

VERSO

Commercial ventilation units



800–40 000 m³/h



Energy recovery

Non-freezing rotary heat exchangers efficiently recover heat and cold, control humidity and provide comfort throughout the year.

PM motors

Ultra Premium efficiency IE5 class PM fan motors minimize power consumption and ensure durability of the unit.

Energy saving technologies

Units are equipped with the most efficient and advanced technical solutions: high efficiency PM/ EC fans of Ultra and Premium classes, non-freezing condensing and sorption rotary heat exchangers, high efficiency counter flow heat exchangers, high surface area air filters. All of these solutions greatly reduce operational costs and shorten payback time.

Eurovent certified

VERSO units are tested on a regular basis at the Eurovent climatic laboratory in Germany. Parameters such as performance, efficiency, noise level, tolerances and other are tested.



Integrated control system C5

Automatic system designed for professionals, controls thermodynamic processes and saves energy.

The user is given detailed information about the operation of the unit. A variety of modes and functions allows the user to choose the optimal operating mode that maximizes energy saving. For user convenience, the operation of the air handling units can be controlled not only with the control panel, but also via the Internet or BMS.

Integrated web server

The units can be controlled not only with the control panel, but also remotely via a web browser on your computer or mobile devices.

Integration to BMS

All KOMFOVENT air handling units have fully implemented Modbus and BACnet protocols, which allows seamless integration with any desired Building Management Systems.



Wide range

VERSO units are designed for efficient ventilation and are suitable for various types of projects. You can choose a unified unit from the VERSO Standard series, or VERSO Pro which can be specifically tailored to meet your requirements. Large number of configurations (vertical, horizontal, flat and universal type, with rotary or plate heat exchangers) allow you to always select optimal and most efficient solution.



Verso R
units with a rotary heat exchanger



Verso CF
units with a counterflow plate heat exchanger



Verso P
units with a plate heat exchanger



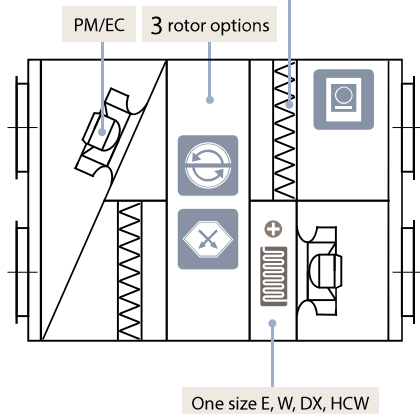
Verso S
supply air units

VERSO Standard

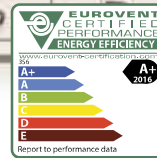


800–8000 m³/h

- ✓ Vertical, horizontal, flat or universal application
- ✓ Compact design
- ✓ Models for REVIT software

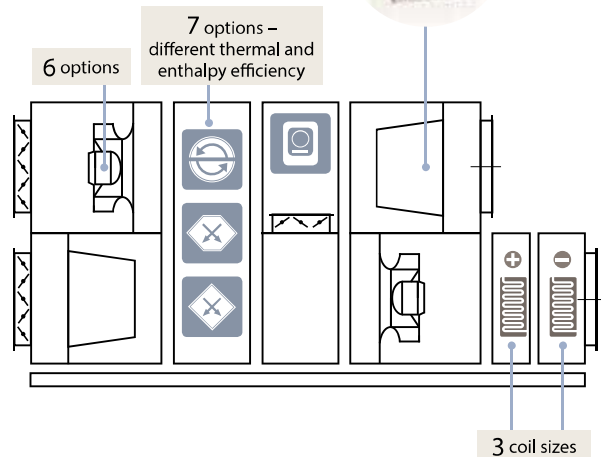


VERSO Pro



1000–40 000 m³/h

- ✓ 10 basic sizes for various combinations
- ✓ Professionally convenient software
- ✓ Selection of desired heat exchanger, fan, heater/cooler
- ✓ Revit models



VERSO Standard



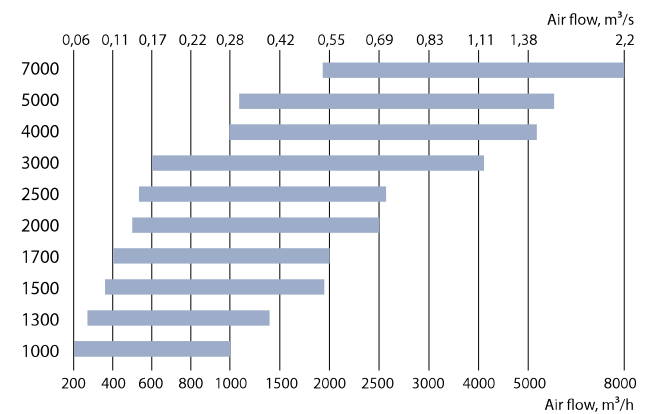
VERSO R Standard

A wide selection of compact units with non-freezing rotary heat exchanger, horizontal, vertical, universal and false ceiling ducts connection.

VERSO R Standard units efficiently save energy all year round by significantly reducing both heating and air conditioning costs. Ideal for cold weather countries.

Sorption rotary heat exchangers maintain optimal microclimate in the premises.

Sizes and capacities of Verso R units



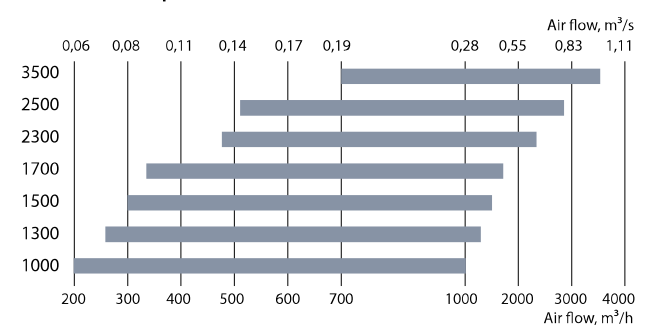
VERSO CF Standard

A wide selection of compact units with counterflow plate heat exchanger, horizontal, vertical, universal and false ceiling ducts connection.

VERSO CF Standard units efficiently save energy all year round by significantly reducing both heating and air conditioning costs. Ideal for mild and warm climate countries.

Enthalpy heat exchanger with a special patented membrane ensures optimal microclimate – the air is humidified in the winter and dehumidified in the summer.

Sizes and capacities of Verso CF units

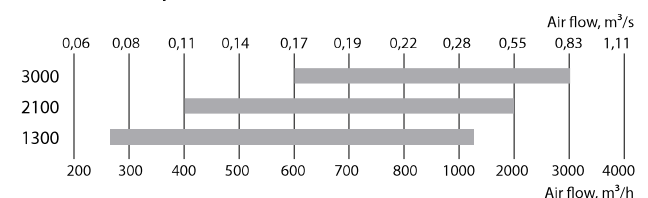


VERSO S Standard

Low-height false ceiling supply air handling units are easily installed even in the smallest premises.

All VERSO S Standard units have integrated control system, which simplifies units' installation.

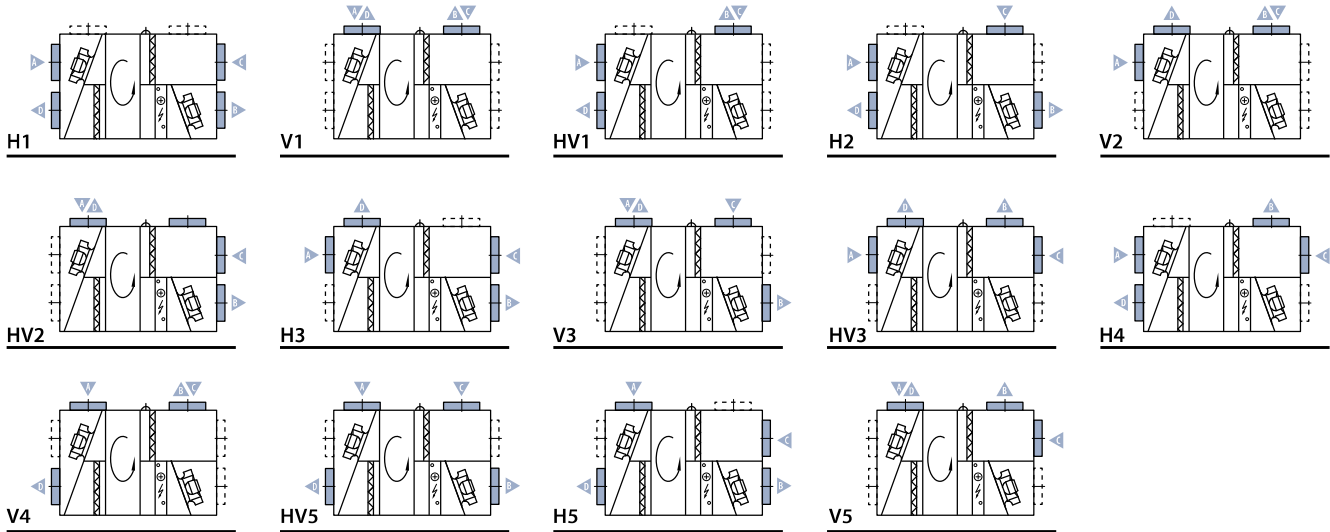
Sizes and capacities of Verso S units



VERSO Standard U features

Universal design – 14 duct connections options

The ducts can be connected in the optimal way and installation space saved due to universal design of VERSO Standard U.

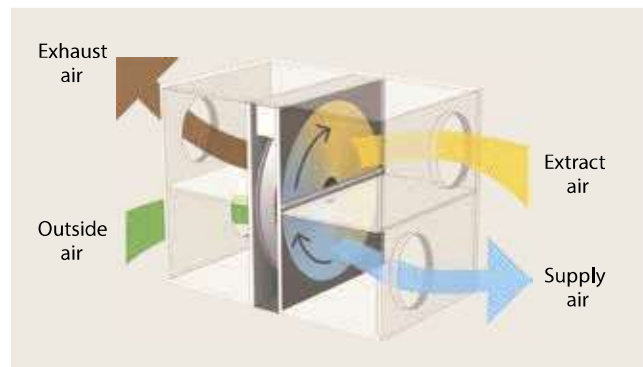
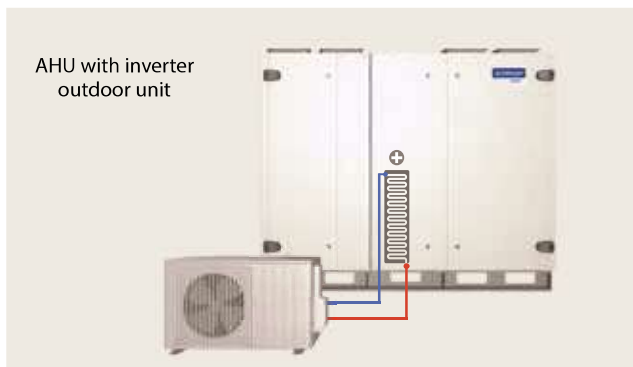


Integrated DX coil

- All VERSO Standard units of the universal type can be ordered with integrated DX coil.
- Extremely economical air heating even at very low outdoor temperatures.
- Cooling/heating power control.
- Wide range of inverter outdoor units.

Sorption rotary heat exchanger

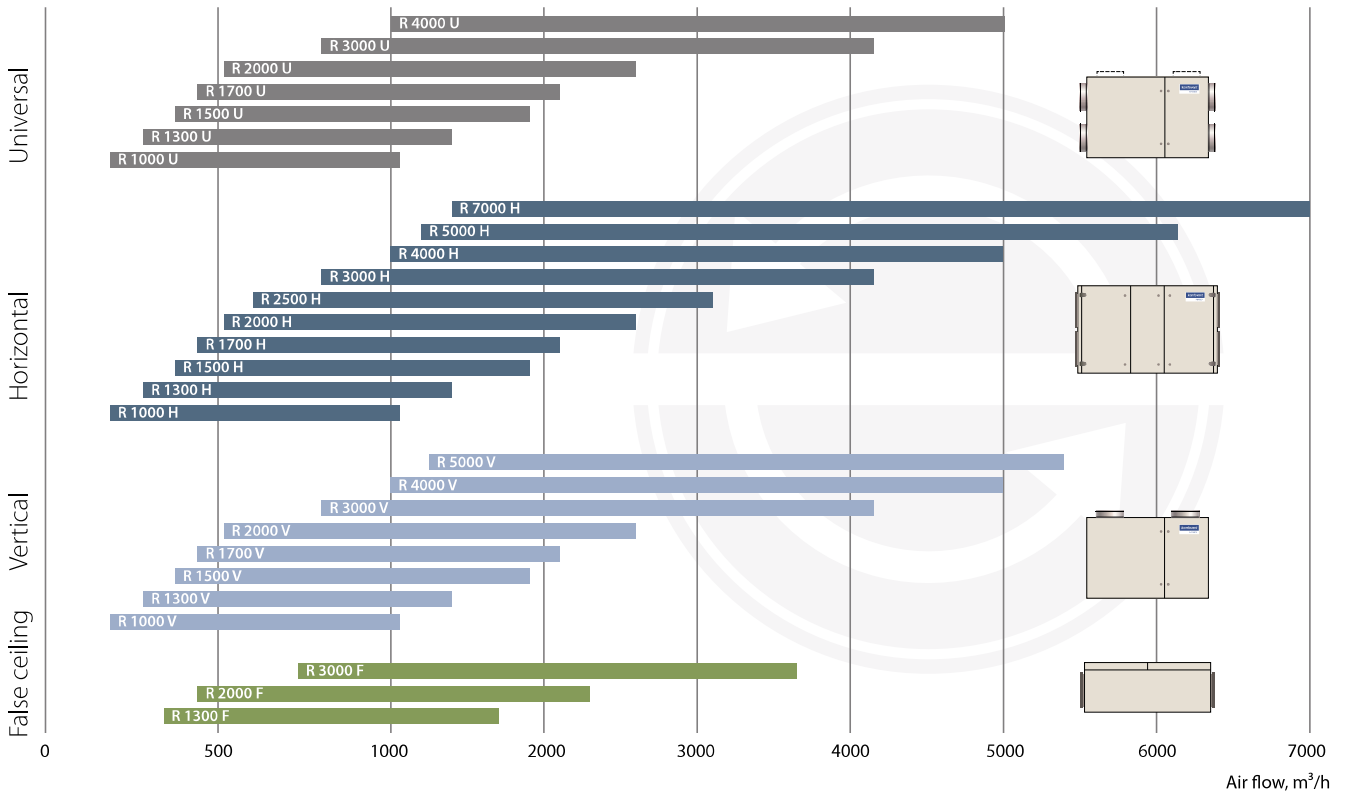
- Sorption rotary heat exchanger controls the humidity in the premises more efficiently than a condensing rotor. Now sorption is an available option for all VERSO R Standard units.
- The humidity from exhaust air is used to humidify the outdoor air in winter.
- Wet outdoor air in summertime is dried.
- High comfort is ensured all year long.



VERSO R Standard

Air handling units with rotary heat exchanger

Sizes and capacities of Verso R units



Modifications of VERSO R Standard units

Unit	Heat exchanger			Supply/exhaust air filter class		Heater			Cooler		Inspection side				Control system C5 panel C5.1
	L/A	SL/A	L/AZ	F7	M5	HE	HW	H CW	CW	DX	R1	L1	R2	L2	
Verso R 1000 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 1000 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 1300 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 1300 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 1300 F	●	○	○	●	●	●	△	△	△	△	○	○			●
Verso R 1500 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 1500 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 1700 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 1700 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 2000 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 2000 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 2000 F	○	●		●	●	●	△	△	△	△	○	○			●
Verso R 2500 H	●	○	○	●	●	○	○		△	△	○	○	○	○	●
Verso R 3000 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 3000 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 3000 F	○	●		●	●	●	△		△	△	○	○			●
Verso R 4000 U	●	○	○	●	●	○		○	△	○	○	○			●
Verso R 4000 H/V	●	○	○	●	●	○	○		△	△	○	○			●
Verso R 5000 V	○	●	○	●	●	○	○			○	○	○			●
Verso R 5000 H	●	○	○	●	●		●		△	△	○	○	○	○	●
Verso R 7000 H	●	○	○	●	●		●		△	△	○	○			●

● standard equipment ○ possible choice △ ordered separately duct heater/cooler

The markings are explained on p. 7.

Verso R 1000 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	920
Panel thickness, mm	50
Unit weight, kg	196
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	7,3
Maximal operating current HW, A	3,3
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	180
Electric air heater capacity, kW / Δt, °C	3 / 9,1
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	58
Supply outlet	72
Exhaust inlet	59
Exhaust outlet	70
Casing	52

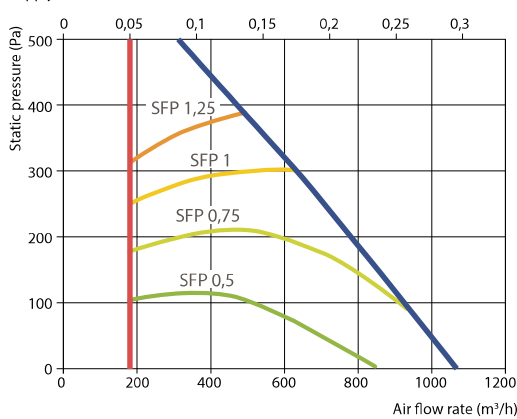
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41
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Performance (Verso R 1000 UH data)

Supply air filter F7, exhaust air filter M5



Accessories (p. 120)

Closing damper	AGUJ-M-315-LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-0,63-W1
Water cooler	DCW-0,9-6
2-way valve	VVP47.15-2,5+SSP61
DX cooler	DCF-0,9-6
Cooling unit	MOU-18HFN6-KA8243

Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,9	15,3	16,2	17,1	18,0	22,5	23,4	24,3

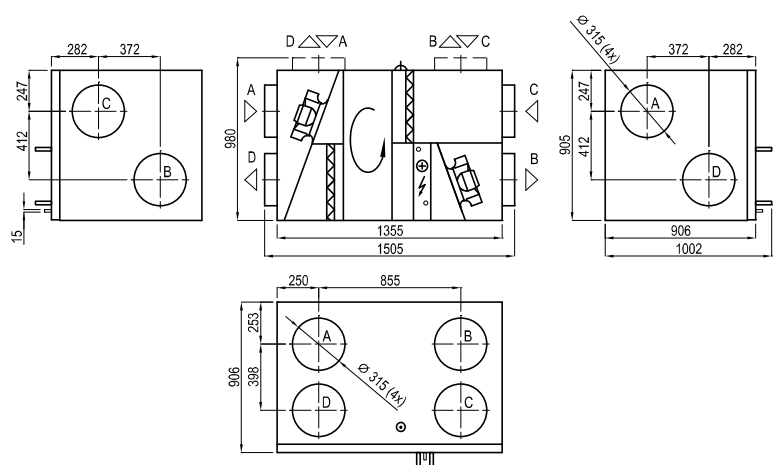
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

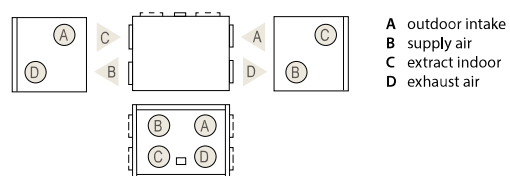
	Winter		Summer	
	Water temperature in/out, °C	Condensation/evaporation T, °C	Capacity, kW	Maximal capacity, kW
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	2,4	5,1	2,4	6,4
Maximal capacity, kW	5,5	6,7	5,5	9,3
Pressure drop, kPa	1,6	4,9	–	–
Air temperature in/out, °C	13,9/22	30/18	13,9/22	30/18
Connection, " / mm	¾		½ / 22	

Summer: 30°C / 50%; HCW – 899 m³/h.

