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ErP 2018

EUROVENT CERTIFIED PERFORMANCE ENERGY EFFICIENCY www.eurovent-certification.com AHU 00.03.024 A+ A B C D E CC 2020 Report to performance data

EUROVENT CERTIFIED PERFORMANCE ENERGY EFFICIENCY www.eurovent-certification.com AHU 00.03.024 A+ A B C D E CC 2016 Report to performance data

Name Venti **Date** 23-01-2023 - 08:44

Offer 23/0028
Position 002
50m olympic pool
Project

Drawing 002 [Pcs] 2
Date 10-01-2023

Client
Street
Client request no
Revision 1 30-11-2010

Execution	**Indoor Unit**
Weight [kg]	**5.448**
specific fan power [W/(m³/s)]	**1933**
EU 1253/2014 compliance	**2018 OK**

TECHNICAL DATA ZHK Inova

Supply air

Size:24/15 Weight:4134 [kg] Surface: ,4 [m2] Velocity: 2,33 [m/s]

design	**L-TF-PT-RFC-V-L-H-HFR**	Dimensions [mm]	**L: 7.472,5**	**W: 2.540**	**H: 1.775**
Air volume [m³/h]	**25.000**	Panel inside	**50 [mm]**	**White A47SME**	**1,00 mm**
external pressure drop [Pa]	**300**	Panel inside bottom		**White A47SME**	
total pressure drop [Pa]	**719**	Guides		**galvanized steel**	
Specific fan power [W/(m³/s)]	**961**	Panel outside		**White A47SME**	**0,70 mm**

Exhaust air

Size:24/12 Weight:1314 [kg] Surface: 25,0 [m2] Velocity: 2,33 [m/s]

design	**TF-VF-PT-K-L-M1**	Dimensions [mm]	**L: 6.252,5**	**W: 2.540**	**H: 1.470**
Air volume [m³/h]	**25.000**	Panel inside	**50 [mm]**	**White A47SME**	**1,00 mm**
external pressure drop [Pa]	**300**	Panel inside bottom		**White A47SME**	
total pressure drop [Pa]	**724**	Guides		**galvanized steel**	
Specific fan power [W/(m³/s)]	**972**	Panel outside		**White A47SME**	**0,70 mm**

Supply air

L	**Empty section**	**305,0 [mm]**	**2,23 [m2]**	**122,00 [kg]**	**0 [Pa]**

Opening: 7 **Full opening** Dimensions [mm] **2.380,0 x 1.160,0**

(23)	***Damper***	Frame	**AL**	seal lip	**Yes**
	torque [Nm] **19,1**	Blades	**AL**	Blade drive	**Gearwheels , PPGF**
	Axle **1**	drive type	**actuator, in air dir. right**		

C-connection frame **galvanized steel** **[Pa]**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x SM24A-SR**	Torque / pcs [Nm]	**20,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

TF	**Bag Filter**	**457,5 [mm]**	**3,35 [m2]**	**208,00 [kg]**	**52 [Pa]**

Manufacture	**Camfil**	Filter surface [m2]	**136,00**
Type	**OPAKFIL-ES-F7** tmax.=70°C	Cells pcs x size [mm]	**8** x **592,0** x **592,0**
Init.-Dim.-Fin. press. drop [Pa]	**26-52-78**		
Class ISO 16890	**ePM1 60%**	**rigid bag filter**	
Airflow [m³/h]	**7.500**	Guide galvanized coated (side removable center lock)	
Bag length [mm]	**296,0**		
Filter energy class (EN 779:2012)	**A+**		
Filter media type	**Fiber Glass**	Final pressure drop acc. EN 13053	

Standard hinged door **ZIS** Access side: right Dimensions [mm] **457,5 x 1.220,0 -[L]**

(300) **1** Pcs **Door lock**
(178) **1** set **Pressure test points mounted**

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

L	**Empty section**	**762,5 [mm]**	**4,75 [m2]**	**199,00 [kg]**	**27 [Pa]**

Standard hinged door **ZIS** Access side: right Dimensions [mm] **610,0 x 1.067,5 -[R]**

