

BOREAS COMPACT BRS



BOREASCOMPACT BRS

ErP 2018
COMPLIANT

Ultimate efficiency for limited space



Construction, design and fabrication meet the requirements of EcoDesign 2016 & 2018.

The BOREAS Compact Unit are space-saving and distinguished primarily by their high energy efficiency.

With the BOREAS Compact, BOREAS has created a ready-to-operate and pre-configured air handling unit that combines the excellent features of the BOREAS Compact in the limited spaces.

These units are available in 5 sizes with different nominal air flow rates of 1500 to 7,000 m³/h and offer a heat recovery efficiency of over 80 % (dry, to EN 308).

Plug fans with EC motor ensure maximum efficiency and low sound power levels.

Advantages

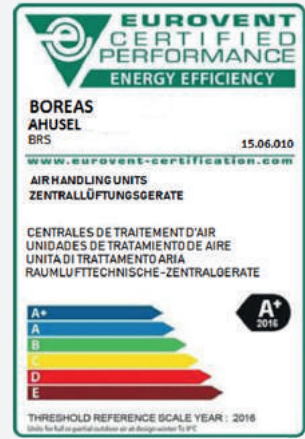
- Volume flow rates of 1.500 to 7.000 m³/h
- Available in 5 sizes
- Maximum energy efficiency
- Compact design with supply and exhaust air in combined casing
- Energy-saving EC motor technology
- Heat recovery with counter flow plate heat exchanger
- Clean and smooth external design outlook
- Integrated controls
- Integration with advanced ventilation and air conditioning systems
- Optional weatherproof version with powder-coated metal roof to protect the unit and accessories



Product Range: BRS
Model No: 1500



Access Side	Right
Heat Recovery	Counterflow Plate Heat Exchanger
Dimensions (mm)	2542 x 774 x 1108 (length x depth x height)



Performance data	Supply air	Extract air	Unit
Volume flow	1500	1500	m ³ /h
Ext. Static Pressure	350	350	Pa
Total SFP	438,57	417,6	W/(m ³ /s)
Energy Class	A+		
Air Face Velocity	1,12	1,12	m/s

Heat Recovery	Supply air	Extract air	Unit
Winter:			
Intake (temp. / RH)	-12, 0 / 80	22 / 40	°C / %
Outlet (temp. / RH)	17,9 / 9,5	-0,2 / 95,7	°C / %
Recuperation power	15,1	-15,1	kW
Thermal efficiency	88,1		%
Thermal efficiency (dry)	82,7		%
Pressure drop (dry)	171,9	189,6	Pa

Summer:	Supply air	Extract air	Unit
Intake (temp. / RH)	32,0 / 40,0	26,0 / 50,0	°C / %
Outlet (temp. / RH)	27,0 / 53,2	31,0 / 37,5	°C / %
Recuperation power	-2,6	2,6	kW
Thermal efficiency	82,6		%
Thermal efficiency (dry)	82,6		%
Pressure drop (dry)	171,9	172	Pa

Filters	Supply air	Extract air	Unit
Efficiency Class	F7	M5	

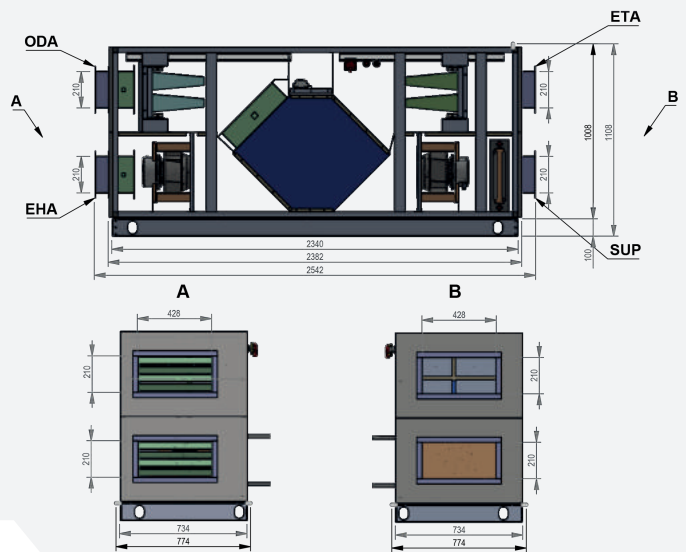
Fan	Supply air	Extract air	Unit
Type of fan	Plug with EC motor	Plug with EC motor	
Motor power	0,687	0,638	kW
System Efficiency	49	49	%
Max. current	5,9	5,9	A
Nominal voltage	1~ 230	1~ 230	V