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Verso R 1300 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1380
Panel thickness, mm	50
Unit weight, kg	203
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	270
Electric air heater capacity, kW / Δt, °C	4,5 / 9,1
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	66
Supply outlet	82
Exhaust inlet	67
Exhaust outlet	79
Casing	58

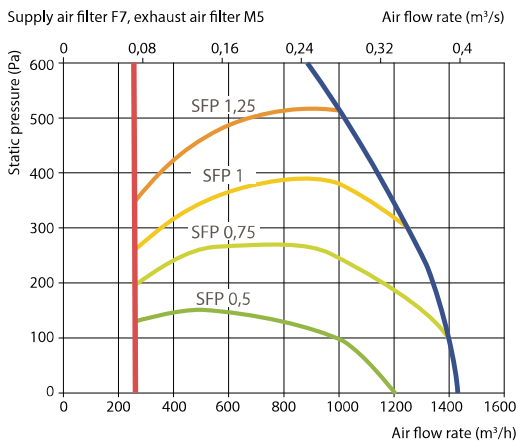
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	48
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Performance (Verso R 1300 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,7	14,3	15,4	16,4	17,4	22,6	23,7	24,7

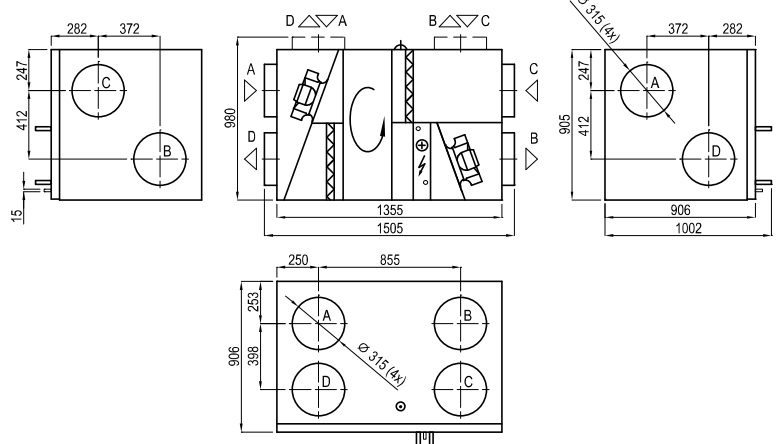
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

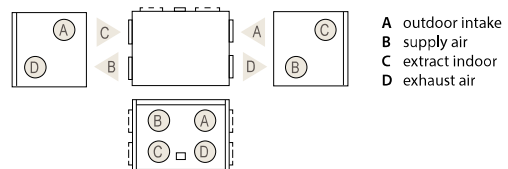
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	4,2	7,9	9,6	4,3
Maximal capacity, kW	9,8	8,9	12,0	7,5
Pressure drop, kPa	1,7	9,5	–	–
Air temperature in/out, °C	12,7 / 22	30 / 18	12,7 / 22	30 / 18
Connection, " / mm	¾		½ / 22	

Summer: +30°C/ 50%; HCW – 1350 m³/h

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-1-W2
Water cooler	DCW-1,2-8
2-way valve	VVP45.20-4.0+SSB61
DX cooler	DCF-1,2-8
Cooling unit	MOU-36HFN6-KA8243

Verso R 1300 F

Nominal air flow according to ErP 2018, m ³ /h	1200
Panel thickness, mm	50
Unit weight, kg	144
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	10,7
Maximal operating current HW, A	6,7
Filters dimensions BxHxL, mm	410x420x46
Electric power input of the fan drive at maximum flow rate, W	370
Electric air heater capacity, kW / Δt, °C	3 / 5,4
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	64
Supply outlet	73
Exhaust inlet	63
Exhaust outlet	72
Casing	54

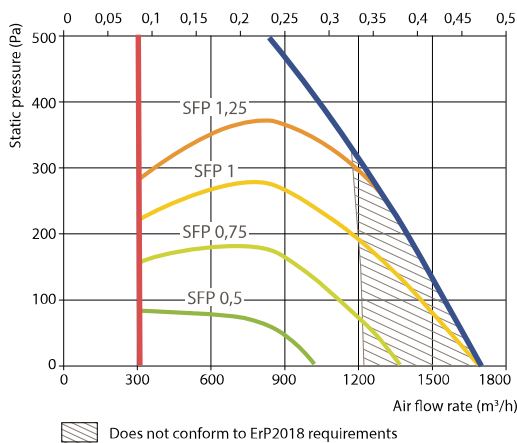
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	44
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,0	12,1	13,5	14,8	16,1	22,8	24,1	25,5

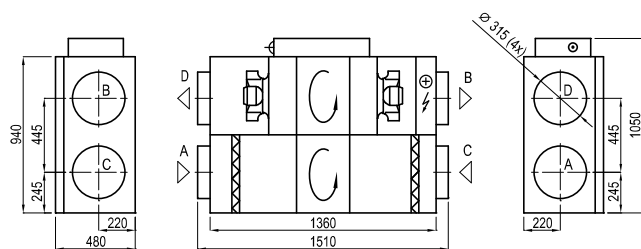
indoor +22°C, 20% RH

Hot water duct air heater (DH)*

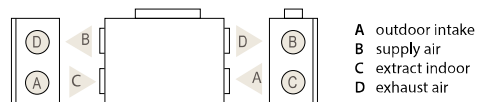
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	4,8	4,8	4,8
Flow rate, dm ³ /h	214	213	212
Pressure drop, kPa	10,9	11,0	11
Temperature in/out, °C	10,0 / 22,0		
Maximal capacity, kW	12,4	10,2	8,0
Connection, "	½		

* option

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
Water heater	DH-315
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-1,2-8 / DHCW-315
2-way valve	VVP47.15-2,5+SSP61
DX cooler	DCF-1,2-8
Cooling unit	MOU-24HFN6-KA8243

Verso R 1500 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1530
Panel thickness, mm	50
Unit weight, kg	206
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	450
Electric air heater capacity, kW / Δt, °C	4,5 / 6,9
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	60
Supply outlet	75
Exhaust inlet	60
Exhaust outlet	71
Casing	54

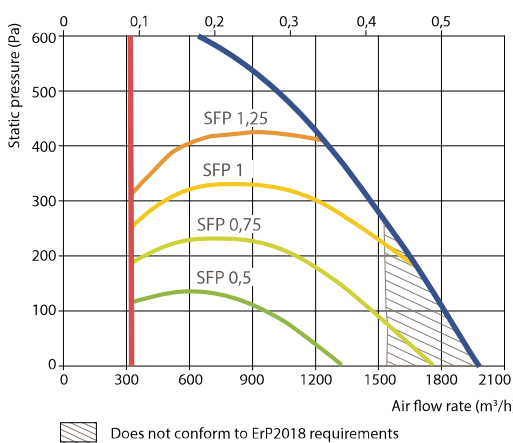
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	44
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Performance (Verso R 1500 UH data)

Supply air filter F7, exhaust air filter M5



Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-1,6-W2
Water cooler	DCW-1,4-9
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,4-10
Cooling unit	MOU-36HFN6-KA8243

Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,3	14,0	15,1	16,2	17,2	22,6	23,7	24,8

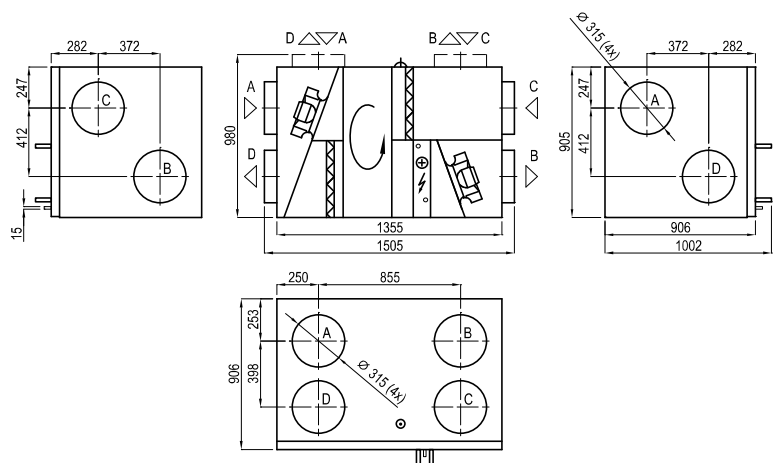
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

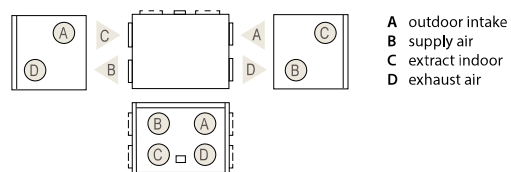
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	5,0	9,1	5,3	10,4
Maximal capacity, kW	10,9	9,7	8,2	12,6
Pressure drop, kPa	1,7	11,8	–	–
Air temperature in/out, °C	12,3 / 22	30 / 18,1	12,3 / 22	30 / 18
Connection, " / mm	¾		½ / 22	

Summer: +30°C/ 50%; DX – 1500 m³/h

Shown as right (R1)



Shown as left (L1)



Verso R 1700 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1780
Panel thickness, mm	50
Unit weight, kg	220
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions BxHxL, mm	800x450x46
Electric power input of the fan drive at maximum flow rate, W	470
Electric air heater capacity, kW / Δt, °C	4,5 / 6,2
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	61
Supply outlet	76
Exhaust inlet	61
Exhaust outlet	73
Casing	55

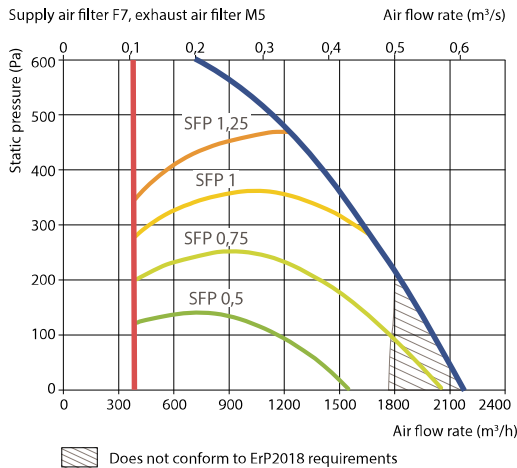
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45
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Performance (Verso R 1700 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,5	13,4	14,6	15,7	16,9	22,7	23,9	25,0

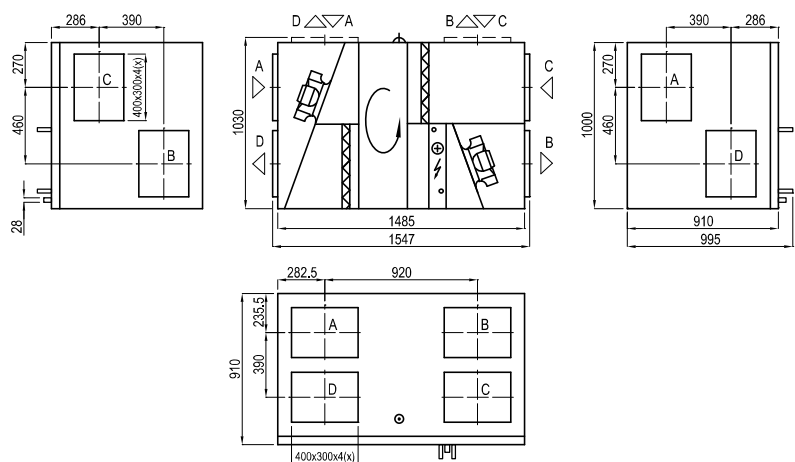
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

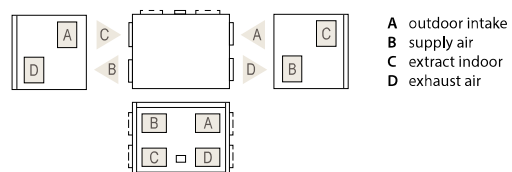
	Winter		Summer	
	Water temperature in/out, °C	Condensation/evaporation T, °C	Capacity, kW	Maximal capacity, kW
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	6,3	10,4	6,3	12,3
Maximal capacity, kW	13,1	11,4	8,9	14,7
Pressure drop, kPa	1,6	6,9	–	–
Air temperature in/out, °C	11,5 / 22	30 / 18	11,5 / 22	30 / 18
Connection, " / mm	1		5/8 / 22	

Summer: +30°C/ 50%

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-300-700-S
	B/C	STS-IVR3BA-600-300-1250-S
PPU		PPU-HW-3R-15-1,6-W2
Air heater-cooler		DCW-1,6-11
2-way valve		VVP47.20-4,0+S5P61
DX cooler		DCF-1,6-11
Cooling unit		MOU-36HFN6-KA8243

Verso R 2000 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	2170
Panel thickness, mm	50
Unit weight, kg	210
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,9
Maximal operating current HW, A	6,3
Filters dimensions BxHxL, mm	800x450x46
Electric power input of the fan drive at maximum flow rate, W	650
Electric air heater capacity, kW / Δt, °C	7,5 / 8,0
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	64
Supply outlet	79
Exhaust inlet	64
Exhaust outlet	76
Casing	56

A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46
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Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,3	12,4	13,7	15,0	16,3	22,8	24,1	25,4

indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

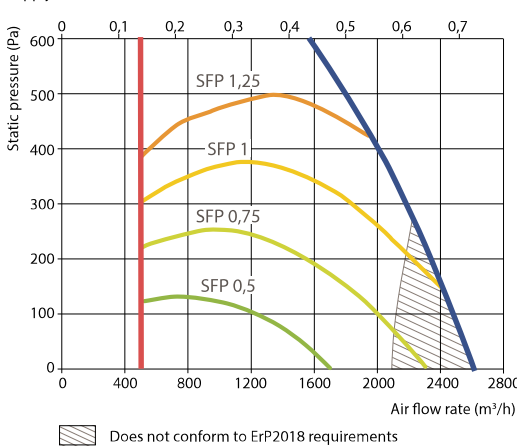
	Winter		Summer	
	Water temperature in/out, °C	Condensation/evaporation T, °C	Capacity, kW	Maximal capacity, kW
Water temperature in/out, °C	60/40	7/12		
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	8,5	12,9	7,7	12,5
Maximal capacity, kW	15,9	12,9	9,6	14,8
Pressure drop, kPa	1,8	9,5	–	–
Air temperature in/out, °C	10,3 / 22	30 / 18,5	9,2 / 22	30 / 18
Connection, " / mm	1		5/8 / 22	

Summer +30°C/ 50%; DX – 1800 m³/h

Performance

(Verso R 2000 UH data)

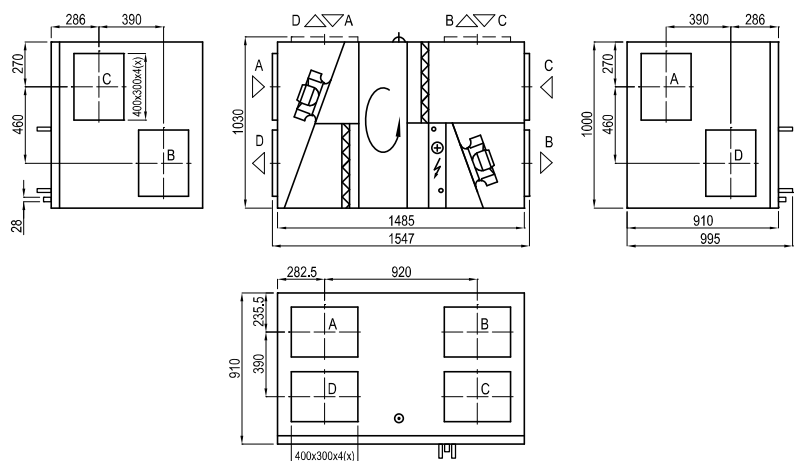
Supply air filter F7, exhaust air filter M5



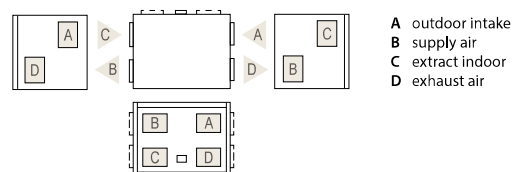
Accessories (p. 120)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

Shown as right (R1)



Shown as left (L1)



Verso R 2000 F

Nominal air flow according to ErP 2018, m ³ /h	2000
Panel thickness, mm	50
Unit weight, kg	280
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,8
Maximal operating current HW, A	6,3
Filters dimensions BxHxL, mm	560x420x96
Electric power input of the fan drive at maximum flow rate, W	665
Electric air heater capacity, kW / Δt, °C	7,5/8,9
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	69
Supply outlet	78
Exhaust inlet	68
Exhaust outlet	78
Casing	58

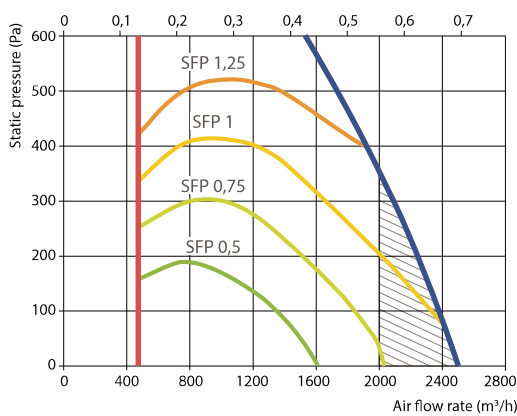
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	47
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Performance

Supply air filter F7, exhaust air filter M5



Does not conform to ErP2018 requirements

Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,0	16,3	17,1	17,8	18,6	22,5	23,2	24,0

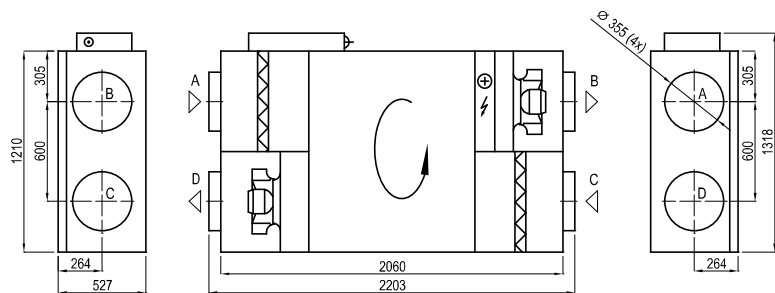
indoor +22°C, 20% RH

Hot water duct air heater (DH)*

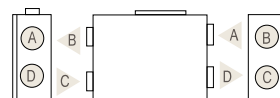
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	4,7	4,7	4,7
Flow rate, dm ³ /h	208	207	206
Pressure drop, kPa	11,0	11,1	11,2
Temperature in/out, °C	15/22		
Maximal capacity, kW	16,70	13,5	10,3
Connection, "	½		

* option

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	AGUJ-M-355+LF24/LM24
Silencer	A/D AGS-355-100-900-M
	B/C AGS-355-100-1200-M
Water heater	DH-355
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-2,0-13/ DHCW-355
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-2,0-14
Cooling unit	MOU-48HFN6-KA8243

Verso R 2500 H

Nominal air flow according to ErP 2018, m ³ /h	2800
Panel thickness, mm	50
Unit weight, kg	289
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	22
Maximal operating current HW, A	11,7
Filters dimensions BxHxL, mm	792x392-10x500
Electric power input of the fan drive at maximum flow rate, W	520
Electric air heater capacity, kW / Δt, °C	7,5/7,4
Control panel	C5.1
Maintenance space, mm	900



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	58
Supply outlet	76
Exhaust inlet	61
Exhaust outlet	72
Casing	59

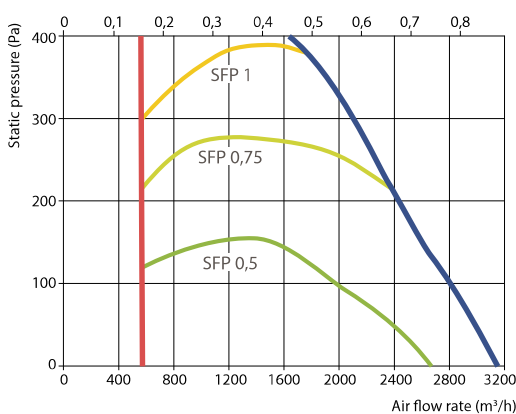
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45
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Performance

Supply air filter F7, exhaust air filter M5 Air flow rate (m³/s)



Temperature efficiency

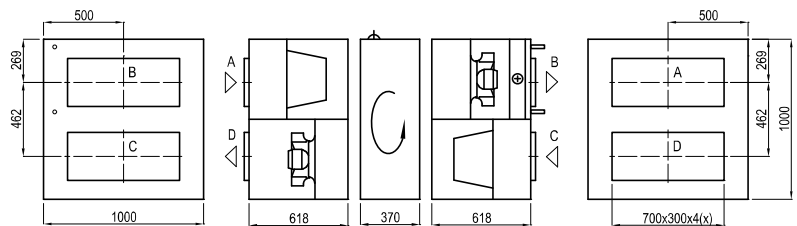
Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,4	12,5	13,7	15,0	16,3	22,8	24,1	25,4

indoor +22°C, 20% RH

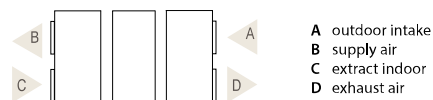
Hot water air heater

	Winter		
	80/60	70/50	60/40
Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	10,9	10,9	10,9
Flow rate, dm ³ /h	481	479	477
Pressure drop, kPa	3,3	3,3	3,3
Temperature in/out, °C	10,4/22		
Maximal capacity, kW	22,1	17,7	13,2
Connection, "	½		

