

AIR TRADE CENTRE

by  MAICO



MERGEN RANGE ROTARY



Product Catalog

ATC HEAT RECOVERY UNITS WITH ROTOR

Have the QR code read!

Mergen Range Rotary
Catalog



ATC General Catalog



ATC Product Videos



MERGEN RANGE ROTARY



HIGH EFFICIENCY WITH ROTARY HEAT EXCHANGER

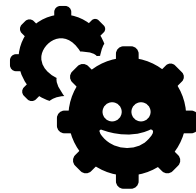
ERP 2016 & 2018 COMPLIANT

PLUG & PLAY HEAT RECOVERY UNIT

FLOW RATE FROM 1200 to 6500 m³/h



Exciting Advantages



EASY INSTALLATION
& MAINTENANCE



HIGH EFFICIENT
ROTARY HEAT EXCHANGER



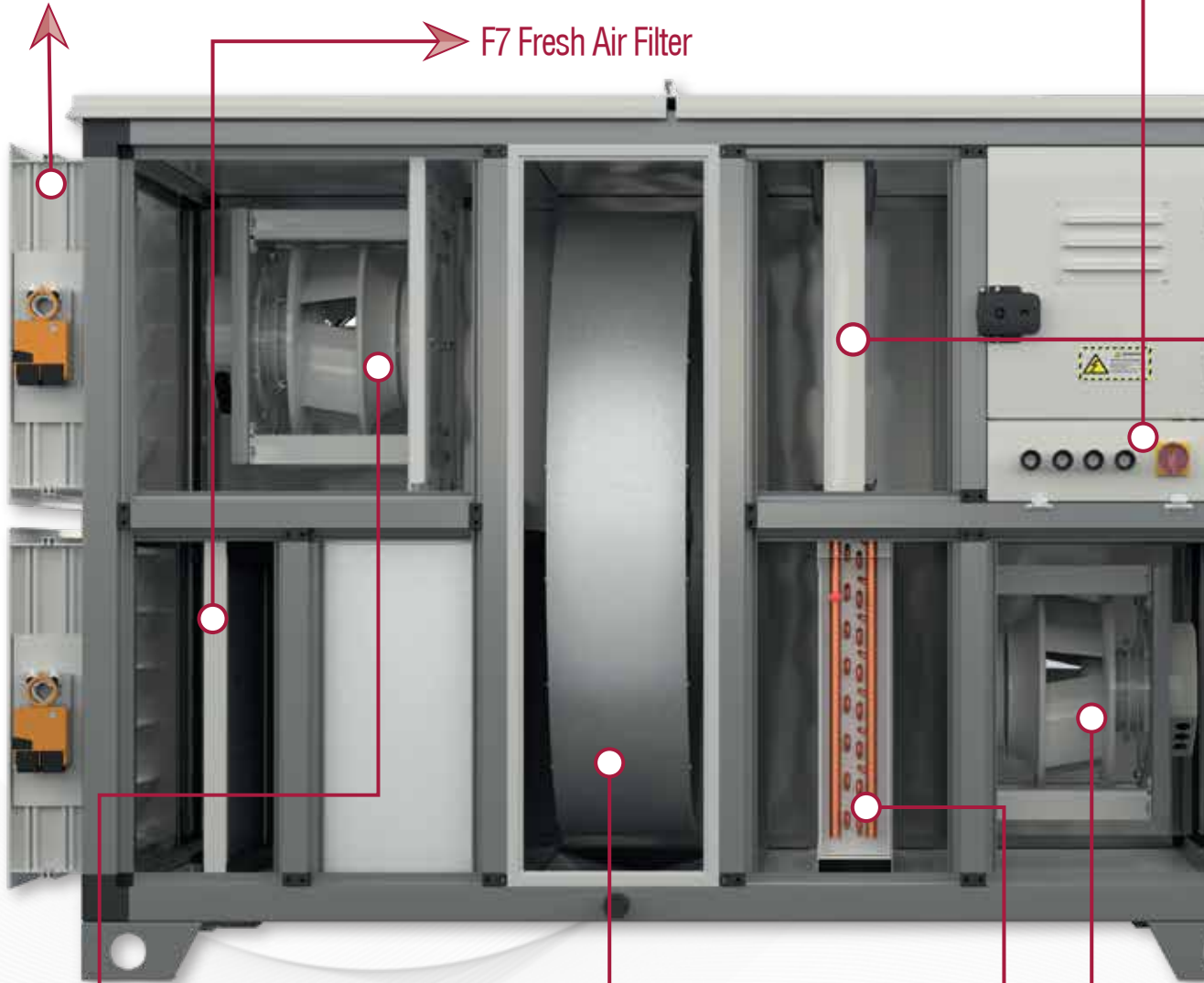
USER SAFETY



HORIZONTAL & VERTICAL
INSTALLATION OPTIONS

Insulation

- Thermal Barrier in Chassis Profiles
- 45 mm Rockwool Insulated Panels



High Efficient EC Fan Exhaust

F7 Fresh Air Filter

Electrical or Water
Heating Coil

- High efficient rotary heat exchanger with condensation or sorption options
- Frost Protection
- Pre-heater option down to -20 °C
- Easy maintenance with sliders

Sophisticated Design & Details

- Fully Automated Built-in Control Panel
- 5 different control mode option
- Supply Air Temperature Control with Outdoor Compensation
- Operation Based on CO₂ Concentration /Optional



