Table of content

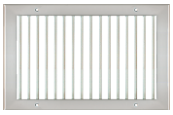
RDJ Klima

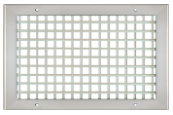
1. STEEL VENTILATION GRILLES

Steel ventilation grilles

Grilles for rectangular ducts


KSH


KSV


KSH-V


KSV-H


KSH-90°/45°


KST


KSH-R


KSH-W


KSH-SW


KWS


KWP


KWK


NWP

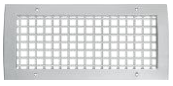

KSH-90°/45°-oc

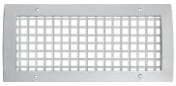

KST-oc / KWS-oc

Grilles for circular ducts


KSH/ø


KSV/ø


KSH-V/ø


KSV-H/ø


KWS/ø


KWS-O

Aluminum ventilation grilles

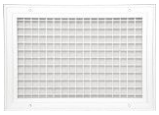
Grilles for rectangular ducts


KSH-al


KSV-al


KSV-H-al


KSH-V-al


KSH-RS-90°/45°-al


KSH-90°/45°-al


KST-al


KSH-R-al


KWS-al


KWP-al


KNK-al


KNK-T-al

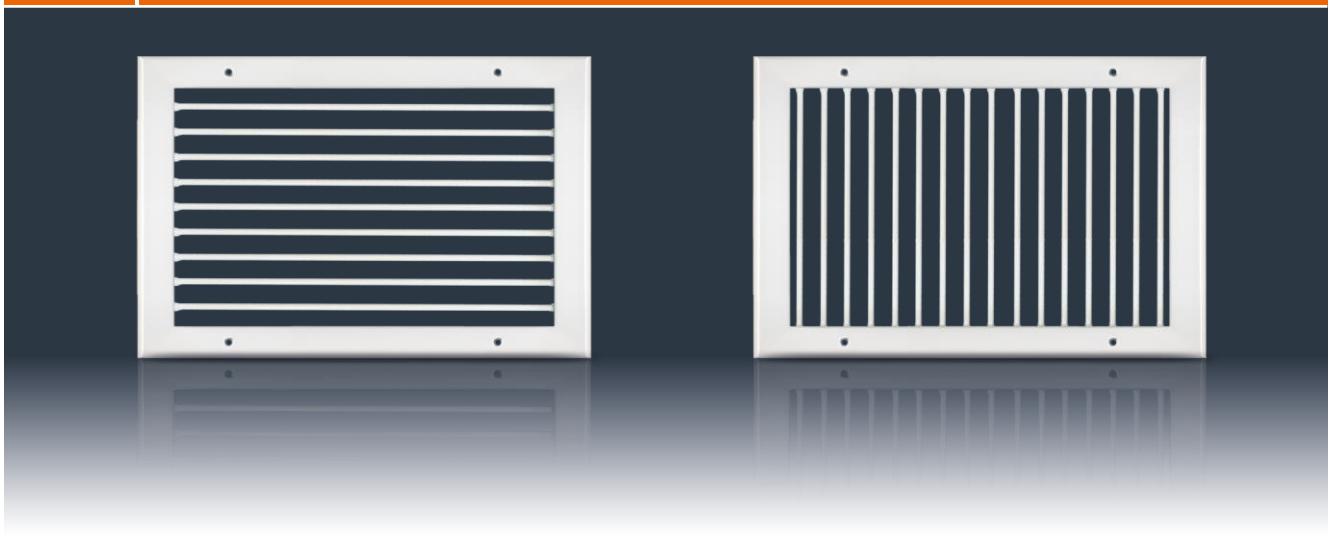

KNP-al


NWP-al

Materials:

Black steel sheet:	- LAF-DC01-A-M-O	(PN-EN 10130:2009)
	- FePO1 A-M-O	(PN-EN 10130, PN-EN 10139)
Galvanized steel:	- GALV-DX51D+Z275-M-A-C	(PN-EN 10142:2003)
	- FePO26 275-M-A-C	(PN-EN 10142:2003, PN-EN 10143:2003, PN-EN 10147:2003)
Stainless steel:	-OH18N9 (1.4301)	(PN-EN 10088-1:2007)
Aluminum profile:	- stop EN-AW-6063	(PN-EN 573-3:1994)
Aluminum sheet:	- 1050A H24	(PN-EN 573-3:2005, PN-EN 485-2:2007)

1.1.1. Single row grilles for rectengular ducts KSH, KSV



Use:
Supply or exhaust in low and medium pressure installation in non- aggressive environment with relative humidity up to 70%

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made of rolle steel profiles. KSH – horizontal blades, KSV – vertical blades, manually set blades. For bigger sizes than H or L more than 600 additional supporter elements (see page. 34)

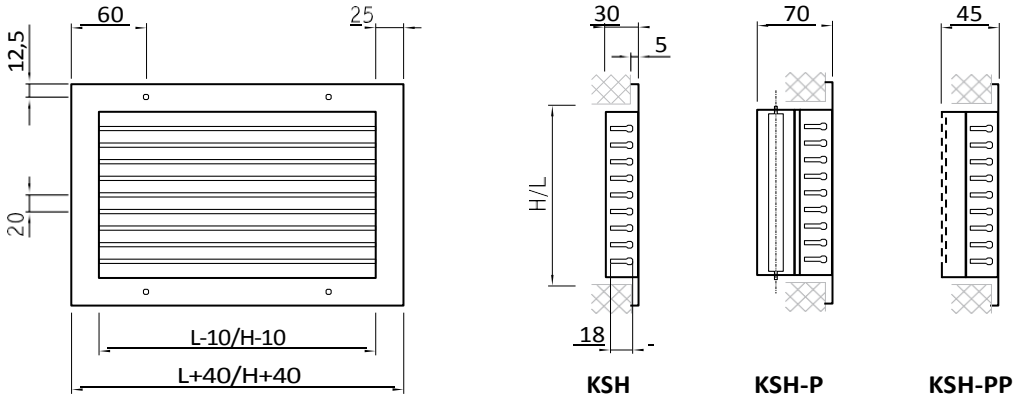
Material:
Black steel sheet, galvanized and stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand

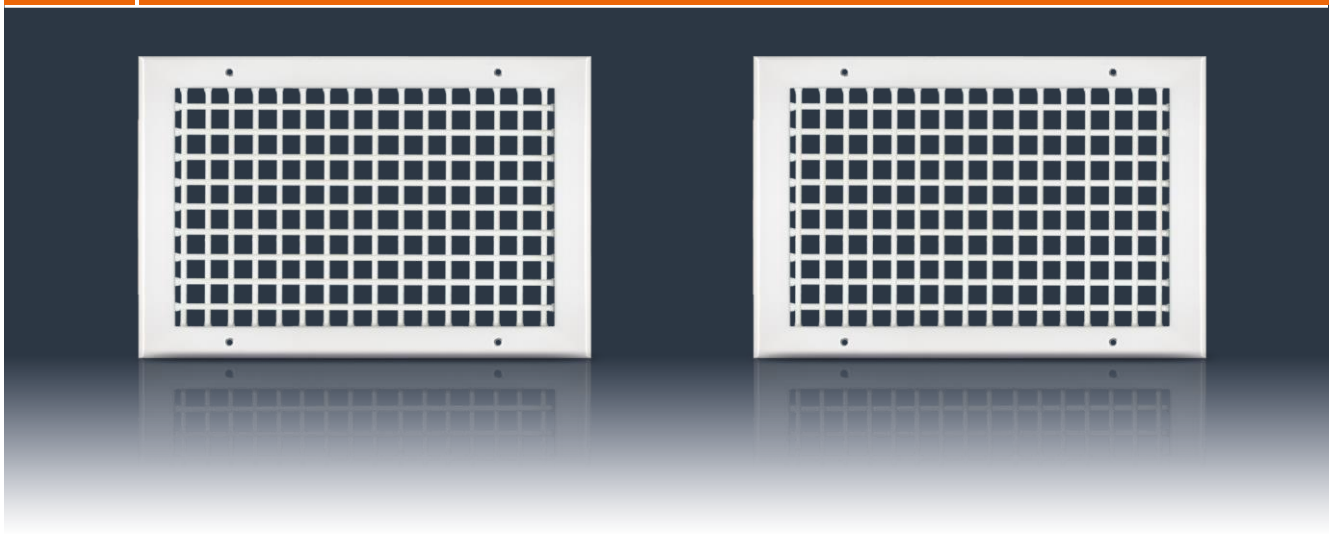
Air flow regulation:
Flow is regulated by opposed blade damper P, a straight slotted damper SP and angular slotted damper SK. Flow regulation can be made from the front without the necessity of dismantling grilles.

Certificates:
Hygienic certificate: BK/K/0926/01/2018
Patent 212417

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



1.1.2. Double row ventilation grilles for rectangular ducts KSH-V, KSV-H



Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made of rolle steel profiles. KSH-V – first horizontal second vertical blades, KSV-H – first vertical second horizontal blades, manually set blades.
For bigger sizes than H or L more than 600 additional supporter elements (see page. 34)

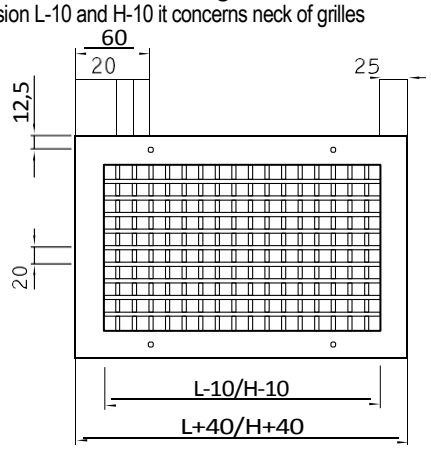
Material:
Black steel sheet, galvanized steel or stainless steel.

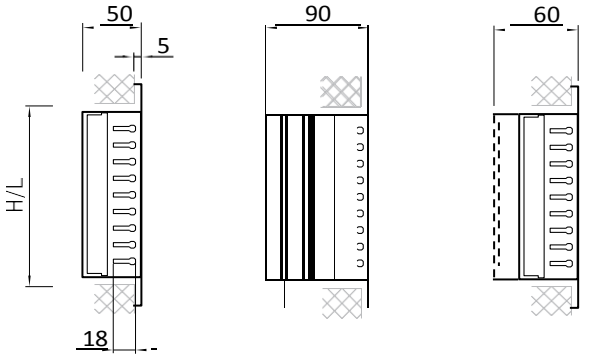
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
Flow is regulated by opposed blade damper P, a straight slotted damper SP and angular slotted damper SK. Flow regulation can be made from the front without the necessity of dismantling grilles

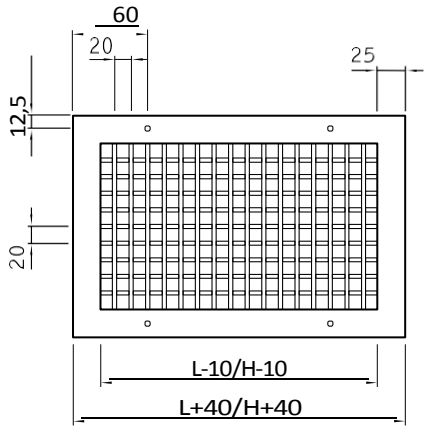
Certificates:
Hygienic certificate: BK/K/0926/01/2018
Patent 212417

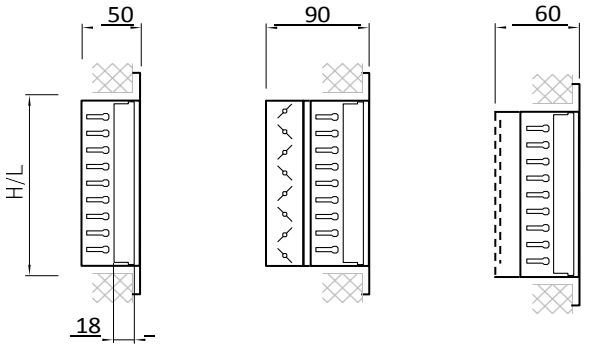
Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles





KSH-V KSH-V-P KSH-V-PP





KSV-H KSV-H-P KSV-H-PP

1.1.3. Ventilation grilles with fixed blades KSH-90°, KSH-45°

Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made of rolle steel profiles. KSH-45- blades are fixed horizontally at 45 degree, KSH-90 blades are fixed horizontally 90 degree. D – additional vertical blades. For bigger sizes than H or L more than 600 additional supporter elements (see page. 34)

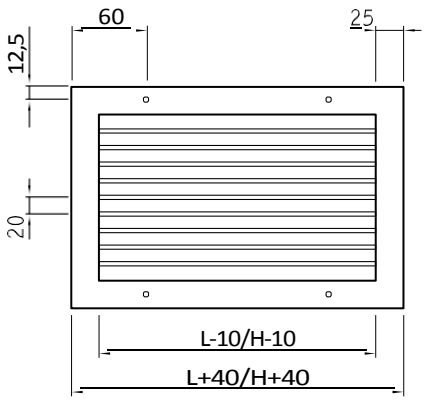
Material:
Black steel sheet, galvanized steel or stainless steel.

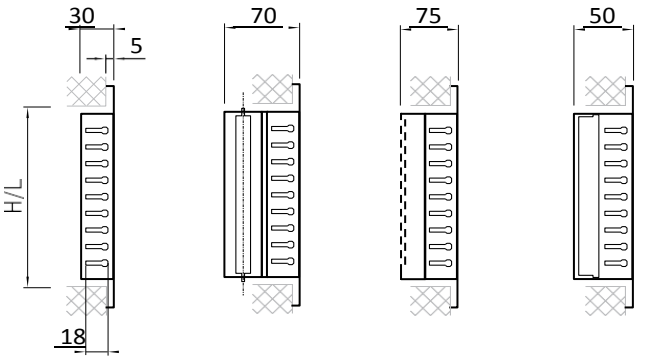
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
Flow is regulated by opposed blade damper P, a straight slotted damper SP and angular slotted damper SK. Flow regulation can be made from the front without the necessity of dismantling grilles

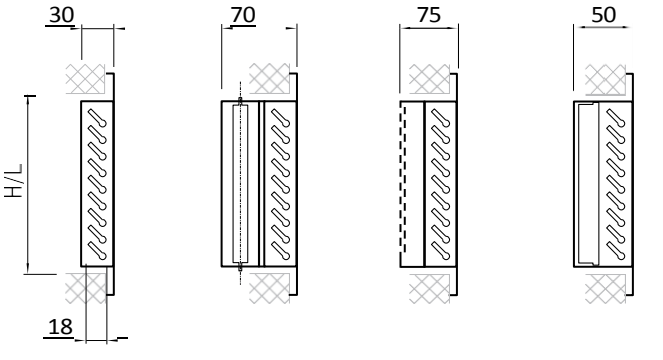
Certificates:
Hygienic certificate: BK/K/0926/01/2018
Patent 212417

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles





KSH-90° KSH-90°-P KSH-90°-SP KSH-90°-D



KSH-45° KSH-45°-P KSH-45°-SP KSH-45°-D

1.1.4. Masking ventilation grilles KST

Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%. It possible to use instead of external louvres or in underground garage.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made of rolle steel profiles. Blades are fixed horizontally at 45 degree.. S – additional net in the neck of grille. For bigger sizes than H or L more than 600 additional supporter elements
(see page. 34)

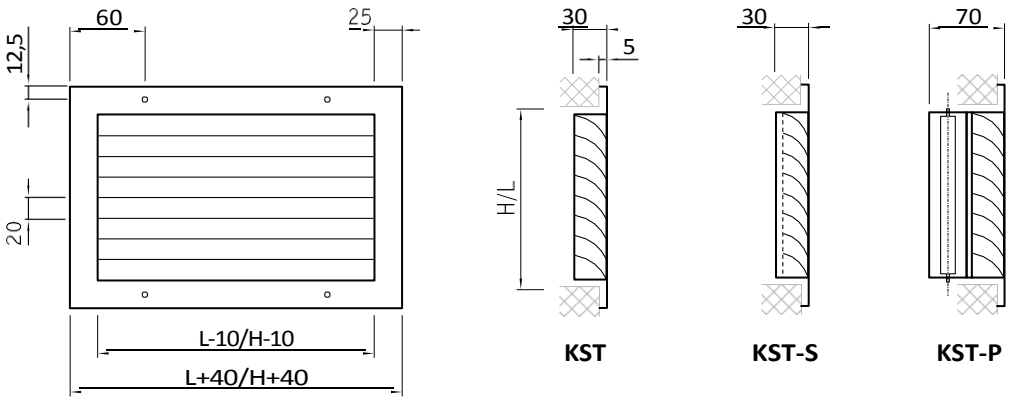
Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles

Certificates:
Hygienic certificate: BK/K/0926/01/2018
Patent 212417

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



1.1.5. Revision grilles KSH-R

Use:
Covering fire dampers and supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

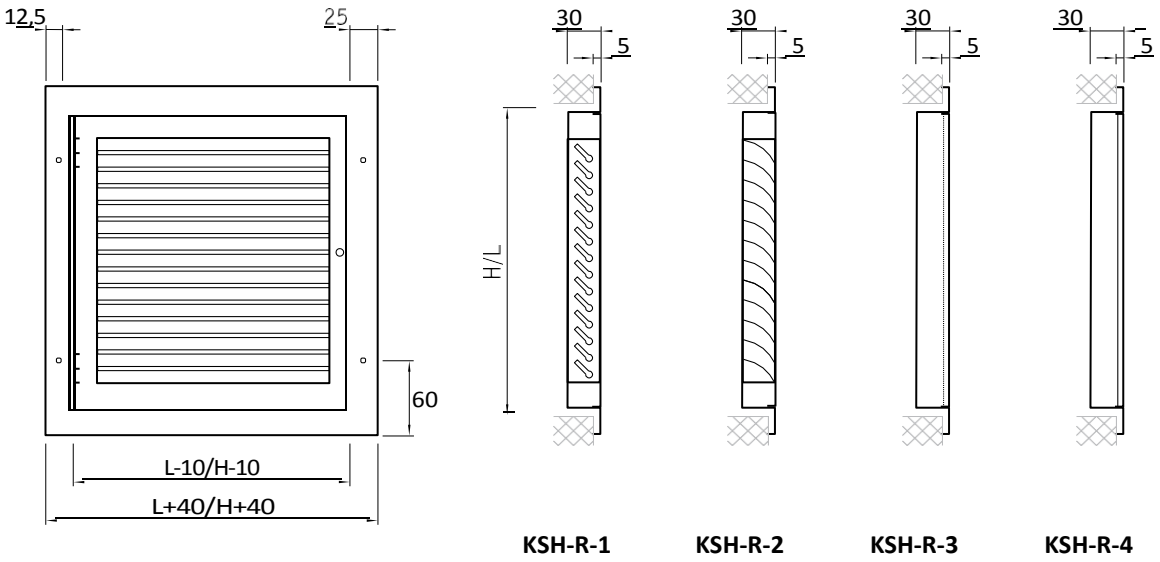
Construction:
Front frame and blades made of rolle steel profiles. KSH-R-1 fixed blades 45°, KSH-R-2 fixed blades 45 as KST, KSH-R-3 with mesh 4,5x9 with effecive air flow 56%, KSH-R-4 full plate of steel.

Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018
Patent 212417

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

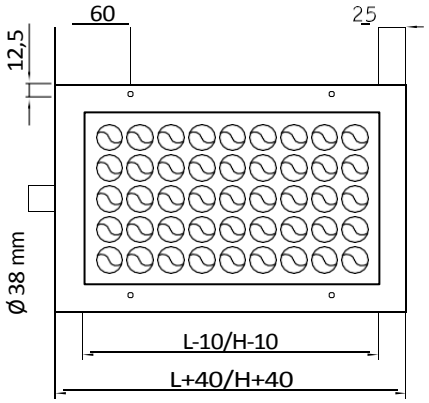


1.1.6. Multi-directional ventilation grilles KSH-W

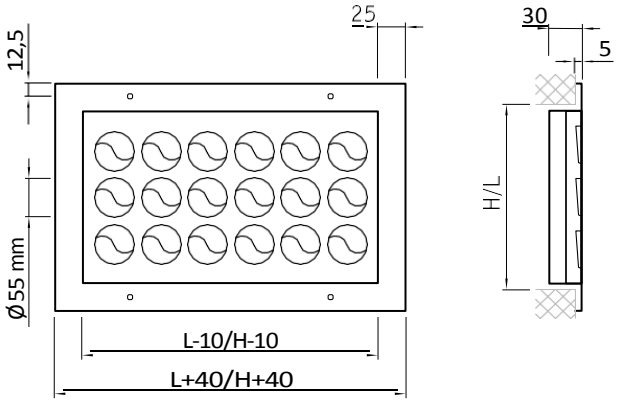
Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.
Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.
Construction:
Front panel with plastic nozzles. Standard diameters of nozzles: 38 mm and 55 mm (for air flow: 6,5 m³/h and 8 m³/h dla 30 LWA[dB(A)]). The colour of nozzles white.

Material:
Black steel sheet, galvanized steel or stainless steel.
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by single-leaf damper in inlet of plenum box
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



KSH-W-1



KSH-W-2

Multi-directional ventilation grilles KSH-W – technical data

Production range and number of nozzles:

KSH-W-1

H \ L	310	410	510	610	810	1010	1210
85	6	–	–	12	–	–	–
95	–	8	–	–	16	–	–
105	–	–	10	–	–	20	–
115	–	–	–	12	–	–	24
130	12	–	–	24	–	–	–
140	–	16	–	–	32	–	–
150	–	–	20	–	–	40	–
160	–	–	–	24	–	–	48
175	18	–	–	36	–	–	–
185	–	24	–	–	48	–	–
195	–	–	30	–	–	60	–
205	–	–	–	36	–	–	72
220	24	–	–	48	–	–	–
230	–	32	–	–	64	–	–
240	–	–	40	–	–	80	–
245	–	–	–	48	–	–	96
265	30	–	–	60	–	–	–
275	–	40	–	–	80	–	–
285	–	–	50	–	–	100	–
295	–	–	–	60	–	–	120
310	36	–	–	72	–	–	–
320	–	48	–	–	96	–	–
330	–	–	60	–	–	120	–
335	–	–	–	72	–	–	144
365	–	56	–	–	112	–	–
375	–	–	70	–	–	140	–
385	–	–	–	84	–	–	168
410	–	64	–	–	128	–	–
420	–	–	80	–	–	160	–
430	–	–	–	96	–	–	192
465	–	–	–	–	–	180	–
475	–	–	–	108	–	–	216
510	–	–	–	–	–	200	–
515	–	–	–	120	–	–	240
565	–	–	–	132	–	–	264
610	–	–	–	144	–	–	288

KSH-W-2

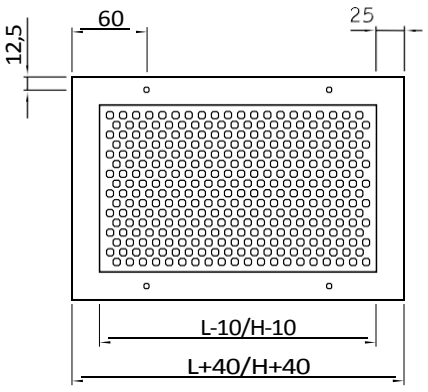
H \ L	310	410	510	610	810	1010	1210
105	4	–	–	7	–	–	–
110	–	5	–	–	10	–	–
115	–	–	6	–	–	12	–
120	–	–	–	7	–	–	14
175	8	–	–	14	–	–	–
185	–	10	–	–	20	–	–
195	–	–	12	–	–	24	–
200	–	–	–	14	–	–	28
245	12	–	–	21	–	–	–
260	–	15	–	–	30	–	–
270	–	–	18	–	–	36	–
285	–	–	–	21	–	–	42
310	16	–	–	28	–	–	–
335	–	20	–	–	40	–	–
350	–	–	24	–	–	48	–
365	–	–	–	28	–	–	56
410	–	25	–	–	50	–	–
430	–	–	30	–	–	60	–
450	–	–	–	35	–	–	70
510	–	–	–	–	–	72	–
530	–	–	–	42	–	–	84
610	–	–	–	49	–	–	98

1.1.7. Perforated ventilation grilles KSH-SW

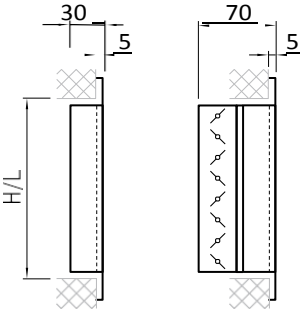
Use:
Exhaust in low and medium pressure insstalation in non-aggressive enviroment with relative humidity up to 70%.
Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.
Construction:
Fame made of rolled steel profile, inside perforated plate. Four variantie of Production: KSH-SW-1 (perforation ø 6 mm) - 30% KSH-SW-2 (perforation ø 5 mm) - 30%, KSH-SW-3 (perforation 10x10 mm) - 50%, KSH-SW-4 (perforation ø 5 mm) - 63% oraz KSH-SW-5 - 52%.4

Material:
Black steel sheet, galvanized steel or stainless steel.
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



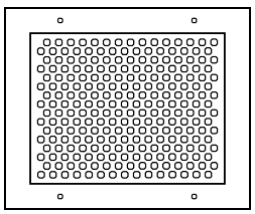
KSH-SW



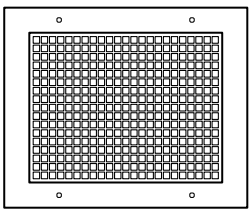
KSH-SW

KSH-SW-P

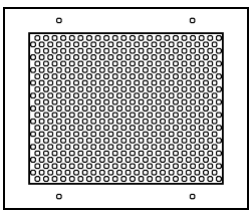
Perforation type:



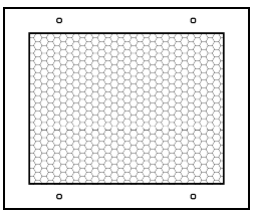
KSH-SW-1/ Ø 6
KSH-SW-2/ Ø 5



KSH-SW-3



KSH-SW-4



KSH-SW-5

1.1.8. Attenuating door or wall grilles KSH-T

Use:
Reduce the transfer of noise between linked rooms, use in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.
Assembly:
On rectangular ducts and in walls. Assembly using visible screws

Construction:
Ramka czołowa wykonana z aluminium, kierownice wykonane z profili stalowych.
Material:
Frame made of aluminum, blades made of steel.
Type and dimension marking:
L-5 oraz H-5 dotyczy wewnętrznego Dimensionsu króćca kratki.

Product range:

high	width							
	225	325	425	525	625	825	1025	1225
110	x	x	x	x	x	x	x	x
190	x	x	x	x	x	x	x	x
270	x	x	x	x	x	x	x	x
350	x	x	x	x	x	x	x	x
430	x	x	x	x	x	x	x	x
510	x	x	x	x	x	x	x	x
590			x	x	x	x	x	x
670			x	x	x	x	x	x
750					x	x	x	x
830						x	x	x
910						x	x	x
990							x	x

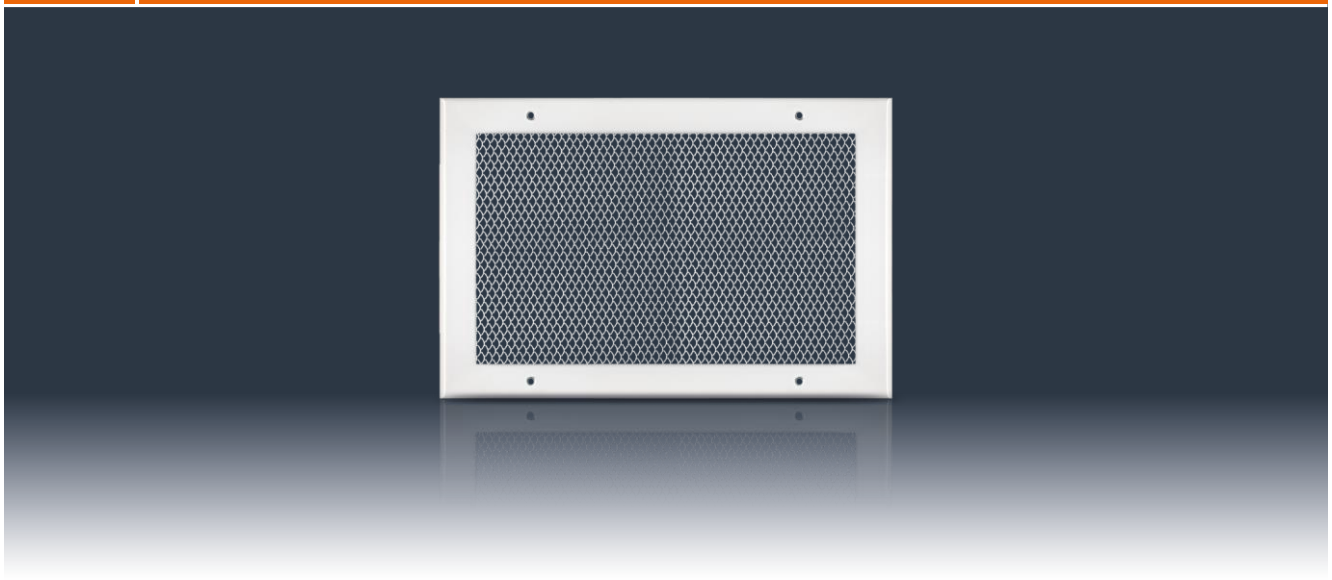
Free area sound attenuating:

high	width							
	225	325	425	525	625	825	1025	1225
110	42	62	82	102	122	162	202	242
190	84	124	164	204	244	324	404	464
270	126	186	246	306	366	486	606	726
350	168	248	328	408	488	648	808	968
430	210	310	410	510	610	810	1010	1210
510	252	372	492	612	732	972	1212	1452
590			574	714	854	1134	1414	1694
670			656	816	976	1296	1616	1936
750					1098	1458	1818	2178
830						1620	2020	2420
910						1782	2222	2662
990							2424	2904

Attenuating door or wall grilles - parametry

air volume		free area in cm^2																			
m^3/s	m^3/h	40	50	60	80	100	125	150	200	250	300	400	500	600	800	1000	1250	1500	2000	2500	3000
0,010	36	6	4	3	2																
0,013	45	10	6	4	2	2															
0,015	54	14	9	6	4	2															
0,020	72	25	16	11	6	4	3	2													
0,025	90		25	17	10	6	4	3	2												
0,030	108			25	14	9	6	4	2												
0,040	144				25	16	10	6	4	3	2										
0,050	180					25	16	11	6	4	3	2									
0,060	216						23	16	9	6	4	2									
0,080	288							28	16	10	7	4	3	2							
0,100	360								25	16	11	6	4	3	2						
0,125	450									25	17	10	6	4	2						
0,150	540										25	14	9	6	4	2					
0,200	720											25	16	11	6	4	3	2			
0,250	900												25	17	10	6	4	3	2		
0,300	1080													25	14	9	6	4	2	2	
0,400	1440														25	16	10	7	4	2	2
0,500	1800															25	16	11	6	4	3
0,600	2160																23	16	9	6	4
0,800	2880																	28	16	11	7
1,000	3600																		25	17	10
1,250	4500																			25	16
1,500	5400																				25

1.1.9. Ventilation grilles with mesh KWS



Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

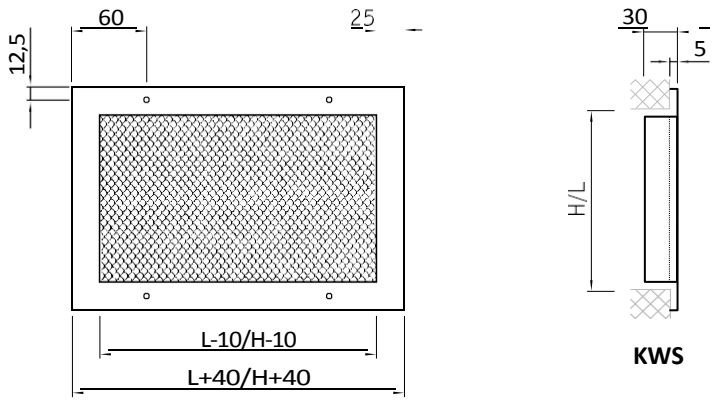
Construction:
Frame made of rolled steel profile, inside mexh (mesh 4,5x9 mm) free area 56%.

Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



1.1.10. Air flow ventilation grilles KWP

Use:
Air transfer between link rooms. Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

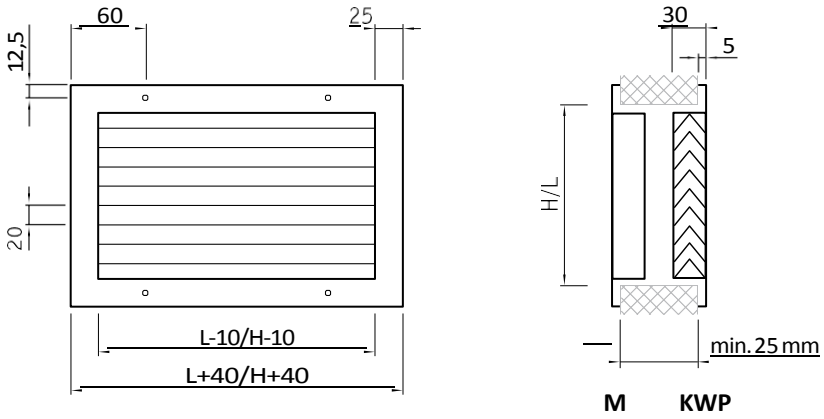
Construction:
Front frame and blades made of rolle steel profiles. Blades are fixed in a V letter. For bigger sizes H or L more than 600 additional supporter elements (see page. 34

Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

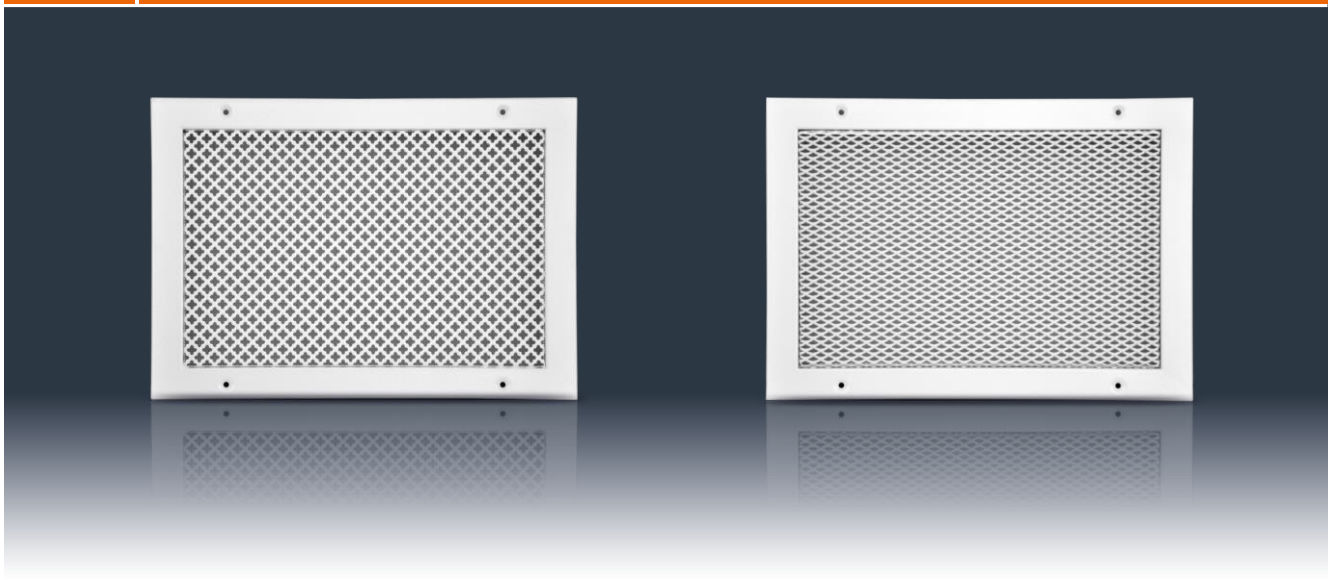


Technical data: free area

A_{ef}[m²]

H \ L	125	225	325	425	525	625	825	1025	1225
75	0,0030	0,0056	0,0082	0,0108	0,0133	0,0159	0,0211	0,0263	0,0315
125	0,0053	0,0100	0,0146	0,0192	0,0239	0,0285	0,0378	0,0471	0,0563
225	0,0093	0,0174	0,0255	0,0336	0,0417	0,0498	0,0660	0,0822	0,0984
325	0,0140	0,0262	0,0383	0,0505	0,0627	0,0749	0,0992	0,1236	0,1479
425	0,0180	0,0337	0,0493	0,0650	0,0806	0,0963	0,1276	0,1589	0,1902
525	0,0220	0,0412	0,0603	0,0794	0,0986	0,1177	0,1560	0,1943	0,2326
625	0,0267	0,0499	0,0731	0,0963	0,1195	0,1427	0,1891	0,2355	0,2819
825	0,0347	0,0649	0,0951	0,1253	0,1554	0,1856	0,2460	0,3063	0,3667
1025	0,0434	0,081	0,1188	0,1566	0,1943	0,2320	0,3075	0,3829	0,4584
1225	0,0521	0,0973	0,1426	0,1879	0,2332	0,2785	0,3690	0,4596	0,5501

1.1.11. Chimney grilles KWK



Use:
Supply or exhaust in low and medium pressure insstalation in non-aggressive enviroment with relative humidity up to 70%.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM..

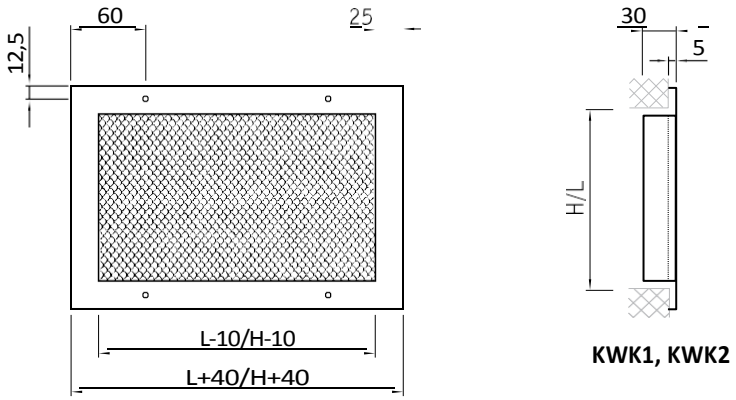
Construction:
Frame made of rolled steel profile, inside perforation plate - KWK1, or mesh inside (mesh 4,5x9 mm) free area 56% - KWK2

Material:
Black steel sheet, galvanized steel or stainless steel

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



KWK1, KWK2

1.1.12. Air intakes set NWP

Use:
General element of ventilation system. It comcerns fresh air into internal space

Assembly:
In walls with visible screws.