LPHW Heating Coil	Supply air	Unit
Capacity	8,9	kW
Sensible Capacity	8,9	kW
Fluid type	Water	
Water temp.	70 / 50	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	17,9 / 9,5	°C / %
Outlet (dry temp. / RH)	35,3 / 3,4	°C / %

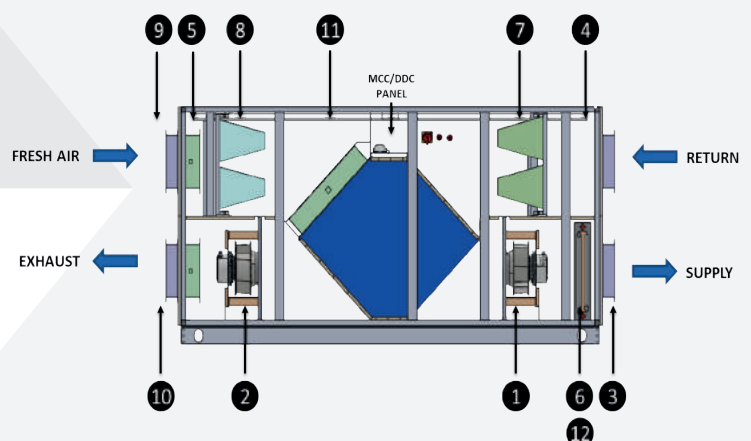
Optional Cooling Coil

CHW Cooling Coil	Supply air	Unit
Capacity	5,4	kW
Sensible Capacity	3,4	kW
Fluid type	Water	
Water temp.	7 / 12	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	27,0 / 53,2	°C / %
Outlet (dry temp. / RH)	20,0 / 70,0	°C / %

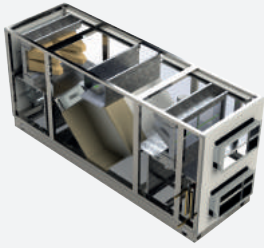
Drawing



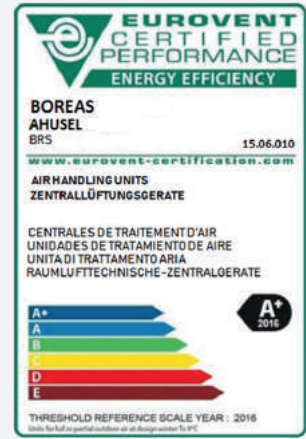
Controller		
No	Description	Information
1	Power Supply	Nominal voltage – 24V ac/dc Freq – 50/60 Hz Consumption – 35 VA max.
2	I/O terminal block	Base Board
3	I/O terminal block	Upper Board
4	CAN expansion bus port	-
5	Serial line port 1 (RS485)	-
6	Serial line port 2 (RS485)	-
7	Display (4 status LED, 5 keys)	LCD 128 x 64 px
8	Type A USB Port	-
9	Type mini-B USB Port	For programming
10	Ethernet port (RJ45)	* Network * Modbus TCP * IEC 61131-3 * BACnet/TCP
11	Memory Card Slot	For Micro SD card
12	Service Battery Door	-



Product Range: BRS
Model No: 3000



Access Side	Right
Heat Recovery	Counterflow Plate Heat Exchanger
Dimensions (mm)	2957 x 1180 x 1414 (length x depth x height)



Performance data	Supply air	Extract air	Unit
Volume flow	3000	3000	m ³ /h
Ext. Static Pressure	350	350	Pa
Total SFP	462,75	409,4	W/(m ³ /s)
Energy Class	A+		
Air Face Velocity	1,11	1,11	m/s

Heat Recovery	Supply air	Extract air	Unit
Winter:			
Intake (temp. / RH)	-12,0 / 80,0	22,0 / 40,0	°C / %
Outlet (temp. / RH)	17,9 / 9,5	-0,1 / 95,8	°C / %
Recuperation power	30,1	-30,1	kW
Thermal efficiency	87,8		%
Thermal efficiency (dry)	82,4		%
Pressure drop (dry)	172	189,7	Pa