M5 Exhaust Air Filter

▶ **OPTIONS**

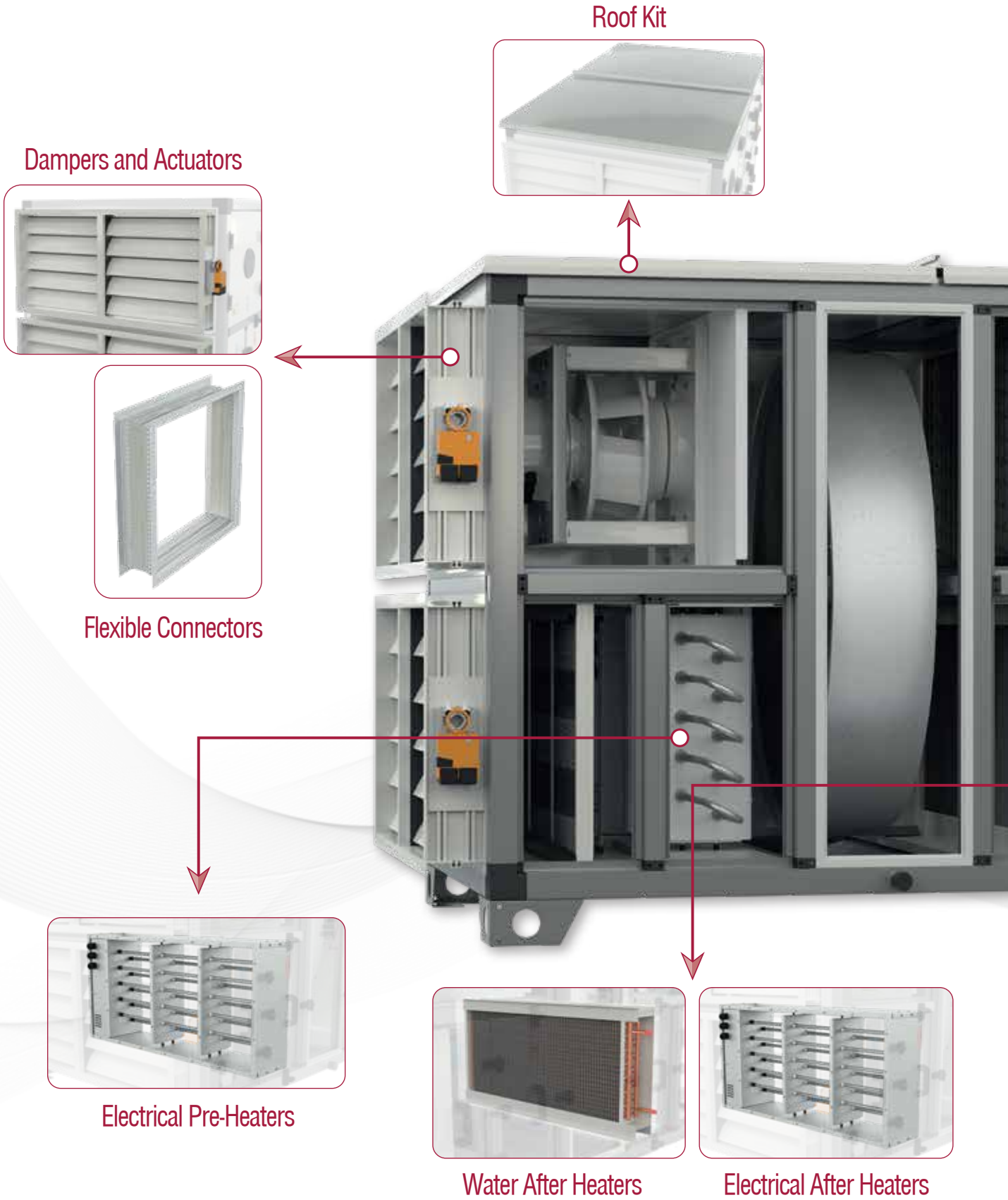
Pre-heater
Heating Coil / Cooling Coil
Electrical Heating Coil
DX Coil
With different combinations in
5 different Control Mode option



