Wall external intake acoustic damping louvres CzS-T

Description and application

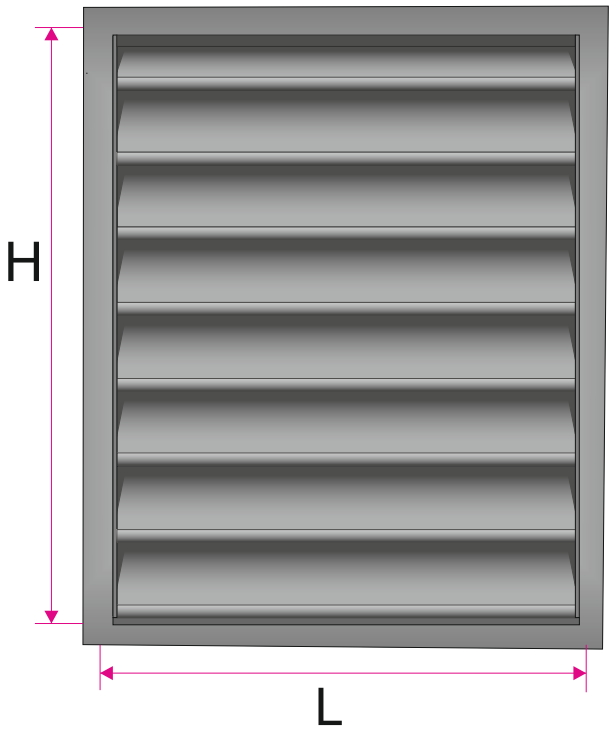
Rectangular wall external intake acoustic damping louvre used in ventilation installation intake and exhaust as the end of air intake pipes and ventilation holes in the walls of buildings or directly on the duct. Thanks to a specially designed louvres, ideal where apart from protection against weather conditions required are elevated acoustic parameters. As the material used for silencing was here mineral wool with a veil of fiberglass. In standard used is protective mesh that protects before the bird, rodent and larger impurities (like the leaves) inside the installation.

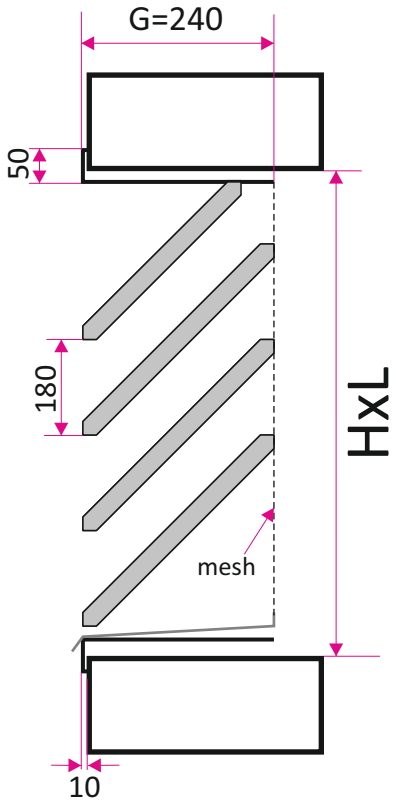
Material and workmanship

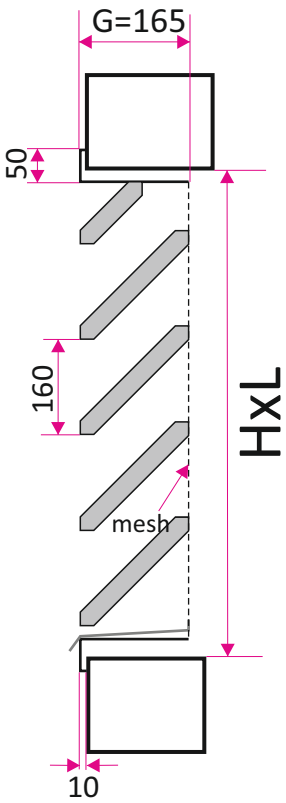
External intake louvre frame is made of galvanized steel powder coated to any RAL color (standard RAL 9006).
The blades are made of profiled galvanized steel and mesh,powder coated to any RAL color (standard RAL 9006).
As the material used for silencing is mineral wool with a veil of fiberglass. Directly behind the intake louvre is a steel mesh expanded metal (standard N16). On request it is possible to make a special external intake louvres of aluminum and stainless steel (1.4301 lub 1.4404)
The manufacturer reserves the right to make technological changes..