(300) **1** Pcs **Door lock**

Opening: **4** **Bottom**

(23) ***Damper*** Frame **AL** seal lip **Yes** **27 [Pa]**
torque [Nm] **5,7** Blades **AL** Blade drive **Gearwheels , PPGF**
Axle **1** drive type **actuator, in air dir. right**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x NM24A-SR**	Torque / pcs [Nm]	**10,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

PT	**Plate exchanger - diagonal**	**2.745,0 [mm]**	**29,84 [m2]**	**1.763,00 [kg**	**178 [Pa]**

Type **PCF-I-3-248-2120-GE-B-315-C-CL-R** max. allowed pressure difference **1700 [Pa]**
W[illegible] bypass **315 [mm]** **Plate heat exchanger epoxy coat** Den[illegible] [kg/m] **1,20**
Water condition Cooling condition

Supply [m³/h]	**25.000**	air-side humid p.d	**76**	Supply [m³/h]		air-side humid p.d.	[P
Entering [°C]	**1[illegible].00**	Humidity [%]	**83,0**	Entering [°C]		Humidity [%]	
Leaving [°C]	**26,[illegible]**	Humidity [%]	**47,0**	Leaving [°C]		Humidity [%]	
exhaust [m³/h]	**25.000**	air-side humid p.d. [	**188**	exhaust [m³/h]		air-side humid p.d.	[P
Entering [°C]	**29,00**	Humidity [%]	**58,0**	Entering [°C]		Humidity [%]	
Leaving [°C]	**20,00**	Humidity [%]	**98,0**	Leaving [°C]		Humidity [%]	

Temperature efficiency (project data) [%]	**78,3**	Temperature efficiency (project data) [%]	
Temperature efficiency (EUROVENT) [%]	**78,0**		
Effectiveness AHRI (1061-2013-C1) [%]	**78,3**	Effectiveness AHRI (1061-2013-C1) [%]	
condense water qty. [l/h]	**4,08**	condense water qty. [l/h]	
Recovery capacity [kW]	**79,09**	Recovery capacity [kW]	

Standard pressuredrop (supply/exhaust) **178 / 178 [Pa]**

Efficiency values refer to supply air side
Attention: Please respect the maximal allowed pressure difference as above. Electrical Pressure control necessary. Respect: INSTRUCTION MANUAL

(0) **1** Pcs **PHE for POOL application**

Standard hinged door **ZIS** Access side: right Dimensions [mm] **457,5 x 1.525,0 -[R]**

(300) **1** Pcs **Door lock**

Drain pan **GI - H: 30,0 mm - Inclined centre** Size **2.745,0x2.440,0 Ø1 1/4"-R not threaded**

Bypass-dampers drive type **Suitable for actuator** **External**

Electrical Panel, incl. filter and cover Pos. and dim. Indicative
B x H x T [mm] **1000 x 1400 x 300** **supplied loose**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x SM24A-SR**	Torque / pcs [Nm]	**20,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

(178) **2** set **Pressure test points mounted**

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

RFC **Refrigerant circuit section**	**1.220,0 [mm]**	**8,49 [m2]**	**790,00 [kg]**	**0 [Pa]**

total cooling capacity	**73,010**		
total absorbed capacity	**18,880**		
total system capacity	**91,890**	Classification PED	**Class II**
Seperate cooling circuits	**1**	Temperature min. [°C]	**-20**
Compressor qta. [Pcs]	**1**	Temperature max. [°C]	**+ 80**
Refrigerant	**R410A**	Max. pressure HD [bar]	**21,0**
compressor type	**Scroll Hermetic**	Max. pressure ND [bar]	**21**

