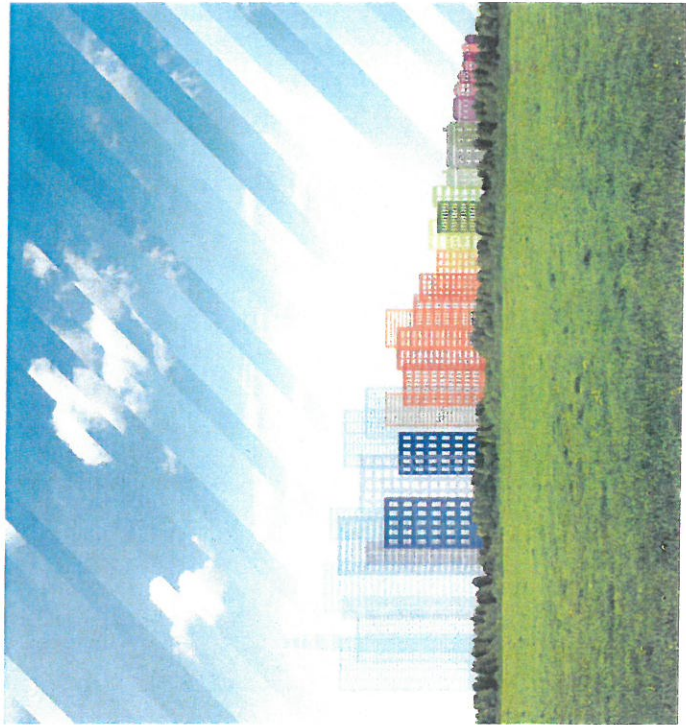


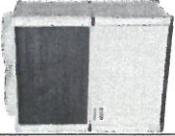
Zadani projekt 1




Contents

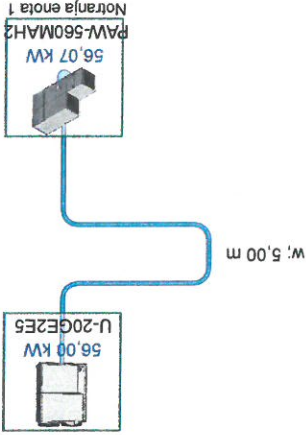
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Klimat 1 AHU_1

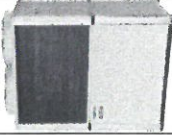
U-20GE2ES		Capacity Ratio: 100,0 %		Correction Factors	
		Maximum Input Power: 1,02 kW		Temperature	
		Distributed Cooling Capacity: 56,1 kW		Cooling mode	
		Distributed Heating Capacity: 65,5 kW		Heating mode	
		Voltage: 230V/1Ph/50Hz		Inside (WB): 19,00 °C Inside (DB): 20,00 °C	
				Outside (WB): 35,00 °C Outside (DB): -13,40 °C	
				Length and height	
				Max length: 5,00 m Max height: +0,00 m / -0,00 m	
				Unmixed mode	
				1,16	
				Mixed mode	
				0,79	
				Correction factor for defrosting included	
				Dimensions	
				Length: 1650 mm	
				Height: 2273 mm	
				Depth: 1000 mm	


Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls		Accessories	
					RC, T10, RS, IA	Panel	Off Coil Temperature Control (°C)	External Expansion Valve
Notranja enota 1		PAVL-560MAH2	56,1	65,5	CZ-RTC2 (included) CZ-OPBC2 (included)			

Principle Piping Diagram - Klimat 1 AHU_1

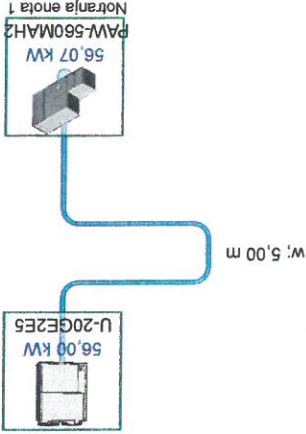


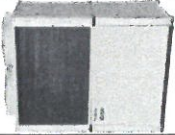
Klimat 1 AHU_2


U-20GE2E5		Capacity Ratio: 100,0 %		Correction Factors	
		Maximum Input Power: 1,02 kW		Temperature	
		Distributed Cooling Capacity: 56,1 kW		Cooling mode	
		Distributed Heating Capacity: 65,5 kW		Heating mode	
		Voltage: 230V/1PH/50Hz		Inside (WB): 19,00 °C	
				Outside (DB): 35,00 °C	
				Max height: +0,00 m / -0,00 m	
				Correction factor for defrosting included	
				Length and height	
				Max length: 5,00 m	
				Correction factor for defrosting included	
				Dimensions	
				Length: 1650 mm	
				Height: 2273 mm	
				Depth: 1000 mm	

Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls		Accessories	
					RC, T10, RS, 1A	Panel	Off Coil Temperature Control (°C)	External Expansion Valve
Notranja enota 1		PAV-560MAH2	56,1	65,5	CZ-KTC2 (Included) CZ-CAPI-CZ (Included)			

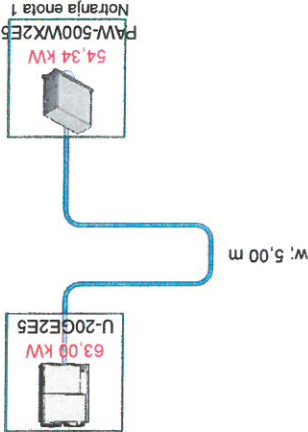
Principle Piping Diagram - Klimat 1 AHU_2



	Capacity Ratio: 89,3 %		Correction Factors	
	Maximum Input Power: 1,02 kW		Temperature	
Capacity: 49,3 kW			Cooling mode	Heating mode
Distributed Heating Capacity: 54,3 kW			Water temperature: 7,00 °C	Water temperature: 50,00 °C
Voltage: 230V/1Ph/50Hz			Outside (DB): 35,00 °C	Outside (WB): -13,40 °C
			Length and height	
			Max length: 5,00 m	Max height: +0,00 m / -0,00 m
PEER (cooling):			Correction factor for defrosting included	
PCOP (heating):				
Dimensions				
Length: 1650 mm				
Height: 2273 mm				
Depth: 1000 mm				









Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls		Accessories	
					RC, T10, RS, IA	Panel	Off Coil Temperature Control (°C)	External Expansion Valve
Notranja enota 1		PAW-500WX2E5	49,3	54,3	CZ-RTC2			






Principle Piping Diagram - Klimati WHE



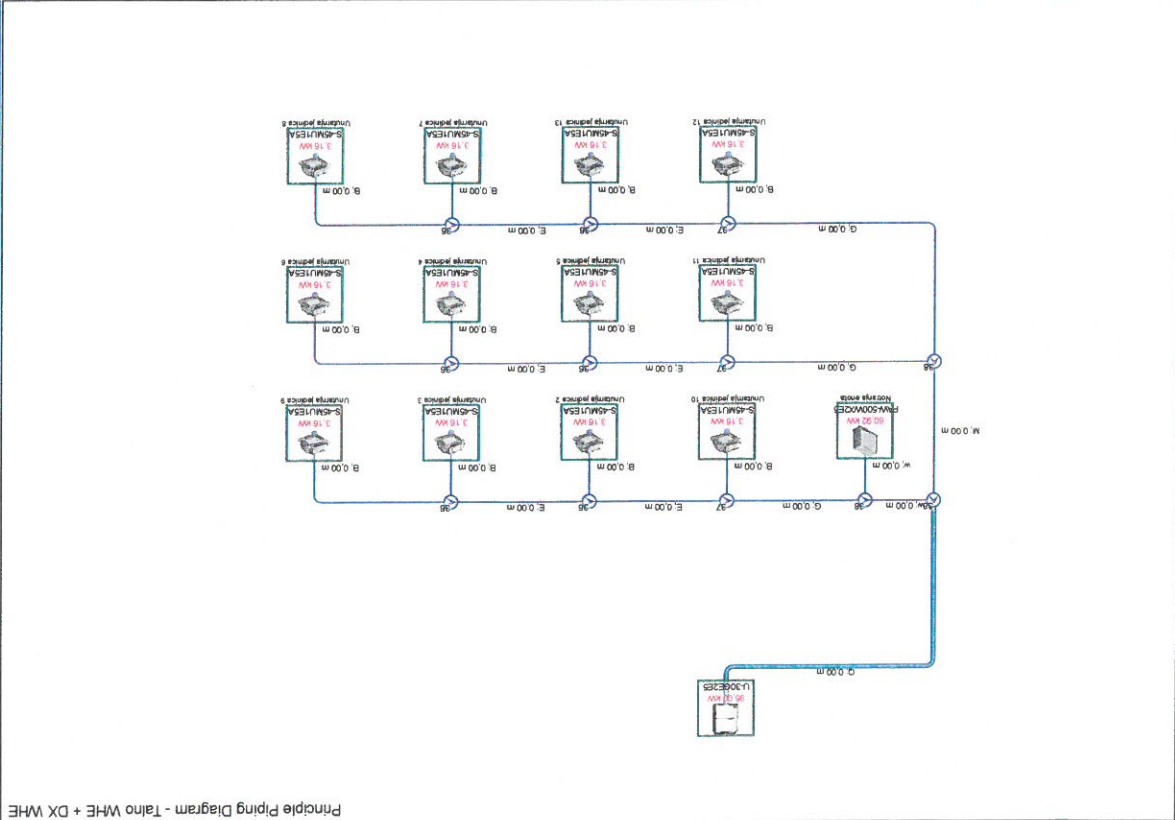
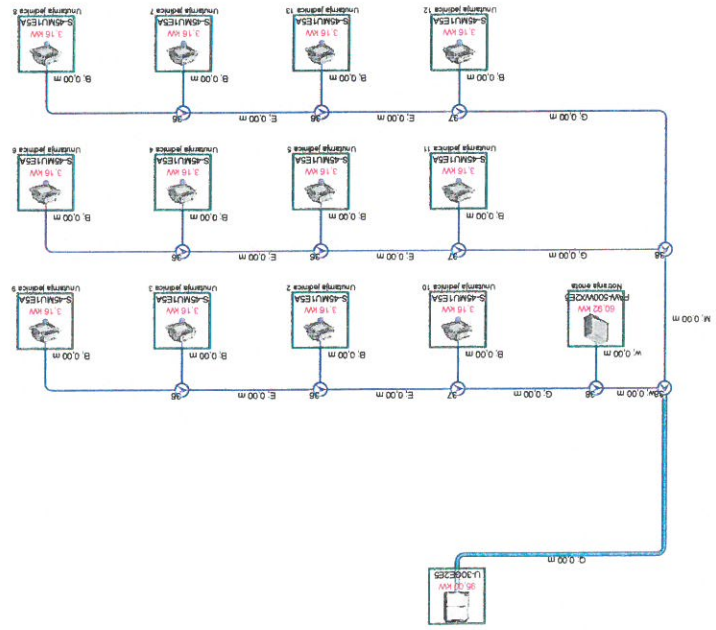
Taino WHE + DX WHE

U-30GE2E5	<p>Capacity Ratio: 129.4 %</p> <p>Maximum Input Power: 1.7 kW</p> <p>Distributed Cooling Capacity: 101.9 kW</p> <p>Distributed Heating Capacity: 98.8 kW</p> <p>Voltage: 230V/1PN/50Hz</p> <p>PEER (cooling):</p> <p>PCOP (heating):</p> <p>Dimensions</p> <p>Length: 2026 mm</p> <p>Height: 2273 mm</p> <p>Depth: 1000 mm</p>	<p>Correction Factors</p> <p>Temperature</p> <p>Cooling mode</p> <p>Water temperature: 7.00 °C</p> <p>Outside (DB): 35.00 °C</p> <p>Heating mode</p> <p>Water temperature: 50.00 °C</p> <p>Outside (WB): -13.40 °C</p> <p>Length and height</p> <p>Max length: 0.00 m</p> <p>Max height: +0.00 m / -0.00 m</p> <p>Correction factor for defrosting included</p>
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Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls		Accessories	
					RC, T10, RS, IA	Panel	Off Coil Temperature Control (°C)	External Expansion Valve
Notranja enota		PAN-500WZES	56,6	60,9	CZ-RTC2			
Unutarnja jedinica 2		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 3		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 4		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 5		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 6		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 7		S-45MU1ESA	3,8	3,2		CZ-KPU21		
Unutarnja jedinica 8		S-45MU1ESA	3,8	3,2		CZ-KPU21		

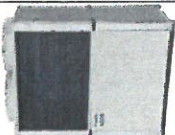
Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls	Accessories	
						Panel	Off Coil Temperature Control (°C)
Unutarnja jedinica 9		S-45MU1ESA	3,8	3,2	RC, T10, RS, IA	CZ-KPU21	
Unutarnja jedinica 10		S-45MU1ESA	3,8	3,2		CZ-KPU21	
Unutarnja jedinica 11		S-45MU1ESA	3,8	3,2		CZ-KPU21	
Unutarnja jedinica 12		S-45MU1ESA	3,8	3,2		CZ-KPU21	
Unutarnja jedinica 13		S-45MU1ESA	3,8	3,2		CZ-KPU21	


Principle Piping Diagram - Talno WHE + DX WHE

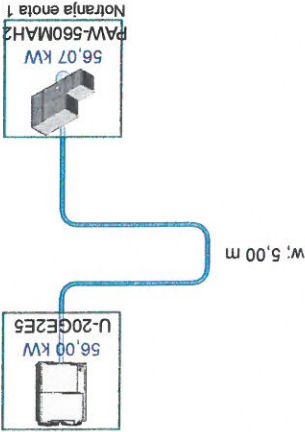



Selection


Klimat 2 AHU_1

U-20GEZE5		Capacity Ratio: 100,0 % Maximum Input Power: 1,02 kW Distributed Cooling Capacity: 56,1 kW Distributed Heating Capacity: 65,5 kW Voltage: 230V/1Ph/50Hz Unmixed mode PEER (cooling): 1,16 PCOP (heating): 0,79 Dimensions Length: 1650 mm Height: 2273 mm Depth: 1000 mm	Correction Factors Temperature Cooling mode Inside (WB): 19,00 °C Outside (DB): 35,00 °C Heating mode Inside (DB): 20,00 °C Outside (WB): -13,40 °C Length and height Max length: 5,00 m Max height: +0,00 m / -0,00 m Correction factor for defrosting included
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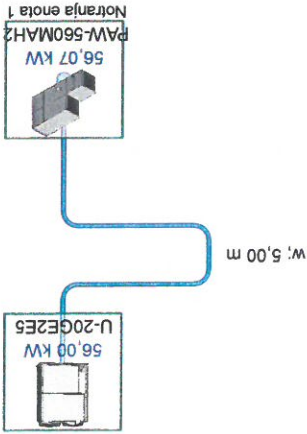
Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls	Accessories
Notranja enota 1		PAW-560MAH2	56,1	65,5	RC, T10, RS, 1A CZ-RTC2 (Included) CZ-CAPBC2 (Included)	Off Coil Temperature Control (°C) External Expansion Valve



U-20GE2E5	Correction Factors	
	Capacity Ratio:	100,0 %
	Maximum Input Power:	1,02 kW
	Distributed Cooling Capacity:	56,1 kW
	Distributed Heating Capacity:	65,5 kW
	Voltage:	230V/1Ph/50Hz
PEER (cooling):		1,16
PCOP (heating):		0,79
Dimensions		
Length:		1650 mm
Height:		2273 mm
Depth:		1000 mm
Temperature		
Cooling mode		Inside (WB): 19,00 °C Inside (DB): 20,00 °C
Heating mode		Outside (WB): 35,00 °C Outside (DB): -13,40 °C
Length and height		
Max length:		5,00 m
Max height:		+0,00 m / -0,00 m
Correction factor for defrosting included		

Unit Name	Type	Model	Corrected cooling (kW)	Corrected heating (kW)	Controls	Accessories
Notranja enota 1		PAW-560MAH2	56,1	65,5	RC, T10, RS, 1A	Off Coil Temperature Control (°C) External Expansion Valve

Principle Piping Diagram - Klimat 2 AHU_2



Equipment List per System

Equipment Items			
Model	Type / Indoor Unit Name	Code	Qty
Klimat 1 AHU_1			
U-20GE2E5	Outdoor Unit		1
PAW-560MAH2	AHU kit (MAH) (Notranja enota 1)		1
15,88 x 28,58	Pipework	w	5,00 (m)
	Control Wires		0,00 m
	Additional Charge		1,42 kg
	Limit Density		0,000 kg/m3
	Total amount of refrigerant		12,93 kg
Klimat 1 AHU_2			
U-20GE2E5	Outdoor Unit		1
PAW-560MAH2	AHU kit (MAH) (Notranja enota 1)		1
15,88 x 28,58	Pipework	w	5,00 (m)
	Control Wires		0,00 m
	Additional Charge		1,42 kg
	Limit Density		0,000 kg/m3
	Total amount of refrigerant		12,93 kg
Klimat WHE			
U-20GE2E5	Outdoor Unit		1
PAW-500WX2E5	Water Heat Exchanger (Notranja enota 1)		1
CZ-RTC2	Timer Remote Controller (Wired)		1
15,88 x 28,58	Pipework	w	5,00 (m)
	Control Wires		0,00 m
	Additional Charge		1,92 kg
	Limit Density		0,000 kg/m3
	Minimum Water Quantity in Hydraulic Circuit		500 (L)
	Total amount of refrigerant		13,43 kg
Taino WHE + DX WHE			
U-30GE2E5	Outdoor Unit		1
PAW-500WX2E5	Water Heat Exchanger (Notranja enota)		1
S-45MU1ESA	4-way Cassette 90x90 (MU1) (Unutarnja jedinica 2, Unutarnja jedinica 3, Unutarnja jedinica 4, Unutarnja jedinica 5, Unutarnja jedinica 6, Unutarnja jedinica 7, Unutarnja jedinica 8, Unutarnja jedinica 9, Unutarnja jedinica 10, Unutarnja jedinica 11, Unutarnja jedinica 12, Unutarnja jedinica 13)		12
CZ-RTC2	Timer Remote Controller (Wired)		1
CZ-KPU21	Panel		12
CZ-P1350BK2BM	Branch	38	3
CZ-P680BK2BM	Branch	37	3
CZ-P224BK2BM	Branch	36	6
6,35 x 12,7	Pipework	B	0,00 (m)
9,52 x 15,88	Pipework	E	0,00 (m)
9,52 x 19,05	Pipework	G	0,00 (m)
12,7 x 28,58	Pipework	M	0,00 (m)
19,05 x 31,75	Pipework	Q	0,00 (m)
15,88 x 28,58	Pipework	w	0,00 (m)

Equipment Items			
Model	Type / Indoor Unit Name	Code	Qty
	Control Wires		0,00 m
	Additional Charge		11,50 kg
	Limit Density		0,000 kg/m ³
	Minimum Water Quantity in Hydraulic Circuit		500 (L)
	Total amount of refrigerant		23,00 kg
Klimat 2 AHU_1			
	Outdoor Unit		1
U-20GE2E5	AHU kit (MAH) (Notranja enota 1)		1
PAW-560MAH2	Pipework	w	5,00 (m)
15,88 x 28,58	Control Wires		0,00 m
	Additional Charge		1,42 kg
	Limit Density		0,000 kg/m ³
	Total amount of refrigerant		12,93 kg
Klimat 2 AHU_2			
	Outdoor Unit		1
U-20GE2E5	AHU kit (MAH) (Notranja enota 1)		1
PAW-560MAH2	Pipework	w	5,00 (m)
15,88 x 28,58	Control Wires		0,00 m
	Additional Charge		1,42 kg
	Limit Density		0,000 kg/m ³
	Total amount of refrigerant		12,93 kg

