



RTER
Rotary Heat
Recovery Unit

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Doğu İklimlendirme A.Ş.

Venues Breathe with DOGU HVAC Systems!

DOGU HVAC founded in 1999, and ever since has been manufacturing energy and cost efficient products as Air Handling Units, Air Distribution & Management & Movement Systems [HVAC Components] and constantly enhancing to provide an integrated solution for well-being. DOGU HVAC's core business products which are subsumed under 4 major groups as Air Handling Units, Heat/Energy Recovery Units, Air Distribution & Management Products and Kitchen Ventilation Equipment are all produced under the compliance with EU standards. Particularly AHU and HRU-ER units are entitled under the "FOUR SEASONS" brand name for domestic and foreign markets. DOGU HVAC's, headquarter in Izmir/Turkey, operates in a large-sized plant spread over 2 factories, in total area of 45.000 sqm in which 25.000 sqm indoor space that enables DOGU HVAC manufactures 180 various type of products. Additionally, DOGU HVAC has a powerful sales network with 4 sales offices located in İstanbul, Ankara, Antalya and Adana in Turkey as well as authorized dealers in many other countries for sales and after sales operations. DOGU HVAC has been exporting to more than 55 countries.

Thanks to our "Customer Satisfaction", "Zero-Defect Policy" motto and reinforced by complete certified products, more than 250 employees. DOGU HVAC R&D center developed exclusive products, such as Double Skin Make-Up Kitchen Hood, Recirculated Laminar Airflow Unit, Single Piece Square Ceiling Diffuser and Ecology Units, for the first time have brought to the sector. DOGU HVAC R&D has the ability to make customized production which can meet the requirement of the customers by means of special software such as "ANSYS FLUENT". DOGU HVAC guaranteed its quality of management by having advantages of ISO 9001, ISO 14001, ISO 18001 certifications. Air Handling Units have EUROVENT, TUV Hygiene [in accordance with DIN1946-4, VDI 6022-1, DIN EN 13053 standards], CE, TSEK, GOST-R certifications; Fire Dampers have EN 1366-2 and EN 13501-3 CE certifications; Smoke Control Dampers have EN 1366-10 and 12101-8 CE certifications; Kitchen Ventilation Products have TSEK, CE and GOST-R quality certifications.



FOUR-RTER

- Left and right switchable service direction for all modals.
- High efficient EC fans with low sound level.
- High efficiency heat recovery
- Hygienic condensate drip tray.
- Full integrated plug & play control system.
- Duble skin, 50 mm insulation.



Heat Exchanger

- High efficiency sorption rotary heat exchanger.
- Special application for the anti-freeze protection.

Fans

- New generation EC fans.
- Low power consumption.
- Low sound level.
- 10 years lifetime. (40.000 hours)

Options

- Electrical Heater
- DX/Heating/Cooling Coil
- Attenuator
- Dampers

General Features

RTER-1 switchable duct connection(top or side) and interchangeable service doors with new fan positioning acc.to new regulation for Rotary wheeled units(to prevent the leakage of exhaust air to supply air).

RTER-2 only side outlet (not switchable) and interchangeable service doors.

RTER-3 switchable duct connection(top or side) and interchangeable service doors (with smaller dimensions)

Filters

- Large filtering area for energy efficiency and long service period.
- High efficiency ISO ePM1 55% and ePM10 75% filters on supply, ePM10 75% filter on extract air side.

RTER-1



RTER-2



RTER-3



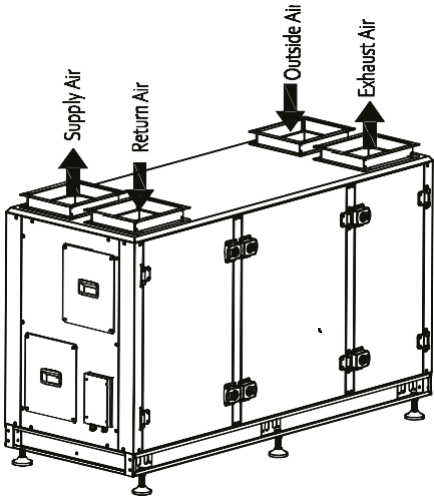
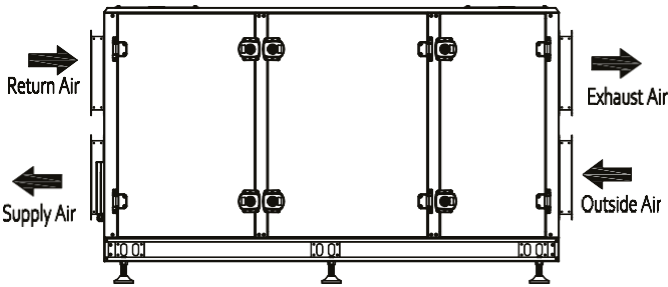
1. Supply filter
2. Exhaust filter
3. Exhaust Fan
4. Supply Fan
5. Rotary Heat Exchanger
6. Control panel

	Power (W)		Voltage (V) / Current (A)		RPM (1/min)	
	Supply Fan	Extract Fan	Supply Fan	Extract Fan	Supply Fan	Extract Fan
RTER 010	170	170	230/1,4	230/1,4	2510	2510
RTER 018	500	500	230/2,2	230/2,2	3740	3740
RTER 025	660	660	230/2,9	230/2,9	2900	2900
RTER 035	750	750	230/3,3	230/3,3	2100	2100
RTER 050	1320	1320	380/2,1	380/2,1	2060	2060
RTER 070	1850	1850	380/2,9	380/2,9	2180	2180
RTER 090	2730	2730	380/4,2	380/4,2	2730	2730
RTER 110	3510	3510	380/5,4	380/5,4	1910	1910
RTER 140	4700	4700	380/7,3	380/7,3	1750	1750
RTER 200	6750	6750	380/10,3	380/10,3	1500	1500

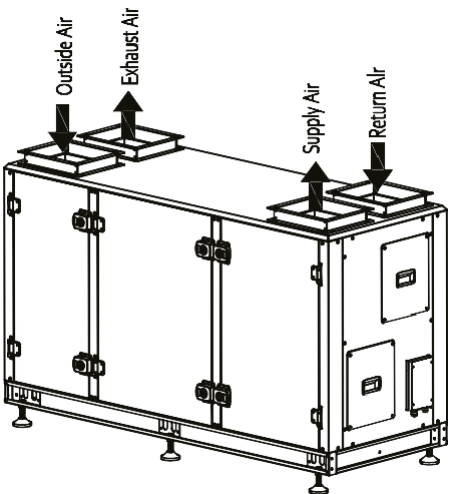
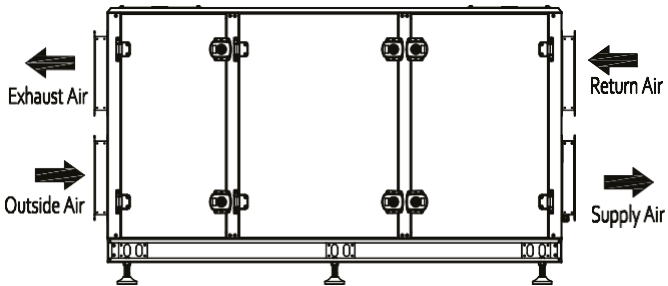
	RTER 010	RTER 018	RTER 025	RTER 035	RTER 050	RTER 070	RTER 090	RTER 110	RTER 140	RTER 200
MAXIMUM AIR FLOW (m³/h)	1075	1800	2500	3500	5000	7000	9000	11000	14000	20000
P (EXTERNAL) (Pa)	0	0	0	0	0	0	0	0	0	0
NOMINAL AIR FLOW (m³/h)	920	1500	2300	2800	4400	5800	8900	11000	13500	18500
P (EXTERNAL) (Pa)	200	200	200	200	200	200	200	200	200	200

RTER-1

LEFT

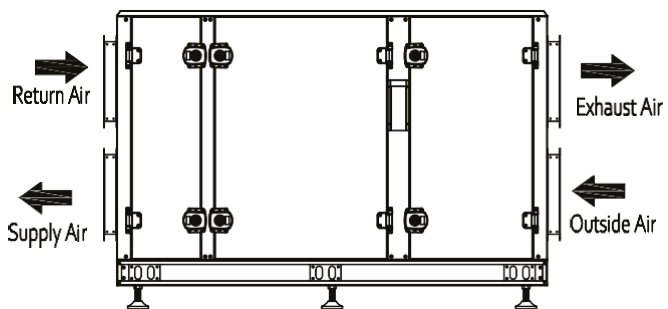


RIGHT

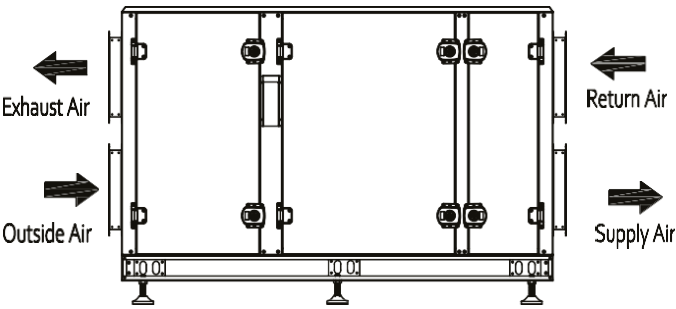


RTER-2

LEFT

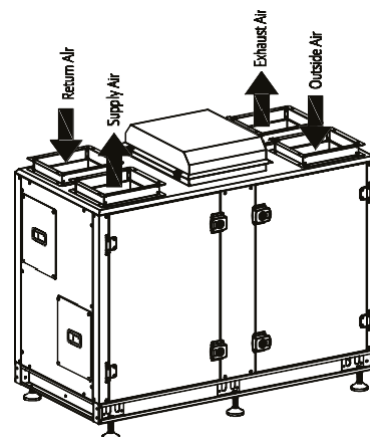
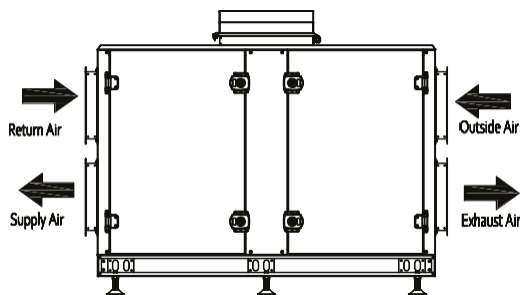


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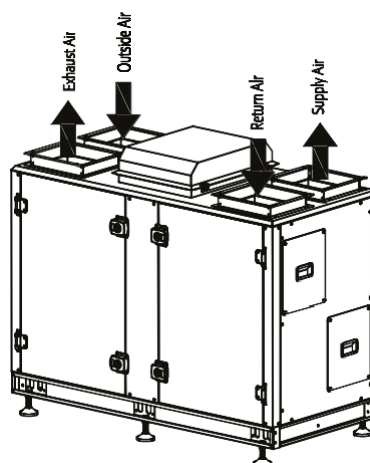
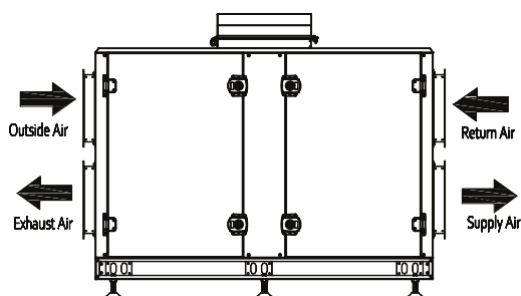


RTER-3 (1000/1800/2500/3500/5000/7000)