Compressor name	**Copeland/ZP295 KCE-TWD-522**	Oil qta. [kg]	**6,80**
Cooling capacity [kW]	**73,01**	Hub volume [m³/h]	**46,70**
Condensing capacity [kW]	**91,890**	Electric absorbed current [A]	**33,27**
Power input [kW]	**18,880**	Max work current [A]	**48,00**
COP	**4,87**	Winding Type	**400V Y**
		Mass flow [kg/h]	**14.968**

Standard hinged door **ZIS** Access side: right Dimensions [mm] **0,0 x 1.372,5 -[L]**

( ) 1 Door lock

Opening: 3 Top opening

( ) Damper Frame **AL** seal **Yes**

torque [Nm] **7,7** Blades **AL** Blade drive **Gearwheels , PPGF**

Axle **1** drive type **actuator, in air dir. right**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x NM24A-SR**	Torque / pcs [Nm]	**10,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

(2049) **1** Pcs **Actuator support for internal damper Aluminium**

VF **Supply air-Plug fan**	**915,0 [mm]**	**7,25 [m2]**	**447,00 [kg]**	**17 [Pa]**

Fan **2 x**	**ebmpapst/K3G560-PC04-32/ 3x400V**	**EC-Motor** **2 x**	**M3G150NA**
Air volume [m³/h] (density: [kg/m³] 1,20)	**2 x 12.500,00**	Protection	**IP54**
External press [Pa]	**300**	Insulation class	**F**
ext. press. on intake / outlet [Pa]	**-150 / 150**	Nominal power [kW]	**2 x 5,000**
dyn.press.drop [Pa]	**64**	Speed +-2% [1/min]	**1.760**
Tot. pressure [Pa]	**719**	Current +-5% [A]	**2 x 7,70**
Speed [1/min]	**1.544**	Voltage [V]	**3x400 / 50/60 Hz**
sound power [dB(A)]	**90,8**	Tension Range [V]	**380 ... 480**
System efficiency [%]	**65,6**	Electric absorbed power [kW]	**2 x 3,47**
max. nom. RPM [1/min]	**1.760**	Motor efficiency class	**analog to IEC60034: IE 5**
Calibration faktor K_A [m²s/h]	**269**	Control voltage [V]	**7,4**
Speed control:	variable speed	Connection diagram	**M3 (RP1)**
shaft capacity [kW]	**2 x 3,12**		

Fan octave band sound power level Lokt / dB

Frq. [Hz]	63	125	250	500	1000	2000	4000	8000
Inlet	**67,0**	**79,8**	**78,9**	**74,9**	**76,1**	**75,5**	**82,0**	**71,1**
Outlet	**75,7**	**81,8**	**79,7**	**84,5**	**84,6**	**80,0**	**83,6**	**74,9**

fan connection : **rubber sealing**

Temperature increase fan section [°C] **0,80**

No frequency converter needed!

(30) **1** Pcs **Pressure tapping on fan inlet cone**

(3154) Pcs **Fan anti-corrosion protection**

(53) **1** set **Gland for power cable 2 x M20 / signal cable glands 2 x M20**

(47) set **Motor precabeled**

Standard hinged door **ZIS** Access side: right Dimensions [mm] **610,0 x 1.525,0 -[L]**

(300) **1** Pcs **Door lock**

(178) **1** set **Pressure test points mounted**

L **Empty section**	**305,0 [mm]**	**2,41 [m2]**	**103,00 [kg]**	**0 [Pa]**

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

H	**Heating coil**	**305,0 [mm]**	**2,41 [m2]**	**227,00 [kg]**	**42 [Pa]**

Airflow [m³/h]	**25.000**	Density [kg/m³]	**1,20**	Medium	**R410A**
air velocity [m/s]	**1,87**			Content [l]	**38,500**
Air in [°C]	**26,40**			Condensing temp. [°C]	**47,00**
Air out [°C]	**37,08**			Pressure drop [kPa]	**0,13**
Capacity [kW]	**91,89**			Max press. [bar]	**21**
Air press. Drop [Pa]	**42**				