Insulation Thermal barrier in chassis
profiles 45 mm rockwool insulated panels



High Efficient Ec Fan Supply



Optional Accessories

Hoods



Louvres



Touch Panel



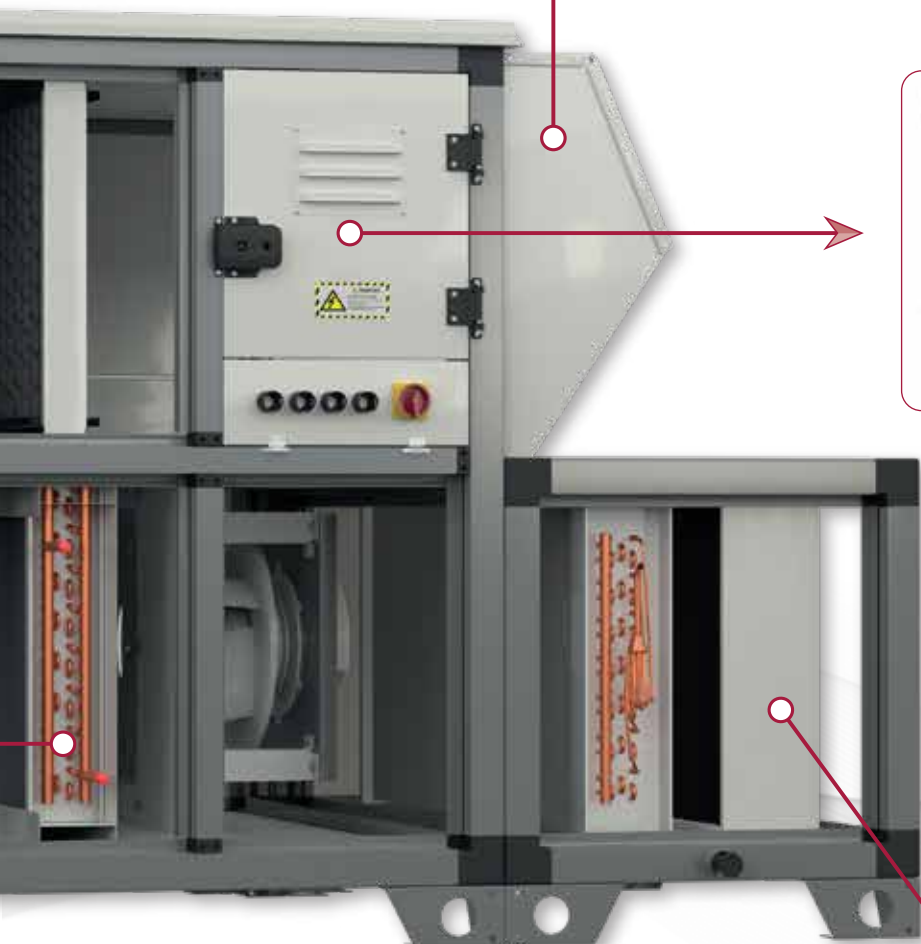
DX Cooler Modules



Silencer Modules



Water Cooler Modules



▶ APPLICATION

High efficient and high-performance ventilation and self-regulating energy recovery for office and industrial installations. Performance is greater than 80% (EN308), compliant with ErP directive 2018. Air filtration, temperature control, one-piece, smart and Plug & Play unit.

▶ RANGE

Available in 6 different airflows, 5 different control options, and 2 different configurations for each size. HRU range covers flow rates from 1200 to 6500 m³/h. Each HRU model has two programmable flow rates as standard to be selected on commissioning.

▶ FAN and MOTORS

Direct drive EC motorized Plug Fans with high-efficiency electronic commutation (EC), integral thermal cut-out and speed variation. EC technology is an ecological[®] solution guaranteeing low energy consumption for the management, checking and control of the operating point of flow rates from 10 to 100%. Low sound levels for better acoustic comfort.

▶ FILTERS

As standard, the HRU has a high-efficiency ePm1 50% filter on the fresh air intake and an ePm10 50% panel filter on the return air intake. Filters are always mounted upstream of components to ensure they are protected. Mounted on sliders fitted with lip sealings to ensure effective air tightness.

▶ CONSTRUCTION

Thermal brake aluminum profiles with polyamide spacers between the profiles provide a TB2 Thermal Bridging class according to EN 1886. Glass fiber reinforced corners improves the durability of the casing. Insulation between the double-skin panels is 45 mm (70 kg/m³) of rock wool, resulting in a T2 thermal transmittance class. The exterior panels are powder coated in RAL 7047. The MERGEN casing achieves class D1, L1, T2, TB2 according to EN1886. The device is equipped with a technical control panel containing the electrical components and controls. This section which is accessible via a lockable hinged door on one of the lateral sides also contains an LCD display and the isolating switch. Access to the other internal components, such as the stainless steel condensate drain pan, automatic bypass dampers, filters or the heat exchanger, are via the removable safety interlock panels.

▶ HEAT EXCHANGER

Equipped with high-efficient and certified rotary heat exchangers. The exchangers can be selectable as condensation or sorption (molecular sieve). Efficiency is greater than 80% under EN308 conditions (OA:5C/70%RH, RA:25C/28%RH). Automatic defrosting by regulated speed of the rotor and if necessary adjustment of the fresh air flow and by self-regulating electrical coil.