Summer:	Supply air	Extract air	Unit
Intake (temp. / RH)	32,0 / 40,0	26,0 / 50,0	°C / %
Outlet (temp. / RH)	27,1 / 53,1	30,9 / 37,6	°C / %
Recuperation power	-5,1	5,1	kW
Thermal efficiency	82,3		%
Thermal efficiency (dry)	82,3		%
Pressure drop (dry)	172	172	Pa

Filters	Supply air	Extract air	Unit
Efficiency Class	F7	M5	

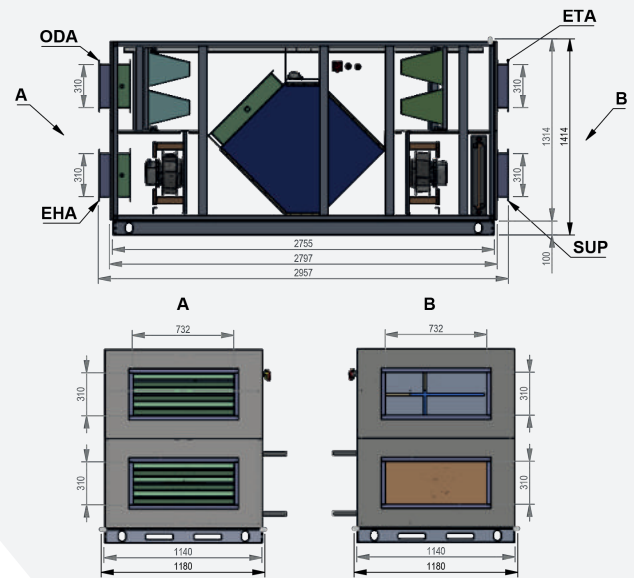
Fan	Supply air	Extract air	Unit
Type of fan	Plug with EC motor	Plug with EC motor	
Motor power	1,29	1,21	kW
System Efficiency	51	50	%
Max. current	5,9	5,9	A
Nominal voltage	1~ 230 V	1~ 230 V	V

LPHW Heating Coil	Supply air	Unit
Capacity	17,7	kW
Sensible Capacity	17,7	kW
Fluid type	Water	
Water temp.	70 / 50	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	17,9 / 9,5	°C / %
Outlet (dry temp. / RH)	35,3 / 3,4	°C / %

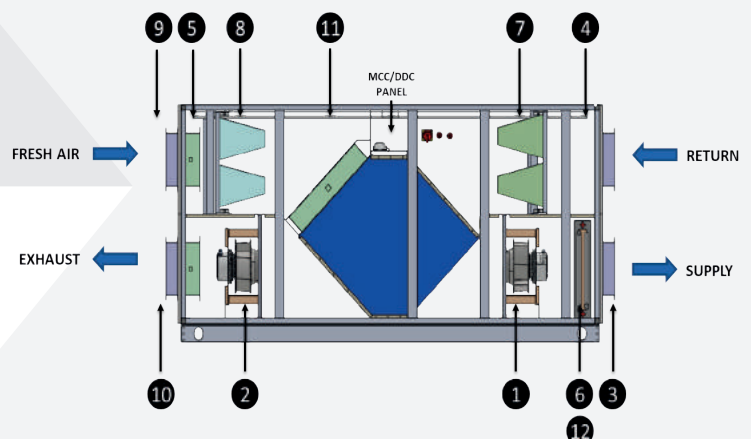
Optional Cooling Coil

CHW Cooling Coil	Supply air	Unit
Capacity	10,95	kW
Sensible Capacity	6,84	kW
Fluid type	Water	
Water temp.	7 / 12	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	27,1 / 53,1	°C / %
Outlet (dry temp. / RH)	20,0 / 70,4	°C / %

Drawing



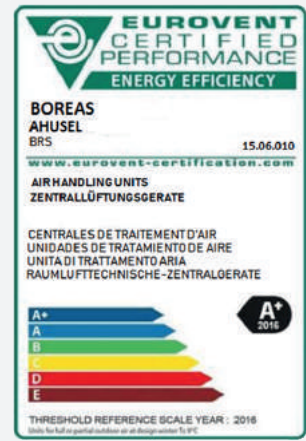
Controller		
No	Description	Information
1	Power Supply	Nominal voltage – 24V ac/dc Freq – 50/60 Hz Consumption – 35 VA max.
2	I/O terminal block	Base Board
3	I/O terminal block	Upper Board
4	CAN expansion bus port	-
5	Serial line port 1 (RS485)	-
6	Serial line port 2 (RS485)	-
7	Display (4 status LED, 5 keys)	LCD 128 x 64 px
8	Type A USB Port	-
9	Type mini-B USB Port	For programming
10	Ethernet port (RJ45)	* Network * Modbus TCP * IEC 61131-3 * BACnet/TCP
11	Memory Card Slot	For Micro SD card
12	Service Battery Door	-



