


Zpracoval: Bc. Petr Mísař	Vedoucí diplomové práce: Ing. Daniel Adamovský, Ph.D.	Fakulta stavební ČVUT 	
Předmět: 125DPM Diplomová práce	Profese: Vzduchotechnika		
Úloha: Návrh chlazení datového centra a VZT přilehlých kanceláří		Datum:	6.1.2019
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Č.výkresu: D.3.01		Formát:	A4

**DID632-GL-2-M-MR/2400x2400x623/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	M	Medium
Arrangement of casings and connections	MR	Casing middle, water connection right
Total length	2400	
Nominal length	2400	
Width of front frame	623	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

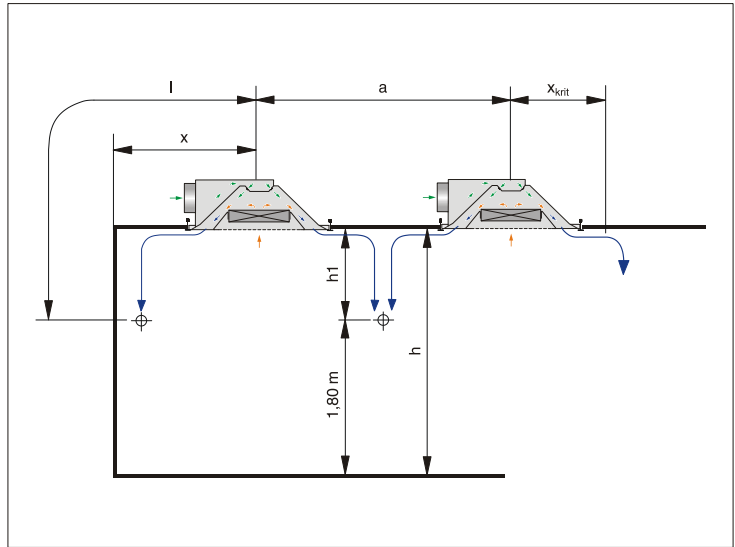
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	140 m <sup>3</sup> /h
Distance a	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	20,8 °C

**Results**

Distance ( $h_1 + x$ ) l	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 804 W
Thermal output - primary air $Q_{PRI,c}$	-375 W
Thermal output - water $Q_{w,c}$	-1 429 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	256 l/h
Pressure drop, water side $\Delta p_{w,c}$	17,9 kPa
Throw distance $l_s$	2,9 m
Velocity at $h_1$ $v_{h1}$	0,19 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,62 K
Velocity at l $v_l$	0,43 m/s
Temperature difference at l $\Delta t_l$	-1,88 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	150	29	30	22	26	25	24	22	19	< 15	23	25

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-G-LL-AH/2400x2400x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	G	Large
Arrangement of casings and connections	LL	Casing left side, Water connections left side
Extract air spigot	AH	rear
Total length	2400	
Nominal length	2400	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

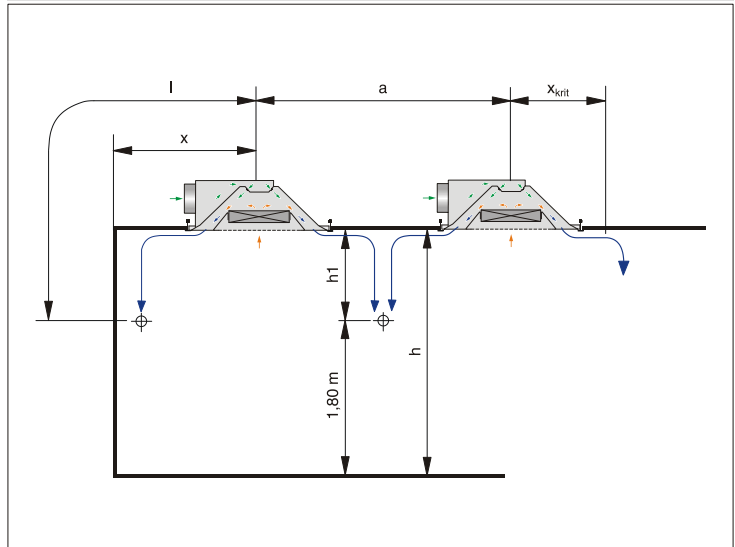
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	150 m <sup>3</sup> /h
Distance a	4,5 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 568 W
Thermal output - primary air $Q_{PRI,c}$	-402 W
Thermal output - water $Q_{w,c}$	-1 166 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	334 l/h
Pressure drop, water side $\Delta p_{w,c}$	28,9 kPa
Throw distance $l_s$	2,5 m
Velocity at $h_1$ $v_{h1}$	0,13 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,49 K
Velocity at $l$ $v_l$	0,33 m/s
Temperature difference at $l$ $\Delta t_l$	-1,52 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	54	30	28	27	31	28	26	16	< 15	< 15	24	26