Summary Equipment List

Equipment Items				
Model	Type / Indoor Unit Name	Code	Qty	
Zadani projekt 1				
U-20GE2E5	Outdoor Unit		5	
U-30GE2E5	Outdoor Unit		1	
PAW-560MAH2	AHU kit (MAH)			
	Klimat 1 AHU_1: Notranja enota 1			
	Klimat 1 AHU_2: Notranja enota 1		4	
	Klimat 2 AHU_1: Notranja enota 1			
PAW-500WX2E5	Klimat 2 AHU_2: Notranja enota 1			
	Water Heat Exchanger		2	
S-45MU1ESA	Klimat1 WHE: Notranja enota 1			
	Talno WHE + DX WHE: Notranja enota			
	4-way Cassette 90x90 (MU1)			
	Talno WHE + DX WHE: Unutarnja jedinica 2, Unutarnja jedinica 3, Unutarnja jedinica 4, Unutarnja jedinica 5, Unutarnja jedinica 6, Unutarnja jedinica 7, Unutarnja jedinica 8, Unutarnja jedinica 9, Unutarnja jedinica 10, Unutarnja jedinica 11, Unutarnja jedinica 12, Unutarnja jedinica 13		12	
	CZ-RTC2	Timer Remote Controller (Wired)	2	
	CZ-KPU21	Panel	12	
	CZ-P1350BK2BM	Branch	38	
	CZ-P680BK2BM	Branch	37	
	CZ-P224BK2BM	Branch	36	
	15,88 x 28,58	Pipework	w	25,00 (m)
	6,35 x 12,7	Pipework	B	0,00 (m)
	9,52 x 15,88	Pipework	E	0,00 (m)
9,52 x 19,05	Pipework	G	0,00 (m)	
12,7 x 28,58	Pipework	M	0,00 (m)	
19,05 x 31,75	Pipework	Q	0,00 (m)	
	Control Wires		0,00 m	
	Additional Charge		19,12 kg	
	Minimum Water Quantity in Hydraulic Circuit		1000 (L)	
	Total amount of refrigerant		88,13 kg	

Project N°

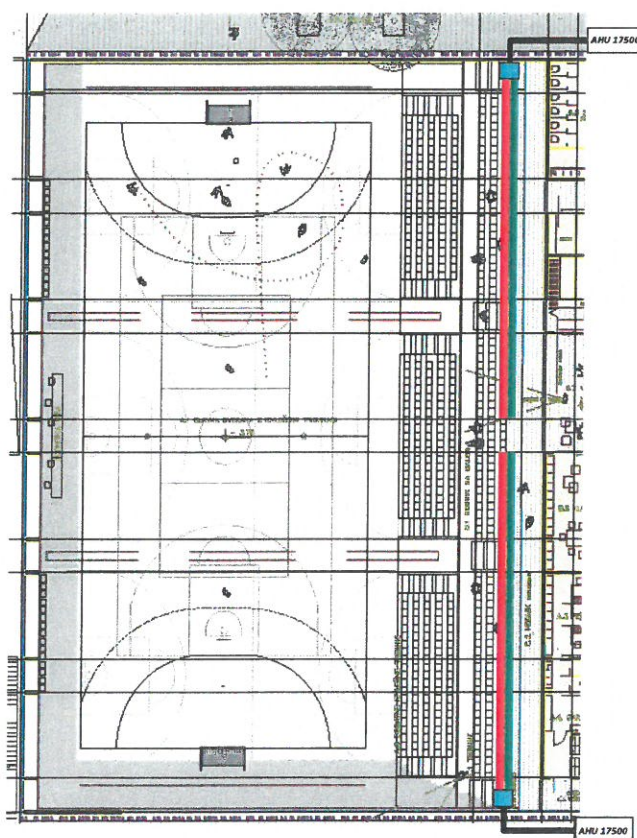
Consultant BOSSPLAST d.o.o.

Gregor Jeglic

SLOFE 059c

E-mail address: gregor.jeglic@bossplast.com

Telephone number: +386 (0)41 715 584



Sports Center

GREEN TECHNOLOGY

DATE	OFFER NUMBER	REVISION NUMBER	SINTRA'S TECHNICAL REFERENCE
20-07-17	SLOFE 059	0	Stefano Pinna
20-07-17	SLOFE 059a	1	Stefano Pinna
12-09-17	SLOFE 059b	2	Stefano Pinna
19-09-17	SLOFE 059c	3	Stefano Pinna

The technical solution adopted in this project is NOT IN FREE COMPETITION (*)

(*) This technical solution has been conceived by SINTRA following the ASSISTED DESIGN criteria. SINTRA reserves itself the intellectual property rights on the proposed technical solution and of those deriving from it. This technical solution is strictly confidential, and shall not be disclosed without SINTRA's prior authorization.

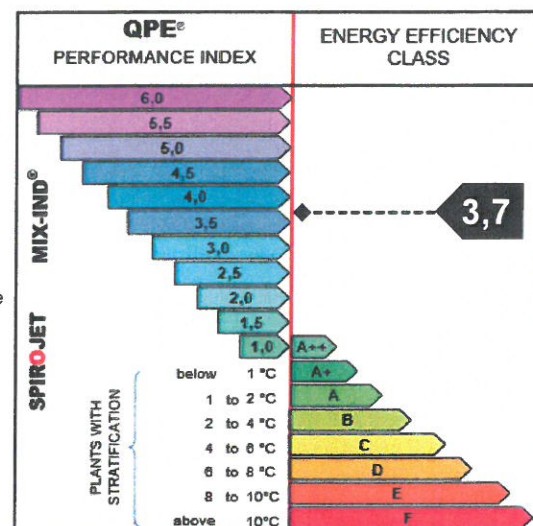
PERFORMANCES ANALYSIS

Date: 19/09/2017

Sports Center

Project SLOFE 059c

QPE® Index			■ Maximum performances for air diffusion (& SPIROJET) traditional plants
SINTRA's estimated value			
0,1 ÷ 0,5	0,5	X	Homogeneity of both vertical and horizontal temperatures (±1 °C)
0,1 ÷ 0,5	0,4	X	Control of the residual air speed in the occupied area
			■ Performances for the MIX-IND® base technology
0,2	0,2	X	Energy savings thanks to total destratification
0,2	0,2	X	Energy savings thanks to the recovery of all internal heat gains
0,1 ÷ 0,5			Optimisation of the plant's air flows, thanks to the ASSITED DESIGN free service, which allows:
			- performance guarantee
			- reduced overall plant costs
			- less ducts, less encumbrance and less weight on the structures
			- less energy consumption of the fans
0,3	0,3	X	Total elimination of the return air duct network, without any performance loss, which allows:
			- reduced overall initial costs for the whole plant
			- a single return air grid
			- energy savings thanks to the reduction of pressure drops
			- reduction of maintenance costs related to the cleaning of the ducts
			- reduced encumbrances and less weight on the structures
			■ Performances for the NEW GENERATION plants with MIX-IND® patented* technology
0,2	0,2	X	Possibility to adjust the air speed in the occupied area (VARITRAP® patent*), always guaranteeing the best comfort
0,2			VARIAMIX® perforation system, which tolerates a variation of the air speed coming out from the holes between 70% et 100%, without significant loss of performances
0,3			VARISTEP® perforation system, which privileges the "passive influence areas", to allow important energy savings, thanks to the possibility of an alternate operation of the PULSERS®, without significant loss of performances
0,2 ÷ 0,8	0,6	X	Energy savings thanks to the quick start-up of the plant in winter (TWIN-VARIBOOST® patent*)
0,1 ÷ 0,3	0,2	X	Energy savings thanks to the improvement of the summer free-cooling performances (TWIN-VARIBOOST® patent*)
0,1 ÷ 1,2			Possibility of "extreme" winter free-cooling (SINTRA's know-how), with great energy savings related to the possibility of directly introducing external air at a very low temperature directly into the room, in order to lower the endogenous heat
0,2 ÷ 0,8	0,7	X	VARIABLE COMFORT: possibility to easily change the residual air speed in the occupied area at any time (TWIN-VARIBOOST® patent*), which therefore allows to choose the desired comfort level
0,2 ÷ 0,8	0,4	X	Variable air flow without any performance loss (TWIN-VARIBOOST® patent), which allows:
			- energy savings of more than 50% on the fan's electrical consumption
			- savings of more than 50% on the filter's consumption, thanks to a reduction of the amount of air that needs to be filtered
			- better filtration efficiency thanks to the reduction of the air speed on the filters
			- reduction of the plant's noise coefficient, thanks to a reduction of the fan's rotation speed and of the air speed inside both ducts and silencers
0,2 ÷ 0,8			VARIPLENUM™ patented* technology, which allows to join all the PULSERS® in a single aerodynamic circuit, and all the Air Handling Units (AHU = CTA or roof-top), with the following advantages:
			- increased security in case the AHU stops, as the whole room's volume continues to be treated in a homogeneous way, without passive influence areas
			- possibility to use less AHUs for most of the year
			- great energy savings due to a lower number of hours of use for the fans
			- lower deterioration of the mechanical equipments, therefore increased longevity of the AHUs
			- lower general maintenance costs for the plant
			- lower filters' consumption
0,2 ÷ 1,0			Variable air-flow plant with "ICE COLD AIR" technology (know-how SINTRA), thanks to a particular calculation of the perforations and to a particular kind of regulation, it allows:
			- a reduction of the plant's air flow
			- a reduced initial cost, thanks to the reduction of the AHU's dimensions and the reduction of the number and/or diameter of the ducts
			- energy savings thanks to the reduction of the fan's electrical power
			- less encumbrances for both the AHU and the ducts
			- lower maintenance cost, thanks to the reduced plant's dimensions
			- energy savings thanks to the precise control of the summer relative humidity, allowing the optimisation of the cooling power
3,7			



QPE® (Quality Performance Efficiency) performance index



Patented* : Patented, patent pending or SINTRA's know-how

THIS TECHNICAL SOLUTION IS NOT IN FREE COMPETITION

Uff. tec.

DP

TECHNICAL DATA FORM

Consultant:	BOSSPLAST d.o.o.	Project N°	SLOFE 059c
Contact:	Gregor Jeglic	Date	19-09-17
Customer:		Finishing	SPIROPACK™
		Type of Pulser®	C Zn
Type of activity carried out on the premises :	Sports Center	Our Ref.	DC
		Color	Galva

DESCRIPTION	measure	PULSERS® IDENTIFICATION NUMBER					
		1	2	3	4		
QUANTITY	n°	1	1	1	1		
LENGTH of each Pulser®	m	21,0	21,0	21,0	21,0		
TOTAL AIR FLOW of each Pulser®	m³/h	7.350	10.150	7.350	10.150		
HEIGHT of the Pulser® from the floor	m	10,5	10,5	10,5	10,5		
INITIAL DIAMETER	mm	700	700	700	700		

DETAILED TECHNICAL DATA (Adjustable by SINTRA during the executive calculation phase)

FINAL DIAMETER	mm	700	700	700	700		
Air blow	on right side	m	31,0	1,0	0,0	1,0	
	on left side	m	0,0	1,0	31,0	1,0	
Air flow	on right side	m³/h	7.350	5.075	0	5.075	
	on left side	m³/h	0	5.075	7.350	5.075	
Angle of air blow	on right side	°	75°	135°	-	135°	
	on left side	°	-	135°	75°	135°	
Length of perforated area	on right side	m	21,0	21,0	0,0	21,0	
	on left side	m	0,0	21,0	21,0	21,0	
Partial circulating air vol.:	on right side	n°	1,1	23,0	-	23,0	
	on left side	n°	-	23,0	1,1	23,0	
Air speed at the beginning of the Pulser®	m/sec	5,3	7,3	5,3	7,3		
Air flow per linear meter	m³/h	350	483	350	483		
Risk of air drafts (>1,2)	coef.	1,11	1,11	1,11	1,11		
Risk of stratification (<0,8)							

KIND OF PERFORATION

- ☐ comfort
☐ destratification
☐ filling
☐ deplacement

APPLICATION

- ☐ heating
☐ conditioning
☐ ventilation
☐ adiabatic

INSTALLATION'S CHARACTERISTICS

WINTER: room temperature
 MAX. supply air temperature
 MIN. supply air temperature
SUMMER: room temperature
 MIN. supply air temperature

18	°C
32	°C
18	°C
25	°C
13	°C
35.000	m³/h
1.500	m² - m³
2,3	Vol/h

Total supply air temperature

Surface and Volume of the room

Circulating air volumes (m³/h / m²)

Av. Static Pressure		Parameters	Sensitive power		
Standard	Boost		W/m²	W/m³	Kw env.
400 Pa	600 Pa	winter	111,1	11,1	167
		summer	95,2	9,5	-143

APPLIED QPE TECHNOLOGIES

- ☐ VARIPLenum®
☒ TWIN
☐ VARISTEP®
☐ SPLIT
☐ VARIAMIX®
☒ VARIABLE COMFORT
☐ extreme FREE-COOLING
☐ VARITOP
- ☐ PIGRECO
☒ VARIBOOST™
☒ VARITRAP®
☐ CONICAL
☐ ICE COLD AIR
☐ BYPASS
☐ VARIPULSE®
☐ MODULAIR

ATTENTION

- Measures to be verified with executive design

Date with approval signature and stamp

QPE Index

3,7

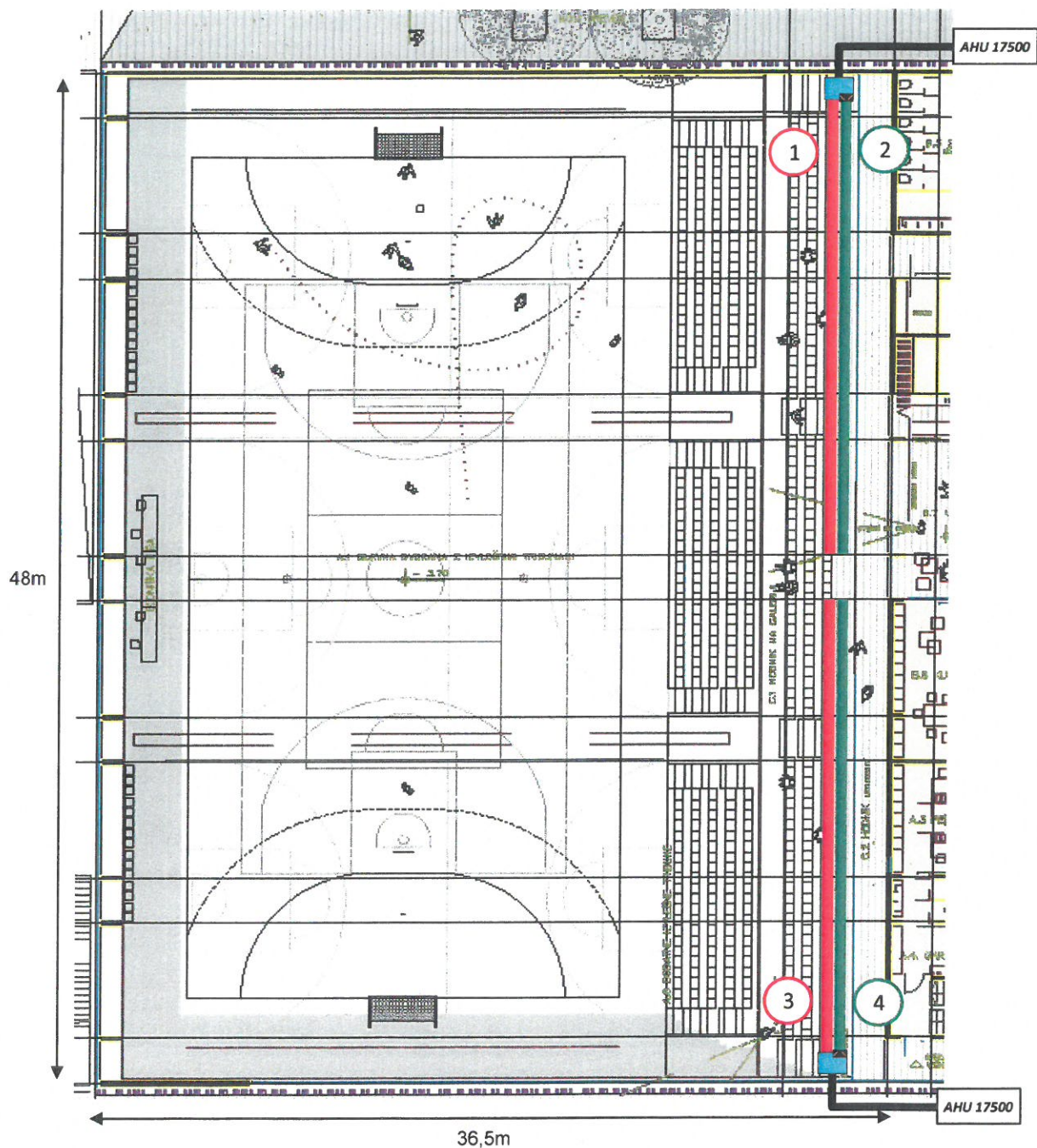
- (*) QPE INDEX = 1 = maximum traditional performances

SLOFE 059c Palestra - Bossplast 19/09/2017 14:09

Project no. SLOFE 059c

BOSSPLAST d.o.o.
Sports Center

date: 19/9/17



■ Primary Pulsers[®]
■ Secondary Pulsers[®]
■ Plenum
 ■ Non-supplied ducts

PULSERS[®] realized open, to be riveted on site according to the green **SPIROPACK[™]** technology

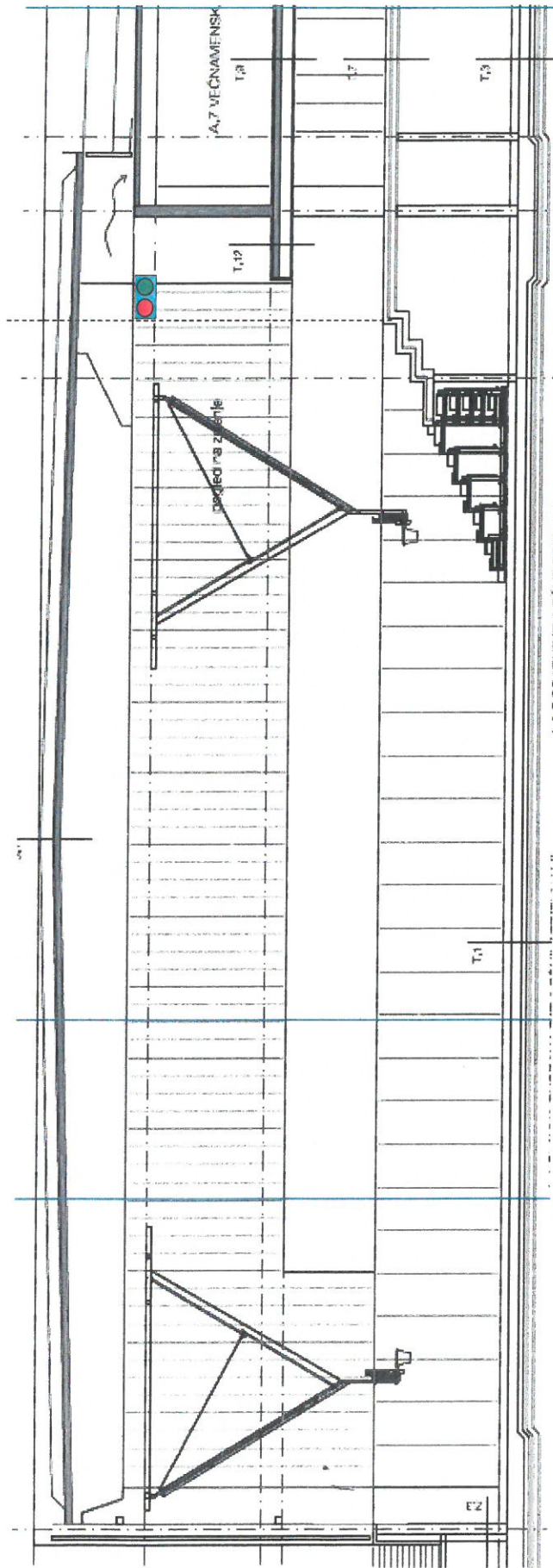
NOTE: This technical solution has been conceived by SINTRA according to the **ASSISTED DESIGN** criteria
SINTRA reserves itself the intellectual property of the proposed technical solution and of those deriving from it