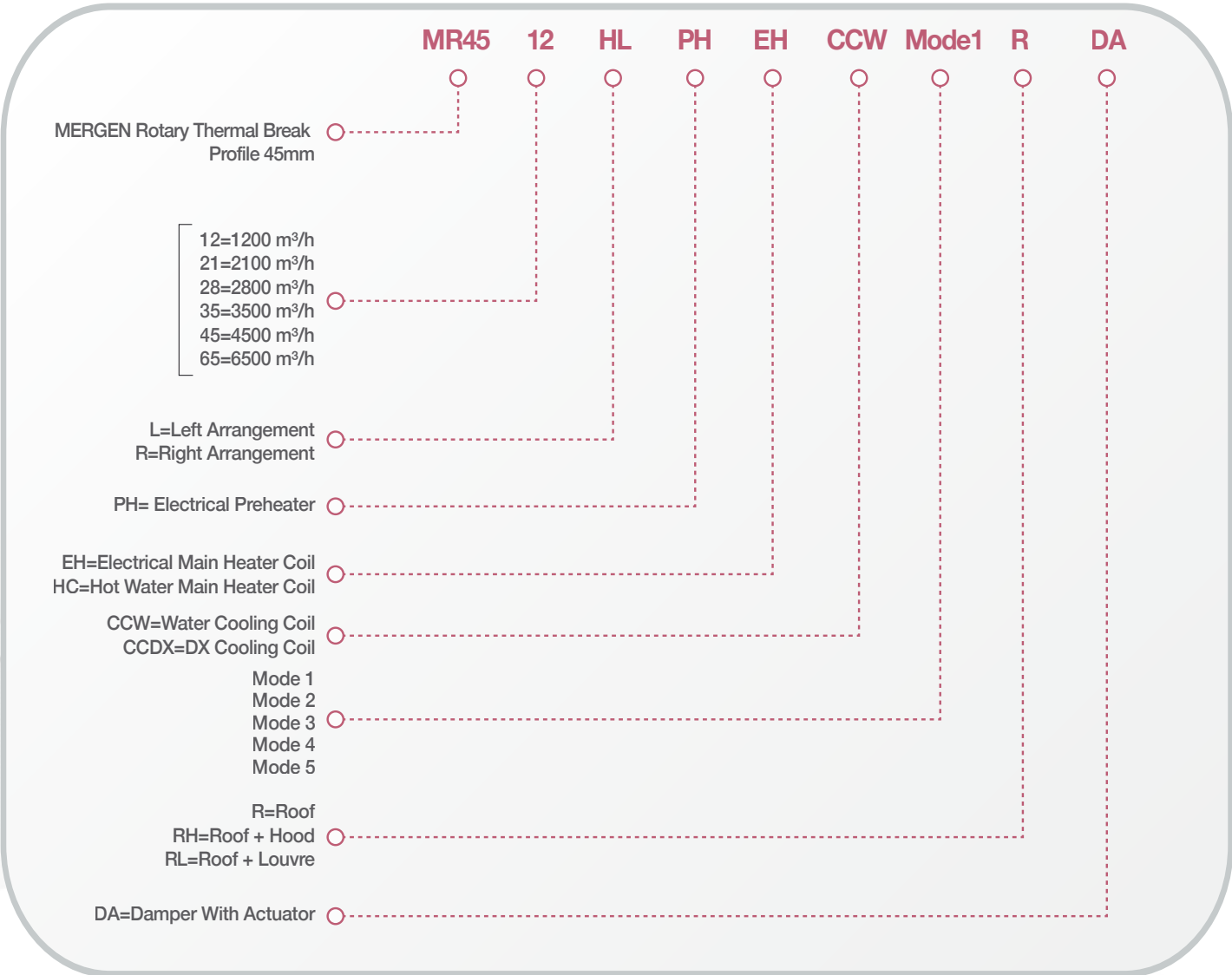
▶ OPTIONAL

- External Water or DX Cooling Coil
- Electrical Pre-Heater
- Water or Electrical Heating Coil
- 5 different control panel options
- Roof for outdoor installation
- Damper with actuator for inlet or outlet connection
- Damper hood for the outdoor installation
- Base frame for floor mounting or lifting eye for ceiling hung mounting

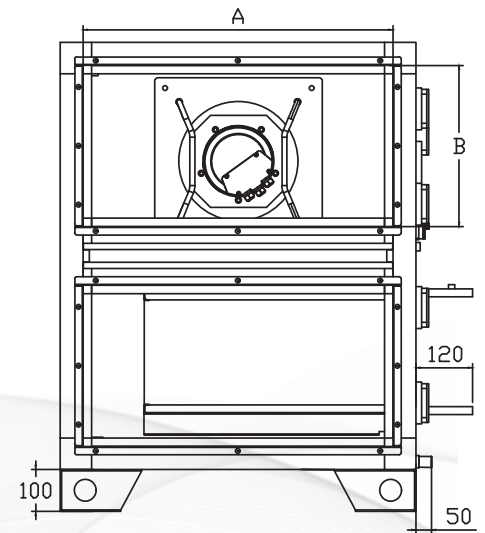
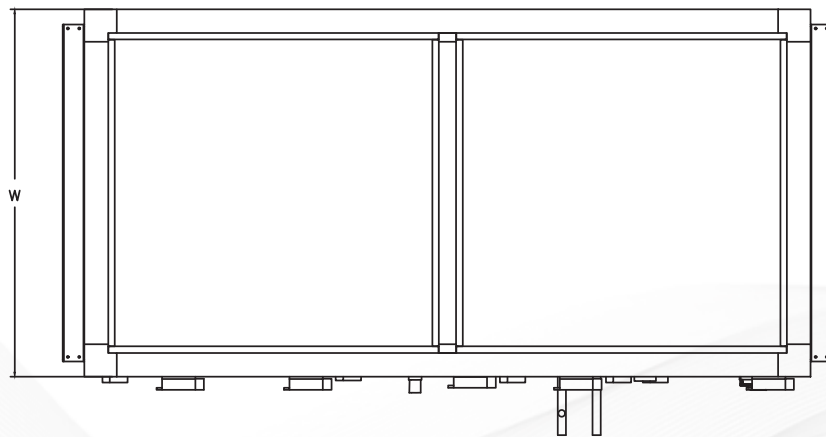
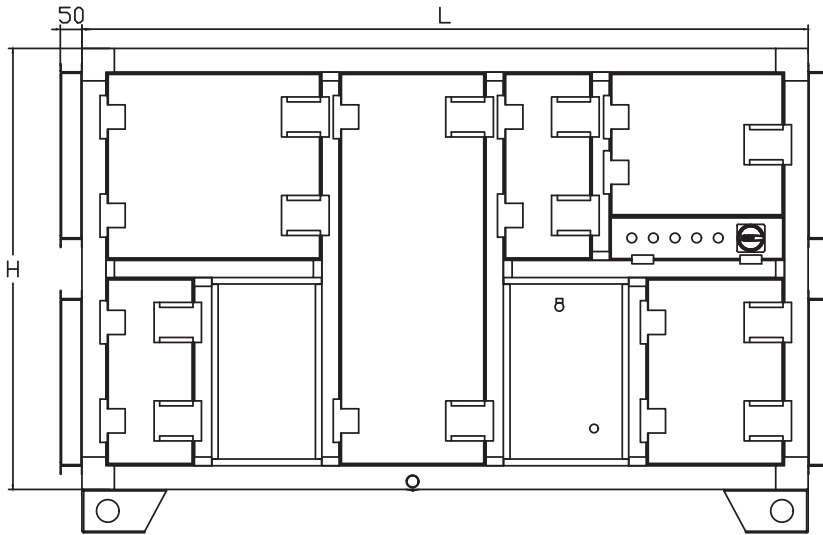
ATC's Smart Coding System