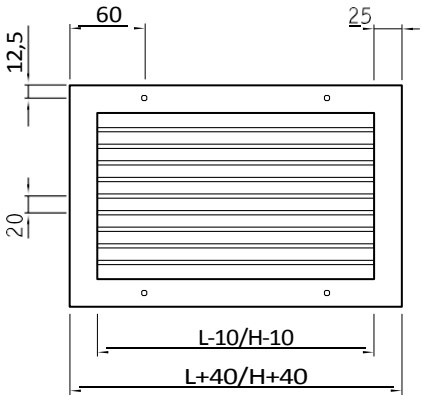
Construction:
Internal grille KSH-45° with filter and damper P; telescopic inlet duct made of galvanized steel; external grille KST with net.

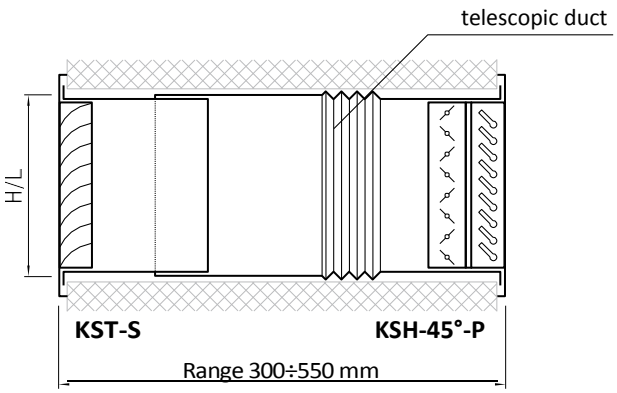
Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles





1.1.13. Single row ventilation grilles for circular duct KSH/Ø, KSV/Ø

Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On circular ducts. Fixing using visible screws.

Construction:
Front frame is made of pressed steel profile, adhering to circular ducts. Blades are made of rolled steel profile. KSH – horizontal blades, KSV- vertical blades, manually set blades. Two types of grilles -1 arc profile, -2 broken profile.

Material:
Black steel sheet, galvanized steel or stainless steel.

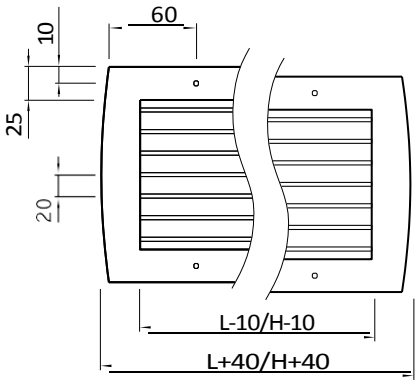
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

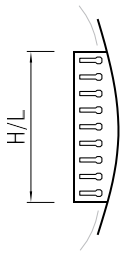
Air flow regulation:
Flow is regulated by opposed blade damper P, a straight slotted damper SP and angular slotted damper SK. Single element damper – N. Flow regulation can be made from the front without the necessity of dismantling grilles

Certificates:
Hygienic certificate: BK/K/0926/01/2018

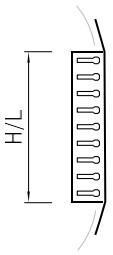
Product range: Table page. 39.

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

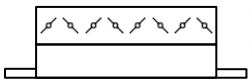




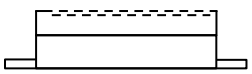
KSH/Ø-1



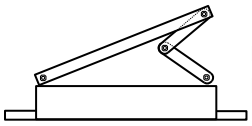
KSH/Ø-2



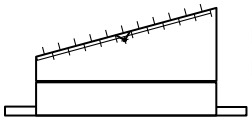
KSH/Ø-P
KSV/Ø-P



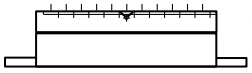
KSH/Ø-PP
KSV/Ø-PP



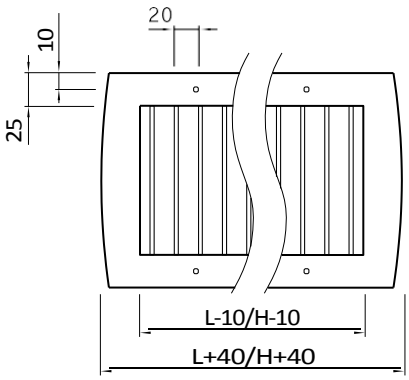
KSH/Ø-N
KSV/Ø-N

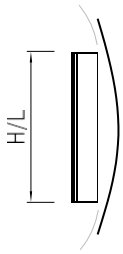


KSH/Ø-SK
KSV/Ø-SK

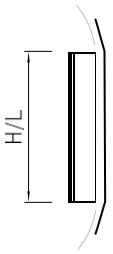


KSH/Ø-SP
KSV/Ø-SP



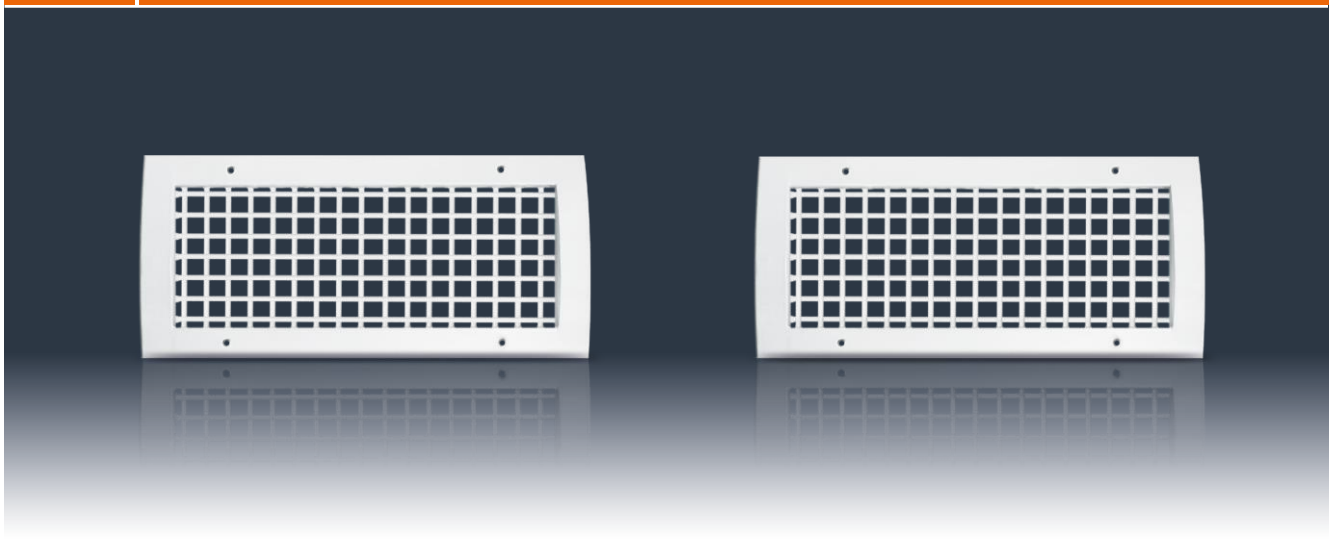


KSV/Ø-1



KSV/Ø-2

1.1.14. Double row ventilation grilles for circular ducts KSH-V/Ø, KSV-H/Ø

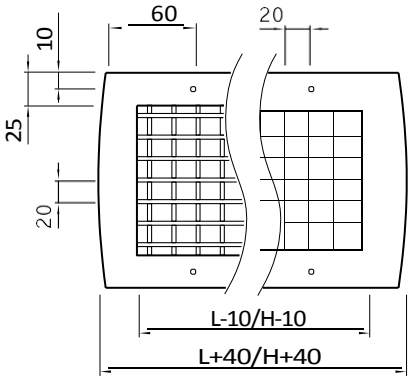


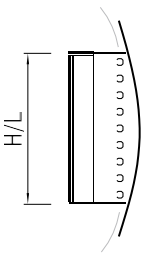
Use:
Supply or exhaust in low and medium pressure insstalation in non-aggressive enviroment with relative humidity up to 70%.
Assembly:
On circular ducts. Fixing using visible screws.
Construction:
Front frame is made of pressed steel profile, adhering to circular ducts. Blades are made of rolled steel profile.
KSH-V – first horizontal second vertical blades, KSV-H first vertical second horizontal blades, manually set blades. Two types of grilles -1 arc profile, -2 broken profile.

Material:
Black steel sheet, galvanized steel or stainless steel.
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P, a straight slotted damper SP and angular slotted damper SK. Single elements damper – N. Flow regulation can be made from the front without the necessity of dismantling grilles.
Certificates:
Certificates:
Hygienic certificate: BK/K/0926/01/2018

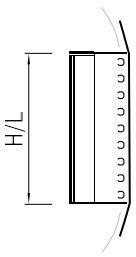
Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

Production range: Table page. 39.

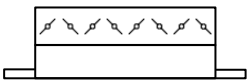




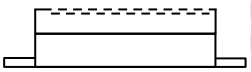
KSH-V/Ø-1



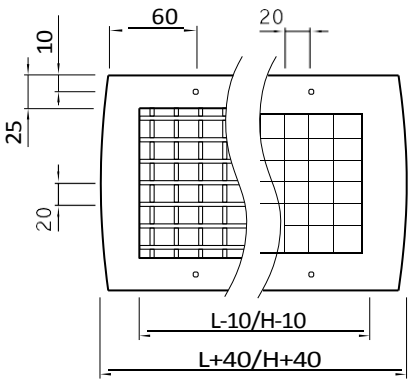
KSH-V/Ø-2

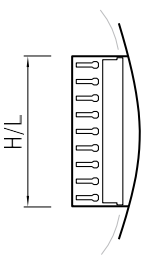


KSH-V/Ø-P
KSV-H/Ø-P

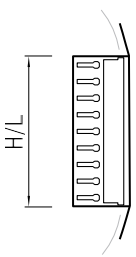


KSH-V/Ø-PP
KSV-H/Ø-PP

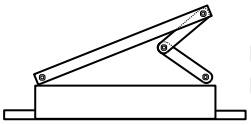




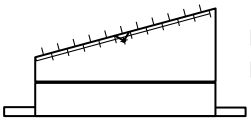
KSV-H/Ø-1



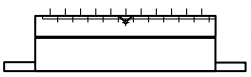
KSV-H/Ø-2



KSH-V/Ø-N
KSV-H/Ø-N



KSH-V/Ø-SK
KSV-H/Ø-SK



KSH-V/Ø-SP
KSV-H/Ø-SP

1.1.15. Ventilation grilles with mesh KWS/Ø

Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On circular ducts. Fixing using visible screws.

Construction:
Front frame is made of pressed steel profile, adhering to circular ducts. Inside mesh 4,5x9mm free area 56%. Two types of grilles -1 arc profile, -2 broken profile.

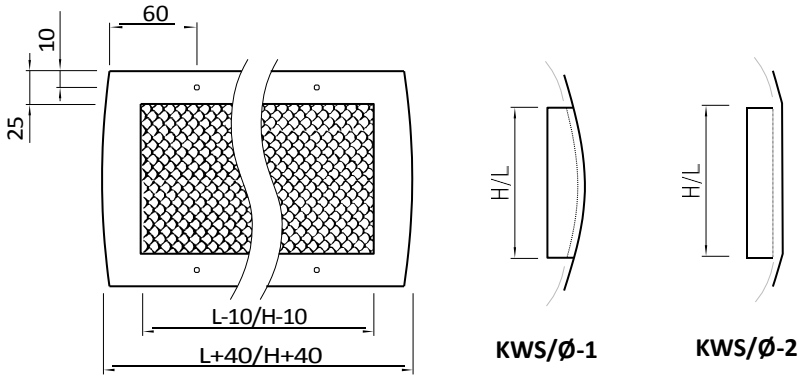
Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

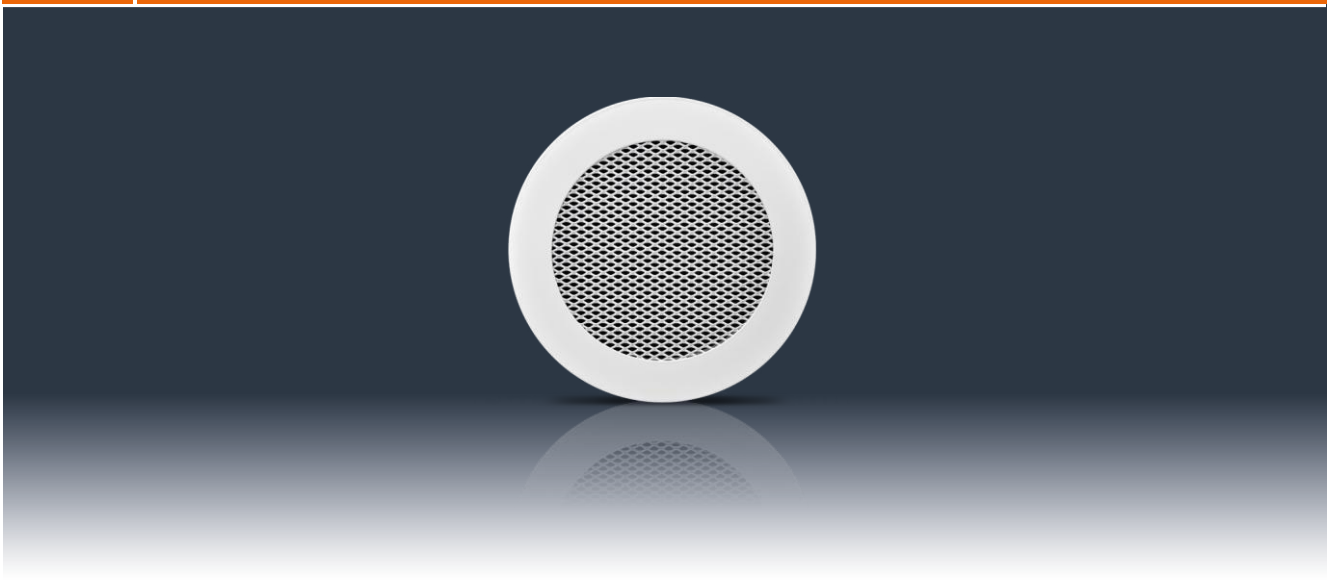
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

Products range: Tabela na str. 39



1.1.16. Circular grilles with mesh KWS-O



Use:
Supply or exhaust in low and medium pressure insstalation in non- aggressive enviroment with relative humidity up to 70%.

Assembly:
On circular ducts. Fixing using visible screws

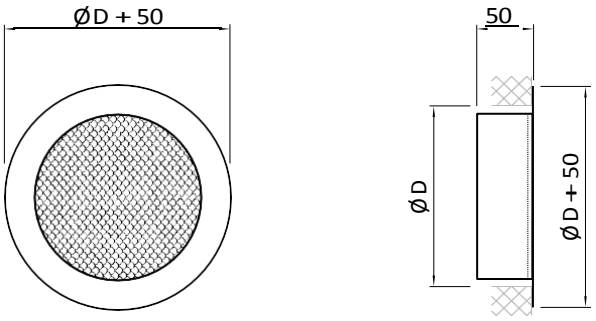
Construction:
Front frame is made of pressed steel profile. Inside mesh 4,5x9mm free area 56%.

Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



KWS-O

1.1.17. Smoke extraction grilles KSH-90°-oc, KSH-45°-oc, KST-oc, KWS-oc

Use:
Exhaust in low and medium pressure insstalation in non-aggressive enviroment with relative humidity up to 70%. Temperature resistance up to 600°C.

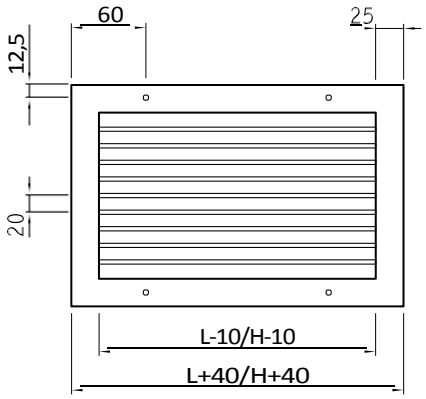
Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

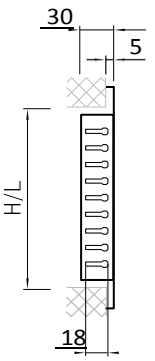
Construction:
Frames and blades are made of rolled steel profile. Fixed blades 90° for grille KSH-90°-oc 45° for KST-oc and KSH-45°-oc. For grilles KWS-oc mesh inside (mesh 4,5x9 mm) with free area 56%. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

Material:
Galvanized steel.

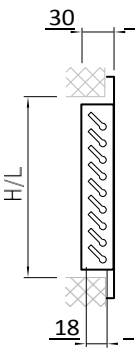
Certificates:
Hygienic certificate: HK/K/0845/01/2016

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

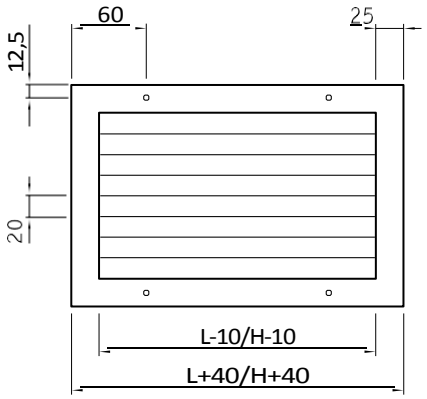


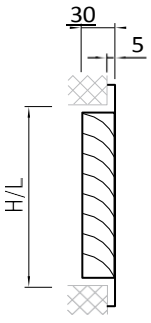


KSH-90°-OC

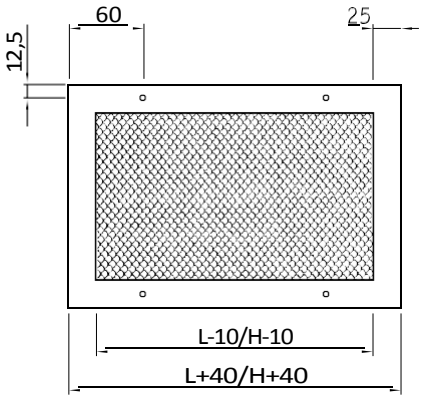


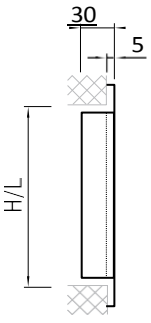
KSH-45°-OC





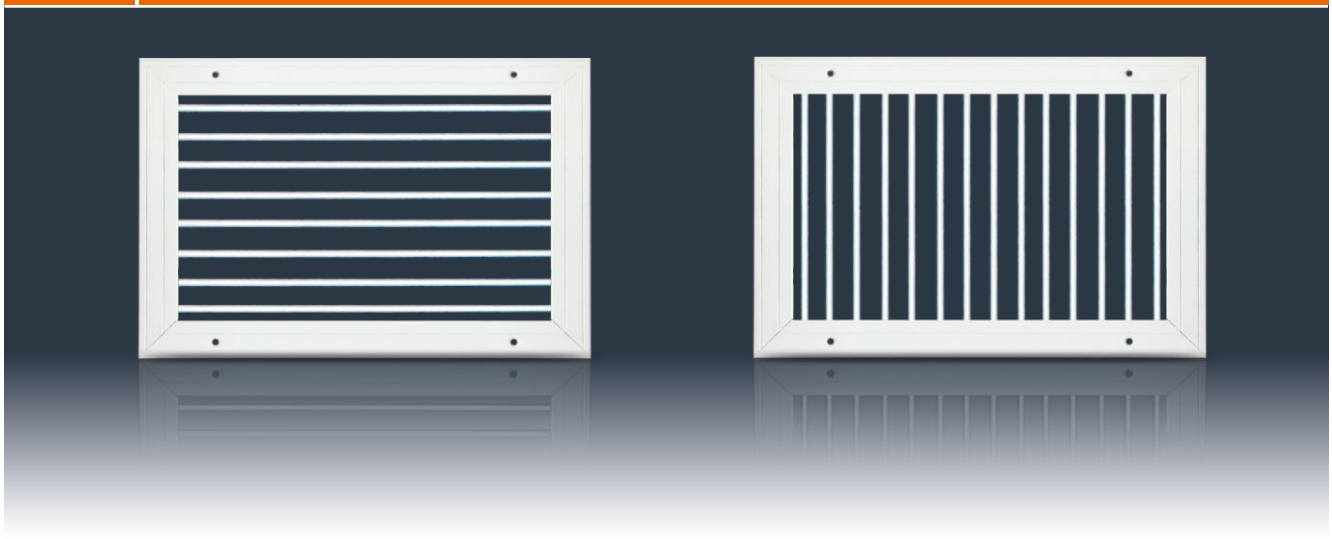
KST-OC





KWS-OC

1.2.1. Single row ventilation grilles for rectangular ducts KSH-al, KSV-al



Use:
Supply or exhaust in low and medium pressure.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made from pressed aluminum profiles. KSH- horizontal blades, KSV- vertical blades, manually set blades. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

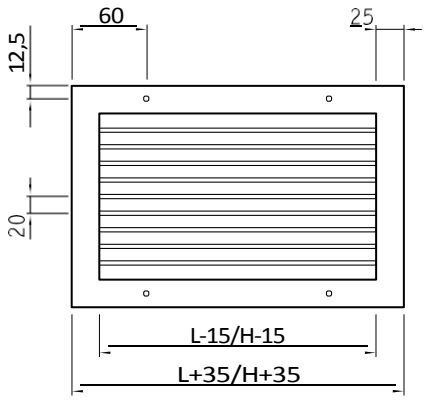
Material:
Aluminum, alloy 6063

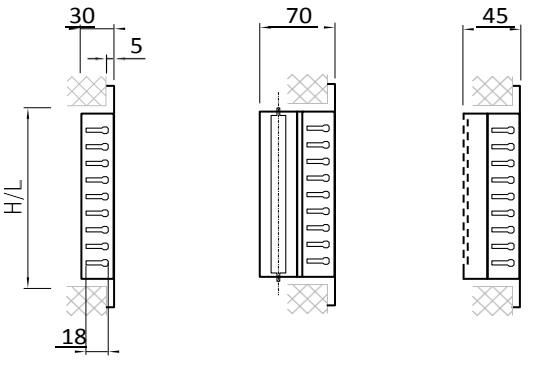
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.

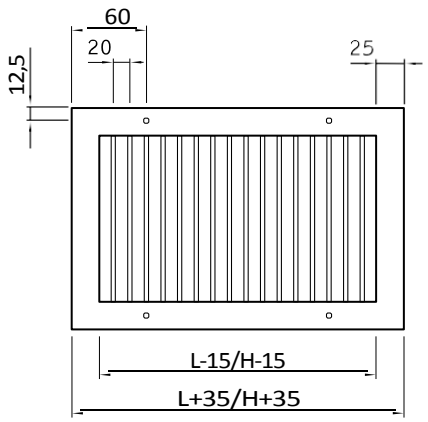
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles

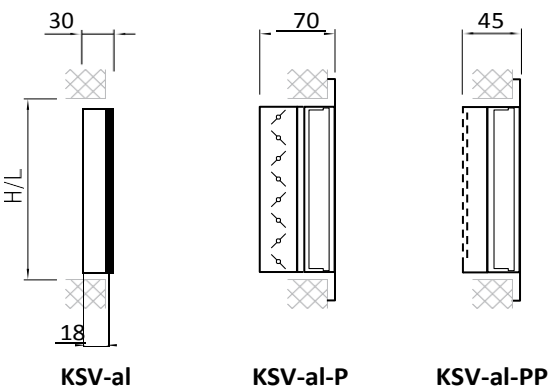
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimensions L-15 and H-15 concerns neck of the grille

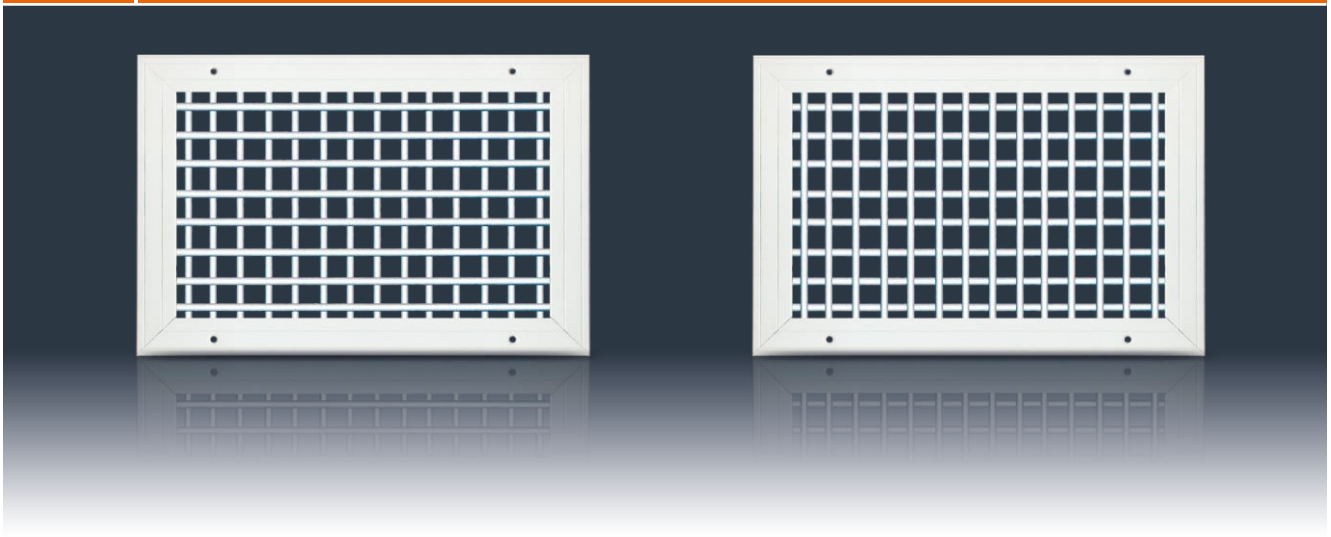








1.2.2. Double row ventilation grilles for rectangular grilles KSH-V-al, KSV-H-al



Use:
Supply or exhaust in low and medium pressure.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
Front frame and blades made from pressed aluminum profiles. KSH-V first horizontal second ventical blades, KSV-H first vertical second horizontal blades, manually set blades. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

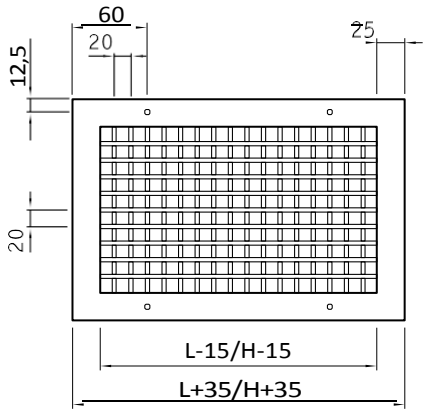
Material:
Aluminum, alloy 6063

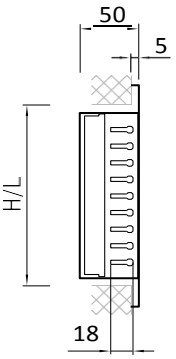
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles

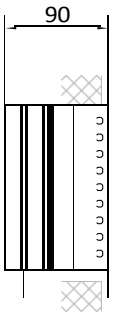
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimensions L-15 and H-15 concerns neck of the grille

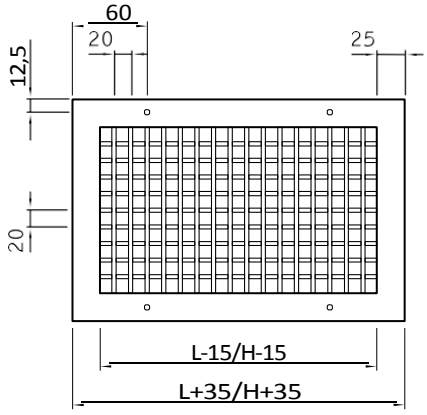


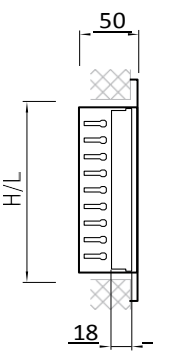


KSH-V-al

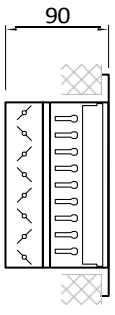


KSH-V-al-P



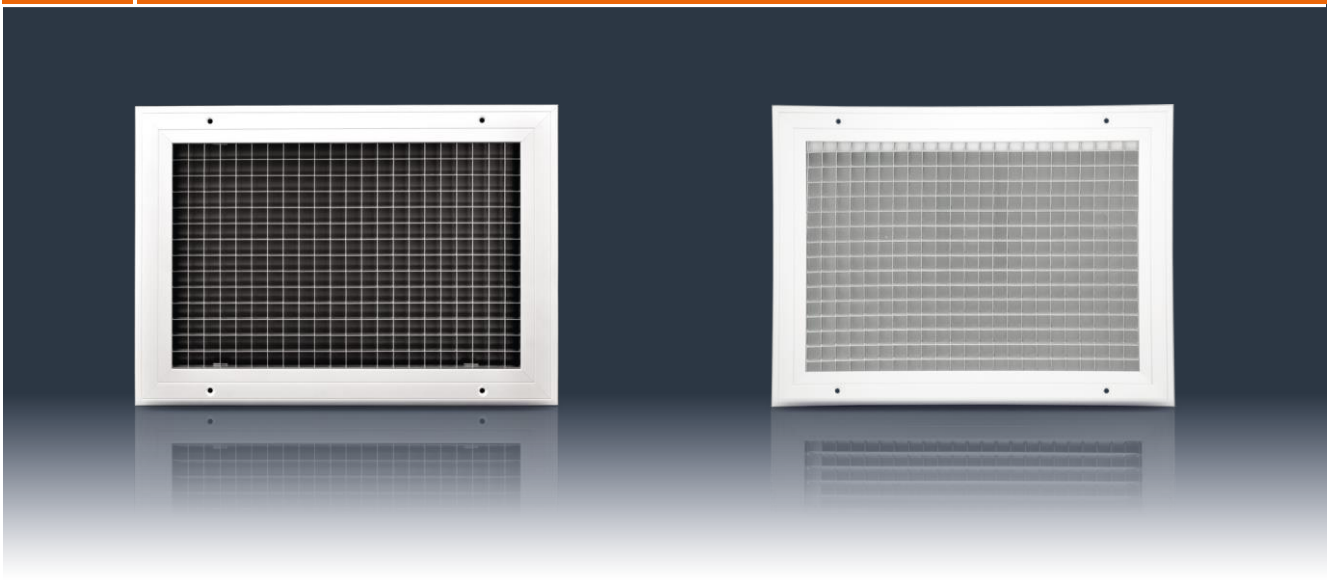


KSV-H-al



KSV-H-al-P

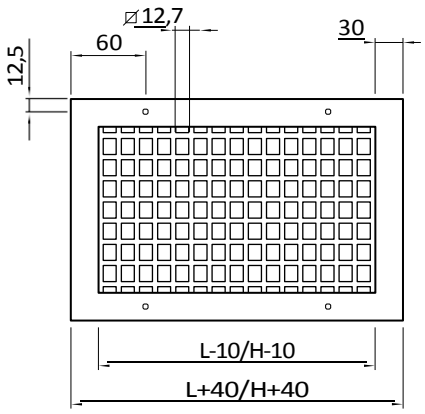
1.2.3. Egg crate grilles KSH-RS-90°-al, KSH-RS-45°-al

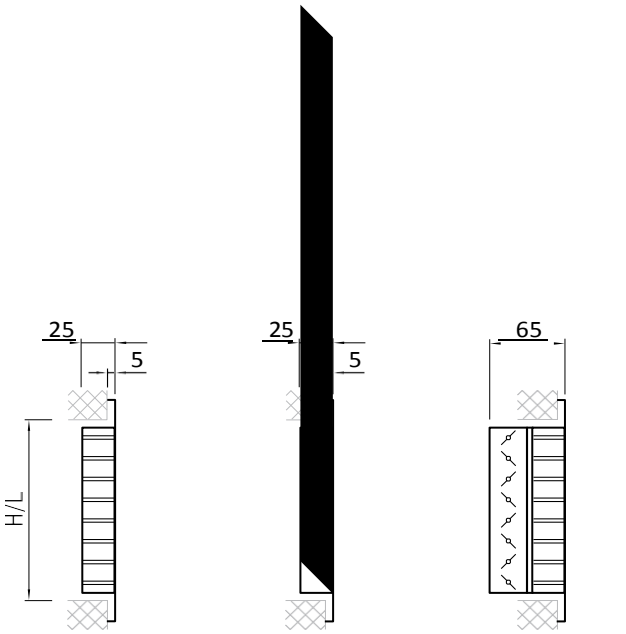


Use:
Supply or exhaust in low and medium pressure.
Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.
Construction:
All made from aluminum profiles. Fixed blades at 90 degree - KSH-RS-90°-al or 45 degree - KSH-RS-45°-al.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles





1.2.4. Ventilation grilles with fixed blades KSH-90°-al, KSH-45°-al

Use:
Supply or exhaust in low and medium pressure.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

Construction:
All made from aluminum profiles. Fixed blades at 90 degree - KSH-RS-90°-al or 45 degree - KSH-RS-45°-al.

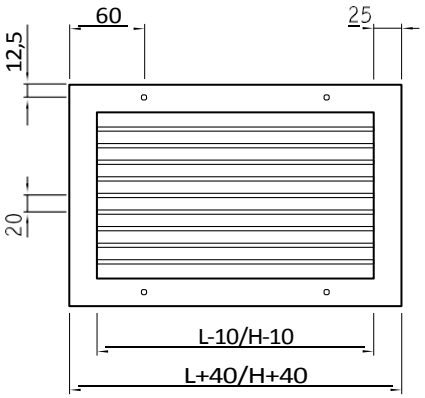
Material:
Aluminum, alloy 6063

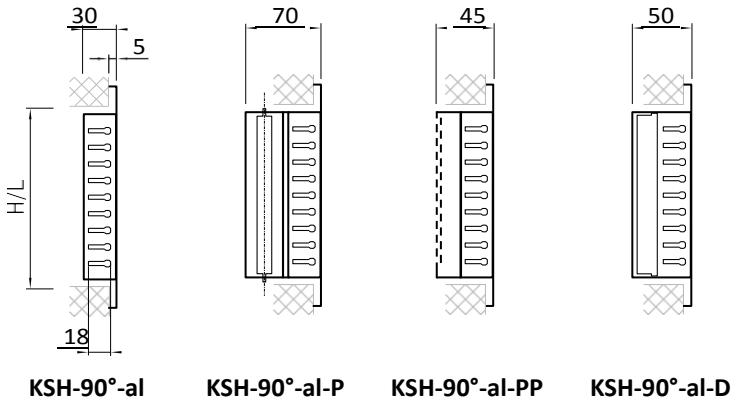
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles

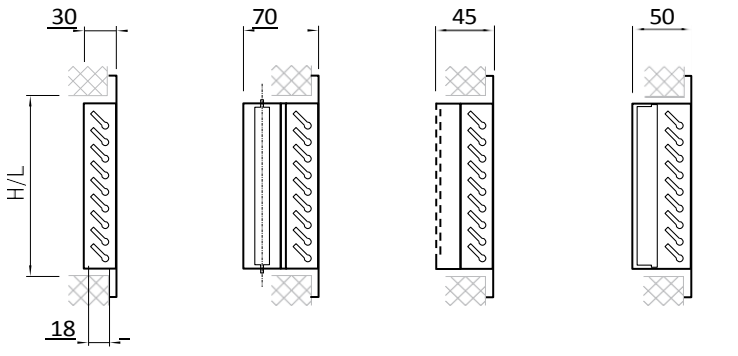
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles





KSH-90°-al KSH-90°-al-P KSH-90°-al-PP KSH-90°-al-D



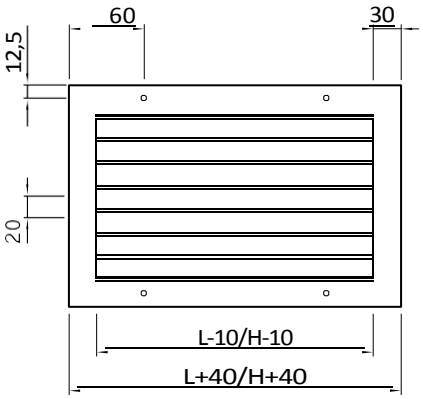
KSH-45°-al KSH-45°-al-P KSH-45°-al-PP KSH-45°-al-D

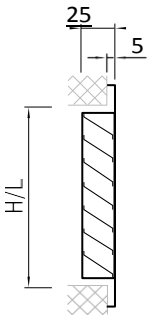
1.2.5. Masking ventilation grilles KST-al

Use:
Supply or exhaust in low and medium pressure. It can be use also as masking element.
Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.
Construction:
Frames and blades made from aluminum profiles. Fixed blades at 45°. KST-S-al. – additional net on the neck of grilles. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

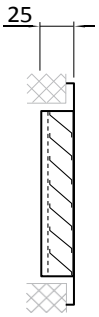
Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

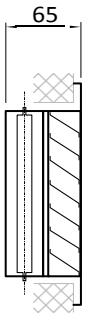




KST-al



KST-al-S



KST-al-P

1.2.6. Revision grilles KSH-R-al

Use:
Covering fire dampers. Supply or exhaust in low and medium pressure. It can be use also as masking element.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM

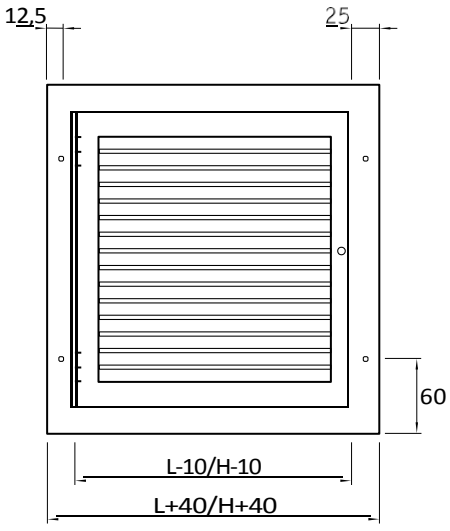
Construction:
Frames and blades made from aluminum profiles. Fixed blades at 45°. Two versions: Light KSH-R-al-1 and strengthened: KSH- R-al-2. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

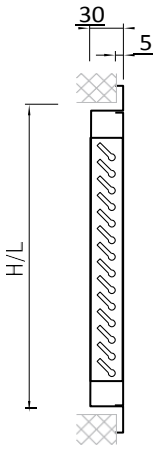
Material:
Aluminum, alloy 6063

Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.