30x26-COND/2pa/3R-48T-2196L-18N/V1/CU-IN54x2,0mm-OUT35x1,5mm/CU-ALB-Al/LT2431-HT1510-C130-90GL

nos. of rows	**3**	Connection side	**right**
nos. of refr.circuits		Fins	**ALP**
Fin spacing [mm]	**2,00**	Tubes	**CU** **Not threaded**
Connection in	**54x2,0mm**	Header	**CU**
		Frames	**AL**

Removable panel **ZIB** Access side: right Dimensions [mm] **3[illegible]5,0 x 1[illegible]525,0**

H	**Heating coil**	**[illegible]5,0 [mm]**	**2,41 [m2]**	**194,0 [kg]**	**37 Pa]**

Airflow [m³/h]	**25.000**	Density [kg/m³]	**1,20**	Medium	**Water**
air velocity [m/s]	**1,87**			Med. flow [l/s]	**1,4300** Content **2,1 l**
Air in [°C]	**25,[illegible]**			Med. velocity [m/s]	**0,55**
Air out [°C]	**39,00**			Med. in [°C]	**60,00**
Air press. Drop [Pa]	**37**			Med. out [°C]	**40,00**
Capacity [kW]	**117,44**			Med. pres. drop [kPa]	**14,41**

30x26-AC/2,5pa/3R-48T-2256L-24N/V1/CU-GW-1 1/4"/CU-ALB-Al/LT2431-HT1510-C120

nos. of rows	**3**	Max press. [bar]	**21**	Connection side	**right**
nos. of circuits	**24**			Fins	**ALP**
Fin spacing [mm]	**2,50**			Tubes	**CU**
Connection in	**1 1/4"**	**threaded**		Header	**CU**
Connection out	**1 1/4"**	**threaded**		Frames	**AL**

Manufacture	**BELIMO**	**3-way valve**	Connection	**threaded**	Volt [V] **1x24**
Type	**1 x R3032-16-S3 | NRC24A-SR**		KVS	**16,00**	Protection **IP54**

FR	**Anti frost frame**	**152,5 [mm]**	**1,21 [m2]**	**81,00 [kg]**	**2 [Pa]**

(160) **1** Pcs **Antifreeze thermostat fitted on the frame (12m)**
(162) **1** Pcs **Anti frost frame galvanized**

Removable panel **ZIB** Access side: right Dimensions [mm] **152,5 x 1.525,0**

Opening: **7** **Full opening** Dimensions [mm] **2.380,0 x 1.465,0**

C-connection frame **galvanized steel** **2 [Pa]**

AHU sound levels	ME	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Tot dB(A)**
1> Airborne SWL over casing [dB]		64,5	64,1	53,8	56,9	55,4	50,4	51,7	43,2	**60,1**
2> SWL at air inlet [dB]		59,2	75,8	71,9	66,9	69,1	66,5	71,0	58,1	**75,5**
3> SWL at air outlet [dB]		73,7	79,8	77,7	84,5	82,6	76,0	77,6	72,9	**86,7**
4> Sound press. for 1 [m]	distance from AHU	44,9	44,5	34,2	37,3	35,8	30,8	32,1	23,6	**40,5**
5> Sound press. for 1 [m]	distance from air inlet	51,8	69,1	65,9	61,4	63,8	61,3	66,1	53,2	**70,4**
6> Sound press. for 1 [m]	distance from air outlet	66,3	73,1	71,7	79,0	77,3	70,8	72,7	68,0	**81,4**

Calculated sound pressure levels are indicative only. It corresponds to : free field hemispheric sound radiation from the unit casing (4), the inlet (5) and the outlet (6) opening. Other sound sources, acoustic character of the room, air flow noise, duct connections and vibrations can influence the sound pressure in dependence. In practice, therefore measured values on site May be different from the calculated ones.