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-M-RR-AH/1800x1800x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	M	Medium
Arrangement of casings and connections	RR	Casing right side, Water connections right side
Extract air spigot	AH	rear
Total length	1800	
Nominal length	1800	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

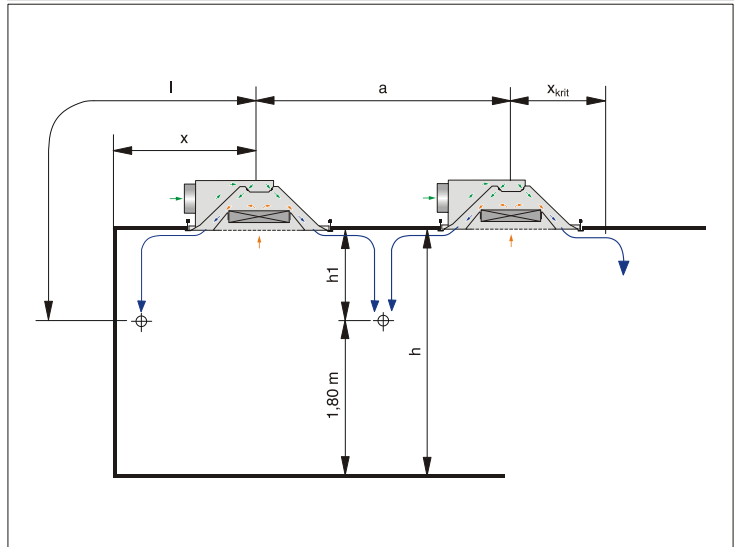
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	95 m <sup>3</sup> /h
Distance a	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 371 W
Thermal output - primary air $Q_{PRI,c}$	-254 W
Thermal output - water $Q_{w,c}$	-1 116 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	320 l/h
Pressure drop, water side $\Delta p_{w,c}$	20,4 kPa
Throw distance $l_s$	2,0 m
Velocity at $h_1$ $v_{h1}$	0,16 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,65 K
Velocity at $l$ $v_l$	0,36 m/s
Temperature difference at $l$ $\Delta t_l$	-1,96 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	130	25	24	18	23	21	20	17	< 15	< 15	18	20

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-Z-LL-AH/1800x1800x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	Z	Small
Arrangement of casings and connections	LL	Casing left side, Water connections left side rear
Extract air spigot	AH	
Total length	1800	
Nominal length	1800	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

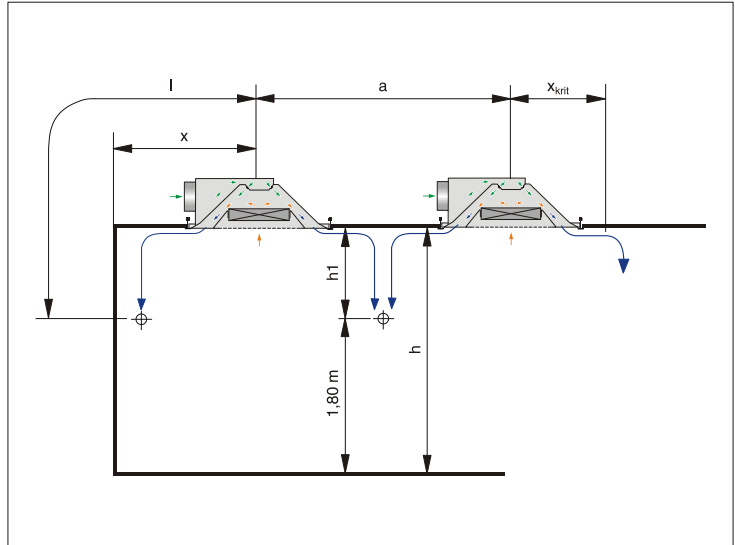
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	77 m <sup>3</sup> /h
Distance a *)	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 434 W
Thermal output - primary air $Q_{PRI,c}$	-206 W
Thermal output - water $Q_{w,c}$	-1 227 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	352 l/h
Pressure drop, water side $\Delta p_{w,c}$	24,2 kPa
Throw distance $l_s$	1,7 m
Velocity at $h_1$ $v_{h1}$	0,16 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,86 K
Velocity at $l$ $v_l$	0,36 m/s
Temperature difference at $l$ $\Delta t_l$	-2,61 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Notes \*)**

