DivisionName_
DivisionStreet_; DivisionCity_; DivisionCountry_
DivisionTel_; DivisionFax_

Technical data for item 1

Offer number **4/LIVE.EUR/BT/2020**

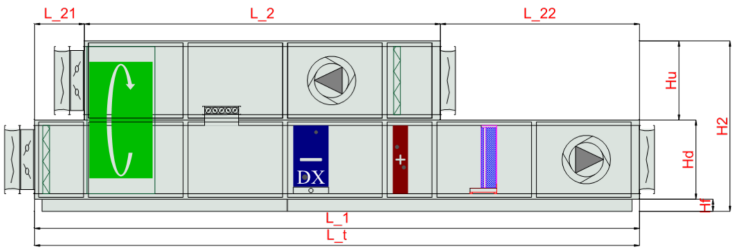
Project name BSDO
TIM /1DP.DCER.0000/

Type	RecoveryRotaryVertical	**Supply airflow 2**	2880.00 m³/h
Application	Indoor	**External pressure**	150 Pa
Project Tag	1		
Size	VVS040	**Exhaust airflow 2**	2880.00 m³/h
Set	VVS040-R-FRMCHWV/VVS040-L-FVMR_cd	**External pressure**	100 Pa
Insulation thickness	40 mm	**SFP Winter (EN 13779)**	1.00 kW/m³/s
Insulation	Polyurethane Foam	**SFP Summer (EN 13779)**	1.02 kW/m³/s
Weight of the set (+/- 10%)*	559 Kg		
		Energy efficiency class	A+ 2016

EUROVENT CERTIFIED PERFORMANCE
AHU Nº 06.06.320
Range: VENTUS VVS010 - VVS650
www.eurovent-certification.com

Inspection Panels

S T L R



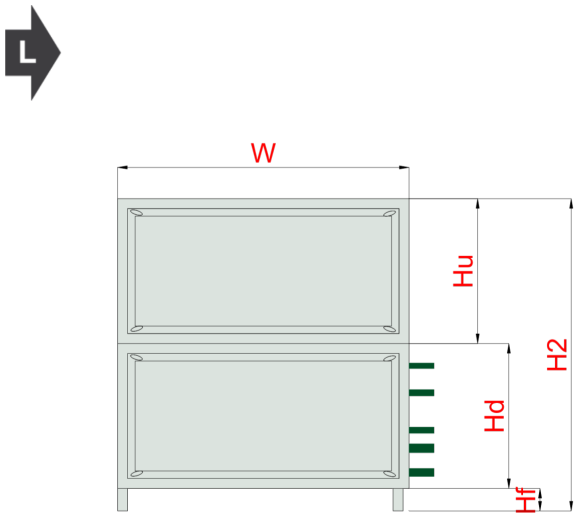
Comment 1:

DivisionName_
DivisionStreet_; DivisionCity_; DivisionCountry_
DivisionTel_; DivisionFax_