Exhaust air

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

TF	**Bag Filter**	**762,5 [mm]**	**5,58 [m2]**	**228,00 [kg]**	**74 [Pa]**

Manufacture	**Camfil**	Filter surface [m2]	**60,00**
Type	**HI-FLO XLT HFGX-M5-M5** tmax.=70°C	Cells pcs x size [mm]	**8** x **592,0** x **592,0**
Init.-Dim.-Fin. press. drop [Pa]	**35-70-105**		
Class ISO 16890	**ePM10 60%**		
Airflow [m³/h]	**25.000**	Guide galvanized coated (side removable center lock)	
Bag length [mm]	**640,0**		
Filter energy class (EN 779:2012)	**A**		
Filter media type	**Fiber Glass**	Final pressure drop acc. EN 13053	

Standard hinged door	**ZIS**	Access side: left		Dimensions [mm]	**610,0 x 1.220,0 -[R]**
(300)	**1** Pcs	**Door lock**			
Opening:	**7**	**Full opening**		Dimensions [mm]	**2.380,0 x 1.160,0**
C-connection frame	**galvanized steel**				**4 [Pa]**
(178)	**1** set	**Pressure test points mounted**			

VF	**Exhaust air plug fan**	**1[illegible]20,0 [mm]**	**7,[illegible] [m2]**	**490,[illegible] [kg]**	**[illegible] [Pa]**

Fa[illegible]	**2 x** **[illegible]bmpapst/K3G[illegible]PC04[illegible]2/ 3x400V**	**EC [illegible]otor**	**2 x** **M[illegible]G150NA**
Air [illegible]olume [m³/h]	[illegible]dens[illegible] [kg/m³] 1,20) **2[illegible] 12.500,00**	Prot[illegible]on	**IP54**
Ex[illegible]al pr[illegible]s [Pa]	**[illegible]300**	Insula[illegible]on cla[illegible]	
ext. press. on intake / outlet [Pa]	**-150 / 150**	Nominal power [kW]	**2 x** **5,000**
dyn.press.drop [Pa]	**64**	Speed +-2% [1/min]	**1.760**
Tot. pressure [Pa]	**724**	Current +-5% [A]	**2 x** **7,70**
Speed [1/min]	**1.548**	Voltage [V]	**3x400 / 50/60 Hz**
sound power [dB(A)]	**90,8**	Tension Range [V]	**380 ... 480**
System efficiency [%]	**65,6**	Electric absorbed power [kW]	**2 x** **3,49**
max. nom. RPM [1/min]	**1.760**	Motor efficiency class	**analog to IEC60034: IE 5**
Calibration faktor K_A [m²s/h]	**269**	Control voltage [V]	**7,4**
Speed control:	variable speed	Connection diagram	**M3 (RP1)**
shaft capacity [kW]	**2 x** **3,14**		

Fan octave band sound power level Lokt / dB

Frq. [Hz]	63	125	250	500	1000	2000	4000	8000
Inlet	**67,0**	**79,9**	**79,0**	**74,9**	**76,2**	**75,6**	**82,0**	**71,2**
Outlet	**75,7**	**81,9**	**79,7**	**84,5**	**84,7**	**80,1**	**83,5**	**75,0**

fan connection :	**rubber sealing**
Temperature increase fan section [°C]	**0,80**
No frequency converter needed!	

(30)	**1** Pcs	**Pressure tapping on fan inlet cone**
(3154)	Pcs	**Fan anti-corrosion protection**
(53)	**1** set	**Gland for power cable 2 x M20 / signal cable glands 2 x M20**
(47)	set	**Motor precabeled**

Standard hinged door	**ZIS**	Access side: left		Dimensions [mm]	**610,0 x 1.220,0 -[R]**
(300)	**1** Pcs	**Door lock**			
Opening:	**4**	**Bottom**		Dimensions [mm]	**2.380,0 x 500,0** **[Pa]**
(73)	**1** Pcs	**Walkway intake galvanized steel**			
(178)	**1** set	**Pressure test points mounted**			

PT	**Plate exchanger - diagonal**	**2.745,0 [mm]**	**29,84 [m2]**	**1.763,00 [kg**	**178 [Pa]**