Shown as right (R2)



Shown as left (L2)



Accessories (p. 120)

Closing damper	SRU-M-700x300+LF24/LM24
Silencer	A/D STS-IVR3BA-800-300-700-S
	B/C STS-IVR3BA-800-300-1250-S
PPU	PPU-HW-3R-15-2,5-W2
Air heater-cooler	DCW-2,5-17
2-way valve	VVP45.25-6.3
DX cooler	DCF-2,5-17
Cooling unit	MOU-55HFN6-KA8243

Verso R 3000 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	3450
Panel thickness, mm	50
Unit weight, kg	456
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19,8
Maximal operating current HW, A	7,1
Filters dimensions BxHxL, mm	525x510x46
Electric power input of the fan drive at maximum flow rate, W	850
Electric air heater capacity, kW / Δt, °C	9/6,6
Control panel	C5.1
Maintenance space, mm	1000



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	59
Supply outlet	76
Exhaust inlet	59
Exhaust outlet	73
Casing	51

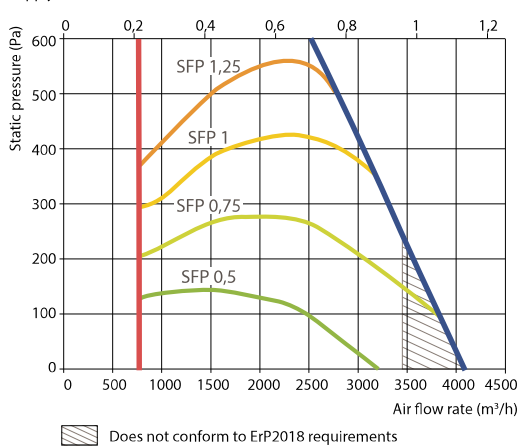
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	40
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Performance (Verso R 3000 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,0	13,0	14,2	15,4	16,6	22,7	24,0	25,2

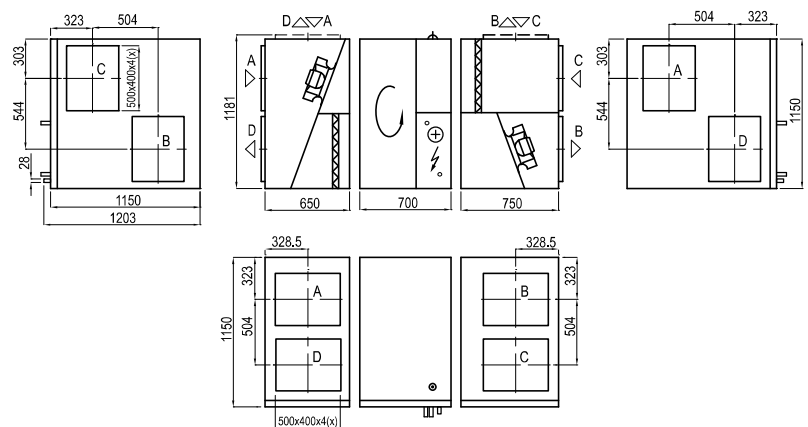
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

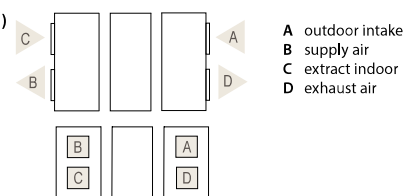
Water temperature in/out, °C	Winter	Summer	Winter	Summer
	Condensation/evaporation T, °C	60/40	7/12	-
Capacity, kW	-	-	45	45/5
Maximal capacity, kW	12,8	21,5	11,5	19,6
Pressure drop, kPa	26,0	21,7	20,4	22,9
Pressure drop, kPa	2,0	20,5	-	-
Air temperature in/out, °C	11,0 / 22	30 / 18,0	11,0 / 22	30 / 18
Connection, " / mm	1		5/8 / 22	

Summer +30°C/ 50%; DX – 2900 m³/h

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-500-700-S
	B/C	STS-IVR3BA-600-500-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-3,0-20
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-3,0-20-2
Cooling unit		2xMOU-48HFN6-KA8243

Verso R 3000 F

Nominal air flow according to ErP 2018, m ³ /h	3440
Panel thickness, mm	50
Unit weight, kg	289
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19,9
Maximal operating current HW, A	7,1
Filters dimensions BxHxL, mm	560x540x96
Electric power input of the fan drive at maximum flow rate, W	780
Electric air heater capacity, kW / Δt, °C	9/7,3
Control panel	C5.1
Maintenance space, mm	600



Acoustic data

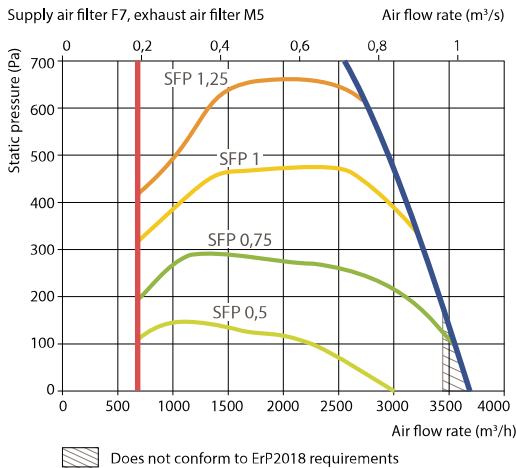
A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	72
Supply outlet	85
Exhaust inlet	72
Exhaust outlet	85
Casing	60

A-weighted sound pressure level L_{PA}, dB(A) 10 m² normally isolated room, distance from casing – 3 m.

Surroundings	49
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Performance



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	12,4	14,1	15,2	16,2	17,3	22,6	23,7	24,8

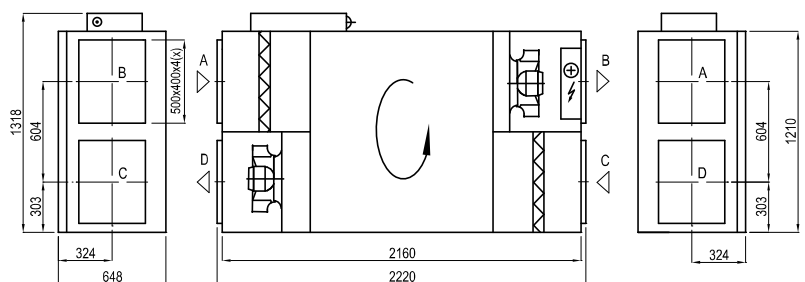
indoor +22°C, 20% RH

Hot water air heater (SVK)*

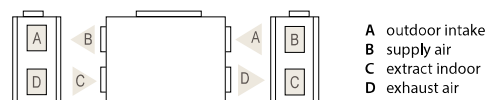
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	11,1	11,1	11,1
Flow rate, dm ³ /h	493	490	488
Pressure drop, kPa	9,3	9,4	9,5
Temperature in/out, °C	12,4 / 22,0		
Maximal capacity, kW	26,8	21,8	16,7
Connection, "	½		

* option

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	SRU-M-500x400+LF24/LM24
Silencer	A/D STS-IVR3BA-600-400-700-S
	B/C STS-IVR3BA-600-400-1250-S
Water heater	SVK-700x400-2R
PPU	PPU-HW-3R-15-1.6-W2
Air heater-cooler	DCW-3,0-20
2-way valve	VVP45.25-6.3+SSB61
DX cooler	DCF-3,0-20-2
Cooling unit	2xMOU-36HFN6-KA8243

Verso R 4000 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	3500
Panel thickness, mm	50
Unit weight, kg	470
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	31,1
Maximal operating current HW, A	9,7
Filters dimensions BxHxL, mm	525x510x46
Electric power input of the fan drive at maximum flow rate, W	1830
Electric air heater capacity, kW / Δt, °C	15/8,7
Control panel	C5.1
Maintenance space, mm	1000



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	59
Supply outlet	76
Exhaust inlet	59
Exhaust outlet	73
Casing	47

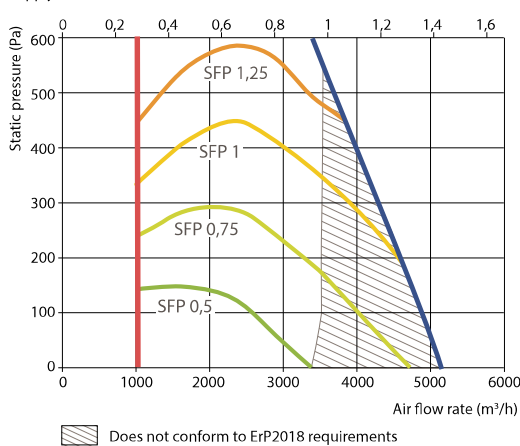
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	36
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Performance (Verso R 4000 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,9	12,9	14,1	15,4	16,6	22,7	24,0	25,2

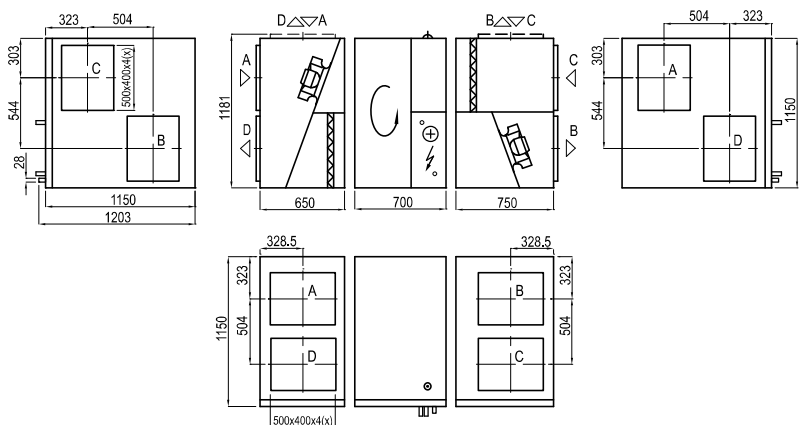
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

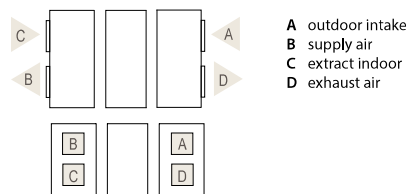
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	-	-
Condensation/evaporation T, °C	-	-	45	45/5
Capacity, kW	13,1	21,7	13,1	24,1
Maximal capacity, kW	26,3	21,8	17,6	26,8
Pressure drop, kPa	2	20,9	-	-
Air temperature in/out, °C	10,9 / 22	30 / 18,0	10,9 / 22	30 / 18,0
Connection, " / mm	1		2x½" / 2x22	

Summer +30°C/ 50%

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
PPU		PPU-HW-3R-25-6.3-W2
Air heater-cooler		DCW-4,5-30
2-way valve		VVP45.25-10+SSC61
DX cooler		DCF-4,5-31-2
Cooling unit		2xMOU-55HFN6-KA8243

Verso R 5000 V

Nominal air flow according to ErP 2018, m ³ /h	5000
Panel thickness, mm	50
Unit weight, kg	600
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	29,5
Maximal operating current HW, A	8,1
Filters dimensions BxHxL, mm	650x610x92
Electric power input of the fan drive at maximum flow rate, W	1210
Electric air heater capacity, kW / Δt, °C	15 / 8,3
Control panel	C5.1
Maintenance space, mm	1300

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

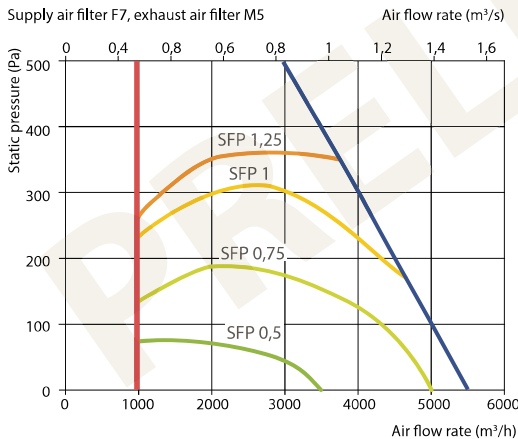
Supply inlet	69,5
Supply outlet	80,1
Exhaust inlet	67,7
Exhaust outlet	82,5
Casing	61,4

A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	58,4
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Performance



Accessories (p. 120)

Closing damper	SRU-M-1100x250+LF24/LM24
Silencer	A/D STS-IVR3BA-1100-250-700-S B/C STS-IVR3BA-1100-250-1250-S
PPU	PPU-HW-3R-20-4-W2
Water cooler	DCW-4,5-30
2-way valve	VVP45.25-10.0+SSC61
DX cooler	DCF-4,5-31-2
Cooling unit	2xMOU-55HFN6-KA8243



The photo is intended for informational purposes only. exact details may vary.

Temperature efficiency

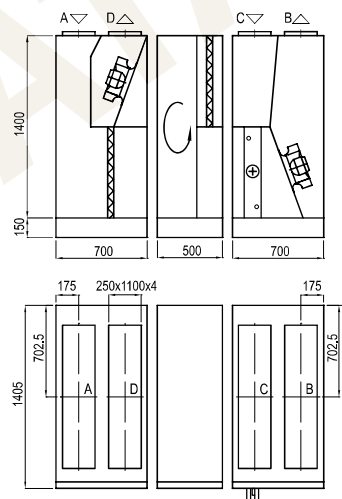
Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15	16,2	17	17,8	18,6	22,5	23,3	24,0

indoor +22°C, 20% RH

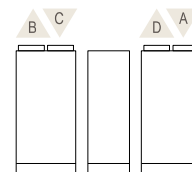
Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12		
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	11,7	20,8	11,7	35
Maximal capacity, kW	21,1	20,8	23	39
Pressure drop, kPa	10,3	71,6	–	–
Air temperature in/out, °C	15/22	30/21,2	15/22	30/18
Connection, " / mm		½		¾ / 22

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Verso R 5000 H

Nominal air flow according to ErP 2018, m ³ /h	5250
Panel thickness, mm	50
Unit weight, kg	442
Supply voltage HE, V	3~400
Maximal operating current HE, A	HW 13,1
Filters dimensions BxHxL, mm	592x592-8x500
Electric power input of the fan drive at maximum flow rate, W	1000
Control panel	C5.1
Maintenance space, mm	1200



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA} , dB(A) at nominal flow rate

Supply inlet	61
Supply outlet	78
Exhaust inlet	64
Exhaust outlet	75
Casing	63

A-weighted sound pressure level L_{PA} , dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	50
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Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	10,5	12,6	13,8	15,1	16,4	22,8	24,0	25,3

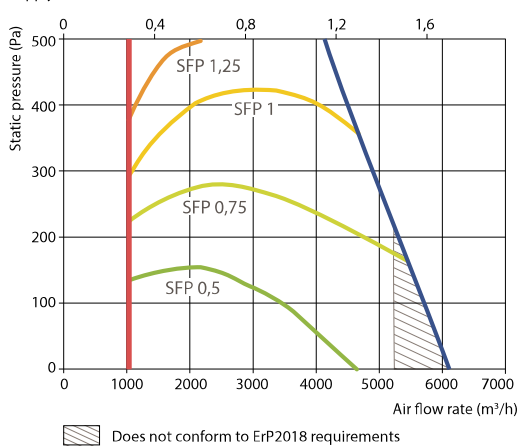
indoor +22°C, 20% RH

Hot water air heater

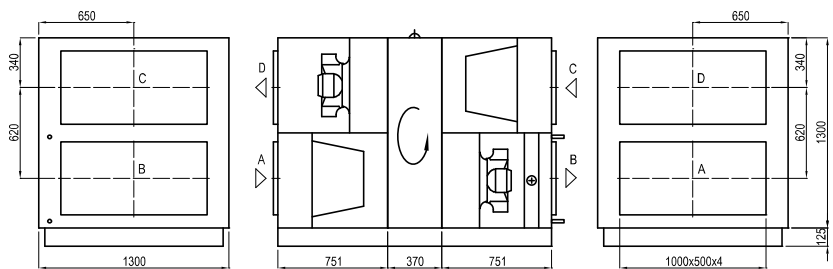
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	20,2	20,2	20,2
Flow rate, dm ³ /h	894	890	881
Pressure drop, kPa	5,3	5,3	5,3
Temperature in/out, °C	10,5 / 22,0	10,5 / 22,0	10,5 / 21,9
Maximal capacity, kW	37,1	29,0	20,1
Connection, "	½		

Performance

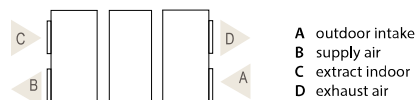
Supply air filter F7, exhaust air filter M5



Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	SRU-M-1000x500+LF24/LM24
Silencer	A/D STS-IVR3BA-1000-500-700-S B/C STS-IVR3BA-1000-500-1250-S
PPU	PPU-HW-3R-20-4,0-W2
Air heater-cooler	DCW-4,5-30
2-way valve	VVP45.25-10.0+SSC61
DX cooler	DCF-4,5-31-2
Cooling unit	2xMOU-55HFN6-KA8243

Verso R 7000 H

Nominal air flow according to ErP 2018, m ³ /h	6680
Panel thickness, mm	50
Unit weight, kg	765
Supply voltage HE, V	3~400
Maximal operating current HE, A	HW 18,1
Filters dimensions BxHxL, mm	592x592-8x500
Electric power input of the fan drive at maximum flow rate, W	1340
Control panel	C5.1
Maintenance space, mm	1400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA} , dB(A) at nominal flow rate

Supply inlet	60
Supply outlet	82
Exhaust inlet	64
Exhaust outlet	82
Casing	59

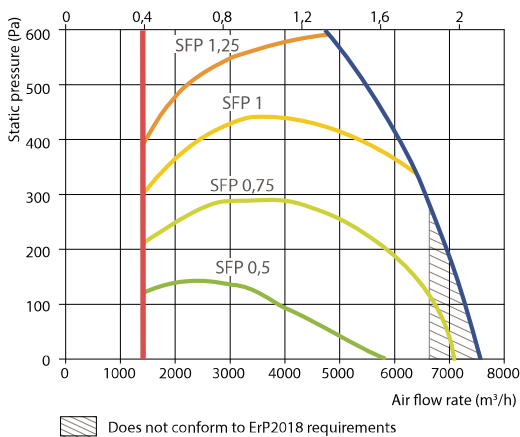
A-weighted sound pressure level L_{PA} , dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	48
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

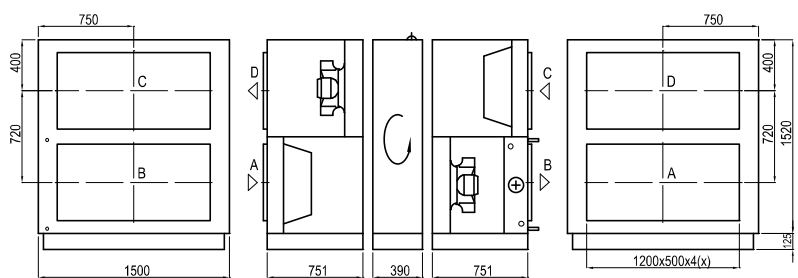
Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,1	13,0	14,2	15,4	16,7	22,7	24,0	25,2

indoor +22°C, 20% RH

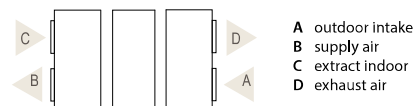
Hot water air heater

Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	24,5	24,5	24,5
Flow rate, dm ³ /h	1083	1077	1072
Pressure drop, kPa	8,6	8,8	8,9
Temperature in/out, °C	11,1/22,0		
Maximal capacity, kW	55,2	45,1	34,9
Connection, "	1		

Shown as right (R1)



Shown as left (L1)