CONFIDENTIAL

Project no. SLOFE 059c

BOSSPLAST d.o.o.
Sports Center

date: 19/9/17



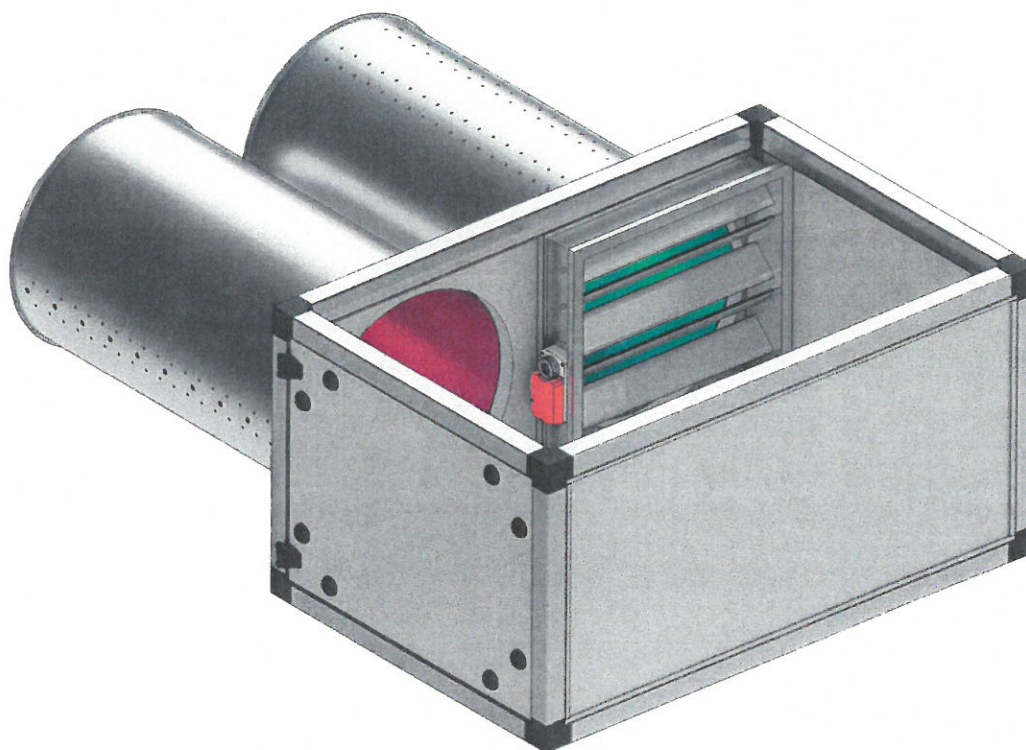
Primary Pulsers® Secondary Pulsers® Plenum

PULSERS® realized open, to be riveted on site according to the green SPIROPACK™ technology

NOTE: This technical solution has been conceived by SINTRA according to the ASSISTED DESIGN criteria. SINTRA reserves itself the intellectual property of the proposed technical solution and of those deriving from it.

CONNECTING PLENUM WITH SERVOCONTROLLED DAMPERS

Consultant:	BOSSPLAST d.o.o.	Project N°	<i>SLOFE 059c</i>
Contact:	Gregor Jeglic	Date :	19-09-17
Customer:		Finishing STANDARD	PLENUM
Type of activity carried out in the premises Sports Center		Our Ref. DC	



Patented technology

Approximate dimensions* :	Plenum	Dampers for each plenum	Servomotors for each plenum	Guiding vanes
B x P x H (mm) (*to be confirmed during the executive phase)	N°	N°	N°	
1760 x 1000 x h 890mm	2	1	1	NOT FORESEEN



CONSTRUCTIVE DETAILS of the



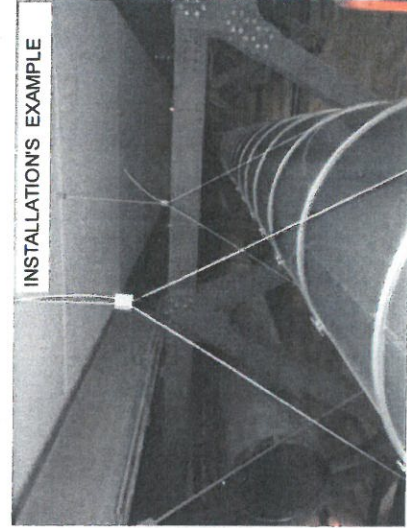
Versione 11-12



- 1 Each PULSER® is realized with galvanized metal sheet S250GD quality and with the appropriate thickness
- 2 The modules which constitute the Pulser® have a net length of 1 meter, and they are realized with an open circumference according to the green SPIROPACK™ technology which guarantees an appreciable reduction of the encumbrances and of the assembling times
- 3 The junction between the modules is made in the upper part with the overlapping of a deep drawing characterised by 9 holes for the insertion of the fixing rivets
- 4 The rivets that are used to close the modules are made of stainless steel
- 5 Each PULSER® is equipped with a special VARITRAP® device (patented) for the calibration of the residual speed at floor level and to guarantee that it can be inspected on the inside
- 6 The modules are coupled between them with an omega collar built in one piece
- 7 For the fixing at the roofing's structures, we suggest the use of steel cables of Gripple or similar kind, in a "Y" shape as to avoid the pendulum effect, which will allow the rotation of the modules on their own axis, and it will have to comply to the rules in force.
- 8 For the external surface's protection, each Pulser® will be equipped with a special adhesive protective film, which will be removed only after the set in motion of the plant (not more than 15 days after the delivery of the material on site).



SPIROPACK™ KIT

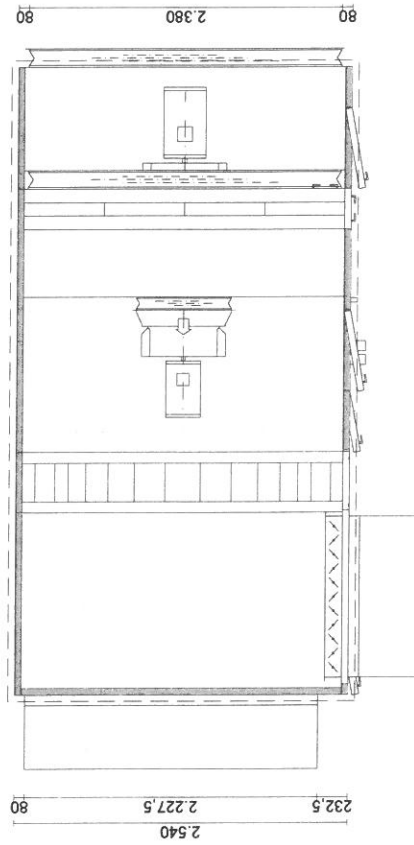
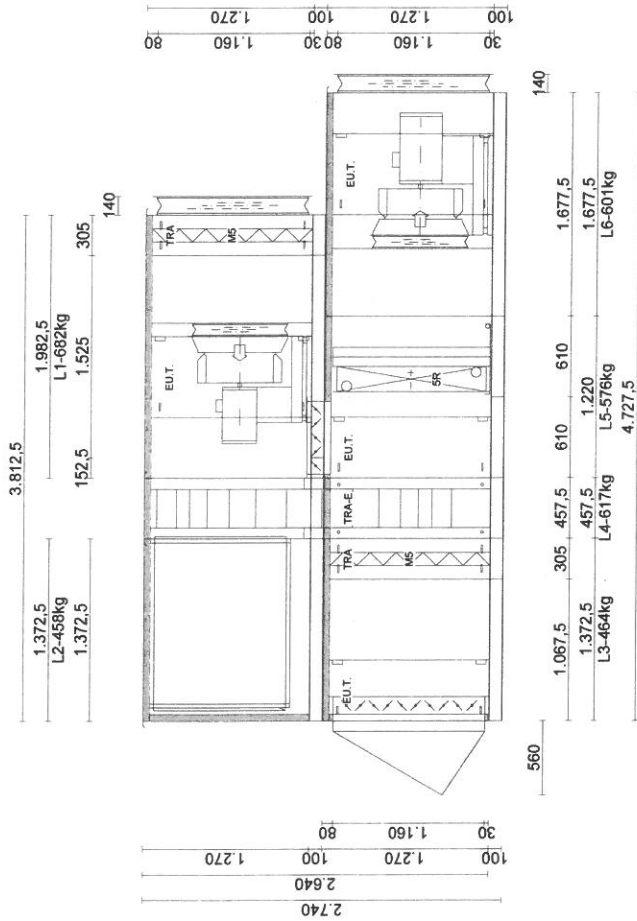


INSTALLATION'S EXAMPLE



VARITRAP™

SINTRA s.r.l. Corso Europa, 24-28010 Z.I. Fontanello d'Agogna (NO) - Tel. +39.0322.863601 - Fax +39.0322.863688 <http://www.mix-ind.com> e.mail sintra@mix-ind.it
 SINTRA France: 31-33, Rue des Clotais - 94360 Bry sur MARNE - Tél. +33.01.55.12.18.96. Fax +33.01.48.85.67.23. - E.mail sintra@mix-ind.com



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euroclima®
We care for better air



Ime Bossplast Datum 15.9.2017 - 08:57

Ponudba 17068

Pozicija KN1.2

Projekt Večnamenska dvorana Vižmarje Brod
[Kos]

Skica KN1.2 1

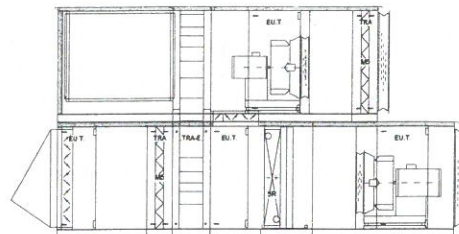
Datum 7.9.2017

Naročnik

Ulica

Št. naročila

Revision



Izvedba

Teža [kg]

specific fan power [W/m3/s]

EU 1253/2014 compliance

Zunanja izvedba

3.398

3015

2018 OK

TEHNIČNI IZRAČUN

ZHK 2000 S DG

Dovod	Velikost:24/12	Teža:2258 [kg]	Površina: 35,0 [m2]	Hitrost: 1,63 [m/s]
Izvedba	L-FH-RT-L-K-VF		Dimenzije [mm] L: 4.727,5	W: 2.540 H: 1.370
Pretok zraka [m3/h]	17.500		Mat. pokrova znotraj 50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	500		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	1133		Vodila	Pocinkana pločevina
Specific fan power1 [w/m3/s]	1.552		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Odvod	Velikost:24/12	Teža:1140 [kg]	Površina: 26,2 [m2]	Hitrost: 1,63 [m/s]
Izvedba	FH-VF-L-RT-L		Dimension: [mm] L: 3.812,5	W: 2.540 H: 1.370
Pretok zraka [m3/h]	17.500		Mat. pokrova znotraj 50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	500		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	1051		Vodila	Pocinkana pločevina
Specific fan power1 [w/m3/s]	1.463		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Dovod

L	Prazna enota	1.067,5 [mm]	8,2 [m2]	350,00 [kg]	5 [Pa]
	Standardna vrata s tečaji EU.T.	Stran posluževanja: desno	Dimenzije [mm]	457,5 x 1.220,0 -[R]	
(300)	1 Kos	Ključavnica na vratih			
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]	2.227,5 x 1.160,0	
(23)	Reg. žaluzija	Okvir	POCP	Tesnilni trak	Ne
		Lopaticice	POCP	Pogon loput	Zobniki , PPGF
	Os	1	Vrtilni moment [Nm 18	Vrsta pogona	Prirejen za motorni p
(24)	Zaščitna hauba	Pocinkana pločevina	Dimenzije [mm]	2.227,5 x 1.160,0 x 560,0	

FH	Kasetni filter	305,0 [mm]	2,23 [m2]	114,00 [kg]	131 [Pa]
Proizvajalec	General Filter		Površina filtra [m2]	5,60	
Tip	CFW-D/100-5	tmax.=70°C	Št.celic x šir. x viš. [mm]	8 x 592,0 x 592,0	
Razred	M5				
Initial-Dimension-Final [Pa]	62-131-200				
Pretok [m3/h]	17.500				
Širina filtra [mm]	98,0				
Filter energy class (EN 779:2012)	n.a.				
			Vodilo pocinkano (stranski izvlek)		
Snemljiv pokrov	TRA	Stran posluževanja: desno	Dimenzije [mm]	305,0 x 1.220,0	

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RT	Rotacijski regenerativni ohišje				457,5 [mm]	4,61 [m2]	617,00 [kg]	161 [Pa]	
Tip		Enventus - ST1-XL-W-2150-CS-200-7D-12 - 0,180 kW 3x230 V 1,05 A 50 Hz							
Frekvenčni pretvornik		Da	Kondenzacijski		MicroMax		Gostota [kg/m3]	1,20	
<u>Zimski režim - greje</u>					<u>Poletni režim - hlajenje</u>				
Dovod [m3/h]	17.500		Dp [Pa]	161	Dovod [m3/h]	17.500	Dp [Pa]	161	
Vstop [gC]	-13,00	Hum [%]	90,0		Vstop [gC]	34,00	Hum [%]	40,0	
Izstop [gC]	14,00	Hum [%]	58,0		Izstop [gC]	26,60	Hum [%]	61,0	
Odvod [m3/h]	17.500		Dp [Pa]	161	Odvod [m3/h]	17.500	Dp [Pa]	161	
Vstop [gC]	20,00	Hum [%]	50,0		Vstop [gC]	25,00	Hum [%]	50,0	
Izstop [gC]	-7,00	Hum [%]	99,0		Izstop [gC]	32,40	Hum [%]	32,0	
Temperature efficiency (project data) [%]				81,8	Temperature efficiency (project data) [%]				82,2
Temperature efficiency (EUROVENT) [%]				82,	Effectiveness (ASHRAE 84-1991) [%]				82,2
Effectiveness (ASHRAE 84-1991) [%]				81,8	Humidity efficiency supply air [%]				75,4
Humidity efficiency supply air [%]				75,4	Entalpijski izkoristek [%]				79,5
Entalpijski izkoristek [%]				79,5	Skupna moč [kW]				229,15
Skupna moč [kW]				229,15	Senzibilna moč [kW]				158,50
Senzibilna moč [kW]				158,50	Senzibilna moč [kW]				43,23
Efficiency values refer to supply air side									
Die Geräteauslegung berücksichtigt nicht Bypass- und Leckluftverluste des Rotationstauschers. Sollen diese berücksichtigt werden, wenden Sie sich bitte an Ihren EUROCLIMA Partner.									
(2091)		1 Kos	Regulator MICROMAX						
Vijačen pokrov		TRA-E	Stran posluževanja: desno		Dimenzije [mm]		457,5 x 1.220,0		
L	Prazna enota			610,0 [mm]	3,16 [m2]	152,00 [kg]	11 [Pa]		
Standardna vrata s tečaji		EU.T.	Stran posluževanja: desno		Dimenzije [mm]		457,5 x 1.220,0 -[R]		
(300)		1 Kos	Ključavnica na vratih						
Priključek:		3	Zgoraj						
(23)		Reg. žaluzija	Okvir	POCP	Tesnilni trak		Ne		
			Lopaticice	POCP	Pogon loput		Zobniki , PPGF		
Os		1	Vrtilni moment [Nm 10		Vrsta pogona		Prirejen za motorni p		
K	Hladilnik			610,0 [mm]	4,47 [m2]	424,00 [kg]	88 [Pa]		
Pretok [m3/h]		17.500	Gostota [kg/m3]	1,20	Coil face velocity [m/s]		1,92	Vsečina [l]	99,2
Zrak vstop [gC]		26,60	Rel. vlaž. [%]	61,0	Medij		Ethylen	Koncentr.	30 %
Zrak izstop [gC]		16,00	Rel. vlaž. [%]	88,3	Pretok medija [l/s]		6,1600	Hitrost [m/s]	1,00
Moč [kW]		113,25	SHR	0,56	Med. in / out [gC]		7,0/12,0		
air-side dry p.d. [Pa]		78			Padec tlaka medija [kPa]		33,38		
Zrak vstop [gC]		14,00	Rel. vlaž. [%]	58,0	Medij		Ethylen		
Zrak izstop [gC]		28,40	Rel. vlaž. [%]	23,9	Pretok medija [l/s]		4,1200		
Moč [kW]		85,51			Med. in / out [gC]		35,0/30,0		
					Padec tlaka medija [kPa]		11,11		
30x30-AR/2,5pa/5R-38T-2226L-32N/V1/CU-GW-2 1/2"/CU-AL-FeZn									
Št. cevni vrst		5	Max press. [bar]	21	Priključna stran		Desno		
Št. cevni poti		32			Lamele		AL		
Medl. razdalja [mm]		2,5			Cevi		CU		
Vstopni priključek		2 1/2"	Gewinde		Zbiralna cev		CU-GW		
Izstopni priključek		2 1/2"	Gewinde		Okvir		POCP		
Korito		POCP - H: 40,0 mm - Ravno			Velikost		570,0 x 2.440,0	1"	
Eliminator vodnih kapljic		Velikost	TA144	Okvir	POCP	Lamele	PPTV	10 [Pa]	

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VF	Dovod-Prostotekoči ventilator								1.677,5 [mm]	12,28 [m2]	601,00 [kg]	151 [Pa]	
Ventilator	Nicotra/Gebhardt/RLM E6-5663-4W-26-A								Elektromotor	1LE1001-1DB23-4AB4			
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20)	17.500,00								Zaščita	IP55			
Eksterni padec tlaka [Pa]	500								Razred izolacije	F			
Din. padec tlaka [Pa]	86								Nazivna moč [kW]	11,000			
Totalni dp [Pa]	1.133								Hitrost +-2% [1/m]	1.470			
Št. vrtljajev [1/m]	1.832								Tok +-5% [A]	21,00			
Zvočna moč [dB(A)]	88,6								Napetost [V]	3x400 / 50			
Moč na gredi [kW]	6,920								Vrsta krmiljenja	Prirejen za frekv. reg.			
Izkoristek [%]	79,6								Izkoristek (+-2) [%]	89			
Maksimalno št. vrtljajev [1/m]	2.060								Absorbirana el. moč [kW]	8,0			
Maksimalna frekvenca [Hz]	70,0								Obr. točka frekv. reg. [Hz]	62			
Kalibrierfaktor K [ms/h]	310								Motor efficiency class	IEC60034: IE 2			
Speed control:	FC needed, not included!												
Fan design for dry or wet condition:	see section of relating component - if any												
Temperaturerhöhung Ventilatorteil [gC]									1,30	Tip priključka :		Jadrovinasti nastave	
Zvočna moč ventilatorja po oktavah Lokt [dB]									Amortizerji				Gumijasti amortizerji
Frq. [Hz]	63	125	250	500	1000	2000	4000	8000					
Vstop	80	86	83	80	78	76	74	71	Pos. 1	1x40 x 30 45 Sh Typ	Pos. 3	1x40 x 30 55 Sh Typ	
Izstop	83	88	84	84	84	81	79	76	Pos. 2	1x40 x 30 45 Sh Typ	Pos. 4	1x40 x 30 55 Sh Typ	
(22)	1	Komple Potentialausgleich bei SWD innen M8, Gummidämpfer d <=40											
(30)	1	Kos	Nastavek za meritev pretoka										
(31)	1	Kos	Odjem za merjenje pretoka										
(1)	1	Komple Zaščita proti dotiku na sesalni strani ventilatorja											
(53)	1	Komple Kabelska uvodnica 1 x M25											
Standardna vrata s tečaji		EU.T.		Stran posluževanja: desno				Dimenzije [mm]		610,0 x 1.220,0 -[R]			
(300)	1	Kos	Ključavnica na vratih										
Priključek:		7	Odprtina - spredaj, cel presek					Dimenzije [mm]		2.380,0 x 1.160,0			
(25)	Jadrovinasti nastavek	POCP	Temperatura [gC]		80,00	Dimenzije [mm]		2.380,0 x 1.160,0 x 140,0					
(22)	1	Kos	Izenačitev potenciala 6 mm										

