MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

COMFORT

ROOFTOP UNITS

WSM2

**AIR COOLED ROOFTOP UNITS,
COOLING CAPACITY FROM 15,8 TO 182 kW,
AIRFLOW FROM 2500 TO 30500 m³/h**

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

ErP COMPLIANT 2021

climaveneta.com

CLIMAVENETA®

WSM2

HIGHEST QUALITY IN EACH SINGLE DETAIL

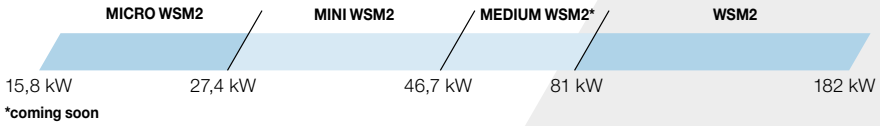
REVERSIBLE AND COOLING ONLY AIR COOLED ROOFTOP UNIT. COOLING POWER FROM 15,8 TO 182 kW.

WSM2 is an autonomous rooftop unit dedicated to the air handling and air renewal in comfort applications and public spaces. Thanks to two different layouts and a cooling range from 15,8 to 182 kW, the new range meets the requirements of both small volume spaces and big buildings.

The Micro and Mini WSM2 ranges from 15,8 and 46,7 kW are equipped with a single cooling circuit, scroll compressors optimized for the R410A refrigerant, and EC plug fans.

Bigger WSM2 (81-182 kW) features double cooling circuit and is dedicated to larger volume areas.

All the versions are characterized by a high flexibility in choosing the airflow direction and different functions to best fit plant requests. Perfect insulation is possible thanks to sandwich structure, and high seasonal efficiency is achieved through top quality and generously sized components.



*coming soon

IDEAL APPLICATIONS:

MICRO AND MINI WSM2
small volumes applications:

- Petrol stations
- Small restaurants
- Gym rooms
- Shops

WSM2
large volume applications:

- Supermarkets
- Sport arenas
- Shopping malls
- Cinemas and theatres

VERSIONS:

WSM2: Reversible heat pump

WSM2-T: Cooling only

FUNCTIONS:

		MICRO (0052-0092)	MINI (0102-0152)	STANDARD (0264-0604)
AR	Air Recirculation (Baseline)	✓	✓	✓
MF	Air mixing and free cooling	✓	✓	✓
AX	Air mixing and axial fan extraction			✓
AX-F	Air mixing and axial fan extraction with thermodynamic heat recovery	✓	✓	
CE	Air mixing and plug fans extraction		✓	✓
HR-B	Heat recovery with Refrigerant Booster		✓	✓
HR-P	Heat recovery with cross-flow heat exchanger (High and low flow)			✓
HR-E	Heat recovery with rotary enthalpy wheel		✓	✓

MAXIMUM ENERGY EFFICIENCY IN ALL APPLICATIONS

Available in eight different configurations and four different heat recovery technologies, WSM2 has been engineered for maximum efficiency in any situation.

As standard, WSM2 features plug fans with built-in EC motor, electronic expansion valves and the latest generation axial fans.

All units are designed to meet the seasonal efficiency standards (SEER & SCOP) established by the EU 2016/2281 regulation, Second Tier (ErP 2021).

HEAT RECOVERY

ErP COMPLIANT 2021

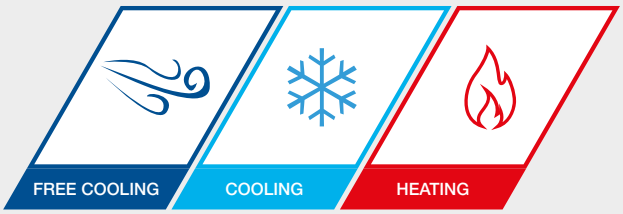
**High flexibility in the airflow direction, premium efficiency and reliability, together with a special attention to technical details.
This is the result of the new WSM2 versatile range featuring seven operational types and three different heat recovery technologies.**

HIGHLY UNIT VERSATILITY

WSM2 is a modular and configurable solution that has been wisely engineered to fit precise size requirements.

WSM2 is available in both heat pump and cooling only versions, while the base module features eight different functions. Additionally, a wide range of accessories dedicated to the air handling range allow the unit to operate optimally in any condition.

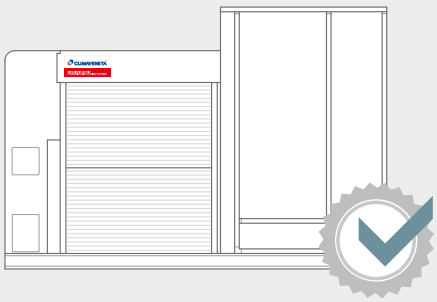
TOTAL SYSTEM RELIABILITY



WSM2 manages additional resources for heating and air handling in a completely independent way.
Thanks to its free cooling mode, the unit utilizes the favorable external conditions to condition the environment without switching on the compressors.

Units are always supplied with independent cooling circuits.

TIDY AND WELL INSULATED STRUCTURE



WSM2 features air treatment section made up of a sandwich panel with polyurethane core and rubber gaskets, fixed with special hinges that best ensure thermal insulation, increasing overall efficency of the unit.

All cables and pipes are housed in compartments different from those of the air treatment, so the structure is nice and clean.

FLEXIBLE AIR FLOW MANAGEMENT

Complete access to the unit's functions via the controller, with ability to set the various operational parameters safely - in particular the supply and return air flow rates with associated head values. This is correlated to the available choice of multiple strategies for both air flows and resources' regulation.

Compact dimensions, compared to traditional rooftops of same capacity, especially if heat recovery is featured. This gives significant savings in transporting, handling, lifting and positioning the rooftop on-site.
Easy and safe access to internal sections and devices, for fast and simple routine maintenance.

TECHNOLOGICAL CHOICES

Quality of each single detail and premium technological choices: these are the distinguishing traits of WSM2.

AIR3000TE CONTROL

The core of the WSM2 management is the evolved AIR3000TE control, specifically designed for Climaveneta rooftop units.