Distance a Since the air jet detaches itself from the ceiling at 3,4 m (2 × 1,7 m), the values for  $vh_1$  and  $\Delta th_1$  may not be achieved.

**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	183	28	30	19	18	16	16	22	23	20	26	28

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-M-LL-AH/1800x1800x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	M	Medium
Arrangement of casings and connections	LL	Casing left side, Water connections left side
Extract air spigot	AH	rear
Total length	1800	
Nominal length	1800	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

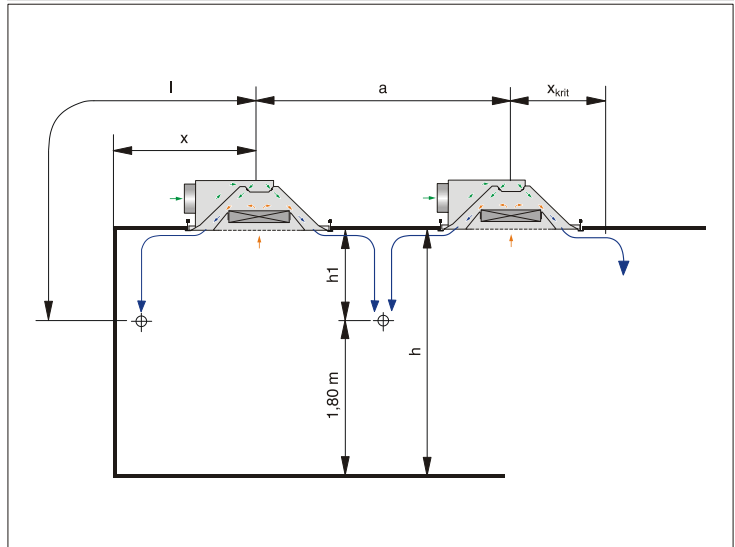
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	105 m <sup>3</sup> /h
Distance a	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 488 W
Thermal output - primary air $Q_{PRI,c}$	-281 W
Thermal output - water $Q_{w,c}$	-1 207 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	346 l/h
Pressure drop, water side $\Delta p_{w,c}$	23,5 kPa
Throw distance $l_s$	2,3 m
Velocity at $h_1$ $v_{h1}$	0,18 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,64 K
Velocity at $l$ $v_l$	0,40 m/s
Temperature difference at $l$ $\Delta t_l$	-1,92 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	159	28	26	21	25	24	23	21	18	< 15	22	24

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-G-RR-AH/2400x2400x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	G	Large
Arrangement of casings and connections	RR	Casing right side, Water connections right side rear
Extract air spigot	AH	
Total length	2400	
Nominal length	2400	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