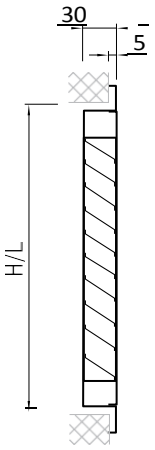
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



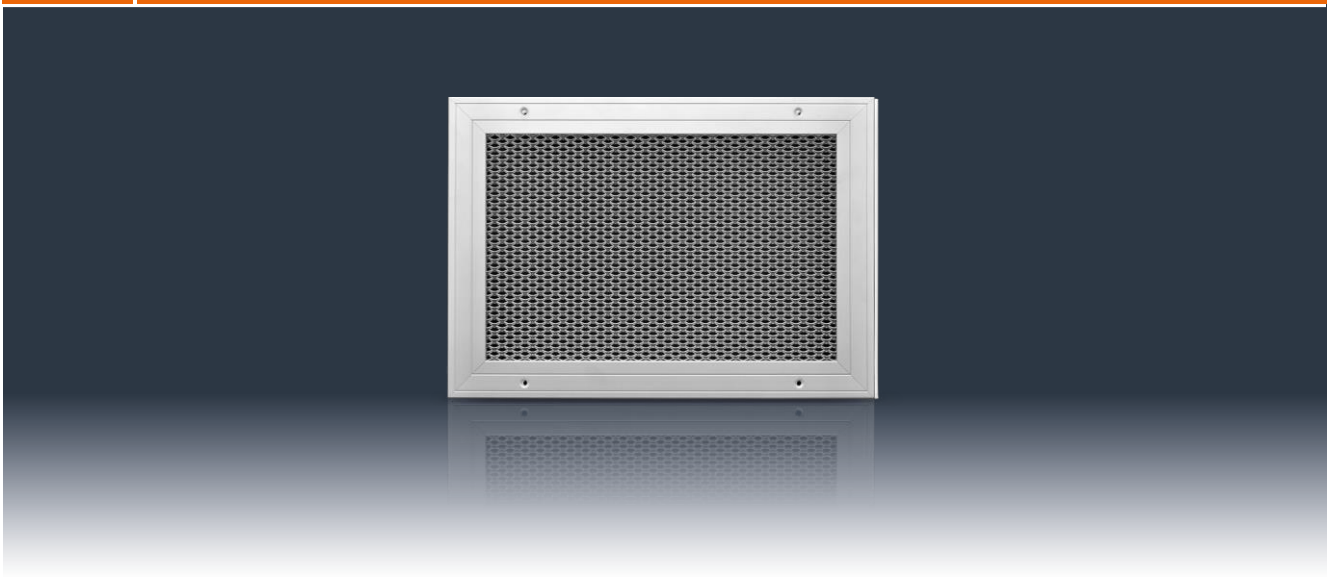


KSH-R-al-1



KSH-R-al-2

1.2.7. Ventilation grilles with mesh KWS-al



Use:
Supply or exhaust in low and medium pressure. It can be use also as masking element.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.

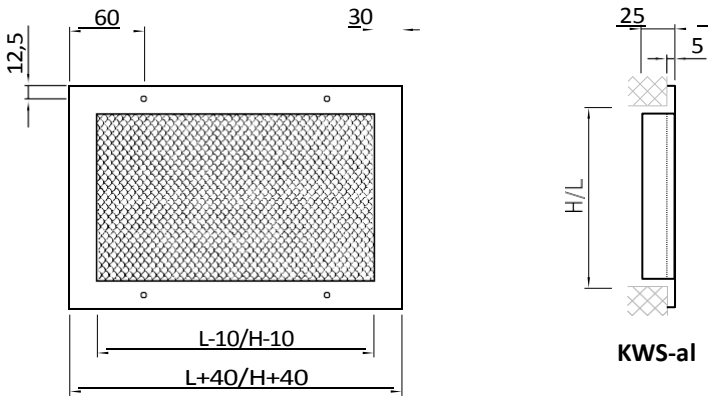
Construction:
Frames and blades made from aluminum profiles. Inside aluminum mesh (mesh 4,5x9 mm) free area 56%.

Material:
Aluminum, alloy 6063

Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand

Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



KWS-al

1.2.8. Air flow ventilation grilles KWP-al

Use:
General ventilation sysetm to exchange fresh air between link rooms.

Assembly:
On rectangular ducts and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM

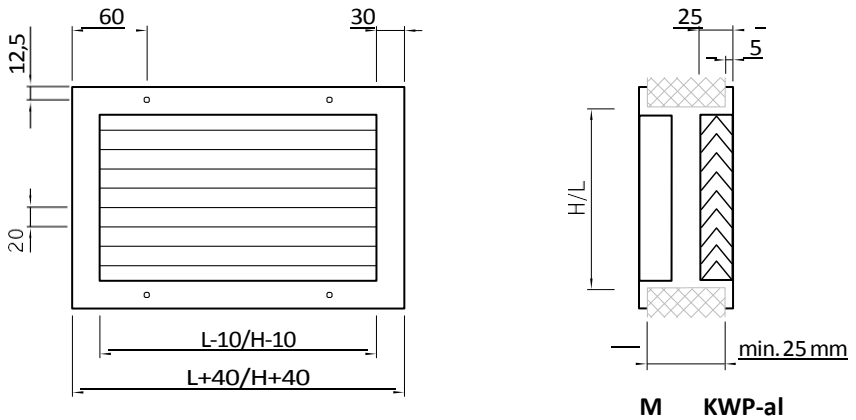
Construction:
Frame and blades made from aluminum profiles. Fixed blades as a V letter. It can be order with masking frame M. For bigger sizes H or L more than 600, additional supporter elements (see page. 34)

Material:
Aluminum, alloy 6063

Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.

Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



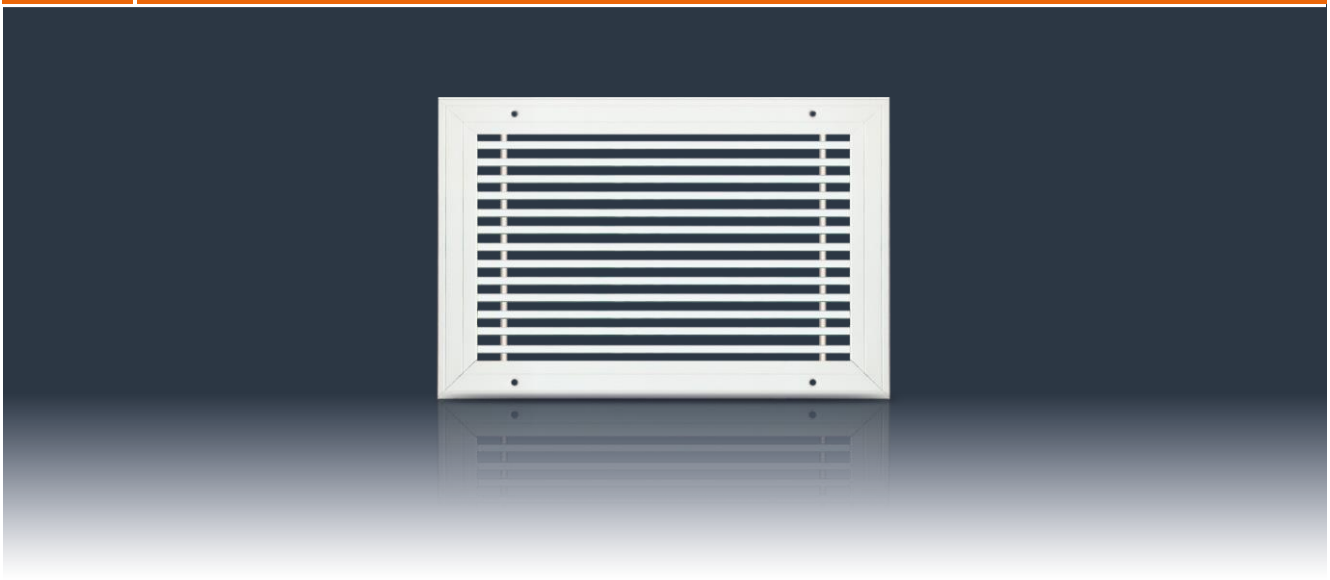
M KWP-al

Technical data: Free area

A_{ef}[m²]

H \ L	125	225	325	425	525	625	825	1025	1225
75	0,0016	0,0030	0,0044	0,0058	0,0073	0,0087	0,0115	0,0144	0,0173
125	0,0032	0,0060	0,0089	0,0118	0,0147	0,0175	0,0233	0,0290	0,0348
225	0,0058	0,0110	0,0162	0,0215	0,0267	0,0320	0,0424	0,0529	0,0634
325	0,0084	0,0160	0,0236	0,0312	0,0388	0,0464	0,0617	0,0769	0,0921
425	0,0110	0,0210	0,0310	0,0409	0,0509	0,0609	0,0809	0,1009	0,1208
525	0,0136	0,0260	0,0383	0,0507	0,0630	0,0754	0,1001	0,1248	0,1496
625	0,0162	0,0309	0,0457	0,0604	0,0752	0,0899	0,1194	0,1488	0,1783
825	0,0214	0,0409	0,0604	0,0799	0,0994	0,1189	0,1579	0,1968	0,2358
1025	0,0267	0,0509	0,0751	0,0994	0,1236	0,1479	0,1963	0,2448	0,2933
1225	0,0319	0,0609	0,0899	0,1189	0,1479	0,1768	0,2348	0,2928	0,3508

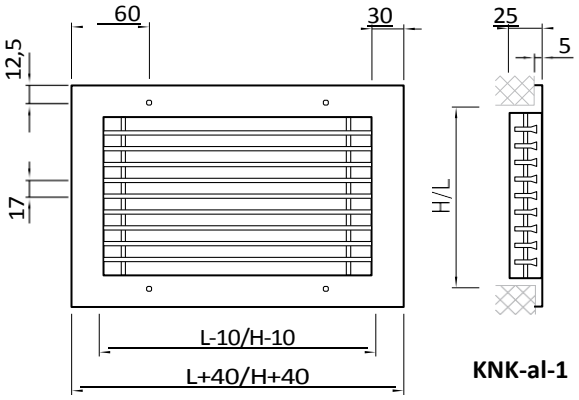
1.2.9. Convector grilles KNK-al



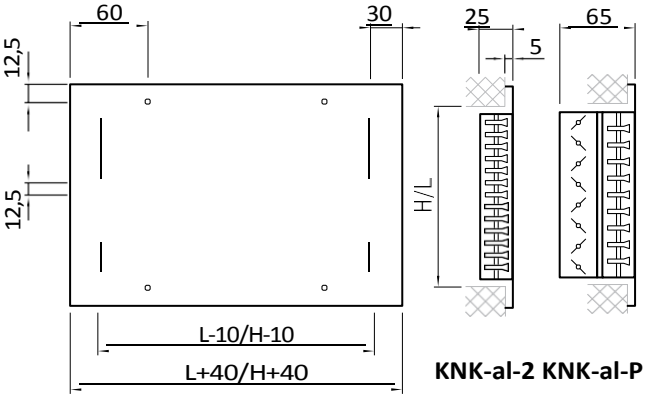
Use:
Supply or exhaust in low and medium pressure
Assembly:
On rectangular ducts, doors, windowsill and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM
Construction:
Frames and blades made from aluminum profiles. Two versions light: KNK-al-1 and strengthened: KNK-al-2. Optional – straight air flow KNK-al or 15 degree KNK-al-15°. Max lenght – 2 mb.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles

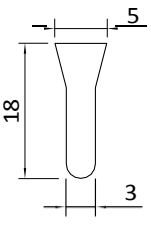


KNK-al-1

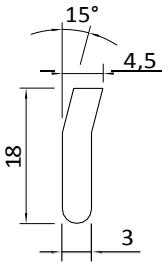


KNK-al-2 KNK-al-P

Air flow options:



Straight
KNK-al



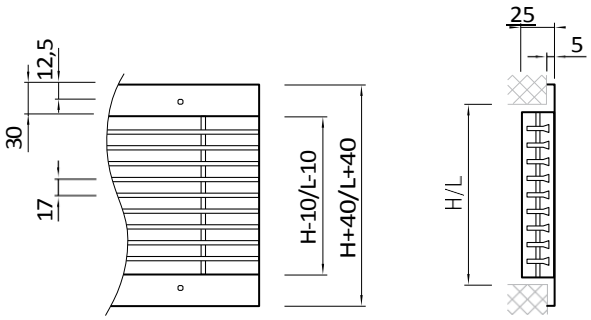
15 degree
KNK-al-15°

1.2.10. Connecting convector grilles KNK-T-al

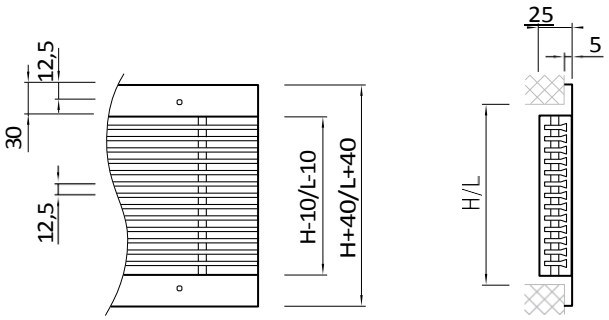
Use:
Supply or exhaust in low and medium pressure.
Assembly:
On rectangular ducts, doors, windowsill and in walls. Assembly using visible screws (standard) or without visible screws with additional mounting frame RM.
Construction:
Frames and blades made from aluminum profiles. Two versions light: KNK-al-1 and strengthened: KNK-al-2. Optional – straight air flow KNK-al or 15 degree KNK-al-15°. Max lenght – 2 mb.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



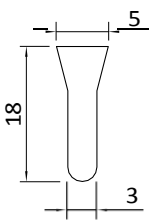
KNK-T-al-1



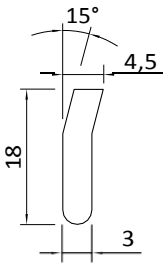
KNK-T-al-2

Air flow options:

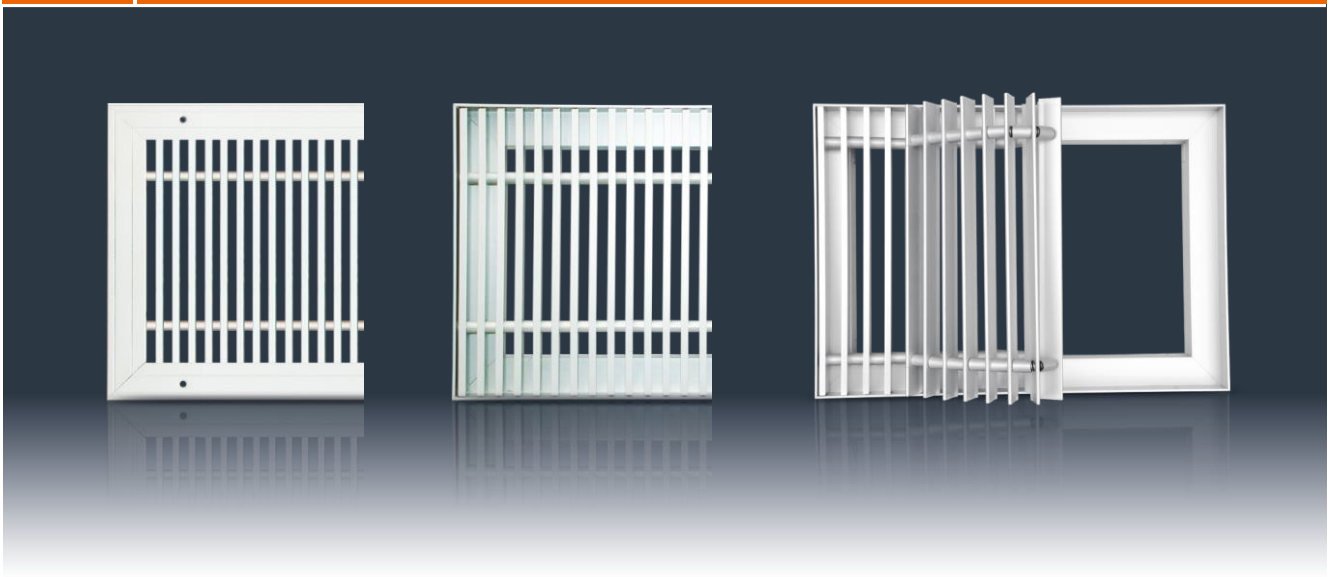
Straight
KNK-T-al



15 degree
KNK-T-al-15°



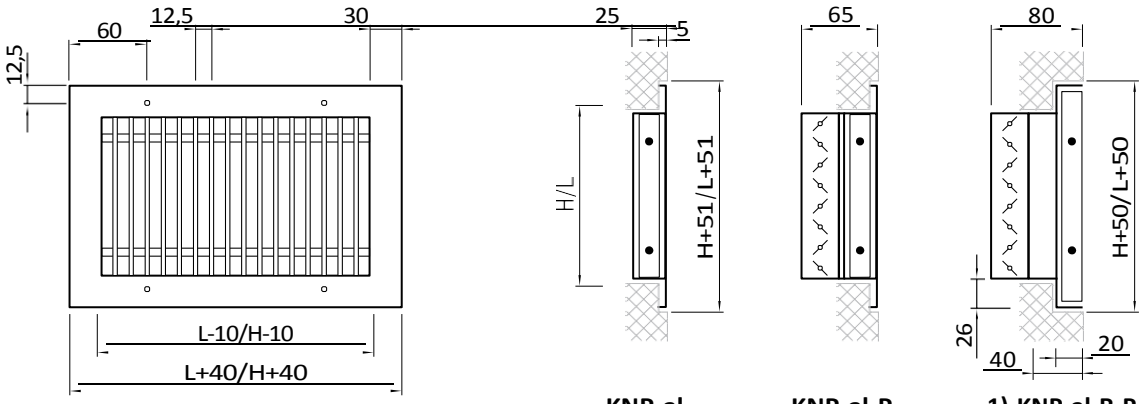
1.2.11. Floor grilles KNP-al



Use:
Supply or exhaust in low and medium pressure.
Assembly:
In floor using visible srews or without visible screws in additonal mounting frame RM.
Construction:
Frames and blades made form aluminum profile. Fixed blades.. Resistant to heavy loads. Otptional: streight air supply KNP-al or 15 degree air supply KNP-al-15°. It is possible to order grille in a form of a dismountable grid (R) or rolled grid (Z) – embedded in a flangeless frame fixed in the base. Max length – 2mb

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
Flow is regulated by opposed blade damper P. Flow regulation can be made from the front without the necessity of dismantling grilles
Certificates:
Hygienic certificate: BK/K/0926/02/2018

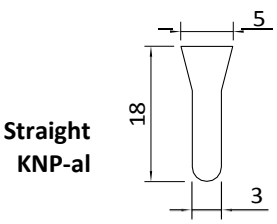
Type and dimension marking:
Dimension L-10 and H-10 it concerns neck of grilles



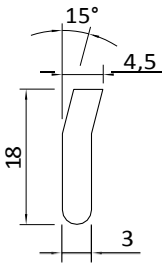
Attention: H_{min} = 125

KNP-al **KNP-al-P** **1) KNP-al-R-P** **2) KNP-al-Z-P**

Air flow options:



Straight KNP-al



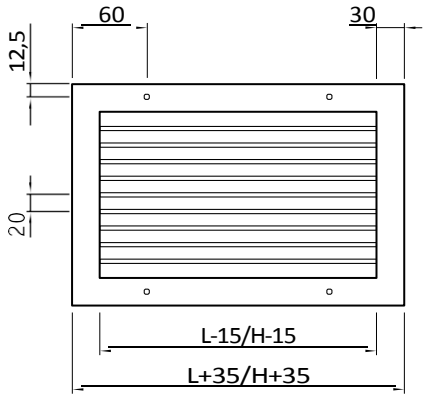
15degree KNP-al-15°

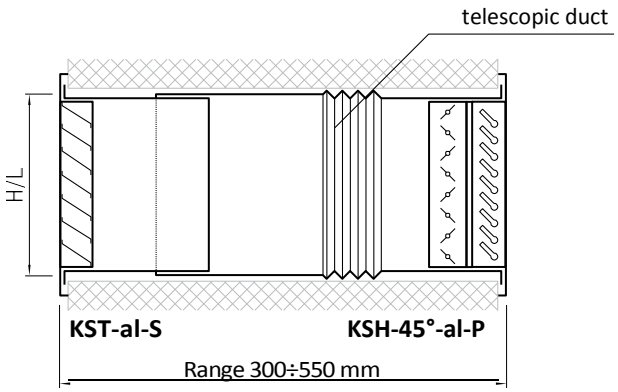
1.2.12. Air intakes set NWP-al

Use:
General element in ventilation system.
Assembly:
Visible screws in frame of grilles.
Construction:
Internal grille type KSH-45°-al with an air filter and an external SP damper. Telescopic intake duct made of galvanized steel plate; external grille type KST-al, with a mesh.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand
Certificates:
Hygienic certificate: BK/K/0926/02/2018

Type and dimension marking:
Dimensions L-15 and H-15 concerns neck of the grille

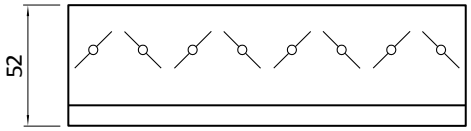




Regulation dampers for grilles

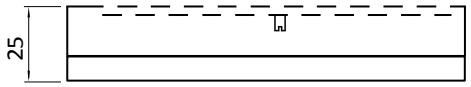
Regulating elements are used in order to achieve additional control over the airflow volume, speed and air supply. All of the regulating elements are made of galvanized steel plate. For damper P there is possibility to made from aluminum profiles.

Opposed blades damper P

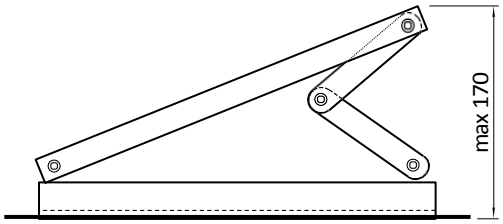


Opposed blades regulating damper. Used in low and medium pressure installations in a non-aggressive environment with relative humidity up to 70%. Purposed to fitting in air grilles and diffusers as an element regulating the air flow. Casing made of galvanized steel plate. Blade alignment regulated by the means of a hex wrench from the side of the front frame

Damper PP



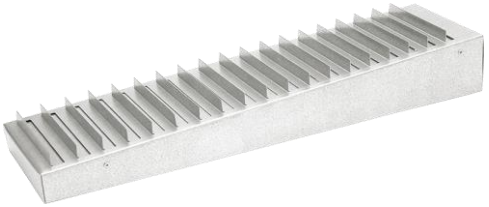
Single element damper N

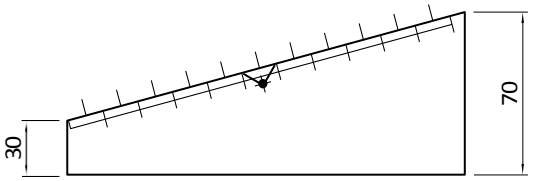


Single element air supply damper. Used in low and medium pressure installations in a non-aggressive environment with relative humidity up to 70%. Purposed to fitting in air grilles, especially in circular profile ducts.Air stream deflector and the regulating joint made of galvanized steel sheet. Regulation of air flow from the front frame by tilting the deflector.

Regulation dampers for grilles

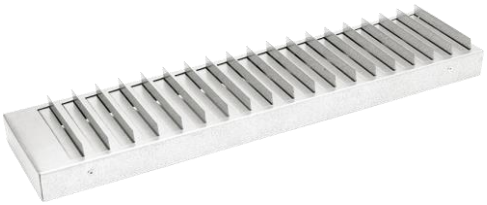
Angular slotted daper SK

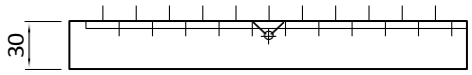




Angular air supply slotted damper. Used in low and medium pressure installations in a non-aggressive environment with relative humidity up to 70%.Purposed to fitting in air grilles, especially in circular profile ducts. Slots of the damper aligned at an angle to the damper's surface. Element entirely made of galvanized steel sheet. Regulation of air flow carried out by shifting the shutter from the front, closing the inlet slots.
Product range H-75, 125, 160, 225.

Straight slotted damper SP

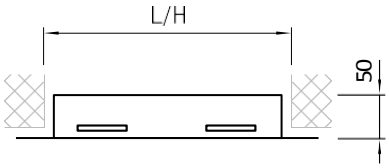




Damper slotted air supply damper. Used in low and medium pressure installations in a non-aggressive environment with relative humidity up to 70%. Purposed to fitting in air grilles, especially in circular profile ducts. Slots parallel to the surface of the damper. Element entirely made of galvanized steel sheet. Regulation of air flow carried out by shifting the shutter from the front, closing the inlet slots..
Production range: to H-75, 125, 160, 225.

Assambly elements

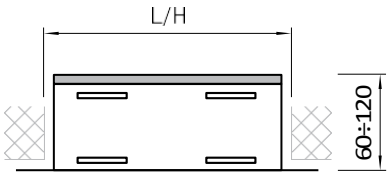
Mounting frame RM



Used for the press-in fitting feature, without visible screws. Purposed to fitting in walls and ducts. Frame made of bent galvanized steel sheet.

Springing inserts provide stability of the grille in the frame.

Mounting frame with filter RMF



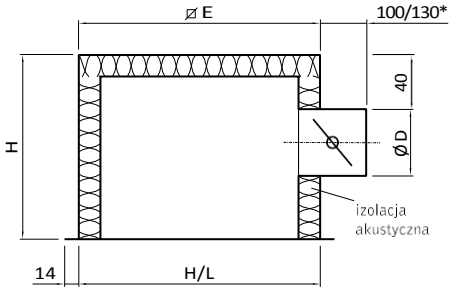
Used in air conditioning systems and ventilation in case of single stage air cleaning, in painting chambers and as preliminary and circulation filters in rooms with low air cleanness demands. Frame used for all sizes and types of air grilles. Element made of galvanized steel sheet. Filter made of synthetic fibre of progressive structure, hardened mechanically, with heat or with binding agents

Filtration inserts characteristics:

klasa filtracji wg EN 779:2002	**G3**	**G4**	**G4**	**G5**
Filtration class with accordance to EN	92130	93180	94270	95590
type	130	250	380	600
basis weight (g/m2)	10–12	16–19	22–24	21–23
thickness (mm)	89	91	92	97
Average filtration efficiency (%)	31	54	70	46
Initial pressure drop (Pa)	250	250	900	450
Recommended final pressure drop	114	188	691	278
Dust holding capacity (g/m2)	2009	2009	2009	900
Permeability (m3/m2/h)	tak	tak	tak	nie
Temperature C	100	100	100	100

Flammability according to DIN 53438 – F1 class – slow burning.

Plenum box for grilles



Plenum high H [mm]	Intlet diameter ØD [mm]	
270	158	lub wg. zamówienia
330	198	
380	248	
430	313	

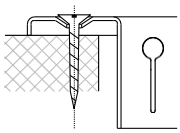
Plenum box made of galvanized steel. There is possibility to change high of the plenum or diameter on demand. Additional isolation and damper in inlet of the plenum on demand.. **Hygienic certificate: BK/K/0926/01/2018.**

Supporting elements – general rules*

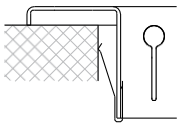
Type of assambly

Standard

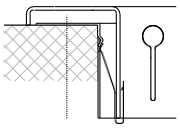
Visible screws Ø 4



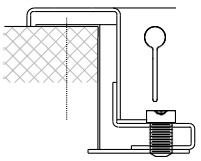
B1 – with additional springs. We do not recommend to use in ceiling.



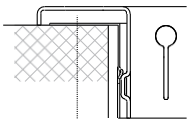
B2 – with additional springs and frame. We do not reccomend to use in ceiling.



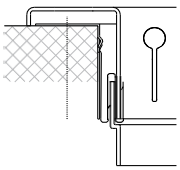
B3 – with additiona frame with lock. It is ceiling system.



B4 – with additional frame. We do not recomend to use in ceiling.



B5 – with additional frame for grilles with dampers



1. Steel ventilation grilles

TYP A

Dimension of mounting hole L lub H [mm]	
L lub H < 525	Without any elements
525 < L lub H < 750	One support element TYPE A
750 < L lub H < 1025	One support element TYPE B
L lub H > 1025	One central support element TYP B and two support elements TYPE A on the sides of grille

TYP B

2. Aluminum ventilation grilles

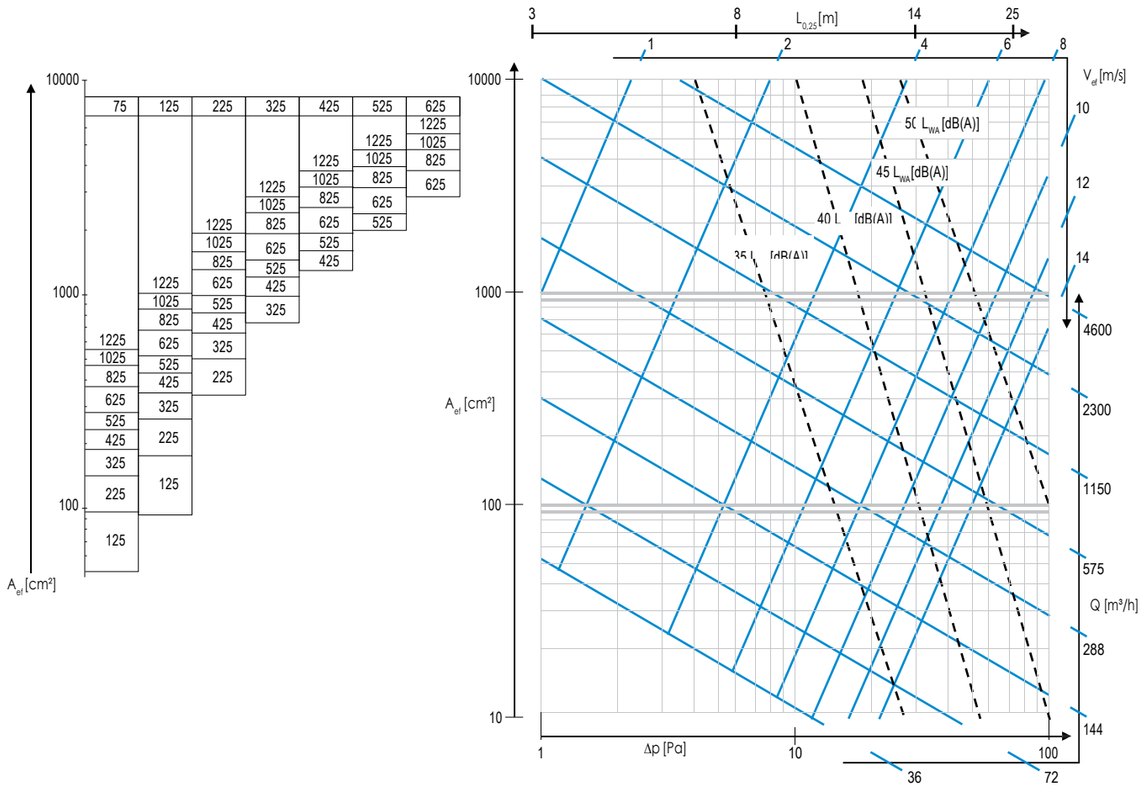
TYP C

Dimension of mounting hole L lub H [mm]	
L lub H < 550	Without any elements
550 < L lub H < 750	One support element TYPE C
L lub H > 750	Two support elements TYPE C

*) Individually choice.

Diagram for selection grilles KSH and KSV for rectangular grilles

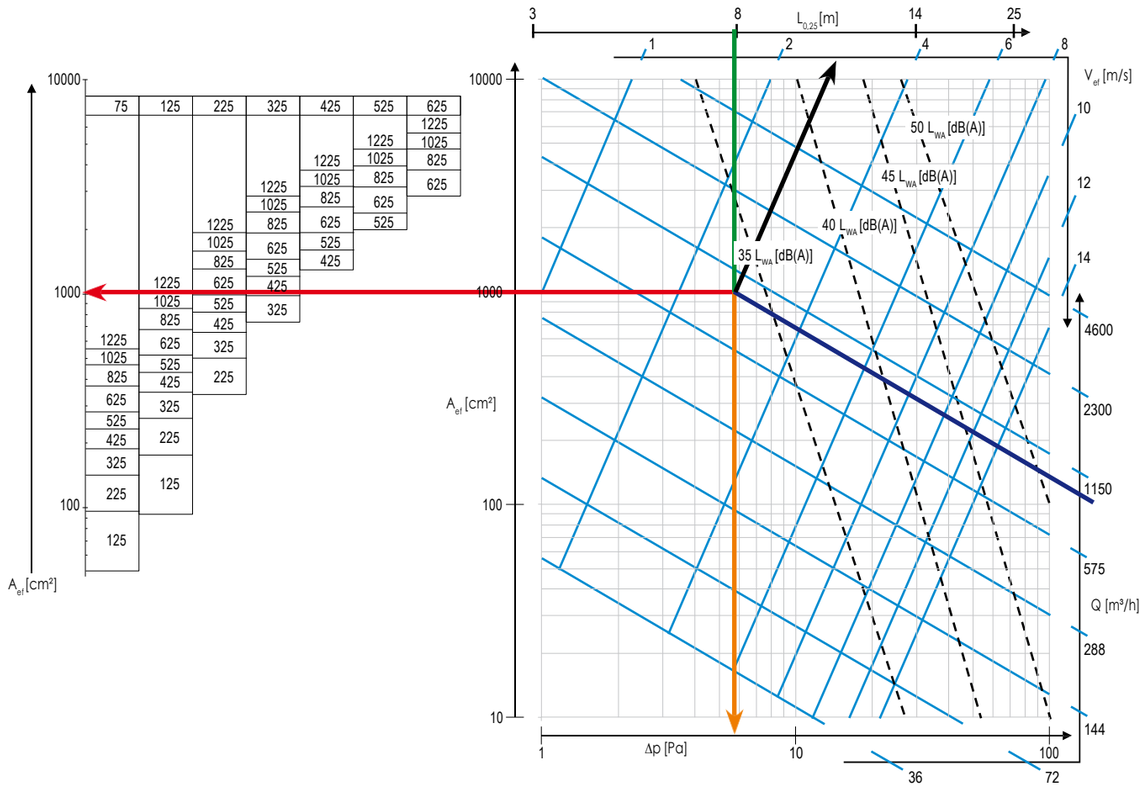
Relation of pressure loss (Δp), maximum stream velocity (V_{ef}), a range of velocity stream V=0.25 m/s ($L_{0,25}$)) and a level of acoustic power (L_{WA}) from air stream volume (Q).
$L_{0,25}$ range means distance, by which air velocity does not exceed 0,25 m/s.
V_{ef} velocity means the maximum air exhaust velocity from a grille measured at the outlet.
Chart concerns only grilles with open dampers.



