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**Cell silencers**

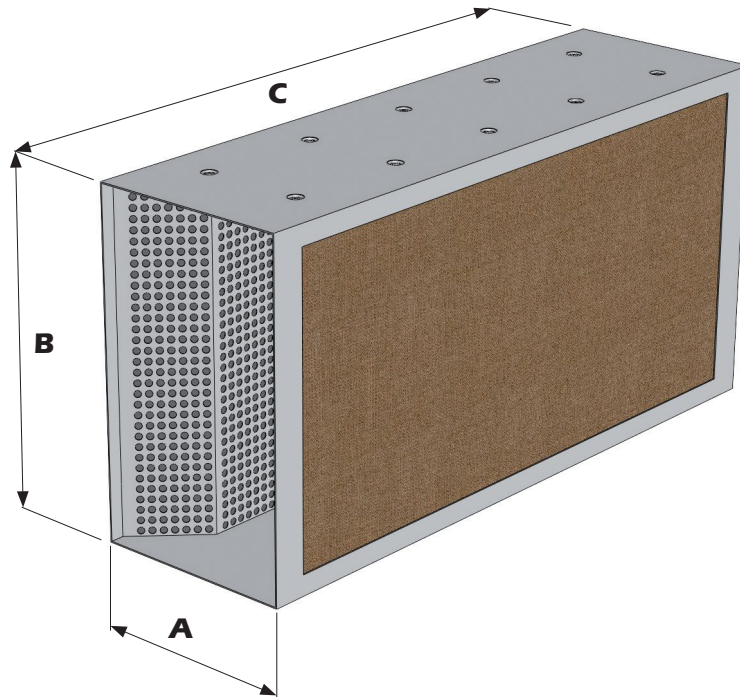
**JTH**



## Cell Silencers

The Cell Silencer is suitable to be used within air conditioning ductwork, into structural openings or air handling equipment, wherever noise reduction is required. The cores are manufactured using galvanised sheet steel as a standard, have slide on flanges & achieves a low pressure loss with a low self-noise L<sub>w</sub>.

- Standard cores are suitable for non-abrasive air mass up to maximum of 200 deg °C .
- Where required, cores can be suitable for hygienic processes with use of alternative materials (stainless steel).
- The wide range of dimensions available ensures that it can be used within most duct profiles, with the possibility of joining different sized units together, side by side or on top of each other. (However we would not recommend mixing different lengths).
- The Silencers can be fitted either horizontally or vertically or upright.
- Easy installation into ductwork.
- Ducting can be supplied along with the Silencer.



## TECHNICAL DATA – DIMENSIONS

Type	„A“ * [mm]	„B“ * [mm]	„C“ [mm]	Weight [kg]
JTH 200/300/1000	200	300	1000	8,4
JTH 200/300/1500	200	300	1500	11,5
JTH 200/300/2000	200	300	2000	14,7
JTH 250/300/1000	250	300	1000	9,5
JTH 250/300/1500	250	300	1500	13,3
JTH 250/300/2000	250	300	2000	17,0
JTH 300/300/1000	300	300	1000	9,9
JTH 300/300/1500	300	300	1500	13,8
JTH 300/300/2000	300	300	2000	17,7
JTH 400/300/1000	400	300	1000	11,2
JTH 400/300/1500	400	300	1500	15,7
JTH 400/300/2000	400	300	2000	20,3

Type	„A“ * [mm]	„B“ * [mm]	„C“ [mm]	Weight [kg]
JTH 200/500/1000	200	500	1000	12,3
JTH 200/500/1500	200	500	1500	16,7
JTH 200/500/2000	200	500	2000	21,1
JTH 250/500/1000	250	500	1000	13,9
JTH 250/500/1500	250	500	1500	19,1
JTH 250/500/2000	250	500	2000	24,3
JTH 300/500/1000	300	500	1000	14,3
JTH 300/500/1500	300	500	1500	19,6
JTH 300/500/2000	300	500	2000	25,0
JTH 400/500/1000	400	500	1000	15,8
JTH 400/500/1500	400	500	1500	21,9
JTH 400/500/2000	400	500	2000	28,0
JTH 500/500/1000	500	500	1000	17,5
JTH 500/500/1500	500	500	1500	24,5
JTH 500/500/2000	500	500	2000	31,5

\* - production dimensions are in reality about 3mm smaller than the ordered dimensions due to easy installation into the ductworks; that means JTH 400/300 – real dimensions 397/297mm.