Besides the cooling circuit management there is the air handling control, and both of these functions allow the WSM2 unit to work in a completely autonomous way.

ELECTRONIC THERMOSTATIC VALVE

The electronic expansion valve, which comes as standard in all versions, provides great benefits with variable loads and varying external weather conditions.

Its introduction is in line with the accurate design of the cooling circuit and its efficient operation in multiple operating conditions.

EEV
ELECTRONIC EXPANSION VALVE

EASY ACCESS TO COMPONENTS

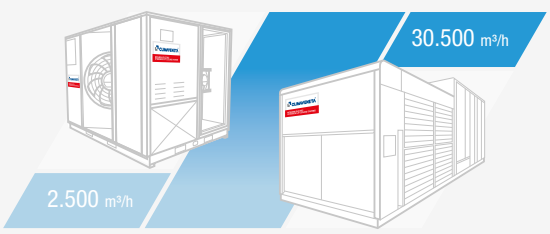
All panels are easily removable to access indoor components.

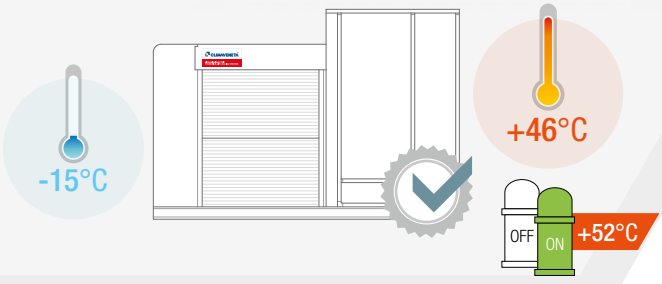
The cutting-edge hinge used on WSM2 allows any door to open from the left, from the right, or be completely removed.

OPERATING RANGE AND LIMITS

The WSM2 range consists of 16 sizes, from 15,8 to 46,7 kW and from 81,1 to 182 kW of cooling capacity and airflow rate from 2500 to 9500 m³/h and from 13500 to 30500 m³/h.

Thanks to the wide and generous dimensions of the treatment coils, together with the smart design of the cooling circuit, WSM2 units also boast an extended outdoor temperature operating range: from -15°C when the unit is working in heat pump operation, to +46°C in cooling mode. Moreover, thanks to HPTC function, the unit can work in partial load mode (50% capacity) up to 52°C.





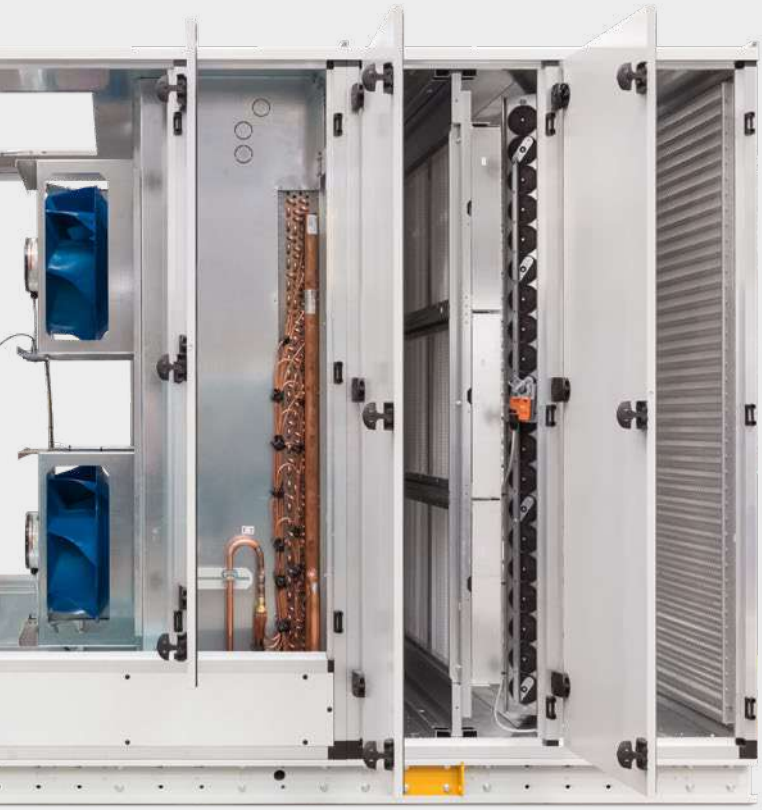
Because the excellence of a product, according to Climaveneta brand philosophy, starts with the best quality of each single technical component, in both the design and installation phases.

CASING

WSM2 strucure rests on galvanized and painted steel beams. The condensing side is constiuted with a self-supporting frame made from suitably thick hot galvanized steel section.

The air treatment section is made up of sandwich panels 25/42 mm thick with rubber gaskets and polyurethane core, fixed with special hinges that best ensure thermal insulation and air tightness.

Panels are supported by an alluminium alloy frame to increase sturdiness and lightness of the unit.



EC PLUG FANS

The WSM2 units are equipped with radial plug fans with an EC incorporated motor.

The fan speed can be regulated by keeping both the airflow or the external static pressure constant or by selecting the variable airflow through the Vair function.

VAIR VARIABLE AIR FLOW

ACCESSORIES

A wide range of accessories completes the air treatment and allows the unit to optimally manage its operation.

Steam humidifer

High efficiency filters (up to ePM01 85% - F9) or electronic in addition to the standard class isocoarse 50% (G4) filters

BMS connection

Control function for the air handling section

Air quality control with CO_2 probes

Heating coils, electrical heater, hot gas coil

Axial EC fan, to enhance efficiency. It comes as standard with Micro and Mini WSM2

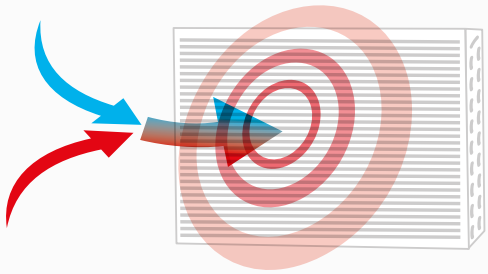
WSM2 HEAT RECOVERY TECHNOLOGIES

Four heat recovery technologies designed to precisely and reliably transfer the energy contained in the exhaust air to the refrigerant circuit, thus increasing the unit's overall efficiency.