For values/performances please refer to supply side

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

K	**Cooling coil**	**305,0 [mm]**	**2,41 [m2]**	**257,00 [kg]**	**47 [Pa]**

Airflow [m³/h]	**17.500**	Density [kg/m³]	**1,20**	Medium	**R410A**	Content	**39,9 l**
air velocity [m/s]	**1,31**	SHR	**0,34**	Evaporating temp. [°C]	**7,00**		
Air in [°C]	**20,00**	Humidity [%]	**98,0**	Pressure drop [mbar]	**111**		
Air out [°C]	**15,77**	Humidity [%]	**100,0**	Max press. [bar]	**21**		
Capacity [kW]	**73,01**			Interlaced Circuits	**No**		
air-side dry p.d. [Pa]	**41**						

30x26-ED/2,5pa/4R-37T-2126L-24N/V2/CU-IN1x35x1,5mm-OUT1x54x2,0mm/CU-ALB-Al/LT2431-HT1180-C190-90GL

Connection side	**left**	Fins	**ALP**
nos. of rows	**4**	Tubes	**CU**
nos. of refr.circuits	**1**	Header	**CU** **Not threaded**
Fin spacing [mm]	**2,50**	Frames	**AL**

Removable panel **ZIB** Access side: left Dimensions [mm] **610,0 x 1.220,0**

Drain pan **GI - H: 35,0 mm - flat** Size **1.067,5x1.525,0 Ø1"-L** **not threaded**

Drip eliminator Model **TA144** Quality frame **AISI 304** Quality fins **PPTV** **6 [Pa]**

L	**Empty section**	**457,5 [mm]**	**,8 [m2**	**00 [kg]**	**21 [Pa]**

ing: **3** **Top ope** **21 [Pa]**

M1	**Simple mixing section**	**5 [mm]**	**42 [m2]**	**25 00 [kg]**	**12 [Pa]**

Recirc. air [m³/h]	**1 500**	**15,7 [°C]**	**100 [%]**	Mixed air	**1 0 [°C]**	Re umidity	**[%]**
Fresh air [m³/h]	**7.500**	**20,00 [°C]**	**50,0 [%]**	Mixing ratio	**70 %**		

Opening: **7** **Full opening** Dimensions [mm] **2.380,0 x 1.160,0**

(23) *Damper*			Frame	**AL**	seal lip	**Yes**	**2 [Pa]**
	torque [Nm]	**19,1**	Blades	**AL**	Blade drive	**Gearwheels , PPGF**	
	Axle	**1**	drive type	**actuator, in air dir. right**			

C-connection frame **galvanized steel** **[Pa]**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x SM24A-SR**	Torque / pcs [Nm]	**20,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

Opening: **2** **Rear bottom** Dimensions [mm] **2.380,0 x 245,0**

(23)	***Damper***		Frame	**AL**	seal lip	**Yes**	**10 [Pa]**
	torque [Nm]	**3,8**	Blades	**AL**	Blade drive	**Gearwheels , PPGF**	
	Axle	**1**	drive type	**actuator, in air dir. right**			

C-connection frame **galvanized steel** **[Pa]**

Manufacture	**BELIMO**	Mode	**modulating**	Volt [V]	**1x24**
Type	**1 x LM24A-SR**	Torque / pcs [Nm]	**5,000**	Protection	**IP54**
Spring return	**No**	with extra auxiliary contac	**No**		

AHU sound levels	ME	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**Tot dB(A)**
1> Airborne SWL over casing [dB]		64,5	64,2	53,8	56,9	55,5	50,5	51,6	43,3	**60,2**
2> SWL at air inlet [dB]		65,2	78,9	76,0	70,9	73,2	71,6	77,0	65,2	**80,8**
3> SWL at air outlet [dB]		61,9	75,9	69,7	72,5	71,7	64,1	68,5	59,0	**75,9**
4> Sound press. for 1 [m]	distance from AHU	45,6	45,3	34,9	38,0	36,6	31,6	32,7	24,4	**41,3**
5> Sound press. for 1 [m]	distance from air inlet	57,8	72,2	70,0	65,4	67,9	66,4	72,1	60,3	**75,6**
6> Sound press. for 1 [m]	distance from air outlet	54,5	69,2	63,7	67,0	66,4	58,9	63,6	54,1	**70,6**