Odvod

FH	Kasetni filter	305,0 [mm]	2,23 [m2]	111,00 [kg]	133 [Pa]
Proizvajalec	General Filter	Površina filtra [m2]	5,60		
Tip	CFW-D/100-5 tmax.=70°C	Št.celic x šir. x viš. [mm]	8 x	592,0 x	592,0
Razred	M5	Vodilo pocinkano (stranski izvelek)			
Initial-Dimension-Final [Pa]	62-131-200				
Pretok [m3/h]	17.500				
Širina filtra [mm]	98,0				
Filter energy class (EN 779:2012)	n.a.				
Snemljiv pokrov	TRA	Stran posluževanja: levo	Dimenzije [mm]	305,0 x 1.220,0	
Snemljiv pokrov	TRA	Stran posluževanja: v	Dimenzije [mm]	305,0 x 1.220,0	
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]	2.380,0 x 1.160,0	
(25)	Jadrovinski nastavek	POCP Temperatura [gC]	80,00	Dimenzije [mm]	2.380,0 x 1.160,0 x 140,0
(22)	1 Kos Izenačitev potenciala 6 mm				

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Kos 1
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VF	Odvod-Prostotekoči ventilator										1.525,0 [mm]	11,16 [m2]	531,00 [kg]	149 [Pa]			
Ventilator	Nicotra/Gebhardt/RLM E6-5663-4W-23-J										Elektromotor	T2A 132M-4					
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20)	17.500,00										Zaščita	IP55					
Eksterni padec tlaka [Pa]	500										Razred izolacije	F					
Din. padec tlaka [Pa]	86										Nazivna moč [kW]	7,500					
Totalni dp [Pa]	1.051										Hitrost +-2% [1/m]	1.430					
Št. vrtljajev [1/m]	1.797										Tok +-5% [A]	14,70					
Zvočna moč [dB(A)]	88,6										Napetost [V]	3x400 / 50					
Moč na gredi [kW]	6,480										Vrsta krmiljenja	Prirejen za frekv. reg.					
Izkoristek [%]	78,8										Izkoristek (+-2) [%]	88					
Maksimalno št. vrtljajev [1/m]	1.830										Absorbirana el. moč [kW]	7,6					
Maksimalna frekvenca [Hz]	63,0										Obr. točka frekv. reg. [Hz]	62					
°Kalibrierfaktor K [ms/h]	310										°Motor efficiency class	IEC60034: IE 2					
Speed control:	FC needed, not included!																
Fan design for dry or wet condition:	see section of relating component - if any																
°Temperaturerhöhung Ventilatorteil [gC]											1,20	Tip priključka :			Jadrovinasti nastave		
Zvočna moč ventilatorja po oktavah Lokt [dB]											Amortizerji					Gumijasti amortizerji	
Frq. [Hz]	63	125	250	500	1000	2000	4000	8000									
Vstop	80	86	83	80	78	76	74	71	Pos. 1	1x40 x 30 45 Sh Typ	Pos. 3	1x40 x 30 55 Sh Typ					
Izstop	83	88	84	84	84	81	79	76	Pos. 2	1x40 x 30 45 Sh Typ	Pos. 4	1x40 x 30 55 Sh Typ					
(22)	1	Komple °Potentialausgleich bei SWD innen M8, Gummidämpfer d <=40															
(30)	1	Kos	Nastavek za meritev pretoka														
(31)	1	Kos	Odjem za merjenje pretoka														
(1)	1	Komple	Zaščita proti dotiku na sesalni strani ventilatorja														
(53)	1	Komple	Kabelska uvodnica 1 x M20														
Standardna vrata s tečaji		EU.T.		Stran posluževanja: levo				Dimenzije [mm]		610,0 x 1.220,0 -[R]							
(300)	1	Kos	Ključavnica na vratih														
L	Prazna enota										152,5 [mm]	1,11 [m2]	40,00 [kg]	0 [Pa]			
RT	Rotacijski regeneratorski v ohišju										457,5 [mm]	4,61 [m2]	617,00 [kg]	161 [Pa]			
L	Prazna enota										1.372,5 [mm]	11,7 [m2]	458,00 [kg]	22 [Pa]			
Priključek:		5		links													
(23)	Reg. žaluzija				Okvir		POCP		Tesnilni trak		Ne						
					Lopaticice		POCP		Pogon loput		Zobniki , PPGF						
	Os		1		Vrtilni moment [Nm9				Vrsta pogona		Prirejen za motorni p						
(24)	Zaščitna hauba		Pocinkana pločevina														
(410)	1	Komple	Weatherproof roof, flat							Peraluman							
(2024)	1	Komple	Pokrov za podstavek														
(407)	1	Komple	Podstavek BF3 - 100 Pocinkana pločevina														
(318)	1	Kos	Embaliranje z raztegljivo folijo, na paleti														
EUROVENT Datas																	
Range / Casing MB		ZHK / ZHK 2000 S						ŁODA EEC		-13,00 [gC]							
°Thermal execution		T3 - TB2						Size reference velocity S/R		1,63 / 1,63 [m/s]							
°Energy efficiency class		A (2016)						Total static pressure EEC S/R		993 / 911 [Pa]							
Mixing Ratio		0 [%]															

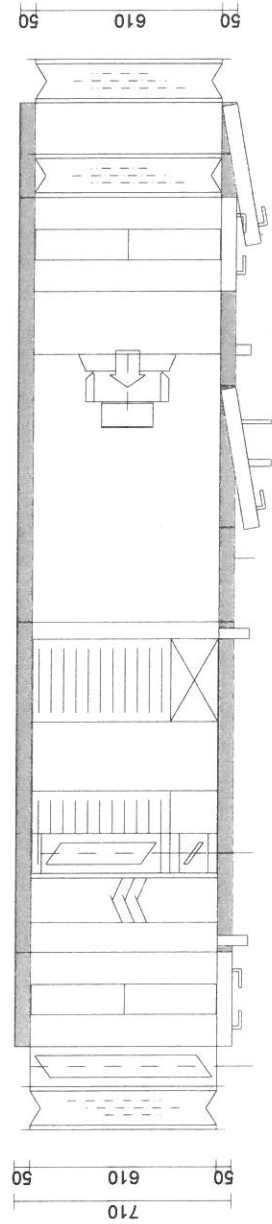
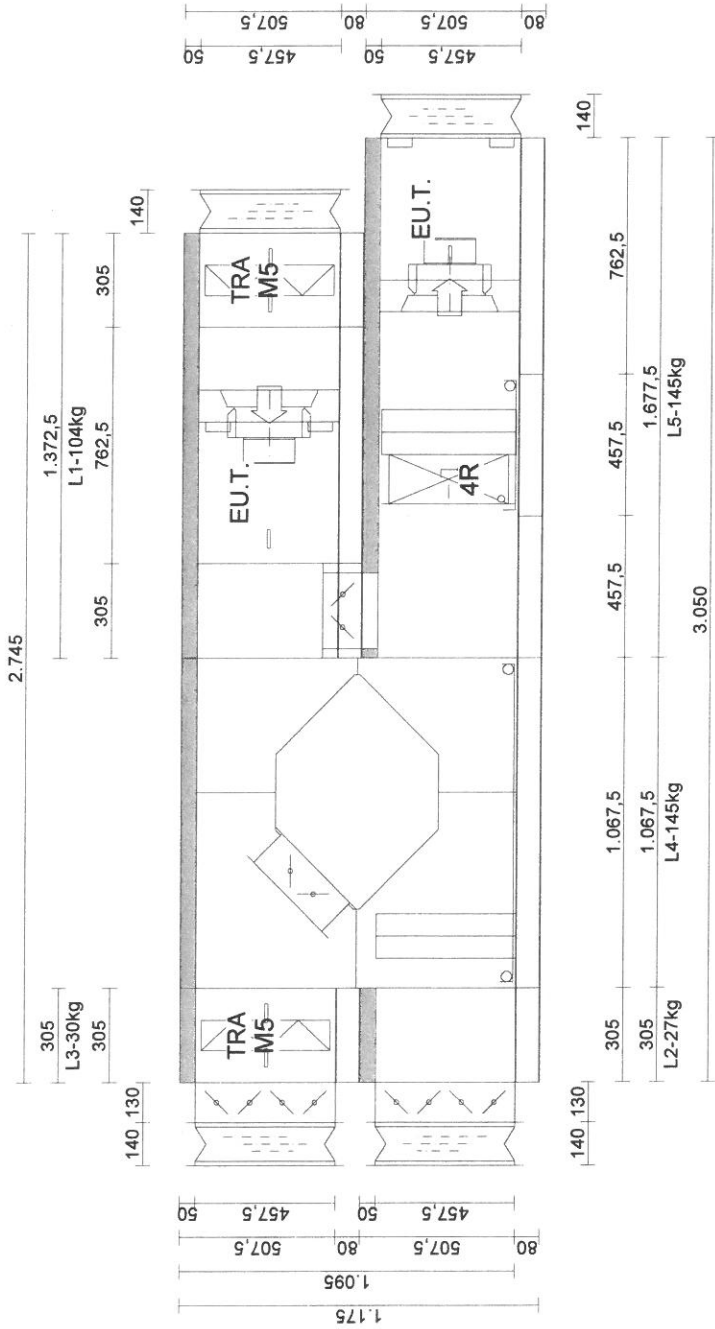
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ErP compliance according EU regulation no. 1253/2014

a) Manufacturer	°Euroclima	j) Face velocity S/R	1,63 / 1,63 [m/s]
b) Model identifier	17068 / KN1.2	k) Nominal external pressure S/R	500 / 500 [Pa]
c) Tip	NRVU - BVU	l) Int press.drop vent. components S/R	161 / 223 [Pa]
d) Type of drive Supply	Variable speed / FC not included	m) int press.drop not vent. components S/R	263 / 119 [Pa]
Type of drive Return	Variable speed / FC not included	n) Static fan efficiency (EU No 327/2011) S/R	69,7 / 68,8 [%]
e) Energy recovery system type	other HRS	o) External leakage -400 / +700 (EN 1886)	Class L1 / L1
f) Thermal efficiency of HRS	82,00[%]	Internal leakage	on request
g) Nominal air flow rate S/R	4,86 / 4,86 [m/s]	p) Energy classification filters	see filter data
h) Effective electric power input	15,64 [kW]	r) Casing sound power level LWA	61,8 [dB]
i) SFP int	651 [W/(m/s)]	s) www.euroclima.com	

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



Dovod		Odvod		Kupec:		Projekt:		Ponudba		Št. risbe	
Pretok	m ³ /h	Pretok	m ³ /h	a	b	Večnamenska dvorana Vižmarje Brod	17068	Knj	1	ZHK 2000 S	
Eksterni dp	Pa	Eksterni dp	Pa	c	d	Stran posluževanja:	Velikost:	ZL 6/4, 5 - AL 6/4, 5		Kos:	
Totalni dp	Pa	Totalni dp	Pa	e	f	Glej sliko	Št. pozicije	KN2		1	
Moč motorja	kW	Moč motorja	kW	g	h	Priključna stran:	Datum:	11.9.2017		Naprava:	
Napajanje	1x230 V - 50 Hz	Napajanje	1x230 V - 50 Hz	Št. Sprememba		Glej sliko	Ime:				
Hlađenje-freon	kW	Hlađenje-freon	kW	Datum		Dobavne enote:	Bosplast				
	6,07		6,07	Ime		5	Kontrolni:				
				Št.		Skupna teža cca:	Merilo:	1:24			
						449 kg					





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We care for better air



Ime: Bossplast Datum: 11.9.2017 - 14:50

Ponudba: 17068

Pozicija: KN2

Projekt: Večnamenska dvorana Vižmarje Brod
[Kos]

Skica: KN2 1

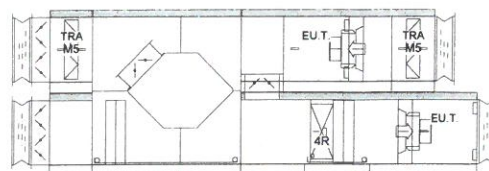
Datum: 7.9.2017

Naročnik:

Ulica:

Št. naročila:

Revision:



Izvedba

Teža [kg]

specific fan power [W/m3/s]

EU 1253/2014 compliance

Notranja izvedba

451

2334

2018 OK

TEHNIČNI IZRAČUN

ZHK 2000 S

Dovod	Velikost:6/4,5	Teža:320 [kg]	Površina: 7,6 [m2]	Hitrost: 1,33 [m/s]
Izvedba	FH-PT-L-K-VF		Dimenzije [mm] L: 3.050,0 W: 710 H: 588	
Pretok zraka [m3/h]	1.340		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	350		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	828		Vodila	Pocinkana pločevina
Specific fan power1 [w/m3/s]	1.286		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Odvod	Velikost:6/4,5	Teža:131 [kg]	Površina: 3,6 [m2]	Hitrost: 1,23 [m/s]
Izvedba	FH-VF-L-PT-L		Dimension: [mm] L: 2.745,0 W: 710 H: 588	
Pretok zraka [m3/h]	1.240		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	350		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	732		Vodila	Pocinkana pločevina
Specific fan power1 [w/m3/s]	1.132		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Dovod

FH	Kasetni filter	305,0 [mm]	0,66 [m2]	30,00 [kg]	127 [Pa]
Proizvajalec	General Filter	Površina filtra [m2] 0,50			
Tip	CFW-D/100-5 tmax.=70°C	Št.celic x šir. x viš. [mm] 2 x 420,0 x 302,0			
Razred	M5	Vodilo pocinkano (stranski izvlek)			
Initial-Dimension-Final [Pa]	49-125-200				
Pretok [m3/h]	1.340				
Širina filtra [mm]	98,0				
Filter energy class (EN 779:2012)	n.a.				
Snemljiv pokrov	TRA	Stran posluževanja: desno	Dimenzije [mm]	305,0 x 457,5	
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]	610,0 x 457,5	
(23)	Reg. žaluzija	Okvir	POCP	Tesnilni trak	Ne
		Lopaticice	POCP	Pogon loput	Zobniki , PPGF
	Os 1	Vrtilni moment [Nm2]		Vrsta pogona	Prirejen za motorni p
(25)	Jadrovinski nastavek	POCP	Temperatura [gC]	80,00	Dimenzije [mm] 610,0 x 457,5 x 140,0
(22)	1 Kos	Izenačitev potenciala 6 mm			

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PT	Ploščni rekuperator - diagonalni				1.067,5 [mm]	3,53 [m2]	145,00 [kg]	233 [Pa]
Tip CR-2-53-0605-24-00BK155					max. allowed pressure difference			800 [Pa]
Z bypass-om 155,0 [mm]					Gostota [kg/m3]			1,20
Zimski režim - gretje					Poletni režim - hlajenje			
Odvod [m3/h]	1.240	°humid p.d. [Pa]	207	Odvod [m3/h]	1.240	°humid p.d. [Pa]	207	
Vstop [gC]	20,00	Rel. vlaž. [%]	50,0	Vstop [gC]	25,00	Rel. vlaž. [%]	50,0	
Izstop [gC]	-0,80	Rel. vlaž. [%]	100,0	Izstop [gC]	32,50	Rel. vlaž. [%]	32,0	
Dovod [m3/h]	1.340	°humid p.d. [Pa]	233	Dovod [m3/h]	1.340	°humid p.d. [Pa]	233	
Vstop [gC]	-13,00	Rel. vlaž. [%]	90,0	Vstop [gC]	34,00	Rel. vlaž. [%]	40,0	
Izstop [gC]	15,00	Rel. vlaž. [%]	10,0	Izstop [gC]	27,00	Rel. vlaž. [%]	60,0	
Temperature efficiency (project data) [%]				Temperature efficiency (project data) [%]				
°Temperature efficiency (EUROVENT) [%]				°Effectiveness (ASHRAE 84-1991) [%]				
°Effectiveness (ASHRAE 84-1991) [%]				°Effectiveness (ASHRAE 84-1991) [%]				
Količina kondenzata [l/h]				Količina kondenzata [l/h]				
Moč rekuperatorja [kW]				Moč rekuperatorja [kW]				
Efficiency values refer to supply air side								
Pozor: Upoštevajte maksimalno dovoljeno tlačno razliko.								
Potrebna električna kontrola tlaka.								
Korito	POCP - H: 40,0 mm - Ravno				Velikost	1.067,5 x 610,0 1"		
Bypass lopute	Okvir	AL	Lopatice		AL			
	Vrsta pogona	Prirejen za motorni pogon		Zunanjos				
	Vrtilni moment [Nm]							
Eliminator vodnih kapljic	Velikost	TA144		Okvir	POCP	Lamele PPTV	6 [Pa]	
L	Prazna enota			457,5 [mm]	0,83 [m2]	30,00 [kg]	5 [Pa]	
Priključek: 3 Zgoraj								
(23)	Reg. žaluzija		Okvir	POCP	Tesnilni trak	Ne		
			Lopatice	POCP	Pogon loput	Zobniki , PPGF		
Os	1		Vrtilni moment [Nm]	1	Vrsta pogona	Prirejen za motorni p		
K	Hladilnik			457,5 [mm]	0,98 [m2]	55,00 [kg]	61 [Pa]	
Pretok [m3/h]	1.340	Gostota [kg/m3]	1,20	°Coil face velocity [m/s]		2,41		
Zrak vstop [gC]	27,00	Rel. vlaž. [%]	60,0	Medij		R410A		
Zrak izstop [gC]	19,00	Rel. vlaž. [%]	82,6	Evaporating temp. [gC]		7,00		
Moč [kW]	6,07	SHR	0,6	Padec tlaka [mbar]		276		
air-side dry p.d. [Pa]	55							
Zrak vstop [gC]	15,00	Rel. vlaž. [%]	10,0	Padec tlaka [mbar]		30.660		
Zrak izstop [gC]	35,26	Rel. vlaž. [%]	3,0	Max press. [bar]		21		
Moč [kW]	9,14			Interlaced Circuits		Ne		
30x26-ED/2,5pa/4R-13T-396L-2N/V1/CU-IN15x1.0mm-OUT22x1.0mm/CU-AL-FeZn								
Priključna stran	Desno			Lamele	AL			
Št. cevni vrst	4			Cevi	CU			
Št. hladilnih krogov	1 circuit			Zbiralna cev	CU			
Medl. razdalja [mm]	2,5			Okvir	POCP			
Korito	POCP - H: 40,0 mm - Ravno				Velikost	457,5 x 610,0 1"		
Eliminator vodnih kapljic	Velikost	TA144		Okvir	-		Lamele PPTV 6 [Pa]	

