

PROCESS

ROOFTOP UNITS

WSM-Y

**AIR COOLED ROOFTOP UNITS,
FROM 51 TO 365 kW
AND FROM 7700 TO 56000 m³/h**



WSM-Y

**ONE SINGLE UNIT FOR SMALL, MEDIUM
AND LARGE APPLICATIONS.**



Shopping centres, supermarkets and cinemas are all characterised by specific air treatment and air renewal requirements.

Our biggest challenge is delivering integrated solutions that can meet all these needs.



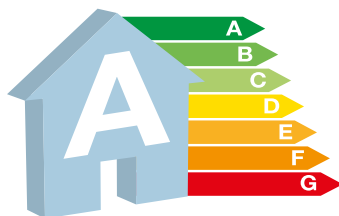
Increasingly challenging market requirements

Shopping centres, supermarkets, outlets, cinemas, exhibition centres, etc... In all these applications, the object is to optimize the conditioning system of one single small, medium, or large size area. The need is to have a single compact and self-contained solution capable of meeting different needs throughout the year: air conditioning, air treatment and air renewal. This is the distinguishing feature of rooftop units.



Reliability and continuous operation

Ensuring continuous and efficient unit operation in any conditions or situations is a fundamental preliminary requirement to guarantee a wide range application framework. The rooftop unit must be able to independently manage the additional air treatment resources, and take advantage of any favourable weather conditions. Moreover, it must also be able to deal with critical operating conditions that could reduce the power delivered.



Reduced energy consumption

Energy efficiency has nowadays a fundamental role in all fields. Therefore, also as far as rooftop units the reduction in energy consumption is an important objective that must be pursued. In order to obtain maximum system performance, the utmost attention must be given, during the design stage, to the use of heat recovery systems and the optimization of ventilation in air treatment.



Quick and easy installation

Although sometimes seen as marginal, as far as rooftop units the installation and connection of air ducts has a fundamental role that can have important effects on the final cost of the system. The availability of a flexible unit makes it possible to optimise the installation of the ducts, to overcome the limitations of the building, and to adapt existing systems. In addition, optimisation of internal spaces provides easy access to the components.



Space saving

In small and medium applications, the technical space available for the installation of the units is often restricted. The footprint of the unit being installed must therefore be as minimal as possible. However, it is also necessary to guarantee a sturdy and strong structure that can be moved easily and safely and that ensures a high level of thermal insulation.

WSM-Y

System reliability, energy efficiency and maximum configurability during the design phase. All this in a single unit.



HIGHEST CONFIGURABILITY



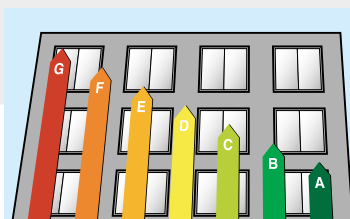
WSM-Y is the first self-contained solution that can be fully configured according to the specific system requirements. All the units are available both in reversible and cooling only versions and offer five different air treatment chamber options. The unit can be further customized with a wide range of accessories capable to perform air treatment, and to manage and operate the unit.

SUPERIOR RELIABILITY



All the WSM-Y units can independently manage all the additional air treatment and heating resources. Thanks to the free-cooling operation, they can take advantage of favourable external weather conditions to cool the environment without using compressors. Units with cooling capacities of 50 kW and above are also available with two cooling circuits completely independent from each other.

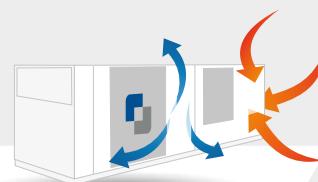
ENERGY EFFICIENCY



WSM-Y units are available both with an exclusive plate based air-air heat recovery system, ideal for either cold or hot climates, and with the innovative Refrigerant Booster recovery system, well suited to the Mediterranean climate.

The ventilation section has been carefully sized to provide a wide operating range, in compliance with the current energy efficiency regulations. High efficiency plug fans with EC motor are also available.

HIGH VERSATILITY AND FLEXIBILITY



WSM-Y guarantees maximum freedom in choosing the direction of the air flow (supply or return), which makes it possible to adapt the units to all application frameworks. The installation of ducts is also significantly simplified, as there are no restrictions due to the unit layout when positioning the connections of the supply or return ducts.