## ACOUSTIC DATA

Silencer type	Silencer attenuation – in frequencies [dB]										Pressure loss coefficient
	32 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	TOT Hz	$\xi$
JTH 200/300/1000	2,7	7,0	10,2	14,7	28,4	31,7	23,3	20,9	20,5	<b>34,3</b>	2,8
JTH 200/300/1500	4,1	9,9	14,4	20,9	37,9	37,1	26,9	25,1	26,4	<b>41,0</b>	3,3
JTH 200/300/2000	6,4	14,9	18,0	24,9	43,2	45,5	30,3	29,3	29,7	<b>47,7</b>	3,64
JTH 250/300/1000	3,2	8,6	11,0	15,9	29,7	30,7	22,7	20,8	18,7	<b>34,0</b>	3,0
JTH 250/300/1500	4,8	13,6	15,2	22,6	39,5	38,2	26,1	25,1	24,4	<b>42,2</b>	3,54
JTH 250/300/2000	7,4	19,5	20,0	27,3	45,7	42,1	29,1	26,1	26,1	<b>47,5</b>	3,9
JTH 300/300/1000	4,1	7,5	11,2	17,3	29,0	38,1	28,3	24,5	18,0	<b>39,2</b>	2,8
JTH 300/300/1500	6,2	11,8	16,2	24,8	40,3	42,9	32,8	30,9	21,7	<b>45,3</b>	3,3
JTH 300/300/2000	9,5	16,6	22,1	31,7	48,1	46,2	34,7	31,8	23,1	<b>50,5</b>	3,64
JTH 400/300/1000	5,9	7,6	12,4	18,5	18,2	22,0	19,4	13,1	10,3	<b>26,4</b>	1,9
JTH 400/300/1500	10,7	13,3	18,1	29,3	26,8	29,1	24,8	16,2	13,2	<b>34,1</b>	2,24
JTH 400/300/2000	16,3	18,3	25,6	39,1	34,6	32,6	28,2	19,4	15,0	<b>41,5</b>	2,47

Silencer type	Silencer attenuation – in frequencies [dB]										Pressure loss coefficient
	32 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	TOT Hz	$\xi$
JTH 200/500/1000	4,9	10,1	12,4	20,5	28,1	33,1	23,8	21,7	21,7	<b>35,3</b>	2,8
JTH 200/500/1500	6,9	13,4	17,9	27,7	40,5	37,8	26,8	24	26,1	<b>42,8</b>	3,3
JTH 200/500/2000	10,6	19,1	24,5	34,4	50,1	43,7	29,9	27,9	30,5	<b>51,2</b>	3,64
JTH 250/500/1000	5,4	11,4	13,5	22,8	30,9	32,8	24,7	23,4	20,5	<b>36,0</b>	3,0
JTH 250/500/1500	12,1	16,1	20,0	31,8	43,8	38,6	26,7	25,9	25,4	<b>45,3</b>	3,54
JTH 250/500/2000	13,7	20,7	25,0	36,2	47,2	44,3	29,5	28,4	27,2	<b>49,4</b>	3,9
JTH 300/500/1000	6,1	7,8	12,7	17,4	19,6	29,9	27,0	21,3	15,5	<b>32,6</b>	2,8
JTH 300/500/1500	10,1	12,6	18,2	23,2	27,9	35,7	33,2	29,3	19,5	<b>38,8</b>	3,3
JTH 300/500/2000	16,2	20,1	27,1	34,2	34,9	38,9	36,6	33,1	22,0	<b>43,2</b>	3,64
JTH 400/500/1000	7,7	9,4	12,6	20,6	20,4	21,0	17,4	11,8	10,1	<b>26,6</b>	1,9
JTH 400/500/1500	12,2	14,0	18,3	28,9	29,2	24,7	21,5	15,3	12,1	<b>33,4</b>	2,24
JTH 400/500/2000	19,1	22,3	27,1	38,9	34,7	34,8	23,5	18,0	13,5	<b>41,7</b>	2,47
JTH 500/500/1000	7,7	9,4	13,3	17,3	20,9	18,7	16,2	10,3	8,4	<b>25,3</b>	1,8
JTH 500/500/1500	11,8	14,2	18,8	25,0	29,8	27,1	21,9	12,9	10,4	<b>33,2</b>	2,12
JTH 500/500/2000	19,7	22,4	27,6	34,5	37,7	34,2	26,1	14,7	11,8	<b>41,0</b>	2,34

\* - silencers' attenuation is valid for assembly in ductwork.