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Kos 1
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VF	Dovod-Prostotekoči ventilator	762,5 [mm]	1,63 [m2]	60,00 [kg]	25 [Pa]
Ventilator	ebmpapst/K3G250-PR04-H5 - 1x230V	EC-Motor			M3G084DF
Pretok zraka [m3/h] (Gostota: [kg/m3] 1,20)	1 x 1.340,00	Zaščita			IP54
Eksterni padec tlaka [Pa]	350	Razred izolacije			F
Din. padec tlaka [Pa]	27	Nazivna moč [kW]			0,520
Totalni dp [Pa]	828	Hitrost +/-2% [1/m]			3.080
Št. vrtljajev [1/m]	3.094	Tok +/-5% [A]			2,30
Zvočna moč [db(A)]	81,3	Napetost [V]			1x230 / 50/60 Hz
Izkoristek [%]	57,1	Temperatura Range [V]			200 ... 277
Maksimalno št. vrtljajev [1/m]	3.080	Electric absorbt power [kW]			0,52
Kalibrierfaktor K [ms/h]	54	Motor efficiency class			Premium
Speed control:	Variable Speed	Control voltage [V]			9,84
Fan design for dry or wet condition:	see section of relating component - if any				
Zvočna moč ventilatorja po oktavah Lokt [dB]		Tip priključka :			Rubber sealing
Frq. [Hz]	63 125 250 500 1000 2000 4000 8000	Temperaturerhöhung Ventilatorteil [gC]			1,20
Vstop	75,4 76,4 75,7 73,2 69,3 65 64 60,4	No frequency converter needed!			
Izstop	80,4 81,4 80,7 78,2 74,3 70 69 65,4				
(30)	1 Kos Nastavek za meritev pretoka				
(31)	1 Kos Odjem za merjenje pretoka				
(1)	1 Komple Zaščita proti dotiku na sesalni strani ventilatorja				
(53)	1 Komple Kabelska uvodnica 1 x M20				
(47)	Komple Motor predkabliran				
Standardna vrata s tečaji	EU.T. Stran posluževanja: desno	Dimenzije [mm]			457,5 x 457,5 -[R]
(300)	1 Kos Ključavnica na vratih				
Priključek:	7 Odprtina - spredaj, cel presek	Dimenzije [mm]			610,0 x 457,5
(25)	Jadrovinasti nastavek POCP Temperatura [gC]	80,00	Dimenzije [mm]		610,0 x 457,5 x 140,0
(22)	1 Kos Izenačitev potenciala 6 mm				

Odvod

FH	Kasetni filter	305,0 [mm]	0,66 [m2]	23,00 [kg]	123 [Pa]
Proizvajalec	General Filter	Površina filtra [m2]			0,50
Tip	CFW-D/100-5 tmax.=70°C	Št.celic x šir. x viš. [mm]			2 x 420,0 x 302,0
Razred	M5				
Initial-Dimension-Final [Pa]	44-122-200				
Pretok [m3/h]	1.240				
Širina filtra [mm]	98,0				
Filter energy class (EN 779:2012)	n.a.				
Snemljiv pokrov	TRA Stran posluževanja: levo	Dimenzije [mm]			305,0 x 457,5
Priključek:	7 Odprtina - spredaj, cel presek	Dimenzije [mm]			610,0 x 457,5
(25)	Jadrovinasti nastavek POCP Temperatura [gC]	80,00	Dimenzije [mm]		610,0 x 457,5 x 140,0
(22)	1 Kos Izenačitev potenciala 6 mm				

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VF	Odvod-Prostotekoči ventilator								762,5 [mm]	1,63 [m2]	60,00 [kg]	21 [Pa]
Ventilator ebmpapst/K3G250-PR04-H5 - 1x230V									EC-Motor			M3G084DF
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20) 1 x 1.240,00									Zaščita			IP54
Eksterni padec tlaka [Pa] 350									Razred izolacije			F
Din. padec tlaka [Pa] 23									Nazivna moč [kW]			0,520
Totalni dp [Pa] 732									Hitrost +-2% [1/m]			3.080
Št. vrtljajev [1/m] 2.905									Tok +-5% [A]			2,30
Zvočna moč [db(A)] 80									Napetost [V]			1x230 / 50/60 Hz
Izkoristek [%] 56,7									Tension Range [V]			200 ... 277
Maksimalno št. vrtljajev [1/m] 3.080									Electric absorbt power [kW]			0,43
Kalibrierfaktor K [ms/h] 54									Motor efficiency class			Premium
Speed control: Variable Speed									Control voltage [V]			9,23
Fan design for dry or wet condition: see section of relating component - if any												
Zvočna moč ventilatorja po oktavah Lokt [dB]									Tip priključka :			Rubber sealing
Frq. [Hz] 63 125 250 500 1000 2000 4000 8000									Temperaturerhöhung Ventilatorteil [gC]			1,00
Vstop 74,3 75,3 74,5 71,9 68,1 63,6 62,3 58,2									No frequency converter needed!			
Izstop 79,3 80,3 79,5 76,9 73,1 68,6 67,3 63,2												
(30) 1 Kos			Nastavek za meritev pretoka									
(31) 1 Kos			Odjem za merjenje pretoka									
(1) 1 Komple			Zaščita proti dotiku na sesalni strani ventilatorja									
(53) 1 Komple			Kabelska uvodnica 1 x M20									
(47) Komple			Motor predkabliran									
Standardna vrata s tečaji EU.T.			Stran posluževanja: levo			Dimenzije [mm]			457,5 x 457,5 -[R]			
(300) 1 Kos			Ključavnica na vratih									
L Prazna enota									305,0 [mm]	0,66 [m2]	21,00 [kg]	0 [Pa]
PT Ploščni rekuperator - diagonalni									1.067,5 [mm]	3,53 [m2]	145,00 [kg]	213 [Pa]
L Prazna enota									305,0 [mm]	0,66 [m2]	27,00 [kg]	2 [Pa]
Priključek: 7			Odprtina - spredaj, cel presek			Dimenzije [mm]			610,0 x 457,5			
(23) Reg. žaluzija			Okvir			POCP		Tesnilni trak		Ne		
			Lopaticice			POCP		Pogon loput		Zobniki , PPGF		
Os 1			Vrtilni moment [Nm2					Vrsta pogona		Prirejen za motorni p		
(25) Jadrovinasti nastavek			POCP		Temperatura [gC] 80,00		Dimenzije [mm]		610,0 x 457,5 x 140,0			
(22) 1 Kos			Izenačitev potenciala 6 mm									
(407) 1 Komple			Podstavek ZHK GR-LP80 Pocinkana pločevina									
(318) 1 Kos			Embaliranje z raztegljivo folijo, na paleti									
EUROVENT Datas												
Range / Casing MB			ZHK / ZHK 2000 S			t_ODA EEC			-13,00 [gC]			
Thermal execution			T3 - TB2			Size reference velocity S/R			1,33 / 1,23 [m/s]			
Energy efficiency class			A+ (2016)			Total static pressure EEC S/R			793 / 702 [Pa]			
Mixing Ratio			0 [%]									

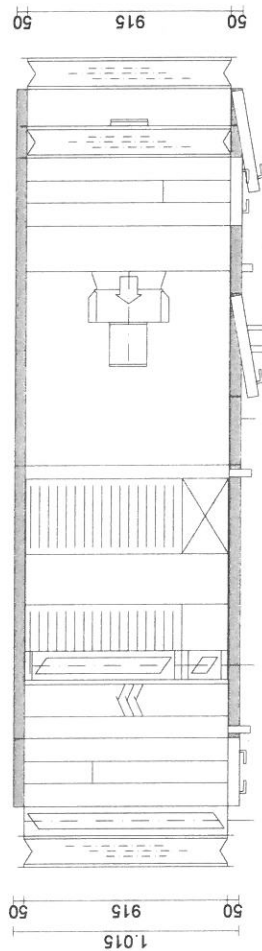
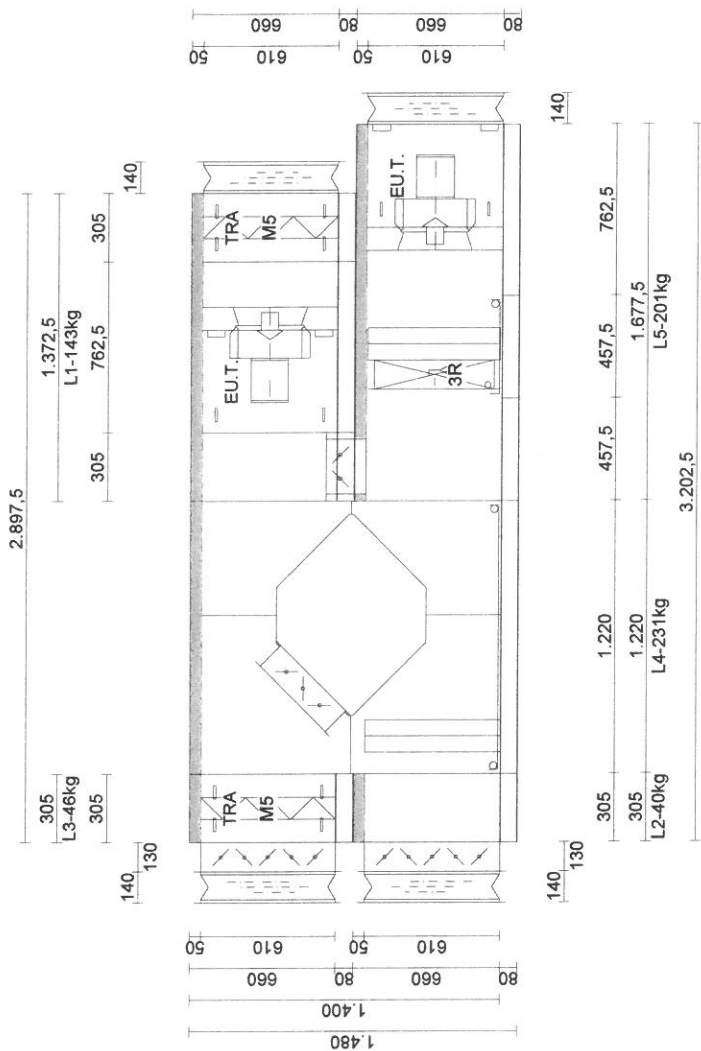
Ponudba 17068
Skica KN2
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ErP compliance according EU regulation no. 1253/2014

a) Manufacturer	°Euroclima	j) Face velocity S/R	1,33 / 1,23 [m/s]
b) Model identifier	17068 / KN2	k) Nominal external pressure S/R	350 / 350 [Pa]
c) Tip	NRVU - BVU	l) Int press.drop vent. components S/R	233 / 251 [Pa]
d) Type of drive Supply	Variable speed	m) int press.drop not vent. components S/R	134 / 23 [Pa]
Type of drive Return	Variable speed	n) Static fan efficiency (EU No 327/2011) S/R	67,6 / 67,6 [%]
e) Energy recovery system type	other HRS	o) External leakage -400 / +700 (EN 1886)	Class L1 / L1
f) Thermal efficiency of HRS	80,70[%]	Internal leakage	on request
g) Nominal air flow rate S/R	0,37 / 0,34 [m/s]	p) Energy classification filters	see filter data
h) Effective electric power input	0,95 [kW]	r) Casing sound power level LWA	54,9 [dB]
i) SFP int	860 [W/(m/s)]	s) www.euroclima.com	

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



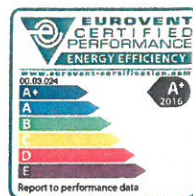
Dovod		Odvod		Kupec:		Ponudba		Št. risbe	
Pretok	2.880	Pretok	m3/h	a	b	17068	KN3	1	KN3
Eksterni dp	Pa	Eksterni dp	Pa	c	d	Velikost:	ZHK 2000 S	Kos:	1
Totalni dp	Pa	Totalni dp	Pa	e	f	ZL 9/6 - AL 9/6	Št. pozicije	KN3	
Moč motorja	1.290 / 1	Moč motorja	1.290 / 1	g	h		Št. pozicije	KN3	
Napajanje	3x400 V - 50 Hz	Napajanje	3x400 V - 50 Hz	i	j		Naprava:		
Hlajenje-freon	11.81	Hlajenje-freon	11.81	k	l				
				Št. Sprememba		Datum		Ime	
				5				Dobavne enote:	
								Kontrolni:	
								Merilo:	
								1:32	
								Skupna teža cca:	
								661 kg	



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Ime Bossplast Datum 11.9.2017 - 14:50

Ponudba 17068

Pozicija KN3

Projekt Večnamenska dvorana Vižmarje Brod
[Kos]

Skica KN3 1

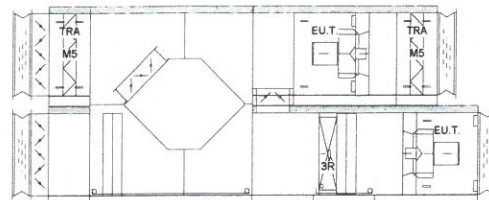
Datum 7.9.2017

Naročnik

Ulica

Št. naročila

Revision



Izvedba

Teža [kg]

specific fan power [W/m3/s]

EU 1253/2014 compliance

Notranja izvedba

661

2264

2018 OK

TEHNIČNI IZRAČUN

ZHK 2000 S

Dovod	Velikost:9/6	Teža:478 [kg]	Površina: 11,4 [m2]	Hitrost: 1,43 [m/s]
Izvedba	FH-PT-L-K-VF		Dimenzije [mm] L: 3.202,5 W: 1.015 H: 740	
Pretok zraka [m3/h]	2.880		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	300		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	829		Vodila	Pocinkana pločevina
specific fan power1 [w/m3/s]	1.164		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Odvod	Velikost:9/6	Teža:183 [kg]	Površina: 5,1 [m2]	Hitrost: 1,43 [m/s]
Izvedba	FH-VF-L-PT-L		Dimension: [mm] L: 2.897,5 W: 1.015 H: 740	
Pretok zraka [m3/h]	2.880		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	300		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	788		Vodila	Pocinkana pločevina
specific fan power1 [w/m3/s]	1.100		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Dovod

FH	Kasetni filter		305,0 [mm]	0,93 [m2]	46,00 [kg]	130 [Pa]
Proizvajalec	General Filter		Površina filtra [m2]	0,68		
Tip	CFW-D/100-5	tmax.=70°C	Št.celic x šir. x viš. [mm]	2 x 592,0 x 287,0		
Razred	M5			2 x 287,0 x 287,0		
Initial-Dimension-Final [Pa]	54-127-200					
Pretok [m3/h]	2.880					
Širina filtra [mm]	98,0					
Filter energy class (EN 779:2012)	n.a.					
Snemljiv pokrov	TRA	Stran posluževanja: desno	Dimenzije [mm]	305,0 x 610,0		
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]	915,0 x 610,0		
(23)	Reg. žaluzija	Okvir	POCP	Tesnilni trak	Ne	
		Lopatice	POCP	Pogon loput	Zobniki , PPGF	
	Os	1	Vrtlilni moment [Nm4]	Vrsta pogona	Prirejen za motorni p	
(25)	Jadrovinski nastavek	POCP	Temperatura [gC]	80,00	Dimenzije [mm]	915,0 x 610,0 x 140,0
(22)	1 Kos	Izenačitev potenciala 6 mm				

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PT	Ploščni rekuperator - diagonalni			1.220,0 [mm]	5,53 [m2]	231,00 [kg]	267 [Pa]
Tip	CR-2-67-0910-26-00BK210			max. allowed pressure difference		800 [Pa]	
Z bypass-om	210,0 [mm]			Gostota [kg/m3]		1,20	
Zimski režim - gretje				Poletni režim - hlajenje			
Odvod [m3/h]	2.880	°humid p.d. [Pa]	267	Odvod [m3/h]	2.880	°humid p.d. [Pa]	267
Vstop [gC]	20,00	Rel. vlaž. [%]	50,0	Vstop [gC]	25,00	Rel. vlaž. [%]	50,0
Izstop [gC]	-0,30	Rel. vlaž. [%]	100,0	Izstop [gC]	32,30	Rel. vlaž. [%]	33,0
Dovod [m3/h]	2.880	°humid p.d. [Pa]	267	Dovod [m3/h]	2.880	°humid p.d. [Pa]	267
Vstop [gC]	-13,00	Rel. vlaž. [%]	90,0	Vstop [gC]	34,00	Rel. vlaž. [%]	40,0
Izstop [gC]	16,30	Rel. vlaž. [%]	10,0	Izstop [gC]	26,70	Rel. vlaž. [%]	61,0
Temperature efficiency (project data) [%]			88,8	Temperature efficiency (project data) [%]			81,1
°Temperature efficiency (EUROVENT) [%]			81,1	°Effectiveness (ASHRAE 84-1991) [%]			81,1
°Effectiveness (ASHRAE 84-1991) [%]			88,8	Količina kondenzata [l/h]			12,39
Količina kondenzata [l/h]			12,39	Moč rekuperatorja [kW]			28,38
Moč rekuperatorja [kW]			28,38	Moč rekuperatorja [kW]			7,06
Efficiency values refer to supply air side Pozor: Upoštevajte maksimalno dovoljeno tlačno razliko. Potrebna električna kontrola tlaka.							
Korito		POCP - H: 40,0 mm - Ravno		Velikost		1.220,0 x 915,0 1"	
Bypass lopute		Okvir AL Vrsta pogona Prirejen za motorni pogon Vrtilni moment [Nm]		Lopatice Zunanjos		AL	
Eliminator vodnih kapljic		Velikost TA144		Okvir POCP		Lamele PPTV 7 [Pa]	
L	Prazna enota			457,5 [mm]	1,17 [m2]	40,00 [kg]	10 [Pa]
Priključek: 3 Zgoraj							
(23) Reg. žaluzija		Okvir POCP Lopatice POCP Vrtilni moment [Nm2]		Tesnilni trak Pogon loput Vrsta pogona		Ne Zobniki , PPGF Prirejen za motorni p	
Os 1							
K	Hladilnik			457,5 [mm]	1,4 [m2]	78,00 [kg]	38 [Pa]
Pretok [m3/h]		2.880	Gostota [kg/m3]	1,20	°Coil face velocity [m/s]		2,06
Zrak vstop [gC]		26,70	Rel. vlaž. [%]	61,0	Medij		R410A
Zrak izstop [gC]		19,00	Rel. vlaž. [%]	85,2	Evaporating temp. [gC]		7,00
Moč [kW]		11,81	SHR	0,64	Padec tlaka [mbar]		102
air-side dry p.d. [Pa]		31			Padec tlaka [mbar]		30.660
Zrak vstop [gC]		16,30	Rel. vlaž. [%]	10,0	Max press. [bar]		21
Zrak izstop [gC]		32,62	Rel. vlaž. [%]	3,8	Interlaced Circuits		Ne
Moč [kW]		15,82					
30x26-ED/2,5pa/3R-18T-720L-5N/V1/CU-IN18x1.0mm-OUT28x1.5mm/CU-AL-FeZn							
Priključna stran		Desno		Lamele		AL	
Št. cevnihi vrst		3		Cevi		CU	
Št. hladilnih krogov		1 circuit		Zbiralna cev		CU °glatt	
Medl. razdalja [mm]		2,5		Okvir		POCP	
Korito		POCP - H: 40,0 mm - Ravno		Velikost		457,5 x 915,0 1"	
Eliminator vodnih kapljic		Velikost TA144		Okvir -		Lamele PPTV 7 [Pa]	

Ponudba 17068
Skica KN3
Pozicija KN3
Naprava

Kos 1
Rev. Nr.
Datum rev.