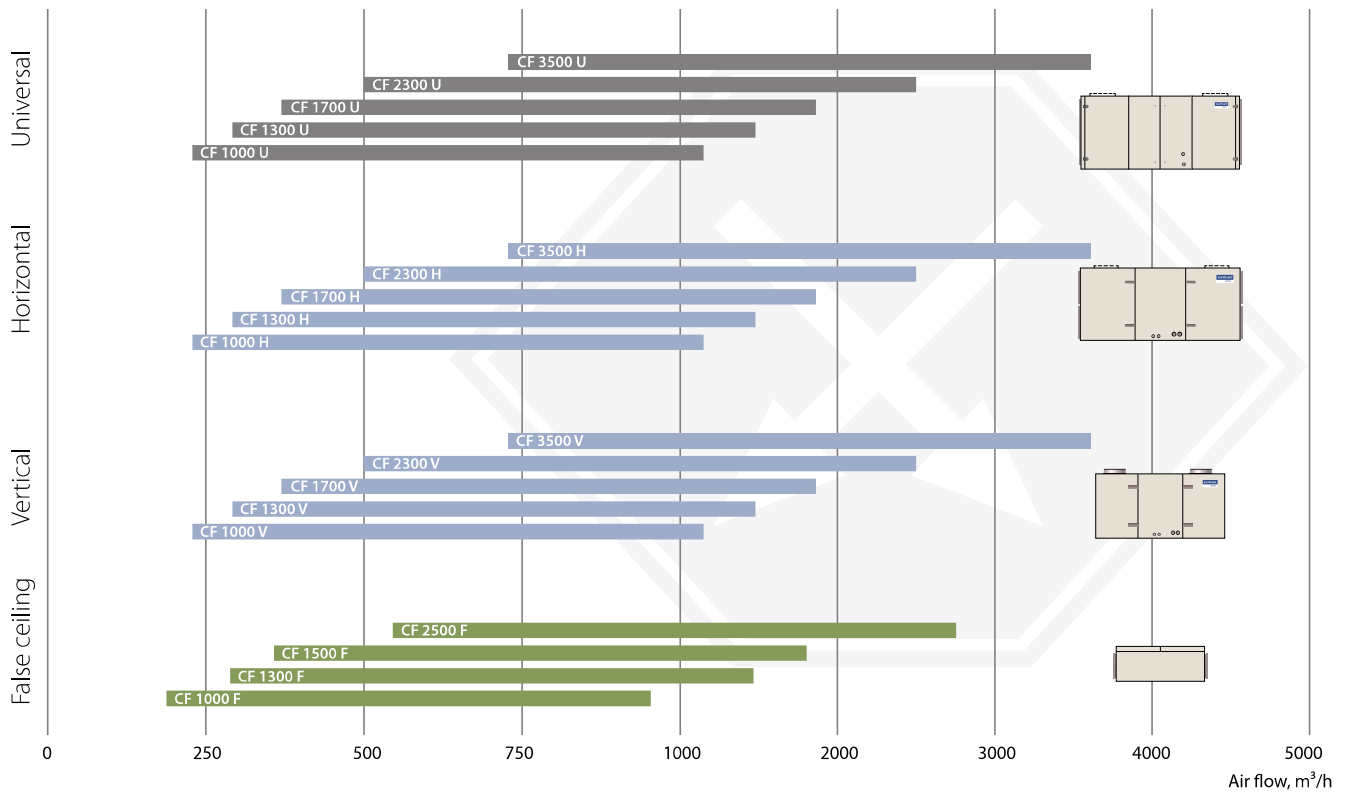
Accessories (p. 120)

Closing damper	SRU-M-1200x600-LF24/LM24
Silencer	A/D STS-IVR3BA-1200-600-700-S
	B/C STS-IVR3BA-1200-600-1250-S
PPU	PPU-HW-3R-20-4,0-W2
Air heater-cooler	DCW-7,0-47
2-way valve	HRB3 32 16+AMB162
DX cooler	DCF-7,0-48-3
Cooling unit	3xMOU-55HFN6-KA8243

VERSO CF Standard

Air handling units with counterflow plate heat exchangers

Sizes and capacities of VERSO CF units



Modifications of Verso CF units

Unit	Supply / exhaust air filter class		Heater			Cooler		Inspection side		Control system C5 panel C5.1
	F7	M5	HE	HW	HCW	CW	DX	R1	L1	
Verso CF 1000 U	●	●	○		○	△	○	○	○	●
Verso CF 1000 H / V	●	●	○	○		△	△	○	○	●
Verso CF 1000 F	●	●	●	△	△	△	△	○	○	●
Verso CF 1300 U	●	●	○		○	△	○	○	○	●
Verso CF 1300 H / V	●	●	○	○		△	△	○	○	●
Verso CF 1300 F	●	●	●	△	△	△	△	○	○	●
Verso CF 1500 F	●	●	●	△	△	△	△	○	○	●
Verso CF 1700 U	●	●	○		○	△	○	○	○	●
Verso CF 1700 H / V	●	●	○	○		△	△	○	○	●
Verso CF 2300 U	●	●	○		○	△	○	○	○	●
Verso CF 2300 H / V	●	●	○	○		△	△	○	○	●
Verso CF 2500 F	●	●	●	△		△	△	○	○	●
Verso CF 3500 U	●	●	○	○	○	△	○	○	○	●
Verso CF 3500 H / V	●	●	○	○		△	△	○	○	●

● standard equipment ○ possible choice △ ordered separately duct heater/cooler

The markings are explained on p. 7.

Verso CF 1000 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1050
Panel thickness, mm	50
Unit weight, kg	269
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	9,5
Maximal operating current HW, A	3,3
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	178
Electric air heater capacity, kW / Δt, °C	4,5/11,9
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	56
Supply outlet	74
Exhaust inlet	57
Exhaust outlet	74
Casing	54

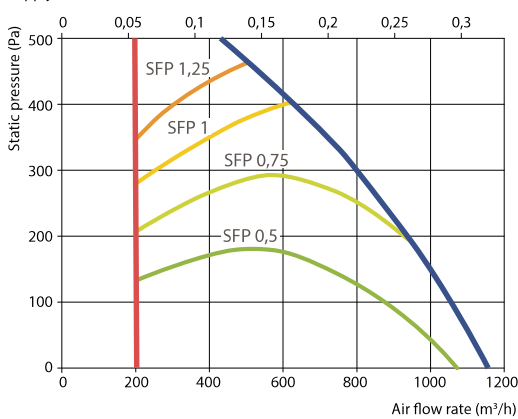
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	43
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Performance (Verso CF 1000 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,2	16,0	16,8	17,1	18,0	22,6	23,5	24,7

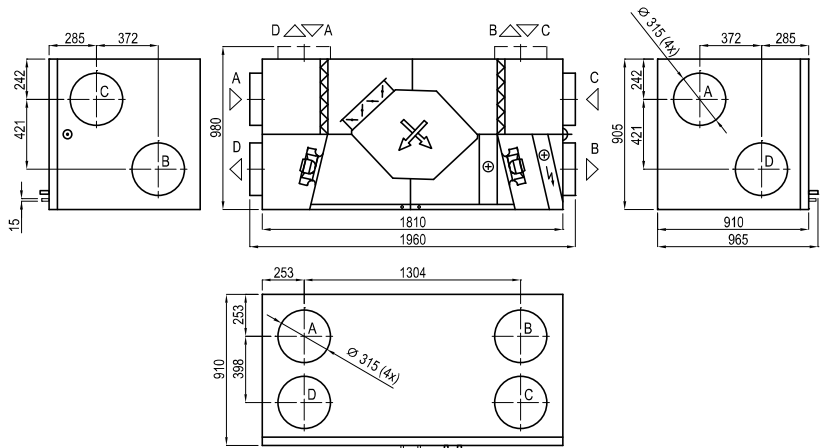
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

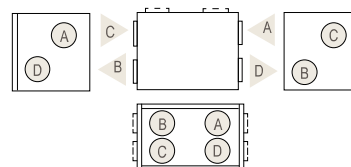
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	2,4	6,8	2,4	7,3
Maximal capacity, kW	8,7	8,9	5,2	9,9
Pressure drop, kPa	1,8	34,5	–	–
Air temperature in/out, °C	15,2 / 22	30 / 18	15,2 / 22	30 / 18
Connection, " / mm	½		½ / 22	

Summer +30°C/ 50%

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-0,63-W1
Water cooler	DCW-0,7-5
2-way valve	VVP47.15-2,5+SSP61
DX cooler	DCF-0,7-5
Cooling unit	MOU-18HFN6-KA8243

Verso CF 1000 F

Nominal air flow according to ErP 2018, m ³ /h	850
Panel thickness, mm	50
Unit weight, kg	173
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	7,3
Maximal operating current HW, A	3,3
Filters dimensions BxHxL, mm	550x420x46
Electric power input of the fan drive at maximum flow rate, W	168
Electric air heater capacity, kW / Δt, °C	3/9,8
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	59
Supply outlet	73
Exhaust inlet	59
Exhaust outlet	73
Casing	54

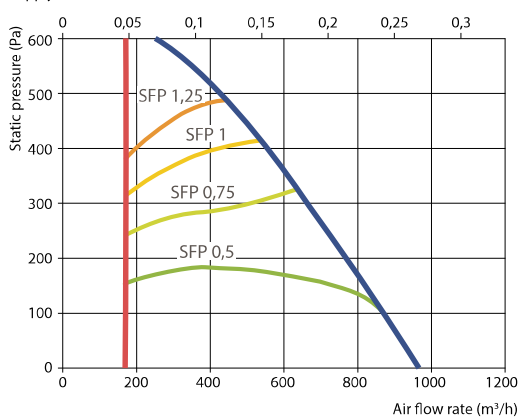
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	42
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	17,2	17,4	17,8	18,1	18,7	22,6	23,6	24,7

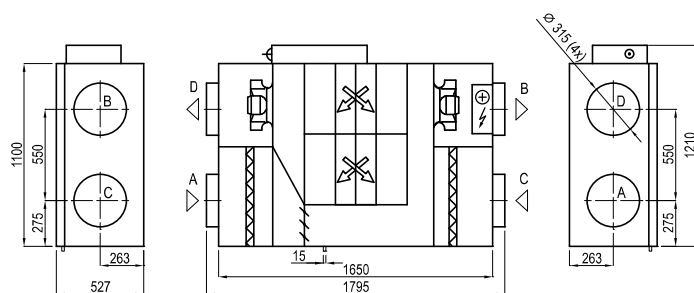
indoor +22°C, 20% RH

Hot water duct air heater (DH)*

Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	1,4	1,4	1,4
Flow rate, dm ³ /h	60	60	60
Pressure drop, kPa	2,3	2,3	2,4
Temperature in/out, °C	17,2/22		
Maximal capacity, kW	8,8	7,0	5,2
Connection, "	½		

* option

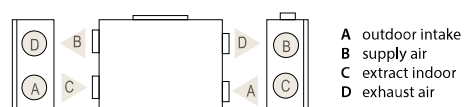
Shown as right (R1)



Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
Water heater	DH-315
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-0,9-6 / DHCW-315
2-way valve	VVP47.15-2,5+SSP61
DX cooler	DCF-0,9-6
Cooling unit	MOU-18HFN6-KA8243

Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Verso CF 1300 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1340
Panel thickness, mm	50
Unit weight, kg	225
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	370
Electric air heater capacity, kW / Δt, °C	4,5/8,9
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	62
Supply outlet	81
Exhaust inlet	63
Exhaust outlet	81
Casing	59

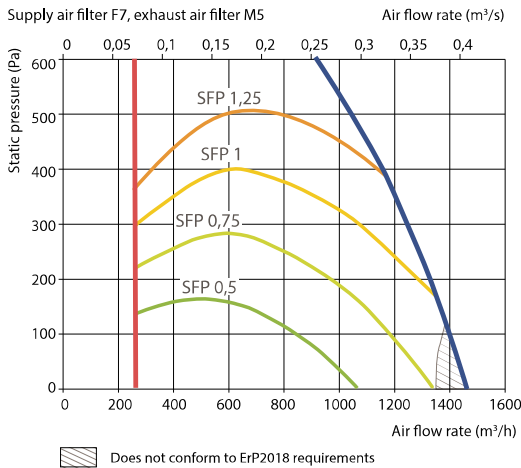
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	48
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Performance (Verso CF 1300 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,6	15,5	16,4	16,8	17,8	22,6	23,6	24,6

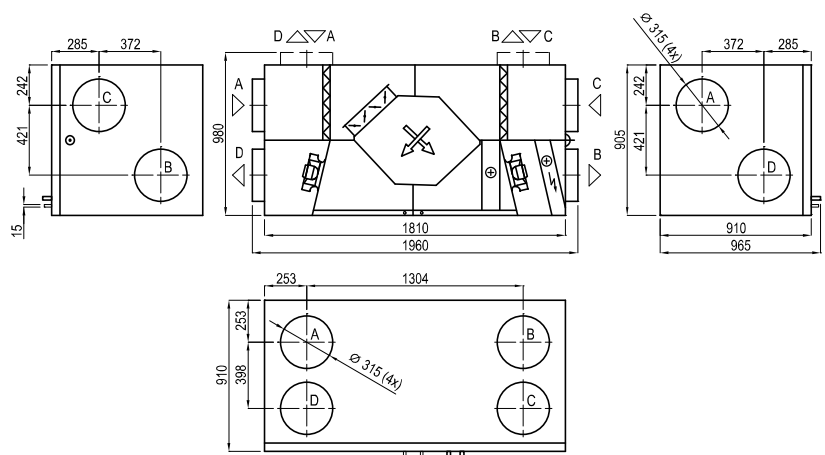
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

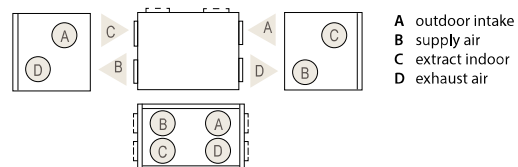
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	3,3	8,6	3,3	9,3
Maximal capacity, kW	10,7	10,5	6,2	11,5
Pressure drop, kPa	2,1	53,7	–	–
Air temperature in/out, °C	14,6 / 22	30 / 18	14,6 / 22	30 / 18
Connection, " / mm	½		½ / 22	

Summer: +30°C / 50%

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-1-W2
Water cooler	DCW-1,4-9
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,4-10
Cooling unit	MOU-36HFN6-KA8243

Verso CF 1300 F

Nominal air flow according to ErP 2018, m ³ /h	1340
Panel thickness, mm	50
Unit weight, kg	175
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	11,7
Maximal operating current HW, A	5,5
Filters dimensions BxHxL, mm	550x420x46
Electric power input of the fan drive at maximum flow rate, W	360
Electric air heater capacity, kW / Δt, °C	4,5/9,1
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	65
Supply outlet	80
Exhaust inlet	65
Exhaust outlet	80
Casing	59

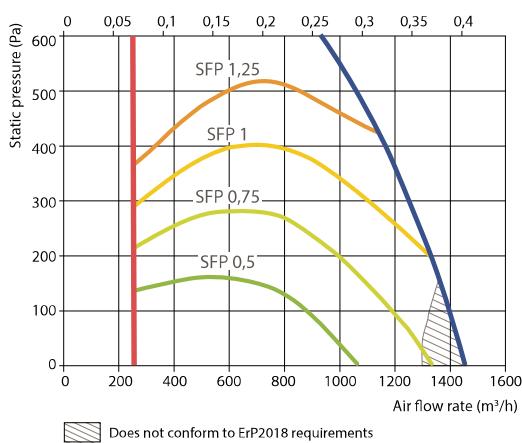
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	48
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	16,2	16,5	16,8	17,4	18,1	22,6	23,7	24,9

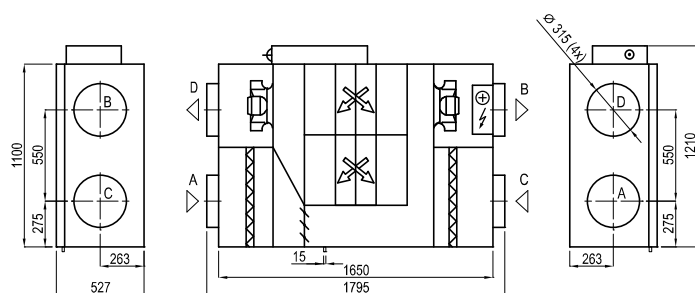
indoor +22°C, 20% RH

Hot water duct air heater (DH)*

Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	2,6	2,6	2,6
Flow rate, dm ³ /h	115	115	114
Pressure drop, kPa	4,4	4,4	4,4
Temperature in/out, °C	16,2 / 22,0		
Maximal capacity, kW	11,9	9,5	7,1
Connection, "	½		

* option

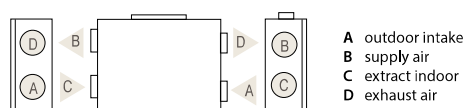
Shown as right (R1)



Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
Water heater	DH-315
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-1,4-9 / DHCW-315
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,4-10
Cooling unit	MOU-36HFN6-KA8243

Shown as left (L1)



Verso CF 1500 F

Nominal air flow according to ErP 2018, m ³ /h	1475
Panel thickness, mm	50
Unit weight, kg	190
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions BxHxL, mm	550x420x46
Electric power input of the fan drive at maximum flow rate, W	460
Electric air heater capacity, kW / Δt, °C	4,5/7,5
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	60
Supply outlet	75
Exhaust inlet	60
Exhaust outlet	74
Casing	57

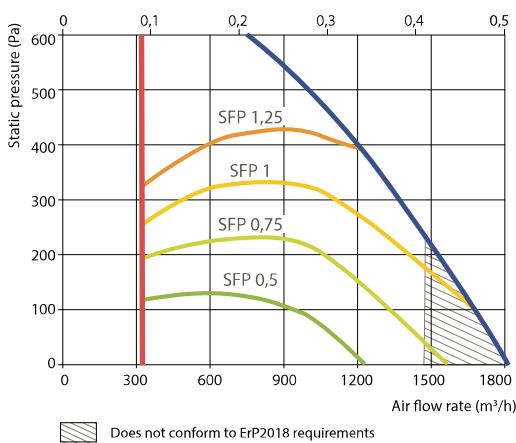
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	16,0	16,3	16,6	17,3	18,0	22,6	23,8	25,0

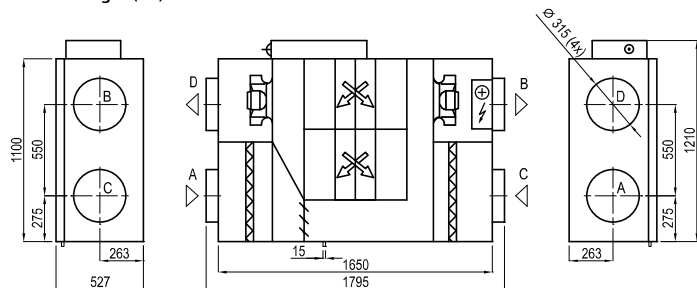
indoor +22°C, 20% RH

Hot water duct air heater (DH)*

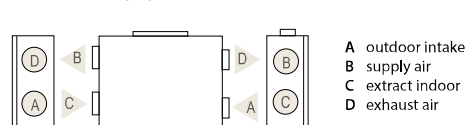
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	3,0	3,0	3,0
Flow rate, dm ³ /h	131	131	131
Pressure drop, kPa	5,2	5,2	5,3
Temperature in/out, °C	16,0 / 22,0		
Maximal capacity, kW	12,6	10,1	7,6
Connection, "	½		

* option

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
Water heater	DH-315
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-1,6-11/DHCW-315
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,6-11
Cooling unit	MOU-36HFN6-KA8243

Verso CF 1700 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1515
Panel thickness, mm	50
Unit weight, kg	243
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	12,9
Maximal operating current HW, A	6,7
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	465
Electric air heater capacity, kW / Δt, °C	4,5/7,4
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	58
Supply outlet	75
Exhaust inlet	58
Exhaust outlet	75
Casing	57

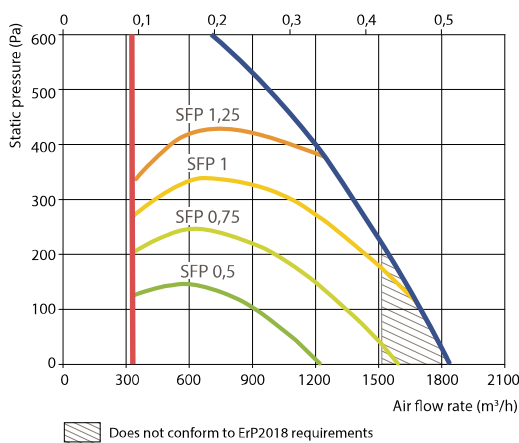
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46
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Performance (Verso CF 1700 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,4	15,3	16,2	16,6	17,6	22,6	23,6	24,7