LEFT

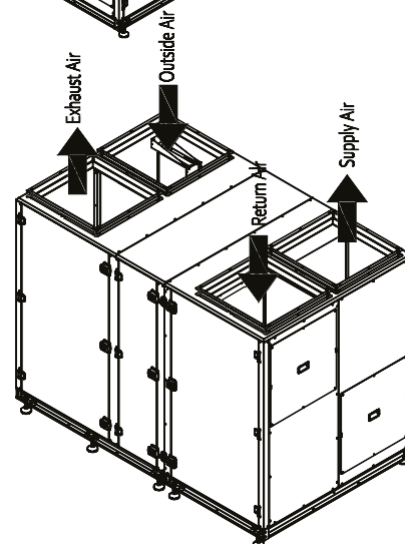
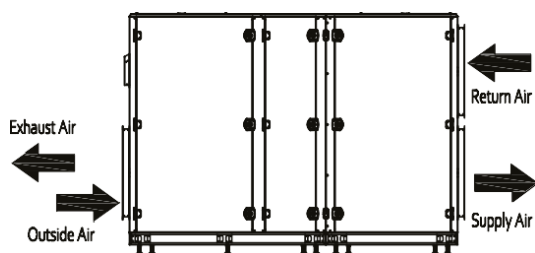
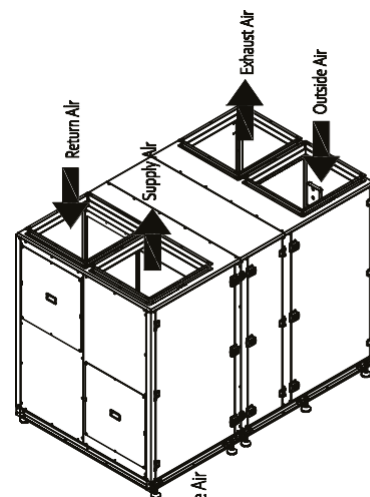
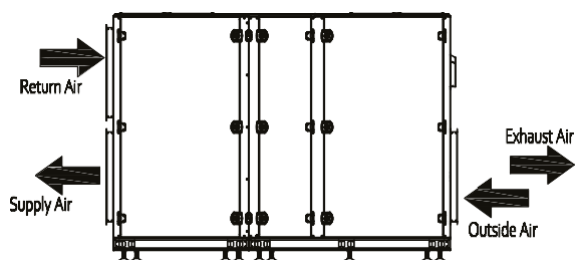


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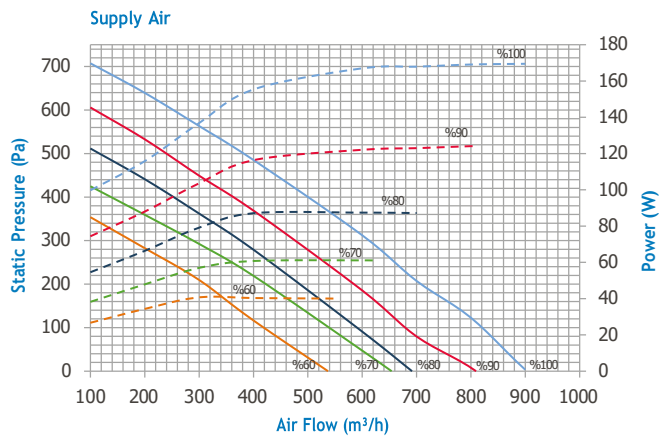


RTER-3 (9000/11000/14000/20000)

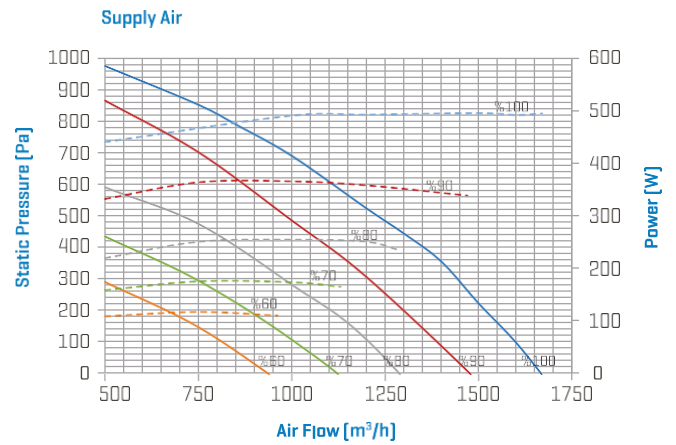
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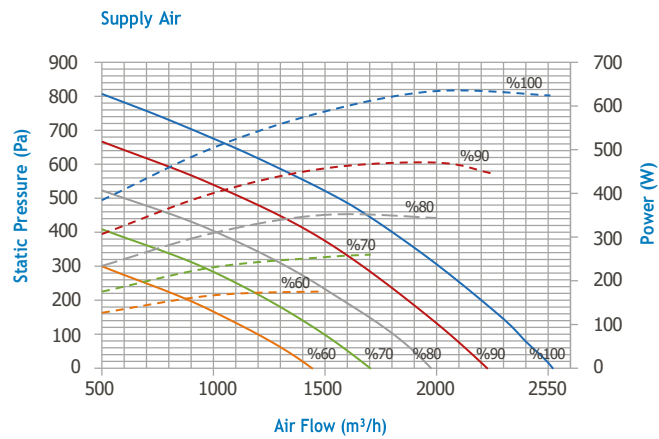
RTER 010