Calculated sound pressure levels are indicative only. It corresponds to : free field hemispheric sound radiation from the unit casing (4), the inlet (5) and the outlet (6) opening. Other sound sources, acoustic character of the room, air flow noise, duct connections and vibrations can influence the sound pressure in dependence. In practice, therefore measured values on site May be different from the calculated ones.

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
Unit	50m olympic pool	**Rev. date**	30-11-2010

(408) ***Counter base frame*** **galvanized steel** **150,0 mm**
AHU delivered as monobloc mounted on joint counter frame
Lifting equipment is not part of the scope of supply

(420)	**1**	Pcs	**Guides epoxy coated RAL 9003**
(3169)	**1**	Pcs	**Panel insulation mineral wool**
(304)	**1**	Pcs	**Floor and walls with hygiene seal**
(407)	**1**	set	**Base frame BF3 - 200 galvanized steel**
(3125)	**1**		**Plug in profiles in PVC**
(3166)	**1**		**Truck - Transport**
(904)	**1**	Pcs	**Front side covering White**
(3127)	**1**	Pcs	**Complete DX system supplied (see Attachement)**
(3007)	**1**	Pcs	**Unit with ETA MATIC Control integrated controls**
(0)	**1**	Pcs	**Drain pans, connection frames, anti-frost frame and droplet eliminator frame coated**

EUROVENT Datas

Range / Casing MB	**ZHK - ZHK INOVA**	t_ODA EEC	**17,00 [°C]**
Thermal classes (MB)	**T2 - TB2**	Mixing Ratio	**0 [%]**
Casing air leakage (MB)	**L1**	Size reference velocity S/R	**2,33 / 2,33 [m/s]**
Mechanical strength (MB)	**D1**	Total static pressure EEC S/R	**639 / 632 [Pa]**
Energy efficiency class winter	**C (2016)**	Internal Static Pressure S/R	**339 / 332 [Pa]**
fan design for dry/wet conditions	**see relating section**	Power input real S/R	**6,93 / 6,99 [kW]**
		Pressure drop ERS S/R	**178 / 178 [Pa]**

Country	**Denmark**	Total static pressure EEC S/R	**639 / 632 [Pa]**
ASHRAE - Install.	**KOEBENHAVNS KASTRUP**	Internal Static Pressure S/R	**339 / 332 [Pa]**
Design temperature dry bulb	**26,20 [°C]**	Power input real S/R	**6,93 / 6,99 [kW]**
Design temperature dew point	**14,10 [°C]**	Summer Temperature efficiency S/R	**0 / 0 [%]**
Winter design outdoor temperature	**-5,2 [°C]**	Summer wet/humidity efficiency S/R	**0 / 0 [%]**
Energy efficiency class summer	**C (2020)**	Pressure drop ERS S/R	**0 / 0 [Pa]**
		Mixing Ratio	**0 [%]**

ErP compliance according EU regulation no. 1253/2014

a) Manufacturer	**Euroclima**	j) Face velocity S/R	**0,7 / 2,33 [m/s]**
b) Model identifier	**23/0028 / 002**	k) Nominal external pressure S/R	**300 / 300 [Pa]**
c) Unit type	**NRVU - BVU**	l) Int press.drop vent. components S/R	**218 / 251 [Pa]**
d) Type of drive Supply	**variable speed**	m) int press.drop not vent. components S/R	**95 / 46 [Pa]**
Type of drive Return	**variable speed**	n) Static fan efficiency (EU No 327/2011) S/R	**70,2 / 70,2 [%]**
e) Energy recovery system type	**other HRS**	o) External leakage -400 / +400 Pa (RU)	**0,57 / 0,57 [%]**
f) thermal efficiency of HRS	**77,9[%]**	Internal leakage	**on request**
g) Nominal air flow rate S/R	**6,94 / 6,94 [m³/s]**	p) energy classification filters	**see filter data**
h) effective electric power input	**13,92 [kW]**	r) Casing sound power level LWA	**63 [dB(A)]**
i) SFP int	**741 [W/(m³/s)]**	s) www.euroclima.com	

