



Non contractual photo

30RQSY045B Ducted Air to Water Heat Pump

Seasonal Energy Efficiency

SEER 12/7°C Comfort low temp:.....	3.65	kWh/kWh
SEER 23/18°C Comfort medium temp: ..	3.94	kWh/kWh
SEPR 12/7°C Process high temp:.....	5.41	kWh/kWh
ESEER:	3.84	kW/kW
SCOP (Low 30°C/35°C)*:	3.29	kWh/kWh
Energy Class:.....	A+	

All data related to seasonal efficiency are given for standard units



* ECODSIGN Compliance value as per (EU) N° 813/2013

Cooling Mode

Performance Information

Cooling Capacity:	41.7	kW
Cooling Efficiency (EER):	2.59	kW/kW
Unit Power Input:.....	16.1	kW

Evaporator Information

Fluid Type:.....	Fresh Water
Fouling Factor:	0.0000 (sqm-K)/kW
Leaving Temperature:	6.0 °C
Entering Temperature:.....	12.0 °C

Evaporator Hydraulic Module Information

Type of Control:.....	Constant pressure
Terminals Water Valves:	2-way valves
Ratio of Resistance in Terminals/Total: ..	0.90
External Static Pressure:.....	172.7 kPa
Pump Power Input:.....	1.28 kW
Fluid Flow:.....	1.68 l/s

Condenser Information

Altitude:	0 m
Number of Fans:.....	1
Entering Air Temperature:	35.0 °C

Heating Mode

Performance Information

Heating Capacity:	44.9	kW
Heating Capacity (Instantaneous)*:.....	44.9	kW
Heating Efficiency (COPH):.....	2.40	kW/kW
Heating Efficiency (COPH) (Instantaneous)*:	2.40	kW/kW
Unit Power Input:.....	18.7	kW

Evaporator Information

Altitude:	0 m
Number of Fans:.....	1
Entering Air Temperature (dry bulb):.....	7.0 °C
Entering Air Temperature (wet bulb):.....	6.0 °C
Relative Humidity:	87.0 %

Condenser Information

Fluid Type:.....	Fresh Water
Fouling Factor:	0.0000 (sqm-K)/kW
Leaving Temperature:	55.0 °C
Entering Temperature:.....	45.0 °C

Condenser Hydraulic Module Information

Type of Control:.....	Constant pressure
Terminals Water Valves:	2-way valves
Ratio of Resistance in Terminals/Total: ..	0.90
External Static Pressure:.....	194.1 kPa
Pump Power Input:.....	1.15 kW
Fluid Flow:.....	1.07 l/s

Air Flow Data

External Static Pressure at 20°C:.....	160. Pa
Total Condenser Air Flow at 20°C:	3694 l/s

Acoustic Information (cooling mode)

Sound Power Level at Discharge (LwA):..	84 dB(A)
Sound Power Level Radiated (LwA):.....	84 dB(A)
Sound Press. Lvl Rad. at 10.0m (LpA):....	53 dB(A)

Unit Information

Manufacturing Source:	Montluel, France
Refrigerant:.....	R-410A
Capacity Control Steps:.....	2
Minimum Capacity:.....	50 %
Number of Refrigerant Circuit:.....	1
Operating/Shipping Weight:.....	544/546 kg
Unit Dimensions (LxWxH):	2100/1140/1380 mm

Electrical Information

Unit Voltage:.....	400(+/-10%)-3-50	V-Ph-Hz
Standby Power:.....	0.09	kW
Power Factor:.....	0.82	

Amps (Un)	Electrical Circuit 1	Electrical Circuit 2
Maximum Current In (A):	52	None
Start Up Current (A)	98	None
Current at Eurovent Conditions (A)	36	None

Outlet Air duct systems for sizes Unit 39 and above				
Air duct Conditions		Size 045		
Air duct pressure drop (Pa)	Fan velocity (rpm)	Gross Power Input Variation	Cooling cap variation	EER variation
0 (Unducted)	720.0	1.021	1.000	0.979
50	800.0	1.015	1.000	0.986
100	880.0	1.008	1.000	0.992
130	928.0	1.004	1.000	0.996
160	976.0	1.000	1.000	1.000
200	1039.0	1.012	0.998	0.986
240	1102.0	1.023	0.996	0.973

Outlet Air duct systems for sizes Unit 39 and above				
Air duct Conditions		Size 045		
Air duct pressure drop (Pa)	Fan velocity (rpm)	Gross Power Input Variation	Heating cap variation	COP variation
0 (Unducted)	720.0	0.993	1.000	1.007
50	800.0	0.995	1.000	1.005
100	880.0	0.998	1.000	1.002
130	928.0	0.999	1.000	1.001
160	976.0	1.000	1.000	1.000
200	1039.0	1.000	0.994	0.994
240	1102.0	1.010	0.981	0.971