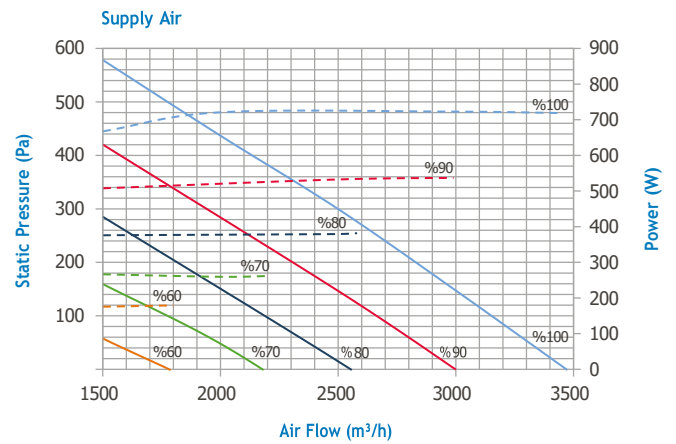
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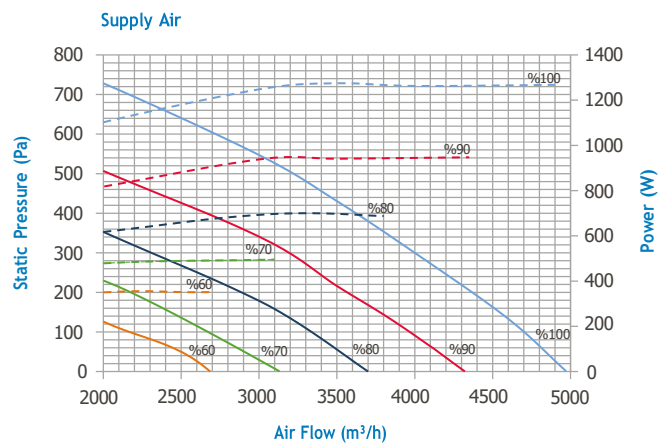
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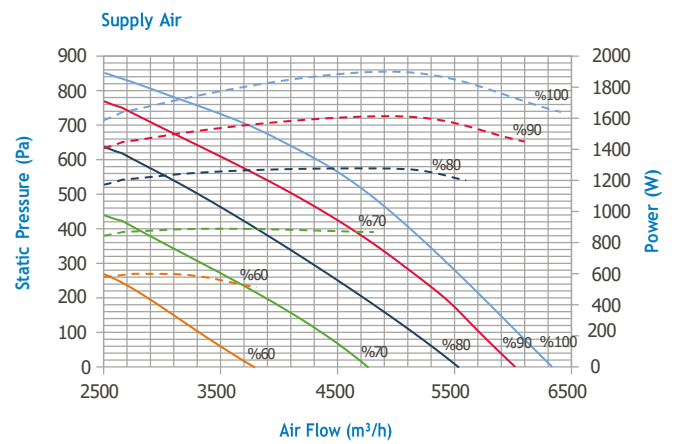
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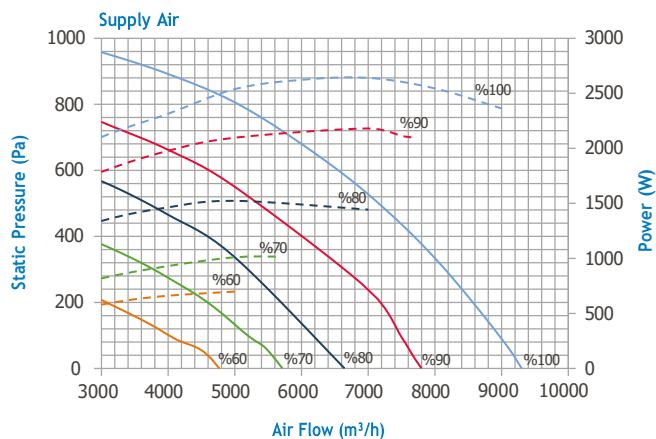
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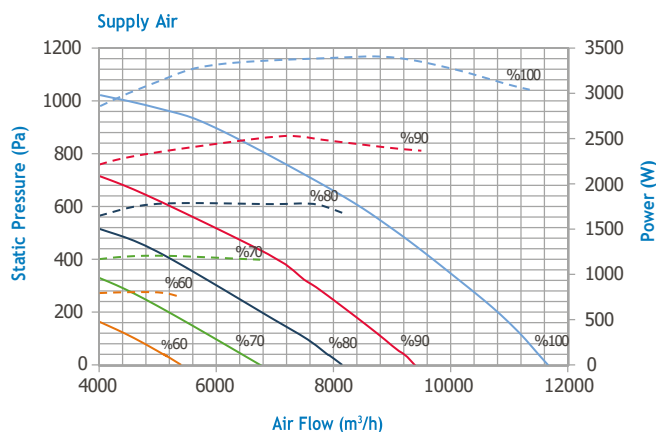
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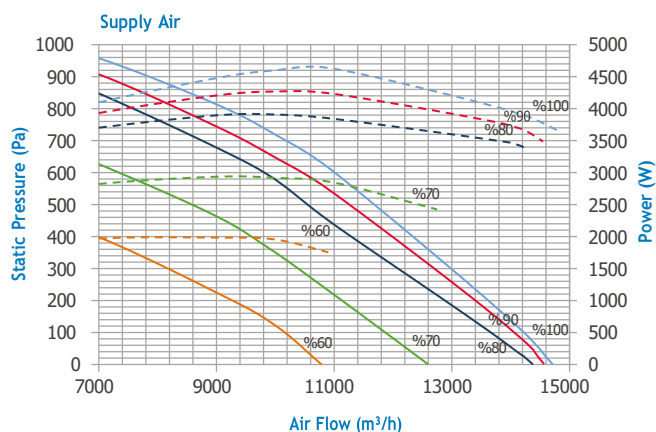
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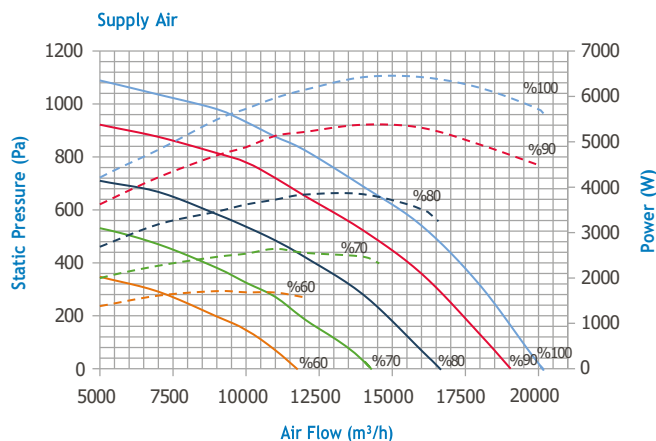
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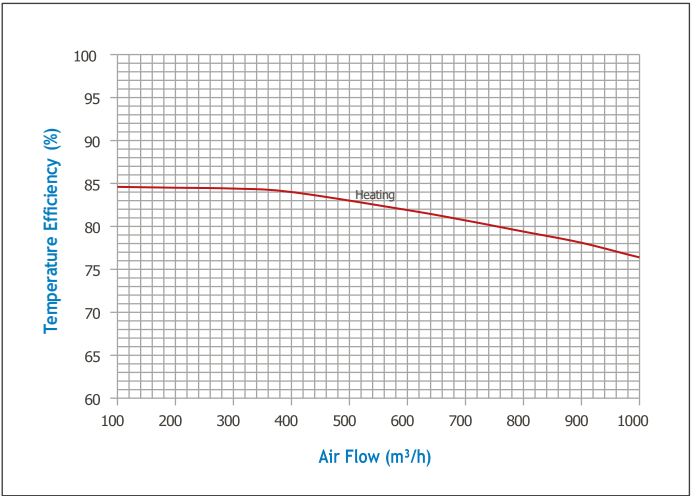
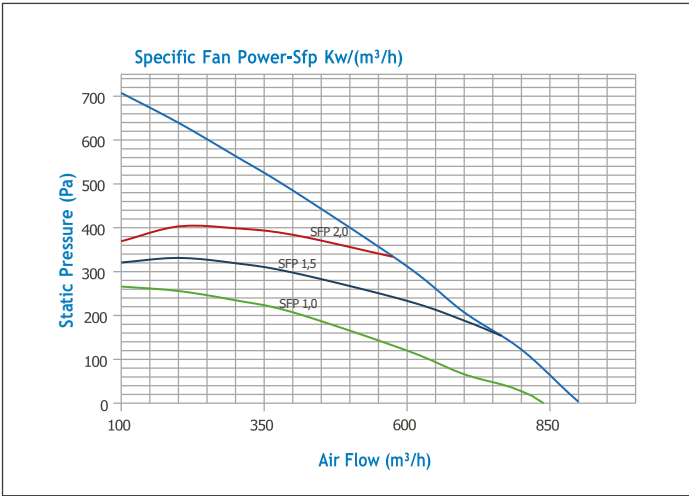
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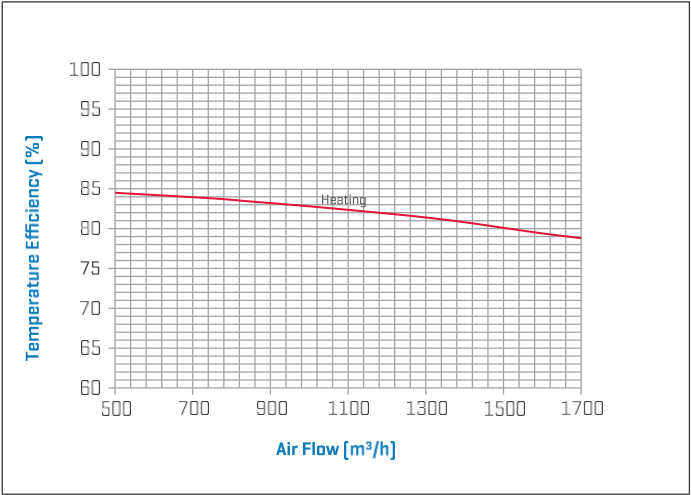
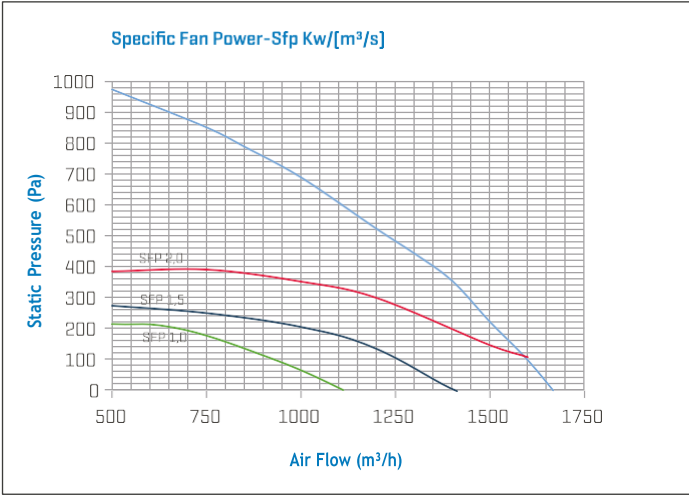
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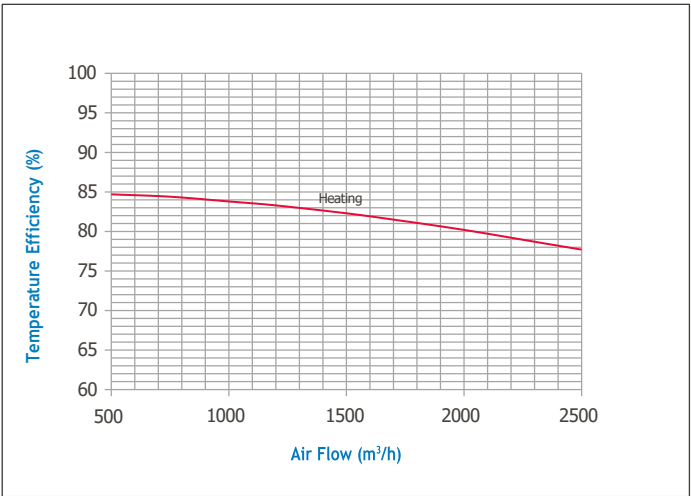
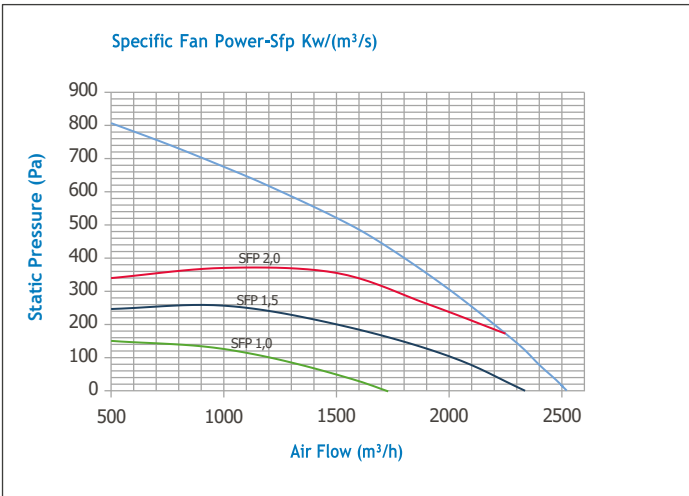
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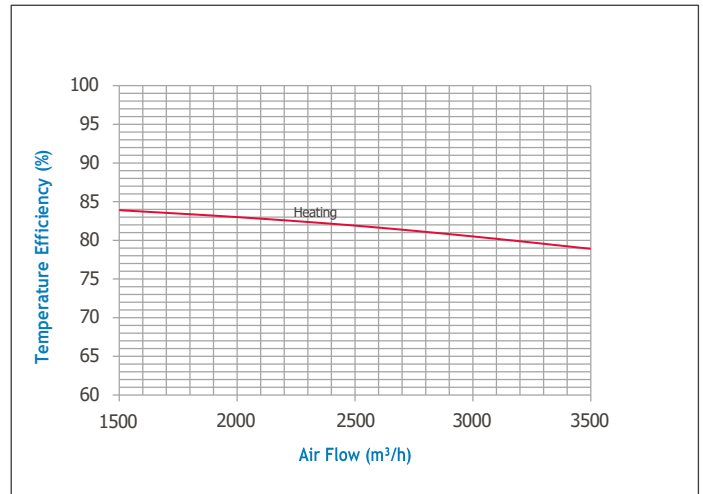
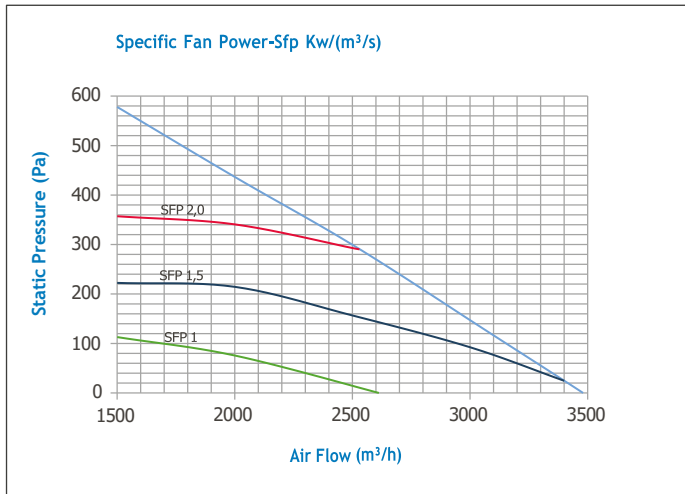
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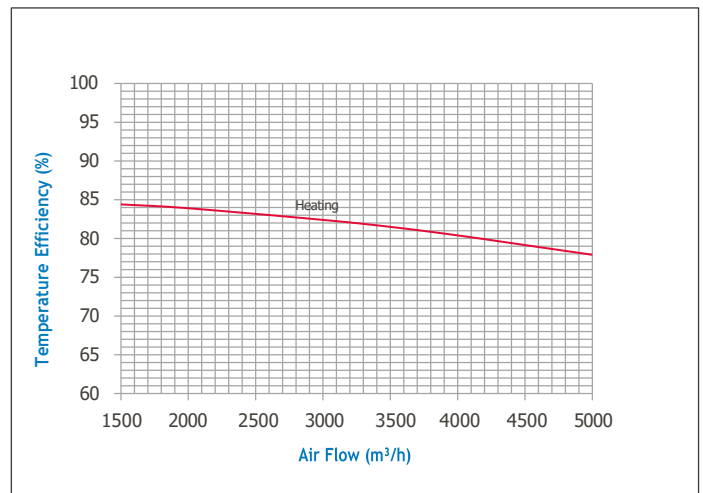
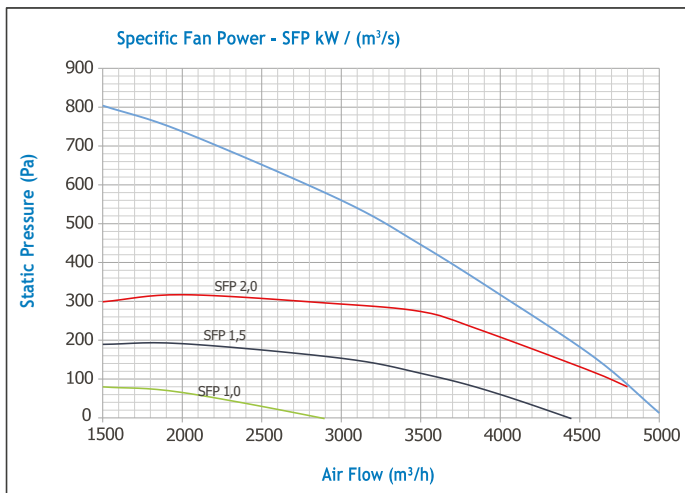
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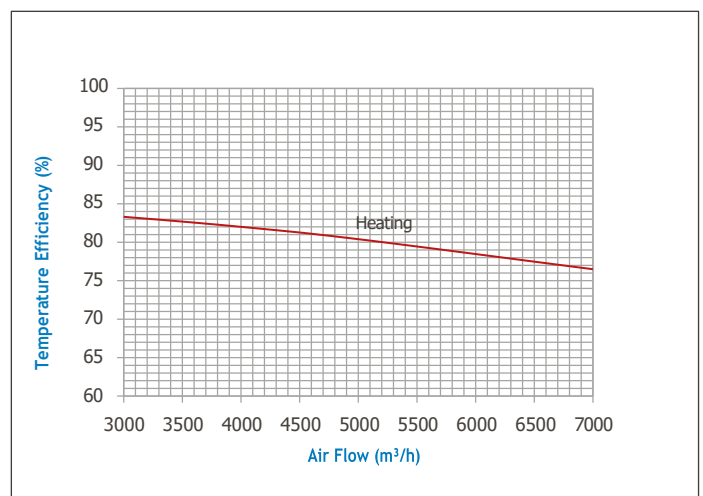
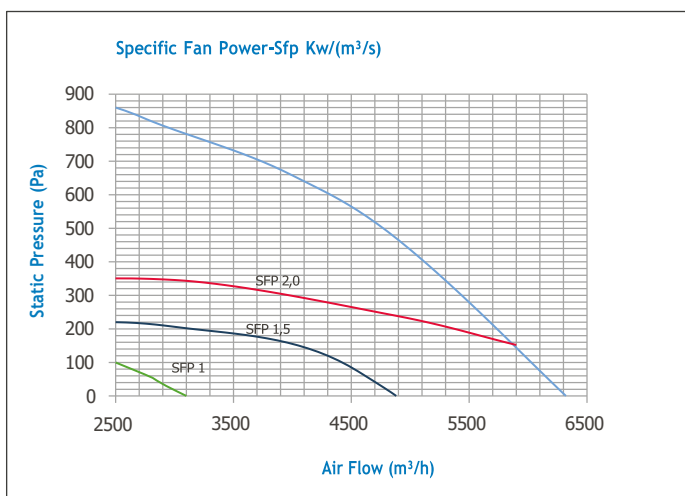
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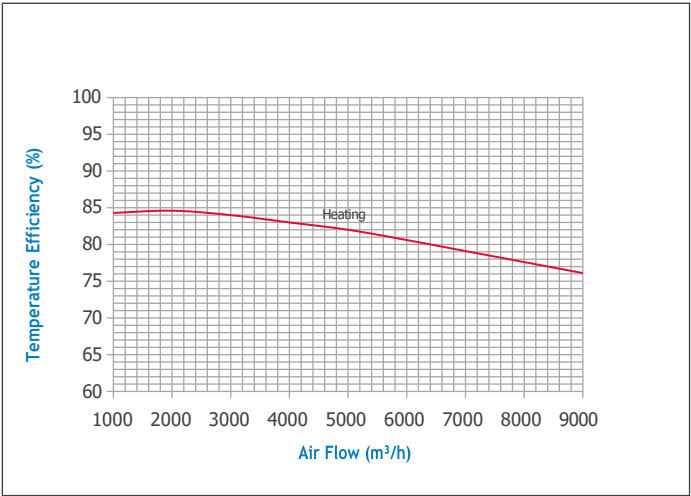
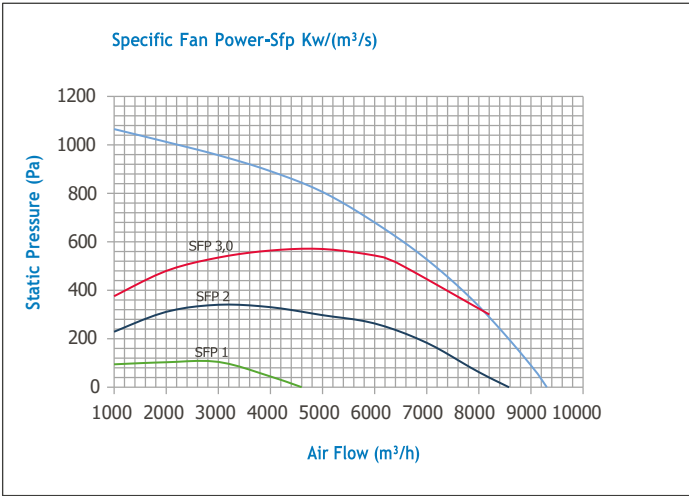
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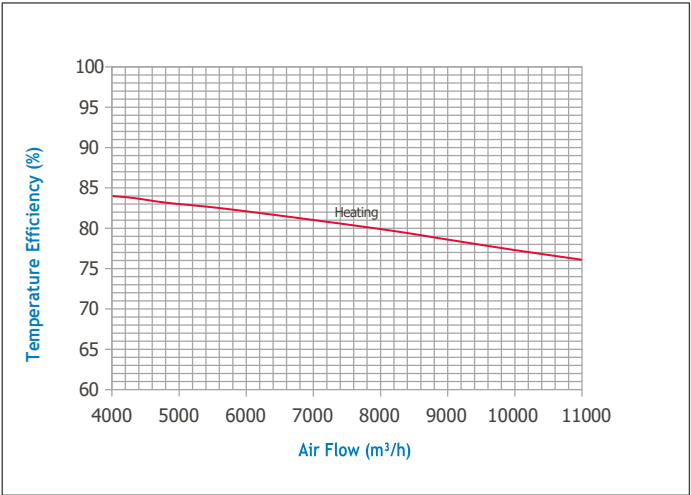
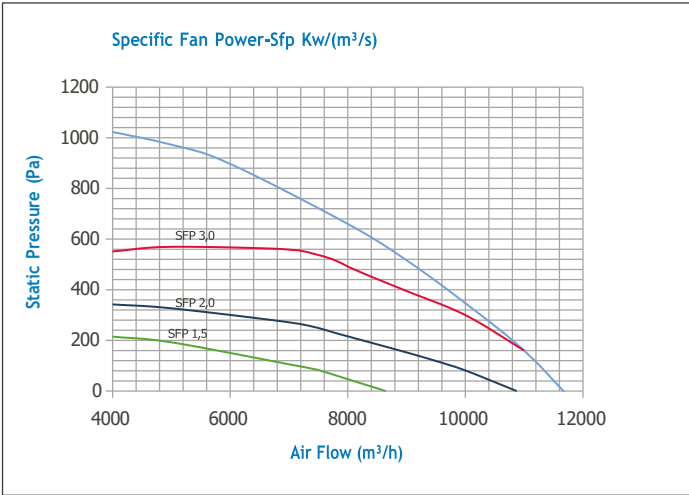
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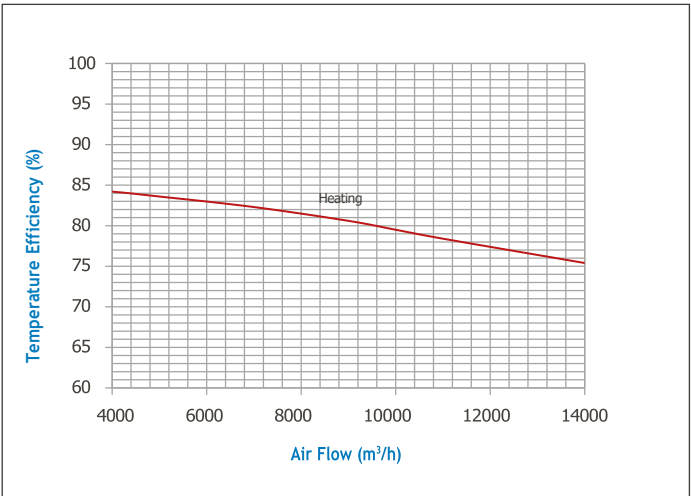
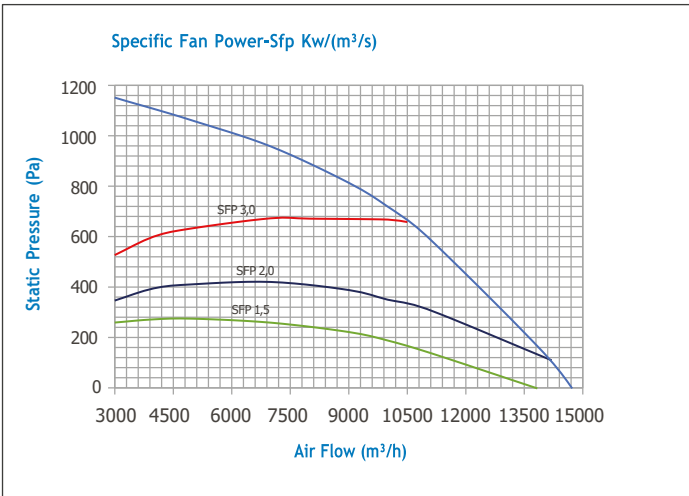
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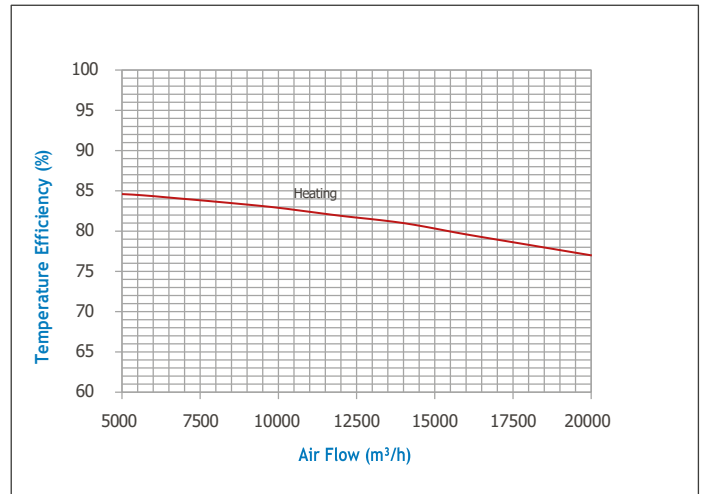
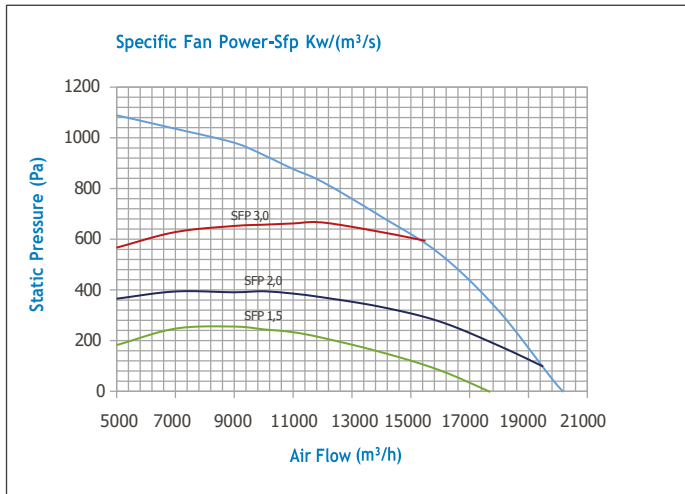
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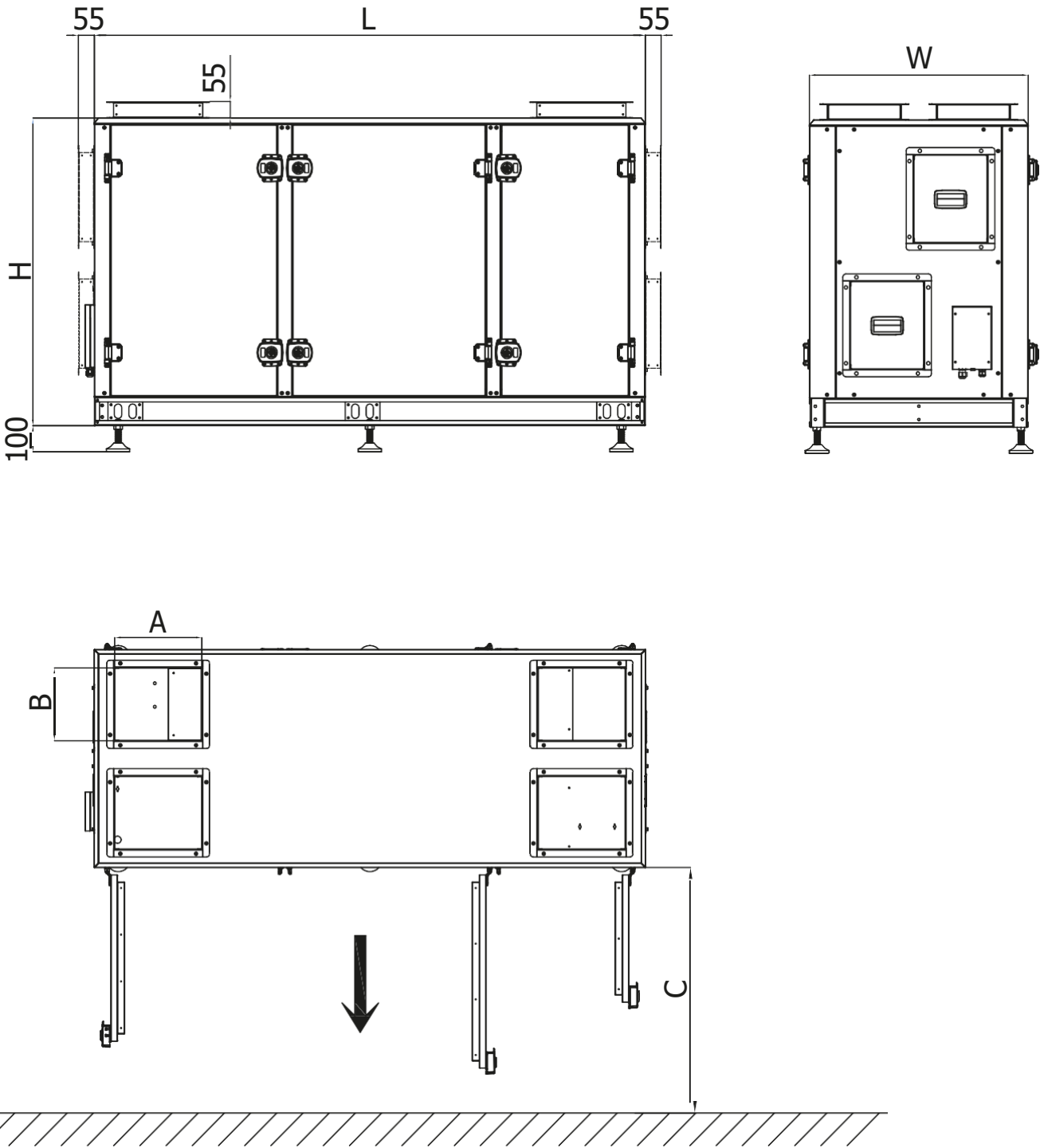
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RTER 200