## SELF-NOISE OF SILENCER SOUND POWER $L_w$

Through the aerodynamic construction, quality processing of the cell is the self-noise almost negligible for standard required falls of silencer proposal. We recommend while designing to use the selection program **AKUAIR**, where are all the relevant questions solved in details.

Self-noise with the velocity 4m/s = 24 dB(A), 6m/s = 38 dB(A)

## SILENCER PRESSURE LOSS

Silencer pressure loss is calculated as follows:

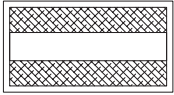
$$\Delta p = \rho \times 0,5 \times \xi \times v^2$$

$\rho$  - density of dry air [kg/m<sup>3</sup>]

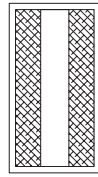
$\xi$  - pressure loss coefficient [see the tablet above]

V - air speed in ductwork A x B [m/s]

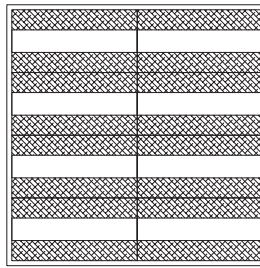
## POSITION OF SILENCERS IN DUCTWORKS OR IN STRUCTURAL OPENINGS



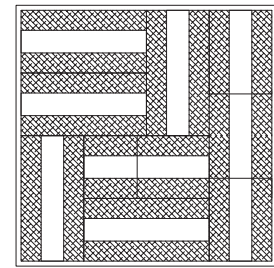
horizontal  
- single placement



vertical  
- single placement

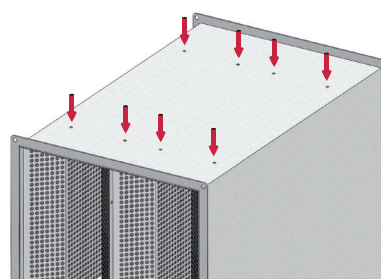
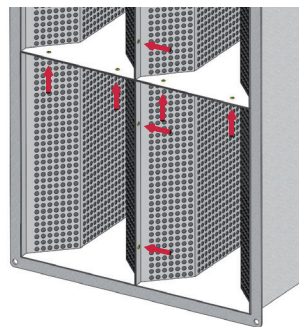
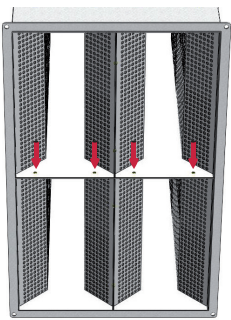


vertical or horizontal  
- combined placement,  
even geometry



vertical or horizontal  
- combined placement,  
**uneven geometry**

## CELL ASSEMBLY INTO DUCTWORK – SILENCER CONNECTION AND ANCHORAGE



Connection of cell silencers in ductworks is made via self-cutting screws or rivets. It is suitable to make the connection always in horizontal and also vertical part of the silencer. While positioning the silencers into the ductworks, it doesn't matter in which order nor position they will be placed. It is useful to fix the silencers in the ductworks, in that part where the air mass doesn't stream.

### ORDER KEY:

JTH - 200 / 300 / 1500

JTH - standard cell silencer  
(galvanized steel plate, temperature resistance up to 200°C)

JTHH - cell silencer; hygienic version  
(galvanized steel pl., temp. resistance up to 90°C)

JTHX - atypical cell silencer  
(f.e. S/S plate, other temp. resistance, version)

„width”  
200 mm  
250 mm  
300 mm  
400 mm  
500 mm

„height”  
300 mm  
500 mm

„length”  
1000 mm  
1500 mm  
2000 mm

### SELECTION PROGRAM



To make easy proposal and selection of the right combination of silencers in accordance with noise source and complete noise situation in ductwork, we have developed a special program for this purpose - **AKUAIR**

Representative:



**STAVOKLIMA s.r.o.**

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