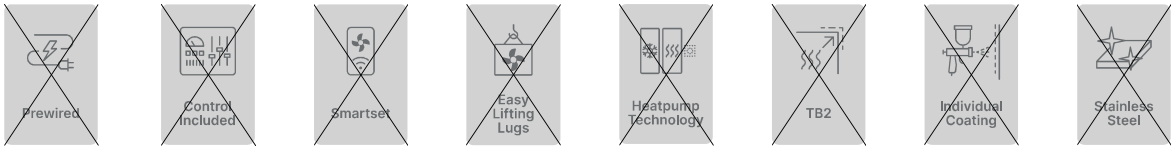
Quotation number	Date
	25-Apr-22

Customer	Project / Commission	Pos./Unit
	RAKVERE HAIGLAHOONE	SV4

Responsible in yr. com	Your reference	Responsible in our com
		Janek Metsaots

The unit at a glance

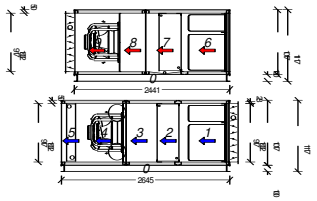
Types of air	Supply- and extract air
Size (SUP/ETA)	KG Top 3015
Unit variant	TE
Arrangement	On top of each other
Installation	Indoor installation
Execution	Standard
Surface treatment of the housing	Galvanised
Air treatment steps	Filter | heating | Cooling | Heat recovery
Heat recovery	circular compound system



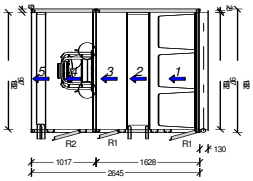
	Supply air	Exhaust air
Air volume flow	8424 m³/h 2.34 m³/s	8424 m³/h 2.34 m³/s
Pressure / Pressure drop external	300 Pa	300 Pa
Air velocity (class in accordance to DIN EN 13053)	1.4 m/s (V1)	1.4 m/s (V1)
Dimensions (Length,Width,Height incl. baseframe)	2645 x 1932 x 2534 mm	
Baseframe	100 mm, C-Profile in single pieces on palett, Sound insulation on job site	
Casing design	Double walled, insulation 50 mm Mineral wool,A1(incombustible in acc. to EN 13501-1), thermal conductivity = 0,03 W/mK	
Total weight	1497 kg	
Maximum power consumption fans	Supply air: 5.6 A + Exhaust air: 5.6 A = 11.2 A	
Maximum power input fans	Supply air: 3.5 KW + Exhaust air: 3.5 KW = 7 KW	
Required heating power (LPHW)	48.03 kW	
Energy efficiency Eurovent	winter: A	
Energy efficiency RLT	A+	
SFP (Specific fan power)	1.41 kW/(m³/s)	
Characteristic values	in accordance to DIN EN 1886: T2, TB 3, D1, L1, F9;	

The summary information on this side provide an overview and emphasise important characteristics, which may in some cases be applicable only to parts of the entire device. The detailed design and equipment of the individual functional elements are described under "technical data". Greyed out and crossed out symbols mark available options not selected by the customer.

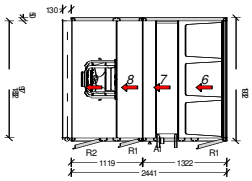
Side view



Plan view



Plan view



R2 = Inspection door pressure side
R1 = Inspection door
A1 = Removable panel

Technical data

Supply air

(1) Filter ISO ePM1 50%

EN ISO 16890	ISO ePM1 50%	
Initial resistance	53	Pa
Selection resistance	103	Pa
Final pressure difference	153	Pa
Energy class (RS-4/C/001-2015)	A	
Filter surface	28.65	m²
Damper leakage class 4 acc. to. DIN EN 1751, max. leakage 1.7l/m²/s at 100Pa , Q external, 917 x 1832 / 15 Nm troque / Damper shaft for actuator 15 x 15 mm		
Pressure drop	1	Pa

Bag filter F7
Slide-in frame with clamping lever, Filter pull-out
Inspection door, Inspection door with handle

(2) Heat recovery - supply air heat exchanger section 2

Heat exchanger type	HE/28/1671/12R/12K/2.3Cu,12/Al-L1	
Connection (inlet/outlet)	DN 25, 1" - DN 25, 1"	
Air-on temperature	-21	°C
Air-off temperature	9.1	°C
Capacity (total)	85.35	kW
Medium intake	15.68	°C
Medium outlet	-9.66	°C

Medium flow rate	3.27	m³/h
Antifreeze percentile	36	%
Air pressure drop	102	Pa
Pressure drop medium	96.1	kPa
Heat recovery figure	70	%
Temperature transfer grade dry (EN 308)	68	%
Heat recovery class in accordance to EN 13053/2012	H2	
Heat recovery class in accordance to EN 13053/2020	H3	
Air velocity	1.67	m/s
Watercontent	60.7	l
Air density	1.2	kg/m³