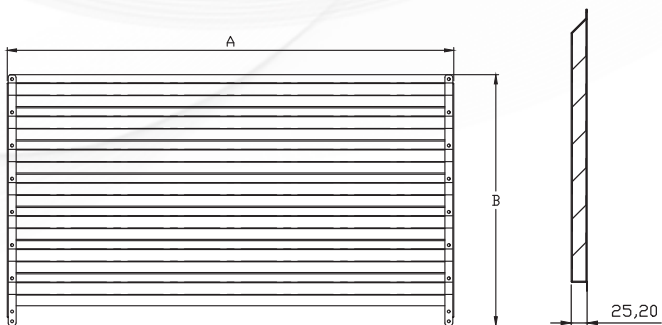
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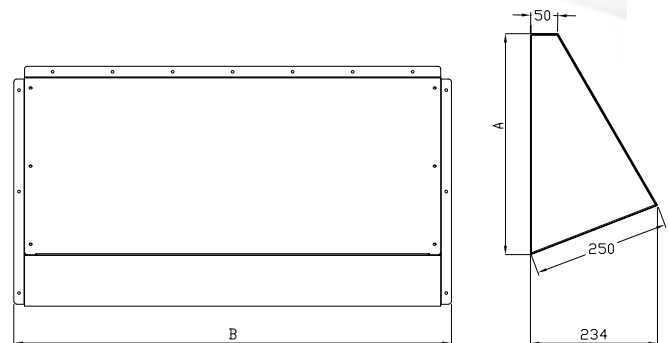
- MR4512R
- MR4521R
- MR4528R
- MR4535R
- MR4545R
- MR4565R



Louvre Details



Hood Details



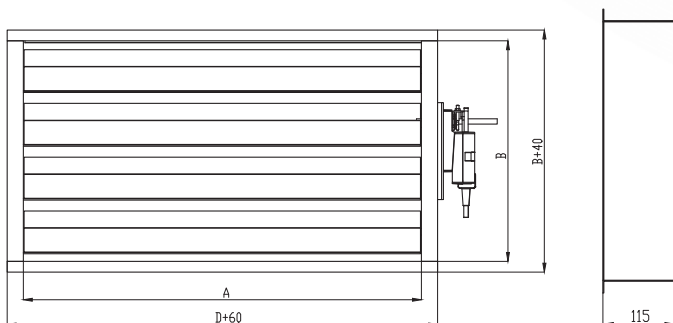
Unit Dimensions

LENGHT (mm)	WIDTH (mm)	HEIGHT (mm)	FEET (mm)	Connection Sizes AxB(mm)	ROOF (mm)	Unit Height With Roof (mm)	Unit Lenght with Roof (mm)	Unit Lenght With Dampers (mm)	Unit Lenght With Dampers+ Hood (mm)	Unit Lenght with Dampers+ Louvre (mm)
1680	850	1020	100	740x385	62	1082	1910	1845	2080	1820
1680	1090	1140	100	980x410	62	1202	1910	1845	2080	1820
1730	1090	1140	100	980x410	62	1202	1960	1895	2130	1870
1880	1260	1300	100	1150x510	62	1362	2110	2045	2280	2020
2080	1360	1400	100	1250x575	62	1462	2310	2245	2480	2220
2130	1640	1640	100	1530x710	62	1702	2360	2295	2530	2270

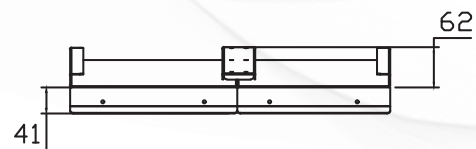
Accessorie Dimensions

	ROOF (mm)	WITH ROOF (LENGHT) (mm)	HOOD (AxB)(mm)	DAMPER (AxB)(mm)	LOUVRE (AxB)(mm)
MR4512R	62	1910	800x450	740x410	800x450
MR4521R	62	1910	1040X450	980x410	1040x450
MR4528R	62	1960	1040X450	980x410	1040x450
MR4535R	62	2110	1210x550	1150x510	1210x550
MR4545R	62	2310	1310x650	1250x610	1310x650
MR4565R	62	2360	1590x750	1530x710	1590x750