Accessories and Installed Options

- Opt. 25 Compressor Soft Starter
- Opt. 70 Main disconnect switch without fuse
- Opt. 149 Bacnet over-IP
- Opt. 3A Pretreated Aluminum Fins
- Opt. 116V Variable Speed Single Pump HP without expansion vessel
- Opt. 264 Water Exchanger Screwed Connection
- Opt. 293 Expansion Tank
- Opt. 42 Water Exchanger frost protection

* These performances do not consider the impact of defrost cycles. They are not compliant with EN-14511-3:2013 and are not certified by Eurovent.

All performances are compliant with EN14511 – 3 : 2013. Sound power level according to ISO9614 – 1.



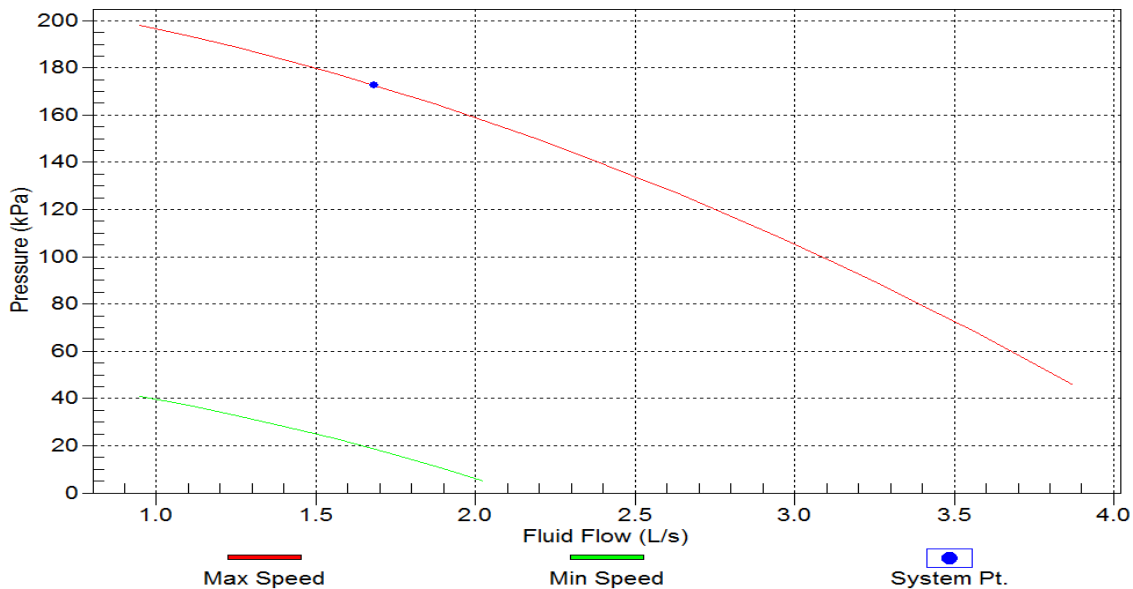
CARRIER participates in the ECP program for Liquid Chilling Packages and Hydronic Heat Pumps. Check ongoing validity of certificate: www.eurovent-certification.com.

Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

Evaporator Hydraulic Module Information

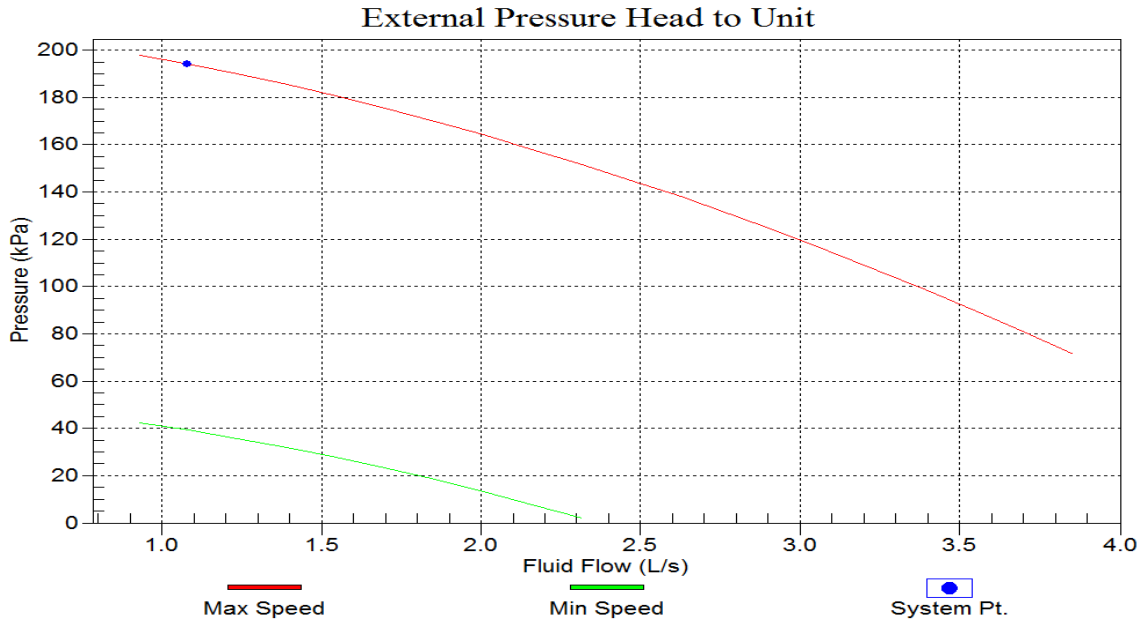
- External Static Pressure:..... **173** kPa
- Pump Power Input:..... **1.275** kW
- Fluid Flow:..... **1.679** l/s

External Pressure Head to Unit



Condenser Hydraulic Module Information

External Static Pressure:..... **194** kPa
 Pump Power Input:..... **1.152** kW
 Fluid Flow:..... **1.069** l/s



Seasonal Coefficient Of Performance

Tdesign:..... **-10** °C
 Tbivalent:..... **-7** °C
 TOL: **-10** °C
 Temperature Application: **LT**
 Climate Reference:..... **Average**
 Capacity Control:..... **Variable**
 Indoor Outlet Temperature:..... **Variable**
 Indoor Water Flow Rate:..... **Fixed**
 Indoor Fluid Type: **FW**
 Indoor Fluid Concentration: **0** %

Seasonal Space Heating Energy Efficiency, %	129
Pdesignh, kW	32
SCOP, kWh/kWh	3.29

SCOPnet, kWh/kWh *	3.31
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Conditions	A	B	C	D	E	F
External Air Temperature, °C	-7.0	2.0	7.0	12.0	-10.0	-7.0
Part Load Ratio, %	88	54	35	15	100	88
Heat Demand, kW	28	17	11	5	32	28
Unit Performance						
Heating Capacity, kW	28	20	25	29	29	28

Seasonal Energy Efficiency Ratio

Tdesign:..... 35 °C
 Temperature Application: **Fan Coil**
 Climate Reference:..... **Average**
 Capacity Control:..... **Variable**
 Indoor Outlet Temperature:..... **Variable**
 Indoor Water Flow Rate:..... **Fixed**
 Indoor Fluid Type: **FW**
 Indoor Fluid Concentration:..... 0 %

Seasonal Space Cooling Energy Efficiency, %	143
Pdesignc, kW	43
SEER, kWh/kWh	3.65

Conditions	A	B	C	D
External Air Temperature, °C	35.0	30.0	25.0	20.0
Part Load Ratio, %	100	74	47	21
Cool Demand, kW	43	32	20	9
Unit Performance				
Cooling Capacity, kW	43	32	27	29

Seasonal Energy Efficiency Ratio

Tdesign:..... 35 °C
 Temperature Application: **Cooling Floor**
 Climate Reference:..... **Average**
 Capacity Control:..... **Variable**
 Indoor Outlet Temperature:..... **Fixed**
 Indoor Water Flow Rate:..... **Fixed**
 Indoor Fluid Type: **FW**
 Indoor Fluid Concentration:..... 0 %

Seasonal Space Cooling Energy Efficiency, %	155
Pdesignh, kW	54
SEER, kWh/kWh	3.94

Conditions	A	B	C	D
External Air Temperature, °C	35.0	30.0	25.0	20.0
Part Load Ratio, %	100	74	47	21
Cool Demand, kW	54	40	26	11
Unit Performance				
Cooling Capacity, kW	54	40	30	32

Values given are interpolated and are not directly measurable under laboratory conditions.

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All performances are compliant with EN14511 – 3 : 2013. Sound power level according to ISO9614 – 1.