AX-F THERMODYNAMIC HEAT RECOVERY FOR MICRO AND MINI WSM2

Thermodynamic heat transfer is achieved by deviating the exhaust air though the outdoor section of the refrigerant circuit.

This increases efficiency by allowing the unit to work at a more advantageous condensing temperature than allowed by the outside conditions.



Smart and functional design

Advantageous average temperature on the outdoor coil

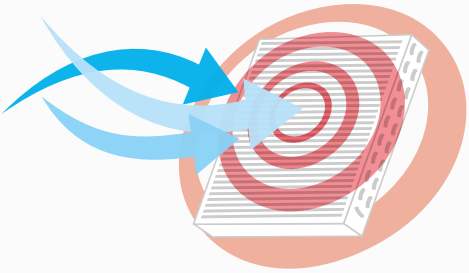
No additional pressure drops

HR-B REFRIGERANT BOOSTER

The WSM2 HR-B units are fitted with the exclusive Refrigerant Booster heat recovery system, which promptly and fully recovers heat from the exhaust air.

This recovered energy is transferred to the refrigerant circuit, which increases the capacity of the air handling coil while reducing the power absorbed by the compressor.

The recovery system, made of a finned coil installed at the air exhaust damper, takes advantage of the favourable conditions of the exhaust air, both during summer and winter operation.



Quantifiable benefits

Compact footprint of the recovery system

Ideal for Mediterranean climate

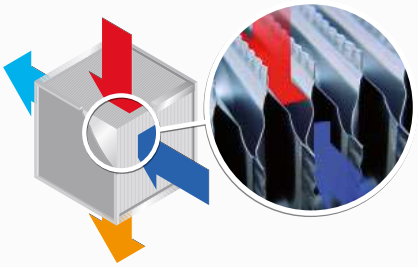
TYPES OF HEAT RECOVERY		THERMODYNAMIC	REFRIGERANT BOOSTER	PLATE	ROTARY
Cooling capacity increase	% (1)	+2%	+12%	+10%	+45%
Thermal capacity increase	% (2)	+6%	+11%	+22%	+39%

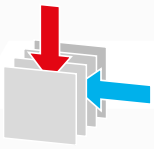
1 ▸ Average percentage values refer to WSM2/MF version (no heat recovery).
Standard conditions for cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 50% - Nominal air flow.
2 ▸ Average percentage values refer to WSM2/MF version (no heat recovery).
Standard conditions for heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 50% - Nominal air flow.

HR-P CROSS-FLOW HEAT RECOVERY

The WSM2 HR-P units feature the cross-flow heat recovery, which transfers the thermal energy contained in the exhaust air to the fresh airflow. The plate heat recovery system extends the operating limits of the unit, allowing it to work with higher flow rates of external air.

The units are equipped with by-pass dampers for free-cooling operation, to reduce system pressure drops and not-advantegeus heat exchange between fresh and exhaust air flow.





Complete airflow separation

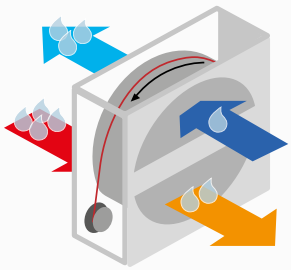
High operating reliability and safety

Quick and easy cleaning and maintenance

HR-E HEAT RECOVERY WITH ROTARY ENTHALPY WHEEL

The most efficient heat recovery technology in terms of efficiency is the rotary enthalpic recovery, which efficency can reach up to 85%.

The key component is the enthalpic wheel which is made with alternately flat and wavy sheets treated with hygroscopic coating. Due to the large exchange surface compared to its volume, it ensures the recovery of latent and sensible heat, with a significant increase in the unit overall capacity.



Summer mode

Winter mode

Latent heat recovery

Cooling capacity recovered

Quick return on the investment

WSM2 FUNCTIONS

WSM2 is available in 8 configurations to easily fit a modern HVAC design

AR Function

Unit function for the total recovery. Ideal in those applications where the air renewal and the exhaust air extraction are not managed by the rooftop unit.

This unit perfectly substitutes old products in pre-existing HVAC plants which already have a system dedicated to air renewal.

Micro WSM2 Mini WSM2 WSM2

MF Function

The MF function allows the recirculated ambient air to be mixed with some fresh outside air. Free cooling operation is managed by the controller, which automatically opens the dampers according to the indoor and outdoor temperatures, and the set point.

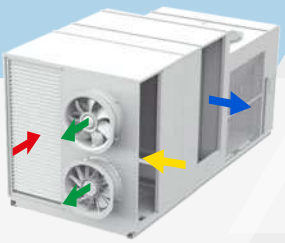
This function is ideal in refurbished buildings with low air tightening, to be coupled with already existing air extraction systems which need to be used to balance pressure inside the building.

Micro WSM2 Mini WSM2 WSM2

AX Function

Like the MF function, the AX function allows the unit to mix the recirculated ambient air with some fresh outdoor air.
The unit is equipped with one or more axial fans in order to ensure exhaust air rejection.

Thanks to these fans, AX is ideal in all commercial applications, such as gas stations where a compact and autonomous solution is required.



WSM2

AX-F Function

As the AX function, this function has one or more fans to ensure exhaust air rejection.
This particular unit can recover the energy from the exhaust air flow, thanks to the pass through the outdoor coil.
In this way, the air facing to the outdoor coil is milder than the sorrounding one, granting a better working conditions to the cooling circuit (decreasing of the condensing temperature in cooling mode and increasing the evaporating temperature in heating mode).

Micro WSM2 Mini WSM2

Return air flow Supply air flow Fresh air flow Exhaust air flow

CE Function

Unit with three dampers for unit operation in different modes: 100% recirculated air, air mixing, air extraction /expulsion.

Thanks to EC plug fan on return air flow, this unit is able to accurately control the pressure in the air-conditioned rooms.

Moreover the unit is able to work in free cooling mode up to 100%.