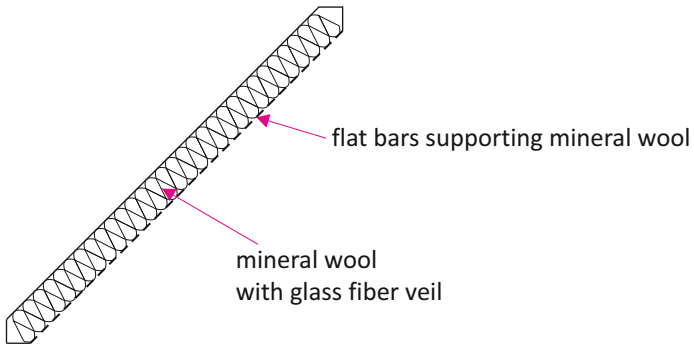
Size

Intake acoustic damping louvres are manufactured to order. Louvre dimension by the customer request.
L - width of the mounting hole
H - height of the mounting hole



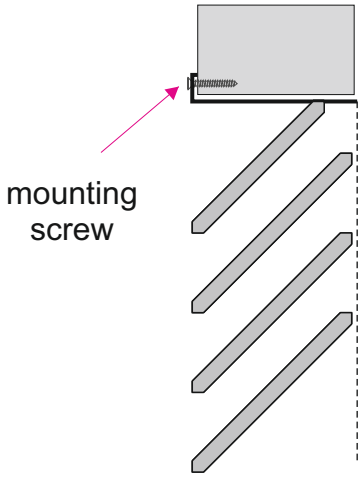






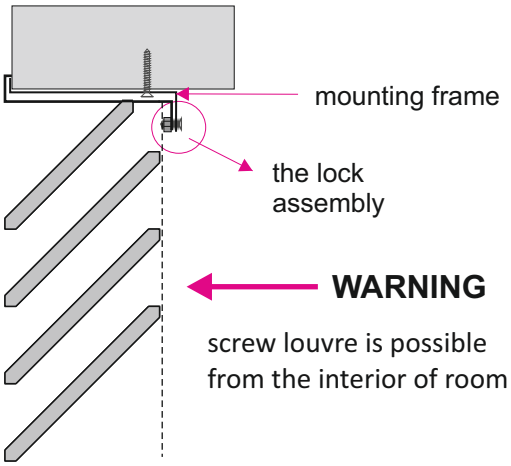
Methods of mounting

W1

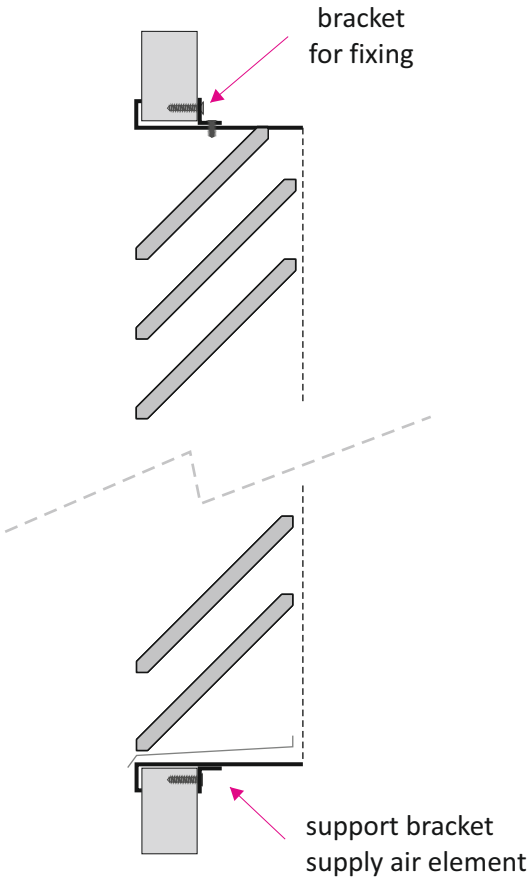


Assembling visible through screws and mounting holes in the louvre frame.