Product range:

L mm / H mm	75 100 125	160 200 225	300 315 325	400 425	500 525	600 625	800 825	1000 1025	1200 1225
75 100 125	+	+	+	+	+	+	+	+	+
160 200 225	+	+	+	+	+	+	+	+	+
300 315 325	+	+	+	+	+	+	+	+	+
400 425	+	+	+	+	+	+	+	+	+
500 525	+	+	+	+	+	+	+	+	+
600 625	+	+	+	+	+	+	+	+	+

Instruction for diagrams for selection grilles KSH, KSV



Example (colours adequate to lines):
- Air stream range Q = 1000 m³/h
- Range $L_{0,25}$ = 8 m

Diagram reading:
- Grille selection: 125x1225, 225x625 or 325x425
- A_{ef} = 1000 cm²
- Pressure loss: 6 Pa
- Maximum outlet velocity: 2.8 m/s

Chart for selection grilles KSH, KSV for rectangular grilles

Q [m³/s]	Q [m³/h]	Typ	75 x 125	75 x 225 125 x 125	75 x 325	125 x 225	75 x 425	75 x 525	125 x 325	75 x 625	125 x 425 225 x 225	75 x 825	125 x 525	75 x 1025	125 x 625 225 x 325	75 x 1225	125 x 825 225 x 425	325 x 325	125x1025 225 x 525	225 x 625 325 x 425	125 x 1225	325 x 525	225 x 825 425 x 425	325 x 625	225x1025 425 x 525	225x1225 325 x 825 425 x 625	525 x 525	325x1025 525 x 625	425 x 825	325x1025 625 x 625	425x1025 525 x 825	525x1025 425x1225 625 x 825	525x1225 625 x 1025	625 x 1225
		A_{ef} [m²]	0,0050	0,0090	0,0140	0,0180	0,0190	0,0230	0,0260	0,0280	0,0340	0,0370	0,0430	0,0460	0,0500	0,0550	0,0660	0,0730	0,0820	0,0970	0,1020	0,1210	0,1280	0,1440	0,1600	0,1910	0,1990	0,2380	0,2540	0,2840	0,3160	0,3780	0,4710	0,5640
0,014	50	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1,3 2,8 2,8 <35	0,7 2,8 1,5 <35	0,4 1,6 1,0 <35																												
0,028	100	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	4,4 6,6 5,5 <35	2,3 5,3 2,9 <35	1,5 3,4 2,0 <35	0,9 3,1 1,6 <35	1,1 2,6 1,5 <35	0,9 2,3 1,2 <35	0,7 2,4 1,1 <35	0,9 2,3 1,0 <35	0,4 2,0 0,8 <35	0,6 1,8 0,7 <35																					
0,042	150	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	9,1 10,9 8,3 <35	4,8 7,7 4,4 <35	3,1 5,2 2,9 <35	1,9 4,5 2,4 <35	2,2 4,1 2,2 <35	2,0 3,6 1,8 <35	1,4 3,8 1,6 <35	1,9 3,5 1,5 <35	0,9 2,9 1,2 <35	1,3 2,8 1,1 <35	0,7 2,6 1,0 <35	1,0 2,4 0,9 <35	0,6 2,1 0,8 <35	0,9 2,2 0,8 <35	0,4 3,8 0,6 <35																	
0,056	200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	15,2 15,4 11,0 35	8,0 10,0 5,9 35	5,1 7,1 3,9 <35	3,1 5,9 3,1 <35	3,7 5,6 3,0 <35	3,3 5,0 2,4 <35	2,3 4,9 2,1 <35	3,1 4,8 2,0 <35	1,6 3,7 1,6 <35	2,2 3,8 1,5 <35	1,3 3,3 1,3 <35	1,8 3,3 1,2 <35	1,0 2,8 1,1 <35	1,5 3,0 1,0 <35	0,7 4,6 0,8 <35	0,6 4,8 0,8 <35	0,5 3,9 0,7 <35	0,3 3,2 0,6 <35													
0,083	300	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	31,6 24,9 16,5 <40	16,6 14,4 8,8 <40	10,7 11,0 5,9 35	6,5 8,4 4,7 35	7,6 8,7 4,4 <35	6,8 7,8 3,6 <35	4,9 7,0 3,2 <35	6,5 7,4 3,0 <35	3,2 5,3 2,4 <35	4,6 5,9 2,2 <35	2,6 4,8 1,9 <35	3,7 5,1 1,8 <35	2,0 4,0 1,6 <35	3,2 4,6 1,5 <35	1,4 5,9 1,3 <35	1,2 6,8 1,1 <35	1,0 5,0 1,0 <35	0,7 4,2 0,9 <35	0,8 2,3 0,8 <35	0,5 4,0 0,7 <35	0,5 3,5 0,6 <35	0,4 3,3 0,6 <35											
0,111	400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		27,8 18,4 11,8 40	17,9 14,8 7,8 <40	10,9 10,7 6,3 <40	12,8 11,9 5,9 35	11,5 10,6 4,8 <35	8,1 8,9 4,3 <35	10,9 9,9 4,0 <35	5,4 6,7 3,2 <35	7,7 7,9 3,0 <35	4,4 6,1 2,6 <35	6,1 6,8 2,4 <35	3,4 5,1 2,2 <35	5,4 2,8 2,0 <35	2,3 7,0 1,7 <35	2,1 8,6 1,5 <35	1,7 5,9 1,4 <35	1,1 5,0 1,1 <35	1,4 3,0 1,1 <35	0,9 5,0 0,9 <35	0,8 4,2 0,9 <35	0,7 4,2 0,8 <35	0,6 3,5 0,7 <35	0,5 3,4 0,6 <35										
0,139	500	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		41,6 22,2 14,7 <45	26,8 18,5 9,8 <40	16,3 12,9 7,9 <40	19,2 15,0 7,4 <40	17,2 13,3 5,9 35	12,2 10,6 5,3 35	16,3 12,4 5,0 35	8,1 8,0 4,0 <35	11,5 9,9 3,7 <35	6,5 7,4 3,2 <35	9,2 8,6 3,0 <35	5,1 6,2 2,7 <35	8,0 7,9 2,5 <35	3,4 8,0 2,1 <35	3,1 10,3 1,9 <35	2,5 6,7 1,7 <35	1,7 5,6 1,4 <35	2,0 3,6 1,4 <35	1,4 6,0 1,1 <35	1,3 4,8 1,1 <35	1,1 5,1 1,0 <35	0,9 4,2 0,9 <35	0,6 4,0 0,7 <35	0,5 3,4 0,7 <35	0,5 3,3 0,6 <35	0,4 3,3 0,5 <35	0,3 2,5 0,5 <35	0,3 2,7 0,4 <35	0,2 2,1 0,4 <35		
0,167	600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		57,7 25,9 17,7 45	37,2 22,3 11,7 40	22,7, 15,0 9,4 40	26,6 18,1 8,9 40	23,8 16,1 7,1 <40	16,9 12,3 6,4 <40	22,7 14,9 6,0 <40	11,2 9,3 4,8 35	15,9 11,9 4,5 35	9,1 8,6 3,9 35	12,7 10,3 3,6 35	7,1 7,2 3,3 35	11,1 9,6 3,0 35	4,8 8,8 2,5 <35	4,3 11,9 2,3 <35	3,5 7,5 2,0 <35	2,4 6,3 1,7 <35	2,8 4,2 1,6 <35	1,9 6,9 1,4 <35	1,7 5,4 1,3 <35	1,5 5,9 1,2 <35	1,2 4,8 1,0 <35	0,9 4,5 0,9 <35	0,8 4,1 0,8 <35	0,7 3,8 0,7 <35	0,6 3,9 0,7 <35	0,4 2,9 0,6 <35	0,4 3,1 0,5 <35	0,3 2,4 0,4 <35		
0,194	700	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]			49,1 26,0 13,7 <45	29,9 17,1 11,0 <45	35,1 21,3 10,3 <45	31,5 18,9 8,3 40	22,3 14,0 7,5 40	29,9 17,3 7,0 <40	14,8 10,5 5,6 <40	21,0 13,9 5,2 <40	12,0 9,8 4,5 <40	16,8 12,1 4,2 <40	9,3 8,2 3,8 <40	14,7 11,2 3,5 <40	6,3 9,6 3,0 35	5,7 13,4 2,6 <35	4,6 8,2 2,4 <35	3,1 6,9 2,0 <35	3,7 4,8 1,9 <35	2,5 7,8 1,6 <35	2,3 5,9 1,5 <35	1,9 6,7 1,3 <35	1,5 5,4 1,2 <35	1,2 5,1 1,0 <35	1,0 4,7 1,0 <35	0,9 4,3 0,8 <35	0,8 4,4 0,8 <35	0,6 3,2 0,7 <35	0,5 3,5 0,6 <35	0,4 2,7 0,5 <35	0,3 1,9 0,4 <35	0,2 1,2 0,3 <35
0,222	800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				38,0 19,1 12,6 45	44,7 24,5 11,8 45	40,0 21,8 9,5 <45	28,4 15,6 8,5 <45	38,0 19,8 7,9 40	18,9 11,7 6,4 40	26,7 15,9 6,0 40	15,2 10,9 5,2 40	21,3 13,8 4,8 <40	11,9 9,2 4,3 <40	18,7 12,9 4,0 <40	8,0 10,4 3,4 <40	7,2 14,9 3,0 35	5,8 8,8 2,7 <35	4,0 7,4 2,3 <35	4,7 5,4 2,2 <35	3,2 8,7 1,8 <35	2,9 6,4 1,7 <35	2,5 7,5 1,5 <35	1,9 6,0 1,4 <35	1,5 6,6 1,2 <35	1,3 5,2 1,1 <35	1,1 4,8 0,9 <35	1,0 4,9 0,9 <35	0,7 3,6 0,8 <35	0,6 3,9 0,7 <35	0,5 3,0 0,6 <35	0,4 2,3 0,5 <35	0,3 1,5 0,4 <35
0,250	900	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				47,0 21,1 14,2 50	55,3 27,7 13,3 <50	49,5 24,6 10,7 45	35,0 17,1 9,6 45	47,0 22,3 8,9 <45	23,3 12,8 7,3 <45	33,0 18,0 6,7 <45	18,8 12,1 5,8 <45	26,4 15,6 5,4 40	14,7 10,1 4,9 40	23,1 14,6 4,5 40	9,9 11,1 3,8 <40	8,9 16,4 3,4 <40	7,2 9,5 3,1 <40	4,9 8,0 2,6 35	5,9 5,9 2,5 35	4,0 9,6 2,1 <35	3,6 6,8 1,9 <35	3,1 8,2 1,7 <35	2,4 6,6 1,6 <35	1,8 6,1 1,3 <35	1,6 5,7 1,3 <35	1,4 5,3 1,0 <35	1,2 5,4 1,0 <35	0,9 4,0 0,9 <35	0,8 4,3 0,8 <35	0,6 3,4 0,7 <35	0,6 2,4 0,5 <35	0,4 1,7 0,4 <35
0,278	1000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]							42,4 18,7 10,7 <50	56,8 24,8 9,9 45	28,2 14,0 8,1 <45	39,9 20,0 7,5 <45	22,7 13,2 6,5 <45	31,9 17,4 6,0 <45	17,7 11,1 5,4 <45	27,9 16,3 5,0 <45	12,0 11,8 4,2 40	10,8 17,8 3,8 <40	8,7 10,0 3,4 <40	6,0 8,5 2,8 <40	7,1 6,5 2,7 <40	4,8 10,4 2,3 <35	4,4 7,3 2,1 <35	3,7 9,0 1,9 <35	2,9 7,1 1,7 <35	2,2 6,7 1,5 <35	2,0 6,3 1,4 <35	1,7 5,8 1,2 <35	1,5 5,9 1,1 <35	1,1 4,3 1,0 <35	0,9 4,7 0,9 <35	0,7 3,7 0,7 <35	0,6 2,9 0,6 <35	0,5 2,3 0,5 <35
0,333	1200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]									39,2 16,2 9,7 45	55,4 24,0 9,0 45	31,6 15,4 7,8 45	44,3 20,9 7,2 45	24,6 12,9 6,5 45	38,8 19,7 6,0 45	16,6 13,1 5,1 <45	14,9 20,6 4,5 40	12,0 11,2 4,1 40	8,3 9,4 3,4 <40	9,8 7,6 3,3 <40	6,6 12,1 2,8 35	6,1 8,1 2,6 35	5,1 10,4 2,3 <35	4,0 8,2 2,1 <35	3,1 7,9 1,7 <35	2,7 7,2 1,7 <35	2,4 6,7 1,4 <35	2,1 6,9 1,3 <35	1,5 5,0 1,2 <35	1,3 5,4 1,1 <35	0,9 4,3 0,9 <35	0,7 3,1 0,7 <35	0,6 2,4 0,6 <35
0,389	1400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]									51,7 18,3 11,3 <50	73,1 28,1 10,5 <50	41,7 17,5 9,1 <50	58,5 24,4 8,4 <50	32,5 14,7 7,6 <50	51,1 23,1 7,0 <50	21,9 14,3 5,9 <45	19,7 23,2 5,3 <45	15,9 12,2 4,8 <45	11,0 10,3 4,0 <40	13,0 8,6 3,8 <40	8,8 13,7 3,2 <40	8,0 8,9 3,0 <40	6,8 11,8 2,7 35	5,2 9,3 2,4 35	4,0 8,5 2,0 <35	3,5 7,8 2,0 <35	3,1 7,5 1,6 <35	2,7 7,8 1,5 <35	2,0 5,7 1,4 <35	1,7 6,2 1,2 <35	1,2 4,9 1,0 <35	1,0 3,6 0,8 <35	0,8 2,7 0,7 <35
0,444	1600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]											53,0 19,6 10,4 50	74,3 28,0 9,6 50	41,4 16,4 8,7 50	65,0 26,5 8,0 50	27,9 15,5 6,8 <50	25,1 25,8 6,1 45	20,2 13,2 5,4 45	13,9 11,2 4,5 40	16,5 9,6 4,4 40	11,2 15,2 3,7 <40	10,2 9,7 3,4 <40	8,6 13,1 3,1 <40	6,7 10,3 2,8 <40	5,1 9,4 2,3 35	4,2 8,8 2,2 <35	3,9 8,4 1,9 <35	3,5 8,7 1,8 <35	2,6 6,3 1,6 <35	2,2 6,9 1,4 <35	1,6 5,4 1,2 <35	1,2 4,6 0,9 <35	0,9 3,2 0,8 <35
0,500	1800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]													51,1 18,1 9,8 <55	80,4 30,0 9,0 <55	34,5 16,6 7,6 50	31,0 28,4 6,8 <50	25,0 14,1 6,1 <50	17,2 12,0 5,1 <45	20,4 10,6 4,9 <45	13,8 16,7 4,1 40	12,6 10,4 3,8 40	10,6 14,5 3,5 <40	8,2 11,3 3,1 <40	6,4 10,3 2,6 <40	5,3 9,5 2,5 35	4,9 9,2 2,1 35	4,3 9,6 2,0 <35	3,2 7,0 1,7 <35	2,7 7,6 1,6 <35	2,0 6,0 1,3 <35	1,4 4,8 1,1 <35	1,1 3,6 0,9 <35
0,556	2000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]															41,7 17,6 8,4 <55	37,5 30,8 7,6 50	30,2 15,0 6,8 50	20,8 12,7 5,7 <45	24,6 11,6 5,5 <45	16,7 18,2 4,6 <45	15,3 11,1 4,3 <45	12,8 15,8 3,8 <40	9,9 12,3 3,5 <40	7,7 11,1 2,9 <40	6,4 10,5 2,8 <40	5,9 10,0 2,3 <40	5,2 10,4 2,2 35	3,8 7,6 1,9 <35	3,3 8,2 1,8 <35	2,4 6,6 1,5 <35	1,8 5,3 1,2 <35	1,3 4,4 1,0 <35
0,667	2400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]															57,8 19,5 10,1 <55	52,1 35,6 9,1 <55	41,9 16,6 8,1 <55	28,9 14,2 6,8 45	34,2 13,6 6,6 45	23,1 21,0 5,5 <45	21,2 12,4 5,1 <45	17,8 18,3 4,6 40	13,8 14,1 4,1 40	10,7 12,7 3,5 <40	9,0 12,3 3,4 <40	8,2 11,6 2,8 <40	7,2 12,1 2,6 <40	5,3 8,8 2,3 35	4,6 9,5 2,1 35	3,3 7,6 1,8 35	2,5 6,4 1,4 <35	1,9 5,1 1,2 <35
0,778	2800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																			45,2 15,5 7,6 <50	30,5 23,8 6,4 45	28,0 13,6 6,0 45	23,5 20,8 5,4 <45	18,2 16,0 4,8 <45	14,1 14,3 4,0 40	13,0 13,5 3,9 <40	10,8 13,1 3,3 <40	9,5 13,7 3,1 <40	7,0 10,0 2,7 <40	6,0 10,8 2,5 <40	4,3 8,7 2,1 <40	3,5 7,7 1,7 35	3,0 6,3 1,4 35
0,889	3200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																							23,1 17,8 5,5 <45	17,9 15,8 4,6 <45	16,2 15,5 4,5 40	13,8 14,6 3,7 40	12,1 15,3 3,5 40	8,9 11,2 3,1 <40	7,7 12,1 2,8 <40	5,5 9,7 2,3 <40	4,0 8,7 1,9 <40	3,3 7,4 1,6 <40
1,000	3600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																									18,5 17,0 5,0 <45	17,0 16,1 4,2 <45	15,0 16,9 3,9 <45	11,0 12,3 3,5 <40	9,5 13,3 3,2 <40	6,8 10,7 2,6 <40	5,2 9,7 2,1 <40	4,5 8,4 1,8 <40
1,111	4000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																												13,3 13,4 3,9 40	11,5 14,4 3,5 40	8,2 11,7 2,9 <40	7,5 10,7 2,4 <40	6,0 9,5 2,0 <40
1,222	4400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																												15,8 14,5 4,3	13,6 15,6 3,9 <45	9,8 12,7 3,2 40	9,1 11,7 2,6 40	8,0 10,6 2,2 <40
1,333	4800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																														11,4 13,7 3,5 <45	10,0 12,5 2,8 <45	9,0 11,4 2,4 40
1,444	5200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																														13,2 14,6 3,8 <45	11,5 13,3 3,1 <45	10,4 12,3 2,6 <45

Uwagi

Δp [Pa] - Pressure loss

$L_{0,25}$ [m] - zasięg przy maksymalnej prędkości strumienia 0,25 m/s (średnia prędkość strumienia ok 0,07-0,10 m/s)

V [m/s] - średnia prędkość wylotowa strumienia powietrza przy kratce

L_{WA}[dB(A)] - Level of accustic power

Wartości podane w tabeli są wielkościami przybliżonymi.

Dla kratek dwurzędowych należy uwzględnić współczynnik korekcyjny - 0,72.

Znaczne różnice pomiędzy kratkami 75 x ... a innymi wynikają z ich budowy i geometrii (np. silnie podłużnego kształtu kratek 75 x 1025 i 75 x 1225).

Stopnień przymknięcia przepustnicy można w przybliżeniu uwzględnić poprzez współczynnik:

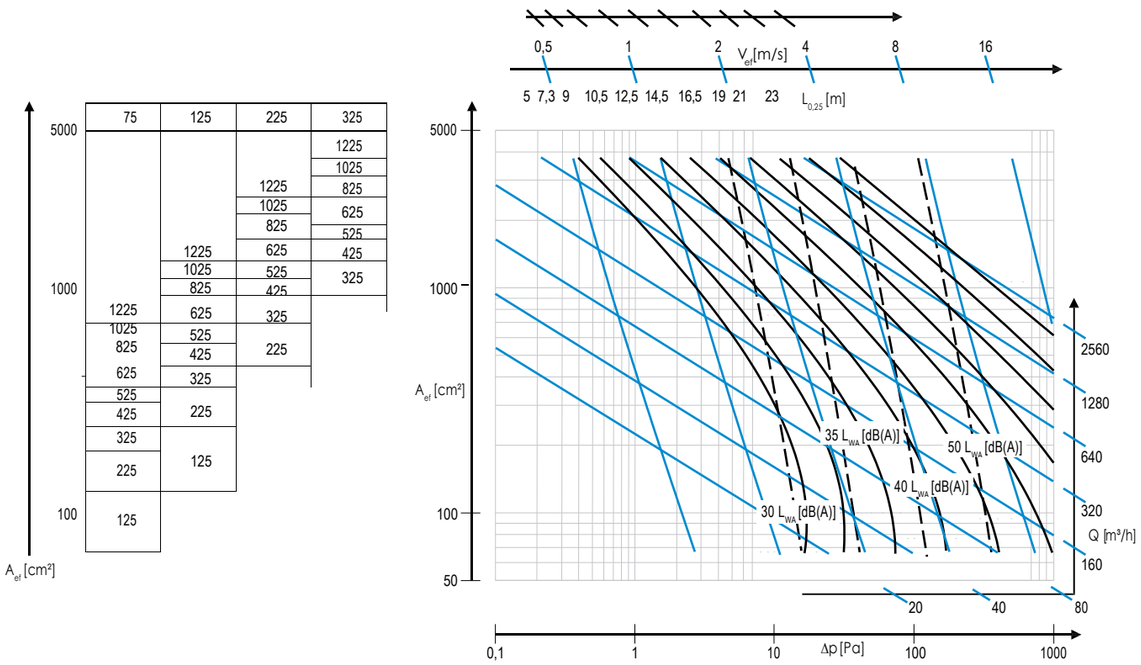
stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik

$L_{0,25\ przepust} \approx L_{0,25}$ / współczynnik

Diagram for selection grilles KSH/Ø, KSV/Ø for circular ducts

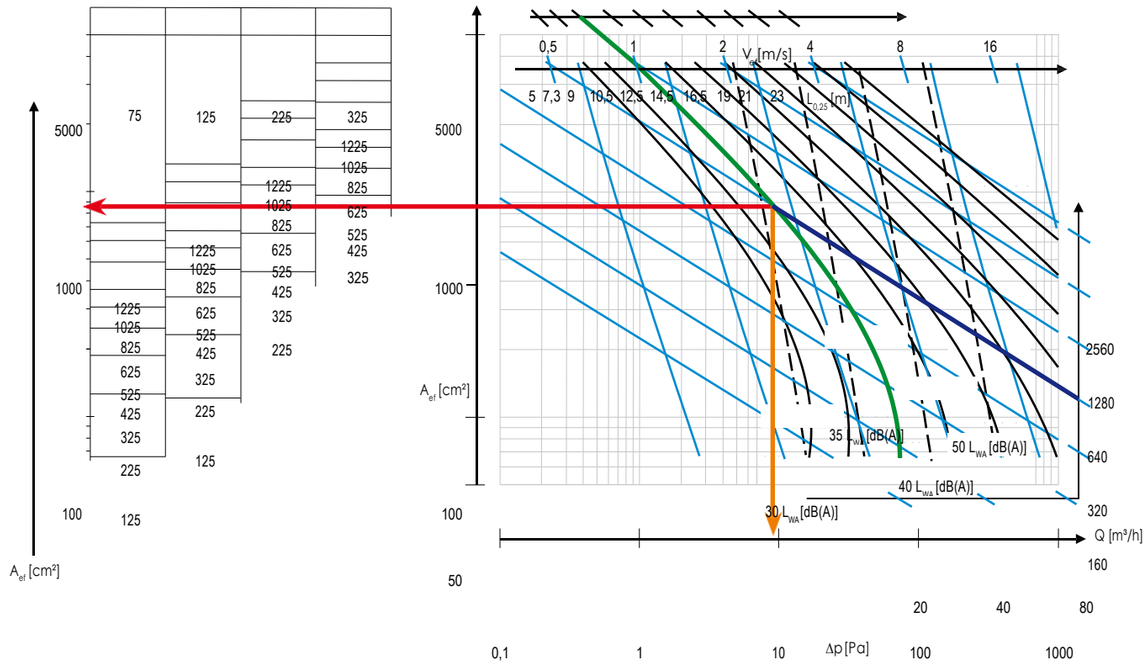
Relation of pressure loss (Δp), maximum stream velocity (V_{ef}), a range of velocity stream V=0.25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).
$L_{0,25}$ range means distance, by which air velocity does not exceed 0.25 m/s.
V_{ef} velocity means the maximum air exhaust velocity from a grille measured at the outlet.
Chart concerns grilles with a totally open damper of type SK.



Product range

L (mm)	H (mm)	zalecana śr. przewodu (mm) dla Ø-1	zalecana śr. przewodu (mm) dla Ø-2
225	75	Ø125-400	Ø250-Ø500
325			
425			
525			
625			
825			
1025			
1225			
225	125	Ø250-900	Ø500-Ø900
325			
425			
525	160	Ø300-1200	Ø710-Ø1200
625			
825			
1025			
225	225	Ø350-2400	Ø600-Ø2400
325			
425			
525			
625	325	Ø600-2400	Ø1250-Ø2400
825			
1025			

Instrukcja korzystania z diagramu doboru dla kratek KSH/Ø, KSV/Ø



Example (colours adequate to lines):
- Air stream range Q = 320 m³/h
- Range $L_{0,25}$ = 9 m

Diagram reading:
- Grille selection: 125x625 or 225x425
- A_{ef} = 850 cm²
- Pressure loss: 9.5 Pa
- Maximum outlet velocity: 1.8 m/s

Chart for selection grilles KSH/Ø, KSV/Ø for circular ducts

Q [m³/s]	Q [m³/h]	Typ	75 x 125	125 x 125	75 x 225	75 x 325	125 x 225	75 x 425	75 x 525	125 x 325	75 x 625	225 x 225	125 x 425	75 x 825	125 x 525	75 x 1025	225 x 325	125 x 625	75 x 1225	225 x 425	125 x 825	325 x 325	225 x 525	125 x 1025	325 x 425	225 x 625	125 x 1225	325 x 525	225 x 825	325 x 625	225 x 1025	325 x 825	225 x 1225	325 x 1025	325 x 1225	Typ	Q [m³/h]	Q [m³/s]
		A_{ef} [m²]	0,0066	0,0121	0,0126	0,0186	0,0231	0,0246	0,0306	0,0341	0,0366	0,0441	0,0451	0,0486	0,0561	0,0606	0,0651	0,0671	0,0726	0,0861	0,0891	0,0961	0,1071	0,1111	0,1271	0,1281	0,1331	0,1581	0,1701	0,1891	0,2121	0,2511	0,2541	0,3131	0,3751	A_{ef} [m²]		
0,0056	20	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	24,2 4,6 1,5 <35																																Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	20	0,0056
0,0111	40	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	98,4 7,9 2,9 <40	20,4 4,6 1,6 <35	18,4 4,4 1,5 <35																															Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	40	0,0111
0,0167	60	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	223 9,8 4,4 <45	46,5 6,8 2,4 <40	41,9 6,6 2,3 <40	15,3 4,6 1,5 30																														Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	60	0,0167
0,0222	80	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	400 11,1 5,9 50	83,4 8,3 3,2 40	75,1 8,1 3,0 40	27,5 6,3 2,1 <35	15,7 5,2 1,6 <35	13,3 4,9 1,5 <35																													Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	80	0,0222
0,0278	100	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	628 12,2 7,3 >50	131 9,5 4,0 45	118 9,3 3,8 45	43,3 7,5 2,6 35	24,8 6,5 2,1 <35	21,0 6,3 1,9 <35	12,0 5,3 1,5 30	9,1 4,8 1,4 30	7,5 4,5 1,3 30																									Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	100	0,0278
0,0417	150	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1425 14,1 11,0 >50	299 11,6 6,0 50	270 11,4 5,7 50	99,0 9,8 3,8 40	56,7 8,9 3,1 <40	48,2 8,7 2,9 <40	27,5 7,8 2,3 35	20,8 7,3 2,1 <35	17,3 7,0 1,9 <35	10,7 6,3 1,6 30	10,1 6,2 1,6 30	8,4 5,9 1,4 30	5,8 5,3 1,3 <30	4,7 4,9 1,2 <30																					Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	150	0,0417
0,0556	200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	2549 15,5 14,7 >50	537 13,1 7,9 >50	484 13,0 7,6 >50	178 11,5 5,1 <50	102 10,6 4,1 40	86,9 10,4 3,9 40	49,6 9,5 3,1 <40	37,5 9,1 2,8 <40	31,3 8,8 2,6 <40	19,4 8,1 2,1 <35	18,3 8,0 2,1 <35	15,1 7,8 1,9 <35	10,5 7,2 1,7 <35	8,6 6,9 1,5 <35	7,1 6,6 1,4 <30	6,6 6,5 1,4 <30	5,4 6,2 1,3 <30	3,5 5,6 1,1 <30	3,2 5,4 1,0 <30	2,6 5,1 1,0 <30													Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	200	0,0556
0,0833	300	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		1225 15,3 11,9 >50	1105 15,1 11,4 >50	407 13,8 7,7 >50	234 13,0 6,2 <50	199 12,8 5,8 <50	114 12,0 4,6 <45	86,2 11,7 4,2 40	71,9 11,4 3,9 40	44,6 10,8 3,2 <40	42,1 10,7 3,1 <40	34,8 10,4 2,9 <40	24,1 9,9 2,5 35	19,8 9,7 2,3 35	16,5 9,4 2,2 <35	15,2 9,3 2,1 <35	12,4 9,0 1,9 <35	8,0 8,4 1,6 30	7,4 8,3 1,6 30	6,1 8,1 1,4 <30	4,6 7,7 1,3 <30	4,2 7,6 1,3 <30	3,0 7,1 1,1 <30	2,9 7,1 1,1 <30	2,6 6,9 1,0 <30	1,7 6,3 0,9 <30	1,4 6,1 0,8 <30	1,1 5,7 0,7 <30									Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	300	0,0833
0,1111	400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		2199 16,8 15,9 >50	1983 16,6 15,2 >50	733 15,4 10,3 >50	421 14,7 8,2 >50	359 14,5 7,7 >50	205 13,8 6,2 50	156 13,5 5,5 <50	130 13,2 5,2 <50	80,6 12,6 4,3 40	76,1 12,6 4,2 40	62,9 12,3 3,9 40	43,6 11,9 3,3 <40	35,8 11,6 3,1 <40	29,8 11,4 2,9 <40	27,6 11,3 2,8 <40	22,5 11,0 2,6 35	14,6 10,5 2,2 <35	13,4 10,4 2,1 <35	11,0 10,1 1,9 <35	8,3 9,8 1,7 30	7,6 9,7 1,7 30	5,4 9,3 1,5 <30	5,3 9,2 1,4 <30	4,8 9,1 1,4 <30	3,1 8,6 1,2 <30	2,6 8,3 1,1 <30	2,0 8,0 1,0 <30	1,5 7,6 0,9 <30	0,9 7,1 0,7 <30	0,9 7,0 0,7 <30	0,5 6,4 0,6 <30		Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	400	0,1111
0,1389	500	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				1155 16,7 12,8 >50	664 16,0 10,3 >50	566 15,8 9,6 >50	324 15,2 7,7 >50	246 14,9 6,9 50	205 14,6 6,4 50	128 14,1 5,3 45	120 14,0 5,2 45	99,5 13,8 4,8 <45	69,0 13,4 4,2 40	56,7 13,1 3,9 40	47,2 12,9 3,6 <40	43,7 12,8 3,5 <40	35,7 12,6 3,2 <40	23,1 12,1 2,7 35	21,2 12,0 2,6 35	17,5 11,8 2,4 <35	13,2 11,4 2,2 <35	12,1 11,3 2,1 <35	8,6 10,9 1,8 <35	8,4 10,9 1,8 <35	7,6 10,8 1,7 <35	4,9 10,3 1,5 <30	4,1 10,1 1,4 <30	3,1 9,7 1,2 <30	2,3 9,4 1,1 <30	1,5 8,9 0,9 <30	1,5 8,9 0,9 <30	0,9 8,2 0,7 <30	0,5 7,7 0,6 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	500	0,1389
0,1667	600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				1676 17,7 15,4 >50	965 17,1 12,3 >50	822 16,9 11,6 >50	471 16,3 9,3 >50	357 16,0 8,3 >50	298 15,8 7,7 >50	186 15,3 6,4 <50	175 15,2 6,3 <50	145 15,0 5,8 45	100 14,6 5,0 <45	82,5 14,4 4,6 <45	68,7 14,2 4,3 40	63,6 14,1 4,2 40	52,1 13,9 3,9 <40	33,7 13,4 3,2 <40	30,9 13,3 3,1 <40	25,5 13,1 2,9 <40	19,3 12,8 2,6 <35	17,6 12,7 2,5 <35	12,5 12,3 2,2 <35	12,2 12,3 2,2 <35	11,1 12,2 2,1 <35	7,2 11,7 1,7 30	5,9 11,5 1,6 30	4,5 11,2 1,5 <30	3,4 10,9 1,3 <30	2,2 10,4 1,1 <30	2,1 10,3 1,1 <30	1,3 9,8 0,9 <30	0,8 9,3 0,7 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	600	0,1667
0,1944	700	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]					1322 18,0 14,4 >50	1126 17,8 13,5 >50	646 17,2 10,8 >50	490 17,0 9,7 >50	409 16,8 9,0 >50	255 16,3 7,5 >50	241 16,2 7,3 >50	199 16,0 6,8 50	138 15,6 5,8 45	113 15,4 5,4 45	94,5 15,2 5,0 <45	87,5 15,2 4,9 <45	71,6 14,9 4,5 40	46,4 14,5 3,8 <40	42,5 14,4 3,7 <40	35,0 14,2 3,4 <40	26,6 13,9 3,0 <40	24,2 13,8 2,9 <40	17,2 13,5 2,5 35	16,9 13,4 2,5 35	15,3 13,3 2,4 35	9,9 12,9 2,0 <35	8,2 12,7 1,9 <35	6,3 12,4 1,7 30	4,7 12,1 1,5 <30	3,0 11,6 1,3 <30	2,9 11,6 1,3 <30	1,7 11,0 1,0 <30	1,1 10,6 0,8 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	700	0,1944
0,2222	800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]						1480 18,6 15,4 >50	849 18,1 12,4 >50	645 17,8 11,1 >50	539 17,6 10,3 >50	335 17,1 8,5 >50	317 17,1 8,3 >50	262 16,9 7,7 >50	182 16,5 6,7 50	149 16,3 6,2 50	124 16,2 5,7 <50	115 16,1 5,6 <50	94,3 15,9 5,1 <45	61,1 15,4 4,3 <40	56,0 15,4 4,2 <40	46,2 15,2 3,9 <40	35,1 14,9 3,5 <40	31,9 14,8 3,3 <40	22,7 14,5 2,9 <40	22,2 14,4 2,9 <40	20,2 14,3 2,8 <40	13,0 13,9 2,3 <35	10,8 13,7 2,2 <35	8,3 13,4 1,9 <35	6,2 13,2 1,7 <35	4,0 12,7 1,5 <30	3,9 12,7 1,4 <30	2,3 12,2 1,2 <30	1,4 11,7 1,0 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	800	0,2222
0,2778	1000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]							1342 19,4 15,5 >50	1019 19,2 13,8 >50	851 19,0 12,9 >50	530 18,6 10,7 >50	501 18,5 10,4 >50	414 18,4 9,7 >50	288 18,0 8,3 >50	237 17,9 7,7 >50	197 17,7 7,2 50	183 17,6 7,0 50	149 17,4 6,4 <50	96,9 17,0 5,4 <45	88,8 17,0 5,2 <45	73,3 16,8 4,8 <45	55,7 16,5 4,3 <40	50,7 16,4 4,2 <40	36,0 16,1 3,6 <40	35,3 16,1 3,6 <40	32,1 16,0 3,5 <40	20,7 15,6 2,9 <40	17,2 15,5 2,7 35	13,1 15,2 2,4 <35	9,8 14,9 2,2 <35	6,4 14,5 1,8 <35	6,2 14,5 1,8 <35	3,6 14,0 1,5 <30	2,3 13,6 1,2 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1000	0,2778
0,3333	1200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]								1481 20,3 16,6 >50	1238 20,2 15,5 >50	771 19,8 12,8 >50	729 19,7 12,5 >50	603 19,6 11,6 >50	419 19,3 10,0 >50	344 19,1 9,3 >50	287 18,9 8,6 >50	266 18,9 8,3 >50	218 18,7 7,7 50	141 18,3 6,5 <50	130 18,3 6,3 <50	107 18,1 5,8 45	81,2 17,9 5,2 <45	74,0 17,8 5,0 <45	52,6 17,5 4,4 40	51,6 17,5 4,3 40	46,8 17,4 4,2 40	30,2 17,0 3,5 <40	25,1 16,9 3,2 <40	19,2 16,6 2,9 <40	14,3 16,4 2,6 <35	9,3 16,0 2,2 <35	9,1 16,0 2,2 <35	5,3 15,6 1,7 30	3,4 15,2 1,5 <30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1200	0,3333
0,3889	1400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]										1059 20,8 14,9 >50	1000 20,7 14,6 >50	828 20,6 13,5 >50	575 20,3 11,7 >50	473 20,1 10,8 >50	395 20,0 10,0 >50	366 19,9 9,7 >50	299 19,8 9,0 >50	194 19,4 7,6 50	178 19,4 7,3 50	147 19,2 6,8 <45	112 19,0 6,1 45	102 18,9 5,8 45	72,4 18,7 5,1 <45	71,0 18,6 5,0 <45	64,4 18,6 4,9 <45	41,7 18,2 4,1 <40	34,6 18,1 3,8 <40	26,5 17,9 3,4 <40	19,8 17,6 3,0 <40	12,9 17,3 2,5 <35	12,5 17,3 2,5 <35	7,4 16,8 2,0 <35	4,7 16,5 1,7 30	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1400	0,3889
0,4444	1600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]													758 21,2 13,4 >50	623 21,0 12,3 >50	520 20,9 11,5 >50	481 20,9 11,1 >50	394 20,7 10,3 >50	256 20,4 8,6 >50	235 20,3 8,3 >50	194 20,2 7,7 50	147 20,0 6,9 <50	134 19,9 6,7 <50	95,5 19,7 5,8 45	93,7 19,6 5,8 45	85,0 19,6 5,5 45	55,0 19,2 4,7 40	45,7 19,1 4,3 <40	34,9 18,9 3,9 <40	26,1 18,7 3,5 <40	17,0 18,4 2,9 35	16,5 18,4 2,9 35	9,7 18,0 2,3 <35	6,2 17,6 1,9 <35	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1600	0,4444
0,5000	1800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]													966 22,0 15,0 >50	794 21,8 13,9 >50	663 21,7 12,9 >50	614 21,7 12,5 >50	503 21,5 11,6 >50	327 21,2 9,7 >50	300 21,2 9,4 >50	247 21,0 8,7 >50	188 20,8 7,8 50	171 20,8 7,5 50	122 20,5 6,5 <50	120 20,5 6,5 <50	109 20,5 6,2 <50	70,2 20,2 5,2 <45	58,4 20,0 4,9 <45	44,6 19,8 4,4 40	33,4 19,6 3,9 <40	21,8 19,3 3,3 <40	21,1 19,3 3,2 <40	12,5 18,9 2,6 35	7,9 18,6 2,2 <35	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1800	0,5000
0,5556	2000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]														987 22,6 15,4 >50	824 22,4 14,3 >50	763 22,4 13,9 >50	625 22,3 12,8 >50	406 22,0 10,8 >50	373 21,9 10,4 >50	308 21,8 9,7 >50	234 21,6 8,7 >50	213 21,6 8,3 >50	152 21,3 7,3 50	149 21,3 7,2 50	135 21,3 6,9 50	87,4 21,0 5,8 <50	72,6 20,8 5,4 <45	55,6 20,7 4,9 <45	41,6 20,5 4,3 <40	27,1 20,2 3,64 <40	26,3 20,2 3,60 <40	15,5 19,8 2,91 <40	9,8 19,5 2,42 <35	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	2000	0,5556
0,6667	2400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																	911 23,5 15,4 >50	592 23,3 13,0 >50	543 23,2 12,5 >50	449 23,1 11,6 >50	341 23,0 10,4 >50	311 22,9 10,0 >50	222 22,7 8,7 >50	217 22,7 8,7 >50	197 22,6 8,3 >50	128 22,4 7,0 <50	106 22,3 6,5 <50	81 22,1 5,8 <45	61 21,9 5,2 <45	39,7 21,7 4,37 40	38,5 21,7 4,31 40	22,7 21,4 3,49 <40	14,4 21,1 2,90 <40	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	2400	0,6667
0,7778	2800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																		814 24,4 15,1 >50	747 24,3 14,6 >50	617 24,2 13,5 >50	470 24,1 12,1 >50	428 24,0 11,7 >50	305 23,9 10,2 >50	299 23,8 10,1 >50	271 23,8 9,7 >50	176 23,6 8,2 >50	146 23,5 7,6 50	112 23,3 6,8 <50	84 23,2 6,0 45	54,8 22,9 5,09 <45	53,1 22,9 5,03 <45	31,4 22,6 4,07 <40	19,9 22,4 3,39 <40	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	2800	0,7778

Uwagi

Δp [Pa] - Pressure loss

$L_{0,25}$ [m] - zasięg przy maksymalnej prędkości strumienia 0,25 m/s (średnia prędkość strumienia ok 0,07-0,10 m/s)

V [m/s] - średnia prędkość wylotowa strumienia powietrza przy kratce

L_{WA}[dB(A)] - Level of accustic power

Wartości podane w tabeli są wielkościami przybliżonymi.

Jasne pola oznaczają optymalne warunki pracy.

Wartości objęte ramką oznaczają praktyczną zamienność i zgodność typów.