Mini WSM2 WSM2

NO BY-PASS

HR-B Function

Unit with three motorized dampers and Refrigerant Booster heat recovery.
The unit ensures the treatment, renovation, and air extraction in a completely autonomous way. At the same time, the HR-B function rejects excess air and ensures free cooling mode.

Thanks to the Refrigerant Booster recovery, the WSM2 HR-B unit promptly and fully recovers the thermal heat of the exhaust air, transferring this energy to the cooling circuit which increases its capacity.

Moreover the unit is able to work in free cooling mode up to 100%.

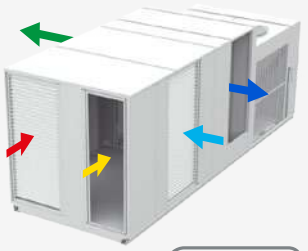
Mini WSM2 WSM2

NO BY-PASS

HR-P Low Flow and High Flow Function

The HR-P function is the ideal solution for an extreme climate with very hot, or alternatively, very cold conditions. Thanks to the cross-flow heat recovery the unit transfers the thermal energy contained in the exhaust air to the fresh air. The unit is equipped with three motorized dampers for the unit operation in total recirculated mode, 0-100% free cooling, air extraction / expulsion.

There are two PHE available: low flow, whenever a little fresh air is required, while high flow is recommended when a lot of fresh air is required.



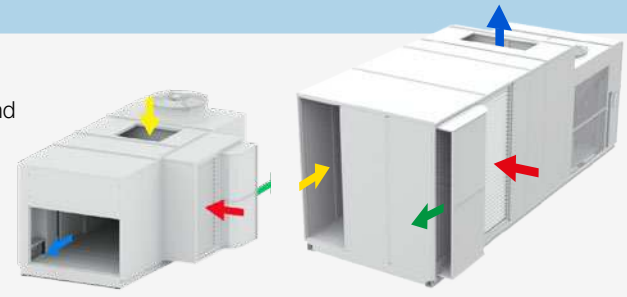
WSM2

NO BY-PASS

HR-E Function

The HR-E function employs the enthalpy heat recovery to exchange latent and sensible heat between the fresh outside air and exhaust air.
The unit is equipped with three motorized dampers for the unit operation in total recirculated mode, 0-100% free cooling, and air extraction/expulsion.

Thanks to special hoods, the contamination between the renewal and exahust air is reduced to a minimum.



Mini WSM2 WSM2

NO BY-PASS

MICRO & MINI WSM2

0052 - 0152

Air source reversible and cooling only rooftop unit (from 15,8 to 46,7 kW)

WSM2 AR/MF			0052	0062	0082	0092	0102	0122	0132	0152
Power supply		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
COOLING WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	15,8	18,0	20,9	27,4	33,2	37,3	42,9	46,7
Total sensible capacity	(1)	kW	11,8	14,2	16,9	22,0	28,6	32,5	37,3	40,8
Compressors power input	(1)	kW	4,06	4,97	5,77	7,65	8,00	10,0	11,7	12,8
EER (total)	(1)(12)	kW/kW	3,3	3,0	3,0	2,7	3,1	2,9	2,8	2,9
COOLING WSM2 (EN14511 VALUE)										
Cooling capacity	(1)(3)	kW	15,8	18,1	21,0	27,6	33,7	37,9	43,5	47,7
EER	(1)(3)	kW/kW	3,48	3,22	3,20	2,87	3,42	3,16	3,08	3,18
Cooling energy class			A	A	A	B	A	A	A	A
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	16,1	18,9	22,2	27,7	32,5	36,9	41,8	46,7
Compressors power input	(2)	kW	4,34	4,67	5,20	7,13	7,04	8,09	9,04	10,1
COP (total)	(2)(12)	kW/kW	3,3	3,3	3,5	3,0	3,3	3,3	3,4	3,5
HEATING WSM2 (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	16,1	18,9	22,1	27,6	32,0	36,3	41,1	45,7
COP	(2)(3)	kW/kW	3,42	3,55	3,71	3,10	3,48	3,50	3,58	3,72
Heating energy class			A	A	A	C	A	A	A	A
SEASONAL EFFICIENCY IN COOLING WSM2 (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	15,8	18,1	21,0	27,6	33,7	37,9	43,5	47,7
SEER	(7)(8)		4,46	4,19	4,34	4,07	4,89	4,33	4,14	4,27
Performance ηs	(7)(9)	%	175,4	164,6	170,6	159,8	192,6	170,2	162,6	167,8
SEASONAL EFFICIENCY IN HEATING WSM2 (Reg. EU 2016/2281)										
Ambient heating										
PDesign	(7)	kW	13,0	15,4	17,8	22,6	24,6	28,1	31,7	35,2
SCOP	(7)(8)		3,63	3,53	3,59	3,52	3,69	3,68	3,64	3,68
Performance ηs	(7)(10)	%	142,2	138,2	140,6	137,8	144,6	144,2	142,6	144,2
SUPPLY FANS (WSM2)										
Air flow rate		m^3/h	2500	3500	4500	5500	6300	7300	8400	9500
Nominal ESP	(4)	Pa	50	50	62	62	150	150	150	200
Total power input	(12)	kW	0,44	0,81	0,95	1,33	1,09	1,31	1,67	1,69
REFRIGERANT CIRCUIT										
No. Compressors/No. Circuits		N°	2/1	2/1	2/1	2/1	2/1	2/1	2/1	2/1
Refrigerant charge	(6)(11)	kg	2,0	3,0	4,0	5,0	8,0	8,5	9,0	9,5
NOISE LEVEL										
Sound power level in cooling mode	(5)	dB(A)	76	79	78	80	79	79	83	83
Sound Power on outlet side	(5)	dB(A)	76	84	79	84	77	81	86	82
SIZE										
Function AR										
Length A	(6)	mm	2055	2055	2055	2055	2000	2000	2000	2000
Width B	(6)	mm	1300	1300	1300	1300	1600	1600	1600	1600
Height H	(6)	mm	1640	1640	1640	1640	1837	1837	1837	1837
Operating weight	(6)(13)	kg	520	540	570	590	700	730	730	740
Function MF										
Length		mm	2430	2430	2430	2430	2380	2380	2380	2380
Width		mm	1355	1355	1355	1355	1600	1600	1600	1600
Height		mm	1640	1640	1640	1640	1837	1837	1837	1837
Operating weight	(13)	kg	550	570	600	620	760	790	790	800

Notes:

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 Values in compliance with EN14511
4 ESP for standard configuration (optional accessories not included/calculated).
5 Sound power on the basis of measurements made in compliance with ISO 9614.
6 Unit in AR configuration
7 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
8 Seasonal energy efficiency ratio
9 Seasonal space cooling energy efficiency
10 Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).
13 The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.