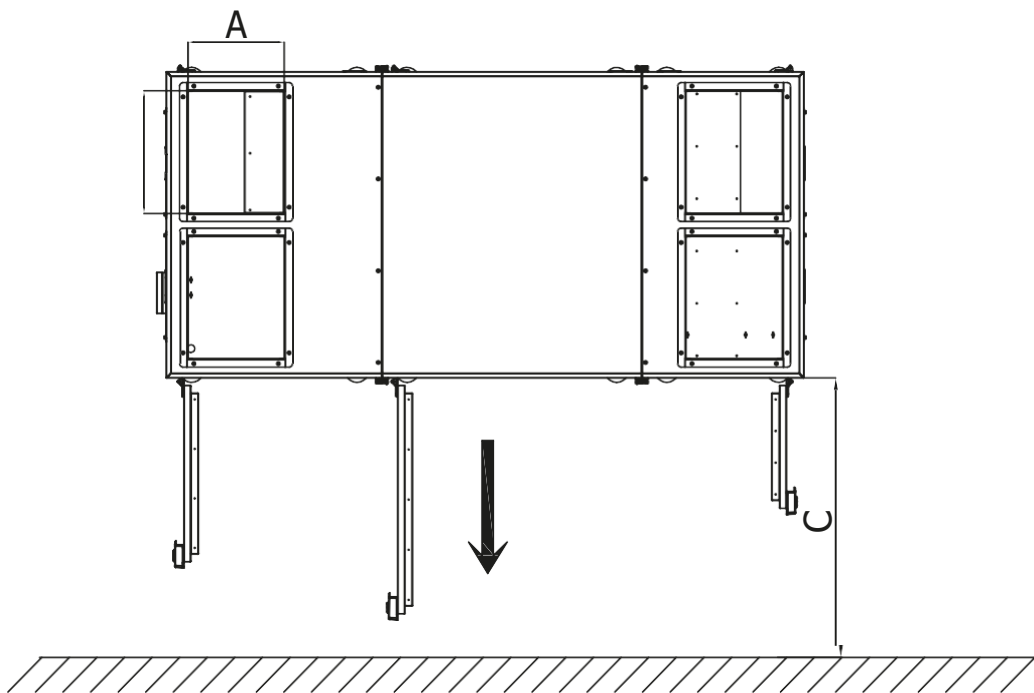
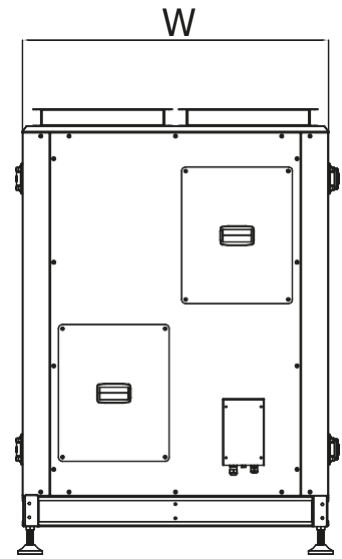
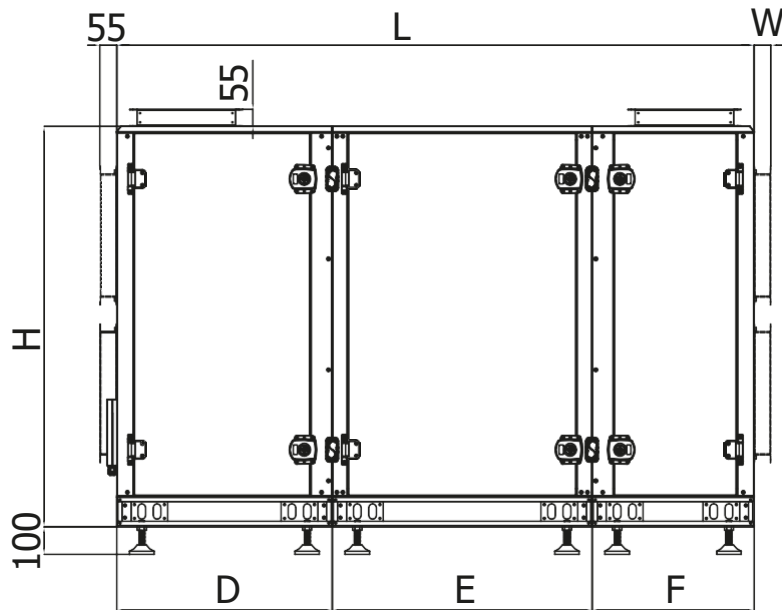
RTER-1 DIMENSIONS



