

PRECISION CABINET



- Wide range of single unit water chillers
- Compact and attractive design
- EC motor saves energy
- Auto-adaptive control
- Easy installation

50CO

Cooling capacity: 40 to 127 kW
Air flow: 10,000 to 27,000 m³/h

Close control unit specifically adapted to meet the needs of rooms with a high heat load or sensitive locations (data centres, computer rooms, autocom rooms, etc.).

The choice of technology used (self-adjusting control which adapts to the room loads, electronically commutated EC motor) can reduce the energy consumption.

Thanks to its skilful design, the **50CO** integrates seamlessly into its intended location.

RANGE

50CO W Chilled water model

Cooling capacity range: 40 to 127 kW

Rated air flow range: 10,000 to 27,000 m³/h

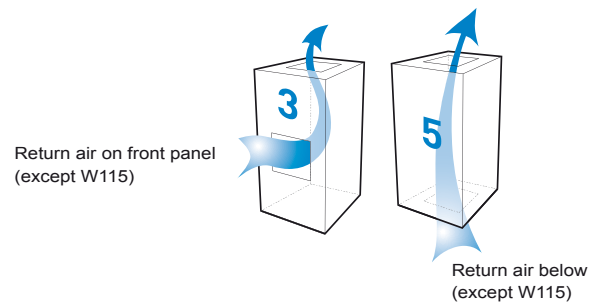
5 sizes available

ASSEMBLY

Fitting UNDER



Fitting OVER



QUICK SELECTION

Cold water coil

Sizes	W40		W53		W78		W100		W115	
	Rated ⁽¹⁾	Maximum ⁽²⁾	Rated ⁽¹⁾	Maximum ⁽²⁾	Rated ⁽¹⁾	Maximum ⁽²⁾	Rated ⁽¹⁾	Maximum ⁽²⁾	Rated ⁽¹⁾	Maximum ⁽²⁾
Air flow rate (m³/h)	10 000	13 300	13 300	13 300	18 800	20 500	24 500	27 000	27 000	27 500
Maximum operating pressure with G4 filter (Pa)	400	171	229	229	400	400	343	157	400	400
Maximum operating pressure with F7 filter (Pa)	400	60	140	140	400	400	261	68	400	385
Sensible cooling capacity (kW)	40	45	55	53	78	78	100	100	127	130
Nominal capacity (kW) *	3,7		3,7		7,1		7,1		9,6	
Rated current (A) *	6,4		6,4		11,8		11,8		15,7	

(1) Conditions: Return air 24°C 45% (RH) - Water temperature: 7/12°C

(2) Conditions: Return air 26°C 40% (RH) - Water temperature: 10/15°C

* Excluding electrical heater and humidifier option

Hot Water Coil (option)

Sizes	W40		W53		W78		W100		W115	
	Rated	Maximum	Rated	Maximum	Rated	Maximum	Rated	Maximum	Rated	Maximum
Air flow rate (m³/h)	10 000	13 300	13 300	13 300	18 800	20 500	24 500	27 000	27 000	27 500
Heating capacity (kW)⁽¹⁾	36	40	44	44	63	66	71	73		
Heating capacity (kW)⁽²⁾	18	21	23	23	33	34	37	38		

(1) 17°C - 80/60°C

(2) 17°C - 45/40°C

Electric heater (option)

Sizes	W40	W53	W78	W100	W115	
Power (kW)	12	18	24	33,6	32,4	43,2
Total current (A)	17,3	26	34,7	48,6	46,77	62,35

QUICK SELECTION

Humidifier (Option)

Sizes	W40 to W115
Steam flow rate (kg/h)	8
Electrical power (kW)	6
Current (A)	8,7

DESCRIPTION

■ **Casing**

Dual-wall construction (with MO / A1 fire rating).
RAL 7035 and 7024 grey precoated removable panel.

- 0.8mm painted precoated exterior panel.
- Mineral wool, 25 mm thick.
- 0.8 mm galvanised interior panel.

■ **Filtration**

G4 or F7 filter cells.
Filter cells kept compressed against the counter frame with the gasket directly on the filter cells.
Filter fouling value monitored by analogue sensor and displayed by the controller.

■ **Cooling coil cross-section**

Copper tubes, aluminium fins.
Stainless or aluminium condensate drain pan.
Stainless coil flanges (option).
2-way or 3-way control valve fitted and connected.

■ **Ventilation section**

Centrifugal plug fan, associated with an electronically commutated (EC motor).
EC motor: fan adaptation via manual adjustment or "self-regulating" adjustment by the controller, depending on the room load - system air control.
The fan also has a ModBus card which allows faults and settings such as the actual power input, current, rotation speed, etc. to be transmitted.