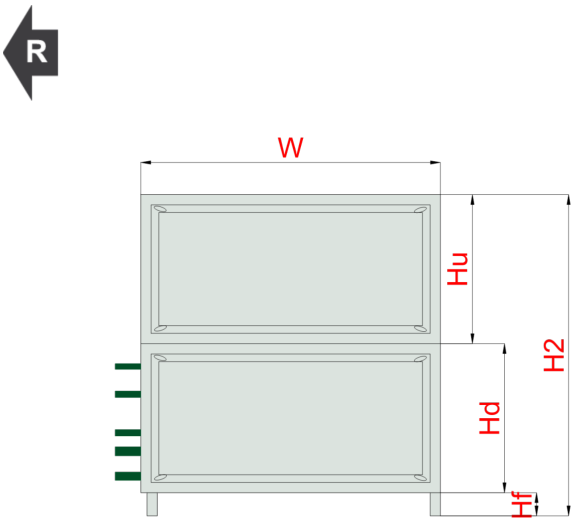
Technical data for item 1

Offer number **4/LIVE.EUR/BT/2020**

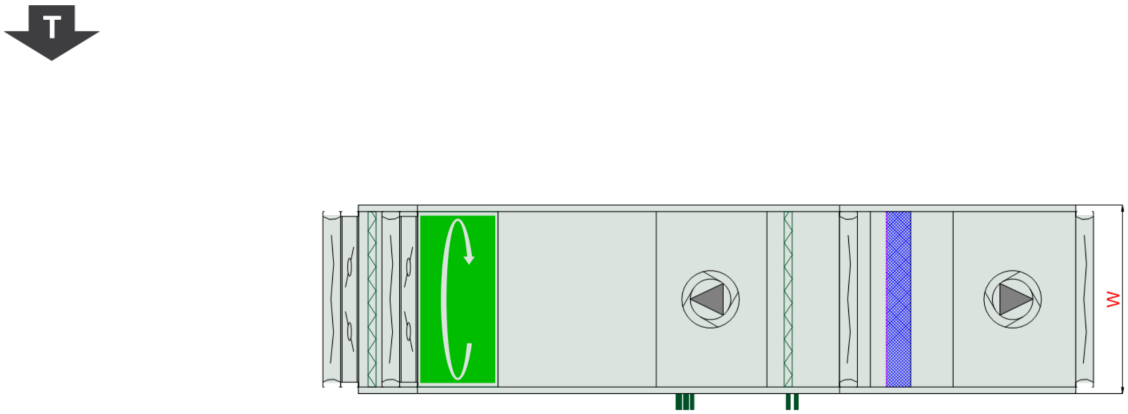
Front View (left)



Front View (right)

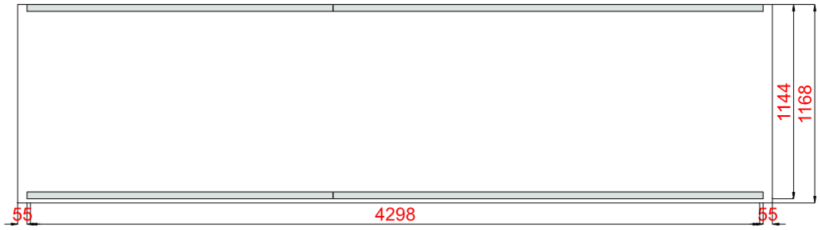


Top View



Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Frame Top View, within the AHU outline contour



Sizes [mm]

Air intake Supply	FF	1028x440	**Lt**	4448	**Hi**	500	**Wi**	1088
Air outlet Supply	FF	1028x440	**LtA**	4778	**H**	670	**W**	1168
			L1	4448	**H2**	1250		
Air inlet Exhaust	FF	1028x440	**L2**	2618	**Hf**	90		
Air outlet Exhaust	FF	1028x440	**L21**	366				
			L22	1464				

Unit design

Casing made of 40mm polyurethane foam ‘sandwich’ type panels formed in ‘C’ shape

Mechanical strength of casing -1000 Pa ÷ 1000 Pa < 2mm (D1 - EN 1886: 2007)

Casing tightness: (MB): (-400) Pa - 0,05 l/sm² (L1 - EN 1886:2007), (+700) Pa - 0,13 l/sm² (L1 - EN 1886:2007); (RU): -400 Pa - 0,09 l/sm² (L1 - EN 1886:2007), +400 Pa - 0,93 l/sm² (L1 - EN 1886:2007)

Casing heat transfer coefficient K= 0,6 W/m²K (T2 - EN 1886: 2007)

Thermal bridges coefficient Kb = 0,52 (TB3 - EN 1886: 2007)

Temperature Conditions

Reference atmospheric pressure 101325 Pa **Winter outdoor reference temperature -3.0 °C**

	External air			Return air		
	DBT	X	DA	DBT	X	DA
Summer	30.0 °C	13.700 g/kg	1.2000 kg/m³	25.0 °C	11.000 g/kg	1.2000 kg/m³
Winter	-3.0 °C	1.800 g/kg	1.2000 kg/m³	19.0 °C	6.000 g/kg	1.2000 kg/m³

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Supply

Panel Filter

Type PG4/50.Flat.Int.Sld

Coarse 75% (ISO 16890) - EFF CLASS E Flat[3.0]/50

Filter Energy Performance Class	E

Winter operation		**Summer operation**	
50% Dirty Air Pressure Drop	57 Pa	50% Dirty Air Pressure Drop	61 Pa
Initial Air Pressure Drop	14 Pa	Initial Air Pressure Drop	21 Pa
100% Dirty Air Pressure Drop	100 Pa	100% Dirty Air Pressure Drop	100 Pa
Air velocity	1.19 m/s	Air velocity	1.48 m/s

Rotary Wheel

Type RRG VVS040 NHG

R2K5_NHG

Winter operation		**Summer operation**	
Supply		**Supply**	
Intake air DBT / X	-3.0 °C / 1.800 g/kg	Intake air DBT / X	30.0 °C / 13.700 g/kg
Discharge air DBT / X	15.0 °C / 3.344 g/kg	Discharge air DBT / X	30.0 °C / 13.700 g/kg
Air velocity	1.51 m/s	Air velocity	1.51 m/s
Pressure drop Wet / Dry Wet	65 Pa	Pressure drop Wet / Dry Wet	65 Pa
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2304.00 m³/h	Air Volume Flow	2880.00 m³/h
Recovery capacity Sensible / Total Sensible / Total	13.9 kW / 16.9 kW		
Actual efficiency / at balanced flow Real / BalancedFlow	82 % / 82 %		