Product Range: BRS
Model No: 4500



Access Side	Right
Heat Recovery	Counterflow Plate Heat Exchanger
Dimensions (mm)	3017 x 1576 x 1414 (length x depth x height)



Performance data	Supply air	Extract air	Unit
Volume flow	4500	4500	m ³ /h
Ext. Static Pressure	350	350	Pa
Total SFP	380,97	330,60	W/(m ³ /s)
Energy Class	A+		
Air Face Velocity	1,24	1,24	m/s

Heat Recovery	Supply air	Extract air	Unit
Winter:			
Intake (temp. / RH)	-12,0 / 80,0	22,0 / 40,0	°C / %
Outlet (temp. / RH)	17,9 / 9,5	-0,1 / 95,8	°C / %
Recuperation power	45,1	-45,1	kW
Thermal efficiency	87,8		%
Thermal efficiency (dry)	82,4		%
Pressure drop (dry)	172,2	190	Pa

Summer:	Supply air	Extract air	Unit
Intake (temp. / RH)	32,0 / 40,0	26,0 / 50,0	°C / %
Outlet (temp. / RH)	27,1 / 53,1	30,9 / 37,6	°C / %
Recuperation power	-7,7	7,7	kW
Thermal efficiency	82,3		%
Thermal efficiency (dry)	82,3		%
Pressure drop (dry)	172,2	172	Pa

Filters	Supply air	Extract air	Unit
Efficiency Class	F7	M5	

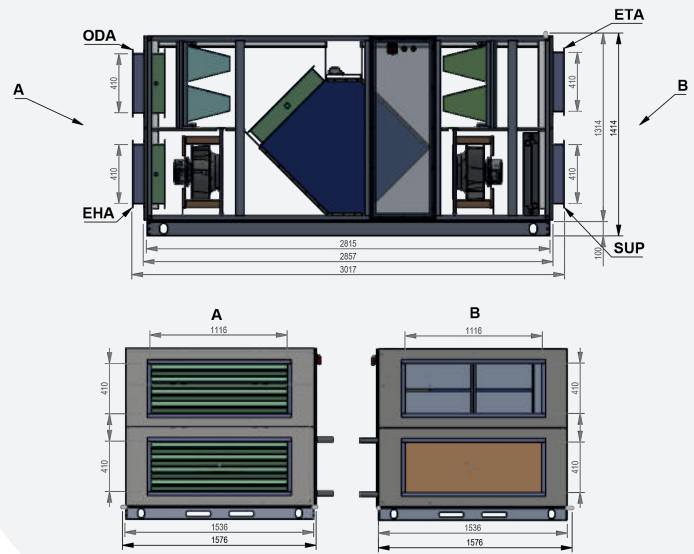
Fan	Supply air	Extract air	Unit
Type of fan	Plug with EC motor	Plug with EC motor	
Motor power	1,64	1,48	kW
System Efficiency	62	62	%
Max. current	3,3	3,3	A
Nominal voltage	3~ 400 V	3~ 400 V	V

LPHW Heating Coil	Supply air	Unit
Capacity	25,4	kW
Sensible Capacity	25,4	kW
Fluid type	Water	
Water temp.	70 / 50	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	17,9 / 9,5	°C / %
Outlet (dry temp. / RH)	34,5 / 3,5	°C / %

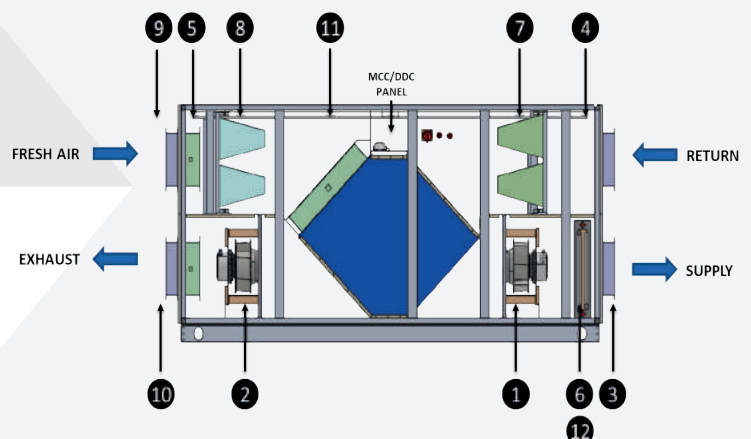
Optional Cooling Coil

CHW Cooling Coil	Supply air	Unit
Capacity	16,3	kW
Sensible Capacity	10,3	kW
Fluid type	Water	
Water temp.	7 / 12	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	27,1 / 53,1	°C / %
Outlet (dry temp. / RH)	20,0 / 70,4	°C / %