Slide out rail for heating coil

(3) Empty section 407

Inspection door, Inspection door with handle

(4) Fan, Impeller with EC Motor

Air volume	8424	m³/h
External pressure	300	Pa
Pressure drop fan unit	2	Pa
Internal pressure	222	Pa
Dynamic pressure	24	Pa
Total pressure	548	Pa
Fan type	VME500-3,50/400EC-1950-Z	
Fan speed	1569	1/min
max. fan speed	1950	1/min
Total efficiency	70.3	%
Motor-current consumption	2.8	A
Max. Motor-current	5.6	A
Max. Motor-capacity	3.5	kW
Motor - voltage	3~ 400V 50Hz	
Control voltage	8	V
K-value	280	
absorbed electric effective power PM	**1.82**	**kW**
effective power absorbed at P_SFP conditions	1.67	kW
SFP (Specific fan power)	0.71	kW/(m³/s)
	0.198	W/(m³/h)
type	2139622	
SFP class (EN 16798-3)	SFP2	
P-class (EN 13053)	P1	
Air density	1.2	kg/m³

Buildup terminal box with isolator mounted and wired, AR 4/5,5
Inspection door, Inspection door pressure side, Inspection door with handle

(5) Heater section

Heat exchanger type	2 Cu/Al LT	
Connection (inlet/outlet)	1 1/2 Inch - 1 1/2 Inch	
Air-on temperature	4	°C
Air-off temperature	21	°C
Capacity (total)	48.03	kW
Medium intake	60	°C
Medium outlet	40	°C
Medium flow rate	2.09	m³/h
Antifreeze percentile	0	%
Air pressure drop	16	Pa
Pressure drop medium	1.13	kPa
Air velocity	1.62	m/s
Watercontent	10.1	l
Air density	1.2	kg/m³

Without connection accessory (open - dimensioned)

Exhaust air

(6) Filter ISO ePM1 50%

EN ISO 16890	ISO ePM1 50%	
Initial resistance	53	Pa
Selection resistance	103	Pa
Final pressure difference	153	Pa
Energy class (RS-4/C/001-2015)	A	
Filter surface	28.65	m²

Bag filter F7
Slide-in frame with clamping lever, Filter pull-out
Without connection accessory (open - dimensioned)
Inspection door, Inspection door with handle

(7) Heat recovery - exhaust air heat exchanger section 1

Heat exchanger type	HE/28/1671/12R/12K/2.2Cu,12/Al-L1	
Connection (intake/outlet)	DN 25, 1" - DN 25, 1"	
Air-on temperature	22	°C
Relative humidity	30.0	%
Air-off temperature	-3.1	°C
Relative humidity	100.0	%
Capacity (total)	85.35	kW
Air pressure drop (dry)	105	Pa
Medium intake	-9.66	°C
Medium outlet	15.68	°C
Medium flow rate	3.27	m³/h
Antifreeze percentile	36	%
Pressure drop medium	96.1	kPa
Air velocity	1.67	m/s

Watercontent	60.7	l
Air density	1.2	kg/m³

Slide in rails
Drain pan 1906 KGT
Condensate drain: DN32, 1 1/4 Inch

(8) Empty section 407

Inspection door, Inspection door with handle

(9) Fan, Impeller with EC Motor

Air volume	8424	m³/h
External pressure	300	Pa
Pressure drop fan unit	2	Pa
Internal pressure	209	Pa
Dynamic pressure	24	Pa
Total pressure	535	Pa
Fan type	VME500-3,50/400EC-1950-Z	
Fan speed	1559	1/min
max. fan speed	1950	1/min
Total efficiency	70.1	%
Motor-current consumption	2.74	A
Max. Motor-current	5.6	A
Max. Motor-capacity	3.5	kW
Motor - voltage	3~ 400V 50Hz	
Control voltage	8	V
K-value	280	
absorbed electric effective power PM	**1.78**	**kW**
effective power absorbed at P_SFP conditions	1.63	kW
SFP (Specific fan power)	0.70	kW/(m³/s)
	0.194	W/(m³/h)
type	2139622	
SFP class (EN 16798-3)	SFP2	
P-class (EN 13053)	P1	
Air density	1.2	kg/m³
Damper leakage class 4 acc. to. DIN EN 1751, max. leakage 1.7l/m²/s at 100Pa , Q external, 917 x 1832 / 15 Nm troque / Damper shaft for actuator 15 x 15 mm		
Pressure drop	1	Pa

Buildup terminal box with isolator mounted and wired, AR 4/5,5
Without connection accessory (open - dimensioned)
Inspection door, Inspection door pressure side, Inspection door with handle

Summary of accessory

2 Damper leakage class 4 acc. to. DIN EN 1751, max. leakage 1.7l/m²/s at 100Pa
2 Inspection door
4 Inspection door
6 Inspection door with handle