Winter operation		**Summer operation**	
Exhaust		**Exhaust**	
Intake air DBT / X	19.0 °C / 6.000 g/kg	Intake air DBT / X	25.0 °C / 11.000 g/kg
Discharge air DBT / X	1.9 °C / 4.111 g/kg	Discharge air DBT / X	25.0 °C / 11.000 g/kg
Air velocity	1.64 m/s	Air velocity	1.64 m/s
Pressure drop Wet / Dry Wet	75 Pa	Pressure drop Wet / Dry Wet	75 Pa
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2304.00 m³/h	Air Volume Flow	2880.00 m³/h
Recovery Bypass	No		
Air Damper	No	Rated voltage	230 V/1 ph/50 Hz
Rotary Regenerator	Max Internal Leakage 3%		

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Mixing section downstream indirect energy recovery

Mixing Box

Winter operation		**Summer operation**	
Recirculation	20 %	Recirculation	0 %
Supply inlet	15.0 °C/3.344 g/kg	Supply inlet	30.0 °C/13.700 g/kg
Exhaust inlet DBT/X	19.0 °C/6.000 g/kg	Exhaust inlet DBT/X	0.0 °C/0.000 g/kg
Supply outlet DBT/X	15.8 °C/3.875 g/kg	Supply outlet DBT/X	30.0 °C/13.700 g/kg
Sensible recovery capacity	0.8 kW	Sensible recovery capacity	0.0 kW

DX Cooling Coil

Type DXC VVS040 4R-1 TD SH.Cu.St.Std **Number of rows** 4 **Sections** 1 **Connection Supply/Return:** Ø22/Ø35

9,74 [dm^3] DX VVS040 4R-1 SH.Cu.St.Std

Medium	R410A	Maximum working pressure	16 bar
		Maximum working temperature	42.0 °C
Winter operation		**Summer operation**	
Intake air DBT / X	15.8 °C / 3.875 g/kg	Intake air DBT / X	30.0 °C / 13.700 g/kg
Discharge air DBT / X	15.8 °C / 3.875 g/kg	Discharge air DBT / X	14.2 °C / 9.521 g/kg
Air velocity	1.79 m/s	Air velocity	1.79 m/s
Pressure drop Wet / Dry Wet	73 Pa	Pressure drop Wet / Dry Wet / Dry	73 Pa / 44 Pa
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2880.00 m³/h	Air Volume Flow	2880.00 m³/h
Cooling capacity: Sensible / Total	0.0 kW/0.0 kW	Cooling capacity: Sensible / Total	15.6 kW/25.8 kW
Evaporation temperature	6.0 °C	Evaporation temperature	6.0 °C
Medium flow rate	0.00 m³/h	Medium flow rate	0.44 m³/h
Medium pressure drop	0.00 kPa	Medium pressure drop	5.56 kPa

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Hot Water Coil

Type WCL VVS040 1R DT SH.St.St.Std **Number of rows** 1 **Connection Supply/Return:** 1"/1"

Standard Circuits 2,18 [dm^3] WCL VVS040 SH.St.St.Std

Medium	Water	Maximum working pressure	16 bar
Glycole concentration	0.00 %	Maximum medium temperature	160.0 °C
Winter operation		**Summer operation**	
Intake air DBT / X	15.8 °C / 3.875 g/kg	Intake air DBT / X	14.2 °C / 9.521 g/kg
Discharge air DBT / X	31.0 °C / 3.875 g/kg	Discharge air DBT / X	17.0 °C / 9.521 g/kg
Air velocity	1.78 m/s	Air velocity	1.79 m/s
Pressure drop Wet / Dry Wet	14 Pa	Pressure drop Wet / Dry Wet	15 Pa
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2880.00 m³/h	Air Volume Flow	2880.00 m³/h
Total heating capacity	14.8 kW	Total heating capacity	2.8 kW
Medium temperature	80.0 °C/60.0 °C	Medium temperature	80.0 °C/60.0 °C
Medium flow rate	0.64 m³/h	Medium flow rate	0.12 m³/h
Medium pressure drop	5.31 kPa	Medium pressure drop	0.45 kPa