EUROVENT CERTIFIED



WSM-Y rooftop units are Eurovent certified. Check ongoing validity of certificate and data update on: www.eurovent-certification.com

TECHNOLOGICAL CHOICES

PLUG FANS



Air management is entrusted to plug type fans with backward blades, directly coupled to electronically controlled brushless motors.

This solution provides maximum reliability and high efficiency over a wide operating range.

AIR3000TE CONTROL



The management and control of the WSM-Y unit is entrusted to the innovative AIR3000TE controller, specifically developed for rooftop units.

The controller for the management of the refrigerant circuit is joined by the control of the air treatment section. This offers many functions that provide a completely independent operation of the unit.

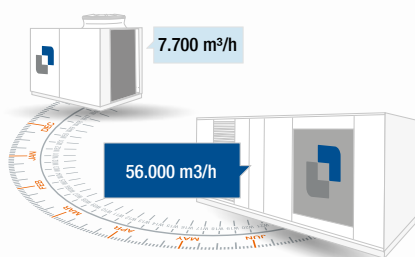
CASING



WSM-Y units are sturdy and perfectly insulated. Thanks to the aluminium profiles and the double wall sandwich panelling, these units ensure:

- ✓ Zero energy waste due to air leakages and penetration
- ✓ Quick and safe handling and installation
- ✓ Easy access to inner components

EXTENSION OF THE RANGE AND OPERATING LIMITS



The complete range includes 9 different sizes (from 7.700 m³/h to 56.000 m³/h), intended for the air conditioning of medium to large areas. All are available in the reversible or in the cooling only version, with five different configurations that make it possible to adapt the units to the specific system requirement, thanks to the completeness of the standard versions, and a wide range of accessories also available.

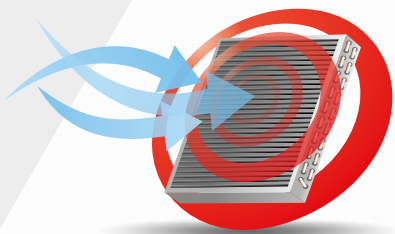
Technical choices:

- ✓ Reverse-cycle refrigerant circuit: freecooling/free-heating operation and the careful sizing of the components ensure continuous operation of the unit within the wide operating limits.
- ✓ External air high temperature equipment that ensures the operation of the unit in critical conditions outside the normal operating limits.

The result of careful planning, the new WSM-Y boasts innovative technical and structural characteristics that make it suitable for applications with different sizes and volumes.

WSM-Y HR-B

REFRIGERANT BOOSTER HEAT RECOVERY



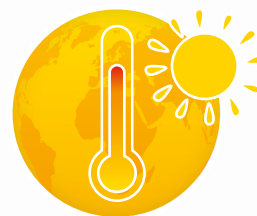
WSM-Y/HR-B and WSM-T-Y/HR-B units are fitted with the exclusive Refrigerant Booster heat recovery system, which promptly and fully recovers heat from the exhaust air. This recovered energy is transferred to the refrigerant circuit, which increases the capacity of the air handling coil, whilst reducing the consumption of the compressor. The recovery system consists of a finned coil installed at the air exhaust damper. The system takes advantage of the favourable conditions of the exhaust air, during both summer and winter operation.



**ALWAYS MEASURABLE
BENEFITS**



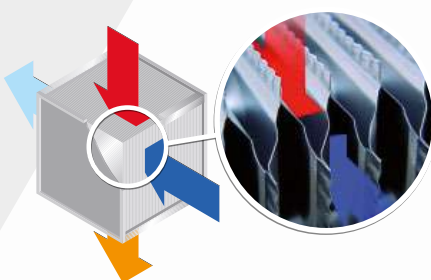
+ 15% EFFICIENCY



**IDEAL FOR THE
MEDITERRANEAN CLIMATE**

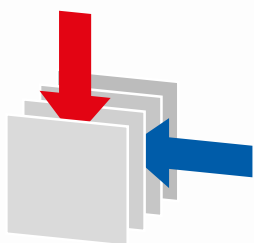
WSM-Y HR-P

CROSS-FLOW HEAT RECOVERY



For installation in both cold and hot climates, WSM-Y units are available in the HR-P version with cross-flow heat recovery, an innovative system that transfers the thermal energy contained in the expulsion air to the renewal air flow. The plate heat recovery system extends the operating limits of the unit, allowing it to work with higher flow rates of external air.