Dla przepustnicy przymkniętej do połowy (50% otwarcia), można zastosować przybliżone współczynniki:

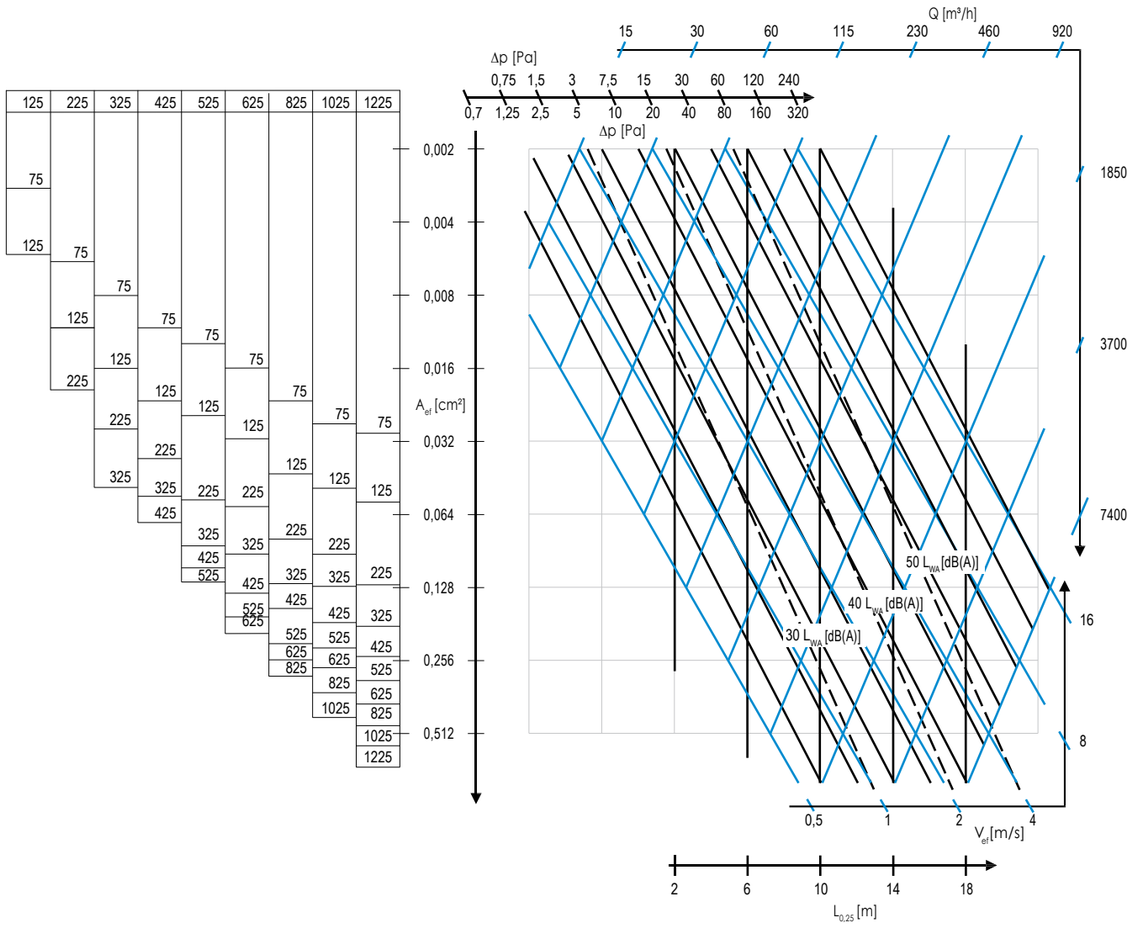
$L_{50\%} \approx 0,77\ L_{100\%}$

$\Delta p_{50\%} \approx 2,6\ \Delta p_{100\%}$

$V_{50\%} \approx 0,89\ V_{100\%}$

Diagram for selection grille KST

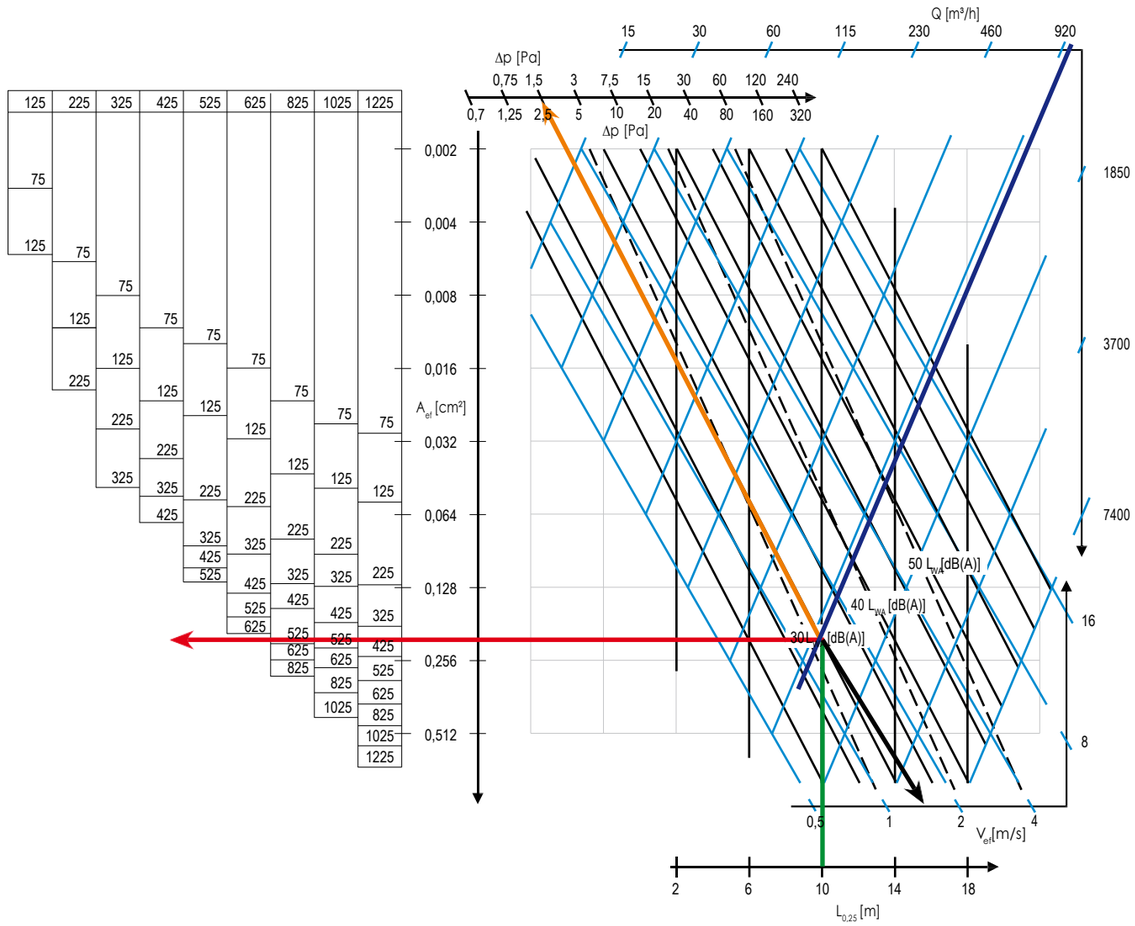
Relation of pressure loss (Δp), maximum stream velocity (V_{ef}), a range of velocity stream V=0.25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).
$L_{0,25}$ range means distance, by which air velocity does not exceed 0.25 m/s.
V_{ef} velocity means the maximum air exhaust velocity from a grille measured at the outlet.
Chart concerns grilles with totally open dampers.



Product range:

H mm \ L mm	75 100 125	160 200 225	300 315 325	400 425	500 525	600 625 630	800 825	1000 1025	1200 1225
75 100 125	+	+	+	+	+	+	+	+	+
160 200 225	+	+	+	+	+	+	+	+	+
300 315 325	+	+	+	+	+	+	+	+	+
400 425	+	+	+	+	+	+	+	+	+
500 525	+	+	+	+	+	+	+	+	+
600 625 630	+	+	+	+	+	+	+	+	+

Instrukcja korzystania z diagramu doboru dla kratek maskujących KST



Przykład (kolory zgodne z liniami):

- zadany Air stream volume Q = 1000 m³/h
- zasięg $L_{0,25}$ = 10 m

Odczyt z diagramu:

- wybór kratki: 825x525 lub 1025x525
- Pressure loss: 2,5 Pa
- prędkość efektywna na wylocie: 1,4 m/s

Chart for selection grilles KST

Q [m³/s]	Q [m³/h]	Typ	75 x 125	225 x 75 125 x 125	325 x 75	425 x 75 225 x 125	525 x 75	625 x 75 325 x 125	225 x 225	825 x 75 425 x 125	525 x 125	1025 x 75	625 x 125 325 x 225	1225 x 75	825 x 125 425 x 225	325 x 325	1025 x 125 525 x 225	1225 x 125 625 x 225 425 x 325	525 x 325	825 x 225 425 x 425	625 x 325	1025 x 225 525 x 425	525 x 525 1225 x 225 825 x 325 625 x 425	825 x 425 1025 x 325 625 x 525	1225 x 325 625 x 625	1025 x 425 825 x 525	1225 x 425 825 x 625	1025 x 525	825 x 825 1225 x 525 1025 x 625	1225 x 625	1025 x 825	1225 x 825	1025 x 1025	1225 x 1025	1225 x 1225
		A_{ef} [m²]	0,0066	0,0121	0,0186	0,0231	0,0306	0,0341	0,0441	0,0451	0,0561	0,0606	0,0651	0,0726	0,0861	0,961	0,1071	0,1271	0,1581	0,1681	0,1891	0,2091	0,2501	0,3111	0,3721	0,4131	0,4941	0,5151	0,6161	0,7381	0,8181	0,9801	1,0201	1,2221	1,4641
0,0167	60	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	12,1 4,4 2,11 40	3,7 3,8 1,32 35																															
0,0222	80	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	24,2 5,8 2,81 <50	7,3 5,2 1,75 40	3,4 4,6 1,29 35	2,1 4,2 1,07 30																													
0,0278	100	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	41,9 6,9 3,52 50	12,5 6,3 2,19 45	5,7 5,8 1,61 40	3,5 5,3 1,34 35	2,2 4,8 1,11 <35	1,6 4,5 0,99 30																											
0,0417	150	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	114 8,8 5,27 >50	33,1 8,3 3,29 50	14,8 7,8 2,42 45	9,0 7,4 2,00 40	5,5 6,9 1,66 <40	4,2 6,6 1,49 35	2,7 6,0 1,26 35	2,4 5,9 1,20 <35	1,7 5,4 1,05 30	1,4 5,1 0,99 30	1,2 4,9 0,93 30	1,0 4,5 0,87 30																					
0,0556	200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	234 10,2 7,03 >50	66,5 9,8 4,39 >50	29,3 9,3 3,22 50	17,8 8,9 2,67 45	10,8 8,4 2,21 <45	8,1 8,1 1,99 40	5,2 7,6 1,68 <40	4,6 7,4 1,61 <40	3,2 6,9 1,40 <35	2,7 6,7 1,32 <35	2,3 6,5 1,24 <35	1,9 6,2 1,15 <35	1,3 5,6 1,00 30	1,1 5,3 0,93 <30	0,8 4,8 0,85 <30	0,6 4,3 0,75 <30																	
0,0694	250	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	408 11,3 8,79 >50	114 10,9 5,48 >50	49,9 10,4 4,03 >50	30,1 10,1 3,34 50	18,2 9,6 2,77 <50	13,6 9,3 2,48 45	8,7 8,8 2,10 40	7,7 8,7 2,01 40	5,3 8,2 1,75 <40	4,5 7,9 1,65 35	3,8 7,7 1,55 35	3,2 7,4 1,44 35	2,2 6,8 1,25 <35	1,8 6,5 1,17 30	1,4 6,1 1,06 30	1,0 5,6 0,93 30	0,7 5,0 0,80 <30	0,6 4,9 0,76 <30	0,5 4,6 0,70 <30	0,4 4,4 0,65 <30	0,2 4,1 0,56 <30											
0,0833	300	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	664 12,2 10,55 >50	179 11,8 6,58 >50	77,2 11,3 4,83 >50	46,4 11,0 4,01 >50	27,9 10,6 3,32 >50	20,7 10,3 2,98 <50	13,2 9,8 2,52 <45	11,6 9,6 2,41 <45	8,1 9,2 2,10 40	6,9 9,0 1,98 <40	5,8 8,7 1,86 <40	4,8 8,4 1,73 <40	3,2 7,8 1,50 <35	2,7 7,5 1,40 <35	2,1 7,1 1,27 <35	1,5 6,6 1,12 <35	1,0 6,1 0,96 <30	0,8 5,9 0,92 <30	0,7 5,7 0,84 <30	0,5 5,5 0,78 <30	0,4 5,1 0,67 <30	0,2 4,7 0,57 <30										
0,1111	400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]	1327 13,6 14,06 >50	361 13,2 8,77 >50	154 12,8 6,44 >50	91,9 12,5 5,34 >50	54,8 12,1 4,43 >50	40,6 11,8 3,97 50	25,6 11,3 3,36 <50	22,6 11,2 3,21 <45	15,5 10,8 2,80 45	13,2 10,5 2,65 40	11,1 10,3 2,48 40	9,1 10,0 2,31 40	6,2 9,5 2,00 <40	5,1 9,2 1,87 35	3,9 8,8 1,70 35	2,7 8,2 1,49 35	1,8 7,7 1,28 30	1,6 7,5 1,22 30	1,2 7,3 1,12 30	1,0 7,1 1,03 30	0,7 6,8 0,90 <30	0,4 6,4 0,76 <308	0,3 5,8 0,67 <30	0,2 5,2 0,62 <30									
0,1389	500	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		623 14,3 10,96 >50	264 13,9 8,05 >50	156 13,6 6,68 >50	92,6 13,3 5,53 >50	68,4 13,0 4,96 >50	42,9 12,6 4,20 >50	37,8 12,4 4,01 50	25,9 12,0 3,51 <50	22,0 11,8 3,31 45	18,3 11,5 3,10 45	15,1 11,3 2,89 45	10,1 10,7 2,51 40	8,4 10,4 2,34 <40	6,4 10,0 2,12 <40	4,5 9,5 1,87 <40	2,9 8,9 1,61 <35	2,5 8,8 1,53 <35	2,0 8,5 1,40 <35	1,6 8,3 1,29 <35	1,1 8,0 1,12 <30	0,7 7,7 0,96 <30	0,5 7,2 0,84 <30	0,4 6,7 0,78 <30									
0,1667	600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]		975 15,2 13,16 >50	409 14,9 9,66 >50	241 14,6 8,01 >50	142 14,2 6,64 >50	105 14,0 5,96 >50	65,5 13,5 5,04 >50	57,6 13,4 4,82 >50	39,3 13,0 4,21 50	33,4 12,8 3,97 <50	27,8 12,6 3,72 <50	22,8 12,3 3,46 <50	15,3 11,7 3,01 <45	12,6 11,5 2,80 <40	9,6 11,1 2,55 <40	6,7 10,5 2,24 <40	4,4 10,0 1,93 35	3,9 9,8 1,83 35	3,0 9,5 1,68 35	2,4 9,3 1,55 35	1,6 9,1 1,35 30	1,0 8,8 1,14 <30	0,7 8,4 1,01 <30	0,6 7,9 0,93 <30	0,4 6,3 0,82 <30	0,4 5,8 0,79 <30								
0,1944	700	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]			593 15,6 11,27 >50	349 15,4 9,35 >50	205 15,0 7,75 >50	150 14,8 6,95 >50	93,7 14,4 5,88 >50	82,3 14,2 5,62 >50	56,0 13,8 4,91 >50	47,5 13,6 4,63 50	39,4 13,4 4,34 50	32,3 13,2 4,04 50	21,6 12,6 3,51 45	17,7 12,3 3,27 40	13,5 11,9 2,97 40	9,4 11,4 2,61 40	6,1 10,8 2,25 <40	5,3 10,7 2,14 <40	4,2 10,4 1,96 <40	3,3 10,2 1,81 <40	2,2 9,9 1,57 <35	1,4 9,7 1,33 <30	1,0 9,4 1,18 <30	0,8 8,9 1,09 <30	0,5 7,4 0,95 <30	0,5 6,9 0,92 <30								
0,2222	800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]			819 16,3 12,89 >50	479 16,1 10,68 >50	280 15,7 8,86 >50	206 15,5 7,94 >50	128 15,1 6,72 >50	112 15,0 6,42 >50	76,1 14,6 5,61 >50	64,5 14,4 5,29 >50	53,5 14,2 4,96 >50	43,7 13,9 4,62 >50	29,2 13,4 4,01 <50	23,9 13,1 3,74 45	18,2 12,7 3,40 45	12,6 12,2 2,99 45	8,2 11,6 2,57 <40	7,1 11,4 2,44 <40	5,6 11,1 2,24 <40	4,4 10,9 2,07 <40	3,0 10,7 1,80 <35	1,8 10,5 1,51 30	1,3 10,2 1,34 30	1,0 9,8 1,24 30	0,7 8,3 1,09 <30	0,6 7,8 1,06 <30	0,4 5,4 0,91 <30							
0,2778	1000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				817 17,2 13,36 >50	475 16,9 11,07 >50	347 16,7 9,93 >50	215 16,3 8,40 >50	188 16,2 8,03 >50	127 15,8 7,01 >50	107 15,6 6,61 >50	88,9 15,4 6,20 >50	72,5 15,2 5,77 >50	48,2 14,6 5,01 50	39,4 14,3 4,67 <50	29,9 14,0 4,25 <50	20,6 13,4 3,73 <50	13,3 12,8 3,21 <45	11,5 12,7 3,05 <45	9,0 12,4 2,81 <45	7,1 12,2 2,59 <45	4,8 11,9 2,25 35	2,9 11,8 1,89 <35	2,1 11,6 1,68 <35	1,6 11,3 1,56 <35	1,1 9,9 1,36 30	1,0 9,5 1,32 30	0,7 7,1 1,13 <30	0,5 6,7 1,01 <30	0,4 6,8 0,93 <30	0,3 6,8 0,81 <30	0,2 6,6 0,79 <30	0,2 6,5 0,69 <30	0,1 6,4 0,60 <30
0,3333	1200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]				1263 18,1 16,03 <50	731 17,9 13,28 >50	533 17,7 11,91 >50	328 17,3 10,09 >50	287 17,2 9,64 >50	193 16,8 8,41 >50	163 16,6 7,94 >50	135 16,4 7,43 >50	110 16,2 6,93 >50	72,7 15,7 6,01 >50	59,3 15,4 5,61 50	44,9 15,0 5,10 50	30,8 14,5 4,48 50	19,9 13,9 3,85 <45	17,2 13,7 3,66 <45	13,4 13,4 3,37 <45	10,6 13,2 3,10 <45	7,0 13,0 2,70 <40	4,3 12,9 2,27 <35	3,0 12,8 2,02 <35	2,4 12,5 1,87 <35	1,6 11,2 1,63 <35	1,5 10,8 1,58 <35	1,0 8,5 1,36 30	0,7 8,1 1,21 <30	0,5 8,2 1,12 <30	0,4 8,2 0,97 <30	0,3 8,0 0,95 <30	0,2 7,9 0,83 <30	0,2 7,8 0,72 <30
0,3889	1400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]					1052 18,7 15,50 >50	765 18,5 13,90 >50	469 18,1 11,77 >50	410 18,0 11,24 >50	275 17,6 9,81 >50	232 17,5 9,26 >50	192 17,3 8,67 >50	156 17,0 8,08 >50	103 16,5 7,02 >50	83,8 16,2 6,54 >50	63,3 15,9 5,95 >50	43,4 15,3 5,23 >50	27,9 14,7 4,50 45	24,0 14,5 4,27 45	18,8 14,3 3,93 45	14,8 14,1 3,62 45	9,8 13,8 3,15 40	5,9 13,8 2,65 35	4,2 13,7 2,35 35	3,3 13,5 2,18 35	2,2 12,3 1,90 <35	2,0 11,9 1,85 <35	1,3 9,6 1,59 <35	0,9 9,2 1,41 30	0,7 9,3 1,30 30	0,5 9,3 1,14 <30	0,5 9,2 1,10 <30	0,3 9,0 0,96 <30	0,2 9,0 0,84 <30
0,4444	1600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]						1047 19,2 15,89 >50	640 18,8 13,45 >50	559 18,7 12,85 >50	375 18,4 11,22 >50	315 18,2 10,58 >50	260 18,0 9,91 >50	211 17,8 9,24 >50	139 17,3 8,02 >50	113 17,0 7,48 >50	86,2 16,6 6,80 >50	58,3 16,1 5,97 >50	37,3 15,5 5,14 <50	32,1 15,3 4,88 <50	25,1 15,0 4,49 <50	19,7 14,8 4,14 <50	13,0 14,6 3,60 <45	7,8 14,6 3,03 <40	5,5 14,6 2,69 <40	4,4 14,4 2,49 <40	2,9 13,3 2,17 35	2,7 12,8 2,11 35	1,7 10,6 1,81 <35	1,2 10,2 1,61 <35	1,0 10,3 1,49 35	0,6 10,3 1,30 <30	0,6 10,2 1,26 <30	0,4 10,1 1,10 <30	0,3 10,0 0,96 <30
0,5000	1800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]							842 19,5 15,13 >50	735 19,4 14,45 >50	491 19,0 12,62 >50	413 18,9 11,91 >50	340 18,7 11,15 >50	276 18,4 10,39 >50	181 17,9 9,02 >50	147 17,7 8,41 >50	111 17,3 7,64 >50	75,6 16,7 6,72 >50	48,3 16,1 5,78 <50	41,6 15,9 5,49 <50	32,4 15,7 5,05 <50	25,4 15,5 5,66 <50	16,7 15,3 4,05 45	10,1 15,3 3,41 40	7,1 15,3 3,02 40	5,6 15,2 2,80 40	3,8 14,1 2,45 <40	3,4 13,7 2,37 <40	2,2 15,2 2,04 35	1,5 11,1 1,81 <35	1,2 11,2 1,68 <35	0,8 11,2 1,46 30	0,7 11,1 1,42 <30	0,5 11,1 1,24 <30	0,3 11,0 1,08 <30
0,5556	2000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]									626 19,6 14,02 >50	526 19,4 13,23 >50	433 19,3 12,39 >50	351 19,0 11,55 >50	230 18,5 10,02 >50	187 18,3 9,35 >50	140 17,9 8,49 >50	95,5 17,3 7,47 >50	60,9 16,7 6,42 <50	52,3 16,5 6,11 <50	40,7 16,3 5,61 <50	31,9 16,1 5,17 <50	21,0 15,9 4,50 <50	12,6 15,9 3,79 <45	8,8 16,0 3,36 <45	7,0 15,9 3,11 <45	4,7 14,9 2,72 40	4,3 14,5 2,64 40	2,7 12,2 2,27 <40	1,9 11,9 2,01 35	1,5 12,0 1,86 <35	1,0 12,0 1,62 <35	0,9 11,9 1,58 30	0,6 11,9 1,38 <30	0,4 11,8 1,20 <30
0,6667	2400	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]									953 20,6 16,83 >50	800 20,5 15,87 >50	657 20,3 14,87 >50	531 20,1 13,85 >50	347 19,6 12,03 >50	281 19,3 11,22 >50	211 18,9 10,19 >50	143 18,4 8,96 >50	90,8 17,8 7,71 50	78,0 17,6 7,33 50	60,5 17,3 6,73 50	47,4 17,1 6,21 50	31,0 16,9 5,39 <50	18,5 17,0 4,45 <45	12,9 17,1 4,03 <45	10,2 17,1 3,73 <45	6,8 16,2 3,26 <45	6,2 15,8 3,17 <45	3,9 13,6 2,72 40	2,8 13,3 2,41 <40	2,2 13,4 2,23 35	1,4 13,4 1,95 <35	1,3 13,3 1,89 <35	0,9 13,3 16,5 30	0,6 13,2 1,44 <30
0,7778	2800	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]												754 20,9 16,16 >50	491 20,4 14,03 >50	397 20,2 13,08 >50	297 19,8 11,89 >50	201 19,2 10,45 >50	127 18,6 8,99 >50	109 18,4 8,55 >50	84,6 18,1 7,86 >50	66,1 17,9 7,24 >50	43,2 17,8 6,29 50	25,7 17,9 5,30 45	17,8 18,1 4,70 45	14,1 18,1 4,36 45	9,4 17,3 3,80 <45	8,6 16,9 3,69 <45	5,4 14,7 3,17 <45	3,8 5,7 14,4 2,82 40	3,0 14,6 2,61 <40	2,0 14,6 2,27 35	1,8 14,5 2,21 <35	1,2 14,5 1,93 <35	0,8 14,4 1,68 30
0,8889	3200	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]													663,4 21,2 16,03 >50	536 20,9 14,95 >50	401 20,5 13,59 >50	270 20,0 11,95 >50	171 19,4 10,28 >50	146 19,2 9,77 >20	113 18,9 8,98 >50	88,3 18,7 8,28 >50	57,5 18,5 7,19 >50	34,0 18,7 6,06 <50	23,6 19,0 5,38 <50	18,7 19,0 4,98 <50	12,4 18,2 4,35 45	11,3 17,9 4,22 45	7,1 15,7 3,63 <45	4,9 7,4 15,4 3,22 <45	3,9 15,6 2,98 40	2,6 15,6 2,60 <40	2,3 15,5 2,52 35	1,5 15,5 2,20 <35	1,0 15,4 1,92 <35
1,0000	3600	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]														699 23,6 16,82 >50	521 21,2 15,29 >50	351 20,7 13,44 >50	221 20,0 11,56 >50	189 19,8 10,99 >50	146 19,5 10,10 >50	114 19,3 9,31 >50	74,0 19,2 8,09 >50	43,7 19,4 6,82 50	30,3 19,7 6,05 50	23,9 19,7 5,60 50	15,8 19,0 4,89 <50	14,4 18,7 4,75 <50	9,1 16,6 4,08 45	6,3 9,3 16,3 3,62 <45	4,9 16,5 3,35 <45	3,3 16,5 2,92 40	3,0 16,4 2,84 <40	2,0 16,4 2,48 35	1,3 16,3 2,16 <35
1,1111	4000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																443 21,3 14,94 >50	278 20,6 12,85 >50	238 20,4 12,21 >50	184 20,1 11,22 >50	143 19,9 10,35 >50	92,7 19,8 8,99 >50	54,6 20,0 7,57 >50	37,8 20,4 6,72 >50	29,8 20,4 6,22 >50	19,6 19,8 5,43 50	17,9 19,5 5,28 50	11,2 17,4 4,53 <50	7,8 11,5 17,1 4,02 45	6,1 17,3 3,72 <45	4,0 17,3 3,25 <45	3,7 17,3 3,15 40	2,4 17,2 2,75 <40	1,6 17,2 2,40 35
1,2500	4500	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																	361 21,3 14,45 >50	308 21,1 13,74 >50	185 20,6 11,64 >50	119 20,4 10,11 >50	70,1 20,7 8,52 >50	48,4 21,1 7,56 >50	38,2 21,2 7,00 >50	25,1 20,6 6,11 >50	22,9 20,3 5,93 >50	14,3 18,3 5,10 50	9,9 14,6 18,0 4,53 <50	7,8 18,1 4,19 45	5,1 18,2 3,65 <45	4,6 18,2 3,55 <45	3,0 18,1 3,10 40	2,0 18,1 2,70 <40
1,3889	5000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																	454 21,9 16,06 >50	388 21,7 15,26 >50	299 21,4 14,03 >50	232 21,2 12,94 >50	150 21,0 11,24 >50	87,7 21,4 9,47 >50	60,4 21,8 8,40 >50	47,6 21,9 7,78 >50	31,2 21,4 6,79 >50	28,4 21,1 6,59 >50	17,7 19,0 5,67 >50	12,2 18,0 18,8 5,03 50	9,6 18,9 4,65 <50	6,3 19,0 4,06 45	5,7 19,0 3,94 <45	3,7 18,9 3,44 <45	2,4 18,9 3,00 40
1,5278	5500	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																			367 21,9 15,43 >50	285 21,7 14,23 >50	184 21,6 12,36 >50	107 21,9 10,41 >50	73,8 22,4 9,24 >50	58,1 22,5 8,56 >50	38,0 22,1 7,47 >50	34,6 21,8 7,25 >50	21,6 19,7 6,23 >50	14,8 21,8 19,5 5,53 >50	11,6 19,7 5,12 50	7,6 19,7 4,47 <50	6,9 19,7 4,33 45	4,5 19,7 3,78 <45	3,0 19,6 3,30 <45
1,6667	6000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																				344 22,2 15,52 >50	221 22,1 13,49 >50	129 22,5 11,36 >50	88,6 22,9 10,08 >50	69,7 23,1 9,34 >50	45,5 22,7 8,15 >50	41,5 22,4 7,91 >50	25,8 20,4 6,80 >50	17,7 26,0 20,2 6,03 >50	13,9 20,3 5,58 >50	9,0 20,4 4,87 50	8,2 20,4 4,73 <50	5,4 20,3 4,13 45	3,5 20,3 3,60 <45
1,9444	7000	Δp [Pa] $L_{0,25}$ [m] V [m/s] L_{WA} [dB(A)]																					308 22,9 15,73 >50	179 23,4 13,25 >50	123 23,9 11,76 >50	96,2 24,1 10,89 >50	62,7 23,8 9,51 >50	57,0 23,5 9,23 >50	35,3 21,5 7,93 >50	24,2 35,5 21,3 7,04 >50	18,9 21,5 6,51 >50	12,3 21,6 5,69 >50	11,2 21,5 5,52 50	7,3 21,5 4,81 <50	4,7 21,5 4,20 45

Uwagi

Δp [Pa] - Pressure loss

$L_{0,25}$ [m] - zasięg strumienia o prędkości maksymalnej 0,25 m/s (średnia prędkość strumienia ok. 0,08-0,10 m/s)

V [m/s] - średnia prędkość wylotowa strumienia powietrza przy kratce

L_{WA} [dB(A)] - Level of accustic power

Wartości podane w tabeli są wielkościami przybliżonymi.

Jasne pola oznaczają optymalne warunki pracy.

Pola szare mogą cechować się większym błędem niż pola jasne.

Stopnień przymknięcia przepustnicy można w przybliżeniu uwzględnić poprzez współczynnik:

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

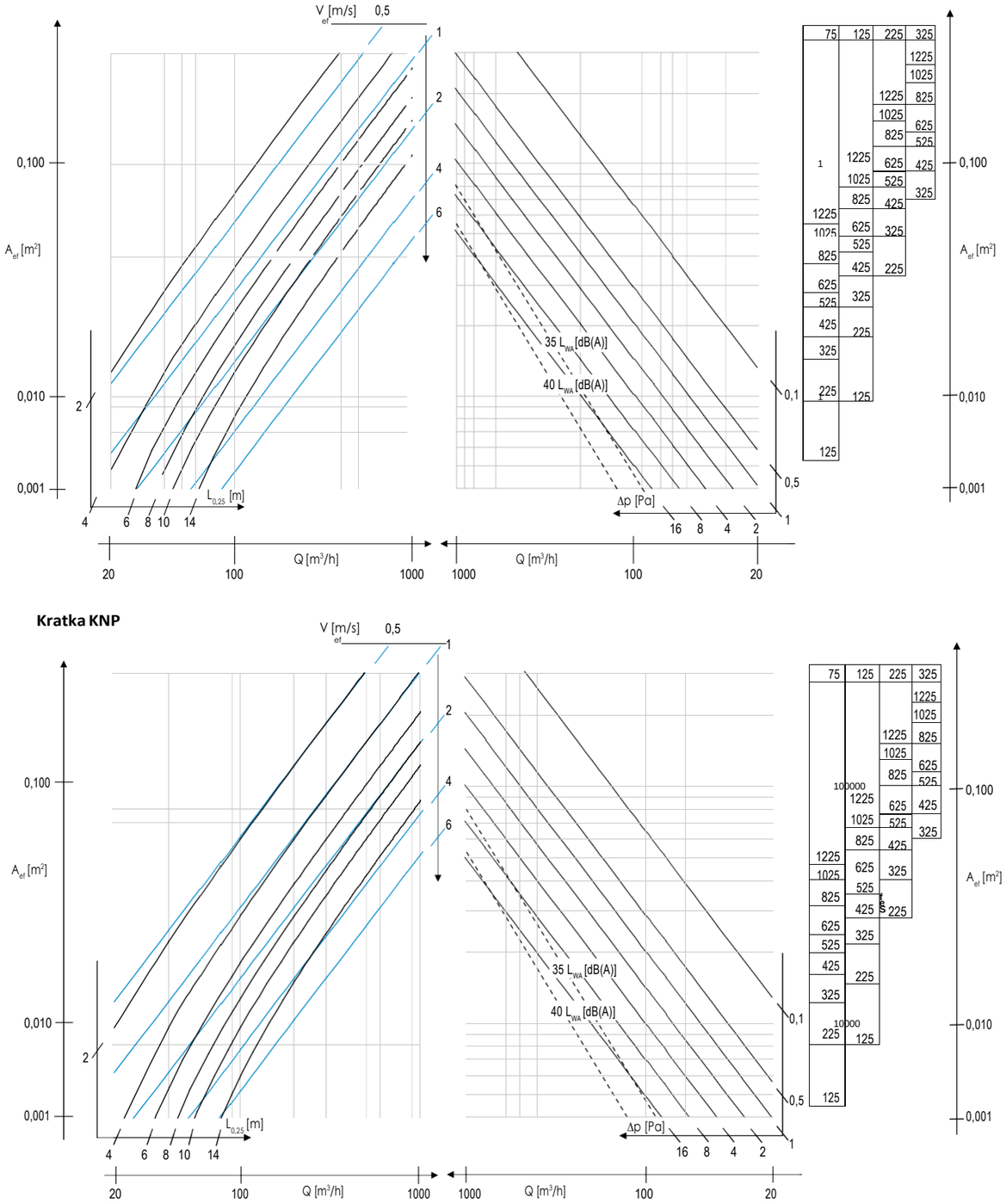
$\Delta p_{przepust.} \approx \Delta p$ x współczynnik

$L_{0,25\ przepust} \approx L_{0,25}$ / współczynnik

Diagrams for grilles KNK and KNP

Relation of pressure waste (Δp), maximum stream velocity (V_{ef}), a range of velocity stream V=0.25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).
$L_{0,25}$ range means distance, by which air velocity does not exceed 0.25 m/s.
V_{ef} velocity means the maximum air exhaust velocity from a grille measured at the outlet.
Chart concerns grilles with totally open dampers.