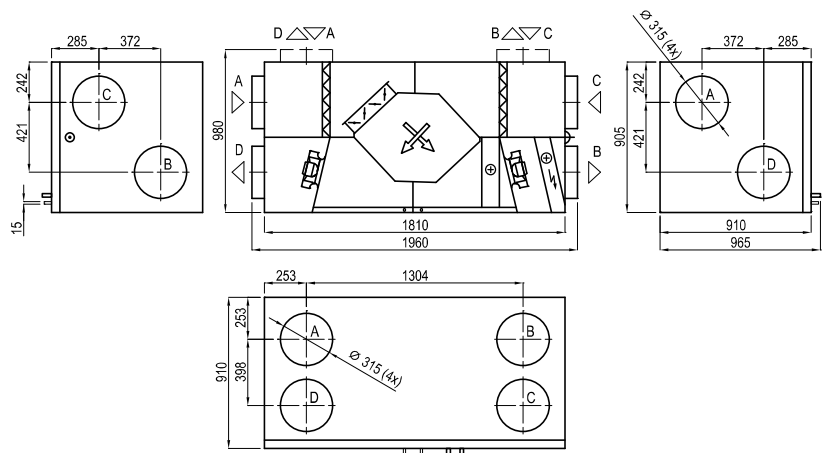
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

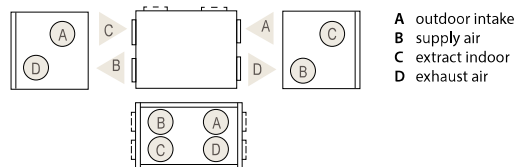
	Winter		Summer	
	Water temperature in/out, °C	Condensation/evaporation T, °C	Capacity, kW	Maximal capacity, kW
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	3,9	9,8	3,7	10,0
Maximal capacity, kW	11,7	11,3	6,5	12,1
Pressure drop, kPa	2,3	67,3	–	–
Air temperature in/out, °C	14,4 / 22	30 / 18	14,4 / 22	30 / 18
Connection, " / mm	1/2		5/8 / 22	

Summer: +30°C / 50%; DX – 1450 m³/h

Shown as right (R1)



Shown as left (L1)



A outdoor intake
B supply air
C extract indoor
D exhaust air

Accessories (p. 120)

Closing damper	AGUJ-M-315+LF24/LM24
Silencer	A/D AGS-315-100-900-M
	B/C AGS-315-100-1200-M
PPU	PPU-HW-3R-15-1,6-W2
Water cooler	DCW-1,6-11
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,6-11
Cooling unit	MOU-36HFN6-KA8243

Verso CF 2300 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	1990
Panel thickness, mm	50
Unit weight, kg	250
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,8
Maximal operating current HW, A	6,3
Filters dimensions BxHxL, mm	800x400x46
Electric power input of the fan drive at maximum flow rate, W	660
Electric air heater capacity, kW / Δt, °C	7,5/8,9
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	60
Supply outlet	78
Exhaust inlet	60
Exhaust outlet	78
Casing	57

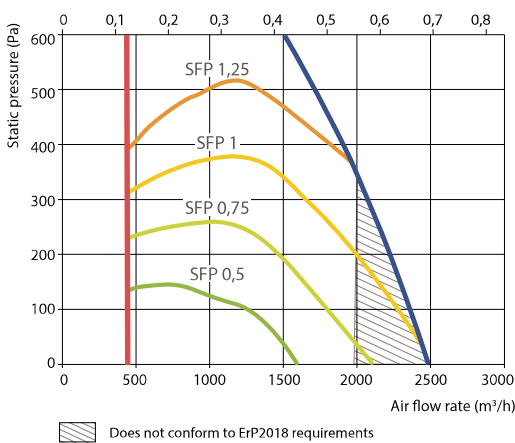
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	47
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Performance (Verso CF 2300 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,7	16,2	16,5	17,2	18,0	22,5	23,4	24,4

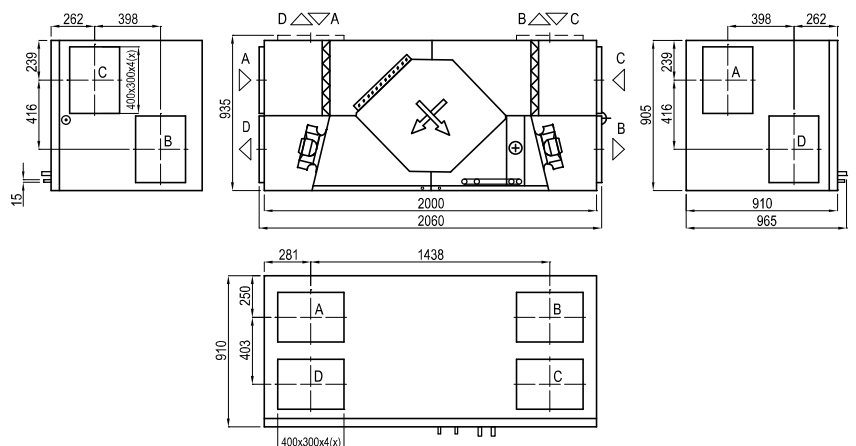
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

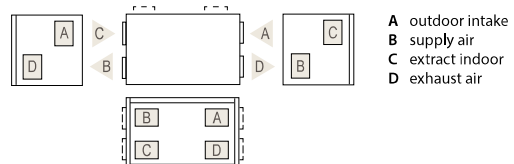
	Winter		Summer	
	Water temperature in/out, °C	Condensation/evaporation T, °C	Capacity, kW	Maximal capacity, kW
Water temperature in/out, °C	60/40	7/12	–	–
Condensation/evaporation T, °C	–	–	45	45/5
Capacity, kW	4,2	12,5	3,6	11,7
Maximal capacity, kW	13,0	12,6	6,7	13,2
Pressure drop, kPa	2	54,7	–	–
Air temperature in/out, °C	15,7 / 22	30 / 18,4	15,7 / 22	30 / 18
Connection, " / mm	¾		½ / 22	

Summer: +30°C/ 50%; HCW – 2200 m³/h; DX – 1450 m³/h

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

Closing damper	H	SRU-M-300x400+LF24/LM24
	V	SRU-M-400x300+LF24/LM24
Silencer	A/D	STS-IVR3BA-600-400-700-S
	B/C	STS-IVR3BA-600-400-1250-S
PPU		PPU-HW-3R-15-1,6-W2
Air heater-cooler		DCW-2,5-17
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-2,5-17
Cooling unit		MOU-55HFN6-KA8243

Verso CF 2500 F

Nominal air flow according to ErP 2018, m ³ /h	2590
Panel thickness, mm	50
Unit weight, kg	340
Supply voltage HE, V	3~400
Supply voltage HW, V	1~230
Maximal operating current HE, A	16,9
Maximal operating current HW, A	6,3
Filters dimensions BxHxL, mm	888x420x96
Electric power input of the fan drive at maximum flow rate, W	640
Electric air heater capacity, kW / Δt, °C	7,5/7,8
Control panel	C5.1
Maintenance space, mm	620



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

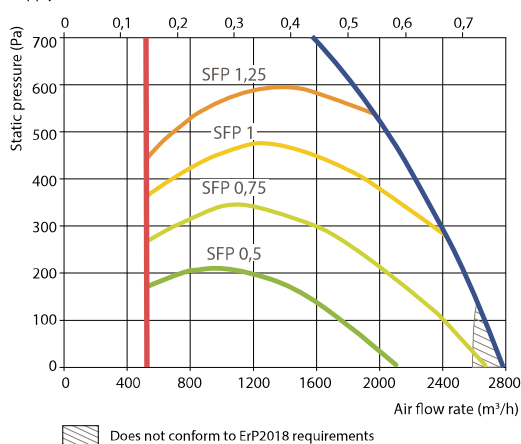
Supply inlet	64
Supply outlet	83
Exhaust inlet	64
Exhaust outlet	83
Casing	62

A-weighted sound pressure level L_{PA}, dB(A) 10 m² normally isolated room, distance from casing – 3 m.

Surroundings	51
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Performance

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,9	14,9	15,9	16,6	17,6	22,6	23,6	24,7

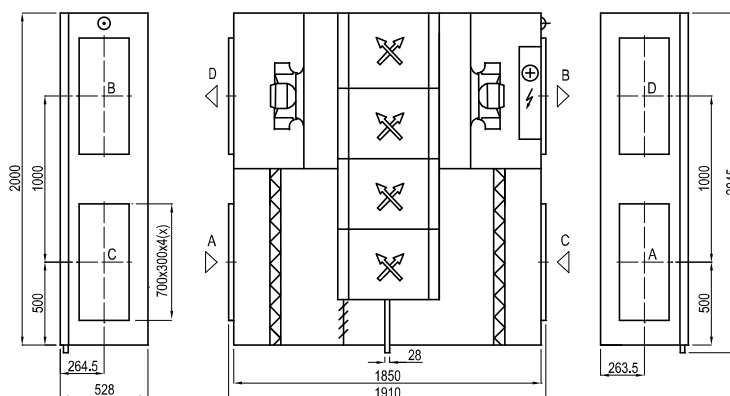
indoor +22°C, 20% RH

Hot water air heater (SVK)*

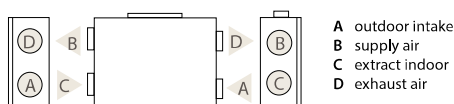
Water temperature in/out, °C	Winter		
	80/60	70/50	60/40
Capacity, kW	7,0	7,0	7,0
Flow rate, dm ³ /h	311	309	308
Pressure drop, kPa	4,8	4,8	4,9
Temperature in/out, °C	13,9 / 22		
Maximal capacity, kW	22,3	18,0	13,6
Connection, "	½		

* option

Shown as right (R1)



Shown as left (L1)



Accessories (p. 120)

Closing damper	SRU-M-700x300+LF24/LM24
Silencer	A/D STS-IVR3BA-800-300-700-S
	B/C STS-IVR3BA-800-300-1250-S
Water heater	SVK-700x400-2R
PPU	PPU-HW-3R-15-1-W2
Air heater-cooler	DCW-2,5-17
2-way valve	VVP45.25-6,3+SSB61
DX cooler	DCF-2,5-17
Cooling unit	MOU-55HFN6-KA8243

Verso CF 3500 U/H/V

Nominal air flow according to ErP 2018, m ³ /h	3540
Panel thickness, mm	50
Unit weight, kg	500
Supply voltage HE, V	3~400
Supply voltage HW, V	3~400
Maximal operating current HE, A	19,8
Maximal operating current HW, A	7,1
Filters dimensions BxHxL, mm	525x510x46
Electric power input of the fan drive at maximum flow rate, W	960
Electric air heater capacity, kW / Δt, °C	9/6,8
Control panel	C5.1
Maintenance space, mm	1000



The photo is intended for informational purposes only. exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A) at nominal flow rate

Supply inlet	55
Supply outlet	78
Exhaust inlet	56
Exhaust outlet	77
Casing	54

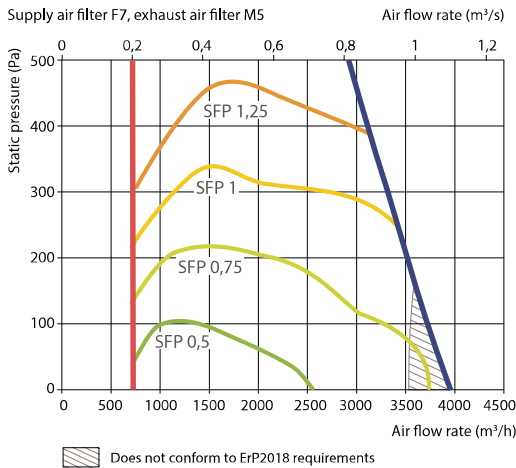
A-weighted sound pressure level L_{PA}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	43
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Performance (Verso CF 3500 UH data)

Supply air filter F7, exhaust air filter M5



Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,0	15,0	15,9	16,3	17,4	22,6	23,7	24,8

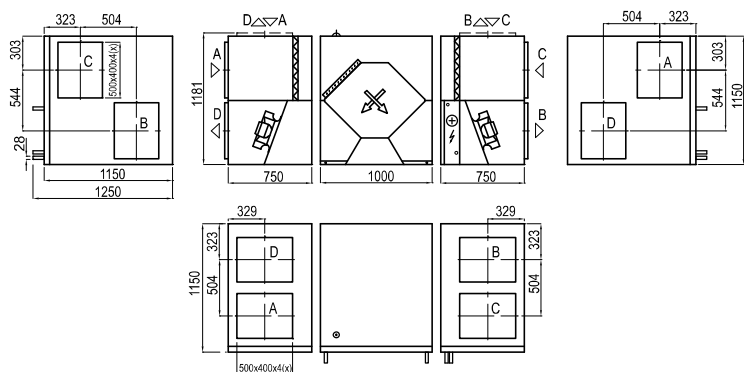
indoor +22°C, 20% RH

Changeover water/ DX heating – cooling exchanger (HCW/HCDX)

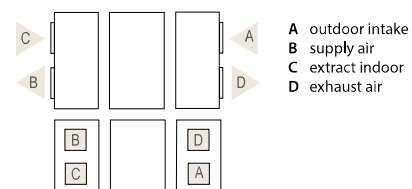
	Winter		Summer	
	Winter	Summer	Winter	Summer
Water temperature in/out, °C	60/40	7/12	-	-
Condensation/evaporation T, °C	-	-	45	45/5
Capacity, kW	9,5	17,7	8,2	21,8
Maximal capacity, kW	18,7	17,7	18,3	30,9
Pressure drop, kPa	3,6	96,4	-	-
Air temperature in/out, °C	14,0 / 22	30 / 20,6	14,0 / 22	30 / 18
Connection, " / mm	¾		2x½/2x22	

Summer: 30°C / 50%; DX - 3150 m³/h

Shown as right (R1)



Shown as left (L1)



- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

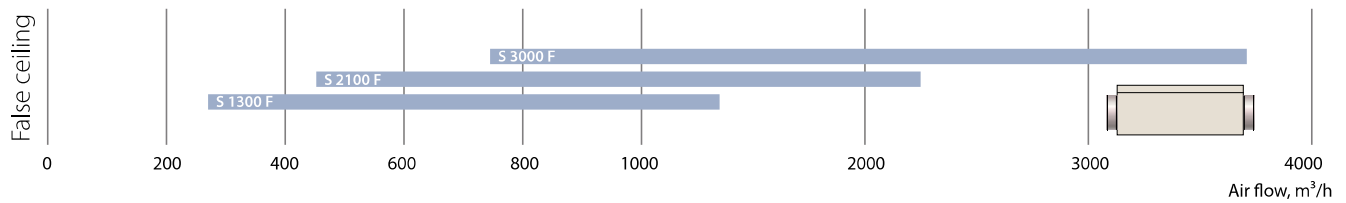
Accessories (p. 120)

Closing damper	H	SRU-M-400x500+LF24/LM24
	V	SRU-M-500x400+LF24/LM24
Silencer	A/D	STS-IVR3BA-800-500-700-S
	B/C	STS-IVR3BA-800-500-1250-S
PPU		PPU-HW-3R-15-2,5-W2
Air heater-cooler		DCW-4,0-27
2-way valve		VVP45.25-6,3+SSB61
DX cooler		DCF-4,0-27-2
Cooling unit		2xMOU-48HFN6-KA8243

VERSO S Standard

False ceiling supply air handling units

Sizes and capacities of VERSO S Standard units



Modifications of VERSO S Standard units

Unit	Supply air filter class	Heater		Cooler		Inspection side		Control system C5 panel C5.1
		HE	HW	CW	DX	R1	L1	
Verso S 1300 F	●	○	○	△	△	○	○	●
Verso S 2100 F	●	○	○	△	△	○	○	●
Verso S 3000 F	●		●	△	△	○	○	●

● standard equipment ○ possible choice △ ordered separately duct heater/cooler

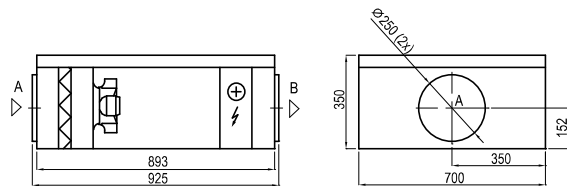
The markings are explained on p. 7.

Verso S 1300 F

Nominal air flow, m ³ /h	1300
Panel thickness, mm	50
Unit weight, kg	46
Filters dimensions BxHxL, mm	558x287x46
Electric power input of the fan drive at reference flow rate, W	350
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.



Acoustic data

A-weighted sound power level L_{WA} , dB(A) at nominal flow rate

Supply inlet	74
Supply outlet	80
Casing	56

A-weighted sound pressure level L_{PA} , dB(A)

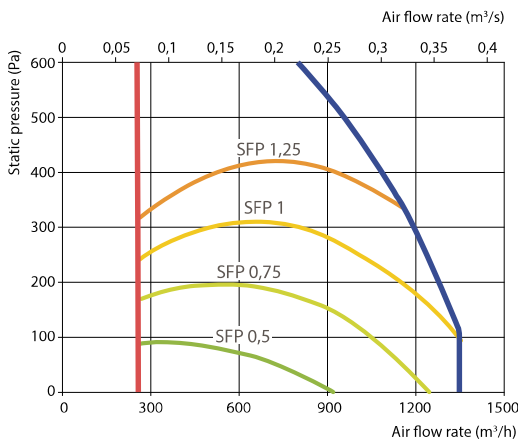
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	46
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Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT , °C
Verso S 1300 F-HE/9	3~400	9,0	15,7	19,2
Verso S 1300 F-HE/15	3~400	15,0	24,4	32,1
Verso S 1300 F-HW	1~230	–	3	–

Performance



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	10,1	8,4	6,5
Flow rate, dm ³ /h	448	369	286
Pressure drop, kPa	3,3	2,8	2,3
Temperature in/out, °C	-5 / 18,2	-5 / 14,2	-5,0 / 10,0
Maximal capacity, kW	10,1	8,4	6,5
Connection, "		½	

Accessories (p. 120)

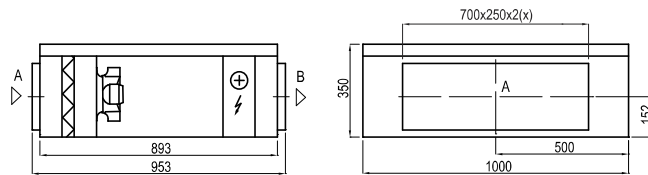
Closing damper	AGUJ-M-250+LF24/LM24
Silencer	A AGS-250-50-600-M
	B AGS-250-50-900-M
PPU	PPU-HW-3R-15-2.5-W2
Air heater-cooler	DCW-1,4-9
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-1,4-10
Cooling unit	MOU-36HFN6-KA8243

Verso S 2100 F

Nominal air flow, m ³ /h	1900
Panel thickness, mm	50
Unit weight, kg	73
Filters dimensions BxHxL, mm	858x287x46
Electric power input of the fan drive at reference flow rate, W	340
Control panel	C5.1
Maintenance space, mm	400



The photo is intended for informational purposes only. exact details may vary.



Acoustic data

A-weighted sound power level L_{WA} , dB(A) at nominal flow rate

Supply inlet	70
Supply outlet	75
Casing	52

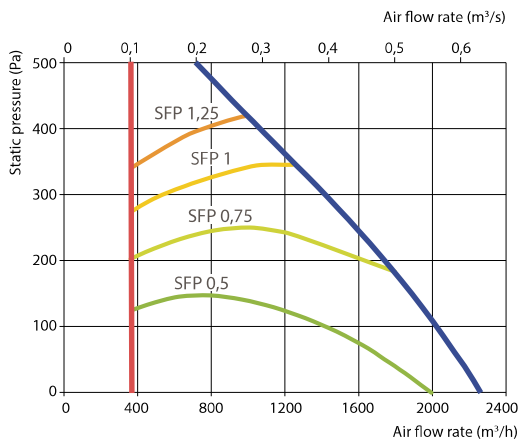
A-weighted sound pressure level L_{pA} , dB(A) 10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41
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Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT , °C
Verso S 2100 F-HE/15	3~400	15,0	24,7	21,9
Verso S 2100 F-HE/22,5	3~400	22,5	35,6	32,9
Verso S 2100 F-HW	1~230	-	3,3	-

Performance



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	17,0	14,4	11,7
Flow rate, dm ³ /h	752	632	511
Pressure drop, kPa	7,5	5,9	4,5
Temperature in/out, °C	-5,0/21,7	-5,0/17,5	-5,0/13,3
Maximal capacity, kW	17,0	14,4	11,7
Connection, "		½	

Accessories (p. 120)

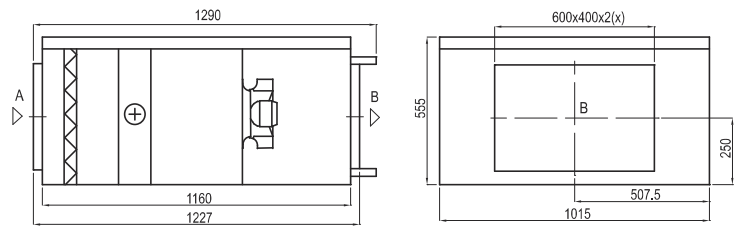
Closing damper	SRU-M-700x250+LF24/LM24
Silencer	A STS-IVR3BA-800-250-700-S
	B STS-IVR3BA-800-250-1250-S
PPU	PPU-HW-3R-15-2.5-W2
Air heater-cooler	DCW-2,0-13
2-way valve	VVP47.20-4,0+SSP61
DX cooler	DCF-2,0-14
Cooling unit	MOU-48HFN6-KA8243

Verso S 3000 F

Nominal air flow, m ³ /h	3600
Panel thickness, mm	50
Unit weight, kg	130
Filters dimensions BxHxL, mm	450x480x96
Electric power input of the fan drive at reference flow rate, W	930
Control panel	C5.1
Maintenance space, mm	600



The photo is intended for informational purposes only. exact details may vary.



