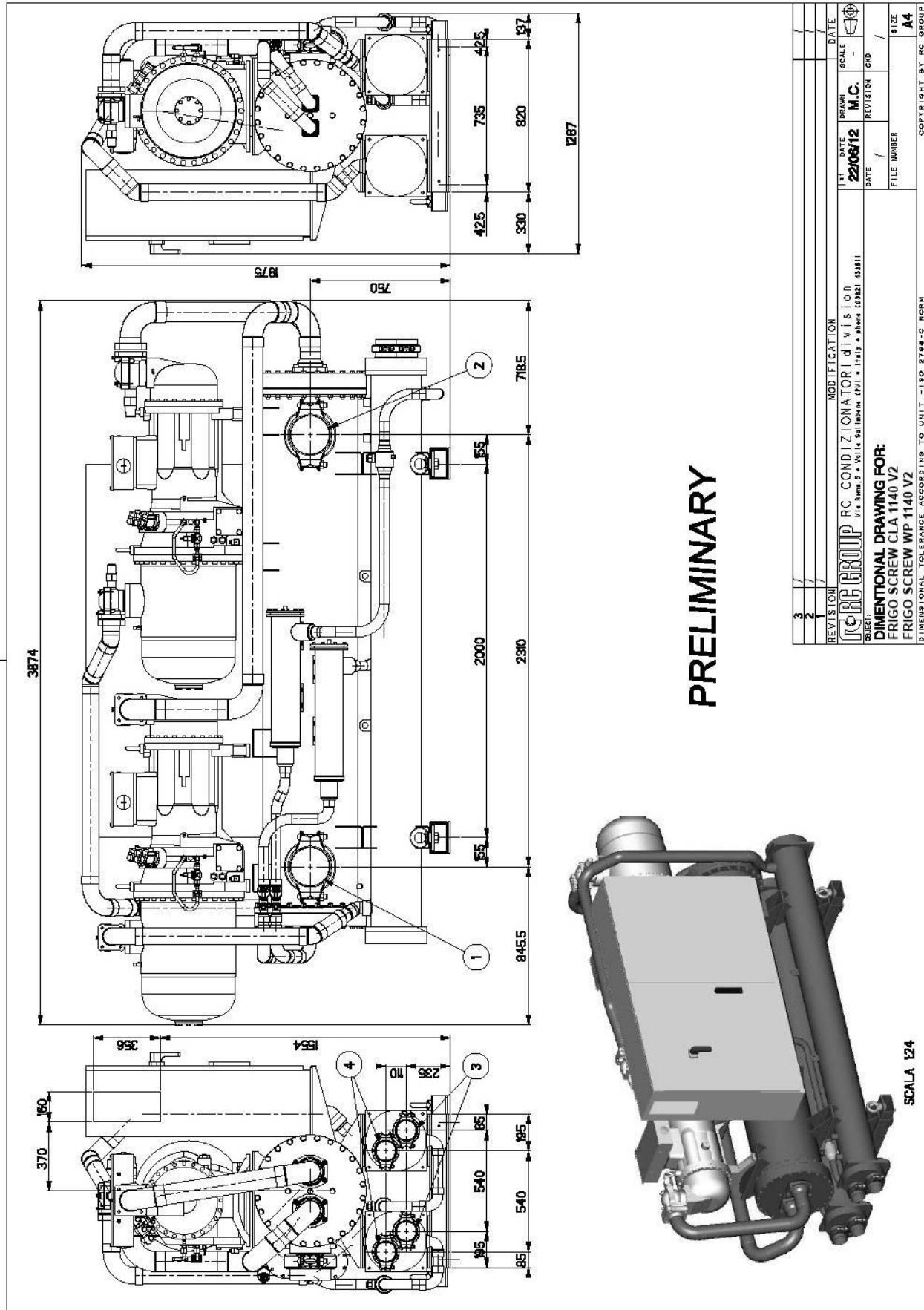
FRIGO SCREW WP 1110 V2



# frigo SCREW WP

UNIT DRAWINGS  
Dimensions in mm

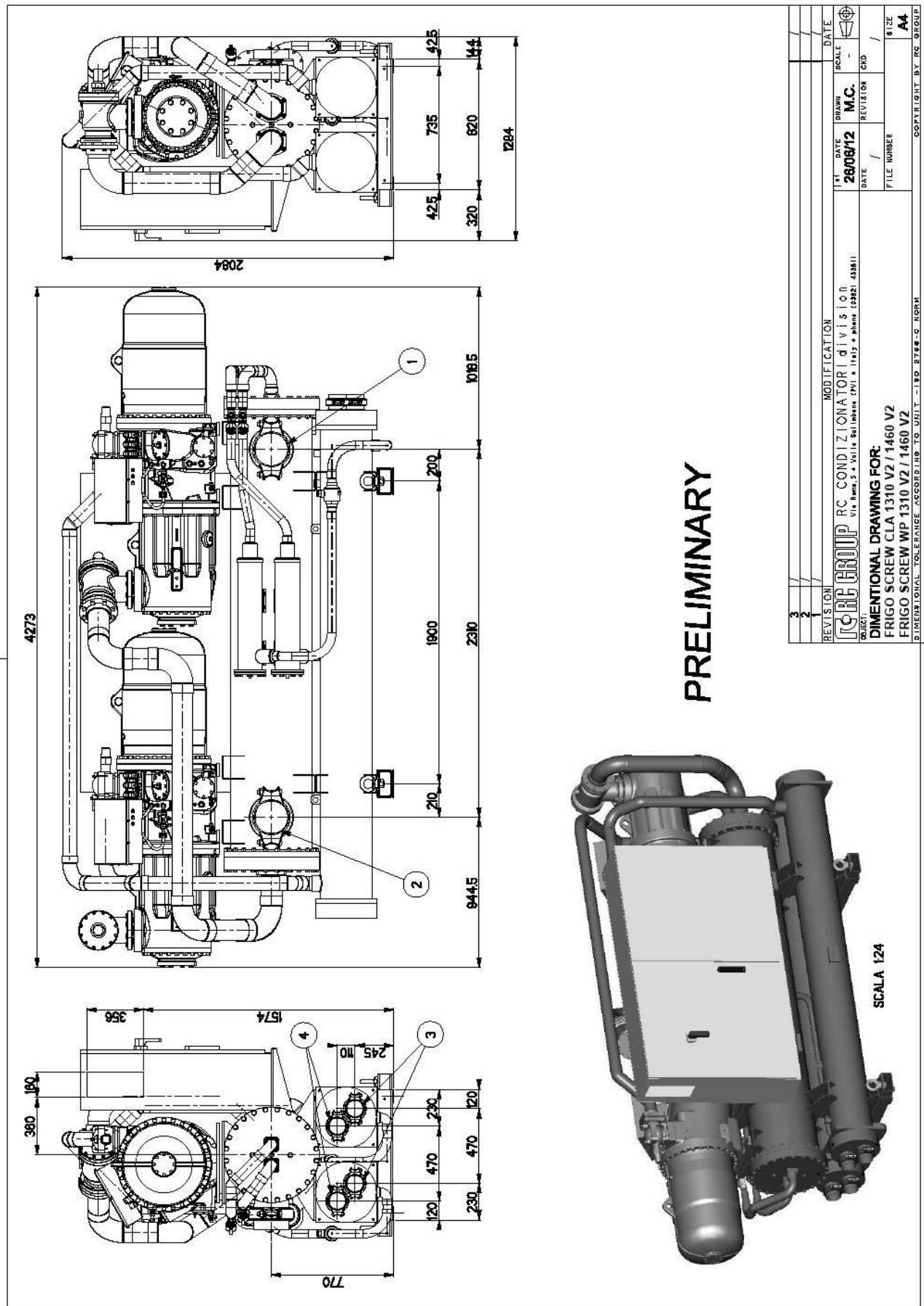
## FRIGO SCREW WP 1140 V2