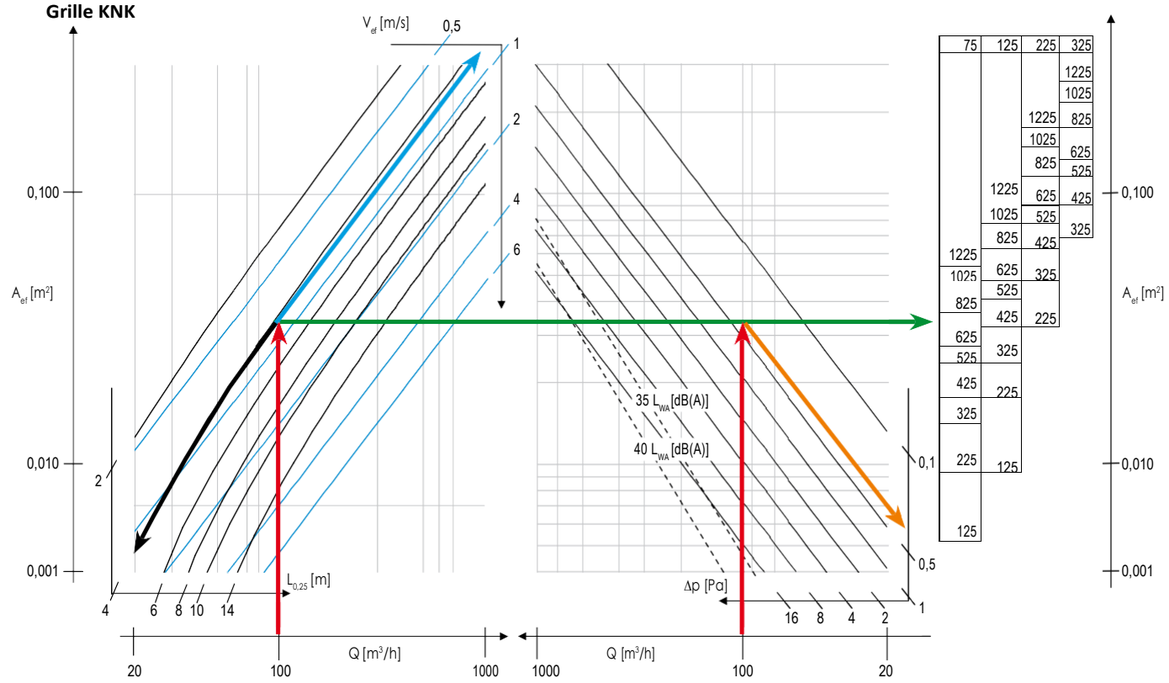
Grille KNK



Kratka KNP

Instruction for diagrams for selection grilles KNK and KNP

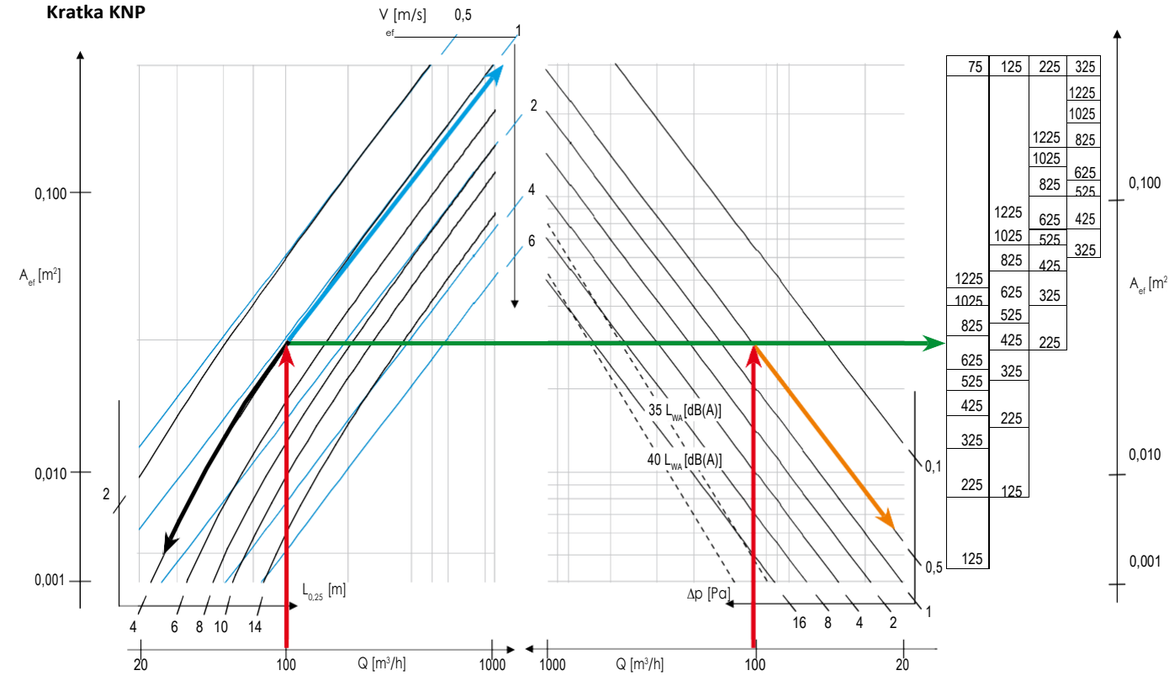
Grille KNK



Przykład (kolory zgodne z liniami):
- zadany Air stream volume Q = 100 m³/h
- wymagany zasięg $L_{0,25}$ = 4 m

Odczyt z diagramu:
- kratka 75x825 lub 125x425, ewentualnie 225x225
- Pressure loss: ok. 0,4 Pa
- prędkość efektywna na wylocie: 0,75 m/s

Kratka KNP



Przykład (kolory zgodne z liniami):
- zadany Air stream volume Q = 100 m³/h
- wymagany zasięg $L_{0,25}$ = 4 m

Odczyt z diagramu:
- kratka 75x825 lub 125x425, ewentualnie 225x225
- Pressure loss: ok. 0,5 Pa
- prędkość efektywna na wylocie: 1,1m/s

Chart for selection grilles KNK

Q [m³/s]	Q [m³/h]	Typ	75 x 125	125 x 125	75 x 225	75 x 325	125 x 225	75 x 425	75 x 525	125 x 325	75 x 625	225 x 225	125 x 425	75 x 825	125 x 525	75 x 1025	225 x 325	125 x 625	75 x 1225	225 x 425	125 x 825	325 x 325	225 x 525	125 x 1025	325 x 425	225 x 625	125 x 1225	325 x 525	225 x 825	325 x 625	225 x 1025	325 x 825	225 x 1225	325 x 1025	325 x 1225
		A_{ef} [m²]	0,0052	0,0093	0,0098	0,0143	0,0173	0,0189	0,0234	0,0254	0,0280	0,0324	0,0334	0,0371	0,0415	0,0462	0,0474	0,0495	0,0553	0,0625	0,0656	0,0695	0,0775	0,0817	0,0915	0,0926	0,0978	0,1136	0,1227	0,1356	0,1528	0,1797	0,1829	0,2238	0,2679
0,0056	20	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	4,9 0,6 1,1 <35	3,0 0,2 0,6 <35	2,7 0,2 0,6 <35																														
0,0111	40	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	9,8 2,4 2,2 <35	5,9 0,8 1,2 <35	5,5 0,7 1,2 <35	3,8 0,3 0,8 <35	3,3 0,2 0,7 <35	2,9 0,2 0,6 <35	2,3 0,1 0,5 <35																											
0,0167	60	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	14,8 5,4 3,2 <35	8,9 1,8 1,8 <35	8,2 1,6 1,7 <35	5,7 0,7 1,2 <35	4,9 0,5 1,0 <35	4,3 0,4 0,9 <35	3,5 0,3 0,7 <35	3,4 0,2 0,7 <35	3,0 0,2 0,6 <35	2,7 0,2 0,5 <35	2,6 0,1 0,5 <35	2,2 0,1 0,5 <35	2,1 0,1 0,4 <35																					
0,0222	80	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	19,7 9,6 4,3 <35	11,8 3,1 2,4 <35	10,9 2,8 2,3 <35	7,6 1,3 1,6 <35	6,6 0,9 1,3 <35	5,8 0,8 1,2 <35	4,7 0,5 1,0 <35	4,5 0,4 0,9 <35	3,9 0,4 0,8 <35	3,6 0,3 0,7 <35	3,5 0,2 0,7 <35	3,0 0,2 0,6 <35	2,8 0,2 0,5 <35	2,4 0,1 0,5 <35	2,5 0,1 0,5 <35	2,4 0,1 0,5 <35																			
0,0278	100	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	24,6 14,9 5,4 35	14,8 4,8 3,1 <35	13,7 4,3 2,9 <35	9,5 2,0 2,0 <35	8,2 1,4 1,6 <35	7,2 1,2 1,5 <35	5,9 0,8 1,2 <35	5,7 0,7 1,1 <35	4,9 0,5 1,0 <35	4,6 0,4 0,9 <35	4,3 0,4 0,8 <35	3,7 0,3 0,8 <35	3,5 0,3 0,7 <35	3,0 0,2 0,6 <35	3,2 0,2 0,6 <35	3,0 0,2 0,3 <35	2,5 0,1 0,5 <35	2,4 0,1 0,5 <35	2,2 0,1 0,4 <35	2,2 0,1 0,4 <35												
0,0417	150	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	36,9 33,1 8,1 <40	22,1 10,7 4,6 35	20,5 9,6 4,3 <35	14,2 4,5 3,0 <35	12,3 3,1 2,5 <35	10,9 2,6 2,2 <35	8,8 1,7 1,8 <35	8,5 1,5 1,7 <35	7,4 1,2 1,5 <35	6,8 0,9 1,3 <35	6,5 0,9 1,3 <35	5,6 0,7 1,1 <35	5,3 0,6 1,0 <35	4,5 0,5 0,9 <35	4,7 0,4 0,9 <35	4,4 0,4 0,9 <35	3,8 0,3 0,8 <35	3,6 0,3 0,7 <35	3,4 0,2 0,6 <35	3,3 0,2 0,6 <35	2,9 0,2 0,5 <35	2,7 0,1 0,5 <35	2,5 0,1 0,5 <35	2,5 0,1 0,5 <35	2,3 0,1 0,4 <35	2,0 0,1 0,4 <35	1,9 0,1 0,3 <35					
0,0556	200	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]		29,5 18,9 6,1 <40	18,9 8,0 3,9 <35	16,4 5,5 3,3 <35	14,5 4,7 3,0 <35	11,7 3,0 2,4 <35	11,4 2,6 2,2 <35	9,8 2,1 2,0 <35	9,1 1,6 1,7 <35	8,7 1,5 1,7 <35	7,5 1,2 1,5 <35	7,0 1,0 1,4 <35	6,0 0,8 1,2 <35	6,3 0,8 1,2 <35	5,9 0,7 1,1 <35	5,0 0,6 1,0 <35	4,8 0,4 0,9 <35	4,5 0,4 0,9 <35	4,5 0,4 0,9 <35	4,4 0,4 0,8 <35	3,9 0,3 0,7 <35	3,6 0,3 0,7 <35	3,3 0,2 0,6 <35	3,3 0,2 0,6 <35	3,0 0,2 0,6 <35	2,7 0,1 0,5 <35	2,5 0,1 0,5 <35	2,3 0,1 0,4 <35	2,0 0,1 0,4 <35				
0,0833	300	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]				28,4 17,8 5,9 35	24,6 12,3 4,9 35	21,7 10,3 4,5 <35	17,6 6,8 3,6 <35	17,0 5,8 3,3 <35	14,8 4,8 3,0 <35	13,7 3,6 2,6 <35	13,0 3,4 2,5 <35	11,2 2,7 2,3 <35	10,5 2,2 2,0 <35	9,0 1,8 1,8 <35	9,5 1,7 1,8 <35	8,9 1,5 1,7 <35	7,5 1,2 1,5 <35	7,2 1,0 1,4 <35	6,7 0,9 1,3 <35	6,6 0,8 1,2 <35	5,9 0,6 1,1 <35	5,4 0,6 1,0 <35	5,0 0,5 0,9 <35	4,9 0,5 0,9 <35	4,5 0,4 0,9 <35	4,1 0,3 0,7 <35	3,7 0,3 0,7 <35	3,4 0,2 0,6 <35	3,0 0,2 0,6 <35	2,6 0,1 0,5 <35	2,5 0,1 0,5 <35		
0,1111	400	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]					23,8 21,6 6,5 <40	28,9 18,2 6,0 35	23,4 11,9 4,8 35	22,7 10,2 4,5 <35	19,7 8,4 4,0 <35	18,2 6,3 3,5 <35	17,4 5,9 3,4 <35	14,9 4,8 3,1 <35	14,1 3,9 2,7 <35	12,0 3,1 2,4 <35	12,6 3,0 2,4 <35	11,8 2,7 2,3 <35	10,0 2,2 2,0 <35	9,6 1,7 1,8 <35	8,9 1,6 1,7 <35	8,7 1,4 1,6 <35	7,8 1,1 1,5 <35	7,2 1,0 1,4 <35	6,7 0,8 1,2 <35	6,6 0,8 1,2 <35	6,0 0,7 1,2 <35	5,4 0,5 1,0 35	5,0 0,5 0,9 <35	4,5 0,4 0,8 <35	4,0 0,3 0,7 <35	3,4 0,2 0,6 <35	3,3 0,2 0,6 <35	2,8 0,1 0,5 <35	2,3 0,1 0,4 <35
0,1389	500	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]							29,3 18,5 6,0 <40	28,4 15,8 5,6 35	24,6 13,0 5,1 35	22,8 9,8 4,4 <35	21,7 9,2 4,2 <35	18,6 7,5 3,8 <35	17,6 6,0 3,4 <35	15,0 4,9 3,1 <35	15,8 4,6 3,0 <35	14,8 4,2 2,9 <35	12,6 3,4 2,6 <35	12,1 2,7 2,3 <35	11,2 2,4 2,2 <35	10,9 2,2 2,0 <35	9,8 1,8 1,8 <35	9,0 1,6 1,7 <35	8,3 1,3 1,5 <35	8,2 1,2 1,5 <35	7,5 1,1 1,4 <35	6,8 0,8 1,2 <35	6,2 0,7 1,2 <35	5,7 0,6 1,1 <35	5,0 0,5 0,9 <35	4,3 0,3 0,8 <35	4,2 0,3 0,8 <35	3,5 0,2 0,6 <35	2,9 0,2 0,5 <35
0,1667	600	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]								34,1 22,7 6,7 <40	29,5 18,7 6,1 <40	27,3 14,0 5,2 35	26,0 13,2 5,1 35	22,4 10,7 4,6 <35	21,1 8,6 4,1 <35	18,0 7,0 3,7 <35	18,9 6,6 3,6 <35	17,7 6,1 3,4 <35	15,1 4,9 3,1 <35	14,5 3,8 2,7 <35	13,4 3,5 2,6 <35	13,1 3,1 2,4 <35	11,7 2,5 2,2 <35	10,8 2,3 2,1 <35	10,0 1,8 1,9 <35	9,8 1,8 1,8 <35	9,0 1,6 1,7 <35	8,1 1,2 1,5 <35	7,5 1,0 1,4 <35	6,8 0,8 1,3 <35	6,0 0,7 1,1 <35	5,2 0,5 0,9 <35	5,0 0,5 0,9 <35	4,2 0,3 0,8 <35	3,5 0,2 0,6 <35
0,1944	700	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]											30,4 17,8 5,9 <40	26,1 14,5 5,3 35	24,6 11,7 4,8 35	21,0 9,4 4,3 <35	22,1 9,0 4,2 <35	20,7 8,2 4,0 <35	17,6 6,6 3,6 <35	16,9 5,2 3,2 <35	15,7 4,7 3,0 <35	15,3 4,2 2,8 <35	13,7 3,4 2,6 <35	12,6 3,1 2,4 <35	11,7 2,5 2,2 <35	11,5 2,4 2,1 <35	10,5 2,1 2,0 <35	9,5 1,6 1,7 <35	8,7 1,4 1,6 <35	7,9 1,1 1,5 <35	7,0 0,9 1,3 <35	6,0 0,6 1,1 <35	5,9 0,6 1,1 <35	4,8 0,4 0,9 <35	4,1 0,3 0,7 <35
0,2222	800	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]												29,8 18,9 6,1 <40	28,1 15,2 5,5 <40	24,0 12,3 4,9 35	25,2 11,6 4,8 35	23,6 10,7 4,6 <35	20,1 8,6 4,1 <35	19,3 6,8 3,6 <35	17,9 6,1 3,4 <35	17,5 5,5 3,3 <35	15,6 4,4 2,9 <35	14,4 4,0 2,8 <35	13,4 3,2 2,5 <35	13,1 3,1 2,4 <35	12,0 2,8 2,3 <35	10,8 2,1 2,0 <35	9,9 1,8 1,8 <35	9,1 1,5 1,7 <35	8,0 1,2 1,5 <35	6,9 0,8 1,3 <35	6,7 0,8 1,2 <35	5,5 0,5 1,0 <35	4,6 0,4 0,8 <35
0,2500	900	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]													31,6 19,1 6,1 <40	27,0 15,5 5,5 <40	28,4 14,7 5,4 <40	26,6 13,5 5,1 35	22,6 10,8 4,6 <35	21,7 8,5 4,1 <35	20,1 7,7 3,9 <35	19,7 6,9 3,7 <35	17,6 5,6 3,3 <35	16,2 5,0 3,1 <35	15,0 4,0 2,8 <35	14,8 3,9 2,7 <35	13,6 3,5 2,6 <35	12,2 2,6 2,2 <35	11,2 2,3 2,1 <35	10,2 1,9 1,9 <35	9,0 1,5 1,7 <35	7,7 1,1 1,4 <35	7,5 1,0 1,4 <35	6,2 0,7 1,1 <35	5,2 0,5 0,9 <35
0,2778	1000	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]														30,0 19,0 6,1 <40	31,5 18,1 6,0 <40	29,5 16,6 5,7 <40	25,1 13,4 5,1 35	24,1 10,5 4,5 <35	22,4 9,5 4,3 <35	21,8 8,5 4,1 <35	19,5 6,9 3,6 <35	18,0 6,2 3,5 <35	16,7 4,9 3,1 <35	16,4 4,8 3,1 <35	15,1 4,3 2,9 <35	15,3 3,2 2,5 <35	12,4 2,8 2,3 <35	11,4 2,3 2,1 <35	10,0 1,8 1,9 <35	8,6 1,3 1,6 <35	8,4 1,3 1,5 <35	6,9 0,8 1,3 <35	5,8 0,6 1,1 <35
0,3056	1100	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																32,5 20,0 6,3 <40	27,6 16,1 5,6 <40	26,5 12,7 5,0 35	24,6 11,5 4,7 35	24,0 10,3 4,5 <35	21,5 8,3 4,0 <35	19,8 7,5 3,8 <35	18,4 6,0 3,4 <35	18,0 5,8 3,4 <35	16,6 5,2 3,2 <35	14,9 3,9 2,7 <35	13,7 3,4 2,5 <35	12,5 2,8 2,3 <35	11,0 2,2 2,0 <35	9,5 1,6 1,7 <35	9,2 1,5 1,7 <35	7,6 1,0 1,4 <35	6,4 0,7 1,2 <35
0,3333	1200	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																			26,8 13,6 5,2 <40	26,2 12,2 4,9 35	23,4 9,8 4,4 <35	21,6 8,9 4,2 <35	20,0 7,1 3,7 <35	19,7 6,9 3,7 <35	18,1 6,2 3,5 <35	16,2 4,6 3,0 <35	14,9 4,0 2,8 <35	13,6 3,3 2,5 <35	12,0 2,6 2,2 <35	10,3 1,9 1,9 <35	10,0 1,8 1,9 <35	8,3 1,2 1,5 <35	7,0 0,9 1,3 <35
0,3611	1300	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																					25,4 11,5 4,7 35	23,4 10,4 4,5 35	21,7 8,3 4,0 <35	21,3 8,1 4,0 <35	19,6 7,3 3,8 <35	17,6 5,4 3,2 <35	16,2 4,7 3,0 <35	14,8 3,8 2,7 <35	13,0 3,0 2,4 <35	11,2 2,2 2,0 <35	10,9 2,1 2,0 <35	9,0 1,4 1,6 <35	7,5 1,0 1,4 <35
0,3889	1400	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																						25,2 12,0 4,8 <40	23,4 9,6 4,3 35	23,0 9,4 4,3 35	21,1 8,4 4,0 <35	18,9 6,3 3,5 <35	17,4 5,4 3,2 <35	15,9 4,4 2,9 <35	14,0 3,5 2,6 <35	12,0 2,5 2,2 <35	11,7 2,5 2,2 <35	9,7 1,6 1,8 <35	8,1 1,2 1,5 <35
0,4167	1500	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																								24,6 10,8 4,6 <40	22,6 9,6 4,3 35	20,3 7,2 3,7 <35	18,6 6,2 3,5 <35	17,0 5,1 3,1 <35	15,0 4,0 2,8 <35	12,9 2,9 2,4 <35	12,6 2,8 2,3 <35	10,4 1,9 1,9 <35	8,7 1,3 1,6 <35
0,4444	1600	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																									24,1 11,0 4,6 <40	21,6 8,2 4,0 35	19,9 7,0 3,7 <35	18,2 5,8 3,3 <35	16,0 4,6 3,0 <35	13,8 3,3 2,5 <35	13,4 3,2 2,5 <35	11,1 2,1 2,0 <35	9,3 1,5 1,7 <35
0,4722	1700	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																										23,0 9,2 4,2 <40	21,1 7,9 3,9 35	19,3 6,5 3,5 <35	17,0 5,1 3,1 <35	14,6 3,7 2,7 <35	14,2 3,6 2,6 <35	11,8 2,4 2,1 <35	9,8 1,7 1,8 <35
0,5000	1800	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																										24,3 10,3 4,5 <40	22,4 8,8 4,1 <40	20,4 7,3 3,8 35	18,0 5,7 3,3 <35	15,5 4,2 2,8 <35	15,1 4,0 2,8 <35	12,5 2,7 2,3 <35	10,4 1,9 1,9 <35
0,5278	1900	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																											23,6 9,8 4,4 <40	21,6 8,1 4,0 <40	19,0 6,4 3,5 35	16,3 4,6 3,0 <35	15,9 4,5 2,9 <35	13,2 3,0 2,4 <35	11,0 2,1 2,0 <35
0,5556	2000	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																												22,7 8,9 4,2 40	20,0 7,1 3,7 <40	17,2 5,1 3,1 35	5,0 3,1 35	13,8 3,3 2,5 <35	11,6 2,3 2,1 <35

Uwagi

Δp [Pa] - Pressure loss

$L_{0,25}$ [m] - zasięg przy maksymalnej prędkości strumienia 0,25 m/s (średnia prędkość strumienia ok 0,07-0,10 m/s)

V [m/s] - średnia prędkość wylotowa strumienia powietrza przy kratce

L_{WA}[dB(A)] - Level of accustic power

Wartości podane w tabeli są wielkościami przybliżonymi.

Stopnień przymknięcia przepustnicy można w przybliżeniu uwzględnić poprzez współczynnik:

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik

$L_{0,25\ przepust} \approx L_{0,25}$ / współczynnik

Kratki z kierownicami skośnymi.

Strumień powietrza jest odchylony o 6,5° od osi kratki.

$\Delta p_{skośne} \approx 0,75$ x Δp

$L_{0,25}$ oraz Level of accustic power - bez zmian

$V_{skośne} \approx 0,88$ x V

$A_{ef\ skośne} \approx 1,15$ x A_{ef}

Chart for selection grilles KNP

Q [m³/s]	Q [m³/h]	Typ	75 x 125	125 x 125	75 x 225	75 x 325	125 x 225	75 x 425	75 x 525	125 x 325	75 x 625	225 x 225	125 x 425	75 x 825	125 x 525	75 x 1025	225 x 325	125 x 625	75 x 1225	225 x 425	125 x 825	325 x 325	225 x 525	125 x 1025	325 x 425	225 x 625	125 x 1225	325 x 525	225 x 825	325 x 625	225 x 1025	325 x 825	225 x 1225	325 x 1025	325 x 1225
		A_{ef} [m²]	0,0045	0,0079	0,0084	0,0123	0,0148	0,0162	0,0201	0,0217	0,0240	0,0277	0,0286	0,0318	0,0355	0,0396	0,0406	0,0424	0,0474	0,0535	0,0562	0,0595	0,0664	0,0700	0,0784	0,0794	0,0838	0,0973	0,1051	0,1162	0,1309	0,1540	0,1567	0,1918	0,2296
0,0056	20	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	3,9 0,8 1,4 <35	2,3 0,3 0,8 <35	2,2 0,2 0,7 <35																														
0,0111	40	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	7,8 3,1 2,7 <35	4,7 1,0 1,5 <35	4,3 0,9 1,5 <35	3,0 0,4 1,0 <35	2,6 0,3 0,8 <35	2,3 0,2 0,8 <35	1,9 0,2 0,6 <35																											
0,0167	60	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	11,7 6,8 4,1 <35	7,0 2,2 2,3 <35	6,5 2,0 2,2 <35	4,5 0,9 1,5 <35	3,9 0,6 1,2 <35	3,5 0,5 1,1 <35	2,8 0,4 0,9 <35	2,7 0,3 0,8 <35	2,3 0,3 0,8 <35	2,2 0,2 0,7 <35	2,1 0,2 0,6 <35	1,8 0,1 0,6 <35	1,7 0,1 0,5 <35																					
0,0222	80	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	15,7 12,1 5,4 <35	9,4 3,9 3,1 <35	8,7 3,5 2,9 <35	6,0 1,7 2,0 <35	5,2 1,1 1,6 <35	4,6 1,0 1,5 <35	3,7 0,6 1,2 <35	3,6 0,5 1,1 <35	3,1 0,4 1,0 <35	2,9 0,3 0,9 <35	2,8 0,3 0,9 <35	2,4 0,3 0,8 <35	2,2 0,2 0,7 <35	1,9 0,2 0,6 <35	2,0 0,2 0,6 <35	1,9 0,1 0,6 <35																			
0,0278	100	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	19,6 18,7 6,8 35,0	11,7 6,1 3,8 <35	10,9 5,5 3,6 <35	7,5 2,6 2,5 <35	6,5 1,8 2,1 <35	5,8 1,5 1,9 <35	4,7 1,0 1,5 <35	4,5 0,8 1,4 <35	3,9 0,7 1,3 <35	3,6 0,5 1,1 <35	3,5 0,5 1,1 <35	3,0 0,4 1,0 <35	2,8 0,3 0,9 <35	2,4 0,3 0,8 <35	2,5 0,2 0,7 <35	2,3 0,2 0,7 <35	2,0 0,2 0,6 <35	1,9 0,1 0,6 <35	1,8 0,1 0,5 <35	1,7 0,1 0,5 <35													
0,0417	150	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]	29,4 41,6 10,2 <40	17,6 13,5 5,8 35,0	16,3 12,1 5,5 <35	11,3 5,7 3,7 <35	9,8 3,9 3,1 <35	8,6 3,3 2,8 <35	7,0 2,2 2,3 <35	6,8 1,9 2,1 <35	5,9 1,5 1,9 <35	5,4 1,1 1,6 <35	5,2 1,1 1,6 <35	4,4 0,9 1,4 <35	4,2 0,7 1,3 <35	3,6 0,6 1,2 <35	3,8 0,5 1,1 <35	3,5 0,5 1,1 <35	3,0 0,4 1,0 <35	2,9 0,3 0,9 <35	2,7 0,3 0,8 <35	2,6 0,3 0,8 <35	2,3 0,2 0,7 <35	2,1 0,2 0,7 <35	2,0 0,1 0,6 <35	1,8 0,1 0,5 <35	1,6 0,1 0,5 <35	1,5 0,1 0,4 <35							
0,0556	200	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]		23,5 23,8 7,7 <40	21,7 21,4 7,3 35,0	15,1 10,1 5,0 <35	13,0 6,9 4,1 <35	11,5 5,8 3,8 <35	9,3 3,8 3,0 <35	9,0 3,3 2,8 <35	7,8 2,7 2,5 <35	7,2 2,0 2,2 <35	6,9 1,9 2,1 <35	5,9 1,5 1,9 <35	5,6 1,2 1,7 <35	4,8 1,0 1,5 <35	5,0 1,0 1,5 <35	4,7 0,9 1,4 <35	4,0 0,7 1,3 <35	3,8 0,6 1,1 <35	3,6 0,5 1,1 <35	3,5 0,4 1,0 <35	3,1 0,4 0,9 <35	2,9 0,3 0,9 <35	2,7 0,3 0,8 <35	2,6 0,3 0,8 <35	2,4 0,2 0,7 <35	2,2 0,2 0,6 <35	2,0 0,1 0,6 <35	1,8 0,1 0,5 <35	1,6 0,1 0,5 <35				
0,0833	300	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]				22,6 22,4 7,4 35,0	19,6 15,4 6,2 35,0	17,3 13,0 5,6 <35	14,0 8,5 4,6 <35	13,5 7,3 4,2 <35	11,7 6,0 3,8 <35	10,9 4,5 3,3 <35	10,4 4,2 3,2 <35	8,9 3,4 2,9 <35	8,4 2,8 2,6 <35	7,2 2,2 2,3 <35	7,5 2,1 2,2 <35	7,0 1,9 2,2 <35	6,0 1,6 1,9 <35	5,8 1,2 1,7 <35	5,3 1,1 1,6 <35	5,2 1,0 1,5 <35	4,7 0,8 1,4 <35	4,3 0,7 1,3 <35	4,0 0,6 1,2 <35	3,9 0,6 1,2 <35	3,6 0,5 1,1 <35	3,2 0,4 0,9 <35	3,0 0,3 0,9 <35	2,7 0,3 0,8 <35	2,4 0,2 0,7 <35	2,1 0,2 0,6 <35	2,0 0,1 0,6 <35		
0,1111	400	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]					26,1 27,2 8,2 <40	23,0 22,9 7,5 35,0	18,6 15,0 6,1 35,0	18,1 12,8 5,6 <35	15,7 10,,6 5,1 <35	14,5 7,9 4,4 <35	13,8 7,4 4,3 <35	11,9 6,1 3,8 <35	11,2 4,9 3,4 <35	9,5 3,9 3,1 <35	10,0 3,7 3,0 <35	9,4 3,4 2,9 <35	8,0 2,8 2,6 <35	7,7 2,2 2,3 <35	7,1 2,0 2,2 <35	6,9 1,8 2,0 <35	6,2 1,4 1,8 <35	5,7 1,3 1,7 <35	5,3 1,0 1,6 <35	5,2 1,0 1,5 <35	4,8 0,9 1,5 <35	4,3 0,7 1,3 <35	4,0 0,6 1,2 <35	3,6 0,5 1,0 <35	3,2 0,4 0,9 <35	2,7 0,3 0,8 <35	2,7 0,3 0,8 <35	2,2 0,2 0,6 <35	1,8 0,1 0,5 <35
0,1389	500	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]							23,3 23,2 7,6 <40	22,6 19,9 7,0 35,0	19,6 16,4 6,4 35,0	18,1 12,3 5,5 <35	17,3 11,6 5,3 <35	14,8 9,4 4,8 <35	14,0 7,6 4,3 <35	11,9 6,1 3,8 <35	12,5 5,8 3,7 <35	11,7 5,3 3,6 <35	10,0 4,3 3,2 <35	9,6 3,4 2,8 <35	8,9 3,1 2,7 <35	8,7 2,7 2,6 <35	7,8 2,2 2,3 <35	7,2 2,0 2,2 <35	6,6 1,6 1,9 <35	6,5 1,6 1,9 <35	6,0 1,4 1,8 <35	5,4 1,0 1,6 <35	4,9 0,9 1,4 <35	4,5 0,7 1,3 <35	4,0 0,6 1,2 <35	3,4 0,4 1,0 <35	3,3 0,4 1,0 <35	2,8 0,3 0,8 <35	2,3 0,2 0,7 <35
0,1667	600	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]								27,1 28,5 8,4 <40	23,5 23,5 7,6 <40	21,7 17,6 6,6 35,0	20,7 16,5 6,4 35,0	17,8 13,5 5,8 <35	16,8 10,8 5,1 <35	14,3 8,7 4,6 <35	15,1 8,3 4,5 <35	14,1 7,6 4,3 <35	12,0 6,1 3,9 <35	11,5 4,8 3,4 <35	10,7 4,4 3,3 <35	10,4 3,9 3,1 <35	9,3 3,2 2,8 <35	8,6 2,8 2,6 <35	8,0 2,3 2,3 <35	7,8 2,2 2,3 <35	7,2 2,0 2,2 <35	6,5 1,5 1,9 <35	5,9 1,3 1,7 <35	5,4 1,0 1,6 <35	4,8 0,8 1,4 <35	4,1 0,6 1,2 <35	4,0 0,6 1,2 <35	3,3 0,4 1,0 <35	2,8 0,3 0,8 <35
0,1944	700	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]											24,2 22,4 7,4 <40	20,8 18,3 6,7 35,0	19,6 14,7 6,0 35,0	16,7 11,8 5,4 <35	17,6 11,3 5,2 <35	16,4 10,3 5,0 <35	14,0 8,3 4,5 <35	13,4 6,5 4,0 <35	12,5 5,9 3,8 <35	12,2 5,3 3,6 <35	10,9 4,3 3,2 <35	10,0 3,9 3,0 <35	9,3 3,1 2,7 <35	9,1 3,0 2,7 <35	8,4 2,7 2,5 <35	7,5 2,0 2,2 <35	6,9 1,7 2,0 <35	6,3 1,4 1,8 <35	5,6 1,1 1,6 <35	4,8 0,8 1,4 <35	4,7 0,8 1,4 <35	3,9 0,5 1,1 <35	3,2 0,4 0,9 <35
0,2222	800	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]												23,7 23,7 7,7 <40	22,4 19,1 6,9 <40	19,1 15,4 6,2 35,0	20,1 14,6 6,0 35,0	18,8 13,4 5,7 <35	16,0 10,8 5,1 <35	15,3 8,5 4,6 <35	14,2 7,7 4,3 <35	13,9 6,9 4,1 <35	12,4 5,6 3,7 <35	11,5 5,0 3,5 <35	10,6 4,0 3,1 <35	10,4 3,9 3,1 <35	9,6 3,5 2,9 <35	8,6 2,6 2,5 <35	7,9 2,2 2,3 <35	7,2 1,8 2,1 <35	6,4 1,5 1,9 <35	5,5 1,1 1,6 <35	5,3 1,0 1,6 <35	4,4 0,7 1,3 <35	3,7 0,5 1,1 <35
0,2500	900	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]													25,2 24,0 7,7 <40	21,5 19,4 6,9 <40	22,6 18,5 6,7 <40	21,1 16,9 6,5 35,0	18,0 13,6 5,8 <35	17,3 10,7 5,1 <35	16,0 9,7 4,9 <35	15,6 8,7 4,6 <35	14,0 7,0 4,1 <35	12,9 6,3 3,9 <35	12,0 5,1 3,5 <35	11,7 4,9 3,5 <35	10,8 4,4 3,3 <35	9,7 3,3 2,8 <35	8,9 2,8 2,6 <35	8,1 2,3 2,4 <35	7,2 1,9 2,1 <35	6,2 1,3 1,8 <35	6,0 1,3 1,7 <35	5,0 0,9 1,4 <35	4,1 0,6 1,2 <35
0,2778	1000	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]														23,9 23,9 7,7 <40	25,1 22,7 7,5 <40	23,5 20,9 7,2 <40	20,0 16,8 6,4 35,0	19,2 13,2 5,7 <35	17,8 12,0 5,4 <35	17,4 10,7 5,1 <35	15,5 8,6 4,6 <35	14,3 7,8 4,4 <35	13,3 6,2 3,9 <35	13,0 6,1 3,8 <35	12,0 5,5 3,6 <35	10,8 4,1 3,1 <35	9,9 3,5 2,9 <35	9,0 2,9 2,6 <35	8,0 2,3 2,3 <35	6,8 1,6 2,0 <35	6,7 1,6 1,9 <35	5,5 1,1 1,6 <35	4,6 0,7 1,3 <35
0,3056	1100	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																25,8 25,2 7,9 <40	22,0 20,3 7,1 <40	21,1 15,9 6,3 35,0	19,6 14,5 6,0 35,0	19,1 12,9 5,6 <35	17,1 10,4 5,0 <35	15,8 9,4 4,8 <35	14,6 7,5 4,3 <35	14,4 7,3 4,2 <35	13,2 6,6 4,0 <35	11,8 4,9 3,4 <35	10,9 4,2 3,2 <35	9,9 3,5 2,9 <35	8,8 2,7 2,6 <35	7,5 2,0 2,2 <35	7,3 1,9 2,1 <35	6,1 1,3 1,7 <35	5,1 0,9 1,5 <35
0,3333	1200	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																			21,3 17,2 6,5 <40	20,8 15,3 6,1 35,0	18,6 12,4 5,5 <35	17,2 11,1 5,2 <35	15,9 8,9 4,7 <35	15,7 8,7 4,6 <35	14,4 7,8 4,4 <35	12,9 5,8 3,8 <35	11,9 5,0 3,5 <35	10,8 4,1 3,1 <35	9,5 3,2 2,8 <35	8,2 2,4 2,4 <35	8,0 2,3 2,3 <35	6,6 1,5 1,9 <35	5,5 1,1 1,6 <35
0,3611	1300	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																					20,2 14,5 6,0 35,0	18,6 13,0 5,7 35,0	17,3 10,4 5,0 <35	17,0 10,2 5,0 <35	15,6 9,1 4,7 <35	14,0 6,8 4,1 <35	12,8 5,9 3,8 <35	11,7 4,8 3,4 <35	10,3 3,8 3,0 <35	8,9 2,8 2,6 <35	8,7 2,7 2,5 <35	7,2 1,8 2,1 <35	6,0 1,3 1,7 <35
0,3889	1400	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																						20,0 15,1 6,1 <40	18,6 12,1 5,4 35,0	18,3 11,8 5,4 35,0	16,8 10,6 5,1 <35	15,1 7,9 4,4 <35	13,8 6,8 4,1 <35	12,6 5,6 3,7 <35	11,1 4,4 3,3 <35	9,6 3,2 2,8 <35	9,3 3,1 2,7 <35	7,7 2,1 2,2 <35	8,6 1,5 1,9 <35
0,4167	1500	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																								19,6 13,5 5,8 <40	18,0 12,1 5,5 35,0	16,1 9,0 4,7 <35	14,8 7,8 4,3 <35	13,5 6,4 3,9 <35	11,9 5,0 3,5 <35	10,3 3,7 3,0 <35	10,0 3,5 2,9 <35	8,3 2,4 2,4 <35	6,9 1,7 2,0 <35
0,4444	1600	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																									19,2 13,8 5,8 <40	17,2 10,3 5,0 35,0	15,8 8,8 4,6 <35	14,5 7,2 4,2 <35	12,7 5,7 3,7 <35	10,9 4,2 3,2 <35	10,6 4,0 3,1 <35	8,8 2,7 2,5 <35	7,4 1,9 2,1 <35
0,4722	1700	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																										18,3 11,6 5,3 <40	16,8 9,9 4,9 35,0	15,4 8,2 4,5 <35	13,5 6,4 4,0 <35	11,6 4,7 3,4 <35	11,3 4,5 3,3 <35	9,4 3,0 2,7 <35	7,8 2,1 2,3 <35
0,5000	1800	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																										19,4 12,9 5,6 <40	17,8 11,1 5,2 <40	16,3 9,1 4,7 35,0	14,3 7,2 4,2 <35	12,3 5,2 3,6 <35	12,0 5,1 3,5 <35	9,9 3,4 2,9 <35	8,3 2,4 2,4 <35
0,5278	1900	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																											18,8 12,4 5,5 <40	17,2 10,1 5,0 <40	15,1 8,0 4,4 35,0	13,0 5,8 3,8 <35	12,6 5,6 3,7 <35	10,5 3,8 3,0 <35	8,8 2,7 2,5 <35
0,5556	2000	$L_{0,25}$ [m] Δp [Pa] V [m/s] L_{WA} [dB(A)]																												18,1 11,2 5,2 40,0	15,9 8,9 4,7 <40	13,7 6,4 4,0 35,0	13,3 6,2 3,9 35,0	11,0 4,2 3,2 <35	9,2 2,9 2,7 <35

Uwagi

Δp [Pa] - Pressure loss

$L_{0,25}$ [m] - zasięg przy maksymalnej prędkości strumienia 0,25 m/s (średnia prędkość strumienia ok 0,07-0,10 m/s)

V [m/s] - średnia prędkość wylotowa strumienia powietrza przy kratce

L_{WA}[dB(A)] - Level of accustic power

Wartości podane w tabeli są wielkościami przybliżonymi.

Stopnień przymknięcia przepustnicy można w przybliżeniu uwzględnić poprzez współczynnik:

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik

$L_{0,25\ przepust} \approx L_{0,25}$ / współczynnik

Kratki z kierownicami skośnymi.

Strumień powietrza jest odchylony o 6,5° od osi kratki.

$\Delta p_{skośne} \approx 0,8$ x Δp

$L_{0,25}$ oraz Level of accustic power - bez zmian

$V_{skośne} \approx 0,93$ x V

$A_{ef\ skośne} \approx 1,25$ x A_{ef}

Product marking – ventilation grilles

KSH–al–P–SR/Ø–325×125/Ød–RM–RAL9010

Colour:
Standard RAL 9003

Assembly:
RM - mounting frame
RMF - mounting frame with filter
B - without visible screws (without mounting frame RM)
B1–B5 - type of assembly
R - for grilles KNP – dismounting grid
Standard - visible screws

Dimensions:
- Hole size LxH for grilles for rectangular ducts
- Hole size LxH/ØD diameter for circular ducts

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper, regulation outside
SRPw - plenum box with damper, regulation inside the plenum SRPw
SRI - plenum box with isolation
SRIP - plenum box with isolation and regulation outside the plenum
SRIPw - plenum box with isolation and regulation inside the plenum
Z - additional fitting elements for plenum

Assembly elements:
P - opposed blades damper
N - single element damper
SK - angular slotted damper
SP - straight slotted damper

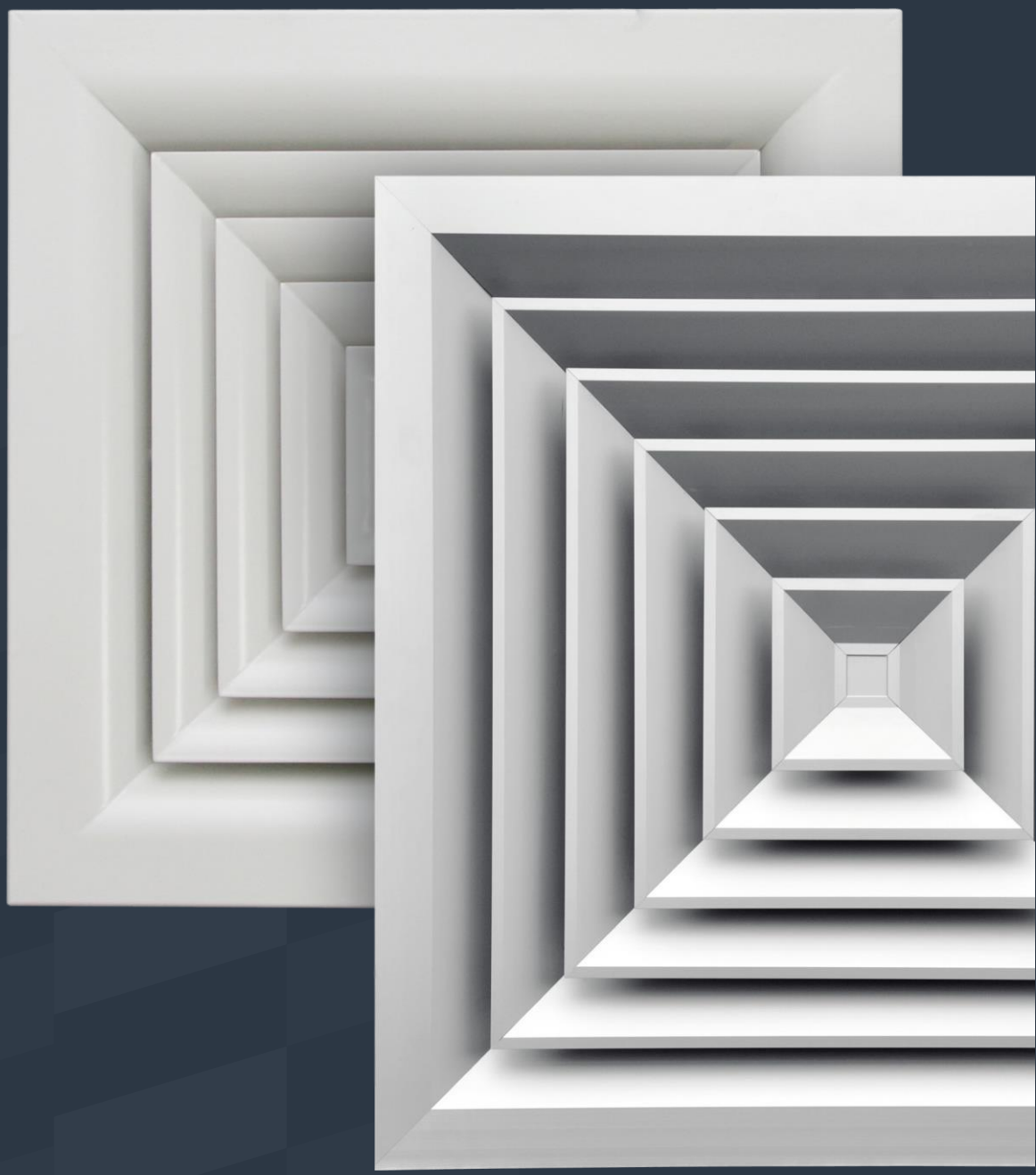
Material:
al - anodized aluminum
alp - aluminum painted in RAL
oc - galvanized steel
ocp - galvanized steel painted in RAL colour
ko - stainless steel
Standard - black steel sheet painted RAL colour

Grille's type

Order's example:
KSH–al–P–325×125–RM-B5

Anodized aluminum grille with damper P, mounting hole size 325x125 with mounting frame RM without visible screws, mount type B5..