Acoustic data

A-weighted sound power level L_{WA} , dB(A) at nominal flow rate

Supply inlet	67
Supply outlet	78
Casing	53

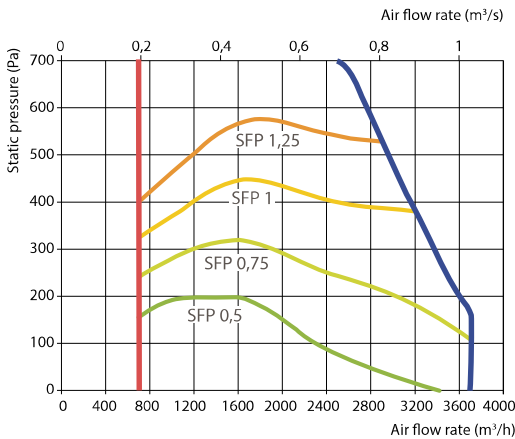
A-weighted sound pressure level L_{PA} , dB(A) 10 m² normally isolated room, distance from casing – 3 m.

Surroundings	42
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Technical data

Supply air handling unit	Supply voltage, V	Air heater capacity, kW	Maximal operating current, A	ΔT , °C
Verso S 3000 F-HW	3~400	–	3,8	–

Performance



* Compliance to ErP2018 requirements check with the selection program.

Hot water air heater

Water temperature in/out, °C	80/60	70/50	60/40
Capacity, kW	32,6	32,6	32,6
Flow rate, dm ³ /h	1442	1435	1429
Pressure drop, kPa	4,5	4,5	4,5
Temperature in/out, °C	-5/22	-5/22	-5/22
Maximal capacity, kW	50,2	42,5	34,7
Connection, "	1		

Accessories (p. 120)

Closing damper	SRU-M-600x400+LF24/LM24
Silencer	A STS-IVR3BA-600-400-700-S
	B STS-IVR3BA-600-400-1250-S
PPU	PPU-HW-3R-25-6.3-W2
Air heater-cooler	DCW-3,0-20
2-way valve	VVP45.25-6,3+SSB61
DX cooler	DCF-3,0-20-2
Cooling unit	2xMOU-36HFN6-KA8243

VERSO Pro



Convenient and safe

Unit design assures effective transportation and easy installation. Separate parts are compact, without projecting parts; therefore, it is easy to transport them to a designated area of the building, where they are later assembled. Finished air handling units are delivered to the customer in packages that are ready to be transported.

Durable

Unit doors are mounted with firm and aesthetic-looking hinges and are locked with convenient and elegant locks. Door seals are made of firm and elastic foam-type gaskets, which are automatically fastened to the door by the newest machinery and are long-lasting and hermetic.

User friendly

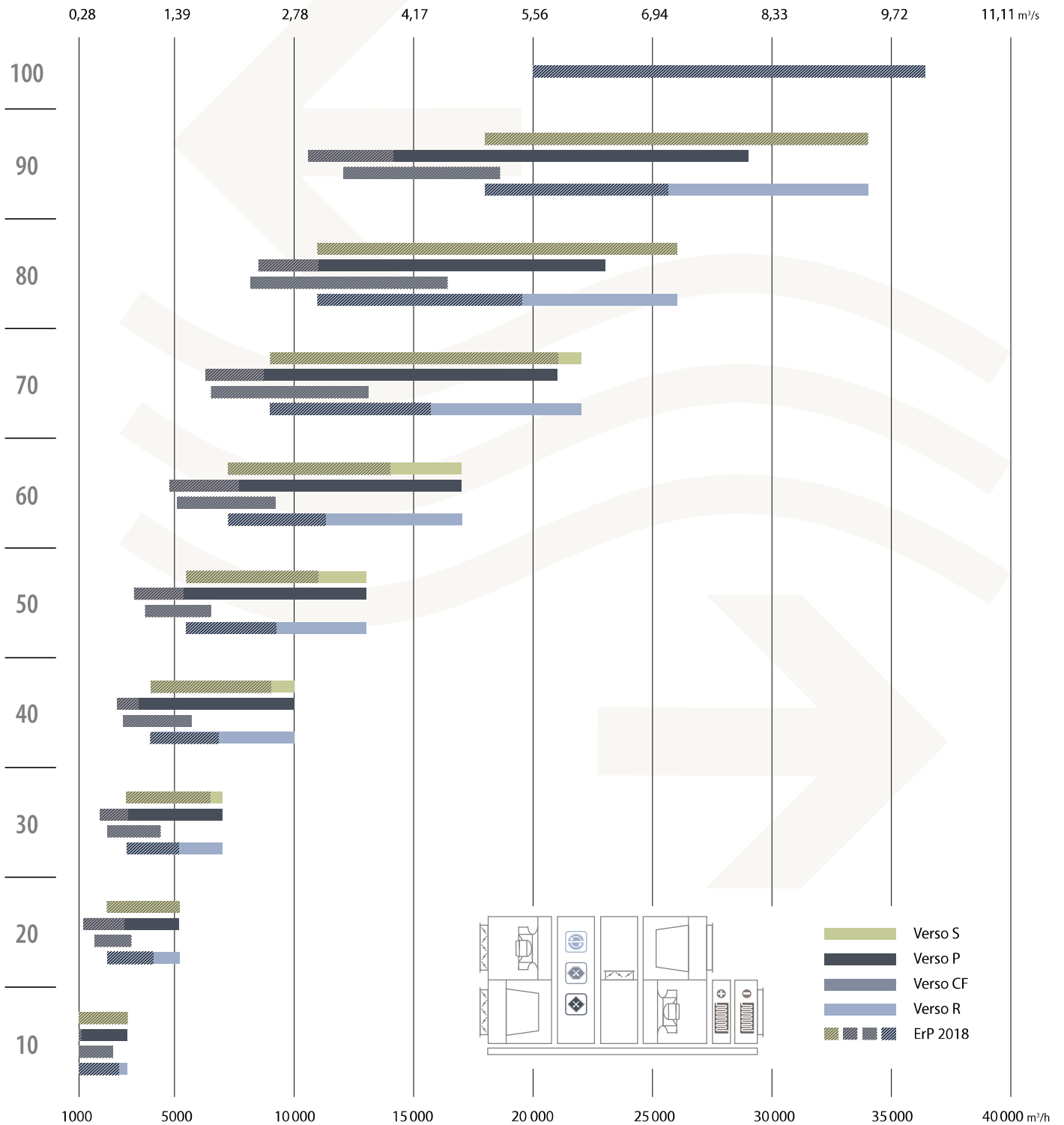
Filters, fans, heat exchangers, coolers and other components are easily accessible during use; if necessary, they can easily be replaced. A new filter clamping mechanism, not only assures tightness, but also essentially simplifies filter change procedure.

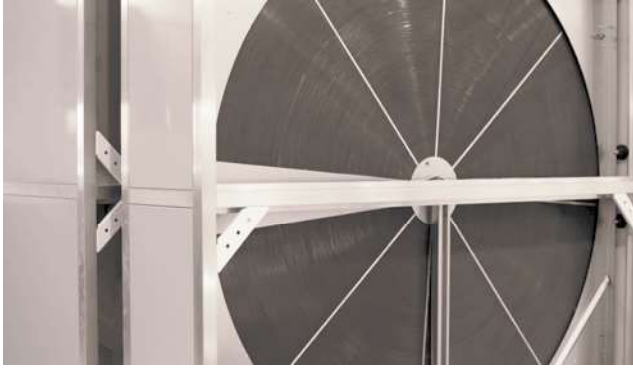
Effective and universal

Unit walls are made of galvanized steel sheets with 50 mm thickness insulation. This assures not only effective heat and noise insulation, but also a high level of fire resistance. Air handling unit accessories – external grilles for supply/exhaust vents, hood and roof – allow installing units outside.



Sizes and capacities of VERS0 Pro units





Heat exchangers

Rotary heat exchanger

Used in Verso R series units. Temperature efficiency factor – up to 86%. Possible wave height: 1.4 mm; 1.5 mm, 1.7 mm.

Types of rotary heat exchangers:

- Condensation (aluminium);
- Sorption (aluminium with zeolith coating);
- Deep epoxy coating technology.

Aluminium foil is made of an aluminium alloy resistant to sea water. Rotary heat exchanger rotation speed is controlled by a frequency converter, according to the air temperature. The heat exchanger can be ordered with an installed purge section.

Counter flow plate heat exchanger

Used in Verso CF series units. Temperature efficiency factor – up to 95% in wet conditions and up to 88% in dry conditions.

The plate heat exchanger is equipped with an automatic by-pass. Aluminium plates are made of an aluminium alloy resistant to sea water.

Anti-frost precautions

Under conditions when the outdoor air temperature is low and humidity is high, the risk of heat exchanger frosting may occur. To avoid frosting of the heat exchanger the by-pass damper is opened. For an extremely low outdoor air temperature the duct-mounted electric preheater is recommended. The counter cross-flow heat exchanger is even more sensitive for low outside air temperatures, as the risk of icing appears in the temperature range from -3°C to -5°C and below. A standard aluminium cross-flow plate heat exchanger has better features, as the risk of icing appears only at -10°C. The lowest risk and the highest resistance to cold outside air is a competitive feature of the rotary heat exchanger, as it does not freeze even at the temperatures of -30°C if the humidity level of the air is appropriate.

Multi-stage prevention of icing

When air handling units with plate heat exchangers operate in a cold climate zone and when the outside air temperature drops below minus 3–4° C, the heat exchanger starts icing up and therefore periodically needs to be defrosted using the heat of the exhaust air. Heat is lost during these periods, and a more powerful air heater should be installed to compensate these losses. A multi-stage anti-icing system was developed that allows the device to function effectively with a negative outdoor temperature. Its essence is that in case of danger of icing, 2/3 of the surface area of heat exchanger is in normal mode and 1/3 in defrosting mode. After some time, when one segment is thawed, segments change places. Thus, a sufficiently high efficiency is maintained, more thermal energy is saved, without a significant increase in heater power.

Multi-stage prevention of icing





Fans

In VERS0 series units plug type fans are used, so, units are silent and use electricity effectively. The fans are balanced statically and dynamically, based on the ISO 1940 standard; therefore, unit vibration is minimal and meets all requirements.

When running, fans exhibit the following qualities:

- Very high efficiency coefficient
- Frequency converters ensure an optimal capacity
- Good acoustic performance
- Longevity: a fan is directly connected to the electric motor, so, there is no a belt gear that simplifies maintenance.
- There is a possibility of installing an air flow measuring device

Two types of fan motors are available – three-phase permanent magnet synchronous motors (PM) (400 V, 50 Hz), controlled by frequency converters, or electronically commutated (EC) with an integrated electronic controller with 20-100% speed regulation. Safety category – IP55 according to IEC 34-5. Windings insulation category – F. Maximum operating temperature is 40°C.

PM motors

- Highest energy efficiency – 93%.
- Ultra Premium IE5 performance class according to IEC.
- Compact dimensions and low weight.
- Wide range of regulation while maintaining high performance.
- Low heat dissipation.
- Reliability and durability.
- The shortest payback time.

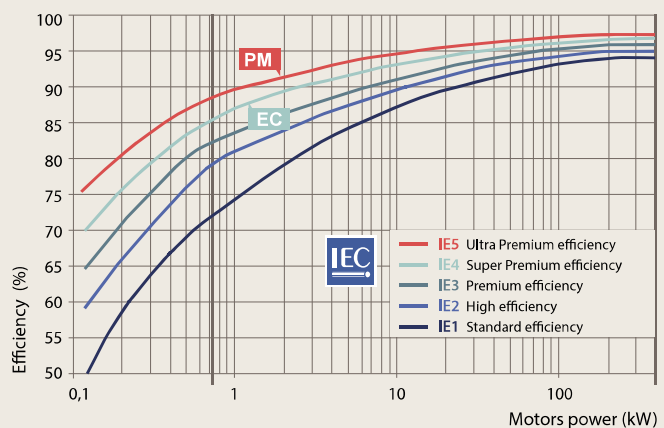
Fan blowers

- The highest efficiency of the wheel with backward curved blades.
- Static efficiency up to 80%.
- Statically and dynamically balanced in accordance with the standard ISO1940.
- Material – composite, aluminum or painted steel.

Frequency converters

- High energy efficiency – 97%.
- Low heat dissipation.
- Specially designed algorithms for optimal PM motor control.

PM/EC fans





Air heaters

Water air heaters

Normally used with aluminium fins and copper pipes. Can be made with a thread joint to connect a freezing sensor. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way; it is also more convenient to mount it.

- Maximum operating pressure – 21 bars
- Maximum water temperature +100°C (on special order – up to +130°C)
- Heated air temperature – up to +40°C

Electric air heaters

Stainless steel heating elements are used in production. A three level protection ensures protection from overheating.

- Protection class IP54 in accordance with IEC 34-5.
- Heated air temperature – up to +40°C.

Note: exact electric air heater measurements and other information can be found in VERSO air handling units selection software. The electric heater has its own supply voltage.



Air coolers

Water air coolers

Normally used with aluminium fins (spacing 2.5 or 3 mm) and copper pipes. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way and it is more convenient to mount it.

Maximum operating pressure – 21 bars.

The air cooler section is assembled with a stainless steel sloping drain tray and a water trap.

Direct evaporation air coolers

Normally used with aluminium fins (spacing 2.5 or 3 mm) and copper pipes. Insulated with a mineral wool heater section mounted on the outside of the unit – room space is saved this way; it is also more convenient to mount it.

Maximum operating pressure – 42 bars.

The cooler section is assembled with a stainless steel sloping drain tray and a water trap. The power of the direct evaporation air cooler can be divided into 2 or 3 steps. It is necessary to indicate this when ordering. DX coil also can operate in heating mode.



Air dampers

Closing air dampers installed in the air handling units are produced from aluminium with rubber sealing. Connectors – L20. For unit sizes 60, 70, 80 – L30, 90 – L40. Dampers are located outside the unit; they can be made with an insulated damper casing. Standard tightness Class 2, it possible to order higher tightness Class 4 or higher thermal insulation Class 2 TBB.



Air filters

From G4 to F9 class synthetic or fiberglass pocket type filters are used. Standard length of G4 class filters – 360 mm. Standard length of M5–F9 class filters – 500, 635 mm. The filter clamping mechanism ensures tightness and simplifies the filter replacement procedure. Also G4 or M5 prefilter can be selected on supply air flow.

KOMFOVENT air filters
correspondence to ISO 1890 standard:

Filter class EN 779:2012	Bag filters ISO 16890
G3 / G4	Coarse 65%
M5	ePM10 60%
F7	ePM1 60%



Noise reduction sections

To avoid excessive pressure losses inside the air handling unit, duct-mounted sound attenuation sections are offered for VERSO units. The sound attenuation section of 900 mm length will reduce the noise to air ducts by 15 to 20 dB, a longer section of 1200 mm in length – by 20 to 25 dB. The width and height of these sections correspond to air-handling unit dimensions. The baffler-type sound absorber is installed inside this section. Baffles are filled with special acoustic mineral stone wool and are covered by non-woven glass fibre felt certified to be inside the air duct. Mineral wool can be replaced with polyester wool in the case of a special request. Splitters of the absorber can be easily removed from the section for dry or semi-wet washing for ventilation hygiene purposes.

The efficiency of the channel noise reduction section, in dB

Nr.	Length, mm	Efficiency dB when frequency Hz							
		63	125	250	500	1000	2000	4000	8000
10	900	10	19	27	31	33	32	27	17
	1200	13	26	35	42	44	43	36	22
20	900	6	13	17	21	22	21	18	11
	1200	8	17	23	27	29	28	24	15
30	900	7	13	18	22	23	22	19	12
	1200	9	18	24	29	30	30	25	15
40	900	6	13	18	21	22	21	18	11
	1200	8	17	23	27	29	28	24	15
50	900	6	12	17	20	21	21	18	11
	1200	8	16	22	27	28	27	23	14
60	900	8	15	21	25	26	25	21	13
	1200	10	20	28	33	34	34	28	18
70	900	7	14	20	23	25	24	20	13
	1200	10	19	26	31	33	32	27	17
80	900	7	14	19	23	24	23	20	12
	1200	9	18	25	30	32	31	26	16
90	900	7	14	20	23	25	24	20	13
	1200	10	19	26	31	33	32	27	17



Casing and outside grilles

Casing and outside grilles can be additionally mounted on the supply and exhaust vents of outdoor air handling units.



Roof

A roof with water drainage must be additionally installed on outdoor air-handling units.



Height-adjustable feet

The construction frame of the air handling unit with height adjustable feet makes it much easier to level the unit on the site.



Door locks and handles

Easy to use door locks and handles ensure safe unit maintenance.



Inspection window and lighting

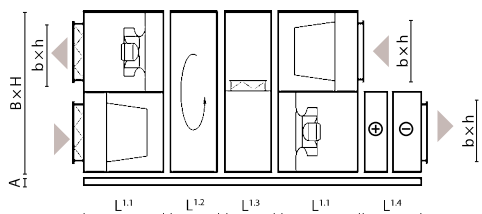
Internal lighting enables to observe unit's internal operation through an inspection window. Economy light is used with a switch outside the unit.

Inspection window enables you to observe the unit's internal operation. The diameter of the plastic window is 200 mm.

Dimensions

Modern air handling unit proportions allow reaching better technical parameters: a lower air flow velocity inside the unit, better acoustic data.

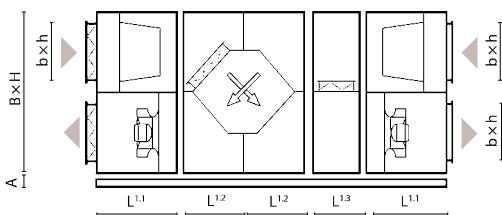
Verso R



Size	B	H	L ^{1.1}	L ^{1.2}	L ^{1.3}	L ^{1.4}	b	h	A
10	1000	1000	618	370	435	800	700	300	125
20	1150	1150	751	370	435	800	900	400	125
30	1300	1300	751	370	435	800	1000	500	125
40	1500	1520	751	390	435	800	1200	600	125
50	1700	1715	885	390	435	800	1400	700	125
60	1900	1920	885	390	570	800	1600	800	125
70	2100	2100	885	390	705	800	1800	900	125
80	2300	2420	1250	510	841	830	2000	1000	125
90	2610	2650	1400	550	1040	830	2200	1100	125
100	3770	2420	1250	1400	841	830	3400	1000	125

Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection programme of VERSO air handling units.

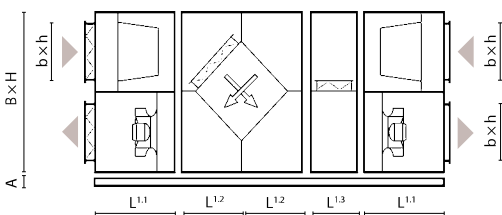
Verso CF



Size	B	H	L ^{1.1}	L ^{1.2}	L ^{1.3}	b	h	A
10	1000	1000	618	570	435	700	300	125
20	1150	1150	751	645	435	900	400	125
30	1300	1300	751	720	435	1000	500	125
40	1500	1520	751	720	435	1200	600	125
50	1700	1715	885	720	435	1400	700	125
60	1900	1920	885	920	570	1600	800	125
70	2100	2100	885	1060	705	1800	900	125
80	2300	2420	1250	1250	841	2000	1000	125
90	2610	2650	1400	1250	1040	2200	1100	125

Notes: size 20+70 plate heat exchanger section is made of two parts. Size 10, 80 and 90 – of one part. The electric air heater section length is noted in the selection programme of VERSO air handling units.