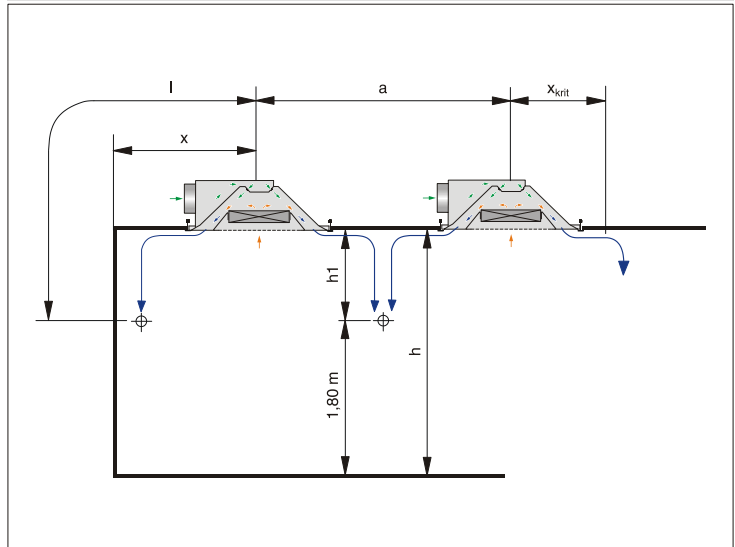
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	150 m <sup>3</sup> /h
Distance a	4,5 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 568 W
Thermal output - primary air $Q_{PRI,c}$	-402 W
Thermal output - water $Q_{w,c}$	-1 166 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	334 l/h
Pressure drop, water side $\Delta p_{w,c}$	28,9 kPa
Throw distance $l_s$	2,5 m
Velocity at $h_1$ $v_{h1}$	0,13 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,49 K
Velocity at $l$ $v_l$	0,33 m/s
Temperature difference at $l$ $\Delta t_l$	-1,52 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	54	30	28	27	31	28	26	16	< 15	< 15	24	26

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.

**DID632-GL-2-Z-RR-AH/1800x1800x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	Z	Small
Arrangement of casings and connections	RR	Casing right side, Water connections right side
Extract air spigot	AH	rear
Total length	1800	
Nominal length	1800	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

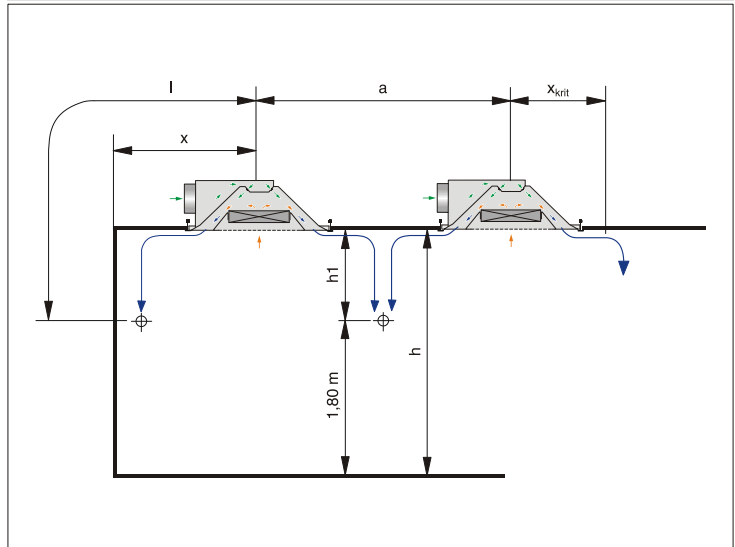
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	77 m <sup>3</sup> /h
Distance a *)	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 434 W
Thermal output - primary air $Q_{PRI,c}$	-206 W
Thermal output - water $Q_{w,c}$	-1 227 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	352 l/h
Pressure drop, water side $\Delta p_{w,c}$	24,2 kPa
Throw distance $l_s$	1,7 m
Velocity at $h_1$ $v_{h1}$	0,16 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,86 K
Velocity at $l$ $v_l$	0,36 m/s
Temperature difference at $l$ $\Delta t_l$	-2,61 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Notes \*)**

Distance a Since the air jet detaches itself from the ceiling at 3,4 m (2 × 1,7 m), the values for  $v_{h1}$  and  $\Delta t_{h1}$  may not be achieved.

**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	183	28	30	19	18	16	16	22	23	20	26	28

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.



**DID632-GL-2-M-LL-AV/1800x1800x593/LE**



Induced air grille	GL	longitudinal grille
Heat Exchanger	2	2-Pipes
Nozzle variant	M	Medium
Arrangement of casings and connections	LL	Casing left side, Water connections left side
Extract air spigot	AV	front
Total length	1800	
Nominal length	1800	
Width of front frame	593	
Air control blades	LE	With air control blades
Total amount	1	