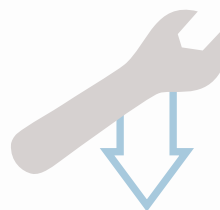
To reduce system pressure drops when the thermal conditions do not allow the use of the heat recovery function, the units are equipped with by-pass dampers for free-cooling operation.



**COMPLETE SEPARATION
BETWEEN THE TWO
AIR FLOWS**



**HIGH OPERATING
RELIABILITY
AND SAFETY**



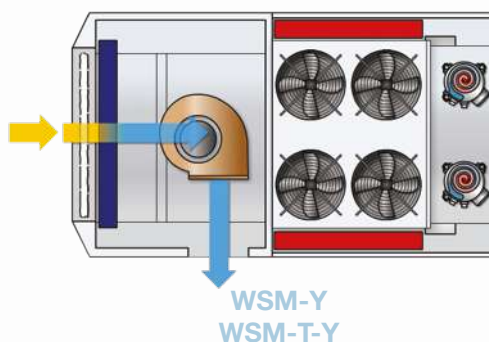
**QUICK AND EASY
CLEANING
AND MAINTENANCE**

FUNCTIONS

A comprehensive range of products split into Mini WSM-Y for the air conditioning of small areas, and WSM-Y for medium to large areas.

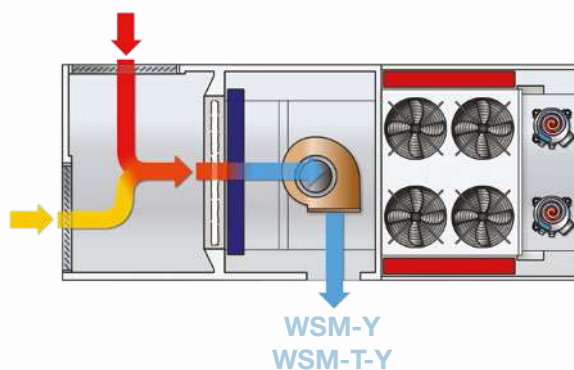
AR FUNCTION

Unit specifically conceived for operation using 100% recirculated air, where the renewal and the expulsion of the air are managed independently by the rooftop unit.



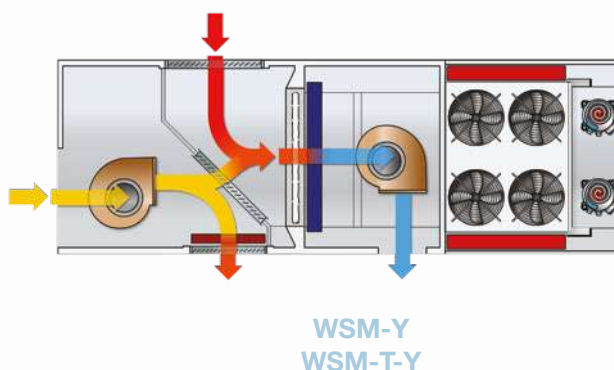
MF FUNCTION

Unit with two motorized modulating dampers for air treatment, air renewal and free-cooling operation. The unit can therefore provide both constant and variable air renewal, according to the installation requirements.



CE FUNCTION

Unit with three motorized modulating dampers for independent air treatment, air mixing, free-cooling and air extraction/expulsion management.



REVERSIBLE UNITS

WSM-Y A164-A1004

Cooling capacity:
from 51,7 to 317 kW

Air flow:
7.700 to 50.000 m³/h

COOLING ONLY UNITS

WSM-T-Y 0162-1204

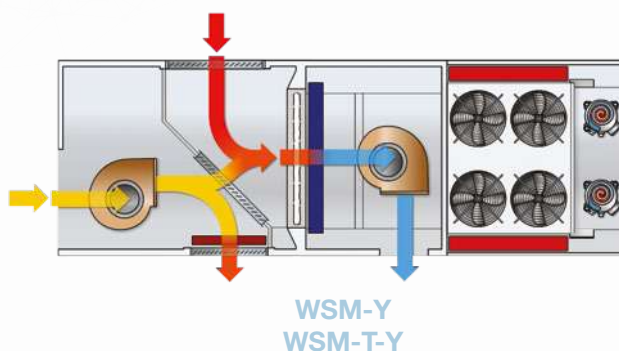
Cooling capacity:
from 50,9 to 365 kW

Air flow:
7.700 to 56.000 m³/h

HR-B FUNCTION

Unit with three motorized modulating dampers and Refrigerant Booster heat recovery.