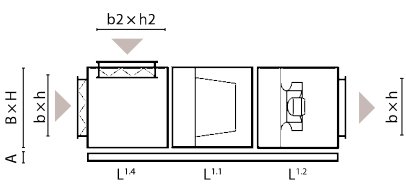
Verso P



Size	B	H	L ^{1.1}	L ^{1.2}	L ^{1.3}	b	h	A
10	1000	1000	618	422	435	700	300	125
20	1150	1150	751	570	435	900	400	125
30	1300	1300	751	570	435	1000	500	125
40	1500	1520	751	570	435	1200	600	125
50	1700	1715	885	707	435	1400	700	125
60	1900	1920	885	845	570	1600	800	125
70	2100	2100	885	845	705	1800	900	125
80	2300	2420	1250	1150	841	2000	1000	125
90	2610	2650	1400	1150	1040	2200	1100	125

Notes: size 20+70 plate heat exchanger section is made of two parts. Size 10, 80 and 90 – of one part. The electric air heaters, water heaters and coolers section length and configuration are noted in the selection programme of VERSO air handling units.

Verso S



Size	B	H	L ^{1.1}	L ^{1.2}	L ^{1.4}	b	h	b1	h1	b2	h2	A
10	1000	490	750	705	430	900	400	700	300	700	300	125
20	1150	585	750	705	430	1100	500	900	400	1000	300	125
30	1300	660	750	705	470	1200	600	1000	500	1100	400	125
40	1500	740	750	842	470	1400	700	1200	600	1200	400	125
50	1700	890	750	842	470	1600	800	1400	700	1400	400	125
60	1900	960	750	979	570	1800	900	1600	800	1600	500	125
70	2100	1085	750	979	705	2000	1000	1800	900	1800	600	125
80	2300	1235	750	1250	705	2200	1100	2000	1000	2000	600	125
90	2610	1350	750	1400	705	2500	1200	2200	1100	2200	600	125

Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection programme of VERSO air handling units.

RHP

Air handling units with integrated heat pump



150–25 000 m³/h

All HVAC systems in one unit



VENTILATION
RHP units provide the premises with fresh air consuming minimal power



HEATING
RHP units can efficiently heat the premises especially during a transitional period



COOLING
RHP units provide the most efficient cooling during the summer



HUMIDITY CONTROL
RHP units in summer perform dehumidification and in winter – regeneration of humidity



AIR FILTRATION
Fresh air supplying into room is cleaned from dust



Complete indoor microclimate control:
5 in 1

Wide possibilities with RHP:

- Unit monitoring and management through the Internet and BMS.
- Extremely high energy efficiency.
- Simple designing, installing, operation and maintenance.
- Shortest payback time.
- Unified smart control, simplified management.
- No outdoor unit, no refrigeration specialists required.

Integrated control system C5

Automatic system designed for professionals, controls thermodynamic processes and saves energy.

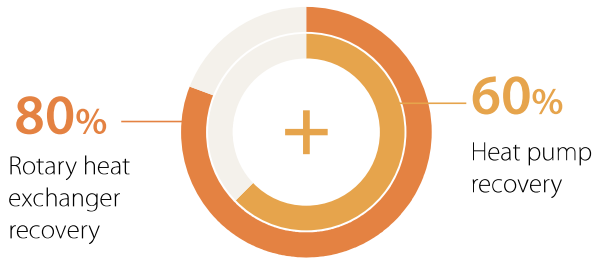
The user is given detailed information about the operation of the unit. Variety of modes and functions allows the user to choose the most optimal operating mode that maximizes energy saving.

Two-stage heat / cool recovery

Thermal efficiency over 140%

To reach the maximum efficiency Komfovent RHP units are designed to recover the energy in two steps:

- 1st step recovery by enthalpy rotary heat exchanger.
- 2nd step recovery by reversible heat pump.



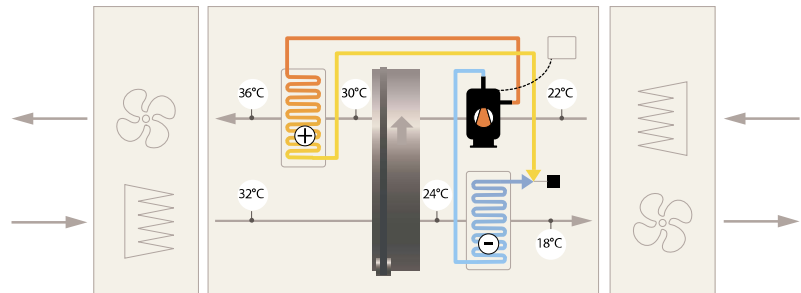
Outdoor: -10°C / 80% RH
Indoor: +20°C / 40% RH

Optimised and efficient operating principles:



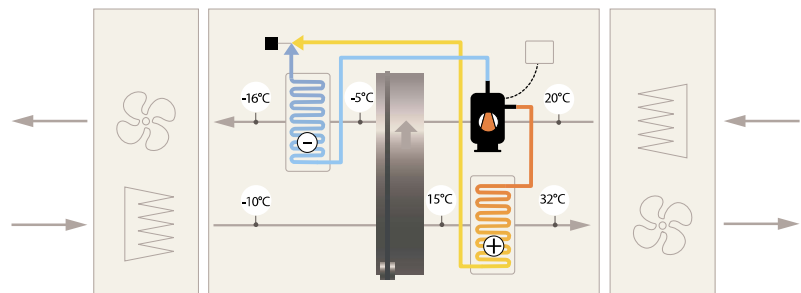
Cooling mode

Due to cooling recovery by rotary heat exchanger, the air temperature after the rotor is lower than the outside air temperature. Condensation temperature in this case is lower, which results in reduced compressor electricity consumption compared with outdoor condensing unit.

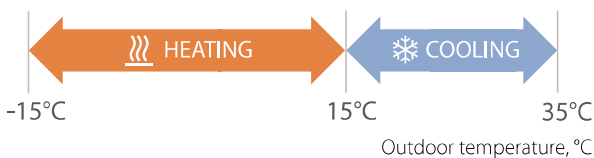


Heating mode

A highly efficient rotary heat exchanger is used for first-stage heat recovery, recovering the biggest part of the heat of extracted air. For second-stage heat recovery and supply air temperature control, a heat pump is used.



Operation range:



RHP Standard



Why choose RHP Standard units?

Total comfort all year long

Reversible heating and cooling operation of heat pump ensures comfort indoor climate.

Added value to indoor climate

Heating and humidity recovery in winter, cooling and dehumidifying in summer.

"All-inclusive" solution

No need for condensing unit, chiller, piping or additional work providing.

Convenience and safety

Factory-charged with refrigerant; no refrigeration knowledge is needed.

Eco-friendly and protected

Non ozone depleting refrigerant R134A is used in RHP units and one circuit charge limits are applied.

Extremely energy-efficient and resource saving

Two-step efficiency is provided by rotary heat exchanger recovery and post heating / cooling operated by a heat pump.

Factory tested

Reliable and convenient PLUG & PLAY installation, commissioning and exploitation.

Intelligent control

Clever automatic control algorithms and reliable components ensure safe and efficient equipment operation.

Extremely compact design

It saves building spaces, easier transportation.

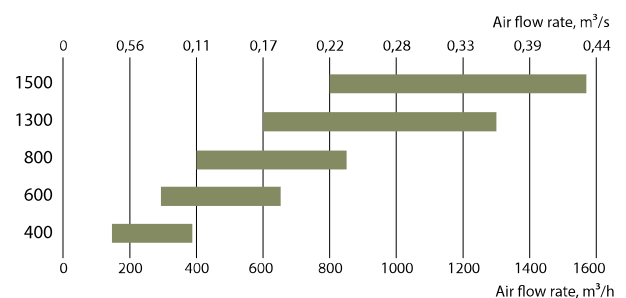
Exclusive connectivity – 14 ways

(except model RHP 400)

Allows for optimal and rational connection of the ducts.



Sizes and capacities of RHP units



RHP 400 V

Nominal air flow, m ³ /h	398
Panel thickness, mm	30/50
Unit weight, kg	106
Supply voltage, V	1~230
Maximal operating current, A	6,6 (RHP 2.2/1.4)
Maximal operating current, A	7,7 (RHP 2.8/2.4)
Filters dimensions B×H×L, mm	462×200×46
Electric power input of the fan drive at maximum flow rate, W	103
Electric air heater capacity, kW / Δt, °C	1/7
Refrigerant R134 A, kg	1,1
Control panel	C5.1
Maintenance space, mm	720



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A)
at reference flow rate

Supply inlet	59
Supply outlet	74
Exhaust inlet	59
Exhaust outlet	74
Casing	54

A-weighted sound pressure level L_{PM}, dB(A)
10 m² normally isolated room, distance from casing – 3 m.

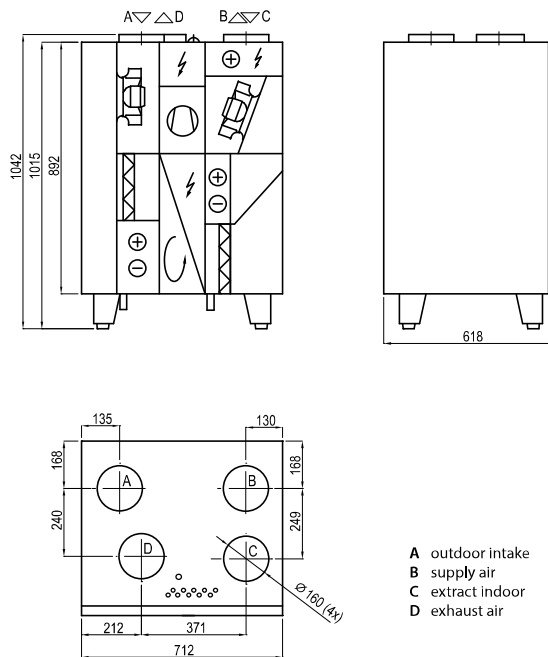
Surroundings	44
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Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	11,2	13,2	14,4	15,5	16,7	22,7	23,9	25,1

indoor +22°C, 20 % RH.

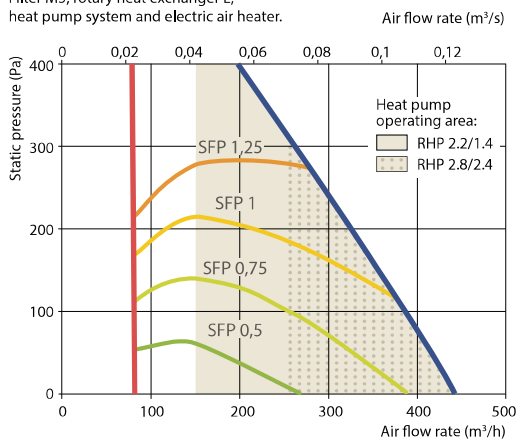
Shown as right (R1)



The unit is available only right inspection side.

Performance

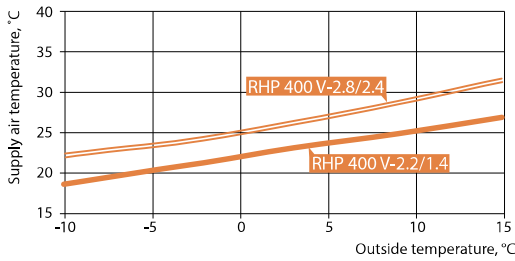
Filter M5, rotary heat exchanger L,
heat pump system and electric air heater.



Accessories (p. 120)

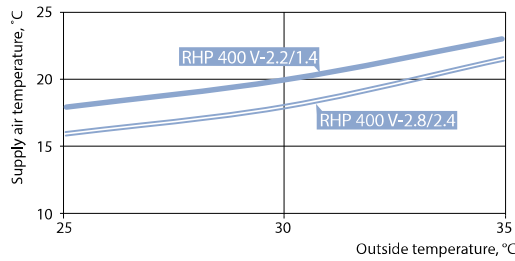
Closing damper	AGUJ-M-160+LM24
Silencer	A/D AGS-160-50-600-M
	B/C AGS-160-50-900-M

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24 °C, RH 55% indoor.
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 400 V-2.2/1.4					RHP 400 V-2.8/2.4				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	23,7	21,9	18,6	21,6	15,7	28,2	26,3	22,4	19,1	13,9
Heat pump heating/cooling power, kW	0,89	0,81	0,68	1,2	1,33	1,5	1,4	1,18	1,97	1,85
Heat pump heating/cooling power consumption, kW	0,2	0,2	0,17	0,22	0,19	0,45	0,42	0,37	0,49	0,42
System SCOP ^{1,2,3} , Average climate / System SEER ^{1,2,3}	13,4			4,0		7,2			3,45	
COP/EER	4,31	4,09	3,87	4,46	5,80	3,35	3,28	3,20	3,07	3,38

¹ Rotary heat exchanger wave size "L"
² Rotary heat exchanger + heat pump
³ According to EN 14825 standard

RHP 600 U

Nominal air flow, m ³ /h	650
Panel thickness, mm	50
Unit weight, kg	194
Supply voltage, V	1~230
Maximal operating current, A	9,6 (RHP 3.7/3)
Maximal operating current, A	10,5 (RHP 4.4/3.8)
Filters dimensions B×H×L, mm	500×280×46
Electric power input of the fan drive at maximum flow rate, W	128
Electric air heater capacity, kW / Δt, °C	1 / 4,3
Refrigerant R134 A, kg	2,2
Control panel	C5.1
Maintenance space, mm	600



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A)
at reference flow rate

Supply inlet	57
Supply outlet	70
Exhaust inlet	59
Exhaust outlet	69
Casing	52

A-weighted sound pressure level L_{PM}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	41
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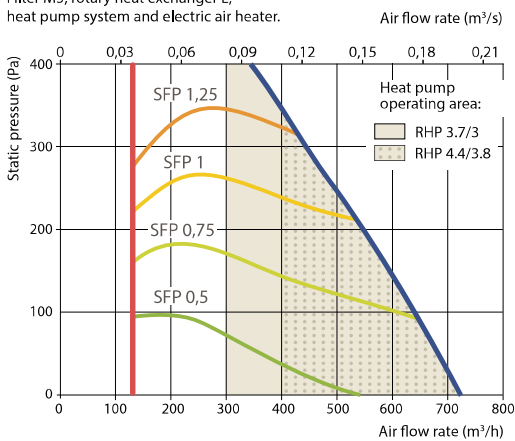
Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	13,9	15,3	16,2	17,1	18,0	22,5	23,4	24,4

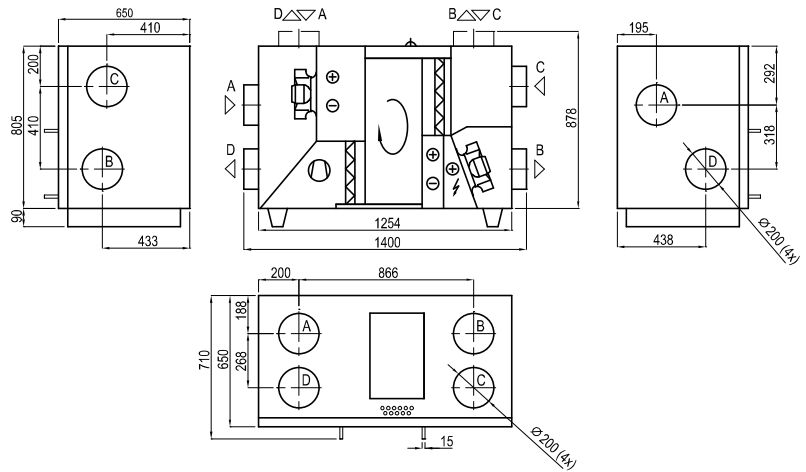
indoor +22°C, 20 % RH.

Performance

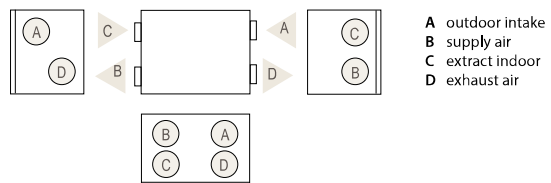
Filter M5, rotary heat exchanger L, heat pump system and electric air heater.



Shown as right (R1)



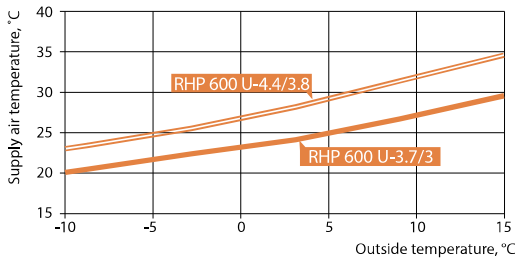
Shown as left (L1)



Accessories (p. 120)

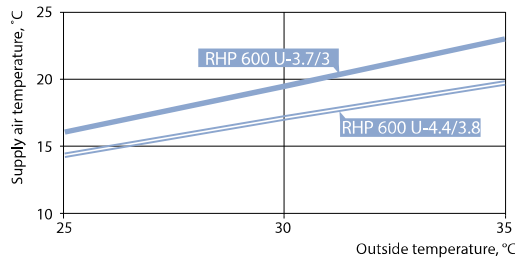
Closing damper		AGUJ-M-200+LM24
	A/D	AGS-200-50-600-M
Silencer		AGS-200-50-900-M
	B/C	

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24 °C, RH 55% indoor.
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 600 U-3.7/3					RHP 600 U-4.4/3.8				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	27,9	26,1	22,5	18	15,1	32,1	29,8	25,6	16,6	11,5
Heat pump heating/cooling power, kW	1,66	1,53	1,25	1,76	1,84	2,33	2,11	1,73	2,15	2,15
Heat pump heating/cooling power consumption, kW	0,4	0,38	0,34	0,49	0,38	0,62	0,58	0,52	0,73	0,62
System SCOP ^{1,2,3} , Average climate / System SEER ^{1,2,3}	13,3			4,52		9,7			4,7	
COP/EER	4,19	3,97	3,61	4,5	4,83	3,66	3,5	3,27	3,06	3,48

¹ Rotary heat exchanger wave size "L"
² Rotary heat exchanger + heat pump
³ According to EN 14825 standard

RHP 800 U

Nominal air flow, m ³ /h	800
Panel thickness, mm	50
Unit weight, kg	255
Supply voltage, V	3~400
Maximal operating current, A	14,8 (RHP 5.3/4.7)
Maximal operating current, A	16,1 (RHP 6.1/5.8)
Filters dimensions B×H×L, mm	750×400×46
Electric power input of the fan drive at maximum flow rate, W	127
Electric air heater capacity, kW / Δt, °C	2 / 6,9
Refrigerant R134 A, kg	3,1
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A)
at reference flow rate

Supply inlet	59
Supply outlet	72
Exhaust inlet	59
Exhaust outlet	69
Casing	51

A-weighted sound pressure level L_{PM}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

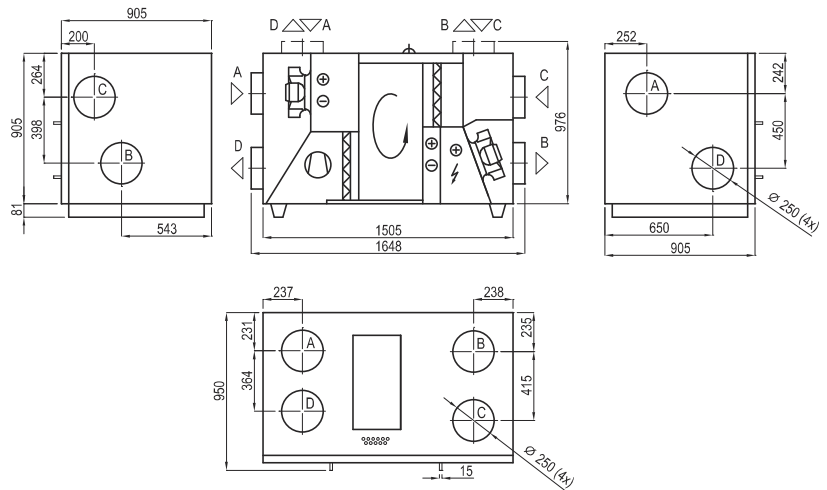
Surroundings	40
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Temperature efficiency

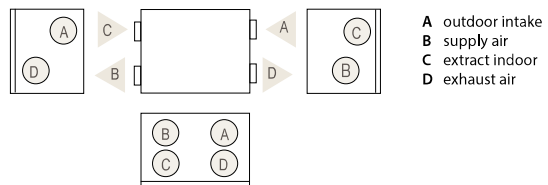
Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,5	16,7	17,4	18,1	18,8	22,4	23,2	23,9

indoor +22°C, 20 % RH.