W2



Assembling invisible by screws and lock assembly in mounting frame RM - the preferred option in the case of split air intake louvre with the substructure.



W3

Installation invisible by brackets screwed from the inside of the room.
The preferred option where the width partition / wall is less than the depth of the louvre.

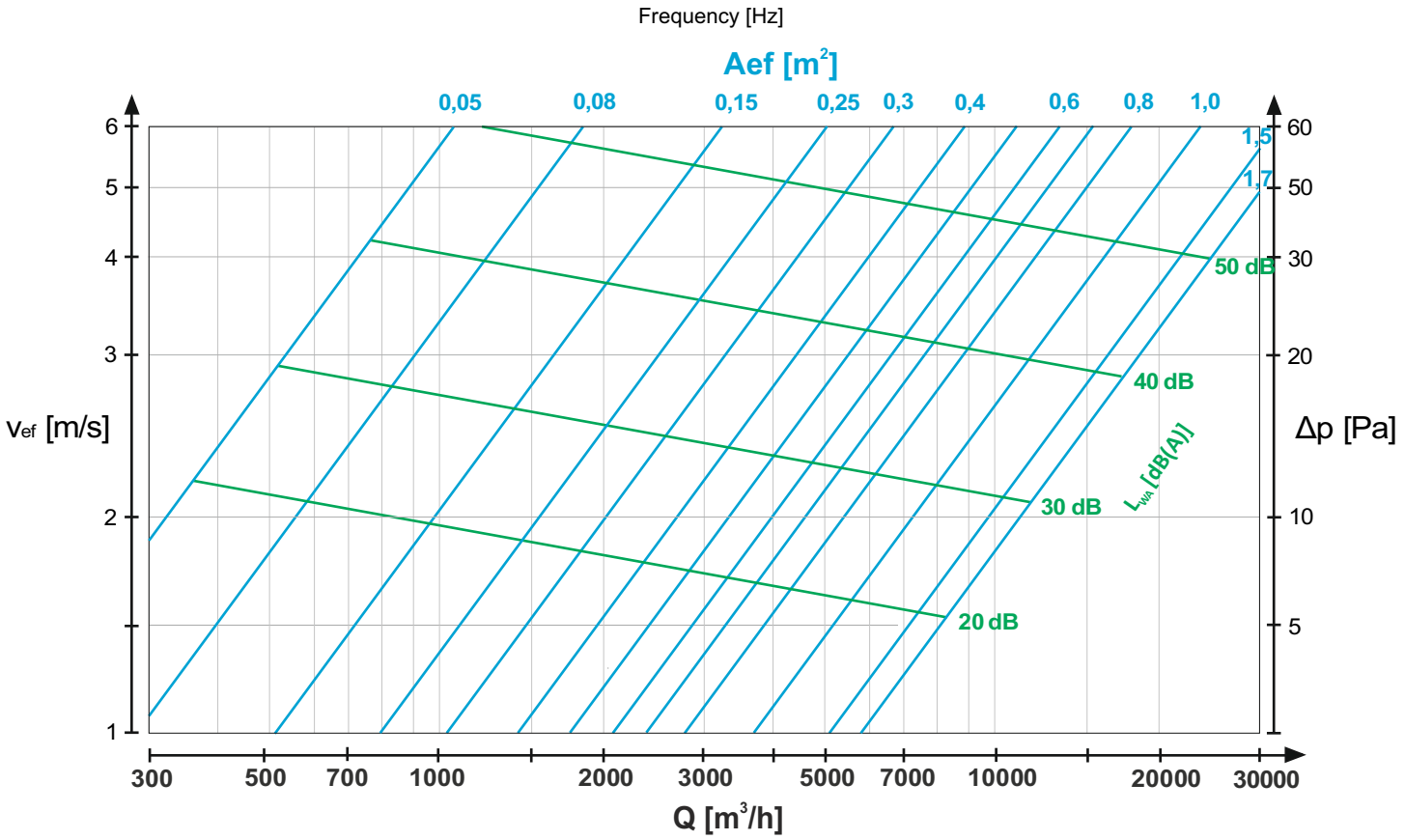
Is possible to make intake in other depths (size G) (negotiable)

Other mounting options to be negotiated.