■ **Electrical box**

Power, command and control electrics box consisting of:

- 3-phase 400 V power supply + Earth.
- Main disconnect switch.
- Three-phase 400 V 50 Hz transformer with protection.
- Protection and control of all electrical components by a circuit breaker and contact switch.
- Automatic CARRIER CCU Controller.
- Return air dry-bulb temperature control.
- Return humidity control, in supply or dehumidification mode.
- Water leak detection as standard.
- Remote control and fault summary contact.

■ **Accessories (option)**

Free cooling box.
Support subbase for supply air via raised floor.
Cased subbase with grille or damper.
Supply plenum.
Motorised damper on intake section.
Fire thermostat.
Supply air low limit sensor.
LON gateway.
Raised floor pressure management.
Changeover thermostat.

OPTIONS

■ **Electric heater**

Fan-controlled operation.
Control by 2-stage operation or by progressive action (TRIAC).
High-limit safety thermostat with automatic and manual reset.

■ **Hot water coil**

1-row coil made of copper tubes with aluminium fins.
2- or 4-way progressive action valve fitted, and connected.

■ **Humidifier**

Humidifier with immersed electrodes and an electronic board to transmit all information relating to the humidifier directly to the CARRIER CCU Controller.

- Stainless steel large surface area electrodes.
- Flow rate of 8 kg/h, depending on the model.
- Steam cylinder in a single easy to remove component.
- Drain pump and filling solenoid valve.
- Electronics board for operation management.
- Diffusion duct.

Operates using municipal water supply only (water conductivity of between 350 and 1250 µS inclusive and hardness between 15 and 30°F). Do not use deionised or softened water.

CONTROL

Unit control and monitoring:

CARRIER CCU Controller

- 160-character display showing the operating instructions, operating statuses, faults and solutions. Configurable controller.
- Two fault levels.
- Monitoring of operating times.
- RS 485 output with Jbus/ModBus protocol.
- Master/slave type management possible.
- Optional LON gateway
- Optional management of pressure in raised floor
- Optional changeover thermostat
- Bus management between the centrifugal plug fan and the controller.
- Transmits fan faults and settings such as the actual power input, current, rotation speed, etc. to the controller.



ELECTRICAL CHARACTERISTICS

Sizes		W40	W53	W78	W100	W115	
Fan motor assembly	Voltage (V)	400					
	Power (kW)	3,4		6,8		9,3	
	Current (A)	5,4		10,8		14,7	
Control circuit (400V/24V transformer)	Voltage (V)	24					
	Current (A)	1					
Humidifier (option)	Voltage (V)	400					
	Power (kW)	6					
	Current (A)	8,7					
Electric heater (option)	Voltage (V)	400					
	Power (kW)	12	18	24	33,6	32,4	43,2
	Current (A)	17,4	26	34,6	48,4	46,8	62,3
Total current without option	Current (A)	6,4		11,8		15,7	
	Rating of main switch (A)	16		32		32	
Total current with humidifier	Current (A)	15,1		20,5		24,4	
	Rating of main switch (A)	25		40		32	
Total current with electric heater	Current (A)	23,8	32,4	46,4	60,2	62,5	78
	Rating of main switch (A)	40		63	80		
Total current all options	Current (A)	32,5	41,1	55,1	68,9	71,2	86,7
	Rating of main switch (A)	40	63		80		125

CONNECTIONS

Cold water coil

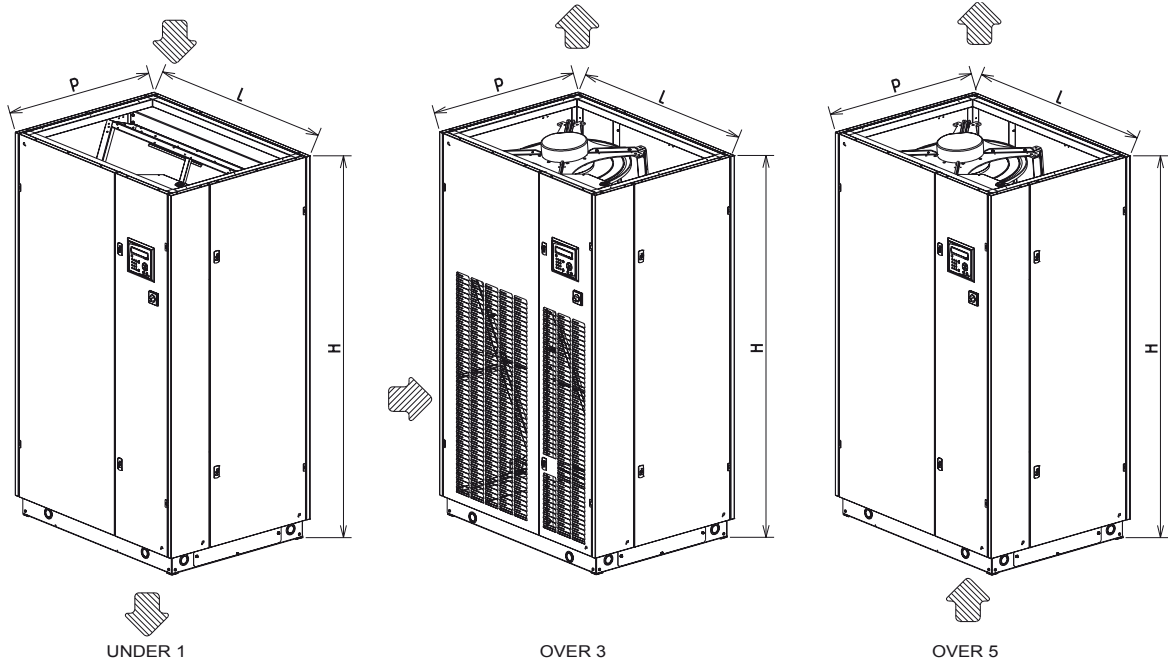
Sizes	W40	W53	W78	W100	W115
Inlet	G1"1/4 (M)	G1"1/4 (M)	G1"1/2 (M)	G1"1/2 (M)	G2" (M)
Outlet	G1"1/4 (F)	G1"1/4 (F)	G1"1/2 (F)	G1"1/2 (F)	G2" (F)