Drawing



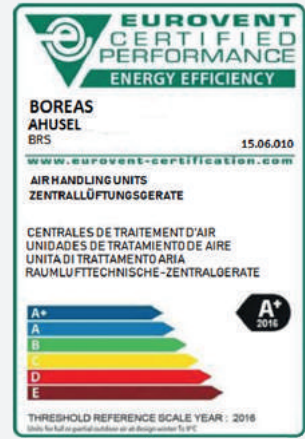
Controller		
No	Description	Information
1	Power Supply	Nominal voltage – 24V ac/dc Freq – 50/60 Hz Consumption – 35 VA max.
2	I/O terminal block	Base Board
3	I/O terminal block	Upper Board
4	CAN expansion bus port	-
5	Serial line port 1 (RS485)	-
6	Serial line port 2 (RS485)	-
7	Display (4 status LED, 5 keys)	LCD 128 x 64 px
8	Type A USB Port	-
9	Type mini-B USB Port	For programming
10	Ethernet port (RJ45)	* Network * Modbus TCP * IEC 61131-3 * BACnet/TCP
11	Memory Card Slot	For Micro SD card
12	Service Battery Door	-



Product Range: BRS
Model No: 5500



Access Side	Right
Heat Recovery	Counterflow Plate Heat Exchanger
Dimensions (mm)	3017 x 1868 x 1414 (length x depth x height)



Performance data	Supply air	Extract air	Unit
Volume flow	5500	5500	m ³ /h
Ext. Static Pressure	350	350	Pa
Total SFP	387,21	365,90	W/(m ³ /s)
Energy Class	A+		
Air Face Velocity	1,27	1,27	m/s

Heat Recovery	Supply air	Extract air	Unit
Winter:			
Intake (temp. / RH)	-12,0 / 80	22 / 40	°C / %
Outlet (temp. / RH)	17,9 / 9,5	-0,1 / 95,8	°C / %
Recuperation power	55,2	-55,2	kW
Thermal efficiency	87,8		%
Thermal efficiency (dry)	82,4		%
Pressure drop (dry)	172,2	189,9	Pa

Summer:	Supply air	Extract air	Unit
Intake (temp. / RH)	32,0 / 40,0	26,0 / 50,0	°C / %
Outlet (temp. / RH)	27,1 / 53,1	30,9 / 37,6	°C / %
Recuperation power	-9,4	9,4	kW
Thermal efficiency	82,3		%
Thermal efficiency (dry)	82,3		%
Pressure drop (dry)	172,2	172	Pa

Filters	Supply air	Extract air	Unit
Efficiency Class	F7	M5	

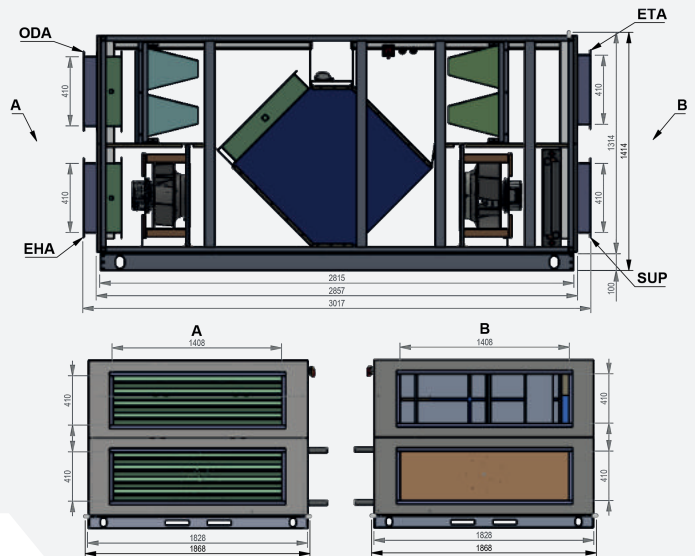
Fan	Supply air	Extract air	Unit
Type of fan	Plug with EC motor	Plug with EC motor	
Motor power	1,85	1,93	kW
System Efficiency	61	56	%
Max. current	4,2	3,3	A
Nominal voltage	3~ 400	3~ 400	V