Certified data in EUROVENT*

* Eurovent certified data here reported refer to WSM2 reverse cyle unit. For WSM2-T data please refer to the data book or Elca World. Check ongoing validity of certificate and data update on: www.eurovent-certification.com

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

ErP 2021 COMPLIANT

R HFC R410A | HEATING | THERMOD. | ROTARY | FREE C. | COOLING | REEBOOST.

WSM2 AX-F			0052	0062	0082	0092	0102	0122	0132	0152
Power supply		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
COOLING WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	17,2	19,6	22,7	29,9	36,2	40,6	46,7	50,9
Total sensible capacity	(1)	kW	12,0	14,4	17,3	22,3	29,6	33,6	38,6	42,2
Total absorbed power	(1)	kW	4,9	6,2	7,3	10,4	10,8	13,2	15,6	16,7
EER (total)	(1)		3,50	3,20	3,10	2,90	3,35	3,08	2,99	3,05
HEATING ONLY WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	16,3	19,5	22,9	28,7	33,7	37,7	42,9	49,1
Total absorbed power	(2)	kW	5,13	5,45	6,3	9,14	9,62	10,9	12,1	13,3
COP (total)	(2)		3,20	3,60	3,60	3,10	3,50	3,46	3,55	3,69
SUPPLY FAN										
Quantity			1	1	1	1	1	1	1	1
Air flow rate		m^3/h	2500	3500	4500	5500	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
EXHAUST FAN										
Quantity			1	1	1	1	1	1	1	1
Air flow rate		m^3/h	875	1225	1575	1925	2205	2555	2940	3325
Nominal AESP	(3)	Pa	370	370	370	370	123	145	160	164
REFRIGERANT CIRCUIT										
N. compressors/ N. circuits			2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 1
Refrigerant charge	(7)	kg	2	3	4	5	8	9	9	10
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	81	82	82	84	81	83	86	87
Unit sound power level - HEATING ONLY	(4)	dB(A)	81	82	82	84	82	84	87	88
SIZE										
Length A		mm	2000	2000	2000	2000	2670	2670	2670	2670
Width B	(6)	mm	1755	1755	1755	1755	1600	1600	1600	1600
Height H		mm	1595	1595	1595	1595	1837	1837	1837	1837
Operating weight	(5)	kg	570	590	610	630	830	860	860	870

Notes:

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 35%
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 35%.
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614.
For complete sound data consult Elca World.
5 The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters.
Any additional modules are not considered.
6 The dimension does not include hoods and the thickness of the pre-filter for fresh air if present.
7 The refrigerant charge is the result of a theoretical calculation and could be different from the actual amount of refrigerant which is charged in the unit and on the label"

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

MICRO & MINI WSM2

0052 - 0152

Air source reversible and cooling only rooftop unit (from 15,8 to 46,7 kW)

WSM2 CE			0102	0122	0132	0152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)						
Total cooling capacity	(1)	kW	35,6	39,8	45,8	49,7
Total sensible capacity	(1)	kW	29,4	33,3	38,2	41,7
Total absorbed power	(1)	kW	10,6	13,0	15,3	16,4
EER (total)	(1)		3,36	3,06	2,99	3,03
HEATING ONLY WSM2 (GROSS VALUE)						
Total heating capacity	(2)	kW	32,9	36,8	41,7	47,3
Total absorbed power	(2)	kW	9,36	10,5	11,7	12,7
COP (total)	(2)		3,51	3,50	3,56	3,72
SUPPLY FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
RETURN FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
COMPRESSORS						
N. compressors/ N. circuits			2 / 1	2 / 1	2 / 1	2 / 1
Refrigerant charge	(7)	kg	8	9	9	10
NOISE LEVEL						
Unit sound power level - COOLING ONLY	(4)	dB(A)	80	81	85	85
Unit sound power level - HEATING ONLY	(4)	dB(A)	79	79	83	83
SIZE						
Length A		mm	2960	2960	2960	2960
Width B	(6)	mm	1600	1600	1600	1600
Height H		mm	2396	2396	2396	2396
Operating weight	(5)	kg	1040	1070	1070	1090

Function HR-B			0102	0122	0132	0152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)						
Total cooling capacity	(1)	kW	35,6	39,8	45,8	49,7
Total sensible capacity	(1)	kW	29,4	33,3	38,2	41,7
Total absorbed power	(1)	kW	10,6	13,0	15,3	16,4
EER (total)	(1)		3,36	3,06	2,99	3,03
HEATING ONLY WSM2 (GROSS VALUE)						
Total heating capacity	(2)	kW	32,9	36,8	41,7	47,3
Total absorbed power	(2)	kW	9,36	10,5	11,7	12,7
COP (total)	(2)		3,51	3,50	3,56	3,72
SUPPLY FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
RETURN FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
COMPRESSORS						
N. compressors/ N. circuits			2 / 1	2 / 1	2 / 1	2 / 1
Refrigerant charge	(7)	kg	8	9	9	10
NOISE LEVEL						
Unit sound power level - COOLING ONLY	(4)	dB(A)	80	81	85	85
Unit sound power level - HEATING ONLY	(4)	dB(A)	79	79	83	83
SIZE						
Length A		mm	2960	2960	2960	2960
Width B	(6)	mm	1600	1600	1600	1600
Height H		mm	2396	2396	2396	2396
Operating weight	(5)	kg	1040	1070	1070	1090

Notes:

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614. For complete sound data consult Elca World.
5 The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.
6 The dimension does not include hoods and the thickness of the pre-filter for fresh air if present.
7 The refrigerant charge is the result of a theoretical calculation and could be different from the actual amount of refrigerant which is charged in the unit and on the label"

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

ErP 2021 COMPLIANT

R HFC R410A | HEATING | THERMOD. | ROTARY | FREE C. | COOLING | REEBOOST.