2. CEILING DIFFUSERS



Diffusers

Supply diffusers



ASN

ASN-K

ASN-al

ANO

Exhaust diffusers


ASW

ASW-K

ASW-RS-al

ASW-RS-al-R

ASW-NR-al

Diffusers

Swirl diffusers

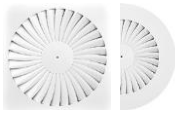

AWR-1-PK

AWR-1-PO

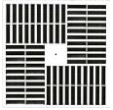
AWR-2

AWR-2-K

AWR-3-1


AWR-3-2

AWR-4-PK/PO

AWK-1

AWK-2

AWK-3

Directional diffusers

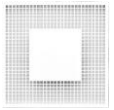
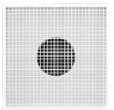

AWK-W

AWK-T

AWK-D-PK

AWK-D-PO

Slotted, perforated and floor diffusers


AWP-N

AWP-W

AWP-O

NSS

NSP

Valves, dysze

Valves


ZWN

ZWN-ko

ZWW

ZWW-ko

VS

Nozzle


DSN

Materials:

Black steel sheet:	- LAF-DC01-A-M-O	(PN-EN 10130:2009)
	- FePO1 A-M-O	(PN-EN 10130, PN-EN 10139)
Galvanized steel	- GALV-DX51D+Z275-M-A-C	(PN-EN 10142:2003)
	- FePO26 275-M-A-C	(PN-EN 10142:2003, PN-EN 10143:2003, PN-EN 10147:2003)
Stainless steel	-OH18N9 (1.4301)	(PN-EN 10088-1:2007)
Aluminum profile	- stop EN-AW-6063	(PN-EN 573-3:1994)
Aluminum plate	- 1050A H24	(PN-EN 573-3:2005, PN-EN 485-2:2007)

2.1.1. 4- ways diffuser ASN

Use:
Supply and exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Recommended for horizontal air supply in rooms up to approximately 4m high.

Assembly:
On rectangular ventilation ducts, in plenum boxes and in ceiling system. Fitted using visible bolts in pressed holes in the front frame or mounted using a central bolt.

Construction:
The front frame and blades are made of rolled, diffusion formed steelsheet profiles. Fixed setting of the blades in theexternal frame.

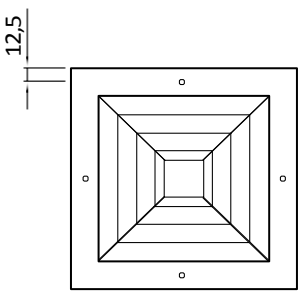
Material:
Black steel sheet, galvanized steel, aluminum and stainless steel

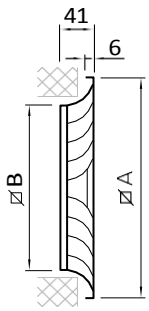
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
With counter directional damper type P without the necessity of dismantling the diffuser, or with a single leaf damper at the SR plenum box inlet

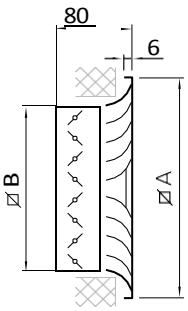
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:

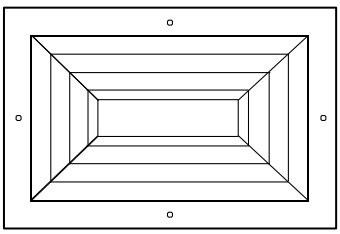


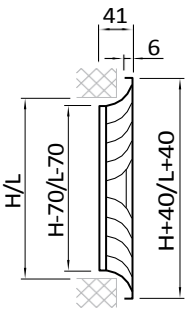


ASN-4

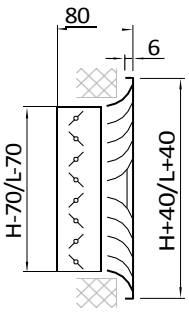


ASN-4-P





ASN-9



ASN-9-P

Products range:

⌀A [mm]	⌀B [mm]	A [m²]
190	80	0,0080
245	135	0,0169
301	191	0,0324
357	247	0,0590
412	302	0,0930
469	359	0,1230
498	388	0,1740
595	488	0,2304
623	513	0,2550

Supply diffusers ASN - varianty

ASN-0

ASN-1

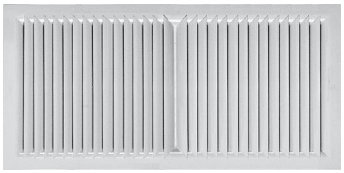
ASN-2

ASN-3

ASN-4

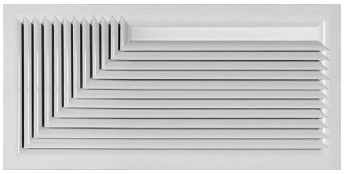
ASN-5

ASN-6

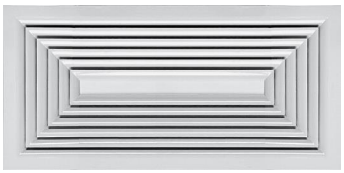


ASN-7

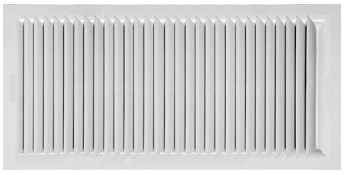
ASN-8



ASN-9



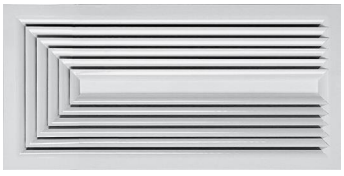
ASN-10



ASN-11

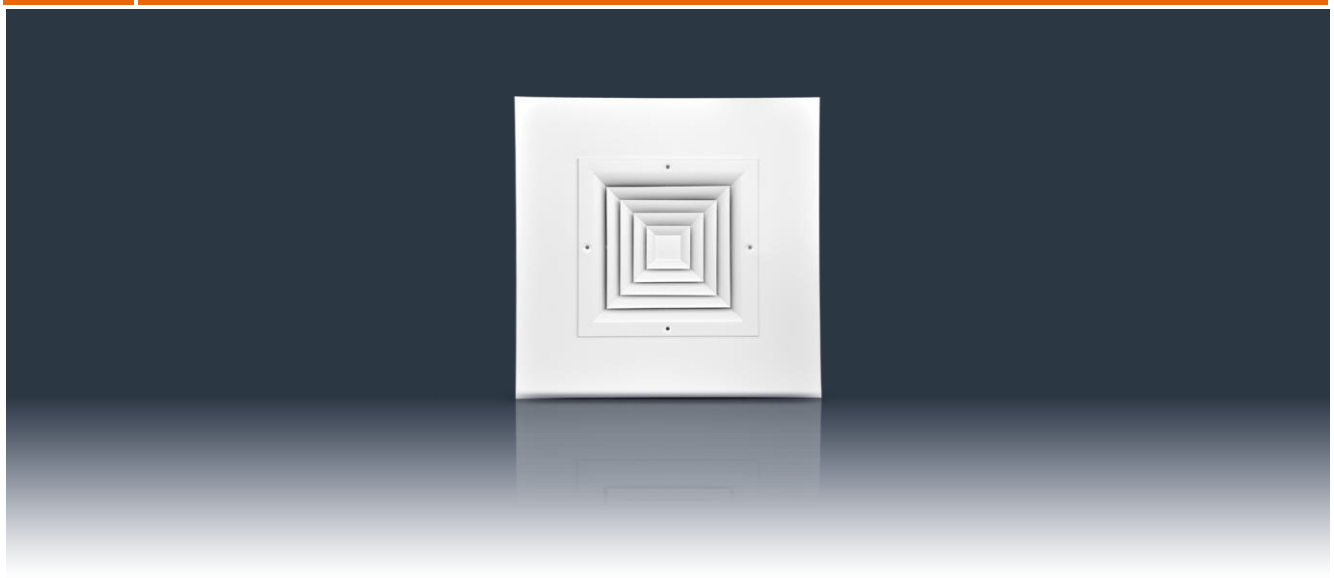
ASN-12

ASN-13



*Diffuser dimensions on demand

2.1.2. Ceiling system 4-ways diffusers ASN-K



Use:
Supply and exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Recommended for horizontal air supply in rooms up to approximately 4m high.

Assembly:
On rectangular ventilation ducts, in plenum boxes and in ceiling system. Fitted using visible bolts in pressed holes in the front frame or mounted using a central bolt.

Construction:
The front frame and blades are made of rolled, diffusion formed steelsheet profiles. Fixed setting of the blades in theexternal frame.

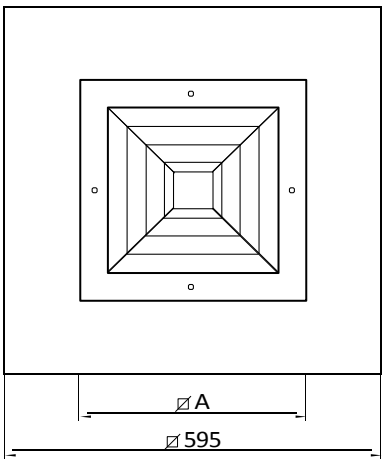
Material:
Black steel sheet, galvanized steel, aluminum and stainless steel

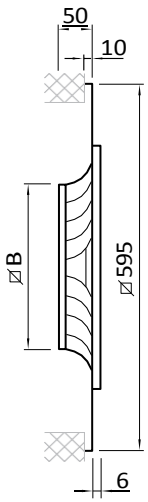
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
With counter directional damper type P without the necessity of dismantling the diffuser, or with a single leaf damper at the SR plenum box inlet

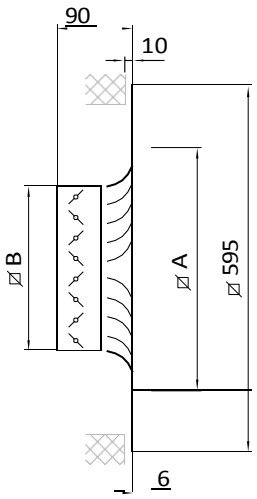
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:





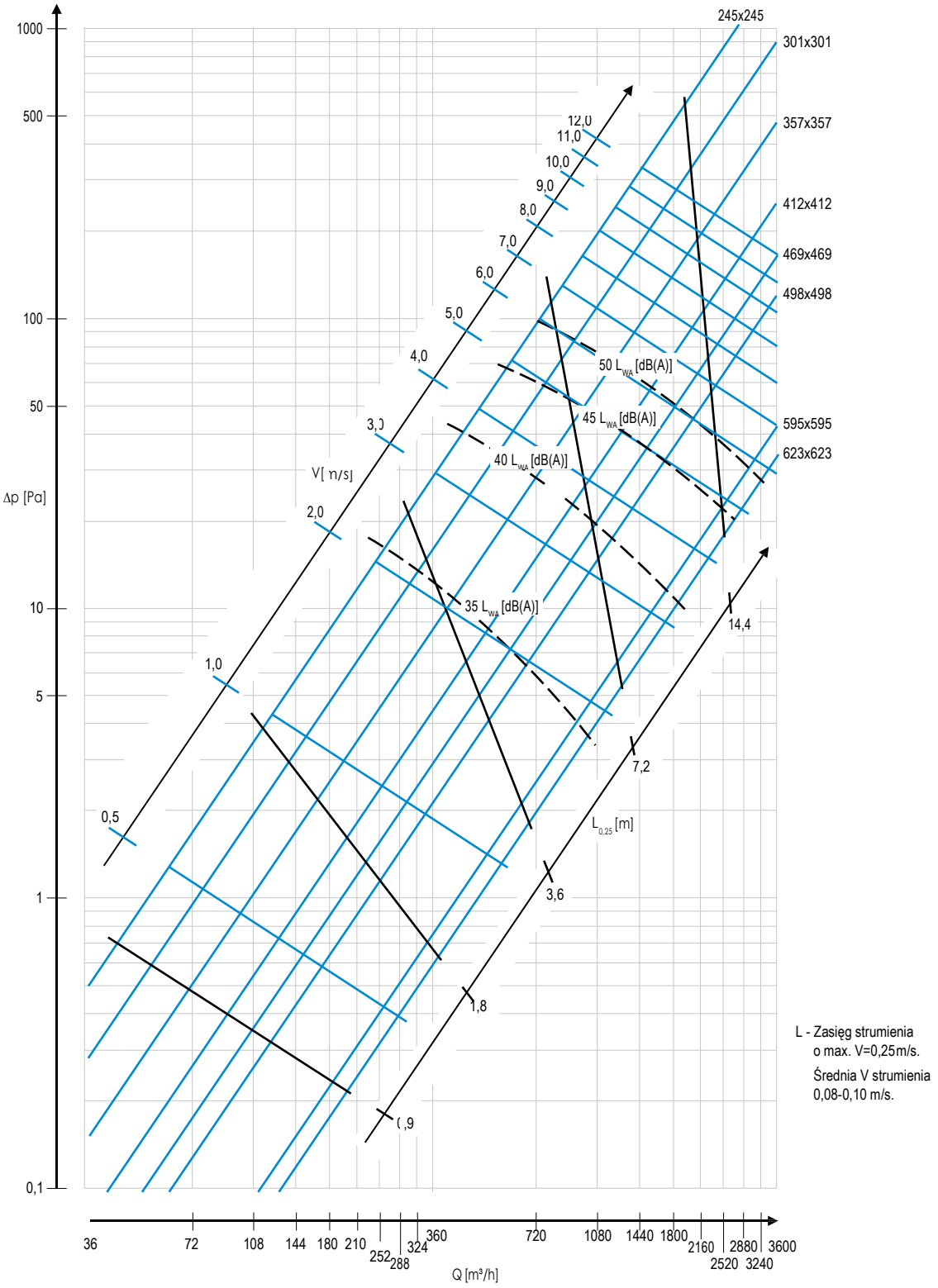
ASN-K



ASN-K-P

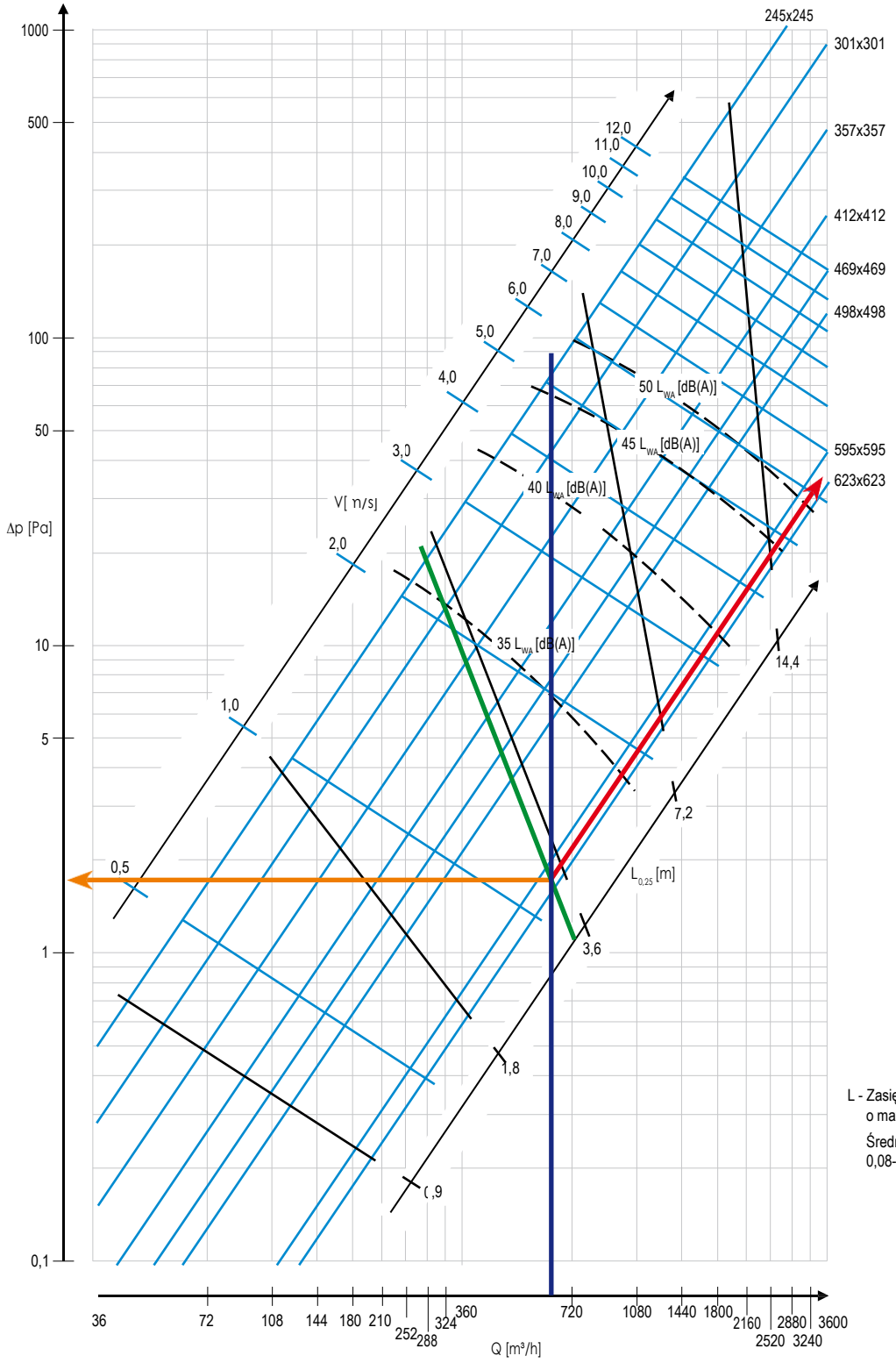
Diagram for selection ASN diffusers

Diagram concerns diffusers with fully open dampers.
Range $L_{0,25}$ marks the distance where the air stream velocity does not exceed 0,25 m/s. Velocity V_{ad} marks the maximal adhering air stream velocity at the edge of the diffuser.



L - Zasięg strumienia o max. V=0,25m/s.
Średnia V strumienia 0,08-0,10 m/s.

Instruction for selection for ASN diffusers



L - Zasięg strumienia o max. V=0,25m/s.

Średnia V strumienia 0,08-0,10 m/s.

Example (colours adequate to lines):

- Air stream range Q=700 m³/h
- Range $L_{0,25}$ = 3,5 m

Diagram reading:

- Diffuser size 623x623
- Pressure loss: 2 Pa
- Maximum outlet velocity: 1,2 m/s

Chart for choosing ASN diffusers without taking the influence of a wall and a second diffuser into account

		A_{ef} [m²]	0,0080	0,0169	0,0324	0,0590	0,0930	0,1230	0,1740	0,2304
Q_h [m³/h]	Q [m³/s]	Typ	245 x 245	301 x 301	357 x 357	412 x 412	469 x469	498 x 498	598 x 598	623 x 623
50	0,014	Δp [Pa]	0,9	0,5	0,3					
		$L_{V=0,25}$ [m]	0,9	0,9	0,7					
		V [m/s]	0,38	0,32	0,26					
		dB	<35	<35	<35					
100	0,028	Δp [Pa]	3,0	1,7	0,9	0,5	0,3	0,2		
		$L_{V=0,25}$ [m]	1,5	1,5	1,2	0,9	0,8	0,7		
		V [m/s]	0,75	0,64	0,53	0,42	0,36	0,28		
		dB	<35	<35	<35	<35	<35	<35		
150	0,042	Δp [Pa]	6,1	3,5	1,8	1,0	0,6	0,5	0,2	
		$L_{V=0,25}$ [m]	2,1	2,0	1,7	1,3	1,2	1,1	0,8	
		V [m/s]	1,13	0,96	0,79	0,63	0,54	0,42	0,29	
		dB	<35	<35	<35	<35	<35	<35	<35	
200	0,056	Δp [Pa]	10,2	5,7	3,0	1,6	1,0	0,8	0,3	0,2
		$L_{V=0,25}$ [m]	2,6	2,5	2,1	1,7	1,6	1,4	1,0	0,9
		V [m/s]	1,50	1,28	1,06	0,83	0,72	0,56	0,39	0,33
		dB	<35	<35	<35	<35	<35	<35	<35	<35
250	0,069	Δp [Pa]	15,0	8,5	4,5	2,3	1,6	1,1	0,4	0,3
		$L_{V=0,25}$ [m]	3,0	3,0	2,5	2,1	1,9	1,7	1,3	1,1
		V [m/s]	1,88	1,60	1,32	1,04	0,90	0,69	0,49	0,42
		dB	35	<35	<35	<35	<35	<35	<35	<35
300	0,083	Δp [Pa]	20,7	11,6	6,1	3,2	2,1	1,6	0,5	0,4
		$L_{V=0,25}$ [m]	3,5	3,4	2,9	2,5	2,3	2,1	1,6	1,4
		V [m/s]	2,25	1,92	1,58	1,25	1,08	0,83	0,58	0,50
		dB	<40	35	<35	<35	<35	<35	<35	<35
400	0,111	Δp [Pa]	34,2	19,2	10,2	5,3	3,5	2,6	0,9	0,7
		$L_{V=0,25}$ [m]	4,3	4,2	3,7	3,2	3,0	2,7	2,2	1,9
		V [m/s]	3,00	2,56	2,11	1,67	1,44	1,11	0,78	0,67
		dB	40	<40	35	<35	<35	<35	<35	<35
500	0,139	Δp [Pa]	50,6	28,4	15,0	7,9	5,2	3,8	1,3	1,0
		$L_{V=0,25}$ [m]	5,1	4,9	4,3	3,9	3,6	3,3	2,8	2,5
		V [m/s]	3,75	3,19	2,64	2,08	1,81	1,39	0,97	0,83
		dB	<45	<40	<40	35	<35	<35	<35	<35
600	0,167	Δp [Pa]	69,6	39,1	20,7	10,9	7,2	5,2	1,8	1,4
		$L_{V=0,25}$ [m]	5,9	5,6	5,0	4,5	4,3	4,0	3,4	3,1
		V [m/s]	4,50	3,83	3,17	2,50	2,17	1,67	1,17	1,00
		dB	45	40	<40	<40	35	<35	<35	<35
700	0,194	Δp [Pa]	91,1	51,2	27,0	14,2	9,4	6,8	2,4	1,9
		$L_{V=0,25}$ [m]	6,6	6,2	5,7	5,2	4,9	4,6	4,0	3,7
		V [m/s]	5,25	4,47	3,69	2,92	2,53	1,94	1,36	1,17
		dB	<50	<45	40	<40	<40	35	<35	<35
800	0,222	Δp [Pa]	115,1	64,7	34,2	18,0	11,9	8,6	3,0	2,4
		$L_{V=0,25}$ [m]	7,3	6,9	6,3	5,8	5,5	5,2	4,7	4,3
		V [m/s]	6,00	5,11	4,22	3,33	2,89	2,22	1,56	1,33
		dB	50	45	<45	<40	<40	<40	<35	<35
900	0,250	Δp [Pa]	141,4	79,5	42,0	22,1	14,6	10,6	3,7	2,9
		$L_{V=0,25}$ [m]	8,0	7,5	6,9	6,4	6,2	5,9	5,3	4,9
		V [m/s]	6,75	5,75	4,75	3,75	3,25	2,50	1,75	1,50
		dB	>50	<50	<45	40	<40	<40	35	<35
1000	0,278	Δp [Pa]	170,1	95,7	50,5	26,6	17,5	12,8	4,5	3,5
		$L_{V=0,25}$ [m]	8,7	4,5	7,5	7,1	6,8	6,5	5,9	5,5
		V [m/s]	7,50	6,39	5,28	4,17	3,61	2,78	1,94	1,67
		dB	>50	50	45	<45	40	<40	<40	35
1200	0,333	Δp [Pa]	234,0	131,6	69,5	36,6	24,1	17,5	6,1	4,8
		$L_{V=0,25}$ [m]	10,0	9,2	8,6	8,3	8,0	7,7	7,2	6,8
		V [m/s]	9,00	7,67	6,33	5,00	4,33	3,33	2,33	2,00
		dB	>50	>50	50	<45	<45	40	<40	<40
1400	0,389	Δp [Pa]	306,4	172,4	91,0	47,9	31,6	23,0	8,0	6,3
		$L_{V=0,25}$ [m]	11,2	10,3	9,7	9,5	9,2	9,0	8,5	8,2
		V [m/s]	10,50	8,94	7,39	5,83	5,06	3,89	2,72	2,33
		dB	>50	>50	>50	45	<45	<45	<40	<40
1600	0,444	Δp [Pa]		217,7	114,9	60,5	39,9	29,0	10,2	8,0
		$L_{V=0,25}$ [m]		11,3	10,8	10,6	10,4	10,2	9,8	9,5
		V [m/s]		10,22	8,44	6,67	5,78	4,44	3,11	2,67
		dB		>50	>50	50	45	<45	40	<40
1800	0,500	Δp [Pa]			141,2	74,3	49,1	35,7	12,5	9,8
		$L_{V=0,25}$ [m]			11,8	11,8	11,6	11,4	11,2	10,9
		V [m/s]			9,50	7,50	6,50	5,00	3,50	3,00
		dB			>50	>50	50	45	<45	40
2000	0,556	Δp [Pa]				89,4	59,0	42,9	15,0	11,8
		$L_{V=0,25}$ [m]				12,9	12,7	12,6	12,5	12,3
		V [m/s]				8,33	7,22	5,56	3,89	3,33
		dB				>50	>50	50	<45	<45
2400	0,667	Δp [Pa]					81,2	59,0	20,7	16,2
		$L_{V=0,25}$ [m]					15,0	15,0	15,2	15,2
		V [m/s]					8,67	6,67	4,67	4,00
		dB					>50	>50	45	<45
2800	0,778	Δp [Pa]						77,3	27,1	21,3
		$L_{V=0,25}$ [m]						17,4	18,0	18,2
		V [m/s]						7,78	5,44	4,67
		dB						>50	50	45
3200	0,889	Δp [Pa]						97,6	34,2	26,9
		$L_{V=0,25}$ [m]						19,8	20,8	21,2
		V [m/s]						8,89	6,22	5,33
		dB						>50	>50	50
3600	1,000	Δp [Pa]							42,0	33,0
		$L_{V=0,25}$ [m]							23,6	24,3
		V [m/s]							7,00	6,00
		dB							>50	>50

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliżonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas

Stopnień przymknięcia przepustnicy można w przybliżeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

Chart for selection of ASN 245x245 diffusers taking the influence of a wall and a second diffuser into account

Q_h [m^3/h]	Q [m^3/s]	Typ	245 x 245	x (odległość od ściany) 1 m	2 m	3 m	4 m	5 m
		Δp [Pa]	0,9	L_{pion} (zasięg w pionie)				
50	0,014	$L_{V=0,25}$ [m]	0,9					
		V [m/s]	0,38					
		dB	<35					
		Δp [Pa]	3,0					
100	0,028	$L_{V=0,25}$ [m]	1,5	0,14				
		V [m/s]	0,75					
		dB	<35					
		Δp [Pa]	6,1					
150	0,042	$L_{V=0,25}$ [m]	2,1	0,29				
		V [m/s]	1,13					
		dB	<35					
		Δp [Pa]	10,2					
200	0,056	$L_{V=0,25}$ [m]	2,6	0,43	0,15			
		V [m/s]	1,50					
		dB	<35					
		Δp [Pa]	15,0					
250	0,069	$L_{V=0,25}$ [m]	3,0	0,55	0,29			
		V [m/s]	1,88					
		dB	35					
		Δp [Pa]	20,7					
300	0,083	$L_{V=0,25}$ [m]	3,5	0,68	0,41	0,11		
		V [m/s]	2,25					
		dB	<40					
		Δp [Pa]	34,2					
400	0,111	$L_{V=0,25}$ [m]	4,3	0,91	0,65	0,30	0,05	
		V [m/s]	3,00					
		dB	40					
		Δp [Pa]	50,6					
500	0,139	$L_{V=0,25}$ [m]	5,1	1,12	0,88	0,49	0,17	
		V [m/s]	3,75					
		dB	<45					
		Δp [Pa]	69,6					
600	0,167	$L_{V=0,25}$ [m]	5,9	1,33	1,10	0,66	0,29	0,05
		V [m/s]	4,50					
		dB	45					
		Δp [Pa]	91,1					
700	0,194	$L_{V=0,25}$ [m]	6,6	1,53	1,30	0,83	0,40	0,10
		V [m/s]	5,25					
		dB	<50					
		Δp [Pa]	115,1					
800	0,222	$L_{V=0,25}$ [m]	7,3	1,72	1,50	0,99	0,51	0,15
		V [m/s]	6,00					
		dB	50					
		Δp [Pa]	141,4					
900	0,250	$L_{V=0,25}$ [m]	8,0	1,91	1,70	1,14	0,61	0,20
		V [m/s]	6,75					
		dB	>50					
		Δp [Pa]	170,1					
1000	0,278	$L_{V=0,25}$ [m]	8,7	2,09	1,88	1,30	0,71	0,24
		V [m/s]	7,50					
		dB	>50					
		Δp [Pa]	234,0					
1200	0,333	$L_{V=0,25}$ [m]	10,0	2,44	2,25	1,59	0,91	0,33
		V [m/s]	9,00					
		dB	>50					

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss

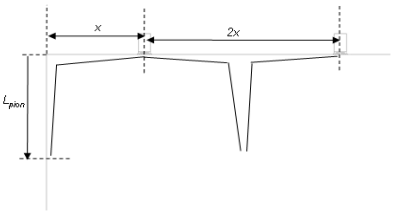
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s

L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s

x [m] - distance from wall lub połowa odległości między anemostatami

V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu

dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik

$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

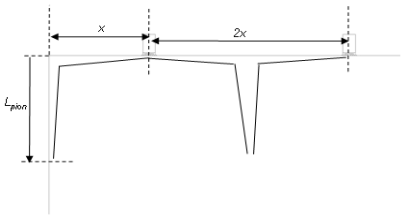
Tabela Chart for selection of ASN 301x301 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m³/h]	Q [m³/s]	Typ	301 x 301	x (odległość od ściany)				
				1 m	2 m	3 m	4 m	5 m
		Δp [Pa]	0,5	L_{pion} (zasięg w pionie)				
50	0,014	$L_{V=0,25}$ [m]	0,9					
		V [m/s]	0,32					
		dB	<35					
		Δp [Pa]	1,7					
100	0,028	$L_{V=0,25}$ [m]	1,5	0,14				
		V [m/s]	0,64					
		dB	<35					
		Δp [Pa]	3,5					
150	0,042	$L_{V=0,25}$ [m]	2,0	0,28				
		V [m/s]	0,96					
		dB	<35					
		Δp [Pa]	5,7					
200	0,056	$L_{V=0,25}$ [m]	2,5	0,41	0,14			
		V [m/s]	1,28					
		dB	<35					
		Δp [Pa]	8,5					
250	0,069	$L_{V=0,25}$ [m]	3,0	0,53	0,26			
		V [m/s]	1,60					
		dB	<35					
		Δp [Pa]	11,6					
300	0,083	$L_{V=0,25}$ [m]	3,4	0,65	0,38	0,08		
		V [m/s]	1,92					
		dB	35					
		Δp [Pa]	19,2					
400	0,111	$L_{V=0,25}$ [m]	4,2	0,86	0,60	0,26	0,02	
		V [m/s]	2,56					
		dB	<40					
		Δp [Pa]	28,4					
500	0,139	$L_{V=0,25}$ [m]	4,9	1,06	0,81	0,43	0,13	
		V [m/s]	3,19					
		dB	<40					
		Δp [Pa]	39,1					
600	0,167	$L_{V=0,25}$ [m]	5,6	1,24	1,00	0,58	0,24	0,03
		V [m/s]	3,83					
		dB	40					
		Δp [Pa]	51,2					
700	0,194	$L_{V=0,25}$ [m]	6,2	1,42	1,19	0,73	0,34	0,08
		V [m/s]	4,47					
		dB	<45					
		Δp [Pa]	64,7					
800	0,222	$L_{V=0,25}$ [m]	6,9	1,59	1,37	0,88	0,43	0,12
		V [m/s]	5,11					
		dB	45					
		Δp [Pa]	79,5					
900	0,250	$L_{V=0,25}$ [m]	7,5	1,76	1,54	1,02	0,53	0,16
		V [m/s]	5,75					
		dB	<50					
		Δp [Pa]	95,7					
1000	0,278	$L_{V=0,25}$ [m]	4,5	0,95	0,69	0,34	0,07	-0,04
		V [m/s]	6,39					
		dB	50					
		Δp [Pa]	131,6					
1200	0,333	$L_{V=0,25}$ [m]	9,2	2,23	2,03	1,41	0,79	0,28
		V [m/s]	7,67					
		dB	>50					
		Δp [Pa]	172,4					
1400	0,389	$L_{V=0,25}$ [m]	10,3	2,52	2,34	1,66	0,95	0,35
		V [m/s]	8,94					
		dB	>50					

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

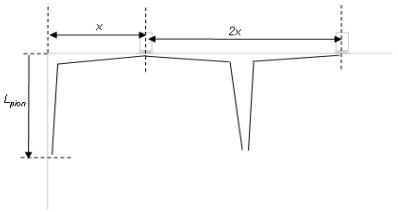
Chart for selection of ASN 357x357 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m³/h]	Q [m³/s]	Typ	357 x 357	x (odległość od ściany)				
				1 m	2 m	3 m	4 m	5 m
50	0,014	Δp [Pa]	0,3	L_{pion} (zasięg w pionie)				
		$L_{V=0,25}$ [m]	0,7					
		V [m/s]	0,26					
		dB	<35					
100	0,028	Δp [Pa]	0,9					
		$L_{V=0,25}$ [m]	1,2	0,07				
		V [m/s]	0,53					
		dB	<35					
150	0,042	Δp [Pa]	1,8					
		$L_{V=0,25}$ [m]	1,7	0,19				
		V [m/s]	0,79					
		dB	<35					
200	0,056	Δp [Pa]	3,0					
		$L_{V=0,25}$ [m]	2,1	0,31	0,03			
		V [m/s]	1,06					
		dB	<35					
250	0,069	Δp [Pa]	4,5					
		$L_{V=0,25}$ [m]	2,5	0,42	0,15			
		V [m/s]	1,32					
		dB	<35					
300	0,083	Δp [Pa]	6,1					
		$L_{V=0,25}$ [m]	2,9	0,52	0,26			
		V [m/s]	1,58					
		dB	<35					
400	0,111	Δp [Pa]	10,2					
		$L_{V=0,25}$ [m]	3,7	0,72	0,46	0,15		
		V [m/s]	2,11					
		dB	35					
500	0,139	Δp [Pa]	15,0					
		$L_{V=0,25}$ [m]	4,3	0,91	0,66	0,31	0,05	
		V [m/s]	2,64					
		dB	<40					
600	0,167	Δp [Pa]	20,7					
		$L_{V=0,25}$ [m]	5,0	1,09	0,85	0,46	0,15	
		V [m/s]	3,17					
		dB	<40					
700	0,194	Δp [Pa]	27,0					
		$L_{V=0,25}$ [m]	5,7	1,27	1,03	0,60	0,25	0,04
		V [m/s]	3,69					
		dB	40					
800	0,222	Δp [Pa]	34,2					
		$L_{V=0,25}$ [m]	6,3	1,43	1,20	0,74	0,34	0,08
		V [m/s]	4,22					
		dB	<45					
900	0,250	Δp [Pa]	42,0					
		$L_{V=0,25}$ [m]	6,9	1,60	1,37	0,88	0,44	0,12
		V [m/s]	4,75					
		dB	<45					
1000	0,278	Δp [Pa]	50,5					
		$L_{V=0,25}$ [m]	7,5	1,76	1,54	1,02	0,53	0,16
		V [m/s]	5,28					
		dB	45					
1200	0,333	Δp [Pa]	69,5					
		$L_{V=0,25}$ [m]	8,6	2,07	1,86	1,27	0,70	0,24
		V [m/s]	6,33					
		dB	50					
1400	0,389	Δp [Pa]	91,0					
		$L_{V=0,25}$ [m]	9,7	2,36	2,17	1,52	0,86	0,31
		V [m/s]	7,39					
		dB	>50					

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdluŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