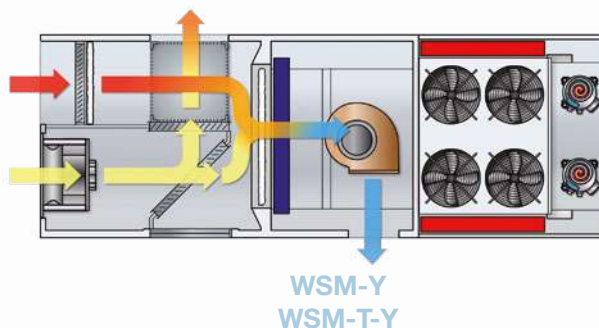
This unit provides independent air treatment, air renewal, air extraction, excess air expulsion, complete recovery of the energy in the air, and free-cooling operation.



HR-P FUNCTION

Unit with four motorized modulating dampers and plate heat recovery.

This unit provides independent air treatment, air renewal, air extraction, excess air expulsion, complete recovery of the energy in the air, and free-cooling operation.



ACCESSORIES

HIGH  **CONFIGURABILITY**



Air treatment section management functions.



Connection with BMS systems.



High filtering efficiency, ePM01-50% (F7) bag filters or electronic filters.



Control over the ambient air quality by means of the CO₂ probes.



Water, electric or hot gas coils for the heating and pre-heating operations.



Steam humidifier

WSM-T-Y 0162 - 1204



Cooling only air cooled Rooftop unit,
fully configurable and high efficiency
50,9-422 kW



WSM-T-Y			0162	0182	0202	0704	0804	0904	1004	1104	1204
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	400/3/50
COOLING ONLY (GROSS VALUE)											
Total cooling capacity	(1)	kW	50,9	59,4	64,4	219	245	266	304	334	365
Total sensible capacity	(1)	kW	38,5	45,8	49,9	172	195	214	242	259	277
Compressors power input	(1)	kW	12,5	15,4	17,0	59,1	69,8	70,0	78,3	91,1	105
EER (total)	(1)(10)	kW/kW	3,2	3,1	3,1	3,0	2,8	2,9	3,0	2,9	2,8
COOLING ONLY (EN14511 VALUE)											
Cooling capacity	(1)(2)	kW	51,3	59,8	64,9	225	252	274	313	344	374
EER	(1)(2)	kW/kW	3,42	3,30	3,25	3,29	3,13	3,23	3,30	3,17	3,04
Cooling energy class		A	A	A	-	-	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
Ambient refrigeration											
Prated,c	(6)	kW	51,3	59,8	64,9	225	252	274	313	344	374
SEER	(6)(7)		3,37	3,33	3,31	4,41	4,21	3,80	3,80	3,70	3,65
Performance ηs	(6)(8)	%	131,8	130,2	129,4	173,4	165,4	149,0	149,0	145,0	143,0
SUPPLY FANS											
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	100	100	100	350	350	350	350	350	350
Total power input	(10)	kW	1,09	1,48	1,78	6,87	8,90	10,8	13,0	14,0	14,5
REFRIGERANT CIRCUIT											
No. Compressors/No. Circuits		N°	2/2	2/2	2/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(5)(9)	kg	10,0	12,0	14,0	58,0	66,0	65,0	112,0	126,0	132,0
NOISE LEVEL											
Sound power level in cooling mode	(4)	dB(A)	82	84	85	92	94	97	97	97	97
Sound Power on outlet side	(4)	dB(A)	74	79	82	87	90	93	95	97	97
SIZE (AR FUNCTION)											
Length A	(5)	mm	3065	3065	3065	5565	5565	7430	7430	7430	7430
Width B	(5)	mm	1700	1700	1700	2250	2250	2250	2250	2250	2250
Height H	(5)	mm	1660	1660	1660	2380	2380	2380	2380	2380	2380
Operating weight	(5)	kg	1030	1050	1060	3380	3500	3790	3930	4150	4160
SIZE (MF FUNCTION)											
Length A		mm	4400	4400	4400	7305	7305	8610	8610	8610	8610
Width B		mm	1700	1700	1700	2275	2275	2275	2275	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380	2380	2380
Operating weight	(11)	kg	1360	1360	1360	3760	3850	4300	4440	4660	4670