Shown as right (R1)

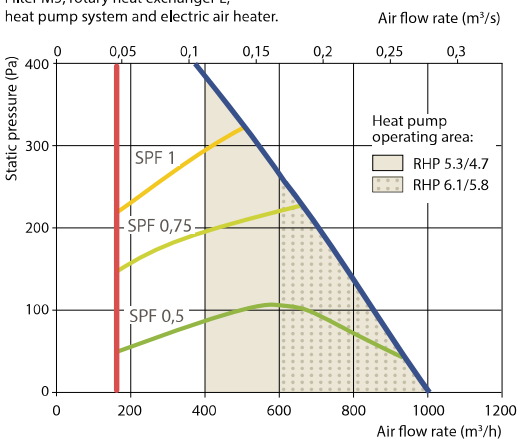


Shown as left (L1)



Performance

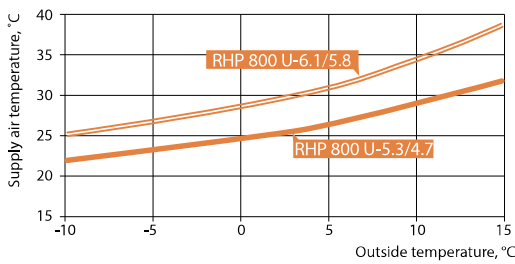
Filter M5, rotary heat exchanger L,
heat pump system and electric air heater.



Accessories (p. 120)

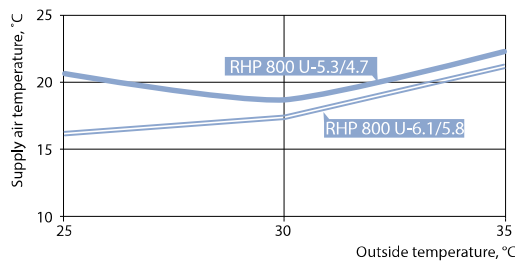
Closing damper		AGUJ-M-250+LM24
	A/D	AGS-250-50-600-M
Silencer		AGS-250-50-900-M
	B/C	

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24 °C, RH 55% indoor.
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 800 U-5.3/4.7					RHP 800 U-6.1/5.8				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	29,3	27,4	23,5	17,4	11,6	32,9	30,4	26,5	15,6	10,6
Heat pump heating/cooling power, kW	2,45	2,26	1,82	2,38	2,45	3,19	2,89	2,44	2,95	2,91
Heat pump heating/cooling power consumption, kW	0,56	0,54	0,44	0,69	0,59	0,85	0,8	0,66	1,05	0,91
System SCOP ^{1,2,3} , Average climate / System SEER ^{1,2,3}	12,7			4,65		9,4			4,6	
COP/EER	4,28	4,08	4,05	3,53	4,03	3,63	3,53	3,67	2,85	3,24

¹ Rotary heat exchanger wave size "L"
² Rotary heat exchanger + heat pump
³ According to EN 14825 standard

RHP 1300 U

Nominal air flow, m ³ /h	1200
Panel thickness, mm	50
Unit weight, kg	260
Supply voltage, V	3~400
Maximal operating current, A	18,2 (RHP 8.1/6.6)
Maximal operating current, A	20,5 (RHP 9.2/7.6)
Filters dimensions B×H×L, mm	750×400×46
Electric power input of the fan drive at maximum flow rate, W	253
Electric air heater capacity, kW / Δt, °C	2/4,6
Refrigerant R134 A, kg	3,1
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA}, dB(A)
at reference flow rate

Supply inlet	64
Supply outlet	78
Exhaust inlet	64
Exhaust outlet	76
Casing	56

A-weighted sound pressure level L_{PM}, dB(A)

10 m² normally isolated room, distance from casing – 3 m.

Surroundings	45
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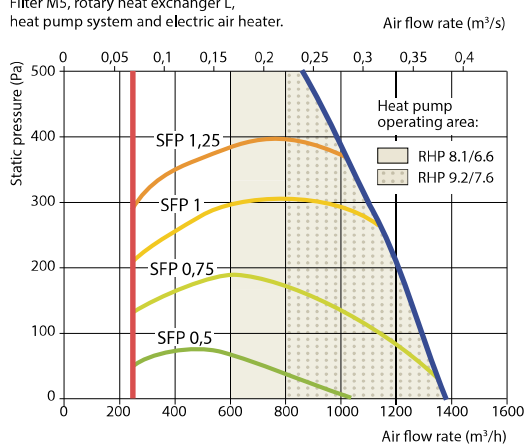
Temperature efficiency

Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,5	15,8	16,7	17,5	18,3	22,5	23,3	24,2

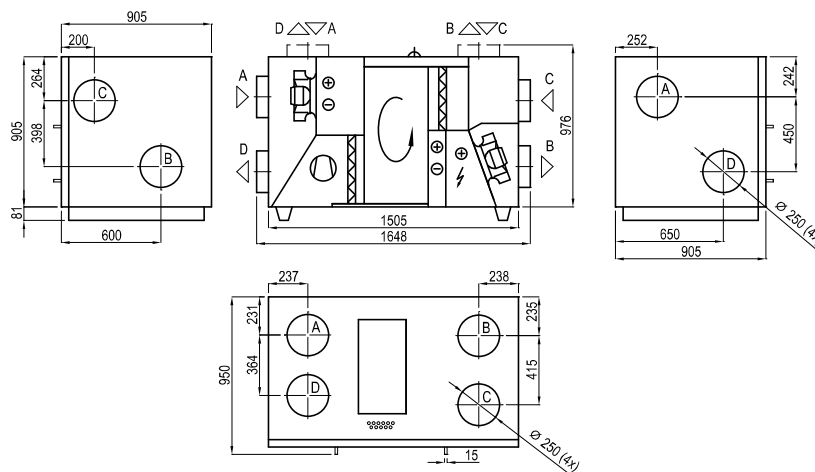
indoor +22°C, 20 % RH.

Performance

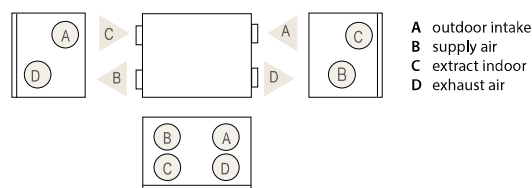
Filter M5, rotary heat exchanger L, heat pump system and electric air heater.



Shown as right (R1)



Shown as left (L1)

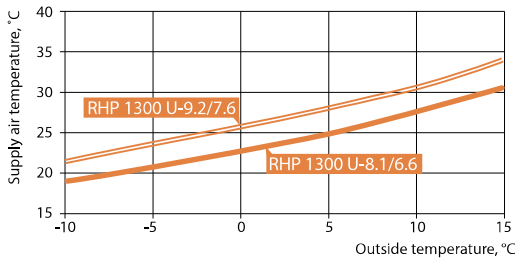


- A outdoor intake
- B supply air
- C extract indoor
- D exhaust air

Accessories (p. 120)

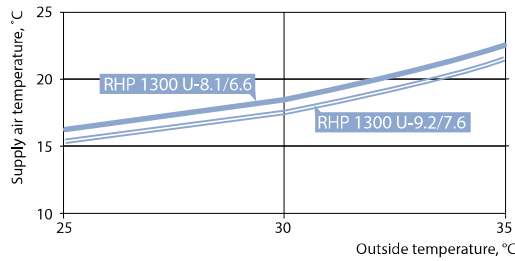
Closing damper		AGUJ-M-250+LM24
	A/D	AGS-250-50-600-M
Silencer		
	B/C	AGS-250-50-900-M

Heating mode



Application: 20 °C, RH 45% indoor.

Cooling mode



Application: 24 °C, RH 55% indoor.
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 1300 U-8.1/6.6					RHP 1300 U-9.2/7.6				
	Heating			Cooling		Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50	50	50	45	40	50
Supply air temperature, °C	26,4	24,6	21,3	19,70	13,80	28,5	26,4	22,9	18,50	13,10
Heat pump heating/cooling power, kW	3,69	3,4	2,8	3,67	3,57	4,55	4,13	3,46	4,4	4,36
Heat pump heating/cooling power consumption, kW	0,8	0,69	0,7	0,94	0,84	1,15	1,09	0,92	1,37	1,2
System SCOP ^{1,2,3} , Average climate / System SEER ^{1,2,3}	12,9			4,65		9,6			4,62	
COP/EER	4,43	4,91	3,89	3,98	5,10	3,83	3,7	3,75	3,42	3,69

¹ Rotary heat exchanger wave size "L"
² Rotary heat exchanger + heat pump
³ According to EN 14825 standard

RHP 1500 U

Nominal air flow, m ³ /h	1400
Panel thickness, mm	50
Unit weight, kg	260
Supply voltage, V	3~400
Maximal operating current, A	21,9
Filters dimensions B×H×L, mm	750×400×46
Electric power input of the fan drive at maximum flow rate, W	263
Electric air heater capacity, kW / Δt, °C	2/4
Refrigerant R134 A, kg	3,1
Control panel	C5.1
Maintenance space, mm	800



The photo is intended for informational purposes only, exact details may vary.

Acoustic data

A-weighted sound power level L_{WA} , dB(A)
at reference flow rate

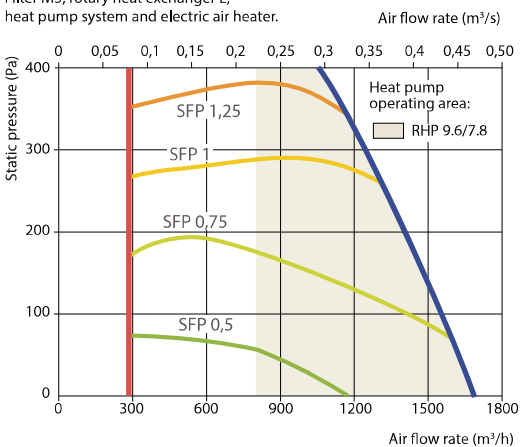
Supply inlet	59
Supply outlet	73
Exhaust inlet	60
Exhaust outlet	71
Casing	54

A-weighted sound pressure level L_{pM} , dB(A)
10 m² normally isolated room, distance from casing – 3 m.

Surroundings	44
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Performance

Filter M5, rotary heat exchanger L,
heat pump system and electric air heater.

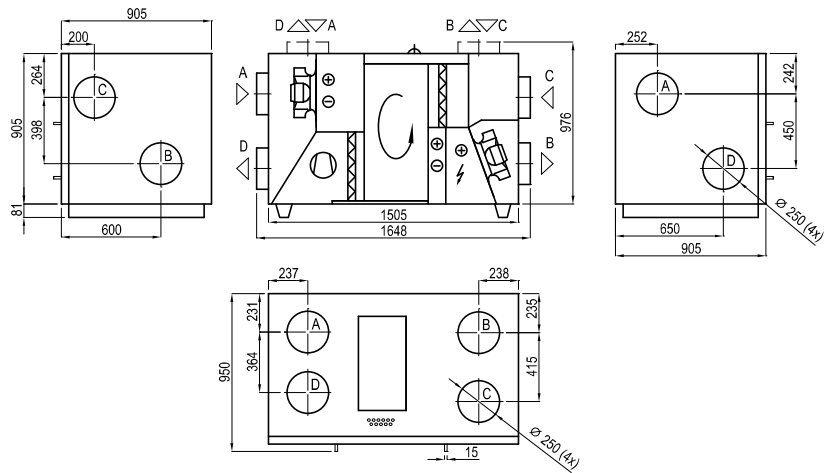


Temperature efficiency

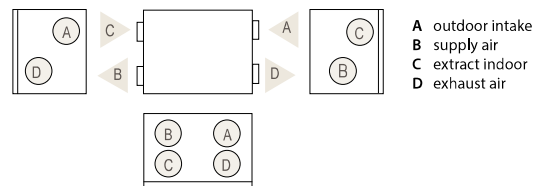
Outside temperature, °C	Winter					Summer		
	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	14,0	15,4	16,3	17,2	18,1	22,5	23,4	24,3

indoor +22°C, 20 % RH.

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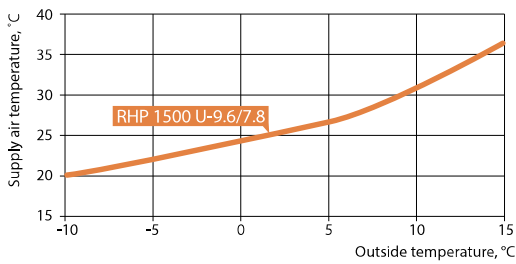
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Accessories (p. 120)

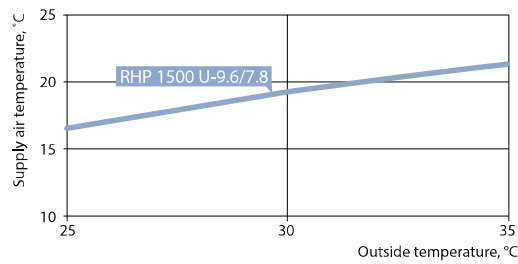
Closing damper	AGUJ-M-250+LM24
Silencer	A/D AGS-250-100-600-M
	B/C AGS-250-100-900-M

Heating mode



Application: 20°C, RH 45% indoor.

Cooling mode

Application: 24°C, RH 55% indoor
Total (heating and cooling) – rotary heat recovery + heat pump.

Heat pump parameters

	RHP 1500 U 9.6/7.8				
	Heating			Cooling	
Outdoor temperature, °C	7	2	-7	35	27
Outdoor air related humidity, %	86	84	74	40	45
Indoor air temperature, °C	20	20	20	27	21
Indoor air related humidity, %	50	50	45	40	50
Supply air temperature, °C	27	25	21,5	19,6	13,7
Heat pump heating/cooling power, kW	4,71	4,3	3,57	4,51	4,7
Heat pump heating/cooling power consumption, kW	1,14	0,98	0,99	1,34	1,16
System SCOP ^{1,2,3} , Average climate / System SEER ^{1,2,3}	10,6			3,9	
COP/EER	4,01	4,37	3,52	3,67	3,94

¹ Rotary heat exchanger wave size "L"² Rotary heat exchanger + heat pump³ According to EN 14825 standard

RHP Pro



Advantages of RHP Pro units

PLUG & PLAY control system C5

Benefits: real air flow indication; thermal efficiency of the rotary heat exchanger indication; heat exchanger recovery in kW; thermal energy saving factor, SFP factor of the fans and other important information about the functioning of the unit.

Inverter compressors

Energy-efficient and silent inverter compressors enable accurate regulation and maintenance of supply air temperature.

Electronic expansion valve

For power adjustment of the integrated heat pump use an electronic EEV (electronic expansion valve), which ensures a stable supply air temperature and allows a wide range of regulation of device performance and heating/cooling capacity.

Sorption rotary heat exchanger

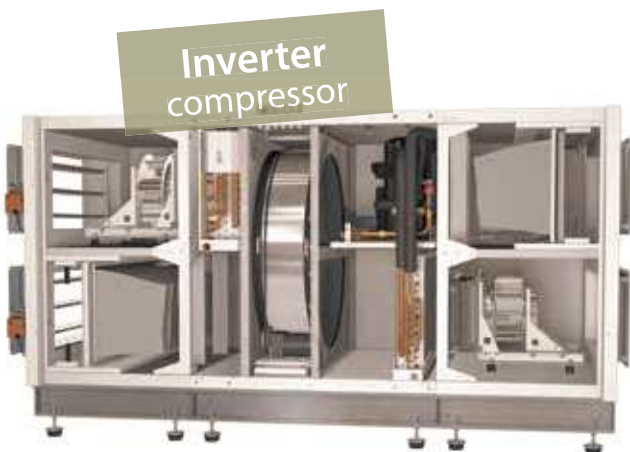
In RHP units sorption rotary regenerators with special 4Å zeolite coating are used, which because of their hygroscopic selective features ensure good heat and humidity exchange, so the RHP units maintain an optimum indoor climate with minimal energy consumption.

Air filters

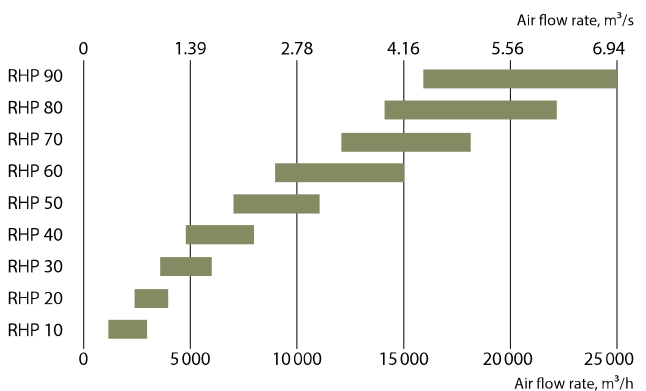
All units are equipped with a large surface area air filters with low pressure loss, it saves energy, replacement can be less often.

PM/EC fan motors

In RHP PRO units PM (permanent magnet) and EC (electronically commutated) fan motors are used, the most efficient on the market, conforming *Ultra Premium* IE5 or *Super Premium* IE4 efficiency class.



Sizes and capacities of RHP Pro units



Outdoor	Indoor	Size	RHP 10	RHP 20	RHP 30	RHP 40	RHP 50	RHP 60	RHP 70	RHP 80	RHP 90
		Max air flow, m ³ /h	3000	4000	6000	8000	11000	15000	18000	22000	25000

Heating mode

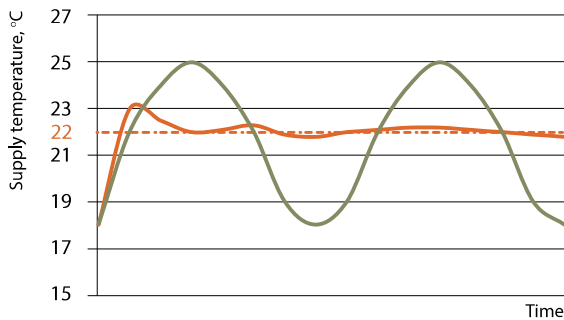
T ¹ , °C	-7	20	Total heating capacity, kW	18,5	24,0	36,0	48,0	65,0	90,0	110,0	130,0	145,0
RH ¹ , %	90	40	Supply temperature, °C	24,0								
			Nominal compressor power consumption, kW	1,8	2,5	3,6	4,6	6,5	9,0	11,0	13,0	13,5
			System COP ^{2,3} , kW/kW	10,3	9,6	10,0	10,4	10,0	10,0	10,0	10,0	10,7
			System temperature efficiency, %	140,0								

Cooling mode

T ¹ , °C	35	27	Total cooling capacity, kW	20,0	28,0	42,0	56,0	78,0	106,0	130,0	157,0	178,0
RH ¹ , %	40	50	Supply temperature, °C	20								
			Nominal compressor power consumption, kW	3,2	4,4	6,8	8,5	11,5	15,2	18,5	23	24
			System EER ^{2,3} , kW/kW	6,3	6,4	6,2	6,6	6,8	7,0	7,0	6,8	7,4

- ¹ – Conditions according to EN14511
- ² – Rotary heat exchanger wave size "L"
- ³ – Rotary heat exchanger + heat pump
- ⁴ – According to EN 14825 standard
- T – temperature, °C
- RH – relative humidity, %

Device management schedule

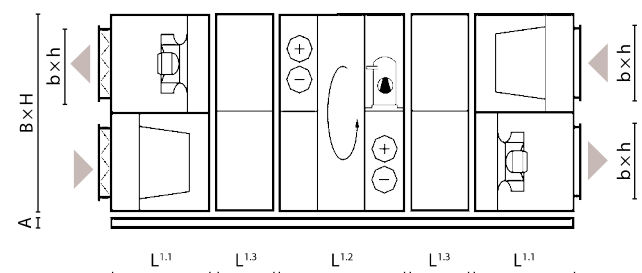


Variable speed compressors are designed in RHP Pro units. The major benefit of this type of compressor are their flexibility. The rotation speed of the compressor varies, as a result less energy is used and the minor temperature changes occur on the premises.

- - - Setpoint
- Constant speed compressor
- Variable speed compressor

Dimensions

Size	B	H	L ^{1.1}	L ^{1.2}	L ^{1.3}	b	h	A
10	1000	1000	618	900	250	700	300	125
20	1150	1150	751	900	250	900	400	125
30	1300	1300	751	900	250	1000	500	125
40	1500	1520	751	900	250	1200	600	125
50	1700	1715	885	900	250	1400	700	125
60	1900	1920	885	900	250	1600	800	125
70	2100	2100	885	900	250	1800	900	125
80	2300	2420	1250	1500	–	2000	1000	125
90	2610	2650	1400	1500	–	2200	1100	125



Note: the electric air heaters, water heaters and coolers section length and configuration are noted in the selection program of VERSO air handling units.