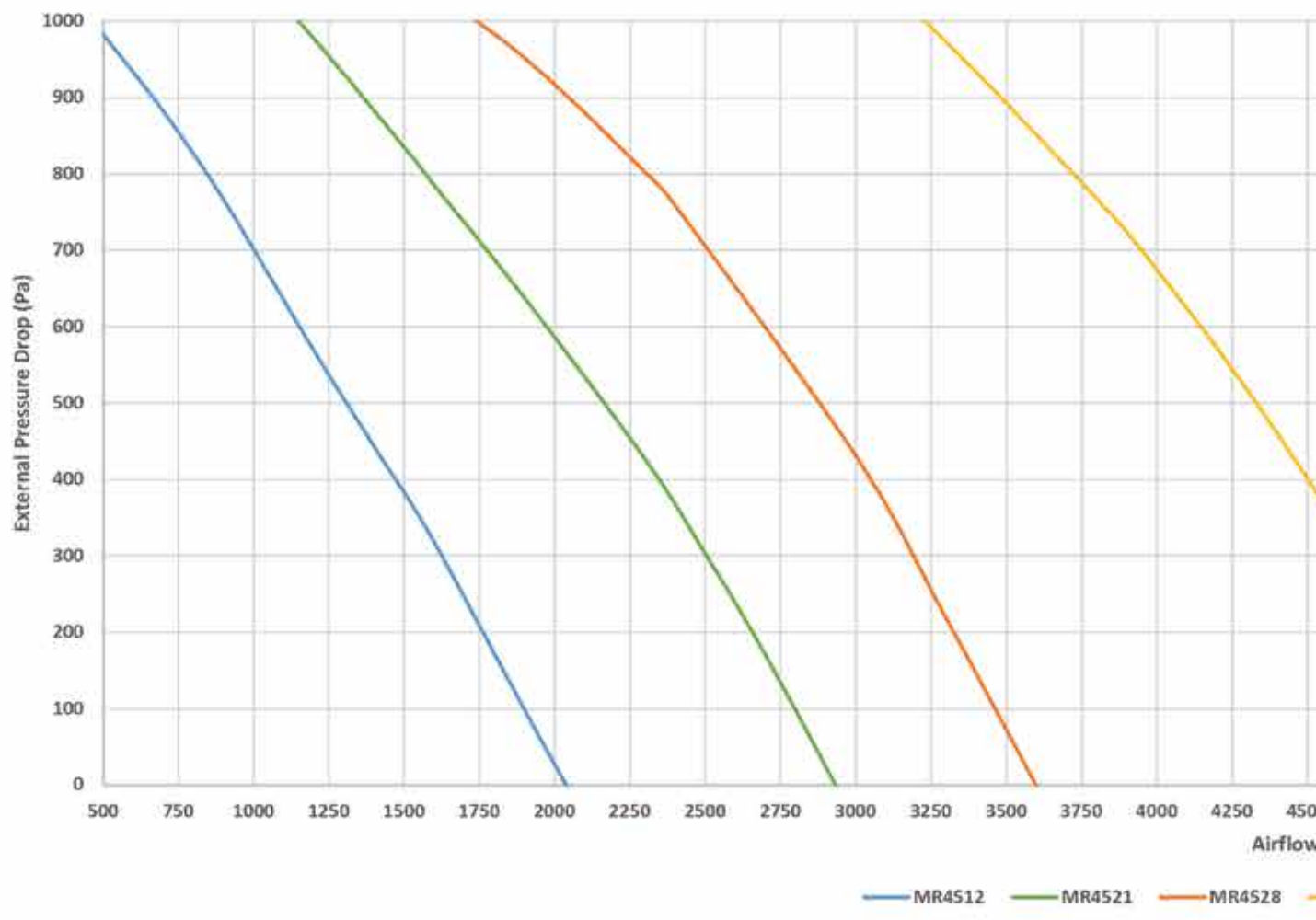
Damper Details



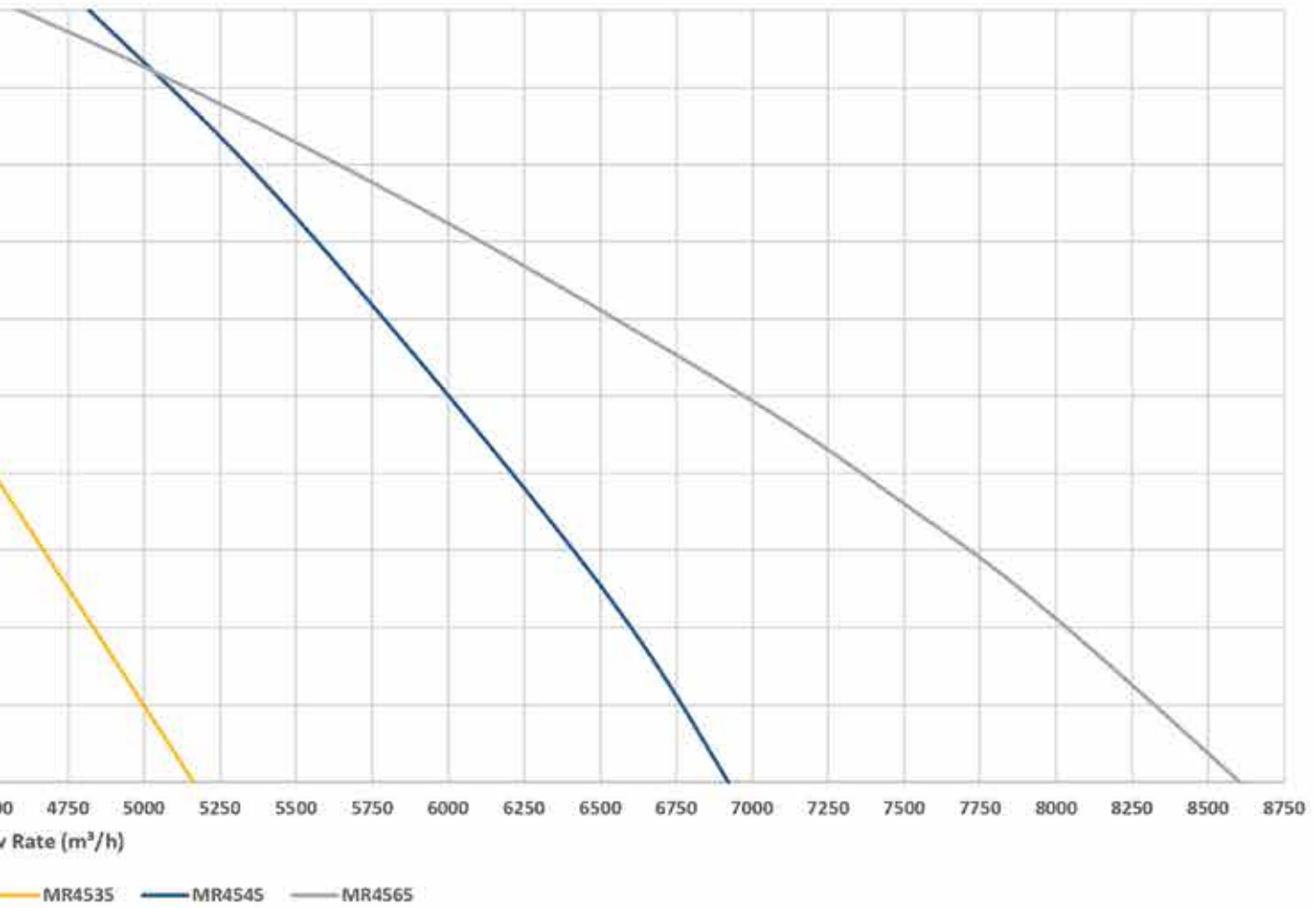
Roof Details



Rotary Mergen Performance



Performance Graphs



Component Configurations and Control Options

	Control Mode	Standard Unit	Control Panel	Preheater Electric	Hot Water Coil	Electric Heater	CO2 Sensor	Constant Pressure Sensor (1)	Constant Flow Sensor (2)
MR45..... -	Mode 1	+	+						
	Mode 2	+	+				+		
	Mode 3	+	+					+	
	Mode 4	+	+						+
	Mode 5	+	+				+		+
MR45..... - PH	Mode 1	+	+	+					
	Mode 2	+	+	+			+		
	Mode 3	+	+	+				+	
	Mode 4	+	+	+					+
	Mode 5	+	+	+			+		+
MR45..... - HC	Mode 1	+	+		+				
	Mode 2	+	+		+		+		
	Mode 3	+	+		+			+	
	Mode 4	+	+		+				+
	Mode 5	+	+		+		+		+
MR45..... - EH	Mode 1	+	+			+			
	Mode 2	+	+			+	+		
	Mode 3	+	+			+		+	
	Mode 4	+	+			+			+
	Mode 5	+	+			+	+		+
MR45..... - PH-HC	Mode 1	+	+	+	+				
	Mode 2	+	+	+	+		+		
	Mode 3	+	+	+	+			+	
	Mode 4	+	+	+	+				+
	Mode 5	+	+	+	+		+		+
MR45..... - PH-EH	Mode 1	+	+	+		+			
	Mode 2	+	+	+		+	+		
	Mode 3	+	+	+		+		+	
	Mode 4	+	+	+		+			+
	Mode 5	+	+	+		+	+		+

The MERGEN ROTARY unit has a factory-programmable regulator as standard used to configure the flow modulations described below:

- Mode 1** : Standard Control
(Supply Air Temperature Control with outdoor compensation, %Low Speed - %High Speed - Time Based LS/HS Speed Shift)
- Mode 2** : CO₂ Control
(Supply Air Temperature Control with outdoor compensation, %Low Speed - %High Speed - CO₂ Concentration Based LS/HS Speed Shift)
- Mode 3** : Supply Duct Constant Pressure Control
(Supply Air Temperature Control with outdoor compensation, %Low Speed - %High Speed - Supply Duct DP Based LS/HS Speed Shift)
- Mode 4** : Constant Flow Control
(Supply Air Temperature Control with outdoor compensation, Constant Low Speed in m³/h - Constant High Speed in m³/h - Time Based LS/HS Speed Shift)
- Mode 5** : Constant Flow CO₂ Control
(Supply Air Temperature Control with outdoor compensation, Constant Low Speed in m³/h - Constant High Speed in m³/h - CO₂ Concentration Based LS/HS Speed Shift)