Function HR-E			0102	0122	0132	0152
Power supply		V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)						
Total cooling capacity	(1)	kW	44,9	50,5	57,7	63
Total sensible capacity	(1)	kW	32,4	36,9	42,2	46,3
Total absorbed power	(1)	kW	11,6	14,1	16,7	17,6
EER (total)	(1)		3,87	3,58	3,46	3,58
HEATING ONLY WSM2 (GROSS VALUE)						
Total heating capacity	(2)	kW	40,6	46	52,2	58,4
Total absorbed power	(2)	kW	10,8	12,2	13,8	14,5
COP	(2)		3,77	3,76	3,79	4,02
SUPPLY FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
RETURN FAN						
Quantity			1	1	1	1
Air flow rate		m^3/h	6300	7300	8400	9500
Nominal AESP	(3)	Pa	250	250	250	250
COMPRESSORS						
N. compressors/ N. circuits			2 / 1	2 / 1	2 / 1	2 / 1
Refrigerant charge	(6)	kg	8	9	9	10
NOISE LEVEL						
Unit sound power level - COOLING ONLY	(4)	dB(A)	80	81	85	85
Unit sound power level - HEATING ONLY	(4)	dB(A)	79	79	83	83
SIZE						
Length A		mm	3600	3600	3600	3600
Width B		mm	2400	2400	2400	2400
Height H		mm	1837	1837	1837	1837
Operating weight	(5)	kg	1210	1240	1240	1250

Notes:

1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
2 Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
3 ESP for standard configuration (optional accessories not included/calculated).
4 Sound power on the basis of measurements made in compliance with ISO 9614. For complete sound data consult Elca World.
5 The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.
6 The refrigerant charge is the result of a theoretical calculation and could be different from the actual amount of refrigerant which is charged in the unit and on the label"

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

WSM2

0264 - 0604

Air source reversible and cooling only rooftop unit
(from 81,1 to 182 kW)

WSM2 AR/MF			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	81,1	88,7	104	122	133	144	159	182
Total sensible capacity	(1)	kW	62,1	68,1	80,8	94,2	102	110	121	141
Compressors power input	(1)	kW	22,6	25,2	29,6	34,7	34,8	35,5	39,4	49,6
EER (total)	(1)(12)	kW/kW	**2,9**	**3,0**	**2,9**	**3,0**	**3,1**	**3,1**	**3,1**	**2,9**
COOLING WSM2 (EN14511 VALUE)										
Cooling capacity	(1)(3)	kW	82,4	89,8	105	123	134	147	163	187
EER	(1)(3)	kW/kW	**3,15**	**3,27**	**3,16**	**3,19**	**3,31**	**3,38**	**3,40**	**3,16**
Cooling energy class			A	A	A	A	A	A	A	A
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	83,4	93,0	105	124	133	143	163	189
Compressors power input	(2)	kW	**21,7**	**23,3**	**26,6**	**31,5**	**33,7**	**35,7**	**39,6**	**45,9**
COP (total)	(2)(12)	kW/kW	3,3	3,4	3,2	3,3	3,2	3,0	3,1	3,2
HEATING WSM2 (EN14511 VALUE)										
Total heating capacity	(2)(3)	kW	82,0	92,0	104	122	132	139	159	184
COP	(2)(3)	kW/kW	**3,41**	**3,65**	**3,42**	**3,43**	**3,33**	**3,19**	**3,28**	**3,31**
Heating energy class			A	A	A	A	B	C	B	B
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
Ambient refrigeration										
Prated,c	(7)	kW	82,4	89,8	105	123	134	147	163	187
SEER	(7)(8)		4,17	4,53	4,51	4,61	4,37	4,32	4,27	4,21
Performance ηs	(7)(9)	%	163,8	178,2	177,4	181,4	171,8	169,8	167,8	165,4
SEASONAL EFFICIENCY IN HEATING WSM2 (Reg. EU 2016/2281)										
Ambient heating										
PDesign	(7)	kW	64,4	73,1	82,7	96,7	104	110	125	144
SCOP	(7)(8)		3,42	3,62	3,59	3,66	3,68	3,54	3,58	3,55
Performance ηs	(7)(10)	%	133,8	141,8	140,6	143,4	144,2	138,6	140,2	139,0
SUPPLY FANS (WSM2)										
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal ESP	(4)	Pa	200	125	125	150	150	300	350	350
Total power input	(12)	kW	2,13	2,30	2,74	3,17	3,63	4,74	5,85	7,03
REFRIGERANT CIRCUIT										
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(6)(11)	kg	17,6	24,0	24,6	32,0	37,5	38,0	44,0	50,0
NOISE LEVEL (WSM2)										
Sound power level in cooling mode	(5)	dB(A)	83	83	84	84	90	91	92	92
Sound Power on outlet side	(5)	dB(A)	79	74	76	78	79	90	93	96
SIZE										
Function AR										
Length	(6)	mm	3665	3665	3665	3665	4465	4465	4465	4465
Width	(6)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height	(6)	mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(6)(13)	kg	1630	1740	1780	1840	2100	2170	2290	2320
Function MF										
Length		mm	4800	4800	4800	4800	5600	5600	5600	5600
Width		mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(13)	kg	2120	2230	2270	2330	2590	2660	2780	2810

Notes:

1 ▸ Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
2 ▸ Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 0%.
3 ▸ Values in compliance with EN14511.
4 ▸ ESP for standard configuration (optional accessories not included/calculated).
5 ▸ Sound power on the basis of measurements made in compliance with ISO 9614.
6 ▸ Unit in AR configuration.
7 ▸ Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8 ▸ Seasonal energy efficiency ratio.
9 ▸ Seasonal space cooling energy efficiency.
10 ▸ Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]
11 ▸ The gas charge is obtained from a theoretical calculation and may differ from the real one present in the unit and shown on the plate.
12 ▸ Available static pressure 250Pa (pressure drop resulting from any available accessories not included).
13 ▸ The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.