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Outside the scope of AHRI Air-Cooled Water-Chilling Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI)



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61WG-045A Water to Water Scroll Heat Machine

Seasonal Energy Efficiency

SCOP (Low 30°C/35°C): **5.19** kWh/kWh

SCOP (Medium 47°C/55°C)*: **4.35** kWh/kWh

Energy Class: **A+++**

All data related to seasonal efficiency are given for standard units



* ECODSIGN Compliance value as per (EU) N° 813/2013

Unit Information

Manufacturing Source: **Montluel, France**

Refrigerant: **R-410A**

Capacity Control Steps: **1**

Minimum Capacity: **100** %

Number of Refrigerant Circuit: **1**

Operating/Shipping Weight: **220/210** kg

Unit Dimensions (LxWxH): **1044/600/901** mm

Electrical Information

Unit Voltage: **400(+/-10%)-3-50** V-Ph-Hz

Standby Power: **0.03** kW

Power Factor: **0.84**

Amps (Un)	Electrical Circuit 1	Electrical Circuit 2
Maximum Current In (A):	31	None
Start Up Current (A)	108	None
Current at Eurovent Conditions (A)	20	None

Heating Mode

Performance Information

Heating Capacity: **61.7** kW

Heating Efficiency (COP): **3.61** kW/kWh

Cooling Capacity to Source: **44.8** kW

Unit Power Input: **17.08** kW

Evaporator Information

Fluid Type: **Fresh Water**

Fouling Factor: **0.0000** (sqm-K)/kW

Leaving Temperature: **15.0** °C

Entering Temperature: **21.0** °C

Fluid Flow: **1.79** l/s

Total Pressure Drop: **12.9** kPa

Condenser Information

Fluid Type: **Fresh Water**

Fouling Factor: **0.0000** (sqm-K)/kW

Leaving Temperature: **65.0** °C

Entering Temperature: **55.0** °C

Fluid Flow: **1.50** l/s

Total Pressure Drop: **7.8** kPa

Accessories and Installed Options

Opt. 25 Soft Starter

Opt. 273 Stackability

Opt. 70F External Switch

Opt. 86 Condenser Insulation

Opt. 149 Bacnet over IP

Opt. 58 Master/Slave operation

Opt. 257 Low Noise

Opt. 265 Cond screwed Connections

Opt. 264 Evap screwed Connections

Opt. 153 Built-in DHW and space heating control

Acoustic Information (cooling mode)

Sound Power Level (LwA): **68** dB(A)

Sound Pressure Level at 1.0m (LpA): **54** dB(A)

All performances are compliant with EN14511 – 3 : 2013. Sound power level according to ISO9614 – 1.



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Outside the scope of AHRI Water-Cooled Water-Chilling and Heat Pump Water-Heating Packages Certification Program, but is rated in accordance with AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI).

Seasonal Coefficient Of Performance

Tdesign:.....-10 °C
 Tbivalent:.....-6 °C
 TOL:-10 °C
 Temperature Application:LT
 Climate Reference:..... **Average**
 Capacity Control:..... **Variable**
 Indoor Outlet Temperature: **Variable**
 Indoor Water Flow Rate:..... **Fixed**
 Indoor Fluid Type:**FW**
 Indoor Fluid Concentration: **0** %
 Outdoor Heat Exchanger:.....
 Outdoor Water Flow Rate:.....
 Outdoor Fluid Type:.....**FW**
 Outdoor Fluid Concentration: **0** %

Seasonal Space Heating Energy Efficiency, %	200
Pdesignh, kW	68
SCOP, kWh/kWh	5.19

SCOPnet, kWh/kWh *	5.28
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Conditions	A	B	C	D	E	F
External Air Temperature, °C	-7.0	2.0	7.0	12.0	-10.0	-6.0
Part Load Ratio, %	88	54	35	15	100	85
Heat Demand, kW	60	37	24	10	68	58
Unit Performance						
Heating Capacity, kW	57	58	58	59	57	58

Seasonal Coefficient Of Performance

Tdesign:.....-10 °C
 Tbivalent:.....-6 °C
 TOL:-10 °C
 Temperature Application: **MT**
 Climate Reference:..... **Average**
 Capacity Control:..... **Variable**
 Indoor Outlet Temperature: **Variable**
 Indoor Water Flow Rate:..... **Fixed**
 Indoor Fluid Type: **FW**
 Indoor Fluid Concentration: **0** %
 Outdoor Heat Exchanger:.....
 Outdoor Water Flow Rate:.....
 Outdoor Fluid Type:..... **FW**
 Outdoor Fluid Concentration: **0** %

Seasonal Space Heating Energy Efficiency, %	166
Pdesignh, kW	63
SCOP, kWh/kWh	4.35

SCOPnet, kWh/kWh *	4.41
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Conditions	A	B	C	D	E	F
External Air Temperature, °C	-7.0	2.0	7.0	12.0	-10.0	-6.0
Part Load Ratio, %	88	54	35	15	100	85
Heat Demand, kW	56	34	22	10	63	53
Unit Performance						
Heating Capacity, kW	53	54	55	56	52	53

Values given are interpolated and are not directly measurable under laboratory conditions.