CAPACITY	L	W	H	A	B	C	KG
RTER010-1	1900	700	1060	300	225	800	200
RTER018-1	1900	750	1060	300	250	850	206
RTER025-1	1980	850	1160	300	310	950	253

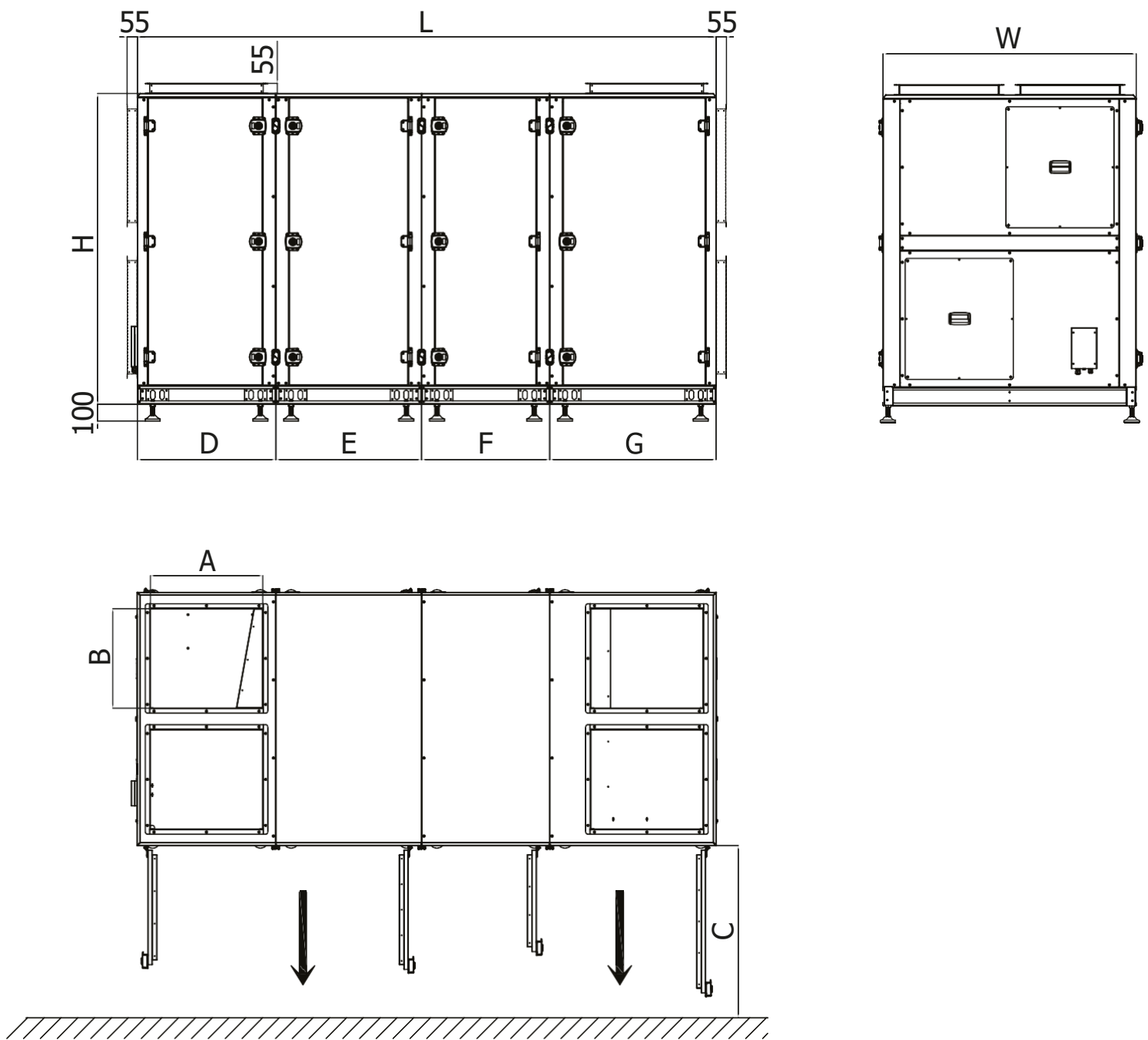
*All units are in mm.

RTER-1 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	F	KG
RTER035-1	2085	1000	1310	315	400	1100	705	850	530	416
RTER050-1	2340	1120	1430	400	400	1220	790	850	700	610

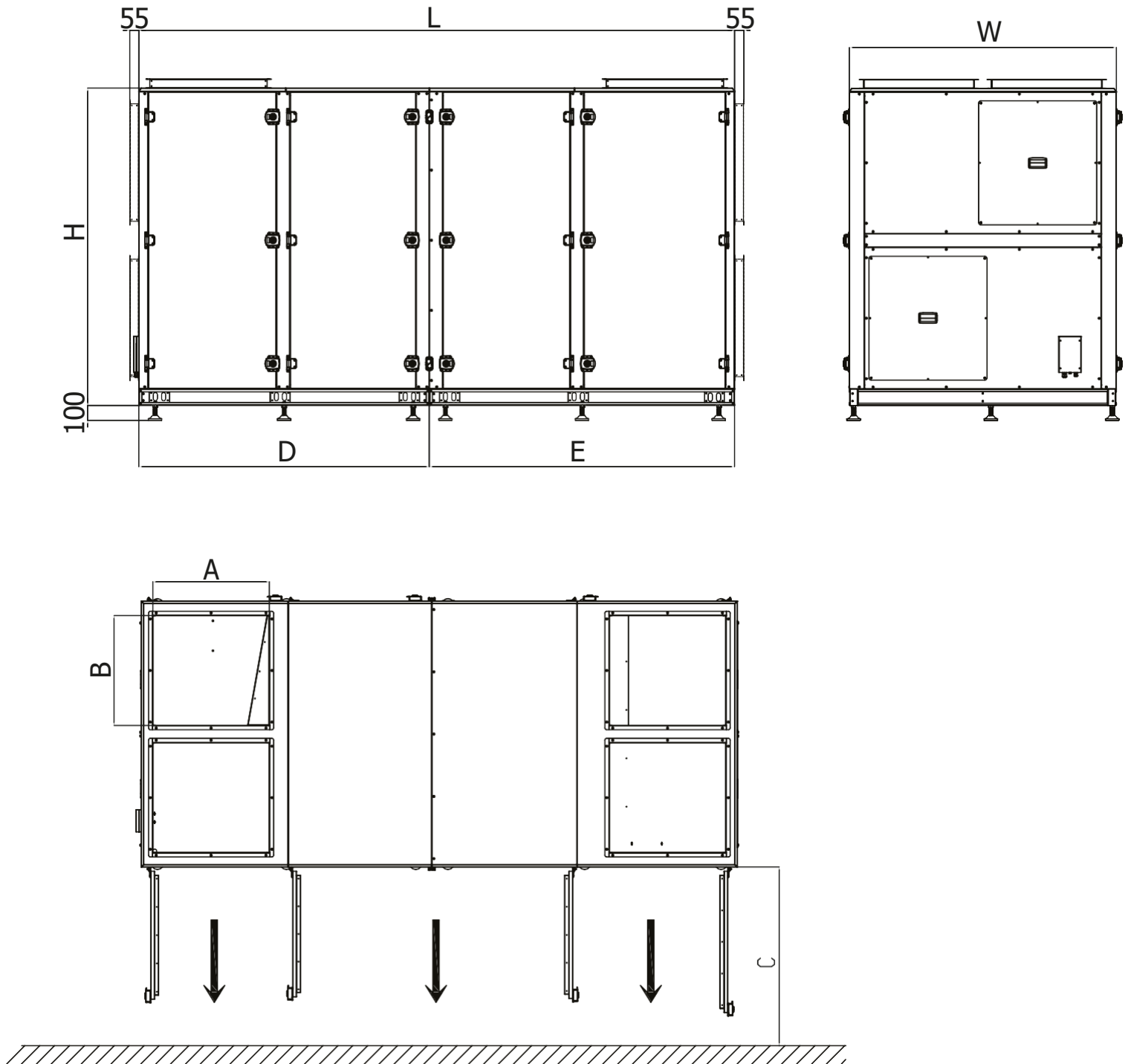
*All units are in mm.



CAPACITY	L	W	H	A	B	C	D	E	F	G	KG
RTER070-1	2895	1230	1540	500	460	1330	640	780	685	790	832
RTER098-1	3095	1350	1660	600	530	1450	740	780	685	890	976
RTER110-1	3095	1475	1785	600	595	1575	740	780	685	890	1040

*All units are in mm.