LPHW Heating Coil	Supply air	Unit
Capacity	31,9	kW
Sensible Capacity	31,9	kW
Fluid type	Water	
Water temp.	70 / 50	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	17,9 / 9,5	°C / %
Outlet (dry temp. / RH)	35 / 3,4	°C / %

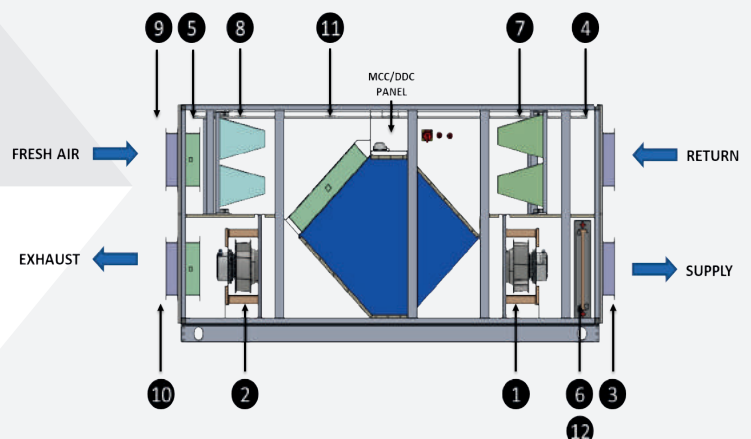
Optional Cooling Coil

CHW Cooling Coil	Supply air	Unit
Capacity	17,5	kW
Sensible Capacity	12,6	kW
Fluid type	Water	
Water temp.	7 / 12	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	27,1 / 53,1	°C / %
Outlet (dry temp. / RH)	20,0 / 74,1	°C / %

Drawing



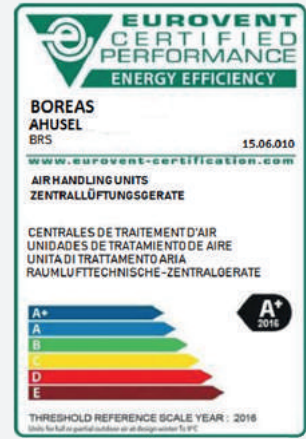
Controller		
No	Description	Information
1	Power Supply	Nominal voltage – 24V ac/dc Freq – 50/60 Hz Consumption – 35 VA max.
2	I/O terminal block	Base Board
3	I/O terminal block	Upper Board
4	CAN expansion bus port	-
5	Serial line port 1 (RS485)	-
6	Serial line port 2 (RS485)	-
7	Display (4 status LED, 5 keys)	LCD 128 x 64 px
8	Type A USB Port	-
9	Type mini-B USB Port	For programming
10	Ethernet port (RJ45)	* Network * Modbus TCP * IEC 61131-3 * BACnet/TCP
11	Memory Card Slot	For Micro SD card
12	Service Battery Door	-



Product Range: BRS
Model No: 7000



Access Side	Right
Heat Recovery	Counterflow Plate Heat Exchanger
Dimensions (mm)	3017 x 2021 x 1414 (length x depth x height)



Performance data	Supply air	Extract air	Unit
Volume flow	7000	7000	m ³ /h
Ext. Static Pressure	350	350	Pa
Total SFP	494,29	452,90	W/(m ³ /s)
Energy Class	A+		
Air Face Velocity	1,46	1,46	m/s

Heat Recovery	Supply air	Extract air	Unit
Winter:			
Intake (temp. / RH)	-12, 0 / 80	22 / 40	°C / %
Outlet (temp. / RH)	17,7 / 9,6	0 / 95,5	°C / %
Recuperation power	69,7	-69,7	kW
Thermal efficiency	87,2		%
Thermal efficiency (dry)	81,7		%
Pressure drop (dry)	212,8	234,1	Pa

Summer:	Supply air	Extract air	Unit
Intake (temp. / RH)	32,0 / 40,0	26,0 / 50,0	°C / %
Outlet (temp. / RH)	27,1 / 53,0	30,9 / 37,6	°C / %
Recuperation power	-11,9	11,9	kW
Thermal efficiency	81,6		%
Thermal efficiency (dry)	81,6		%
Pressure drop (dry)	212,8	213	Pa