Effective flow area CzS-T 165 (sample dimensions)

H \ L	600	800	1000	1200	1400	1600	1800	2000
mm	Aef (m^2) effective flow area							
600	0,18	0,24	0,31	0,37	0,43	0,49	0,55	0,61
800	0,24	0,33	0,41	0,49	0,57	0,65	0,73	0,82
1000	0,31	0,41	0,51	0,61	0,71	0,82	0,92	1,02
1200	0,37	0,49	0,61	0,73	0,86	0,98	1,10	1,22
1400	0,43	0,57	0,71	0,86	1	1,14	1,29	1,43
1600	0,49	0,65	0,82	0,98	1,14	1,31	1,47	1,63
1800	0,55	0,73	0,92	1,10	1,29	1,47	1,65	1,84
2000	0,61	0,82	1,02	1,22	1,43	1,63	1,84	2,04

Pressure drop and acoustic power level CzS-T 165



Symbol:

Q [m^3/h]- air volume flow

$\mathbf{L_{WA}}$ [dB(A)]- acoustic power level

$\mathbf{v_{ef}}$ [m/s]- effective speed

Δp [Pa]- pressure drop

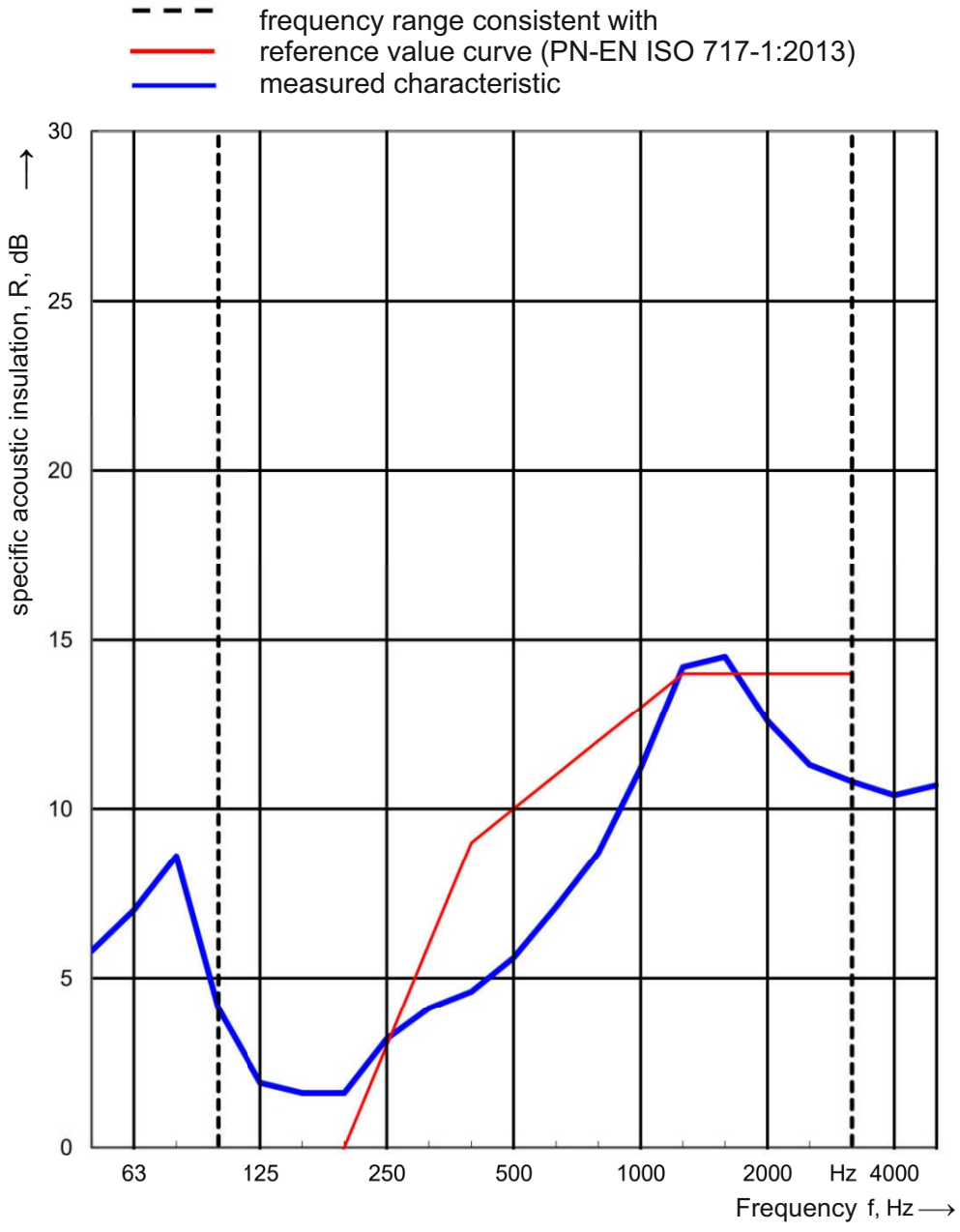
$\mathbf{A_{ef}}$ [m^2]- effective area louver