Hot water coil

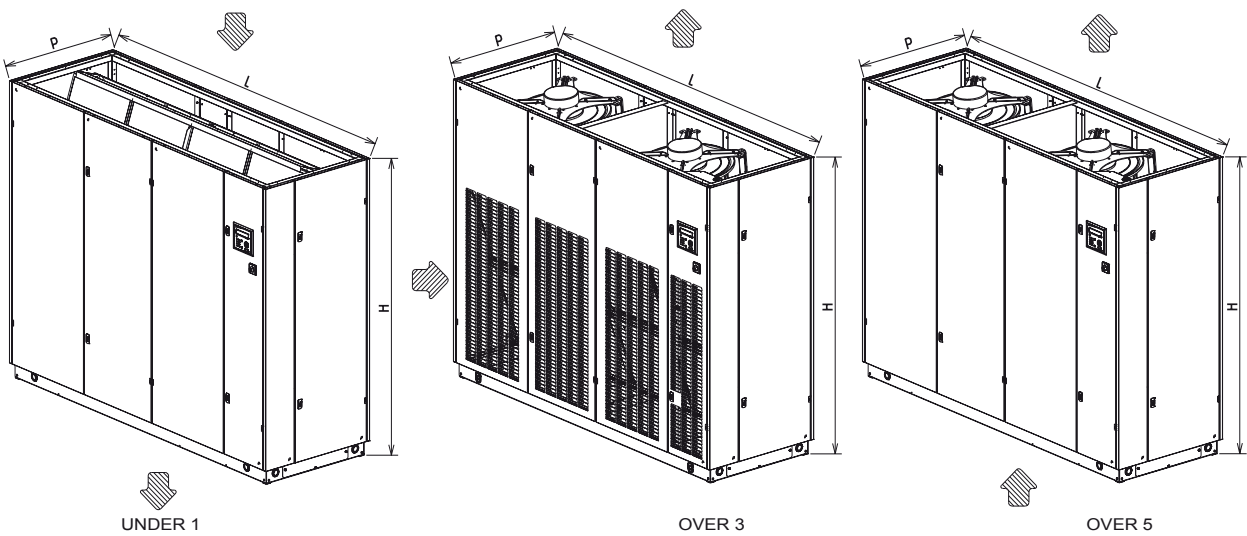
Sizes	W40	W53	W78	W100	W115
Inlet	G3/4" (M)	G3/4" (M)	G3/4" (M)	G3/4" (M)	G3/4" (M)
Outlet	G3/4" (M)	G3/4" (M)	G3/4" (M)	G3/4" (M)	G3/4" (M)

DIMENSIONS

W40 - W53



W78 - W100



W115



Sizes	Dimensions (mm)			Weight (kg)
	H	L	D	
W40	1990	1190	890	350
W53		1520		385
W78		2070		545
W100		2620		635
W115		3000		730

OPERATING LIMITS

Water circuit	Maximum pressure: PN16	Minimum water inlet temperature: 5 °C (Consult us for other values)
		Maximum water inlet temperature: 80 °C (Consult us for other values)
Indoor temperature		Minimum air inlet temperature: 12 °C, and according to return humidity
		Maximum air inlet temperature: 45 °C and according to return humidity (Weight in water, condensed <0.8 g of water/Kg of dry air)
Power supply		3PH/400V + earth



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The manufacturer reserves the right to make any changes, without notice.



Quality and Environment
Management Systems
Approval

Manufactured for Carrier in France.
Printed in the European Union.