**Input Data**

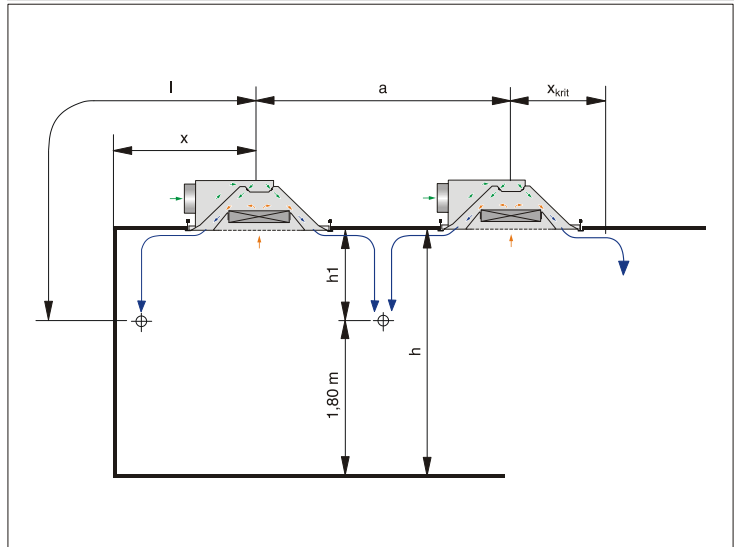
Strategy: Cooling mode – given water

Primary air volume flow rate $V_{PRI}$	95 m <sup>3</sup> /h
Distance a	4,0 m
Distance x	1,0 m
Distance $h_1$	1,2 m
Primary air temperature $t_{PRI,c}$	18,0 °C
Room temperature $t_{r,c}$	26,0 °C
Relative humidity of the air $\phi_p$	40
Water flow temperature $t_{w,s,c}$	16,0 °C
Water return temperature $t_{w,r,c}$	19,0 °C

**Results**

Distance $(h_1 + x) l$	2,2 m
Total thermal output – cooling $Q_{t,c}$	-1 371 W
Thermal output - primary air $Q_{PRI,c}$	-254 W
Thermal output - water $Q_{w,c}$	-1 116 W
Dew point $t_{dp}$	11,4 °C
Water flow rate $V_{w,c}$	320 l/h
Pressure drop, water side $\Delta p_{w,c}$	20,4 kPa
Throw distance $l_s$	2,0 m
Velocity at $h_1$ $v_{h1}$	0,16 m/s
Temperature difference at $h_1$ $\Delta t_{h1}$	-0,65 K
Velocity at $l$ $v_l$	0,36 m/s
Temperature difference at $l$ $\Delta t_l$	-1,96 K
Air density ?	1,2 Kg/m <sup>3</sup>

**Functional diagram**



**Acoustic results**

	$\Delta p_t$ [Pa]	LWA [dB(A)]	63Hz [dB]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1kHz [dB]	2kHz [dB]	4kHz [dB]	8kHz [dB]	LWNC [dB]	LWNR [dB]
Active part	130	25	24	18	23	21	20	17	< 15	< 15	18	20

**Description**

Active chilled beams of Type DID632, with twoway air discharge and high thermal output, providing high thermal comfort levels. For installation flush with the ceiling, preferably in rooms with a height up to 4.0 m. The units consist of a casing with suspension points, a spigot, noncombustible nozzles, and a horizontal heat exchanger. Nozzles in four sizes to optimise induction based on demand.





**FläktGroup CAIRplus SX 096.096IVBV - 1 ks**

**Název zařízení: VZT4-5NP západ**

**Pozice zákazníka: 3**

**GEA poz.: 30**

údaje o jednotce 1

funkce	Přívod
objemový proud	6275 m <sup>3</sup> /h
Rychlost	1.9 m/s
Třída rychlosti	V3
(DIN/EN13053/A1-2012-02)	
Třída spotřeby elektrické energie	P1
(DIN/EN13053/A1-2012-02)	
Externí tlak	300 Pa
SFPv	1.17 kW/(m <sup>3</sup> /s)
Třída SFPv	SFP 3
(bez externích komponent)	
funkce	Odvod
objemový proud	5605 m <sup>3</sup> /h
Rychlost	1.7 m/s
Třída rychlosti	V2
(DIN/EN13053/A1-2012-02)	
Třída spotřeby elektrické energie	P1
(DIN/EN13053/A1-2012-02)	
Externí tlak	400 Pa
SFPv	0.99 kW/(m <sup>3</sup> /s)
Třída SFPv	SFP 2
Eurovent-	
AHU Energy Efficiency Class	A (2016)
Graf teploty Eurovent	-15.0 °C
RLT Energie Effizienz Klasse	
Třída rekuperace	H1
(DIN/EN13053/A1-2012-02)	
SFPv (zhodnocený průměr)	1.08 kW/(m <sup>3</sup> /s)
SFPv třída (zhodnocený průměr)	SFP 3
(bez externích komponent)	