Notes:

- 1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 0%.
- 2 Values in compliance with EN14511
- 3 ESP for standard configuration (optional accessories not included/calculated).
- 4 Sound power on the basis of measurements made in compliance with ISO 9614.
- 5 Unit in AR configuration
- 6 Parameter calculated according to [REGULATION (EU) N. 2016/2281]
- 7 Seasonal energy efficiency ratio
- 8 Seasonal space cooling energy efficiency
- 9 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.

10 Available static pressure 250Pa (pressure drop resulting from any available accessories not included).

11 The weight shown includes any batteries and accessory filters.
Any additional modules are not considered.

The units highlighted in this publication contain R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

Certified data in EUROVENT

WSM-T-Y/CE			0162	0182	0202	0704	0804	0904	1004	1104	1204
COOLING ONLY (GROSS VALUE)											
Total cooling capacity	(1)	kW	54,3	63,1	68,5	233	260	282	322	354	388
Total sensible capacity	(1)	kW	38,6	45,9	50,0	173,0	196	215	243	259	277
Total absorbed power	(1)	kW	16,8	20,5	22,6	78,7	92,9	101,0	113,0	128,0	143,0
EER (total)			3,23	3,08	3,03	2,96	2,8	2,79	2,85	2,77	2,71
SUPPLY FAN											
Quantity			1	1	1	4	4	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250	250	250
RETURN FAN											
Quantity			1	1	1	4	4	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT											
No. Compressors/No. Circuits			2/2	2/2	2/2	2/4	2/4	2/4	2/4	2/4	2/4
Refrigerant charge	(7)	kg	10	12	14	58	66	65	112	126	132
NOISE LEVEL											
Unit sound power level	(4)	dB(A)	82	84	85	92	94	97	97	97	97
SIZE											
Length A		mm	5300	5300	5300	8745	8745	9380	9380	9380	9380
Width B	(6)	mm	1725	1725	1725	2250	2250	2275	2275	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380	2380	2380
Operating weight	(5)	kg	1620	1620	1620	4570	4670	4800	4940	5160	5200

Notes:

- 1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% 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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

WSM-T-Y/HR-B			0162	0182	0202	0704	0804	0904	1004	1104	1204
COOLING ONLY (GROSS VALUE)											
Total cooling capacity	(1)	kW	59	68,5	74,4	253	283	306	350	385	422
Total sensible capacity	(1)	kW	40,5	48,2	52,5	181,0	206	226	255	272	290
Total absorbed power	(1)	kW	16,9	20,5	22,7	79,0	93,2	103,0	113,0	128,0	144,0
EER (total)			3,49	3,34	3,28	3,2	3,04	2,97	3,1	3,01	2,93
SUPPLY FAN											
Quantity			1	1	1	4	4	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250	250	250
RETURN FAN											
Quantity			1	1	1	4	4	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	50000	54000	56000	56000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT											
No. Compressors/No. Circuits			2/2	2/2	2/2	2/4	2/4	2/4	2/4	2/4	2/4
Refrigerant charge	(7)	kg	15	18	21	85	93	92	139	153	159
NOISE LEVEL											
Unit sound power level	(4)	dB(A)	82	84	85	92	94	97	97	97	97
SIZE											
Length A		mm	5300	5300	5300	8745	8745	10030	10030	10030	10030
Width B	(6)	mm	1725	1725	1725	2250	2250	2275	2275	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380	2380	2380
Operating weight	(5)	kg	1620	1620	1620	4570	4670	5130	5270	5490	5530

Notes:

- 1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% 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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