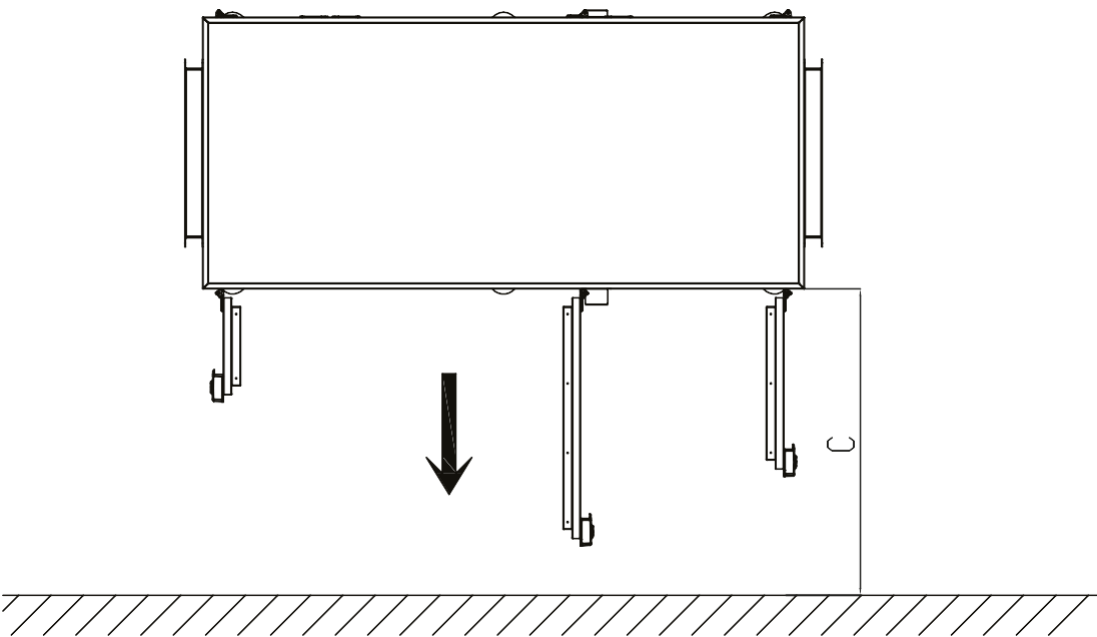
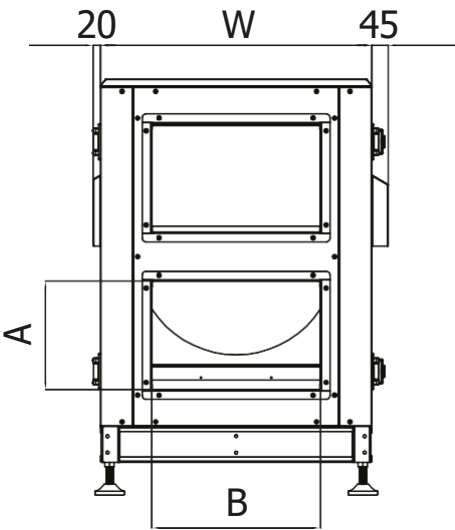
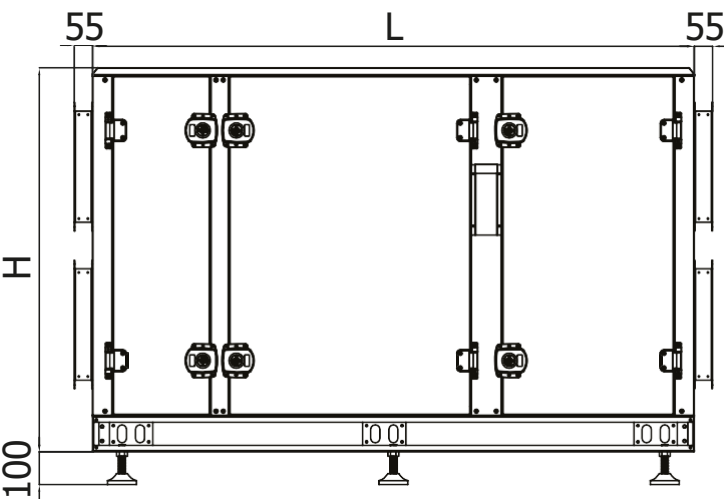
RTER-1 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	F	KG
RTER140-1	3590	1600	1910	700	660	1700	1750	1840	0	1445
RTER200-1	3530	2025	2250	900	800	2125	1300	1200	1030	2160

*All units are in mm.

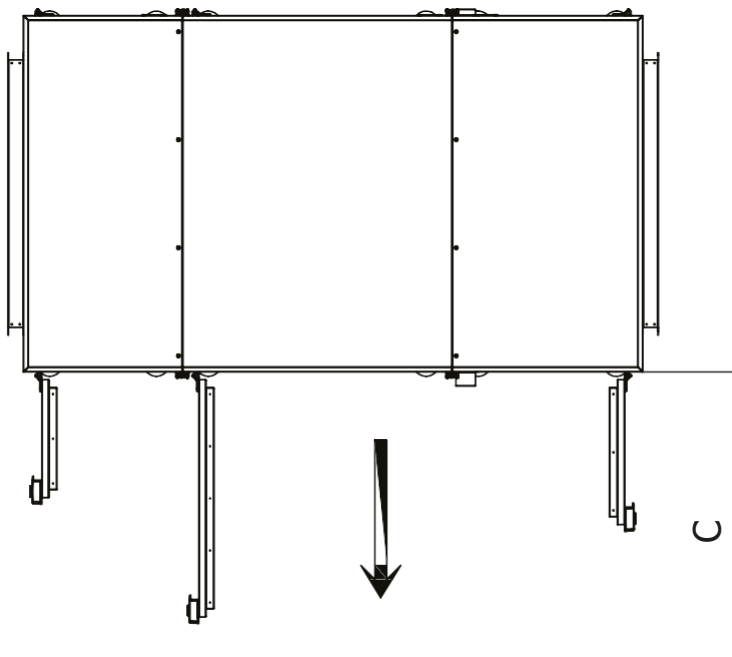
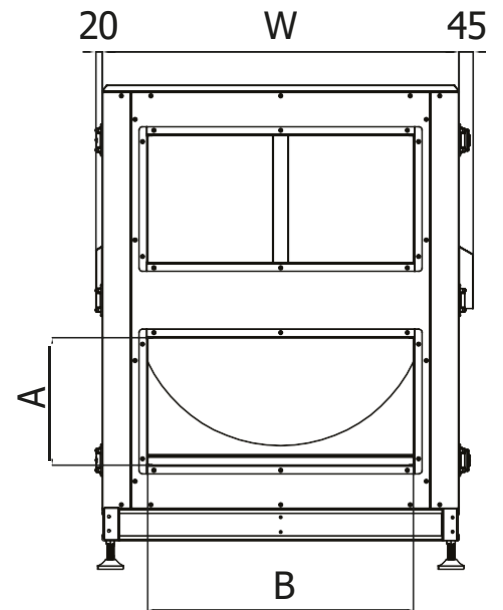
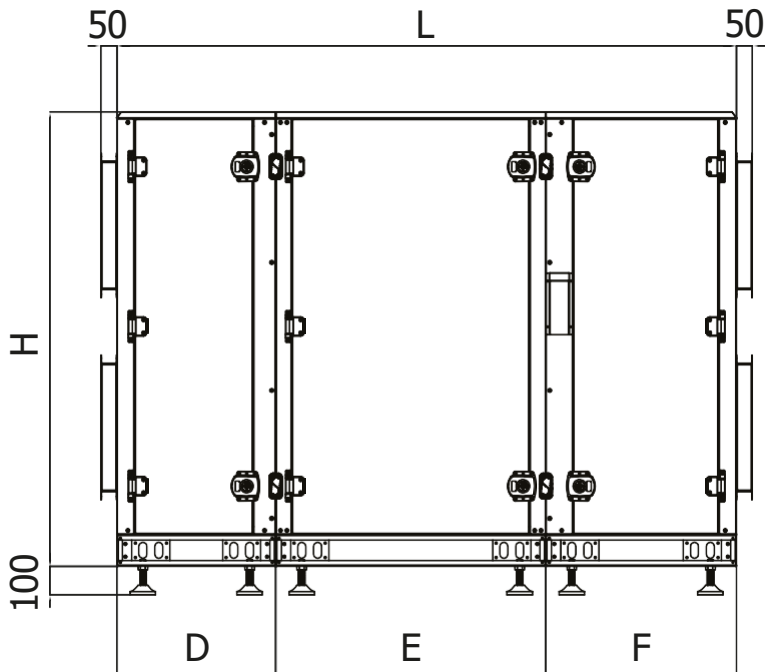
RTER-2 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	KG
RTER010-2	1665	700	961	415	300	865	0	0	185
RTER018-2	1665	750	961	465	300	915	0	0	195
RTER025-2	1745	850	1061	565	300	1015	0	0	210
RTER035-2	1720	1000	1211	715	400	1165	825	895	396

*All units are in mm.

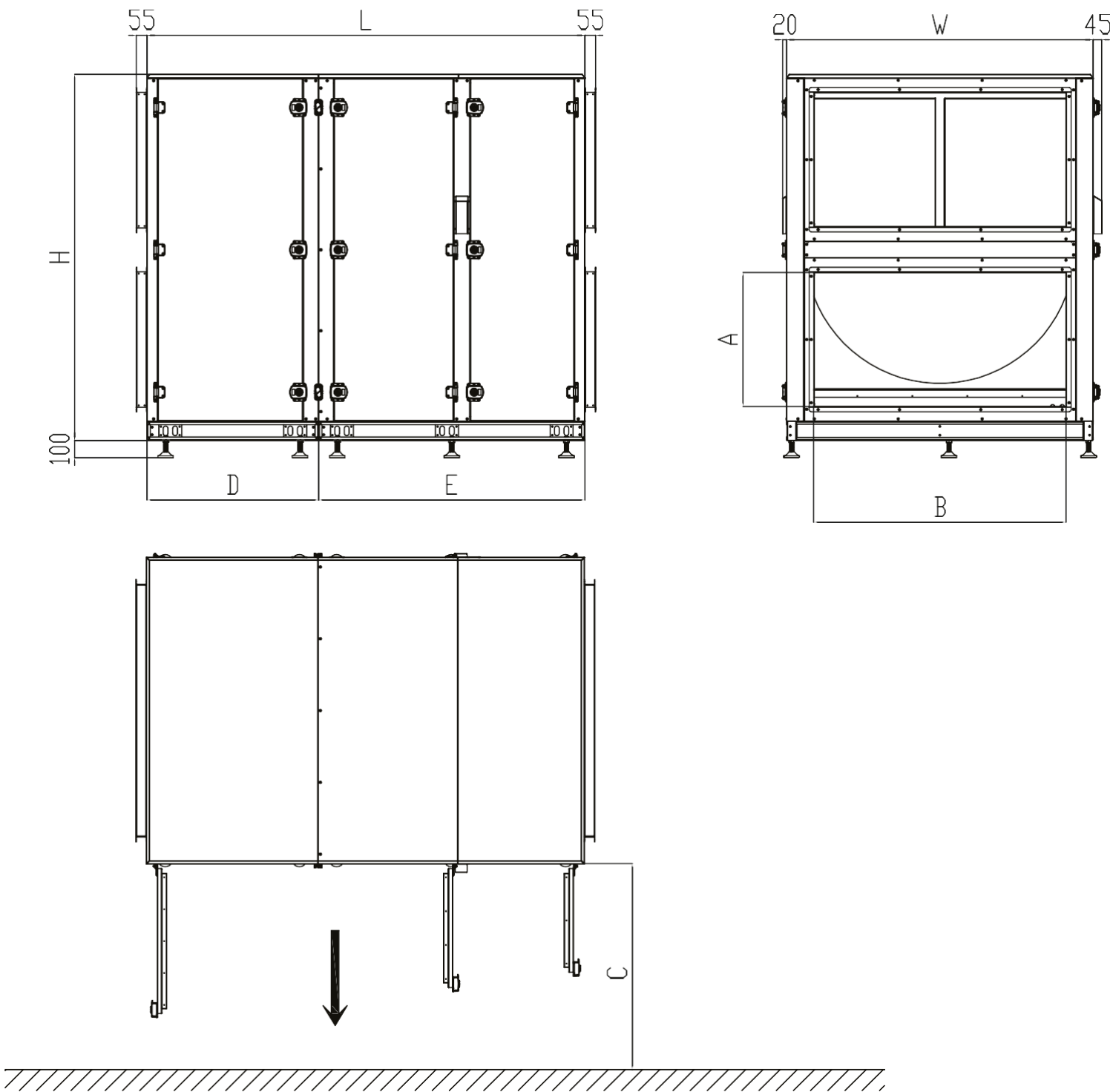
RTER-2 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	F	KG
RTER050-2	1950	1120	1430	835	400	1285	500	850	600	600
RTER070-2	2050	1230	1441	945	500	1330	765	685	600	825
RTER090-2	2050	1350	1661	1060	600	1450	765	685	600	920
RTER110-2	2050	1475	1786	1190	600	1575	765	685	600	970

*All units are in mm.