Humidifier

Type

EvaporativeHumWithoutPump HUM_NOPOSSIBILITYTOREACHHUM

Winter operation		**Summer operation**	
Intake air DBT / X	31.0 °C / 3.875 g/kg	Intake air DBT / X	17.0 °C / 9.521 g/kg
Discharge air DBT / X	31.0 °C / 3.875 g/kg	Discharge air DBT / X	17.0 °C / 9.521 g/kg
Air velocity	1.48 m/s	Air velocity	1.48 m/s
Pressure drop Wet / Dry Wet	26 Pa	Pressure drop Wet / Dry Wet	26 Pa
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2880.00 m³/h	Air Volume Flow	2880.00 m³/h
Humidifier efficiency	0.0 kg/h	Humidifier efficiency	0.0 kg/h
Maximum humidifier efficiency	19.2 kg/h	Maximum humidifier efficiency	0.0 kg/h
Resp_Humidifier_HumidificationEfficiency_Name	0 %	Resp_Humidifier_HumidificationEfficiency_Name	0 %

Plug-Fan Set

Fan Section PLUG_DD_355_1,50_4

Fan System	Main Fan	Qty in section	x 1
Fan Set Assembly Type	FLX1 (Gasket)		

Fan Set Designed for wet operating conditions

The Fan System EffectIs Taken Into Account In The Fan Performances

Fan PLUG_VS_355_AF_Px 1

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Total Static Pressure	385 Pa	Impeller efficiency: Static / Total	71 %/76 %
Dynamic pressure	30 Pa	Shaft power	0.44 kW x 1
External pressure	150 Pa	Working revolutions	1780 1/min
Total Pressure	416 Pa	Fans Connection Standard	FLX1 (Gasket)

Motor AC_IE2_F_90L_IMB3_4p_1.5_50x 1

FLA	5.6 A	MCA	7.0 A
MCB	10.0 A		
Motor enclousure	IMB3	Rated Currect	5.7 A x 1
IEC Size	90L	Rated revolutions	1430 1/min
Operational Voltage	230 V/3 ph	Rated Power	1.50 kW x 1
Fan Motor Rated Voltage	230 V/3 ph/50 Hz	Motor Version	Standard

Variable Frequency Drives

Resp_FanSection_Vfd_FLA_Name	9.7 A	Resp_FanSection_Vfd_MCA_Name	12.1 A
Resp_FanSection_Vfd_MCB_Name	16.0 A		
VFD(AC) or Controller(EC)		Connecting point	CP Excluded
VFD(AC) or Controller(EC) Qty in section	1	VFD(AC) or Controller(EC) Voltage Supply	230/1/50 V/ph/Hz
VFD(AC) or Controller(EC) Settings	62 Hz	VFD(AC) or Controller(EC) Rated Power	1.50 kW x 1
VFD(AC) or Controller(EC) in selection	Incuded	VFD HMI	No
VFD Optional Nema KIT	No	ModBus Connecting Board	No
Winter operation		**Summer operation**	
EPC for mean contaminated filters	0.55 kW	EPC for mean contaminated filters	0.55 kW
EPC for clean filters	0.49 kW	EPC for clean filters	0.50 kW
SFP for clean filters	0.62 kW/m³/s	SFP for clean filters	0.63 kW/m³/s
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2880.00 m³/h	Air Volume Flow	2880.00 m³/h

Acoustic data

Acoustic power level [dB]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lw [dB]
Inlet	[dB]	53.6	40.6	57.3	51.8	42.6	23.9	17.6	59.8
Outlet	[dB]	63.5	69.4	69.9	67.1	64.2	59.9	56.3	74.8
Environment	[dB]	51.5	63.4	58.9	55.1	50.2	27.9	15.3	65.5

Acoustic pressure level at 1 meter distance [dB]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lp [dB]
	[dB]	44.5	56.4	51.9	48.1	43.2	20.9	8.3	58.5

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Exhaust airflow 3

Panel Filter

Type PG4/50.Flat.Int.Sld

Coarse 75% (ISO 16890) - EFF CLASS E Flat[3.0]/50

Filter Energy Performance Class	E

Winter operation		**Summer operation**	
50% Dirty Air Pressure Drop	61 Pa	50% Dirty Air Pressure Drop	61 Pa
Initial Air Pressure Drop	21 Pa	Initial Air Pressure Drop	21 Pa
100% Dirty Air Pressure Drop	100 Pa	100% Dirty Air Pressure Drop	100 Pa
Air velocity	1.48 m/s	Air velocity	1.48 m/s

Plug-Fan Set

Fan Section PLUG_DD_355_1,50_4

Fan System	Main Fan	Qty in section	x 1
Fan Set Assembly Type	FLX1 (Gasket)		