Certified data in EUROVENT*

* Eurovent certified data here reported refer to WSM2 reverse cyle unit. For WSM2-T data please refer to the data book or Elca World. Check ongoing validity of certificate and data update on: www.eurovent-certification.com

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

ErP 2021 COMPLIANT

R HFC R410A | HEATING | REE.BOOST. | PLATE | FREE C. | ROTARY | COOLING | PLUG FAN

WSM2 AX			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2 (GROSS VALUE)										
Total cooling capacity	(1)	kW	86,8	94,8	111	130	142	153	170	194
Total sensible capacity	(1)	kW	62,7	68,7	81,5	94,9	103	110	122	142
Total absorbed power	(1)	kW	30,9	32,5	38,6	44,4	49,0	52,5	57,8	69,6
EER (total)	(1)		2,81	2,92	2,88	2,93	2,90	2,91	2,94	2,79
HEATING ONLY WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	84,3	94	107	125	135	145	166	191
Total absorbed power	(2)	kW	26,5	28	33,2	38,1	44,7	49,2	54,3	61,7
COP (total)	(2)		3,18	3,36	3,22	3,28	3,02	2,95	3,06	3,10
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
EXHAUST FAN										
Quantity			1	1	1	1	2	2	2	2
Air flow rate		m^3/h	4800	5550	6300	6750	8100	9000	9750	10500
Nominal AESP	(3)	Pa	150	150	150	150	150	150	150	150
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(7)	kg	18	24	25	32	38	38	44	50
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	86	86	86	86	93	93	93	94
Unit sound power level - HEATING ONLY	(4)	dB(A)	86	86	86	86	93	93	93	94
SIZE										
Length	(6)	mm	4800	4800	4800	4800	5600	5600	5600	5600
Width		mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2170	2280	2330	2380	2670	2740	2870	2900

WSM2 CE			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	86,8	94,8	111	130	142	153	170	194
Total sensible capacity	(1)	kW	62,7	68,7	81,5	94,9	103	110	122	142
Total absorbed power	(1)	kW	30,2	32,4	38,2	44,4	43,8	47,3	52,6	64,4
EER (total)	(1)		2,87	2,93	2,91	2,93	3,24	3,23	3,23	3,01
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	84,3	94	107	125	135	145	166	191
Total absorbed power	(2)	kW	25,8	27,9	32,7	38	39,5	44	49,1	56,5
COP (total)	(2)		3,27	3,37	3,27	3,29	3,42	3,3	3,38	3,38
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
RETURN FAN										
Quantity			1	1	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(8)	kg	18	24	25	32	38	38	44	50
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	83	83	84	84	90	91	92	92
Unit sound power level - HEATING ONLY	(4)	dB(A)	83	83	84	84	90	91	92	92
SIZE										
Length		mm	6100	6100	6100	6100	6900	6900	6900	6900
Width	(8)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2510	2620	2670	2720	3080	3150	3270	3300

Notes:

1 ▸ Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
2 ▸ Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
3 ▸ ESP for standard configuration (optional accessories not included/calculated).
4 ▸ Sound power on the basis of measurements made in compliance with ISO 9614. For complete sound data consult Elca World.
5 ▸ The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.
6 ▸ The dimension does not include hood and expulsion fans.
7 ▸ The refrigerant charge is the result of a theoretical calculation and could be different from the actual amount of refrigerant which is charged in the unit and on the label.
8 ▸ The dimension does not include hoods and the thickness of the pre-filter for fresh air if present.

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

WSM2

0264 - 0604

Air source reversible and cooling only rooftop unit
(from 81,1 to 182 kW)

WSM2 HR-B			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2 (GROSS VALUE)										
Total cooling capacity	(1)	kW	94,3	103	120	141	154	167	184	211
Total sensible capacity	(1)	kW	65,8	72,0	85,5	99,6	108	116	127	149
Total absorbed power	(1)	kW	30,3	32,4	38,3	44,5	43,8	47,3	52,6	64,4
EER (total)	(1)		3,11	3,18	3,13	3,17	3,52	3,53	3,5	3,28
HEATING ONLY WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	90,9	101	115	135	146	156	179	206
Total absorbed power	(2)	kW	26,5	28,7	33,6	39,1	40,5	45,1	50,3	57,9
COP (total)	(2)		3,42	3,54	3,41	3,45	3,6	3,46	3,55	3,56
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
RETURN FAN										
Quantity			1	1	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(8)	kg	34	42	50	62	75	80	88	104
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
Unit sound power level - HEATING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
SIZE										
Length		mm	6100	6100	6100	6100	6900	6900	6900	6900
Width	(7)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2560	2670	2710	2760	3130	3200	3330	3360

WSM2 HR-P LOW FLOW			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	93,8	100	117	137	149	162	179	204
Total sensible capacity	(1)	kW	65,4	71,0	84,0	97,7	106	114	126	146
Total absorbed power	(1)	kW	30,3	32,7	38,9	45,2	47,7	51,9	58,3	72,3
EER (total)	(1)		3,1	3,06	3,01	3,03	3,12	3,12	3,07	2,82
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	93,4	104	118	138	149	160	183	210
Total absorbed power	(2)	kW	27	29,2	34,6	40,2	44,8	50,1	56,4	66
COP (total)	(2)		3,46	3,57	3,42	3,44	3,33	3,2	3,24	3,17
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
RETURN FAN										
Quantity			1	1	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(8)	kg	17,6	24	24,6	32	37,5	38	44	50
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
Unit sound power level - HEATING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
SIZE										
Length		mm	6100	6100	6100	6100	6900	6900	6900	6900
Width	(7)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2700	2810	2860	2910	3330	3400	3520	3550

Notes:

1 ▸ Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
2 ▸ Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
3 ▸ ESP for standard configuration (optional accessories not included/calculated).
4 ▸ Sound power on the basis of measurements made in compliance with ISO 9614. For complete sound data consult Elca World.
5 ▸ The weight shown refers to the unit in the heat pump version, including any batteries and accessory filters. Any additional modules are not considered.
7 ▸ The dimension does not include hoods and the thickness of the pre-filter for fresh air if present.
8 ▸ The refrigerant charge is the result of a theoretical calculation and could be different from the actual amount of refrigerant which is charged in the unit and on the label

The units highlighted in this publication contain HFC R410A [GWP_{100} 2088] fluorinated greenhouse gases.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

ErP 2021 COMPLIANT

R HFC R410A | HEATING | REE.BOOST. | PLATE | FREE C. | ROTARY | COOLING | PLUG FAN

WSM2 HR-P HIGH FLOW			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	92,2	101	118	138	150	167	184	205
Total sensible capacity	(1)	kW	64,8	71,2	84,2	97,9	106	116	128	146
Total absorbed power	(1)	kW	30,2	32,3	38,4	44,5	46,8	50,9	56,9	69,6
EER (total)	(1)		3,05	3,13	3,07	3,1	3,21	3,28	3,23	2,95
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	94,1	105	119	139	151	162	184	211
Total absorbed power	(2)	kW	26,9	29	34,1	39,6	44,1	49,3	55,3	63,5
COP	(2)		3,5	3,63	3,49	3,52	3,42	3,28	3,33	3,33
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
RETURN FAN										
Quantity			1	1	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(8)	kg	17,6	24	24,6	32	37,5	38	44	50
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
Unit sound power level - HEATING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
SIZE										
Length		mm	6100	6100	6100	6100	6900	6900	6900	6900
Width	(7)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2700	2810	2860	2910	3330	3400	3520	3550

WSM2 HR-E			0264	0304	0354	0404	0444	0484	0524	0604
Power supply		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
COOLING ONLY WSM2/WSM2-T (GROSS VALUE)										
Total cooling capacity	(1)	kW	109	120	140	162	178	194	214	241
Total sensible capacity	(1)	kW	70,6	77,7	91,6	106,0	116	125	137	159
Total absorbed power	(1)	kW	30,1	32,3	38,5	44,6	46,7	50,8	56,8	69,2
EER (total)	(1)		3,62	3,72	3,64	3,63	3,81	3,82	3,77	3,48
HEATING WSM2 (GROSS VALUE)										
Total heating capacity	(2)	kW	102	114	129	150	163	176	200	228
Total absorbed power	(2)	kW	27,4	29,5	34,9	40,5	44,8	50	56	64,2
COP	(2)		3,71	3,85	3,7	3,71	3,65	3,51	3,56	3,54
SUPPLY FAN										
Quantity			1	2	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
RETURN FAN										
Quantity			1	1	2	2	2	2	2	2
Air flow rate		m^3/h	13500	15500	18000	20500	22500	25000	28000	30500
Nominal AESP	(3)	Pa	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT										
No. compressors / No. circuits			2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Refrigerant charge	(8)	kg	17,6	24	24,6	32	37,5	38	44	50
NOISE LEVEL										
Unit sound power level - COOLING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
Unit sound power level - HEATING ONLY	(4)	dB(A)	83	84	86	87	90	91	92	92
SIZE										
Length		mm	6100	6100	6100	6100	6900	6900	6900	6900
Width	(7)	mm	2250	2250	2250	2250	2250	2250	2250	2250
Height		mm	2410	2410	2410	2410	2410	2410	2410	2410
Operating weight	(5)	kg	2710	2820	2860	2910	3320	3390	3520	3550

Notes:

1 ▸ Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
2 ▸ Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
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“BY FAR THE BEST PROOF IS EXPERIENCE”

Sir Francis Bacon
British philosopher (1561 - 1626)

ADIGEO

2017 VERONA – ITALY

Application:
Shopping Centre

Airflow:
495000 m³/h

Installed machines:
16x WHISPER-E rooftop units
1x NECS-N/CA high efficiency scroll compressor heat pump

PROJECT

The refurbishment of the abandoned Officine Adige factory area is called Adige City and was designed by the famous architect Richard Rogers. In the masterplan there is also a mall, Adigeo, with a gross leasable area (GLA) of 42,000 square meters, which opened in 2017 with about 130 shops and services.

SOLUTION

So the installation of HVAC high efficiency units has had to be kept in mind: 16 Climaveneta WHISPER ENTHALPY, reversible air cooled high efficiency all in one rooftop units, with enthalpy recovery for a total air flow of 500.000 m³/h and one NECS-N/CA, air source heat pump in Class A efficiency.

CHALLENGE

The project for the construction of the first shopping center in Verona city centre was taken over by ECE, the European leader in the shopping center market with a portfolio of 196 centers in over 16 countries. Sustainability has always been an integral component of ECE’s company philosophy. The company focuses not on the short-term profit but rather on a long-term approach to remain competitive.

Every project is characterised by different needs and system specifications for various climates. All these projects share high energy efficiency, maximum integration, and total reliability resulting from the Climaveneta brand experience.

MAREMÀ SHOPPING CENTRE

2015-2016 GROSSETO (ITALY)

Application:
Shopping Centre

Airflow:
207000 m³/h

Installed machines:
3x FOCS-N/CA high efficiency heat pumps,
10x WSM rooftop units with HR-P function

PROJECT

Maremà, the new shopping centre, which belongs to IGD, will soon become a reference point for shopping all over Tuscany. The mall has a total surface of 17,110 m² divided into 44 small shops and 7 internal big shops to fulfill all consumers requests in terms of shopping.

CHALLENGE

The building has a strong focus on sustainability: photovoltaic field, led lights, high efficiency HVAC system, rain water collection, column to recharge electrical vehicles and use of innovative material, even natural ones, are some of the most significant examples.

SOLUTION

The HVAC system is based on 3 high efficiency class A FOCS-N/CA/S heat pumps and 10 WSM/HR-P/S reversibile roof top units with heat recovery function.

The HVAC system is thus able to grant perfect comfort all year round in an efficient and sustainable way, achieving a large reduction in running costs and a complete absence of local CO_2 emissions.

WSM2_ENG_07-2018

CLIMAVENETA®

eco Changes for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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