All performances are compliant with EN14511 – 3 : 2013. Sound power level according to ISO9614 – 1.



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30WG-045A Water to Water Scroll Chiller

Seasonal Energy Efficiency

SEER 12/7°C Comfort low temp:.....	4.88	kWh/kWh
SEER 23/18°C Comfort medium temp:	5.57	kWh/kWh
SEPR 12/7°C Process high temp:.....	6.31	kWh/kWh
ESEER:	5.08	kW/kW
SCOP (Low 30°C/35°C):	5.38	kWh/kWh
SCOP (Medium 47°C/55°C)*:.....	4.34	kWh/kWh
Energy Class:	A+++	

All data related to seasonal efficiency are given for standard units



* ECODSIGN Compliance value as per (EU) N° 813/2013

Unit Information

Manufacturing Source:	Montluel, France
Refrigerant:.....	R-410A
Capacity Control Steps:.....	1
Minimum Capacity:.....	100 %
Number of Refrigerant Circuit:.....	1
Operating/Shipping Weight:.....	220/210 kg
Unit Dimensions (LxWxH):	1044/600/901 mm

Electrical Information

Unit Voltage:.....	400(+/-10%)-3-50	V-Ph-Hz
Standby Power:.....	0.03	kW
Power Factor:	0.84	

Cooling Mode

Performance Information

Cooling Capacity:	40.4	kW
Cooling Efficiency (EER):	3.38	kW/kW
Seasonal Efficiency (ESEER):.....	5.07	kW/kW
Heat Capacity To Reject:.....	52.3	kW
Unit Power Input:.....	11.97	kW

Evaporator Information

Fluid Type:.....	Fresh Water
Fouling Factor:	0.0000 (sqm-K)/kW
Leaving Temperature:	6.0 °C
Entering Temperature:.....	12.0 °C
Fluid Flow:	1.61 l/s
Total Pressure Drop:	11.6 kPa

Condenser Information

Fluid Type:.....	Fresh Water
Fouling Factor:	0.0000 (sqm-K)/kW
Leaving Temperature:	45.0 °C
Entering Temperature:.....	40.0 °C
Fluid Flow:	2.51 l/s
Total Pressure Drop:	21.9 kPa

Amps (Un)	Electrical Circuit 1	Electrical Circuit 2
Maximum Current In (A):	29	None
Start Up Current (A)	108	None
Current at Eurovent Conditions (A)	20	None

Accessories and Installed Options

- Opt. 25 Soft Starter
- Opt. 273 Stackability
- Opt. 70F External Switch
- Opt. 149 Bacnet over IP Gat
- Opt. 257 Low Noise
- Opt. 154 Cooling basic control
- Opt. 256 Suction Line Insulation

Acoustic Information (cooling mode)

Sound Power Level (LwA):.....	68	dB(A)
Sound Pressure Level at 1.0m (LpA):.....	54	dB(A)

All performances are compliant with EN14511 – 3 : 2013. Sound power level according to ISO9614 – 1.



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European Seasonal Energy Efficiency Ratio

ESEER: **5.08** kW/kW

Unit Performance		(1)	(1)	(1)
Percent Full Load Cooling Capacity, %	100	75	50	25
Percent of Full Load Power, %	100.0	69	45	25
Cooling Capacity, kW	46.6	35.0	23.3	11.7
Unit Power Input, kW	9.9	6.8	4.4	2.5
Efficiency, kW/kW	4.72	5.11	5.28	4.71
Evaporator Data				
Fluid Entering Temperature, °C	12.0	12.2	12.4	12.6
Fluid Leaving Temperature, °C	7.0	7.0	7.0	7.0
Fluid Flow Rate, l/s	2.23	2.23	2.23	2.23
Fouling Factor, (sqm-K)/kW	0.000	0.000	0.000	0.000
Condenser Data				
Fluid Entering Temperature, °C	30.0	26.0	22.0	18.0
Fluid Leaving Temperature, °C	35.0	29.7	24.4	19.2
Fluid Flow Rate, l/s	2.70	2.70	2.70	2.70
Fouling Factor, (sqm-K)/kW	0.000	0.000	0.000	0.000

Values given are interpolated and are not directly measurable under laboratory conditions.

(1) Compressor cycling is expected. Stated performances are average.

Values given are interpolated and are not directly measurable under laboratory conditions.

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