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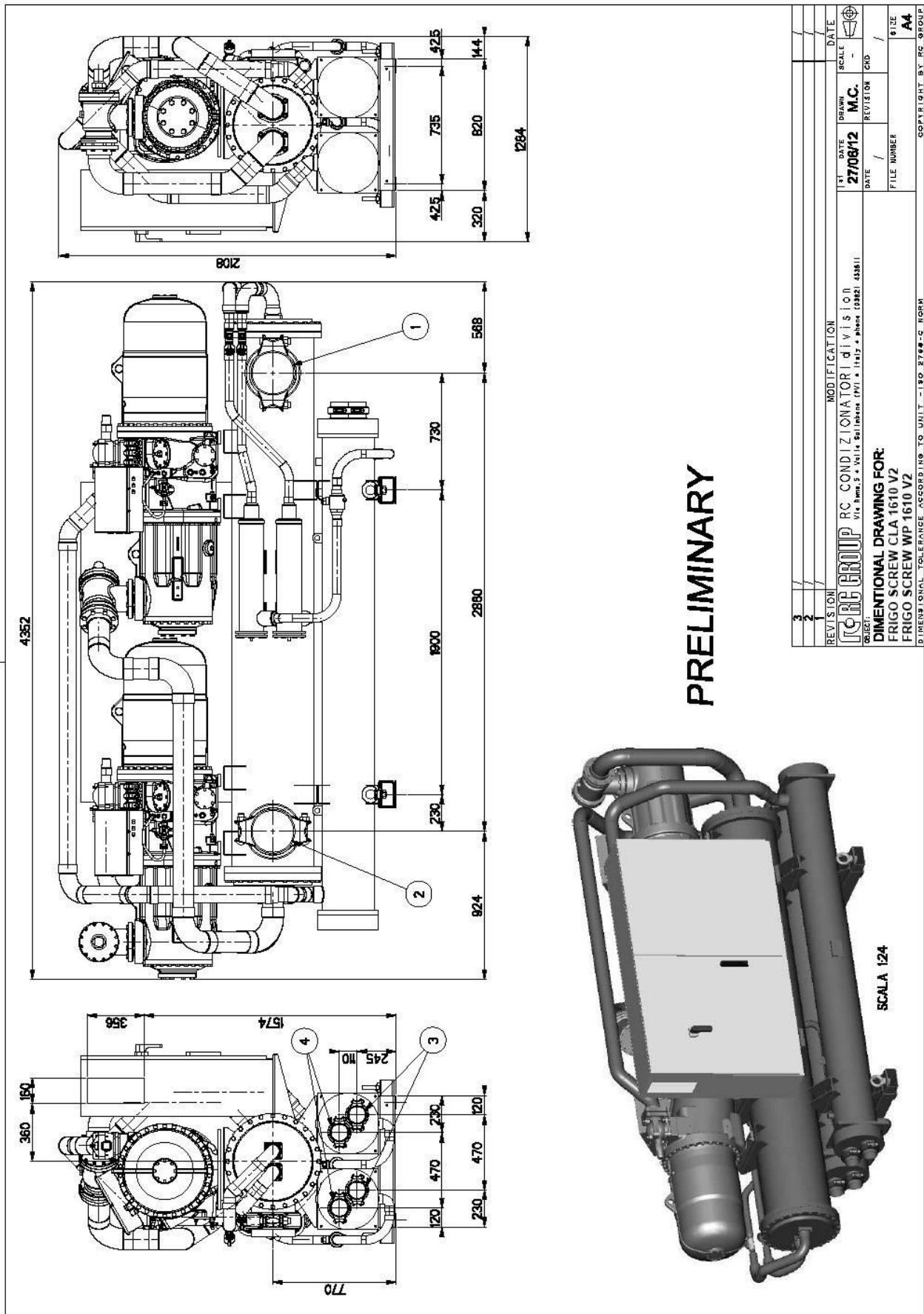
UNIT DRAWINGS  
Dimensions in mm

FRIGO SCREW WP 1310 V2 / 1460 V2



**UNIT DRAWINGS**  
Dimensions in mm

**FRIGO SCREW WP 1610 V2**



The continuous improvement of products may imply changes in the data shown in this catalogue.



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