WSM-T-Y/HR-P			0162	0182	0202
COOLING ONLY (GROSS VALUE)					
Total cooling capacity	(1)	kW	57	66,4	72,1
Total sensible capacity	(1)	kW	39,4	47,0	51,3
Total absorbed power	(1)	kW	17,2	21,2	23,5
EER (total)			3,31	3,13	3,07
SUPPLY FAN					
Quantity			1	1	1
Air flow rate		m³/h	7700	9400	10500
Nominal ESP	(3)	Pa	250	250	250
RETURN FAN					
Quantity			1	1	1
Air flow rate		m³/h	7700	9400	10500
Nominal ESP	(3)	Pa	250	250	250
REFRIGERANT CIRCUIT					
No. Compressors/No. Circuits			2/2	2/2	2/2
Refrigerant charge	(7)	kg	10	12	14
NOISE LEVEL					
Unit sound power level	(4)	dB(A)	82	84	85
SIZE					
Length A		mm	4860	4860	4860
Width B	(6)	mm	1700	1700	1700
Height H		mm	1665	1665	1665
Operating weight	(5)	kg	1590	1590	1590

Notes:

- 1 Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% 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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

WSM-Y A164 - A1004



Reversible air cooled fully configurable
high efficiency Rooftop units
51,7-317 kW



WSM-Y			A164	A184	A204	A704	A804	A904	A1004
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
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	51,7	56,3	62,2	218	244	280	317
Total sensible capacity	(1)	kW	38,3	43,0	47,4	171	195	213	242
Compressors power input	(1)	kW	13,5	15,6	17,4	60,0	70,5	70,5	80,7
EER (total)	(1)(12)	kW/kW	3,1	2,9	2,9	3,0	2,8	3,1	3,1
COOLING ONLY (EN14511 VALUE)									
Cooling capacity	(1)(3)	kW	52,1	56,8	62,8	224	251	287	325
EER	(1)(3)	kW/kW	3,31	3,14	3,14	3,23	3,09	3,39	3,38
Cooling energy class		A	A	A	-	-	-	-	-
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(2)	kW	55,1	55,8	63,0	219	251	282	318
Compressors power input	(2)	kW	13,2	14,4	17,3	49,6	57,4	68,3	76,9
COP (total)	(2)(12)	kW/kW	3,3	3,1	3,0	3,4	3,4	3,2	3,2
HEATING ONLY (EN14511 VALUE)									
Total heating capacity	(2)(3)	kW	54,6	55,2	62,4	213	244	275	309
COP	(2)(3)	kW/kW	3,53	3,27	3,13	3,61	3,58	3,33	3,35
Heating energy class		A	B	C	-	-	-	-	-
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)									
Ambient refrigeration									
Prated,c	(7)	kW	52,1	56,8	62,8	224	251	287	325
SEER	(7)(8)		3,90	3,84	3,73	4,47	4,26	4,22	4,02
Performance η_s	(7)(9)	%	153,0	150,6	146,2	175,8	167,4	165,8	157,8
SEASONAL EFFICIENCY IN HEATING (Reg. EU 2016/2281)									
Ambient heating									
PDesign	(7)	kW	46,3	46,8	53,1	179	205	232	263
SCOP	(7)(8)		3,43	3,41	3,38	3,53	3,48	3,33	3,38
Performance η_s	(7)(10)	%	134,2	133,4	132,2	138,2	136,2	130,2	132,2
SUPPLY FANS									
Air flow rate		m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP	(4)	Pa	100	100	100	350	350	350	350
Total power input	(12)	kW	1,14	1,45	1,71	6,87	8,90	9,36	11,5
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits		N°	4/2	4/2	4/2	4/1	4/2	4/2	4/2
Refrigerant charge	(6)(11)	kg	10,4	10,8	15,0	58,0	66,0	150,0	180,0
NOISE LEVEL									
Sound power level in cooling mode	(5)	dB(A)	82	84	85	92	94	97	97
Sound Power on outlet side	(5)	dB(A)	70	73	75	87	90	91	93
SIZE (AR FUNCTION)									
Length A	(6)	mm	3065	3065	3065	5730	5730	6780	6780
Width B	(6)	mm	1700	1700	1700	2250	2250	2250	2250
Height H	(6)	mm	1660	1660	1660	2380	2380	2380	2380
Operating weight	(6)	kg	1030	1050	1060	3380	3500	3790	3930
SIZE (MF FUNCTION)									
Length A		mm	4400	4400	4400	7305	7305	8610	8610
Width B		mm	1700	1700	1700	2275	2275	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380
Operating weight	(13)	kg	1360	1360	1360	3760	3850	4300	4440