VF	Dovod-Prostotekoči ventilator	762,5 [mm]	2,33 [m2]	83,00 [kg]	48 [Pa]
Ventilator	ebmpapst/K3G310-PT08-J2 - 3x400V	EC-Motor			M3G084GF
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20)	1 x 2.880,00	Zaščita			IP54
Eksterni padec tlaka [Pa]	300	Razred izolacije			F
Din. padec tlaka [Pa]	36	Nazivna moč [kW]			1,290
Totalni dp [Pa]	829	Hitrost +-2% [1/m]			3.010
Št. vrtljajev [1/m]	2.786	Tok +-5% [A]			2,00
Zvočna moč [db(A)]	81,2	Napetost [V]			3x400 / 50/60 Hz
Izkoristek [%]	62,6	~Tension Range [V]			380 ... 480
Maksimalno št. vrtljajev [1/m]	3.010	~electric absorbt power [kW]			1,01
~Kalibrierfaktor K [ms/h]	85	~Motor efficiency class			Premium
Speed control:	Variable Speed	Control voltage [V]			8,07
Fan design for dry or wet condition: see section of relating component - if any					
Zvočna moč ventilatorja po oktavah Lokt [dB]		Tip priključka :			Rubber sealing
Frq. [Hz]	63 125 250 500 1000 2000 4000 8000	~Temperaturerhöhung Ventilatorteil [gC]			1,10
Vstop	90,2 59,6 74,8 74,8 65,3 67,6 69,6 63,4	~No frequency converter needed!			
Izstop	91,2 61,8 74,6 72,9 72,9 72,9 73,1 66,8				
(30)	1 Kos	Nastavek za meritev pretoka			
(31)	1 Kos	Odjem za merjenje pretoka			
(1)	1 Komple	Zaščita proti dotiku na sesalni strani ventilatorja			
(53)	1 Komple	Kabelska uvodnica 1 x M20			
(47)	Komple	Motor predkabliran			
Standardna vrata s tečaji	EU.T.	Stran posluževanja: desno	Dimenzije [mm]		457,5 x 610,0 -[R]
(300)	1 Kos	Ključavnica na vratih			
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]		915,0 x 610,0
(25)	Jadrovinski nastavek	POCP Temperatura [gC]	80,00	Dimenzije [mm]	915,0 x 610,0 x 140,0
(22)	1 Kos	Izenačitev potenciala 6 mm			

Odvod

FH	Kasetni filter	305,0 [mm]	0,93 [m2]	33,00 [kg]	128 [Pa]
Proizvajalec	General Filter	Površina filtra [m2]			0,68
Tip	CFW-D/100-5 tmax.=70°C	Št.celic x šir. x viš. [mm]			2 x 592,0 x 287,0
Razred	M5				2 x 287,0 x 287,0
~Initial-Dimension-Final [Pa]	54-127-200	Vodilo pocinkano (stranski izvelek)			
Pretok [m3/h]	2.880				
Širina filtra [mm]	98,0				
Filter energy class (EN 779:2012)	n.a.				
Snemljiv pokrov	TRA	Stran posluževanja: levo	Dimenzije [mm]		305,0 x 610,0
Priključek:	7	Odprtina - spredaj, cel presek	Dimenzije [mm]		915,0 x 610,0
(25)	Jadrovinski nastavek	POCP Temperatura [gC]	80,00	Dimenzije [mm]	915,0 x 610,0 x 140,0
(22)	1 Kos	Izenačitev potenciala 6 mm			

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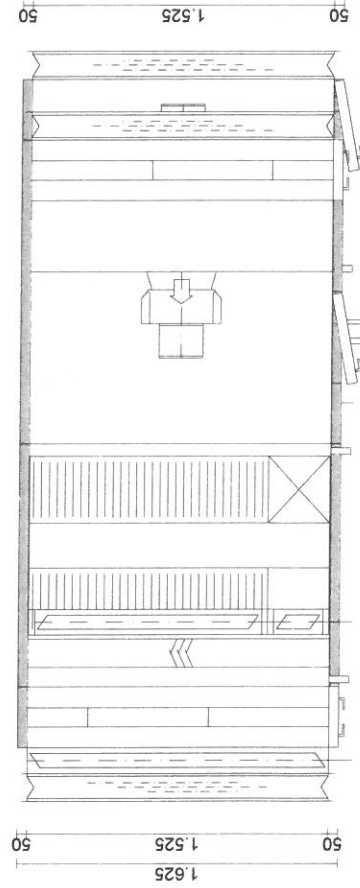
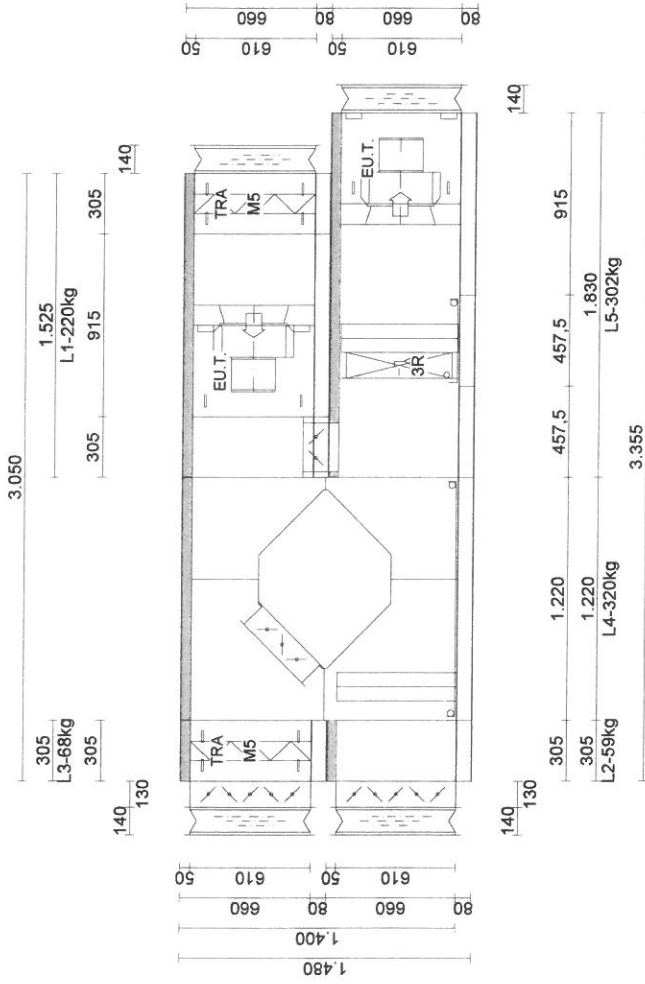
VF	Odvod-Prostotekoči ventilator				762,5 [mm]	2,33 [m2]	83,00 [kg]	47 [Pa]	
Ventilator ebmpapst/K3G310-PT08-J2 - 3x400V					EC-Motor		M3G084GF		
Pretok zraka [m3/h](Gostota: [kg/m3] 1,20) 1 x 2.880,00					Zaščita		IP54		
Eksterni padec tlaka [Pa] 300					Razred izolacije		F		
Din. padec tlaka [Pa] 36					Nazivna moč [kW]		1,290		
Totalni dp [Pa] 788					Hitrost +-2% [1/m]		3.010		
Št. vrtljajev [1/m] 2.738					Tok +-5% [A]		2,00		
Zvočna moč [db(A)] 80,8					Napetost [V]		3x400 / 50/60 Hz		
Izkoristek [%] 62,5					Tension Range [V]		380 ... 480		
Maksimalno št. vrtljajev [1/m] 3.010					electric absorbt power [kW]		0,96		
Kalibrierfaktor K [ms/h] 85					Motor efficiency class		Premium		
Speed control: Variable Speed					Control voltage [V]		7,86		
Fan design for dry or wet condition: see section of relating component - if any									
Zvočna moč ventilatorja po oktavih Lokt [dB]					Tip priključka :		Rubber sealing		
Frq. [Hz] 63 125 250 500 1000 2000 4000 8000					Temperaturerhöhung Ventilatorteil [gC]		1,00		
Vstop 87,4 60,2 73,8 73,6 64,9 67,3 69,6 63					No frequency converter needed!				
Izstop 88,4 61,8 73,8 72,5 72,5 72,5 72,9 66,4									
(30) 1 Kos Nastavek za meritev pretoka									
(31) 1 Kos Odjem za merjenje pretoka									
(1) 1 Komple Zaščita proti dotiku na sesalni strani ventilatorja									
(53) 1 Komple Kabelska uvodnica 1 x M20									
(47) Komple Motor predkabliran									
Standardna vrata s tečaji EU.T. Stran posluževanja: levo					Dimenzije [mm]		457,5 x 610,0 -[R]		
(300) 1 Kos Ključavnica na vratih									
L Prazna enota					305,0 [mm]	0,93 [m2]	27,00 [kg]	0 [Pa]	
PT Ploščni rekuperator - diagonalni					1.220,0 [mm]	5,53 [m2]	231,00 [kg]	274 [Pa]	
L Prazna enota					305,0 [mm]	0,93 [m2]	40,00 [kg]	3 [Pa]	
Priključek: 7 Odprtina - spredaj, cel presek					Dimenzije [mm]		915,0 x 610,0		
(23) Reg. žaluzija					Okvir	POCP	Tesnilni trak	Ne	
					Lopaticice	POCP	Pogon loput	Zobniki , PPGF	
Os 1					Vrtilni moment [Nm4		Vrsta pogona	Prirejen za motorni p	
(25) Jadrovinasti nastavek					POCP	Temperatura [gC]	80,00	Dimenzije [mm]	915,0 x 610,0 x 140,0
(22) 1 Kos Izenačitev potenciala 6 mm									
(407) 1 Komple Podstavek ZHK GR-LP80 Pocinkana pločevina									
(318) 1 Kos Embaliranje z raztegljivo folijo, na paleti									
EUROVENT Datas									
Range / Casing MB			ZHK / ZHK 2000 S		t_ODA EEC		-13,00 [gC]		
Thermal execution			T3 - TB2		Size reference velocity S/R		1,43 / 1,43 [m/s]		
Energy efficiency class			A+ (2016)		Total static pressure EEC S/R		778 / 737 [Pa]		
Mixing Ratio			0 [%]						

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ErP compliance according EU regulation no. 1253/2014			
a) Manufacturer	°Euroclima	j) Face velocity S/R	1,43 / 1,43 [m/s]
b) Model identifier	17068 / KN3	k) Nominal external pressure S/R	300 / 300 [Pa]
c) Tip	NRVU - BVU	l) Int press.drop vent. components S/R	267 / 321 [Pa]
d) Type of drive Supply	Variable speed	m) int press.drop not vent. components S/R	138 / 43 [Pa]
Type of drive Return	Variable speed	n) Static fan efficiency (EU No 327/2011) S/R	66,7 / 66,7 [%]
e) Energy recovery system type	other HRS	o) External leakage -400 / +700 (EN 1886)	Class L1 / L1
f) Thermal efficiency of HRS	81,10[%]	Internal leakage	on request
g) Nominal air flow rate S/R	0,8 / 0,8 [m/s]	p) Energy classification filters	see filter data
h) Effective electric power input	1,98 [kW]	r) Casing sound power level LWA	56,8 [dB]
i) SFP int	959 [W/(m/s)]	s) www.euroclima.com	

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



Dovod										Odvod										a										b										c										d										e										f										g										St.										Sprememba										Datum										Ime																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											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euroclima®
We care for better air



Ime: Bossplast Datum: 11.9.2017 - 14:50

Ponudba 17068

Pozicija KN4

Projekt Večnamenska dvorana Vižmarje Brod
[Kos]

Skica KN3 1

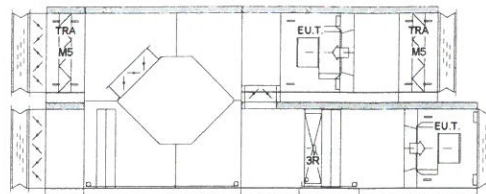
Datum 7.9.2017

Naročnik

Ulica

Št. naročila

Revision



Izvedba

Teža [kg]

specific fan power [W/m3/s]

EU 1253/2014 compliance

Notranja izvedba

969

2955

2018 OK

TEHNIČNI IZRAČUN

ZHK 2000 S

Dovod	Velikost:15/6	Teža:690 [kg]	Površina: 15,8 [m2]	Hitrost: 1,37 [m/s]
Izvedba	FH-PT-L-K-VF		Dimenzije [mm] L: 3.355,0	W: 1.625 H: 740
Pretok zraka [m3/h]	4.600		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	550		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	1088		Vodila	Pocinkana pločevina
specific fan power1 [w/m3/s]	1.508		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Odvod	Velikost:15/6	Teža:279 [kg]	Površina: 7,8 [m2]	Hitrost: 1,39 [m/s]
Izvedba	FH-VF-L-PT-L		Dimension: [mm] L: 3.050,0	W: 1.625 H: 740
Pretok zraka [m3/h]	4.670		Mat. pokrova znotraj50 [mm]	Pocinkana pločevina 1,00 mm
Eksterni padec tlaka [Pa]	550		Mat. pokrova dno	Pocinkana pločevina
Totalni padec tlaka [Pa]	1065		Vodila	Pocinkana pločevina
specific fan power1 [w/m3/s]	1.470		Mat. pokrova zunaj	Bel A47SME 0,70 mm

Dovod

FH	Kasetni filter			305,0 [mm]	1,31 [m2]	68,00 [kg]	128 [Pa]
	Proizvajalec	General Filter	tmax.=70°C	Površina filtra [m2]		1,36	
	Tip	CFW-D/100-5		Št.celic x šir. x viš. [mm]		4 x	592,0 x 287,0
	Razred	M5				2 x	287,0 x 287,0
	Initial-Dimension-Final [Pa]	51-126-200					
	Pretok [m3/h]	4.600					
	Širina filtra [mm]	98,0					
	Filter energy class (EN 779:2012)	n.a.		Vodilo pocinkano (stranski izvlek)			
Snemljiv pokrov			TRA	Stran posluževanja: desno		Dimenzije [mm]	305,0 x 610,0
Priključek:			7	Odpertina - spredaj, cel presek		Dimenzije [mm]	1.525,0 x 610,0
(23)	Reg. žaluzija		Okvir	POCP	Tesnilni trak	Ne	
			Lopaticice	POCP	Pogon loput	Zobniki , PPGF	
	Os	1	Vrtilni moment [Nm6		Vrsta pogona	Prirejen za motorni p	
(25)	Jadrovinasti nastavek	POCP	Temperatura [gC]	80,00	Dimenzije [mm]	1.525,0 x 610,0 x 140,0	
(22)	1 Kos	Izenačitev potenciala 6 mm					

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PT	Ploščni rekuperator - diagonalni			1.220,0 [mm]	7,01 [m2]	320,00 [kg]	238 [Pa]
Tip	CR-2-67-1520*-26-00BK310			max. allowed pressure difference		800 [Pa]	
Z bypass-om	310,0 [mm]			Gostota [kg/m3]		1,20	
<u>Zimski režim - gretje</u>				<u>Poletni režim - hlajenje</u>			
Odvod [m3/h]	4.670	°humid p.d. [Pa]	243	Odvod [m3/h]	4.670	°humid p.d. [Pa]	243
Vstop [gC]	20,00	Rel. vlaž. [%]	50,0	Vstop [gC]	25,00	Rel. vlaž. [%]	50,0
Izstop [gC]	-0,20	Rel. vlaž. [%]	100,0	Izstop [gC]	32,30	Rel. vlaž. [%]	33,0
Dovod [m3/h]	4.600	°humid p.d. [Pa]	238	Dovod [m3/h]	4.600	°humid p.d. [Pa]	238
Vstop [gC]	-13,00	Rel. vlaž. [%]	90,0	Vstop [gC]	34,00	Rel. vlaž. [%]	40,0
Izstop [gC]	16,70	Rel. vlaž. [%]	9,0	Izstop [gC]	26,60	Rel. vlaž. [%]	61,0
Temperature efficiency (project data) [%]			90	Temperature efficiency (project data) [%]			82,2
°Temperature efficiency (EUROVENT) [%]			81,5				
°Effectiveness (ASHRAE 84-1991) [%]			90	°Effectiveness (ASHRAE 84-1991) [%]			82,2
Količina kondenzata [l/h]			19,92	Količina kondenzata [l/h]			
Moč rekuperatorja [kW]			45,84	Moč rekuperatorja [kW]			11,41
Efficiency values refer to supply air side Pozor: Upoštevajte maksimalno dovoljeno tlačno razliko. Potrebna električna kontrola tlaka.							
Korito	POCP - H: 40,0 mm - Ravno			Velikost		1.220,0 x 1.525,0 1"	
<u>Bypass lopute</u>	Okvir AL			Lopatice		AL	
	Vrsta pogona Prirejen za motorni pogon			Zunanjos			
	Vrtilni moment [Nm]						
Eliminator vodnih kapljic	Velikost	TA144		Okvir	POCP		Lamele PPTV 7 [Pa]
L	Prazna enota			457,5 [mm]	1,58 [m2]	54,00 [kg]	9 [Pa]
Priključek:	3	Zgoraj					
(23)	Reg. žaluzija	Okvir	POCP	Tesnilni trak	Ne		
		Lopatice	POCP	Pogon loput	Zobniki , PPGF		
Os	1	Vrtilni moment [Nm]	3	Vrsta pogona	Prirejen za motorni p		
K	Hladilnik			457,5 [mm]	1,96 [m2]	111,00 [kg]	31 [Pa]
Pretok [m3/h]	4.600	Gostota [kg/m3]	1,20	°Coil face velocity [m/s]		1,79	
Zrak vstop [gC]	26,60	Rel. vlaž. [%]	61,0	Medij		R410A	
Zrak izstop [gC]	19,00	Rel. vlaž. [%]	84,2	Evaporating temp. [gC]		7,00	
Moč [kW]	18,96	SHR	0,63	Padec tlaka [mbar]		71	
air-side dry p.d. [Pa]	24						
Zrak vstop [gC]	16,70	Rel. vlaž. [%]	9,0	Padec tlaka [mbar]		30.660	
Zrak izstop [gC]	33,97	Rel. vlaž. [%]	3,2	Max press. [bar]		21	
Moč [kW]	26,75			Interlaced Circuits		Ne	
30x26-ED/2,5pa/3R-18T-1320L-9N/V1/CU-IN22x1.0mm-OUT28x1.5mm/CU-AL-FeZn							
Priključna stran	Desno			Lamele	AL		
Št. cevni vrst	3			Cevi	CU		
Št. hladilnih krogov	1 circuit			Zbiralna cev	CU		
Medl. razdalja [mm]	2,5			Okvir	POCP		
Korito	POCP - H: 40,0 mm - Ravno			Velikost		457,5 x 1.525,0 1"	
Eliminator vodnih kapljic	Velikost	TA144		Okvir	-		Lamele PPTV 7 [Pa]

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VF	Dovod-Prostotekoči ventilator				915,0 [mm]	3,91 [m2]	137,00 [kg]	75 [Pa]
Ventilator	ebmpapst/K3G355-PI93-02 - 3x400V				EC-Motor	M3G112IA		
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20)	1 x 4.600,00				Zaščita	IP54		
Eksterni padec tlaka [Pa]	550				Razred izolacije	F		
Din. padec tlaka [Pa]	57				Nazivna moč [kW]	2,680		
Totalni dp [Pa]	1.088				Hitrost +-2% [1/m]	3.230		
Št. vrtljajev [1/m]	2.918				Tok +-5% [A]	4,10		
Zvočna moč [db(A)]	86,6				Napetost [V]	3x400 / 50/60 Hz		
Izkoristek [%]	64,0				™Tension Range [V]	380 ... 480		
Maksimalno št. vrtljajev [1/m]	3.230				™electric absorbt power [kW]	2,06		
™Kalibrierfaktor K [ms/h]	115				™Motor efficiency class	Premium		
Speed control:	Variable Speed				Control voltage [V]	8,38		
Fan design for dry or wet condition: see section of relating component - if any								
Zvočna moč ventilatorja po oktavah Lokt [dB]					Tip priključka :		Rubber sealing	
Frq. [Hz]	63	125	250	500	1000	2000	4000	8000
Vstop	81,1	66,9	78,1	76	71,5	73,4	72,4	71
Izstop	82,3	69,2	78,4	77,3	79,4	79,3	78,7	75,4
(30)	1 Kos	Nastavek za meritev pretoka						
(31)	1 Kos	Odjem za merjenje pretoka						
(1)	1 Komple	Zaščita proti dotiku na sesalni strani ventilatorja						
(53)	1 Komple	Kabelska uvodnica 1 x M20						
(47)	Komple	Motor predkabliran						
Standardna vrata s tečaji		EU.T.	Stran posluževanja: desno			Dimenzije [mm]		457,5 x 610,0 -[R]
(300)	1 Kos	Ključavnica na vratih						
Priključek:		7	Odprtina - spredaj, cel presek			Dimenzije [mm]		1.525,0 x 610,0
(25)	Jadrovinski nastavek	POCP	Temperatura [gC]		80,00	Dimenzije [mm]		1.525,0 x 610,0 x 140,0
(22)	1 Kos	Izenačitev potenciala 6 mm						

Odvod

FH	Kasetni filter			305,0 [mm]	1,31 [m2]	46,00 [kg]	127 [Pa]
Proizvajalec	General Filter		tmax.=70°C	Površina filtra [m2]	1,36		
Tip	CFW-D/100-5			Št.celic x šir. x viš. [mm]	4 x	592,0 x	287,0
Razred	M5				2 x	287,0 x	287,0
Initial-Dimension-Final [Pa]	52-126-200						
Pretok [m3/h]	4.670						
Širina filtra [mm]	98,0			Vodilo pocinkano (stranski izvlek)			
Filter energy class (EN 779:2012)	n.a.						
Snemljiv pokrov	TRA	Stran posluževanja: levo			Dimenzije [mm]	305,0 x 610,0	
Priključek:	7	Odprtina - spredaj, cel presek			Dimenzije [mm]	1.525,0 x 610,0	
(25)	Jadrovinski nastavek	POCP	Temperatura [gC]	80,00	Dimenzije [mm]	1.525,0 x 610,0 x 140,0	
(22)	1 Kos	Izenačitev potenciala 6 mm					

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Skica KN3
Pozicija KN4
Naprava

Kos 1
Rev. Nr.
Datum rev.