Filters	Supply air	Extract air	Unit
Efficiency Class	F7	M5	

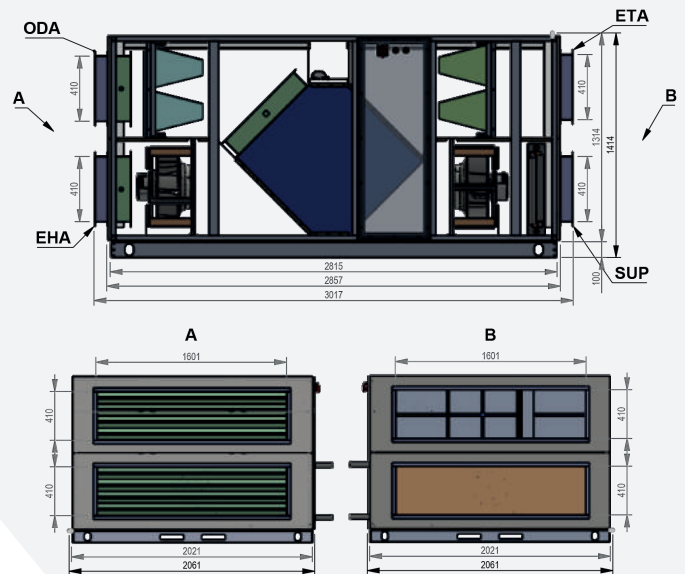
Fan	Supply air	Extract air	Unit
Type of fan	Plug with EC motor	Plug with EC motor	
Motor power	2,65	2,51	kW
System Efficiency	56	55	%
Max. current	4,2	4,2	A
Nominal voltage	3~ 400	3~ 400	V

LPHW Heating Coil	Supply air	Unit
Capacity	46,0	kW
Sensible Capacity	46,0	kW
Fluid type	Water	
Water temp.	70 / 50	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	17,7 / 9,6	°C / %
Outlet (dry temp. / RH)	37,1 / 3,08	°C / %

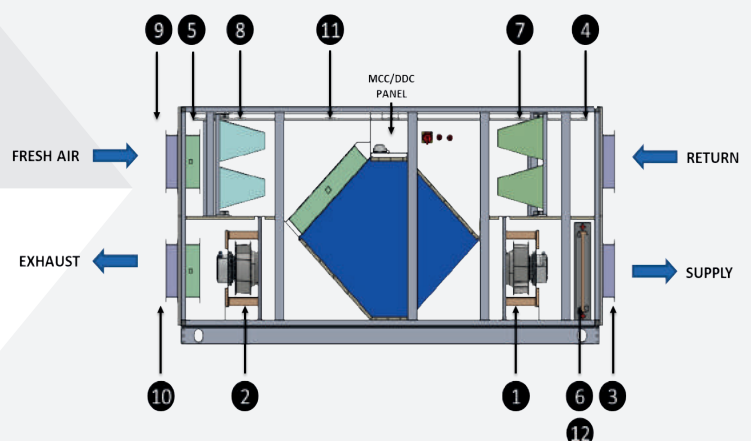
Optional Cooling Coil

CHW Cooling Coil	Supply air	Unit
Capacity	23,4	kW
Sensible Capacity	16,0	kW
Fluid type	Water	
Water temp.	7 / 12	°C
Fin material	Aluminium	
Tube material	Copper	
Header material	Steel	
Intake (dry temp. / RH)	27,1 / 53,0	°C / %
Outlet (dry temp. / RH)	20,0 / 72,5	°C / %

Drawing



Controller		
No	Description	Information
1	Power Supply	Nominal voltage – 24V ac/dc Freq – 50/60 Hz Consumption – 35 VA max.
2	I/O terminal block	Base Board
3	I/O terminal block	Upper Board
4	CAN expansion bus port	-
5	Serial line port 1 (RS485)	-
6	Serial line port 2 (RS485)	-
7	Display (4 status LED, 5 keys)	LCD 128 x 64 px
8	Type A USB Port	-
9	Type mini-B USB Port	For programming
10	Ethernet port (RJ45)	* Network * Modbus TCP * IEC 61131-3 * BACnet/TCP
11	Memory Card Slot	For Micro SD card
12	Service Battery Door	-





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