Notes:

- Cooling: Outdoor 35°C 50% R.H. / Indoor 27°C 47% R.H. / Mix 30%.
- Heating: Outdoor 7°C 87% R.H. / Indoor 20°C 50% R.H. / Mix 30%.
- Values in compliance with EN14511
- ESP for standard configuration (optional accessories not included/calculated).
- Sound power on the basis of measurements made in compliance with ISO 9614.
- Unit in AR configuration
- Parameter calculated according to [REGULATION (EU) N. 2016/2281]
- Seasonal energy efficiency ratio
- Seasonal space cooling energy efficiency
- Seasonal energy efficiency of the heating environment in AVERAGE climatic conditions [REGULATION (EU) N. 2016/2281]

- 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.
- Available static pressure 250Pa (pressure drop resulting from any available accessories not included).
- The weight shown includes any batteries and accessory filters.
Any additional modules are not considered.

The units highlighted in this publication contain HFC R410A [GWP₁₀₀ 2088] fluorinated greenhouse gases.

Certified data in EUROVENT

WSM-Y/CE			A164	A184	A204	A704	A804	A904	A1004
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	55,4	60,2	66,6	231	259	299	338
Total sensible capacity	(1)	kW	38,6	43,3	47,9	172,0	196	214	244
Total absorbed power	(1)	kW	17,8	20,6	22,7	79,6	93,6	98,4	112,0
EER (total)			3,11	2,92	2,93	2,9	2,77	3,04	3,02
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(2)		55,7	56,3	63,8	222	254	286	322
Total absorbed power	(2)	m³/h	16,2	17,9	21,2	64,3	74,5	90	101
COP (total)	(2)	Pa	3,44	3,15	3,01	3,45	3,41	3,18	3,19
SUPPLY FAN									
Quantity			1	1	1	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250
RETURN FAN									
Quantity			1	1	1	4	4	4	4
Air flow rate	(3)	m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP		Pa	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits			4/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(7)	kg	10	11	15	58	66	150	180
NOISE LEVEL									
Unit sound power level - COOLING ONLY	(4)	dB(A)	82	84	85	92	94	97	97
Unit sound power level - HEATING ONLY	(4)	dB(A)	82	84	85	92	94	97	97
SIZE									
Length A		mm	5300	5300	5300	8745	8745	9380	9380
Width B	(6)	mm	1725	1725	1725	2250	2250	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380
Operating weight	(5)	kg	1620	1620	1620	4570	4670	4800	4940

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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

WSM-Y/HR-B			A164	A184	A204	A704	A804	A904	A1004
COOLING ONLY (GROSS VALUE)									
Total cooling capacity	(1)	kW	60,1	65,3	72,3	251	281	325	367
Total sensible capacity	(1)	kW	40,5	45,4	50,2	180,0	205	225	256
Total absorbed power	(1)	kW	17,8	20,6	22,8	79,6	93,6	98,6	113,0
EER (total)			3,38	3,17	3,17	3,15	3	3,3	3,25
HEATING ONLY (GROSS VALUE)									
Total heating capacity	(2)		60,1	60,7	68,7	239	273	308	347
Total absorbed power	(2)	m³/h	16,7	18,4	21,8	65,7	76,2	92,3	104
COP (total)	(2)	Pa	3,6	3,3	3,15	3,64	3,59	3,34	3,33
SUPPLY FAN									
Quantity			1	1	1	4	4	4	4
Air flow rate		m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP	(3)	Pa	250	250	250	250	250	250	250
RETURN FAN									
Quantity			1	1	1	4	4	4	4
Air flow rate	(3)	m³/h	7700	9400	10500	36500	42200	45000	50000
Nominal ESP		Pa	250	250	250	250	250	250	250
REFRIGERANT CIRCUIT									
No. Compressors/No. Circuits			4/2	4/2	4/2	4/2	4/2	4/2	4/2
Refrigerant charge	(7)	kg	22	27	33	130	133	200	239
NOISE LEVEL									
Unit sound power level - COOLING ONLY	(4)	dB(A)	82	84	85	92	94	97	97
Unit sound power level - HEATING ONLY	(4)	dB(A)	82	84	85	92	94	97	97
SIZE									
Length A		mm	5300	5300	5300	8745	8745	10030	10030
Width B	(6)	mm	1725	1725	1725	2250	2250	2275	2275
Height H		mm	1660	1660	1660	2380	2380	2380	2380
Operating weight	(5)	kg	1620	1620	1620	4570	4670	5130	5270