Fan Set Designed for wet operating conditions

The Fan System EffectIs Taken Into Account In The Fan Performances

Fan PLUG_VS_355_AF_Px 1

Total Static Pressure	235 Pa	Impeller efficiency: Static / Total	66 %/75 %
Dynamic pressure	30 Pa	Shaft power	0.28 kW x 1
External pressure	100 Pa	Working revolutions	1589 1/min
Total Pressure	266 Pa	Fans Connection Standard	FLX1 (Gasket)

Motor AC_IE2_F_90L_IMB3_4p_1.5_50x 1

FLA	5.6 A	MCA	7.0 A
MCB	10.0 A		
Motor enclousure	IMB3	Rated Currect	5.7 A x 1
IEC Size	90L	Rated revolutions	1430 1/min
Operational Voltage	230 V/3 ph	Rated Power	1.50 kW x 1
Fan Motor Rated Voltage	230 V/3 ph/50 Hz	Motor Version	Standard

Variable Frequency Drives

Technical data for item 1 — Offer number 4/LIVE.EUR/BT/2020

Resp_FanSection_Vfd_FLA_Name	9.7 A	Resp_FanSection_Vfd_MCA_Name	12.1 A
Resp_FanSection_Vfd_MCB_Name	16.0 A		
VFD(AC) or Controller(EC)		Connecting point	CP Excluded
VFD(AC) or Controller(EC) Qty in section	1	VFD(AC) or Controller(EC) Voltage Supply	230/1/50 V/ph/Hz
VFD(AC) or Controller(EC) Settings	56 Hz	VFD(AC) or Controller(EC) Rated Power	1.50 kW x 1
VFD(AC) or Controller(EC) in selection	Incuded	VFD HMI	No
VFD Optional Nema KIT	No	ModBus Connecting Board	No
Winter operation		**Summer operation**	
EPC for mean contaminated filters	0.36 kW	EPC for mean contaminated filters	0.36 kW
EPC for clean filters	0.31 kW	EPC for clean filters	0.31 kW
SFP for clean filters	0.39 kW/m³/s	SFP for clean filters	0.39 kW/m³/s
Air Pressure	101325 Pa	Air Pressure	101325 Pa
Air Density	1.2000 kg/m³	Air Density	1.2000 kg/m³
Air Volume Flow	2880.00 m³/h	Air Volume Flow	2880.00 m³/h

Mixing section downstream indirect energy recovery

Mixing Box

Winter operation		**Summer operation**	
Recirculation	20 %	Recirculation	0 %
Supply inlet	0.0 °C/0.000 g/kg	Supply inlet	0.0 °C/0.000 g/kg
Exhaust inlet DBT/X	0.0 °C/0.000 g/kg	Exhaust inlet DBT/X	0.0 °C/0.000 g/kg
Supply outlet DBT/X	0.0 °C/0.000 g/kg	Supply outlet DBT/X	0.0 °C/0.000 g/kg
Sensible recovery capacity	0.0 kW	Sensible recovery capacity	0.0 kW

Acoustic data

Acoustic power level [dB]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lw [dB]
Inlet	[dB]	58.6	64.5	65.0	62.1	59.3	54.0	50.5	69.8
Outlet	[dB]	61.3	67.2	67.7	64.8	62.0	57.6	54.1	72.5
Environment	[dB]	49.3	61.2	56.7	52.8	48.0	25.6	13.1	63.3

Acoustic pressure level at 1 meter distance [dB]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lp [dB]
	[dB]	42.3	54.2	49.7	45.8	41.0	18.6	6.1	56.3

Air Inlet Outlet ACCESSORIES

Supply **Exhaust**

Controls Selection Mode: No controls

Inlet Outlet Holes	Supply	Exhaust
Air Inlet	Front 1028x440	Front 1028x440
Air Outlet	Front 1028x440	Front 1028x440
AirDamper	Supply	Exhaust
Air Inlet	Yes	No
Air Outlet	No	Yes
Flexible Connection	Supply	Exhaust

Technical data for item 1 **Offer number** **4/LIVE.EUR/BT/2020**

Air Inlet	Yes	Yes
Air Outlet	Yes	Yes

Control application

Functional Code AR|0|2|0|0|1|1|1|6|1|0|0|1|0|0|1

Section splits

Transport Sections	Mass [Kg]	LENGTH [mm]	WIDTH [mm]	HEIGHT [mm]
1	252	1858	1168	1250
2	90	1126	1168	580
3	212	2590	1168	670

Transport Sections Dims