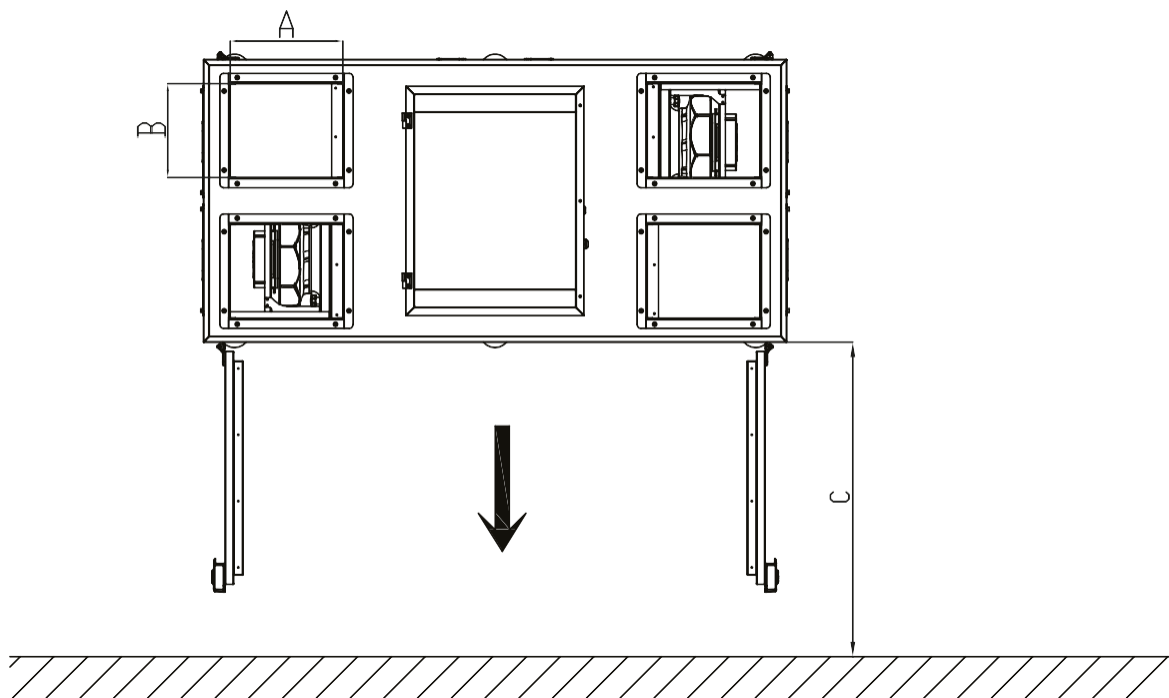
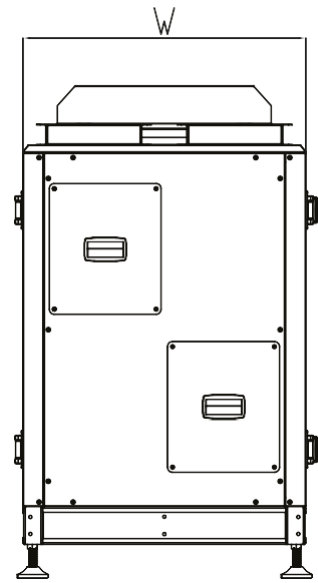
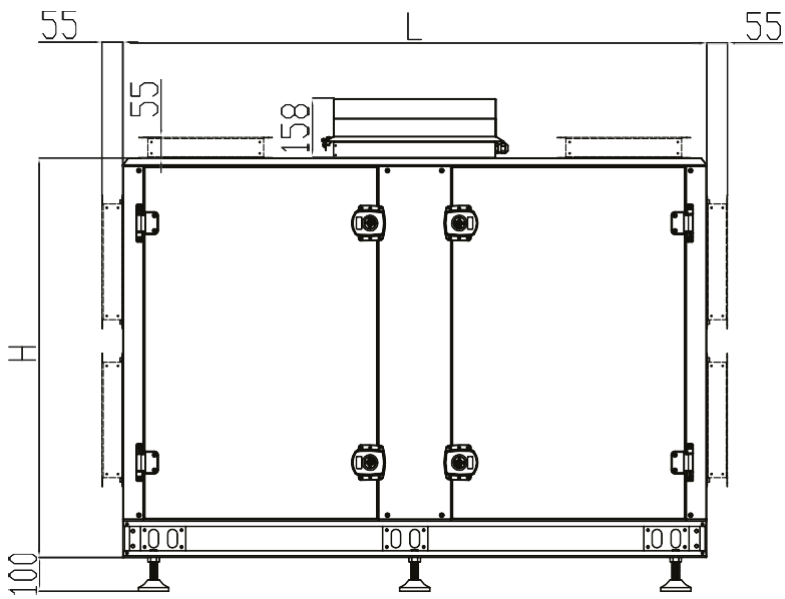
RTER-2 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	KG
RTER140-2	2285	1600	1911	1315	700	1765	895	1390	1250
RTER200-2	2365	2025	2250	1725	900	2190	975	1390	2000

*All units are in mm.

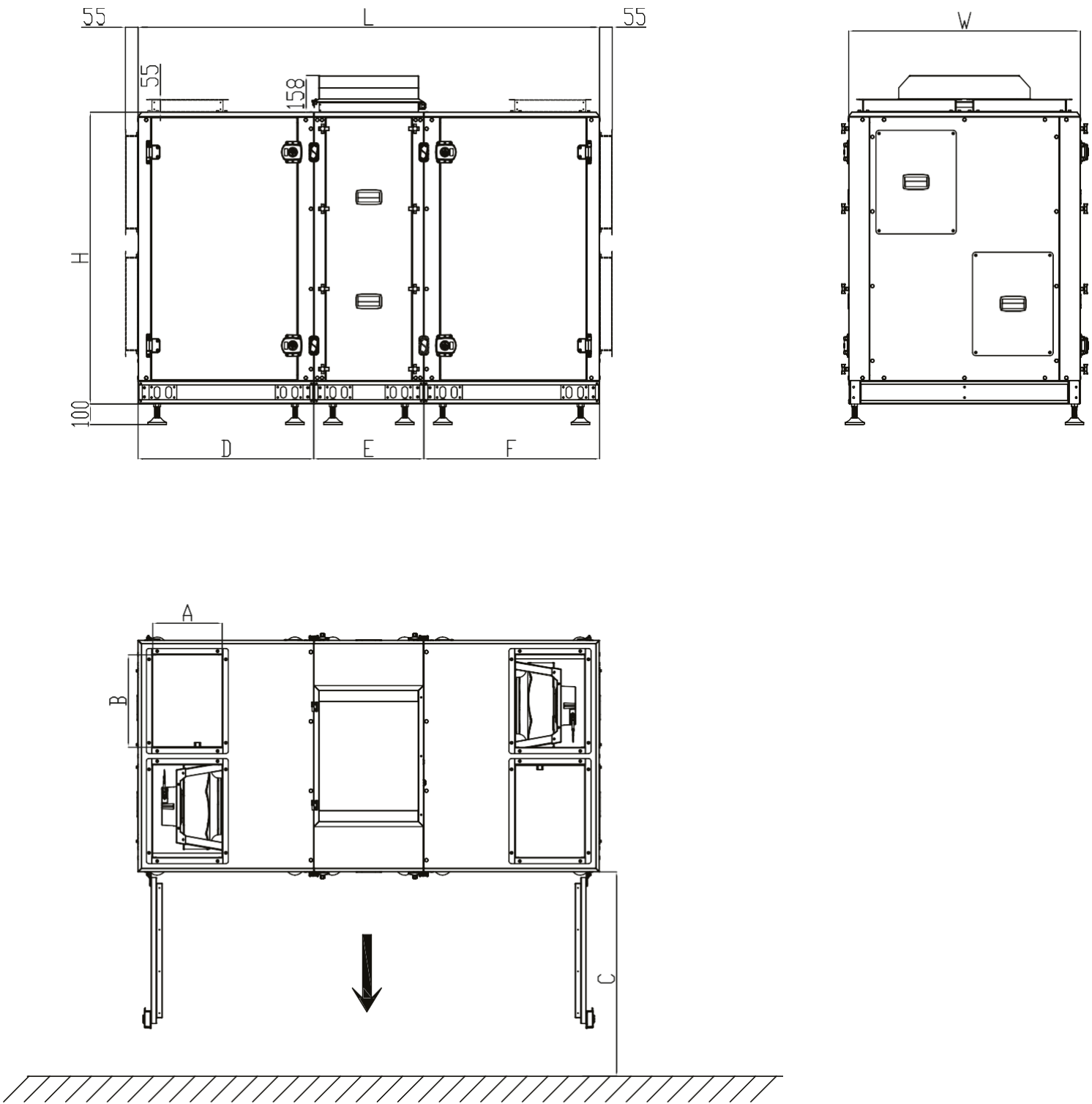
RTER-3 DIMENSIONS



CAPACITY	L	W	H	A	B	C	KG
RTER-010-3	1450	700	1010	200	225	800	190
RTER-018-3	1550	750	1060	300	250	850	196
RTER-025-3	1650	850	1160	300	310	950	243

*All units are in mm.

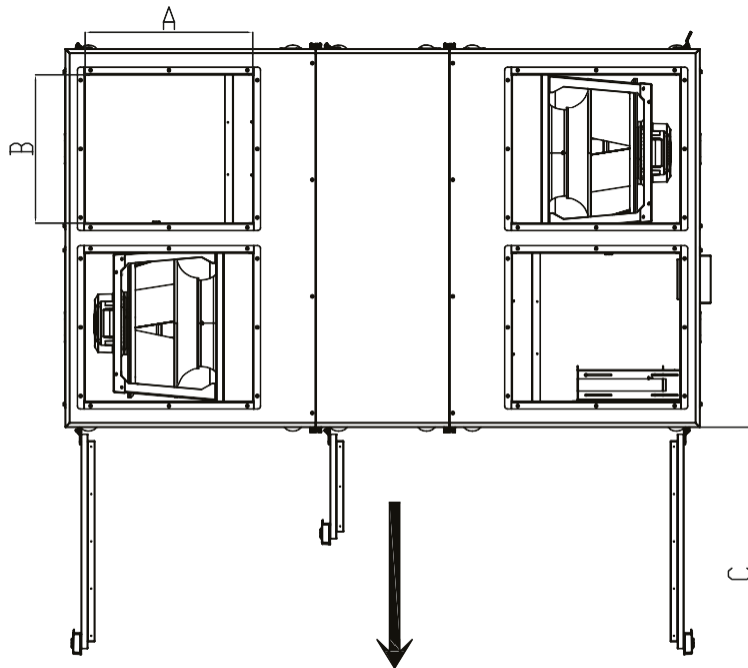
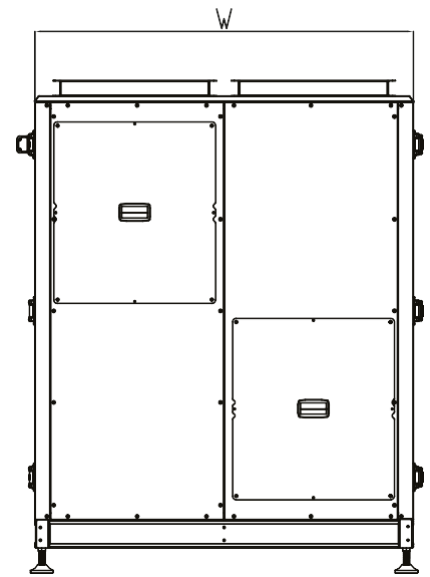
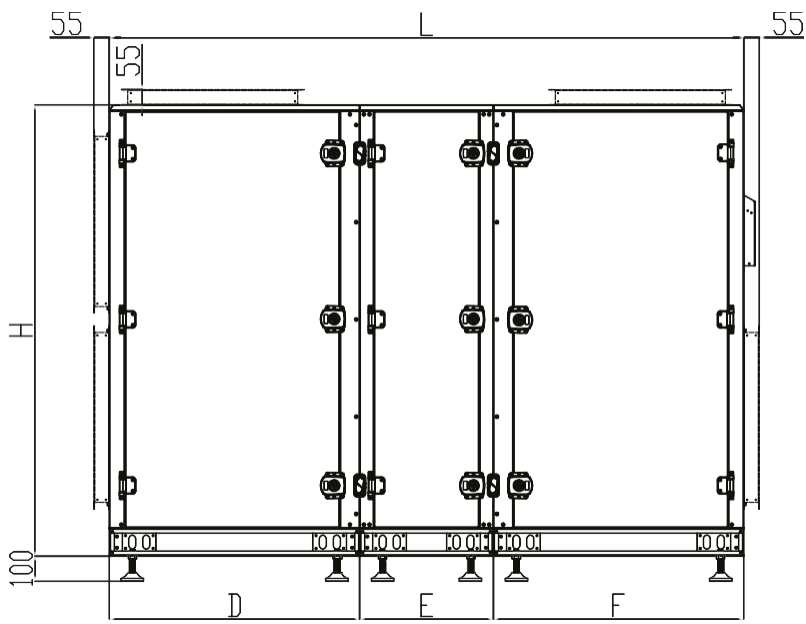
RTER-3 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	F	KG
RTER035-3	1950	1000	1260	300	400	1100	760	475	760	406
RTER050-3	2095	1120	1380	400	400	1220	810	475	810	600
RTER070-3	2265	1230	1490	460	500	1330	895	475	895	823

*All units are in mm.