	Unit Power	Pre-Heater	Electrical Heater	Electrical Supply	Max Current	Cable Cross section	Recommended Main Supply Fuse		Recommended RCD Type	
	[kW]	[kW]	[kW]	[V] / [Hz] / [P]	[A]	[mm ²]	[#]	[A]	Type	Type
MR4512	1,1	-	-	380V / 50Hz / 3P	5,5	5x2,5 mm ²	4P	10	C	B or B+
MR4512-PH	1,1	4,8	-	380V / 50Hz / 3P	13,6	5x2,5 mm ²	4P	16	C	B or B+
MR4512-HC	1,1	-	-	380V / 50Hz / 3P	5,5	5x2,5 mm ²	4P	10	C	B or B+
MR4512-EH	1,1	-	4,8	380V / 50Hz / 3P	13,6	5x2,5 mm ²	4P	16	C	B or B+
MR4512-PH-HC	1,1	4,8	-	380V / 50Hz / 3P	13,6	5x2,5 mm ²	4P	16	C	B or B+
MR4512-PH-EH	1,1	4,8	4,8	380V / 50Hz / 3P	21,7	5x4 mm ²	4P	25	C	B or B+
MR4521	1,6	-	-	380V / 50Hz / 3P	7,7	5x2,5 mm ²	4P	16	C	B or B+
MR4521-PH	1,6	7	-	380V / 50Hz / 3P	19,5	5x4 mm ²	4P	20	C	B or B+
MR4521-HC	1,6	-	-	380V / 50Hz / 3P	7,7	5x2,5 mm ²	4P	16	C	B or B+
MR4521-EH	1,6	-	7	380V / 50Hz / 3P	19,5	5x4 mm ²	4P	20	C	B or B+
MR4521-PH-HC	1,6	7	-	380V / 50Hz / 3P	19,5	5x4 mm ²	4P	20	C	B or B+
MR4521-PH-EH	1,6	7	7	380V / 50Hz / 3P	31,3	5x6 mm ²	4P	32	C	B or B+
MR4528	2,2	-	-	380V / 50Hz / 3P	3,9	5x2,5 mm ²	4P	10	C	B or B+
MR4528-PH	2,2	11,5	-	380V / 50Hz / 3P	23,3	5x4 mm ²	4P	25	C	B or B+
MR4528-HC	2,2	-	-	380V / 50Hz / 3P	3,9	5x2,5 mm ²	4P	10	C	B or B+
MR4528-EH	2,2	-	11,5	380V / 50Hz / 3P	23,3	5x4 mm ²	4P	25	C	B or B+
MR4528-PH-HC	2,2	11,5	-	380V / 50Hz / 3P	23,3	5x4 mm ²	4P	25	C	B or B+
MR4528-PH-EH	2,2	11,5	11,5	380V / 50Hz / 3P	42,7	5x10 mm ²	4P	50	C	B or B+
MR4535	3,7	-	-	380V / 50Hz / 3P	6,6	5x2,5 mm ²	4P	16	C	B or B+
MR4535-PH	3,7	14	-	380V / 50Hz / 3P	30,2	5x6 mm ²	4P	32	C	B or B+
MR4535-HC	3,7	-	-	380V / 50Hz / 3P	6,6	5x2,5 mm ²	4P	16	C	B or B+
MR4535-EH	3,7	-	14	380V / 50Hz / 3P	30,2	5x6 mm ²	4P	32	C	B or B+
MR4535-PH-HC	3,7	14	-	380V / 50Hz / 3P	30,2	5x6 mm ²	4P	32	C	B or B+
MR4535-PH-EH	3,7	14	14	380V / 50Hz / 3P	53,8	5x16 mm ²	4P	63	C	B or B+
MR4545	5,46	-	-	380V / 50Hz / 3P	9,5	5x2,5 mm ²	4P	16	C	B or B+
MR4545-PH	5,46	17	-	380V / 50Hz / 3P	38,2	5x6 mm ²	4P	40	C	B or B+
MR4545-HC	5,46	-	-	380V / 50Hz / 3P	9,5	5x2,5 mm ²	4P	16	C	B or B+
MR4545-EH	5,46	-	17	380V / 50Hz / 3P	38,2	5x6 mm ²	4P	40	C	B or B+
MR4545-PH-HC	5,46	17	-	380V / 50Hz / 3P	38,2	5x6 mm ²	4P	40	C	B or B+
MR4545-PH-EH	5,46	17	17	380V / 50Hz / 3P	66,9	5x25 mm ²	4P	80	C	B or B+
MR4565	5,1	-	-	380V / 50Hz / 3P	8,8	5x2,5 mm ²	4P	16	C	B or B+
MR4565-PH	5,1	28	-	380V / 50Hz / 3P	56,1	5x16 mm ²	4P	63	C	B or B+
MR4565-HC	5,1	-	-	380V / 50Hz / 3P	8,8	5x2,5 mm ²	4P	16	C	B or B+
MR4565-EH	5,1	-	28	380V / 50Hz / 3P	56,1	5x16 mm ²	4P	63	C	B or B+
MR4565-PH-HC	5,1	28	-	380V / 50Hz / 3P	56,1	5x16 mm ²	4P	63	C	B or B+
MR4565-PH-EH	5,1	28	28	380V / 50Hz / 3P	103,3	5x35 mm ²	4P	120	C	B or B+

REVISION	REVISION NO	REVISION DATE
First edition	0	September 2023
Model names changed	1	December 2023

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