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Information according EU Regulation 517/2014

Because of the EU Directive EC 517/2014 operators of DX systems are required to check the DX circuit periodically (depending on GWP tons) for leaks and capture this in the DX testing book. As part of a maintenance agreement the manfucturer can assume this legal necessity for you.

Please consider the potential need for a registration of your DX system to the responsible authority.

Commissioning and maintenance and leackage test must be carried out only by a certified DX system technician!

Information according Regulation EC 2281/2016

The EU Regulation 2281/2016 lays down requirements for the environmentally compatible design of energy-related products with regard to air heating products, cooling products, process coolers with high operating temperature and fan coils.

The Regulation allows exceptions in certain cases. Some of these exceptions depend on the specific use of the product and an interpretation of this specific case is necessary. The following situation applies to the product to this data sheet: The product to this data sheet is a custom made product. It was designed according to the customer's specifications and the manufacturer was not informed about the exact application and use of the device. According to the customer's information, an exception can be made for this device, therefore the device has been designed outside the guidelines of EU Regulation No. 2281/2016.

AHU with heat recovery DX circuit

By ordering this product, the customer confirms this and accepts the following clauses:

- The product is sold by the manufacturer as "out of scope" of the Regulation No. EU 2281/2016
- A declaration of conformity and CE marking in accordance with the Directive 2281/2016 on the part of the manufacturer is therefore not possible.
- The customer confirms the stated reason for this exception.
- The customer confirms that there are no objections from the project consultant, the end customer or from any local, national or international authority, norm or law which contradict with the stated exception.

In case of doubt, the manufacturer recommends to clarify the necessity of conformity with the design office that designed the ventilation system and prepared the product specification before ordering.

Offer	23/0028		
Drawing	002	**Pieces**	2
Position	002	**Rev. Nr.**	1
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ETAMatic Basic execution

X	Siemens Climatix DDC controller + I/O modules	X	Air flow control
X	Modbus IP communication	X	Temperature control
X	User display with spiral cable	X	Filter control with pressostat
X	Frost protection plate heat exchanger	X	High pressure control plate heat exchanger
X	Coils control with secondary pump supply	X	Programming socket with RC circuit breaker

Control optionals

X	Humidity sensors	X	DX control
	Duct pressure sensors	X	High/Low pressure switch DX
	CO2 air quality sensor	X	High/Low pressure sensor DX
	VOC air quality sensor		Enthalpy design
	Room sensor		Touch screen
	Remote room unit interface		T power grid
	Potential free hardware contacts with LED lamps		etrofit
X	Recirculation damper		Energy measurement
	Smoke detector		Bacnet IP communication
	Vibration sensors for fan		Bacnet MS/TP communication
	Humidifier - Power connection by customer		Modbus RTU communication
	Humidifier - Power connection by manufacturer		LON communication
	Plug & Play solution cabling		Filter control with pressure sensor
	Adiabatic / ETA Pac execution		E-Coil control with thyristor
X	Climatix IC Cloud remote control		Climatix IC Cloud remote control + Router & SIM
	Climatix Basic		Zone Control (0)
	Tagging		Predictive Maintenance
	Feinstaubsensor		Modbus Sensoren Zonen
	Technical Cabinett attached		External condensing units: False
	Firemen switch		Halogenfree cabling
		X	Distance ELP 10000 mm L

Euroclima participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Note: Specified components supplier are exemplary and might change. Specified weights are weights of empty components. We reserve the right to make changes insofar as these serve to improve the product.