Wall external intake acoustic damping louvres CzS-T

Proper acoustic insulation determined according to PN-EN ISO 10140-2: 2011 CzS-T 165

Air temperature	17,7ºC
Relative air humidity	40,2%
The mass	-
Sample surface	1,8 m^2.
Outgoing chamber volume	212,0 m^3.
Receiving chamber volume	191,0m^3

Frequency f [Hz]	R 1/3 octave [dB]
50	5,8
63	7,0
80	8,6
100	4,1
125	1,9
160	1,6
200	1,6
250	3,2
315	4,1
400	4,6
500	5,6
630	7,1
800	8,7
1000	11,2
1250	14,2
1600	14,5
2000	12,6
2500	11,3
3150	10,8
4000	10,4
5000	10,7



Indicators according to PN-EN ISO 717-1: 2013

$R_w(C;C_{tr})$ = 10 (-1 ; -2) dB

Assessment based on the result of laboratory measurements obtained with the engineering method.

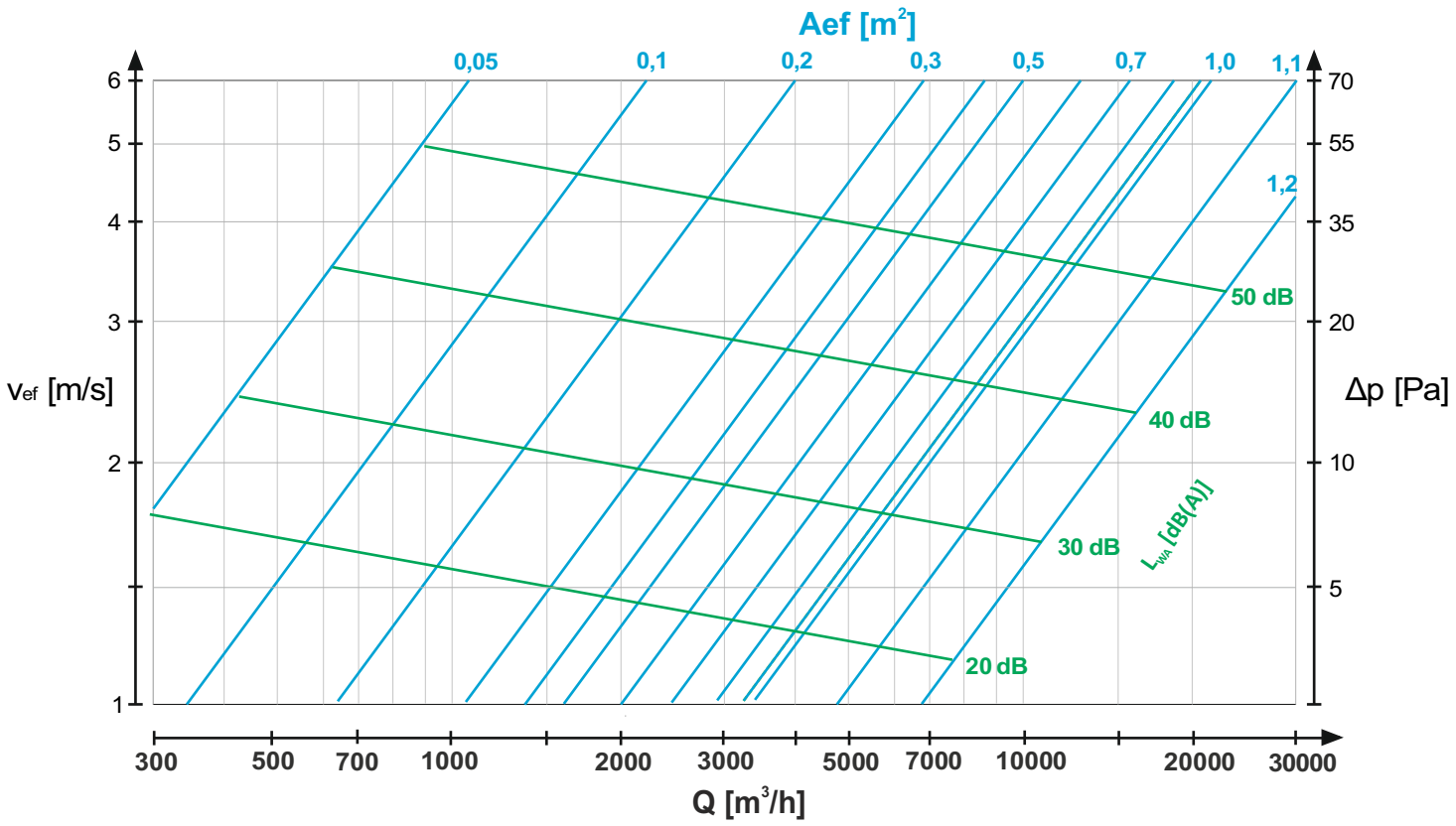
$C_{50\text{-}3150}$ = -1 dB $C_{50\text{-}5000}$ = 0 dB $C_{100\text{-}5000}$ = 0 dB

$C_{tr,50\text{-}3150}$ = -2 dB $C_{tr,50\text{-}5000}$ = -2 dB $C_{tr,100\text{-}5000}$ = -2 dB

Effective flow area CzS-T 240 (sample dimensions)

	600	800	1000	1200	1400	1600	1800	2000
mm	Aef (m^2) effective flow area							
600	0,23	0,31	0,39	0,47	0,55	0,62	0,70	0,78
800	0,31	0,42	0,52	0,62	0,73	0,83	0,94	1,04
1000	0,39	0,52	0,65	0,78	0,91	1,04	1,17	1,13
1200	0,47	0,62	0,78	0,94	1,09	1,25	1,40	1,56
1400	0,55	0,73	0,91	1,09	1,27	1,46	1,64	1,82
1600	0,62	0,83	1,04	1,25	1,46	1,66	1,87	2,08
1800	0,70	0,94	1,17	1,40	1,64	1,87	2,11	2,34
2000	0,78	1,04	1,30	1,56	1,82	2,08	2,34	2,60

Pressure drop and acoustic power level CzS-T 240



Symbol:

Q [m^3/h]- air volume flow

$\mathbf{L_{WA}}$ [dB(A)]- acoustic power level

$\mathbf{v_{ef}}$ [m/s]- effective speed

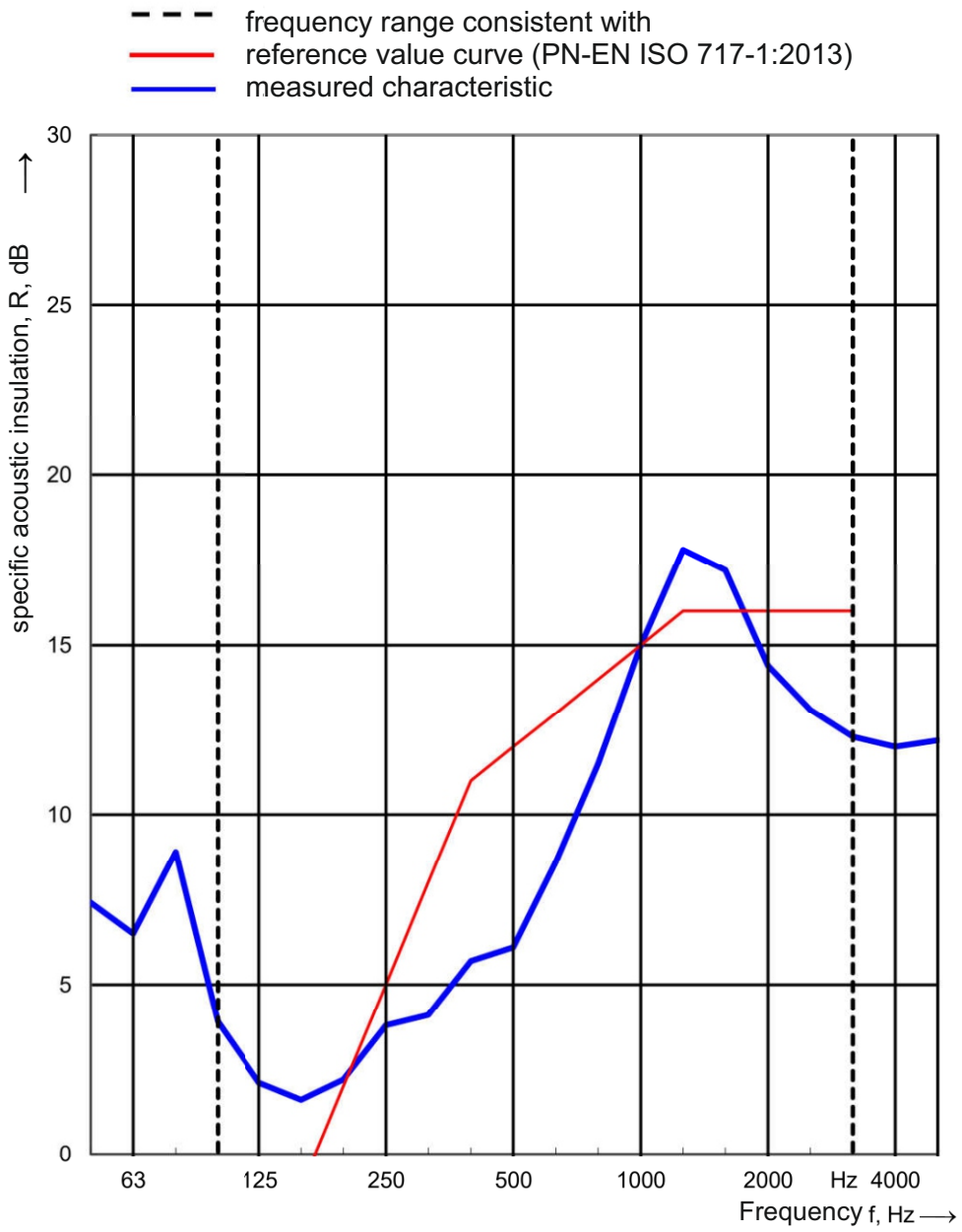
Δp [Pa]- pressure drop

$\mathbf{A_{ef}}$ [m^2]- effective area louver

Proper acoustic insulation determined according to PN-EN ISO 10140-2: 2011 CzS-T 240

Air temperature	17,7ºC
Relative air humidity	40,2%
The mass	-
Sample surface	1,8 m^2.
Outgoing chamber volume	212,0 m^3.
Receiving chamber volume	191,0m^3

Frequency f [Hz]	R 1/3 octave [dB]
50	7,4
63	6,5
80	8,9
100	3,9
125	2,1
160	1,6
200	2,2
250	3,8
315	4,1
400	5,7
500	6,1
630	8,6
800	11,5
1000	15,0
1250	17,8
1600	17,2
2000	14,4
2500	13,1
3150	12,3
4000	12,0
5000	12,2



Indicators according to PN-EN ISO 717-1: 2013

$R_w(C;C_{tr})$ = 12 (-1 ; -3) dB

Assessment based on the result of laboratory measurements obtained with the engineering method.