Data sheet for sound level

Supply air

Casing	50 mm				Fan type			EC fan VME500-3,50/400EC-1950-Z		
Fan - speed		1569 1/min						rs57.2		xc1479
					Total pressure					548 Pa
sound level in the unit										
Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	**Total**	
Sections on the suction side										
Emitted sound power from the fan	75.7	79.2	76.0	70.4	64.4	62.6	60.0	60.6	82.5 dB	
Filter ISO ePM1 50%, Heat recovery - supply air										
Sound power, taking into account the a.m. built-in parts A-weighted as single value indication									67.2 dB(A)	
unrated in octavo band	70.7	73.2	73.0	64.4	56.4	53.6	49.0	46.6	77.5 dB	
Sections on the pressure side										
Emitted sound power from the fan	76.6	84.4	78.2	78.3	75.3	72.5	69.5	66.4	87.1 dB	
Heater section 2 Cu/Al										
Sound power, taking into account the a.m. built-in parts A-weighted as single value indication									79.0 dB(A)	
unrated in octavo band	75.6	83.4	77.2	77.3	73.3	69.5	66.5	62.4	86.0 dB	
Sound level beside the unit										
Radiated from the casing										
Sound power level	47.3	61.1	50.9	46.0	43.0	39.2	36.2	33.1	61.9 dB(A)	
Sound pressure level in 1 m Distance	32.6	46.4	36.2	31.3	28.3	24.5	21.5	18.4	47.2 dB(A)	

Exhaust air

Casing	50 mm				Fan type			EC fan VME500-3,50/400EC-1950-Z		
Fan - speed		1559 1/min						rs57.1		xc1470
					Total pressure					535 Pa
sound level in the unit										
Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	**Total**	
Sections on the suction side										
Emitted sound power from the fan	75.8	79.2	75.9	70.3	64.3	62.5	60.0	60.6	82.5 dB	
Filter ISO ePM1 50%, Heat recovery - exhaust air										
Sound power, taking into account the a.m. built-in parts A-weighted as single value indication									67.2 dB(A)	
unrated in octavo band	70.8	73.2	72.9	64.3	56.3	53.5	49.0	46.6	77.5 dB	
Sections on the pressure side										
Emitted sound power from the fan	76.6	84.3	78.1	78.3	75.1	72.4	69.5	66.4	87.1 dB	
Sound power, taking into account the a.m. built-in parts A-weighted as single value indication									80.7 dB(A)	
unrated in octavo band	76.6	84.3	78.1	78.3	75.1	72.4	69.5	66.4	87.1 dB	
Sound level beside the unit										
Radiated from the casing										
Sound power level	47.2	61.0	50.8	45.9	42.8	39.1	36.1	33.1	61.7 dB(A)	
Sound pressure level in 1 m Distance	32.6	46.3	36.1	31.3	28.1	24.4	21.5	18.4	47.1 dB(A)	

The indicated sound values do not take into account sound transmissions inside the unit via partition panels (e.g. combined units or redirections), and transmissions in circulating air operation or through the bypass of any component, as well as cross-section changes. Furthermore sound emissions from the building through the HVAC unit are not taken into account. The sound calculation does not include the sound emissions of refrigerant compressors, axial condensers, humidifiers, frequency converters and burners, as well as, in inividual cases and depending on the fan make used and the related fan speed, the possible level addition in the frequency range of the blade passing noise. Die zulässigen Bau- und Messtoleranzen nach DIN EN 13053 sind zu berücksichtigen.

ErP COMMISSION REGULATION No 1253/2014(ventilation units) NRVU

This HVAC unit lives up to the requirements of the EU Regulation no.:1253/2014 ; ventilation units stage 2 (2018); (ErP requirements 2018).

Unit type	bidirectional ventilation unit	(BVU)
Heat recovery system	KVS	
Delta P Filter Sup / Exh	53 / 31	Pa
Delta P Heat recovery (dry) Sup / Exh	102 / 110	Pa
DeltaPs,int	296	Pa
delta Ps, add	35	Pa
Eta_t HRS/ limit	68 / 68	%
Vent. eta opt. EU:327/2011	(4) 75.2% (9) 75.2%	
Efficiency rate N	(4) 80 / (9) 80	
Vent. eta stat. eingebaut	(4) 67.3% (9) 67%	
SFP int/ limit	441 / 1300	W/(m³/s)
max. external leakage rate at +400 Pa (RU)	1.1	%
max. external leakage rate at -400 Pa (RU)	0.68	%

Notes:
This ErP conformity observation is based upon our present state of information about the EU Regulation no. 1253/2014. Amendments attributable to subsequent agreements between associations and the regulators may lead to aberrations in this evaluation.
On this account the data and the method of calculation can not be guaranteed and are valid at the particular time of the corresponding issue of configuration only.
Regular filter change is essential for the capacity and energy efficiency of the unit.
To meet the requirements of EU regulation 1253/2014 it is compulsory to retrofit the unit with a filter differential pressure display or an acoustic warning device in the control system.