VF	Odvod-Prostotekoči ventilator							915,0 [mm]	3,91 [m2]	137,00 [kg]	77 [Pa]
Ventilator	ebmpapst/K3G355-PI93-02 - 3x400V							EC-Motor	M3G112IA		
Pretok zraka [m3/h(Gostota: [kg/m3] 1,20)	1 x 4.670,00							Zaščita	IP54		
Eksterni padec tlaka [Pa]	550							Razred izolacije	F		
Din. padec tlaka [Pa]	59							Nazivna moč [kW]	2,680		
Totalni dp [Pa]	1.065							Hitrost +-2% [1/m]	3.230		
Št. vrtljajev [1/m]	2.912							Tok +-5% [A]	4,10		
Zvočna moč [db(A)]	86,6							Napetost [V]	3x400 / 50/60 Hz		
Izkoristek [%]	64,0							™Tension Range [V]	380 ... 480		
Maksimalno št. vrtljajev [1/m]	3.230							™electric absorbt power [kW]	2,04		
™Kalibrierfaktor K [ms/h]	115							™Motor efficiency class	Premium		
Speed control:	Variable Speed							Control voltage [V]	8,35		
Fan design for dry or wet condition: see section of relating component - if any											
Zvočna moč ventilatorja po oktavah Lokt [dB]								Tip priključka :		Rubber sealing	
Frq. [Hz]	63	125	250	500	1000	2000	4000	8000	™Temperaturerhöhung Ventilatorteil [gC]		1,30
Vstop	81,4	66,6	77,9	75,8	71,4	73,4	72,5	71,3	™No frequency converter needed!		
Izstop	82,5	69	78,3	77,1	79,3	79,3	78,7	75,6			
(30)	1 Kos	Nastavek za meritev pretoka									
(31)	1 Kos	Odjem za merjenje pretoka									
(1)	1 Komple	Zaščita proti dotiku na sesalni strani ventilatorja									
(53)	1 Komple	Kabelska uvodnica 1 x M20									
(47)	Komple	Motor predkabliran									
Standardna vrata s tečaji		EU.T.		Stran posluževanja: levo				Dimenzije [mm]		457,5 x 610,0 -[R]	
(300)	1 Kos	Ključavnica na vratih									
L	Prazna enota							305,0 [mm]	1,31 [m2]	37,00 [kg]	0 [Pa]
PT	Ploščni rekuperator - diagonalni							1.220,0 [mm]	7,01 [m2]	320,00 [kg]	250 [Pa]
L	Prazna enota							305,0 [mm]	1,31 [m2]	59,00 [kg]	2 [Pa]
Priključek:		7	Odprtina - spredaj, cel presek				Dimenzije [mm]		1.525,0 x 610,0		
(23)	Reg. žaluzija			Okvir	POCP	Tesnilni trak		Ne			
				Lopaticice	POCP	Pogon loput		Zobniki , PPGF			
	Os	1		Vrtilni moment [Nm6		Vrsta pogona		Prirejen za motorni p			
(25)	Jadrovinasti nastavek	POCP	Temperatura [gC]		80,00	Dimenzije [mm]		1.525,0 x 610,0 x 140,0			
(22)	1 Kos	Izenačitev potenciala 6 mm									
(407)	1 Komple	Podstavek ZHK GR-LP80 Pocinkana pločevina									
(318)	1 Kos	Embaliranje z raztegljivo folijo, na paleti									
EUROVENT Datas											
Range / Casing MB		ZHK / ZHK 2000 S				t_ODA EEC		-13,00 [gC]			
™Thermal execution		T3 - TB2				Size reference velocity S/R		1,37 / 1,39 [m/s]			
™Energy efficiency class		A+ (2016)				Total static pressure EEC S/R		1.007 / 981 [Pa]			
Mixing Ratio		0 [%]									

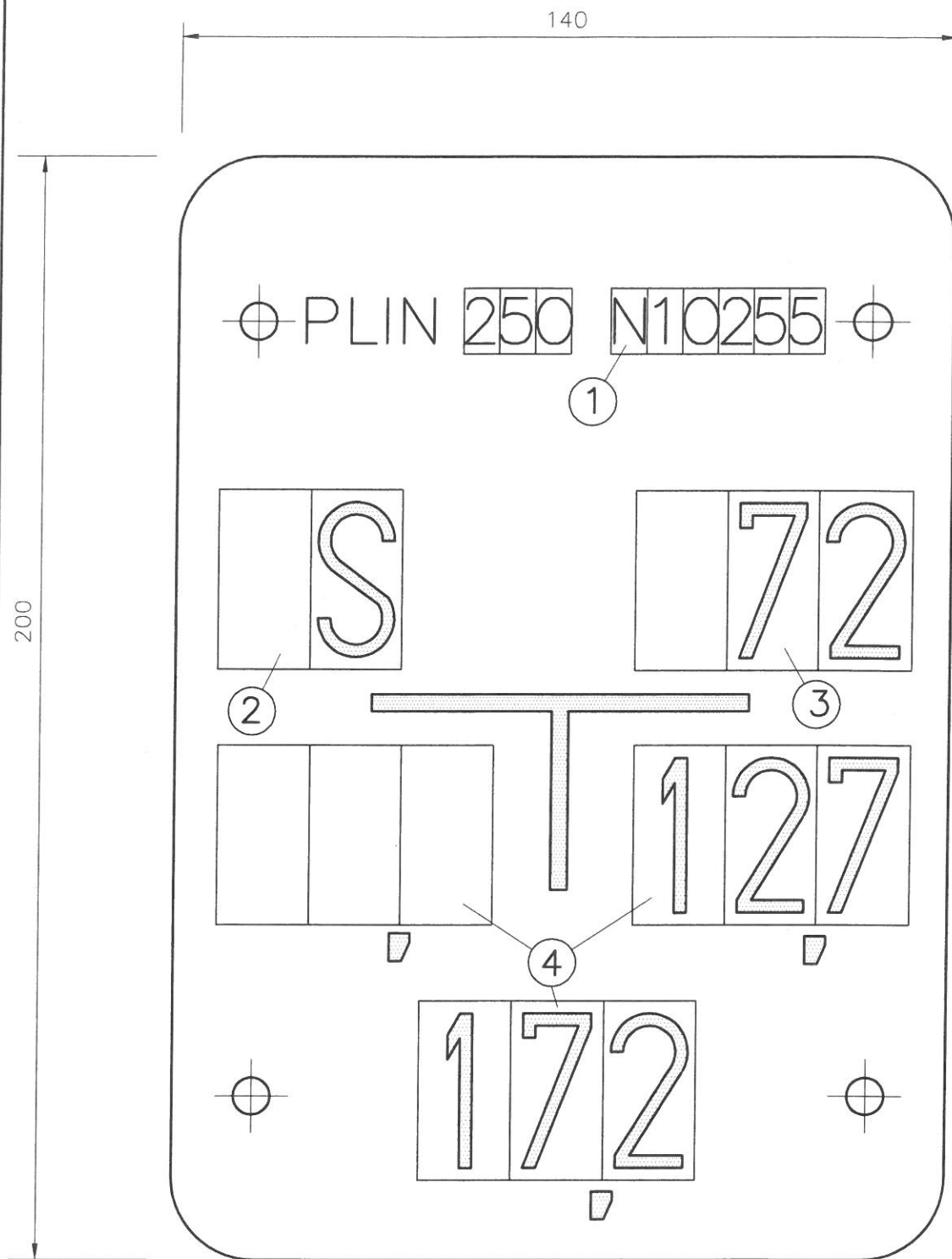
Ponudba 17068
Skica KN3
Pozicija KN4
Naprava

Kos 1
Rev. Nr.
Datum rev.

ErP compliance according EU regulation no. 1253/2014

a) Manufacturer	Euroclima	j) Face velocity S/R	1,37 / 1,39 [m/s]
b) Model identifier	17068 / KN3	k) Nominal external pressure S/R	550 / 550 [Pa]
c) Tip	NRVU - BVU	l) Int press.drop vent. components S/R	238 / 295 [Pa]
d) Type of drive Supply	Variable speed	m) int press.drop not vent. components S/R	144 / 62 [Pa]
Type of drive Return	Variable speed	n) Static fan efficiency (EU No 327/2011) S/R	67,9 / 67,9 [%]
e) Energy recovery system type	other HRS	o) External leakage -400 / +700 (EN 1886)	Class L1 / L1
f) Thermal efficiency of HRS	81,40[%]	Internal leakage	on request
g) Nominal air flow rate S/R	1,28 / 1,3 [m/s]	p) Energy classification filters	see filter data
h) Effective electric power input	4,1 [kW]	r) Casing sound power level LWA	56 [dB]
i) SFP int	854 [W/(m/s)]	s) www.euroclima.com	

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

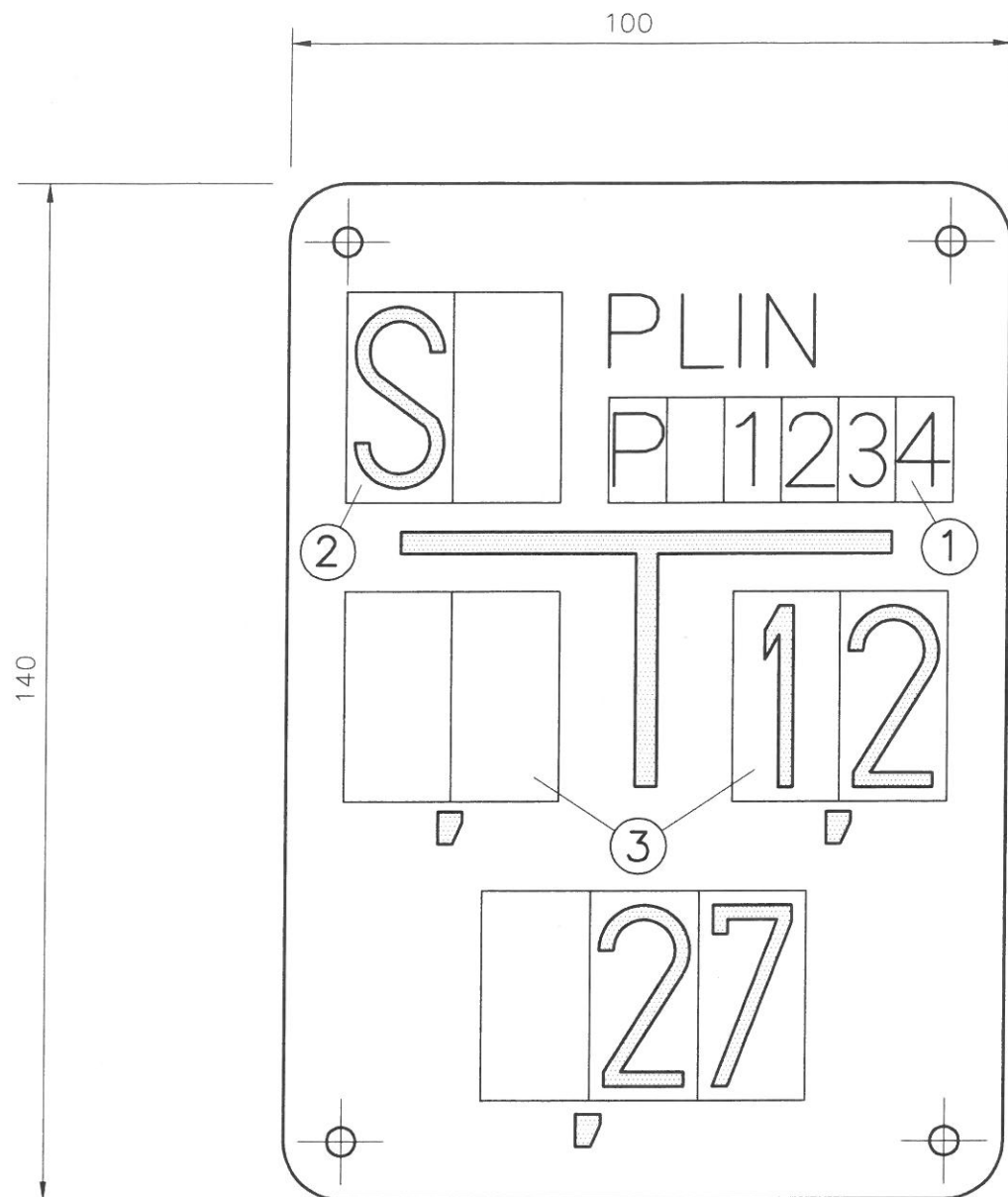


1. ŠTEVILKA PLINOVODA IZ KODNEGA PLANA
2. OZNAKA VGRAJENEGA ELEMENTA
3. ŠTEVILKA VGRAJENEGA ELEMENTA
4. LOKACIJA VGRAJENEGA ELEMENTA

LEGENDA OZNAK VGRAJENIH ELEMENTOV

ZP – zaporna pipa	KM – merilno mesto
S – odvodnjavanje (sifon)	IE – izolacijski element
K – katodna zaščita	
OC – oddušek zaščitne cevi	
OP – odzračevanje plinovoda	
BARVA TABLICE – RUMENA RAL 1021	
BARVA BESEDILA – ČRNA	

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1. ŠTEVILKA PRIKLJUČNEGA PLINOVODA
2. OZNAKA VGRAJENEGA ELEMENTA
3. LOKACIJA VGRAJENEGA ELEMENTA

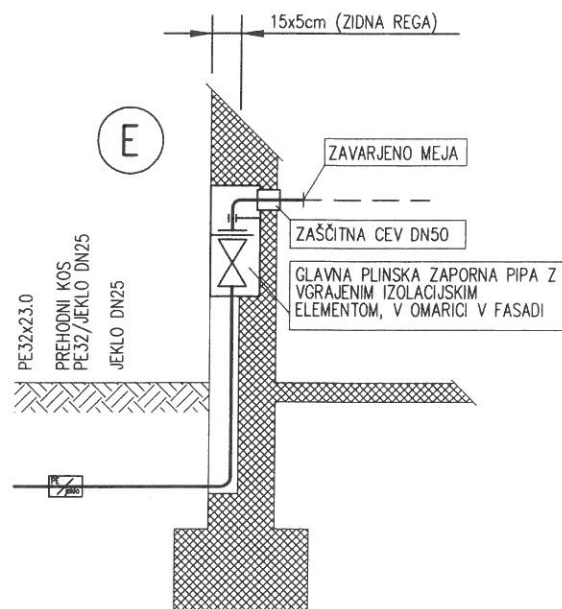
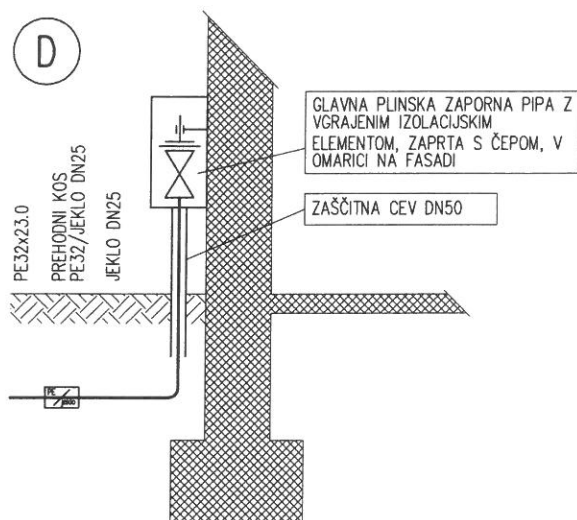
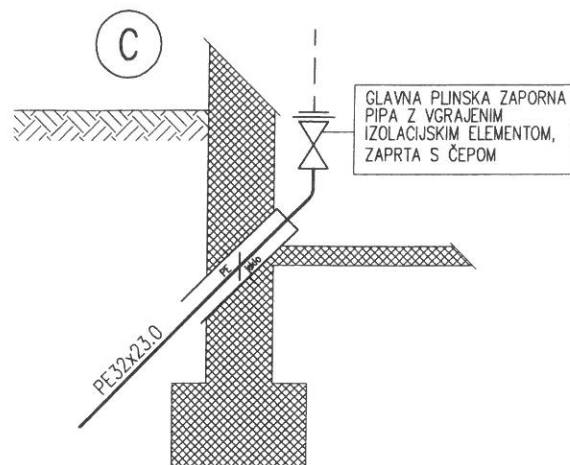
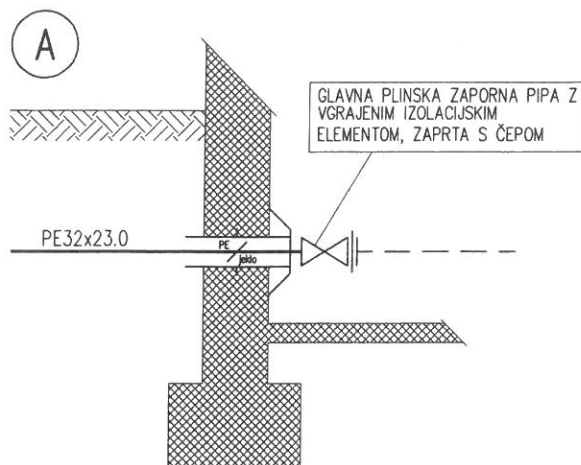
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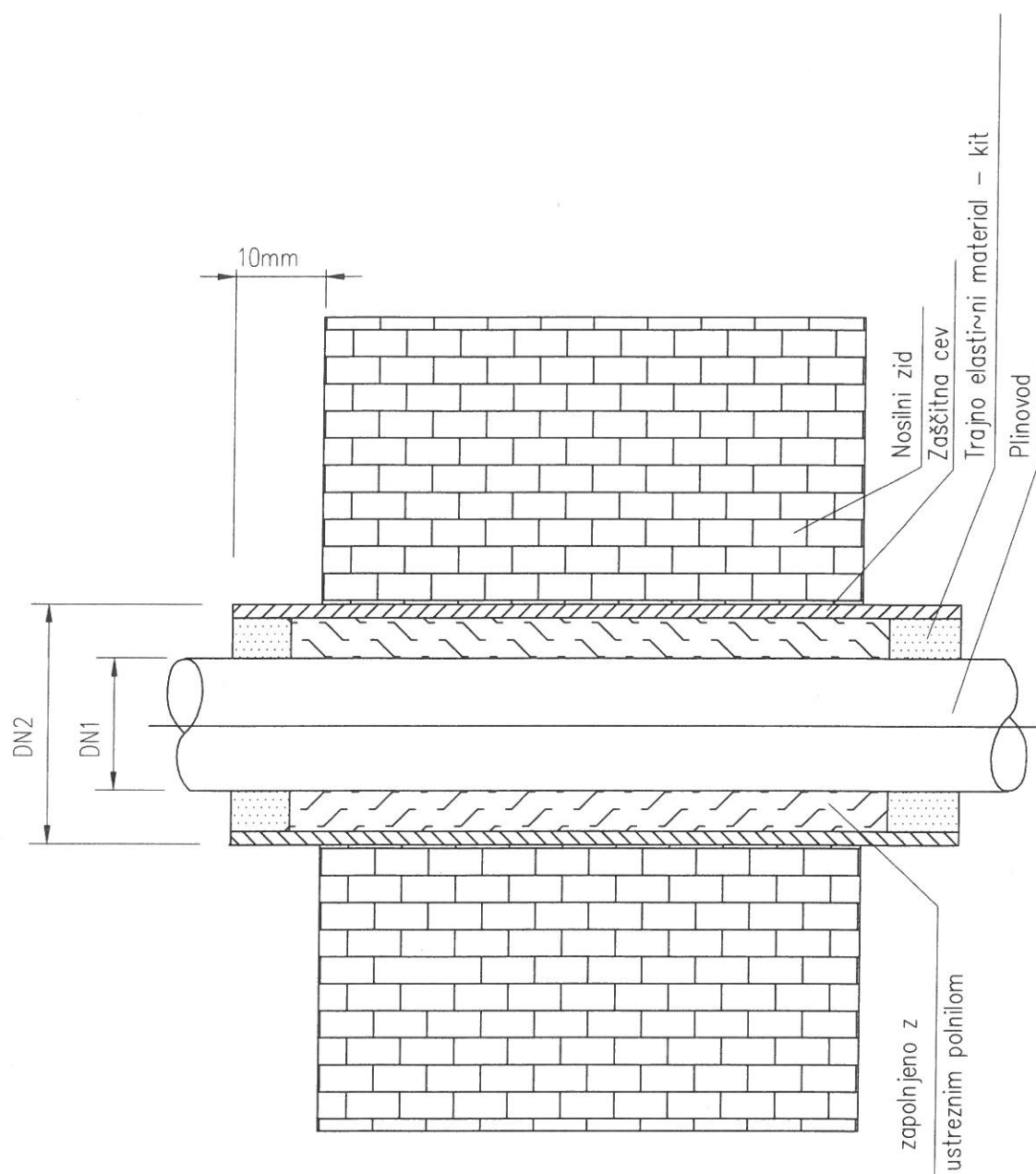
BARVA TABLICE – RUMENA RAL 1021