**Splňuje nařízení EU č.1253/2014 (větrací VZT jednotky)**

Typ jednotky	Splňuje 2018 !
Typ jednotky	ZLA Kombinovaná - přívod / odvod
Typ pohonu:	Větrací jednotka pro jiné než obytné budovy

- Pro shodu s ErP je regulace otáček požadována ze strany stavby.

Výstražné zařízení filtru:

- Pro dosažení shody s ErP 2018 je nutné osazení optického manometru diferenčního tlaku nebo zvukového výstražného zařízení.

Typ ZZT	Deskový výměník
Účinnost ZZT - eta/eta Norm	75/73 %
Měrný příkon větracích komponent: SVLint/SVLint limit	732/912 W/(m <sup>3</sup> /s)
Tlaková ztráta větracích komponent Delps,int	459 Pa
Vnější netěsnost	1.49 %
Maximální vnitřní netěsnost	0.5 %
Způsob použití:	Standard
Místo instalace:	Vnější instalace
Směr vzduchu:	Horizontální



**FläktGroup Czech Republic a.s.**

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**FläktGroup CAIRplus SX 096.096IVBV - 1 ks**

**Název zařízení: VZT4-5NP východ**

**Pozice zákazníka: 4**

**GEA poz.: 40**

údaje o jednotce 1

funkce	Přívod
objemový proud	6094 m <sup>3</sup> /h
Rychlost	1.8 m/s
Třída rychlosti	V2
(DIN/EN13053/A1-2012-02)	
Třída spotřeby elektrické energie	P1
(DIN/EN13053/A1-2012-02)	
Externí tlak	300 Pa
SFPv	1.14 kW/(m <sup>3</sup> /s)
Třída SFPv	SFP 3
(bez externích komponent)	
funkce	Odvod
objemový proud	6764 m <sup>3</sup> /h
Rychlost	2.0 m/s
Třída rychlosti	V3
(DIN/EN13053/A1-2012-02)	
Třída spotřeby elektrické energie	P1
(DIN/EN13053/A1-2012-02)	
Externí tlak	400 Pa
SFPv	1.13 kW/(m <sup>3</sup> /s)
Třída SFPv	SFP 3
Eurovent-	
AHU Energy Efficiency Class	B (2016)
Graf teploty Eurovent	-15.0 °C
RLT Energie Effizienz Klasse	
Třída rekuperace	H1
(DIN/EN13053/A1-2012-02)	
SFPv (zhodnocený průměr)	1.13 kW/(m <sup>3</sup> /s)
SFPv třída (zhodnocený průměr)	SFP 3
(bez externích komponent)	

**Splňuje nařízení EU č.1253/2014 (větrací VZT jednotky)**

Splňuje 2018 !  
 ZLA Kombinovaná - přívod / odvod  
 Větrací jednotka pro jiné než obytné budovy

Typ jednotky  
 Typ jednotky  
 Typ pohonu:  
 - Pro shodu s ErP je regulace otáček požadována ze strany stavby.

Výstražné zařízení filtru:  
 - Pro dosažení shody s ErP 2018 je nutné osazení optického manometru diferenčního tlaku nebo zvukového výstražného zařízení.

Typ ZZT	Deskový výměník
Účinnost ZZT - eta/eta Norm	74/73 %
Měrný příkon větracích komponent: SVLint/SVLint limit	847/862 W/(m <sup>3</sup> /s)
Tlaková ztráta větracích komponent Delps,int	532 Pa
Vnější netěsnost	1.56 %
Maximální vnitřní netěsnost	0.5 %
Způsob použití:	Standard
Místo instalace:	Vnější instalace
Směr vzduchu:	Horizontální



**FläktGroup Czech Republic a.s.**

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