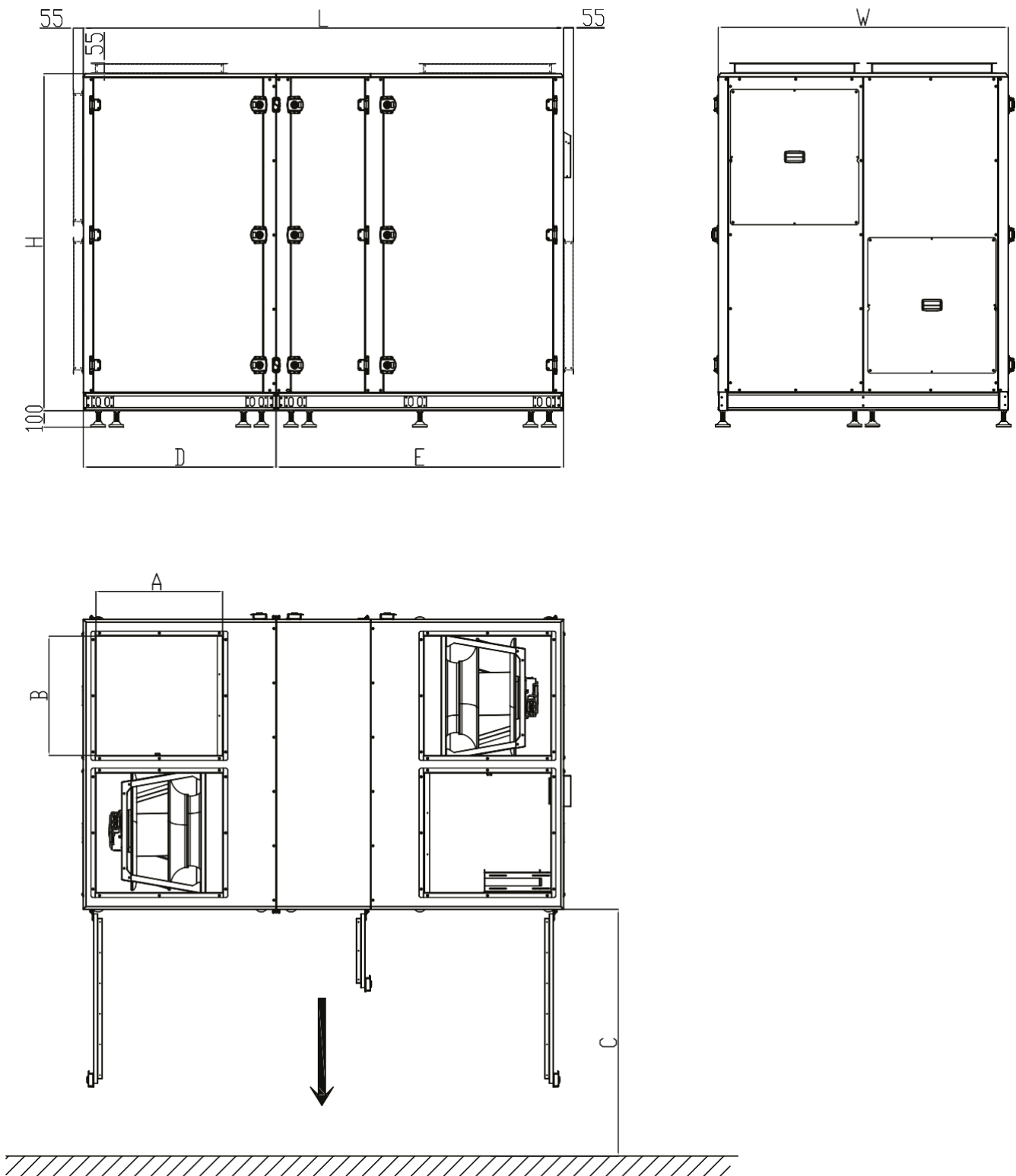
RTER-3 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	F	KG
RTER090-3	2268	1350	1610	600	530	1450	895	478	895	966
RTER110-3	2268	1475	1735	600	595	1575	895	478	895	1030

*All units are in mm.

RTER-3 DIMENSIONS



CAPACITY	L	W	H	A	B	C	D	E	KG
RTER140-3	2652	1600	1860	700	660	1700	1065	1587	1435
RTER200-3	2973	2025	2285	800	850	2125	1273	1700	2150

*All units are in mm.

Operation	Description	Standart
On / Off	Control panel or external start stop function is available.	Standard
Display	Digital control panel is available.	Standard
Rotor Control	On/Off Control	Standard
Fan Speed Control	Constant air flow or constant pressure.	Optional
Fan Speed Control	Airflow control based on the air quality sensor is available.	Optional
Frost Protection Function	When outdoor temperature is low, this function will become active by receiving information from humidity and temperature sensors.	Standard
ModBus	It controls all functions of unit via PC or central control system board.	Standard
Filter Function	There are 2 alternatives to control filters: 1: It records run time of the unit and when set time expires, control panel gives an alert for filter change. 2: Filter change time can be controlled with pressure switch mechanically. By this way, control panel gives an alert when filter needs to be changed.	Standard
Safety	It automatically stops operating in case of interfering to the unit while it is working.	Standard
Fire Alarm Function	It will be active in case of fire.	Standard
Heating Coil	Heating coil valves on the device which include optional heating coil, are controlled by proportional valve motors with PID logic and sensitivity.	Optional
Frost Control	Optional heating coils also include frost thermostat to prevent the coil to freeze.	Optional

ACCESSORIES

Attenuator



	RTER 010	RTER 018	RTER 025	RTER 035	RTER 050	RTER 070	RTER 090	RTER 110	RTER 140	RTER 200
Width (mm)	710	770	820	760	1310	1300	1210	1960	2130	2420
Height (mm)	250	250	300	315	375	490	550	610	700	880
Lenght (mm)	600	600	600	600	600	600	600	600	600	600
De 63 Hz	3	3	2	2	2	2	2	2	2	2
De 125 Hz	6	5	4	3	4	4	2	4	4	4
De 250 Hz	11	9	8	6	8	8	6	8	8	8
De 500 Hz	20	16	15	12	15	15	11	15	15	15
De 1 kHz	24	19	17	14	17	18	13	17	17	18
De 2 kHz	19	16	16	14	16	16	12	16	16	16
De 4 kHz	16	13	12	10	12	12	8	12	12	13
De 8 KHz	13	10	9	7	9	9	7	9	9	10
Press (Pa)	19	19	18	17	18	19	17	19	19	19

	RTER 010	RTER 018	RTER 025	RTER 035	RTER 050	RTER 070	RTER 090	RTER 110	RTER 140	RTER 200
Width (mm)	720	770	820	980	1310	1300	1780	1960	2130	2424
Height (mm)	250	250	300	315	375	490	550	610	700	880
Lenght (mm)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
De 63 Hz	5	4	4	4	4	4	4	4	4	4
De 125 Hz	10	7	6	7	6	7	7	7	6	7
De 250 Hz	19	15	14	4	14	14	14	14	14	14
De 500 Hz	30	25	23	23	23	23	23	23	23	23
De 1 kHz	34	29	27	27	27	27	27	27	27	27
De 2 kHz	29	26	25	25	25	25	25	25	25	25
De 4 kHz	24	20	19	19	19	20	20	19	19	20
De 8 KHz	20	16	15	15	15	15	15	15	15	15
Press (Pa)	20	20	19	20	19	19	20	20	20	20

DX / Heating / Cooling Coil



- ⌚ Coils are Eurovent certified.
- ⌚ Coils are made of copper pipes and aluminum fins.
- ⌚ The cassette material is galvanized or stainless steel.
- ⌚ The coils were tested at a pressure of at least 20 bar. On request, 30 bars can be tested under pressure.
- ⌚ The collectors used in the coils are copper pipes.
- ⌚ In hot and cold water coils, the water inlet is from the bottom and the water outlet is at the top.
- ⌚ Air and water flows are counter-flowing to increase the heat transfer between them.
- ⌚ Under the cooling coil, a condensate pan with a double slope is placed and the accumulated water is discharged through the drain pipe. In the case of a Drip Holder, a high-performance drip holder made of PVC material that can withstand up to 90° C is used.

Electrical Heater



Rectangular electric heaters have two thermostats as standard.

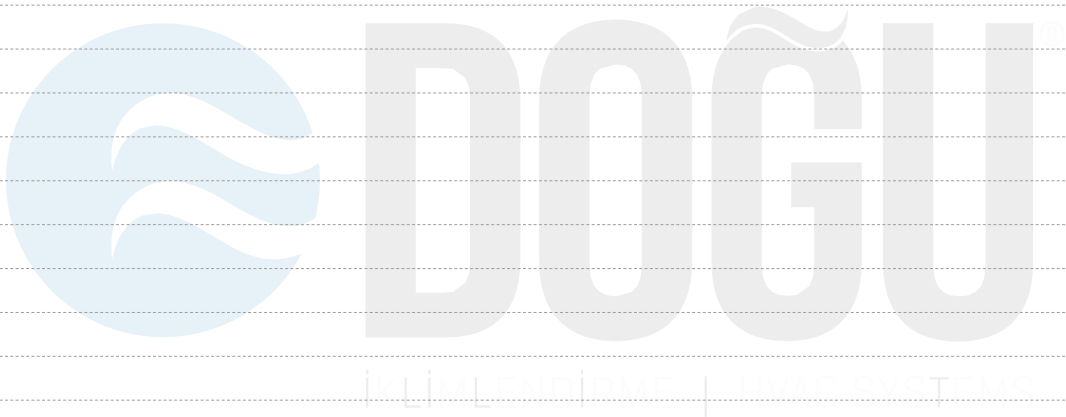
The first thermostat is set to 70° C, the air in the electric heater cuts off the electric current when it reaches 70° C, allowing the device to restart automatically when the temperature drops.

The second thermostat used for safety purposes is activated at 110° C and cuts off the electric current.

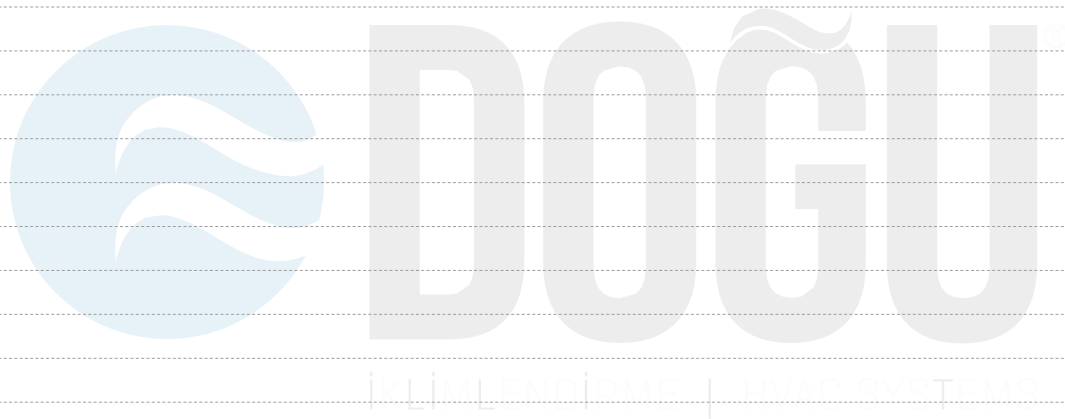
The thermostat must be reset manually from the red button in order for the appliance to operate again.

	AIR FLOW (m³/h)	ΔT:5	ΔT:10	ΔT:15
		kW	kW	kW
RTER 10	1000	2	4	5,5
RTER 18	1500	3	6	8
RTER 25	2200	4	8	12
RTER 35	2800	5	10	15
RTER 50	3900	7	14	21
RTER 70	5200	10	19	28
RTER 90	5900	11	21	32
RTER 110	7800	14	28	42
RTER 140	9500	17	34	51
RTER 200	15400	28	56	83

NOTES



NOTES





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