BARVA BESEDILA – ČRNA

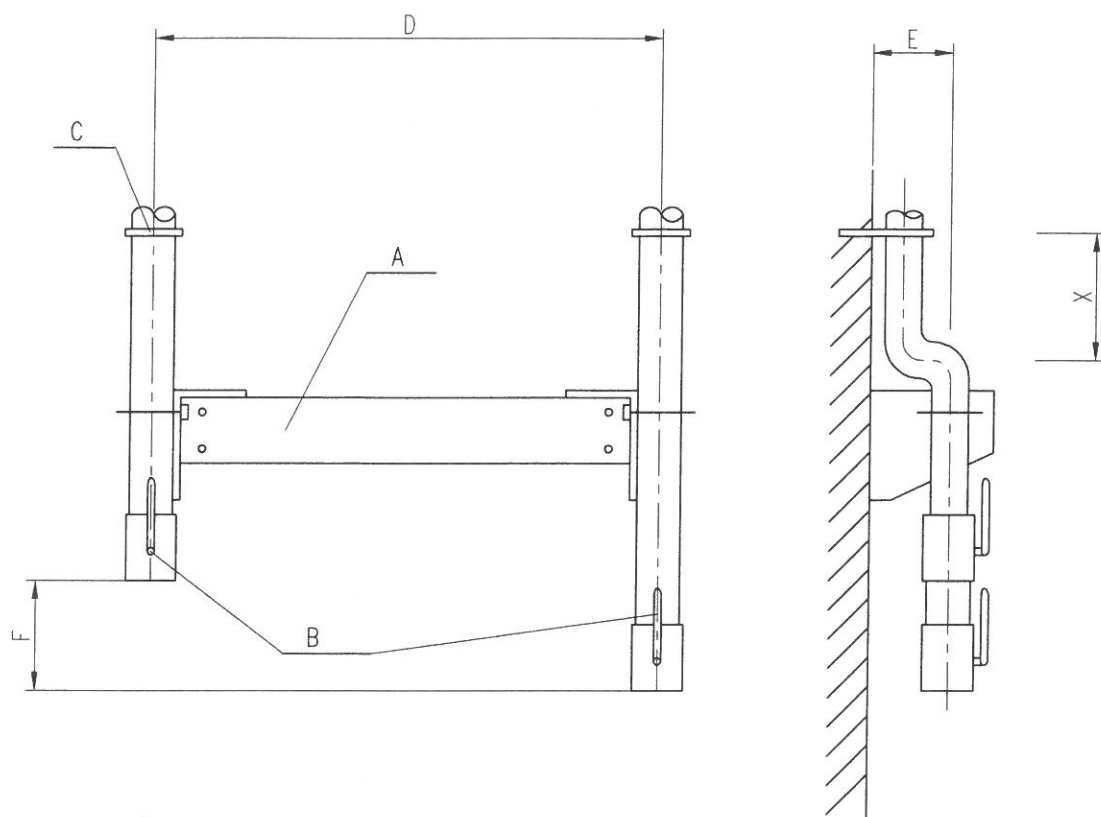


LEGENDA:

- PRIKLJUČNI PLINOVOD
- NOTRANJA PLINSKA NAPELJAVA – IZVEDENO NAKNADNO PO PROJEKTU NOTRANJE PLINSKE NAPELJAVE
- PLINSKA CEV V ZAŠČITNI CEVI
- GLAVNA PLINSKA ZAPORNA PIPA
UVARJENA JEKLENA KROGELNA PIPA, ALI VENTIL DN25
- GLAVNA PLINSKA ZAPORNA PIPA S PRIGRAJENIM IZOLACIJSKIM KOSOM
UVARJENA JEKLENA KROGELNA PIPA, ALI VENTIL DN25
- PREHODNI KOS PE32/JEKLO DN25
- HIŠNA PLINSKA UVODNICA S PRITRDIŠČEM
- HIŠNA PLINSKA UVODNICA Z VAROVALOM PROTI IZVLEKU
V OMARICAH JE POTREBNO PREDVIDETI NASTAVKE ZA POVEZAVO NA OZEMLJITVENE NAPELJAVE (GLEJ DETAJL OMARICE!)



DN1	15	20	25	32	40	50	65	80	100	125	150	200	250
DN2	40	40	40	50	65	65	100	100	150	150	200	250	300

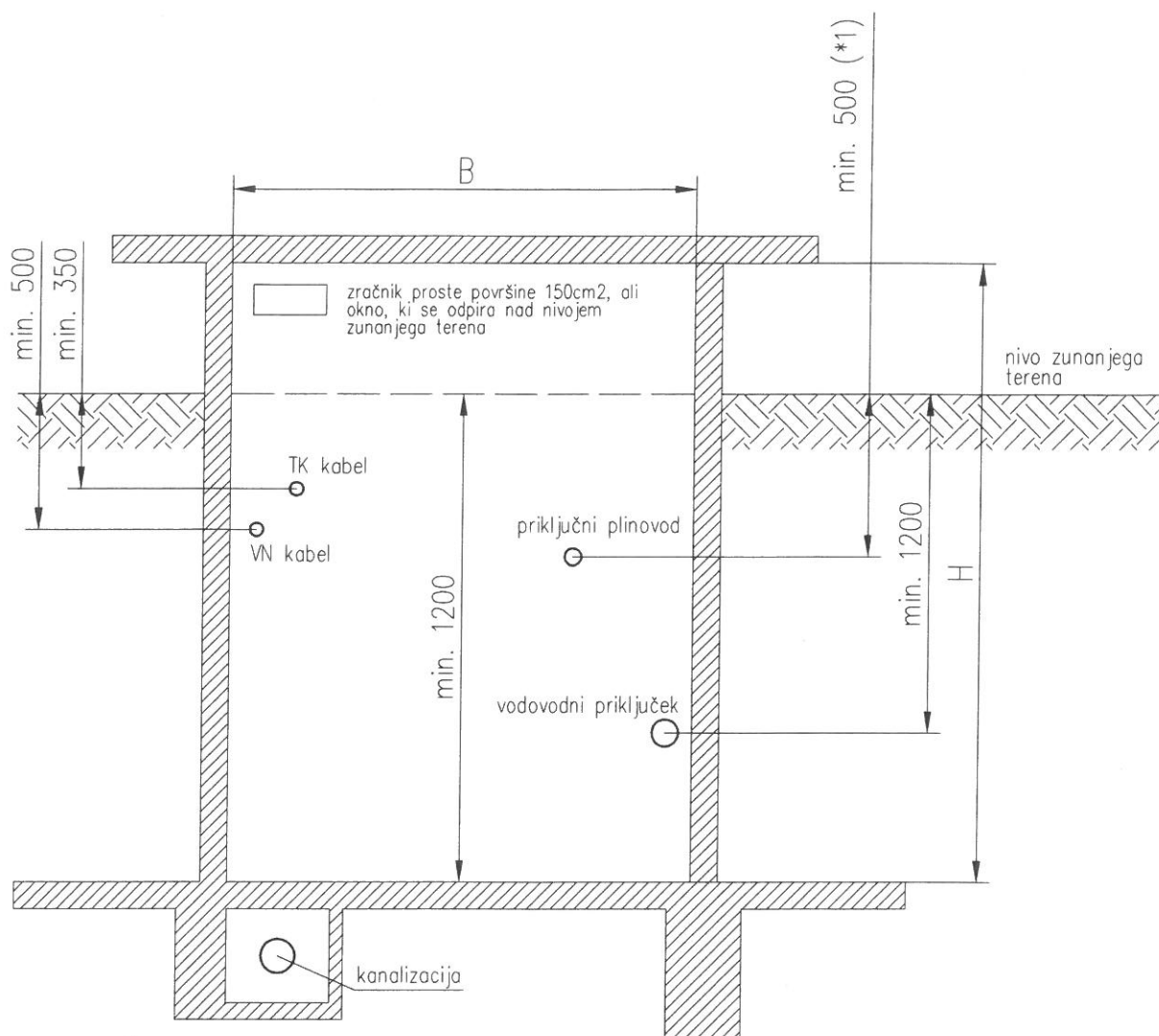


	A	B	C	D	E	F
G10, G16 DN40	konzola G10, G16 z objemkama	krogelna pipa DN 40	objemka DN 40	280	180	50
G25 DN50	konzola G25 z objemkama	krogelna pipa DN 50	objemka DN 50	335	210	205

OPOMBE:

1 – X = objemki namestiti čim bližje loku

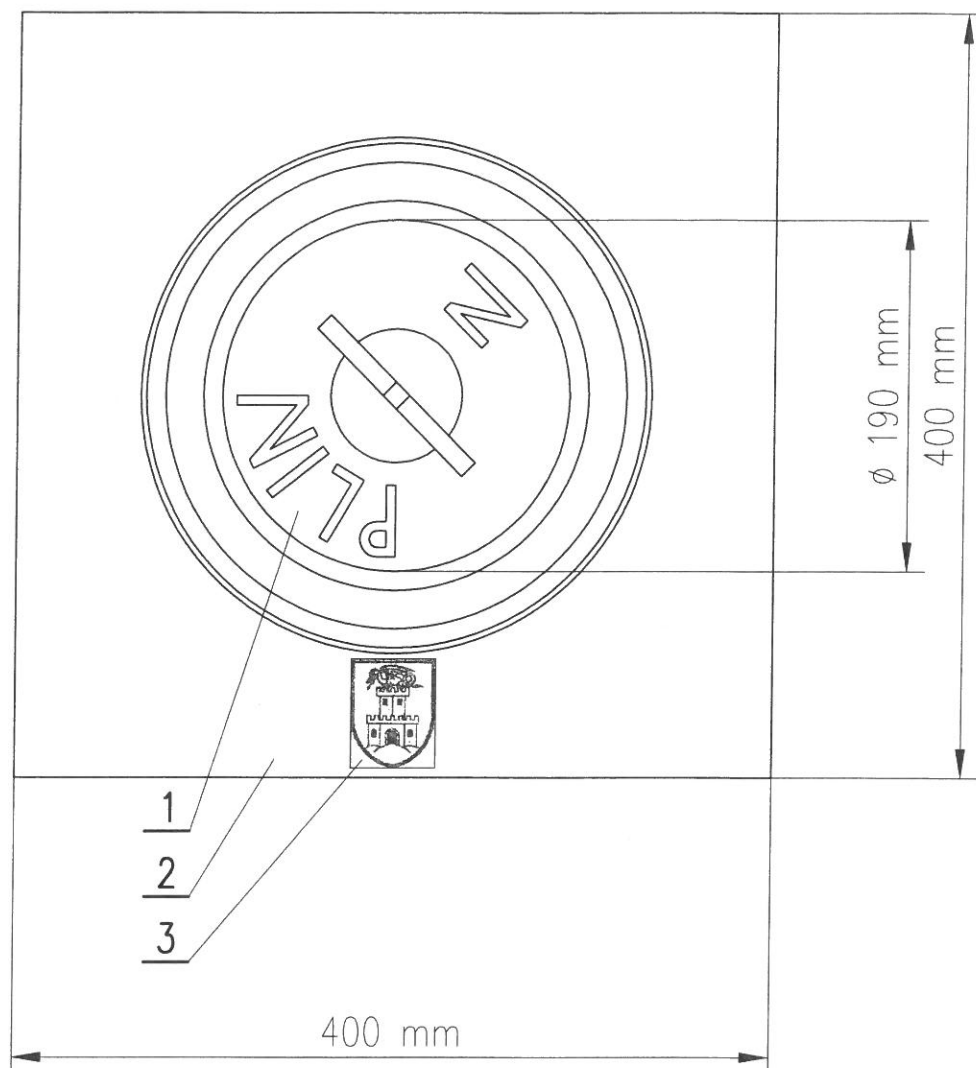
2 – V primeru, ko je na vstopu napeljave v stavbo nameščen regulator za znižanje tlaka plina iz 1–4bar na 22mbar, na plinomeru ni nameščen števecni regulator tlaka in je razdalja F=0



OPOMBE:

- Vse mere so v mm!
- (*1) - Normalno: 600 do 1000 mm.
Drugačna tehnična rešitev je možna samo v soglasju s sistemskim operaterjem!
- Stene prostora s priključki morajo biti iz materialov, ki omogočajo protipožarno odpornost F 30 po DIN 4102, 2. del.
- Prostor s priključki mora imeti vrata minimalnih svetlih dimezij 650 mm x 1950 mm (ŠxV).

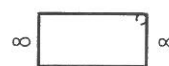
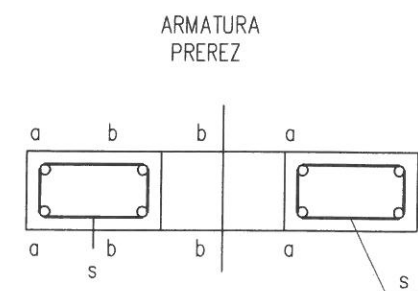
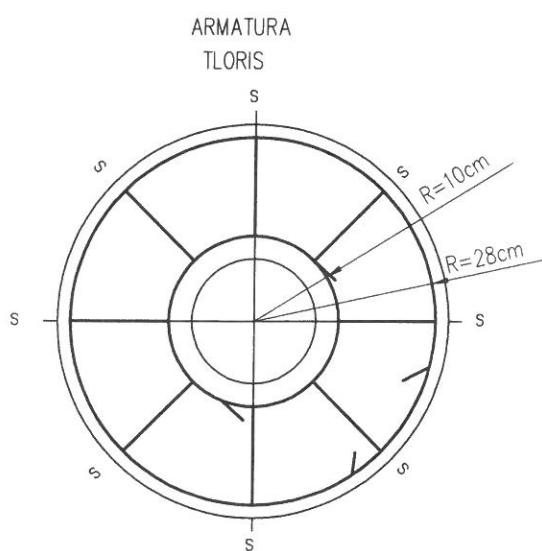
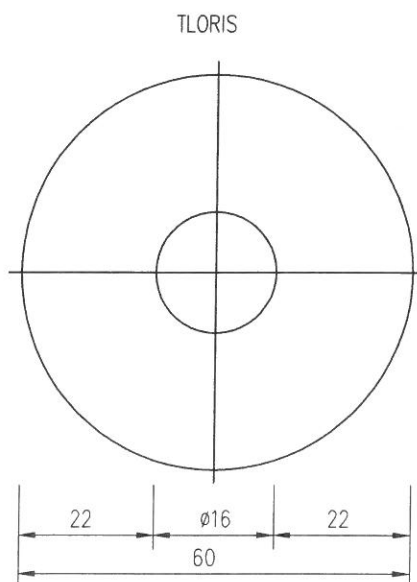
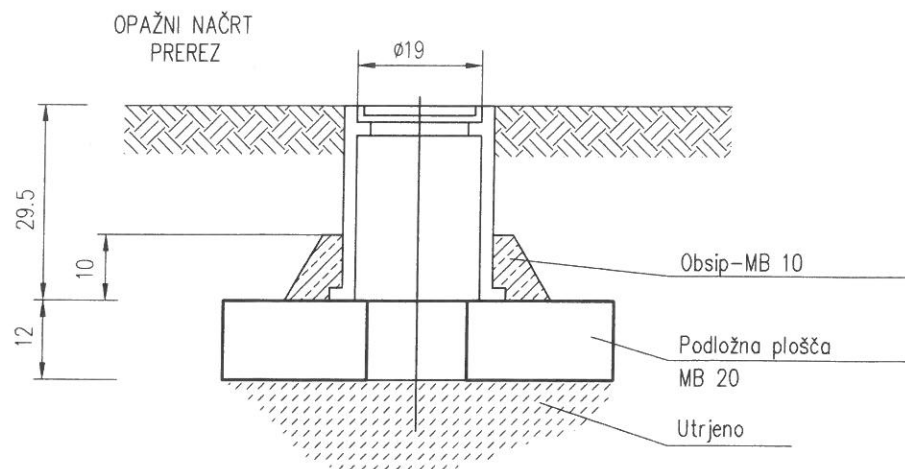
MINIMALNE DIMENZIJE PROSTORA PO DIN 18012			
ŠT. STANOVANJ	ŠIRINA – B	VIŠINA – H	GLOBINA – G
DO 30	1.80 m	2.00 m	2.00 m
OD 30 DO 60	1.80 m	2.00 m	3.50 m



LEGENDA:

- 1 – CESTNA KAPA PLINSKE ARMATURE ($\varnothing 190\text{mm}$)
- 2 – LITOŽELEZNA DISTANČNA PLOŠČA ($400 \times 400\text{mm}$)
- 3 – GRB MESTA LJUBLJANE

DOBAVLJIVO: LIVARSTVO STANE VIDMAR S.P.
Tržaška cesta 316,
1000 Ljubljana



- s) 8 Ø 6 l=0,55m
a) 2 Ø 6 l=0,88m
b) 2 Ø 6 l=0,35m

Beton MB 300 - 0.032 m /kos ³
Armatura Č.0032 - GA - 2.38 kg/kos

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PRILOGA 3

SKICA ARMIRANOBETONSKE PLOŠČE POD KAPAMI
ARMATUR