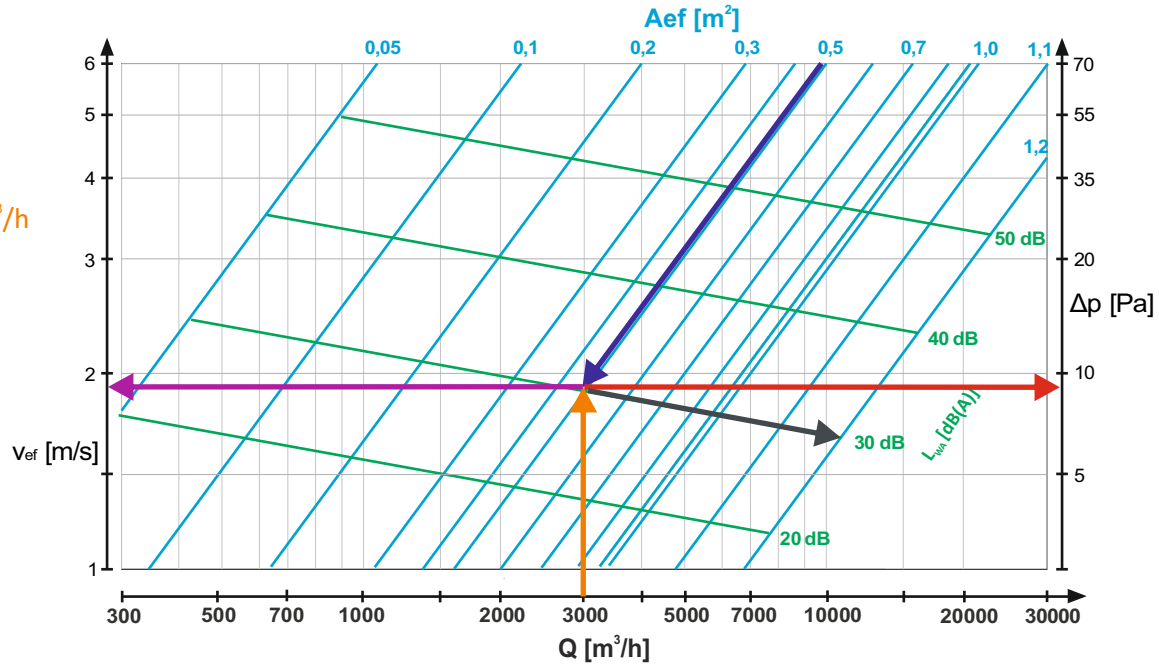
$C_{50\text{-}3150}$ = -1 dB $C_{50\text{-}5000}$ = -1 dB $C_{100\text{-}5000}$ = -1 dB

$C_{tr,50\text{-}3150}$ = -3 dB $C_{tr,50\text{-}5000}$ = -3 dB $C_{tr,100\text{-}5000}$ = -3 dB

EXAMPLE

EXAMPLE for CzS-T 300
Size: 1000x1050
• Aef=0,48 [m^2]
• efficienty louver Q=3000 m^3/h

Reading from the graph:
• acoustic power L_{WA}=30 dB
• drop pressure Δp<10 Pa
• effective speed v_{ef}=1,9 m/s



The method of placing an order

Please make orders according to the following formula:

CzS-T / 'LxH' / 'G' / 'RAL' / 'M' / 'W'

'LxH'	- mounting hole size (width x height) in mm
'G'	- depth of the louvre (eg. 165, 240)
'RAL'	- louvre color according to RAL palette (standard RAL9006*)
'M'	- material:
	OC - powder coated steel*
	AL - aluminum powder coated
	KO - stainless steel / acid proof steel (1.4301 or 1.4404)
'W'	- mounting option:
	W1 - visible assembly with screws through the holes in louvre front frame *
	W2 - -invisible assembly using screws, and an additional mounting frame
	W3 - invisible assembly using screws, and additional support brackets (L)

* - If you don't give the information will be used standard parameters.