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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

WSM-Y/HR-P			A164	A184	A204
COOLING ONLY (GROSS VALUE)					
Total cooling capacity	(1)	kW	58	63,4	70,2
Total sensible capacity	(1)	kW	39,4	44,5	49,2
Total absorbed power	(1)	kW	18,1	21,2	23,5
EER (total)			3,2	2,99	2,99
HEATING ONLY (GROSS VALUE)					
Total heating capacity	(2)		60,6	62,2	70,2
Total absorbed power	(2)	m³/h	17,2	19,1	22,7
COP (total)	(2)	Pa	3,52	3,25	3,1
SUPPLY FAN					
Quantity			1	1	1
Air flow rate		m³/h	7700	9400	10500
Nominal ESP	(3)	Pa	250	250	250
RETURN FAN					
Quantity			1	1	1
Air flow rate	(3)	m³/h	7700	9400	10500
Nominal ESP		Pa	250	250	250
REFRIGERANT CIRCUIT					
No. Compressors/No. Circuits			4/2	4/2	4/2
Refrigerant charge	(7)	kg	10	11	15
NOISE LEVEL					
Unit sound power level - COOLING ONLY	(4)	dB(A)	82	84	85
Unit sound power level - HEATING ONLY	(4)	dB(A)	82	84	85
SIZE					
Length A		mm	4860	4860	4860
Width B	(6)	mm	1700	1700	1700
Height H		mm	1665	1665	1665
Operating weight	(5)	kg	1590	1590	1590

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 includes 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 [GWP₁₀₀ 2088] fluorinated greenhouse gases.

EXIDE TECHNOLOGIES ROMANO DI LOMBARDIA - ITALY

Period: 2018

Application: Automotive

Plant type: Air to Air System

Cooling capacity: 416 kW

Air flow: 65800 M³/h

Installed machines: 7x WSM-T-Y/AR/S 0182



LOGISTICS HUB CREPELLANO CREPELLANO - ITALY

Period: 2018

Application: Industrial Process

Plant type: Air to Air System

Cooling capacity: 488 kW

Heating capacity: 502 kW

Air flow: 84400 M³/h

Installed machines: 2x WSM/CA A804



MELT ENFIDHA - TUNISIA

Period: 2017

Application: Industrial Process

Plant type: Air to Air System

Cooling capacity: 250 kW

Installed machines: 5x WSM 0152



MUTANDA MINING LUBUMBASHI - CONGO

Period: 2018

Application: Industrial technology

Plant type: Air to Air System

Air flow: 58000 M³/h

Installed machines: 1x WSM-T/AR/S 1204



NEW CAPITAL POWER PLANT CAIRO-NEW CAPITAL CITY - EGYPT

Period: 2016 - 2018

Application: Energy

Plant type: Air to Air System

Cooling capacity: 1715 kW

Air flow: 277000 M³/h

Installed machines: 6x WSM-T/MF 0262,
2x WSM-T/MF 0904, 4x WSM-T/MF 0484



ORASCOM BURULLUS POWER PLANT KAFR EL SHEIKH - EGYPT

Period: 2016 - 2018

Application: Energy

Plant type: Air to Air System

Cooling capacity: 1715 kW

Air flow: 277000 M³/h

Installed machines: 6x WSM-T/MF 0262,
2x WSM-T/MF 0904, 4x WSM-T/MF 0484





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.



mitsubishi electric hydronics & it cooling systems S.p.A.

Head Office: Via Caduti di Cefalonia 1 - 36061 Bassano del Grappa (VI) - Italy

Tel (+39) 0424 509 500 - Fax (+39) 0424 509 509

www.climaveneta.com

www.melcohit.com