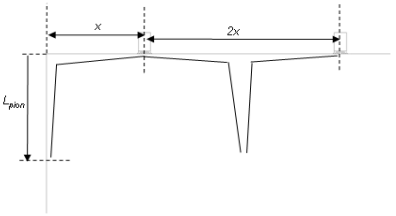
Chart for selection of ASN 412x412 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m³/h]	Q [m³/s]	Typ	412 x 412	x (odległość od ściany)				
				1 m	2 m	3 m	4 m	5 m
				L_{pion} (zasięg w pionie)				
100	0,028	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,5 0,9 0,42 <35					
150	0,042	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,0 1,3 0,63 <35	0,10				
200	0,056	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,6 1,7 0,83 <35	0,20				
250	0,069	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,3 2,1 1,04 <35	0,30	0,02			
300	0,083	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,2 2,5 1,25 <35	0,40	0,13			
400	0,111	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	5,3 3,2 1,67 <35	0,59	0,33	0,04		
500	0,139	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	7,9 3,9 2,08 35	0,78	0,52	0,20		
600	0,167	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	10,9 4,5 2,50 <40	0,96	0,71	0,35	0,08	
700	0,194	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	14,2 5,2 2,92 <40	1,13	0,89	0,49	0,18	0,01
800	0,222	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	18,0 5,8 3,33 <40	1,31	1,07	0,64	0,28	0,05
900	0,250	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	22,1 6,4 3,75 40	1,48	1,25	0,78	0,37	0,09
1000	0,278	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	26,6 7,1 4,17 <45	1,65	1,42	0,92	0,46	0,13
1200	0,333	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	36,6 8,3 5,00 <45	1,98	1,77	1,20	0,65	0,21
1400	0,389	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	47,9 9,5 5,83 45	2,30	2,10	1,47	0,83	0,29
1600	0,444	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	60,5 10,6 6,67 50	2,62	2,43	1,74	1,01	0,37

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdluŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

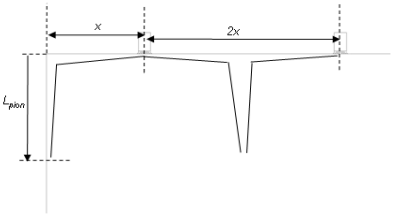
Chart for selection of ASN 469x469 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m^3/h]	Q [m^3/s]	Typ	469 x 469	x (odległość od ściany)				
				1 m	2 m	3 m	4 m	5 m
				L_{pion} (zasięg w pionie)				
100	0,028	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,3 0,8 0,36 <35					
150	0,042	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,6 1,2 0,54 <35	0,06				
200	0,056	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,0 1,6 0,72 <35	0,16				
250	0,069	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,6 1,9 0,90 <35	0,25				
300	0,083	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,1 2,3 1,08 <35	0,35	0,07			
400	0,111	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,5 3,0 1,44 <35	0,53	0,26			
500	0,139	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	5,2 3,6 1,81 <35	0,71	0,45	0,14		
600	0,167	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	7,2 4,3 2,17 35	0,89	0,64	0,29	0,04	
700	0,194	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	9,4 4,9 2,53 <40	1,06	0,82	0,43	0,14	
800	0,222	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	11,9 5,5 2,89 <40	1,24	1,00	0,58	0,23	0,03
900	0,250	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	14,6 6,2 3,25 <40	1,41	1,17	0,72	0,33	0,07
1000	0,278	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	17,5 6,8 3,61 40	1,57	1,35	0,86	0,42	0,11
1200	0,333	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	24,1 8,0 4,33 <45	1,91	1,69	1,14	0,61	0,20
1400	0,389	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	31,6 9,2 5,06 <45	2,23	2,03	1,41	0,79	0,28
1600	0,444	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	39,9 10,4 5,78 45	2,56	2,37	1,68	0,97	0,36

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdluŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

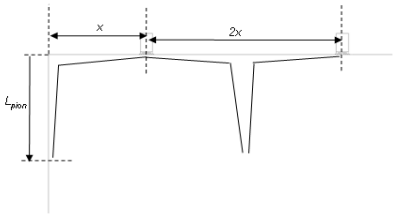
Chart for selection of ASN 498x498 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m^3/h]	Q [m^3/s]	Typ	498 x 498	x (odległość od ściany) 1 m	2 m	3 m	4 m	5 m
				L_{pion} (zasięg w pionie)				
100	0,028	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,2 0,7 0,28 <35					
150	0,042	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,5 1,1 0,42 <35	0,02				
200	0,056	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,8 1,4 0,56 <35	0,11				
250	0,069	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,1 1,7 0,69 <35	0,20				
300	0,083	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,6 2,1 0,83 <35	0,29	0,01			
400	0,111	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,6 2,7 1,11 <35	0,47	0,19			
500	0,139	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,8 3,3 1,39 <35	0,64	0,38	0,08		
600	0,167	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	5,2 4,0 1,67 <35	0,81	0,56	0,23		
700	0,194	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	6,8 4,6 1,94 35	0,99	0,74	0,37	0,09	
800	0,222	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	8,6 5,2 2,22 <40	1,16	0,91	0,51	0,19	0,01
900	0,250	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	10,6 5,9 2,50 <40	1,33	1,09	0,65	0,29	0,05
1000	0,278	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	12,8 6,5 2,78 <40	1,50	1,27	0,80	0,38	0,09
1200	0,333	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	17,5 7,7 3,33 40	1,83	1,62	1,08	0,57	0,18
1400	0,389	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	23,0 9,0 3,89 <45	2,17	1,96	1,36	0,75	0,26
1600	0,444	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	29,0 10,2 4,44 <45	2,50	2,31	1,64	0,94	0,34
1800	0,500	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	35,7 11,4 5,00 45	2,83	2,65	1,91	1,12	0,42

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

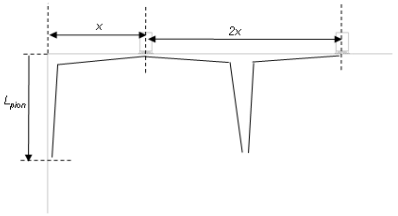
Chart for selection of ASN 598x598 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m^3/h]	Q [m^3/s]	Typ	598 x 598	x (odległość od ściany) 1 m	2 m	3 m	4 m	5 m
				L_{pion} (zasięg w pionie)				
150	0,042	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,2 0,8 0,29 <35					
200	0,056	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,3 1,0 0,39 <35					
250	0,069	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,4 1,3 0,49 <35	0,09				
300	0,083	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,5 1,6 0,58 <35	0,17				
400	0,111	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,9 2,2 0,78 <35	0,33	0,05			
500	0,139	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,3 2,8 0,97 <35	0,49	0,22			
600	0,167	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,8 3,4 1,17 <35	0,66	0,40	0,10		
700	0,194	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,4 4,0 1,36 <35	0,83	0,57	0,24		
800	0,222	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,0 4,7 1,56 <35	1,00	0,75	0,38	0,10	
900	0,250	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,7 5,3 1,75 35	1,17	0,92	0,52	0,20	0,01
1000	0,278	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	4,5 5,9 1,94 <40	1,34	1,10	0,67	0,29	0,06
1200	0,333	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	6,1 7,2 2,33 <40	1,69	1,47	0,96	0,49	0,14
1400	0,389	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	8,0 8,5 2,72 <40	2,04	1,84	1,26	0,69	0,23
1600	0,444	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	10,2 9,8 3,11 40	2,40	2,21	1,56	0,89	0,32
1800	0,500	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	12,5 11,2 3,50 <45	2,76	2,58	1,86	1,09	0,41

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

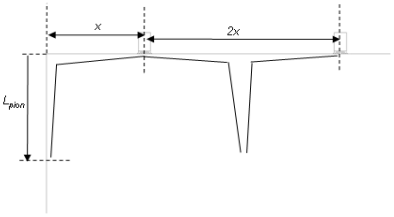
Chart for selection of ASN 623x623 diffusers taking the influence of a wall and a second diffuser into account.

Q_h [m³/h]	Q [m³/s]	Typ	623 x 623	x (odległość od ściany) 1 m	2 m	3 m	4 m	5 m
				L_{pion} (zasięg w pionie)				
200	0,056	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,2 0,9 0,33 <35					
250	0,069	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,3 1,1 0,42 <35					
300	0,083	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,4 1,4 0,50 <35	0,11				
400	0,111	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	0,7 1,9 0,67 <35	0,25				
500	0,139	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,0 2,5 0,83 <35	0,41	0,13			
600	0,167	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,4 3,1 1,00 <35	0,56	0,30	0,02		
700	0,194	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	1,9 3,7 1,17 <35	0,73	0,47	0,15		
800	0,222	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,4 4,3 1,33 <35	0,89	0,64	0,29	0,04	
900	0,250	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	2,9 4,9 1,50 <35	1,06	0,82	0,43	0,14	
1000	0,278	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	3,5 5,5 1,67 35	1,24	0,99	0,58	0,23	0,03
1200	0,333	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	4,8 6,8 2,00 <40	1,59	1,36	0,87	0,43	0,12
1400	0,389	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	6,3 8,2 2,33 <40	1,95	1,74	1,18	0,63	0,21
1600	0,444	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	8,0 9,5 2,67 <40	2,32	2,12	1,49	0,84	0,30
1800	0,500	Δp [Pa] $L_{V=0,25}$ [m] V [m/s] dB	9,8 10,9 3,00 40	2,70	2,52	1,80	1,05	0,39

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Stopnień przymknięcia przepustnicy moŠna w przybliŠeniu uwzględnić poprzez współczynnik

stopień zamknięcia	współczynnik
20%	1,2
40%	1,5
60%	3,0
80%	7,0
100%	15,0

$\Delta p_{przepust.} \approx \Delta p$ x współczynnik
$L_{V=0,25\ przepust} \approx L_{V=0,25}$ / współczynnik

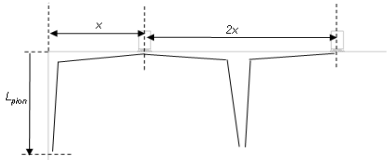
Instructions for charts for selection of ASN diffusers taking the influence of a wall and a second diffuser into account

Q_h [m³/h]	Q [m³/s]	Typ	245 x 245	x (odległość od ściany) 1 m	2 m	3 m	4 m	5 m
		Δp [Pa]	0,9	L_{pion} (zasięg w pionie)				
50	0.014	$L_{V=0,25}$ [m]	0.9					
		V [m/s]	0.38					
		dB	<35					
		Δp [Pa]	3.0					
100	0.028	$L_{V=0,25}$ [m]	1.5	0.14				
		V [m/s]	0.75					
		dB	<35					
		Δp [Pa]	6.1					
150	0.042	$L_{V=0,25}$ [m]	2.1	0.29				
		V [m/s]	1.13					
		dB	<35					
		Δp [Pa]	10.2					
200	0.056	$L_{V=0,25}$ [m]	2.6	0.43	0.15			
		V [m/s]	1.50					
		dB	<35					
		Δp [Pa]	15.0					
250	0.069	$L_{V=0,25}$ [m]	3.0	0.55	0.29			
		V [m/s]	1.88					
		dB	35					
		Δp [Pa]	20.7					
300	0.083	$L_{V=0,25}$ [m]	3.5	0.68	0.41	0.11		
		V [m/s]	2.25					
		dB	<40					
		Δp [Pa]	34.2					
400	0.111	$L_{V=0,25}$ [m]	4.3	0.91	0.65	0.30	0.05	
		V [m/s]	3.00					
		dB	40					
		Δp [Pa]	50.6					
500	0.139	$L_{V=0,25}$ [m]	5.1	1.12	0.88	0.49	0.17	
		V [m/s]	3.75					
		dB	<45					
		Δp [Pa]	69.6					
600	0.167	$L_{V=0,25}$ [m]	5.9	1.33	1.10	0.66	0.29	0.05
		V [m/s]	4.50					
		dB	45					
		Δp [Pa]	91.1					
700	0,194	$L_{V=0,25}$ [m]	6,6	1,53	1,30	0,83	0,40	0,10
		V [m/s]	5.25					
		dB	<50					
		Δp [Pa]	115.1					
800	0.222	$L_{V=0,25}$ [m]	7.3	1.72	1.50	0.99	0.51	0.15
		V [m/s]	6.00					
		dB	50					
		Δp [Pa]	141.4					
900	0.250	$L_{V=0,25}$ [m]	8.0	1.91	1.70	1.14	0.61	0.20
		V [m/s]	6.75					
		dB	>50					
		Δp [Pa]	170.1					
1000	0.278	$L_{V=0,25}$ [m]	8.7	2.09	1.88	1.30	0.71	0.24
		V [m/s]	7.50					
		dB	>50					
		Δp [Pa]	234.0					
1200	0.333	$L_{V=0,25}$ [m]	10.0	2.44	2.25	1.59	0.91	0.33
		V [m/s]	9.00					
		dB	>50					

Uwagi

Tabela dotyczy anemostatów z otwartymi przepustnicami
Wartości podane w tabeli są wartościami przybliŠonymi
Straty ciśnienia dotyczą pojedynczego anemostatu

Δp [Pa] - Pressure loss
$L_{V=0,25}$ [m] - odległość wzdłuŠ sufitu przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
L_{pion} [m] - odległość pionie od sufitu, przy której prędkość max strumienia nie przekracza 0,25 m/s średnia prędkość strumienia w zakresie 0,08-0,1 m/s
x [m] - distance from wall lub połowa odległości między anemostatami
V [m/s] - max prędkość wypływu strumienia przyssanego mierzonego na brzegu anemostatu
dB - hałas



Example:

1) Single diffuser without wall influence, e.g.
For Q
h = 700 m3/h it has
the range of 6,6m
for a stream of 0,2m/s velocity

2) Taking into account the influence of a wall 3m from the
diffuser we get:
Range along the ceiling - 6.6m,
Vertical range along the wall is
0.83m from the ceiling (summary 3m + 83m = 3,83m)

3). Having two diffusers e.g. 6 meters from each other
and looking for the stream range between them, one has
to divide the distance between
them by 2 (in this case it will
be 3m) and read the diagram as when taking into account the influence of a wall 3m from the diffuser

Part of the basic diagram concerning air distribution along the ceiling taking the influence on the wall into account

Part taking into account the influence of a wall and a second diffuser on the range

Chart for selection rectengular diffusers ASN-10, ASN-11

Dimensions L x H [mm]	Maximum stream velocity (V_{ef}) [m/s]	1,5	2,0	2,5	3,0	3,5
	Pressure loss (Δp) [Pa]	**9**	**15**	**23**	**33**	**43**
372 x 205	Air stream volume (Q) [m³/h]	216	288	360	432	504
	Level of accustic power L_{WA} = [dB(A)]	–	–	28	33	38
472 x 208	Air stream volume (Q) [m³/h]	286	382	477	572	668
	Level of accustic power L_{WA} = [dB(A)]	–	–	29	34	39
572 x 208	Air stream volume (Q) [m³/h]	362	482	603	724	844
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
672 x 208	Air stream volume (Q) [m³/h]	432	576	720	864	1008
	Level of accustic power L_{WA} = [dB(A)]	–	26	31	36	41
872 x 208	Air stream volume (Q) [m³/h]	578	770	963	1156	1348
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
1072 x 208	Air stream volume (Q) [m³/h]	724	965	1206	1448	1688
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	38	43
1272 x 208	Air stream volume (Q) [m³/h]	864	1152	1440	1728	2016
	Level of accustic power L_{WA} = [dB(A)]	–	29	35	41	45
472 x 261	Air stream volume (Q) [m³/h]	405	540	675	810	945
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
572 x 261	Air stream volume (Q) [m³/h]	508	677	846	1015	1184
	Level of accustic power L_{WA} = [dB(A)]	–	–	31	36	41
672 x 261	Air stream volume (Q) [m³/h]	610	814	1017	1220	1424
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
872 x 261	Air stream volume (Q) [m³/h]	815	1087	1359	1631	1903
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
572 x 317	Air stream volume (Q) [m³/h]	659	878	1098	1318	1537
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
672 x 317	Air stream volume (Q) [m³/h]	794	1058	1323	1588	1852
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43

Chart for selection rectengular diffusers ASN-6, ASN-12

Dimensions L x H [mm]	Maximum stream velocity (V_{ef}) [m/s]	1,5	2,0	2,5	3,0	3,5
	Pressure loss (Δp) [Pa]	**9**	**15**	**23**	**33**	**43**
372 x 205	Air stream volume (Q) [m³/h]	216	288	360	432	504
	Level of accustic power L_{WA} = [dB(A)]	–	–	28	33	38
472 x 208	Air stream volume (Q) [m³/h]	286	382	477	572	668
	Level of accustic power L_{WA} = [dB(A)]	–	–	29	34	39
572 x 208	Air stream volume (Q) [m³/h]	362	482	603	724	844
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
672 x 208	Air stream volume (Q) [m³/h]	432	576	720	864	1008
	Level of accustic power L_{WA} = [dB(A)]	–	26	31	36	41
872 x 208	Air stream volume (Q) [m³/h]	578	770	963	1156	1348
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
1072 x 208	Air stream volume (Q) [m³/h]	724	965	1206	1448	1688
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	38	43
1272 x 208	Air stream volume (Q) [m³/h]	864	1152	1440	1728	2016
	Level of accustic power L_{WA} = [dB(A)]	–	29	35	41	45
472 x 261	Air stream volume (Q) [m³/h]	405	540	675	810	945
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
572 x 261	Air stream volume (Q) [m³/h]	508	677	846	1015	1184
	Level of accustic power L_{WA} = [dB(A)]	–	–	31	36	41
672 x 261	Air stream volume (Q) [m³/h]	610	814	1017	1220	1424
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
872 x 261	Air stream volume (Q) [m³/h]	815	1087	1359	1631	1903
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
1072 x 261	Air stream volume (Q) [m³/h]	1021	1361	1701	2041	2381
	Level of accustic power L_{WA} = [dB(A)]	–	28	34	39	43
1272 x 261	Air stream volume (Q) [m³/h]	1226	1634	2043	2452	2860
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
572 x 317	Air stream volume (Q) [m³/h]	659	878	1098	1318	1537
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
672 x 317	Air stream volume (Q) [m³/h]	794	1058	1323	1588	1852
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
872 x 317	Air stream volume (Q) [m³/h]	1058	1411	1764	2117	2470
	Level of accustic power L_{WA} = [dB(A)]	–	28	34	40	44
1072 x 317	Air stream volume (Q) [m³/h]	1323	1764	2205	2646	3087
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
1272 x 317	Air stream volume (Q) [m³/h]	1588	2117	2646	3175	3704
	Level of accustic power L_{WA} = [dB(A)]	31	36	40	44	49
672 x 372	Air stream volume (Q) [m³/h]	972	1296	1620	1944	2268
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	28	42
872 x 372	Air stream volume (Q) [m³/h]	1301	1735	2169	2603	3037
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
1072 x 372	Air stream volume (Q) [m³/h]	1625	2167	2709	3251	3793
	Level of accustic power L_{WA} = [dB(A)]	31	36	40	44	49
872 x 372	Air stream volume (Q) [m³/h]	2539	2052	2565	3078	3591
	Level of accustic power L_{WA} = [dB(A)]	30	35	39	44	48

Chart for selection rectengular diffusers ASN-9

Dimensions L x H [mm]	Maximum stream velocity (V_{ef}) [m/s]	1,5	2,0	2,5	3,0	3,5
	Pressure loss (Δp) [Pa]	**9**	**15**	**23**	**33**	**43**
372 x 205	Air stream volume (Q) [m³/h]	216	288	360	432	504
	Level of accustic power L_{WA} = [dB(A)]	–	–	28	33	38
472 x 208	Air stream volume (Q) [m³/h]	286	382	477	572	668
	Level of accustic power L_{WA} = [dB(A)]	–	–	29	34	39
572 x 208	Air stream volume (Q) [m³/h]	362	482	603	724	844
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
672 x 208	Air stream volume (Q) [m³/h]	432	576	720	864	1008
	Level of accustic power L_{WA} = [dB(A)]	–	26	31	36	41
872 x 208	Air stream volume (Q) [m³/h]	578	770	963	1156	1348
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
1072 x 208	Air stream volume (Q) [m³/h]	724	965	1206	1448	1688
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	38	43
1272 x 208	Air stream volume (Q) [m³/h]	864	1152	1440	1728	2016
	Level of accustic power L_{WA} = [dB(A)]	–	29	35	41	45
472 x 261	Air stream volume (Q) [m³/h]	405	540	675	810	945
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
572 x 261	Air stream volume (Q) [m³/h]	508	677	846	1015	1184
	Level of accustic power L_{WA} = [dB(A)]	–	–	31	36	41
672 x 261	Air stream volume (Q) [m³/h]	610	814	1017	1220	1424
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
872 x 261	Air stream volume (Q) [m³/h]	815	1087	1359	1631	1903
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
1072 x 261	Air stream volume (Q) [m³/h]	1021	1361	1701	2041	2381
	Level of accustic power L_{WA} = [dB(A)]	–	28	34	39	43
1272 x 261	Air stream volume (Q) [m³/h]	1226	1634	2043	2452	2860
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
572 x 317	Air stream volume (Q) [m³/h]	659	878	1098	1318	1537
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
672 x 317	Air stream volume (Q) [m³/h]	794	1058	1323	1588	1852
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
872 x 317	Air stream volume (Q) [m³/h]	1058	1411	1764	2117	2470
	Level of accustic power L_{WA} = [dB(A)]	–	28	34	40	44
1072 x 317	Air stream volume (Q) [m³/h]	1323	1764	2205	2646	3087
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
1272 x 317	Air stream volume (Q) [m³/h]	1588	2117	2646	3175	3704
	Level of accustic power L_{WA} = [dB(A)]	31	36	40	44	49
672 x 372	Air stream volume (Q) [m³/h]	972	1296	1620	1944	2268
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	28	42
872 x 372	Air stream volume (Q) [m³/h]	1301	1735	2169	2603	3037
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
1072 x 372	Air stream volume (Q) [m³/h]	1625	2167	2709	3251	3793
	Level of accustic power L_{WA} = [dB(A)]	31	36	40	44	49
1272 x 372	Air stream volume (Q) [m³/h]	1949	2599	3249	3899	4549
	Level of accustic power L_{WA} = [dB(A)]	33	39	44	47	52
872 x 429	Air stream volume (Q) [m³/h]	1539	2052	2565	3078	3591
	Level of accustic power L_{WA} = [dB(A)]	30	35	39	44	48
1072 x 429	Air stream volume (Q) [m³/h]	1928	2570	3213	3856	4498
	Level of accustic power L_{WA} = [dB(A)]	33	39	44	47	51
1272 x 429	Air stream volume (Q) [m³/h]	2317	3089	3861	4633	5405
	Level of accustic power L_{WA} = [dB(A)]	35	41	46	51	54
972 x 458	Air stream volume (Q) [m³/h]	1863	2484	3105	3726	4347
	Level of accustic power L_{WA} = [dB(A)]	32	38	43	46	51
1172 x 558	Air stream volume (Q) [m³/h]	2867	3823	4779	5735	6691
	Level of accustic power L_{WA} = [dB(A)]	36	43	48	54	57
1222 x 583	Air stream volume (Q) [m³/h]	3154	4205	5256	6307	7358
	Level of accustic power L_{WA} = [dB(A)]	37	44	50	55	58

Chart for selection rectengular diffusers ASN-7, ASN-8, ASN-13

Dimensions L x H [mm]	Maximum stream velocity (V_{ef}) [m/s]	1,5	2,0	2,5	3,0	3,5
	Pressure loss (Δp) [Pa]	**9**	**15**	**23**	**33**	**43**
372 x 205	Air stream volume (Q) [m³/h]	216	288	360	432	504
	Level of accustic power L_{WA} = [dB(A)]	–	–	28	33	38
472 x 208	Air stream volume (Q) [m³/h]	286	382	477	572	668
	Level of accustic power L_{WA} = [dB(A)]	–	–	29	34	39
572 x 208	Air stream volume (Q) [m³/h]	362	482	603	724	844
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
672 x 208	Air stream volume (Q) [m³/h]	432	576	720	864	1008
	Level of accustic power L_{WA} = [dB(A)]	–	26	31	36	41
472 x 261	Air stream volume (Q) [m³/h]	405	540	675	810	945
	Level of accustic power L_{WA} = [dB(A)]	–	–	30	35	40
572 x 261	Air stream volume (Q) [m³/h]	508	677	846	1015	1184
	Level of accustic power L_{WA} = [dB(A)]	–	–	31	36	41
672 x 261	Air stream volume (Q) [m³/h]	610	814	1017	1220	1424
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
872 x 261	Air stream volume (Q) [m³/h]	815	1087	1359	1631	1903
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
572 x 317	Air stream volume (Q) [m³/h]	659	878	1098	1318	1537
	Level of accustic power L_{WA} = [dB(A)]	–	26	32	37	42
672 x 317	Air stream volume (Q) [m³/h]	794	1058	1323	1588	1852
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	39	43
872 x 317	Air stream volume (Q) [m³/h]	1058	1411	1764	2117	2470
	Level of accustic power L_{WA} = [dB(A)]	–	28	34	40	44
672 x 372	Air stream volume (Q) [m³/h]	972	1296	1620	1944	2268
	Level of accustic power L_{WA} = [dB(A)]	–	27	33	28	42
872 x 372	Air stream volume (Q) [m³/h]	1301	1735	2169	2603	3037
	Level of accustic power L_{WA} = [dB(A)]	26	29	35	41	45
872 x 458	Air stream volume (Q) [m³/h]	1539	2052	2565	3078	3591
	Level of accustic power L_{WA} = [dB(A)]	30	35	39	44	48
972 x 458	Air stream volume (Q) [m³/h]	1863	2484	3105	3726	4347
	Level of accustic power L_{WA} = [dB(A)]	32	38	43	46	51

2.1.3. 4-ways diffusers made of aluminum ASN-AL

Use:
Supply and exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Recommended for horizontal air supply in rooms up to approximately 4m high.

Assembly:
na kanałach wentylacyjnych prostokątnych, w skrzynkach rozprężnych i w sufitach podwieszanych. Mocowanie za pomocą widocznych śrub w wytłaczanych otworach w ramce czołowej lub z mocowaniem śrubą centralną.

Construction:
Frames and blades are made from roll aluminium profiles.

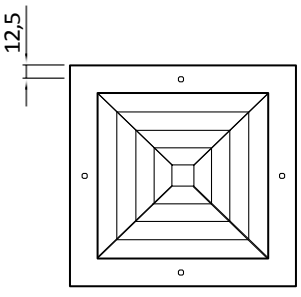
Material:
Aluminum, alloy 6063

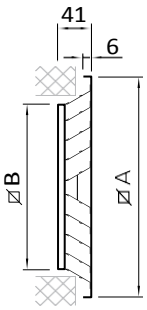
Surface finish
Anodized aluminium (standard) or painting RAL colour on demand.

Air flow regulation:
With counter directional damper type P without the necessity of dismantling the diffuser, or with a single leaf damper at the SR plenum box inlet.

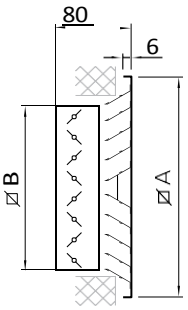
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:

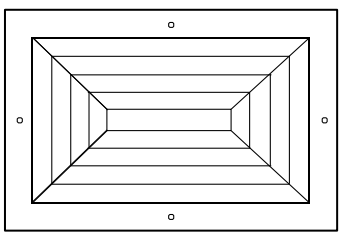


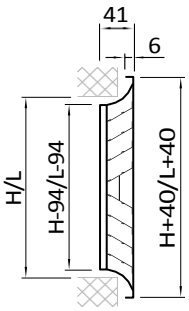


ASN-AL-4

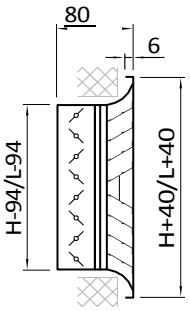


ASN-AL-4-P





ASN-AL-9



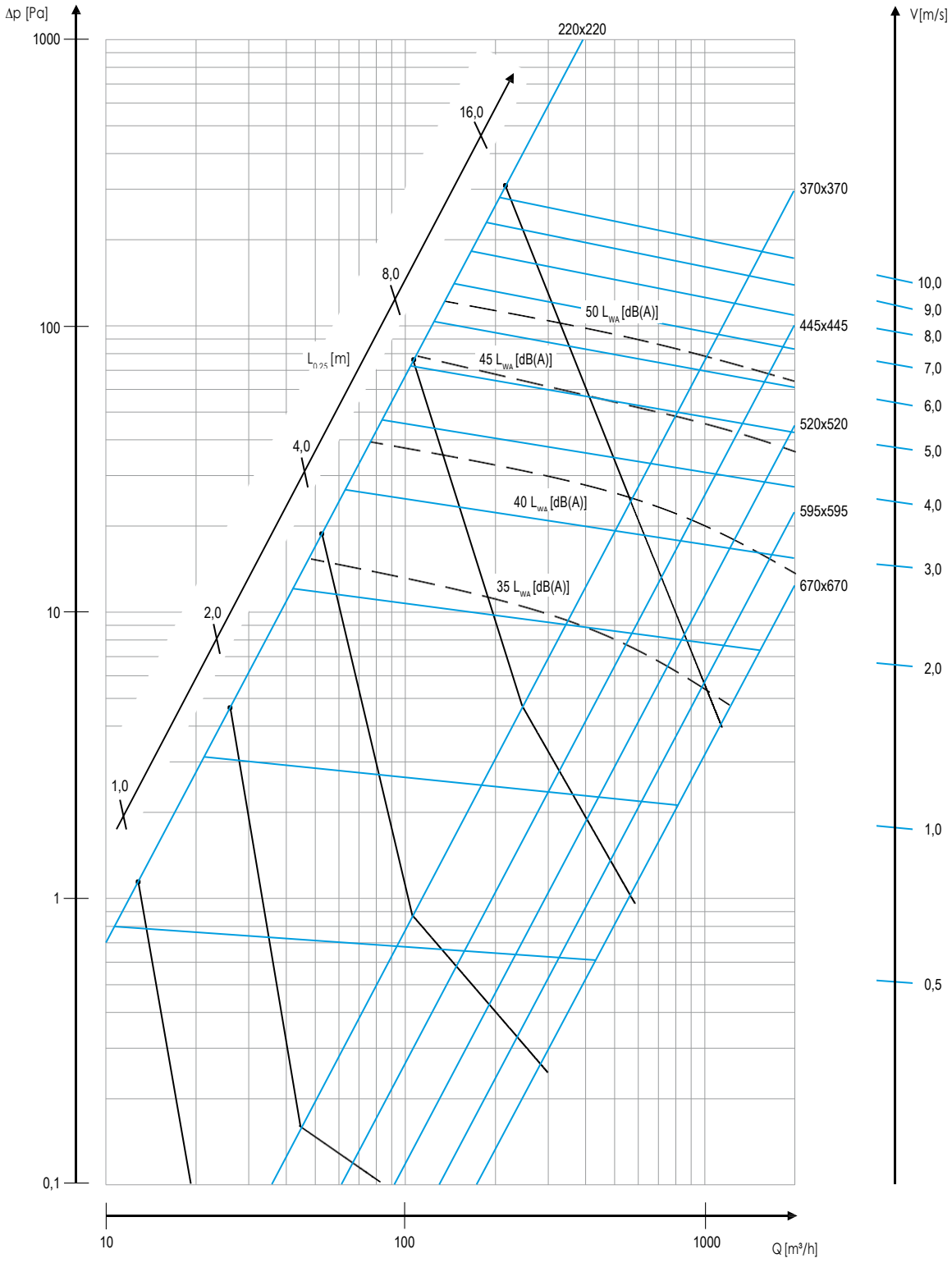
ASN-AL-9-P

Products range:

⌀A [mm]	⌀B [mm]
Dimension	
190	56
245	111
301	167
357	223
412	278
469	335
498	364
595	461
623	498
Dimensions y	
220	86
295	161
370	236
445	311
520	386
670	536

Diagram for selection 4-ways aluminium diffusers ASN-AL

Relation of pressure loss (Δp), maximum stream velocity (V_{ef}), a range of velocity stream V=0.25 m/s ($L_{0,25}$), and a level of acoustic power (L_{WA}) from air stream volume (Q). The chart applies to diffusers with open dampers.



$L_{0,25}$ - Zasięg strumienia o max. V=0,25 m/s.
Średnia V strumienia 0,08-0,10 m/s.

Table for selection 4-ways aluminium diffusers ASN-AL

		Typ	220 x 220	370 x 370	445 x 445	520 x 520	595 x 595	670 x 670
Q_h [m³/h]	Q_h [m³/s]	A_{ef} [m²]	0,0044	0,0312	0,0516	0,0769	0,1079	0,1440
25	0,0069	Δp [Pa]	4,3	0,05	0,02	0,01		
		$L_{V=0,2}$ [m]	1,9	1,00	0,98	0,7		
		$V_{śr}$ [m/s]	1,2	0,1	0,1	0,0		
		V_{max} [m/s]	2,9	0,3	0,2	0,1		
		dB(A)	<30	<30	<30	<30		
50	0,0139	Δp [Pa]	16,8	0,19	0,07	0,03	0,02	
		$L_{V=0,2}$ [m]	3,8	1,9	1,7	1,3	0,9	
		$V_{śr}$ [m/s]	2,3	0,3	0,1	0,1	0,1	
		V_{max} [m/s]	5,7	0,6	0,4	0,2	0,2	
		dB(A)	35	<30	<30	<30	<30	
100	0,0278	Δp [Pa]	66,5	0,8	0,3	0,12	0,06	0,03
		$L_{V=0,2}$ [m]	7,5	3,4	3,1	2,4	1,8	1,3
		$V_{śr}$ [m/s]	4,7	0,5	0,3	0,2	0,1	0,1
		V_{max} [m/s]	11,4	1,3	0,7	0,5	0,3	0,3
		dB(A)	<45	<30	<30	<30	<30	<30
150	0,0417	Δp [Pa]	148,6	1,73	0,6	0,3	0,13	0,08
		$L_{V=0,2}$ [m]	11,2	4,9	4,3	3,5	2,6	2,0
		$V_{śr}$ [m/s]	7,1	0,8	0,5	0,3	0,2	0,2
		V_{max} [m/s]	17,0	1,9	1,1	0,7	0,5	0,4
		dB(A)	>50	30	<30	<30	<30	<30
200	0,0556	Δp [Pa]	262,9	3,1	1,1	0,5	0,2	0,1
		$L_{V=0,2}$ [m]	14,8	6,4	5,5	4,5	3,5	2,6
		$V_{śr}$ [m/s]	9,5	1,1	0,7	0,4	0,3	0,2
		V_{max} [m/s]	22,6	2,5	1,5	1,0	0,7	0,5
		dB(A)	>55	<35	30	<30	<30	<30
250	0,0694	Δp [Pa]	409,3	4,8	1,6	0,7	0,4	0,2
		$L_{V=0,2}$ [m]	18,4	7,8	6,6	5,4	4,3	3,3
		$V_{śr}$ [m/s]	11,9	1,4	0,8	0,5	0,4	0,3
		V_{max} [m/s]	28,2	3,2	1,9	1,2	0,9	0,6
		dB(A)	>60	<35	<35	<30	<30	<30
300	0,0833	Δp [Pa]	587,5	6,9	2,3	1,0	0,5	0,3
		$L_{V=0,2}$ [m]	22,0	9,1	7,6	6,4	5,1	4,0
		$V_{śr}$ [m/s]	14,4	1,8	1,0	0,7	0,5	0,3
		V_{max} [m/s]	33,7	3,9	2,2	1,5	1,0	0,8
		dB(A)	>65	<35	<35	30	<30	<30
400	0,1111	Δp [Pa]		12,2	4,2	1,8	0,9	0,5
		$L_{V=0,2}$ [m]		11,8	9,7	8,2	6,7	5,4
		$V_{śr}$ [m/s]		2,4	1,4	0,9	0,6	0,5
		V_{max} [m/s]		5,2	3,0	2,0	1,4	1,0
		dB(A)		<40	<35	<35	30	<30
500	0,1389	Δp [Pa]		18,9	6,5	2,9	1,4	0,8
		$L_{V=0,2}$ [m]		14,4	11,6	10,0	8,4	6,8
		$V_{śr}$ [m/s]		3,0	1,8	1,1	0,8	0,6
		V_{max} [m/s]		6,5	3,8	2,5	1,8	1,3
		dB(A)		<40	35	<35	<35	30
600	0,1667	Δp [Pa]		27,2	9,3	4,1	2,1	1,2
		$L_{V=0,2}$ [m]		16,9	13,5	11,8	10,0	8,2
		$V_{śr}$ [m/s]		3,7	2,1	1,4	1,0	0,7
		V_{max} [m/s]		7,8	4,5	3,0	2,2	1,6
		dB(A)		40	<40	<35	<35	<35
700	0,1944	Δp [Pa]		37,0	12,6	5,6	2,8	1,6
		$L_{V=0,2}$ [m]		19,4	15,3	13,5	11,6	9,6
		$V_{śr}$ [m/s]		4,4	2,5	1,7	1,1	0,8
		V_{max} [m/s]		9,2	5,3	3,6	2,5	1,9
		dB(A)		<45	<40	35	<35	<35
800	0,2222	Δp [Pa]			16,4	7,3	3,7	2,1
		$L_{V=0,2}$ [m]			17,1	15,2	13,1	11,0
		$V_{śr}$ [m/s]			2,9	1,9	1,3	1,0
		V_{max} [m/s]			6,1	4,1	2,9	2,1
		dB(A)			<40	<40	<35	<35
900	0,2500	Δp [Pa]			20,7	9,2	4,6	2,6
		$L_{V=0,2}$ [m]			18,8	16,8	14,7	12,5
		$V_{śr}$ [m/s]			3,3	2,2	1,5	1,1
		V_{max} [m/s]			6,8	4,6	3,3	2,4
		dB(A)			40	<40	35	<35
1000	0,2778	Δp [Pa]				11,4	5,7	3,2
		$L_{V=0,2}$ [m]				18,5	16,3	13,9
		$V_{śr}$ [m/s]				2,4	1,7	1,2
		V_{max} [m/s]				5,2	3,7	2,7
		dB(A)				<40	<40	<35
1200	0,3333	Δp [Pa]					8,2	4,6
		$L_{V=0,2}$ [m]					19,4	16,8
		$V_{śr}$ [m/s]					2,1	1,5
		V_{max} [m/s]					4,4	3,2
		dB(A)					<40	<35
1400	0,3889	Δp [Pa]						6,2
		$L_{V=0,2}$ [m]						19,7
		$V_{śr}$ [m/s]						1,8
		V_{max} [m/s]						3,8
		dB(A)						35

Uwagi:
Tabela dotyczy anemostatów z otwartymi przepustnicami. Wartości podane są wartościami przybliżonymi. Straty ciśnienia dotyczą pojedynczego anemostatu.

Δ Δp [Pa] - Pressure loss

$L_{V=0,2}$ [m] - odległość wzdłuż sufitu przy której prędkość strumienia nie przekracza 0,2 m/s

$V_{śr}$ [m/s] - średnia prędkość strumienia mierzona przy wylocie z anemostatu

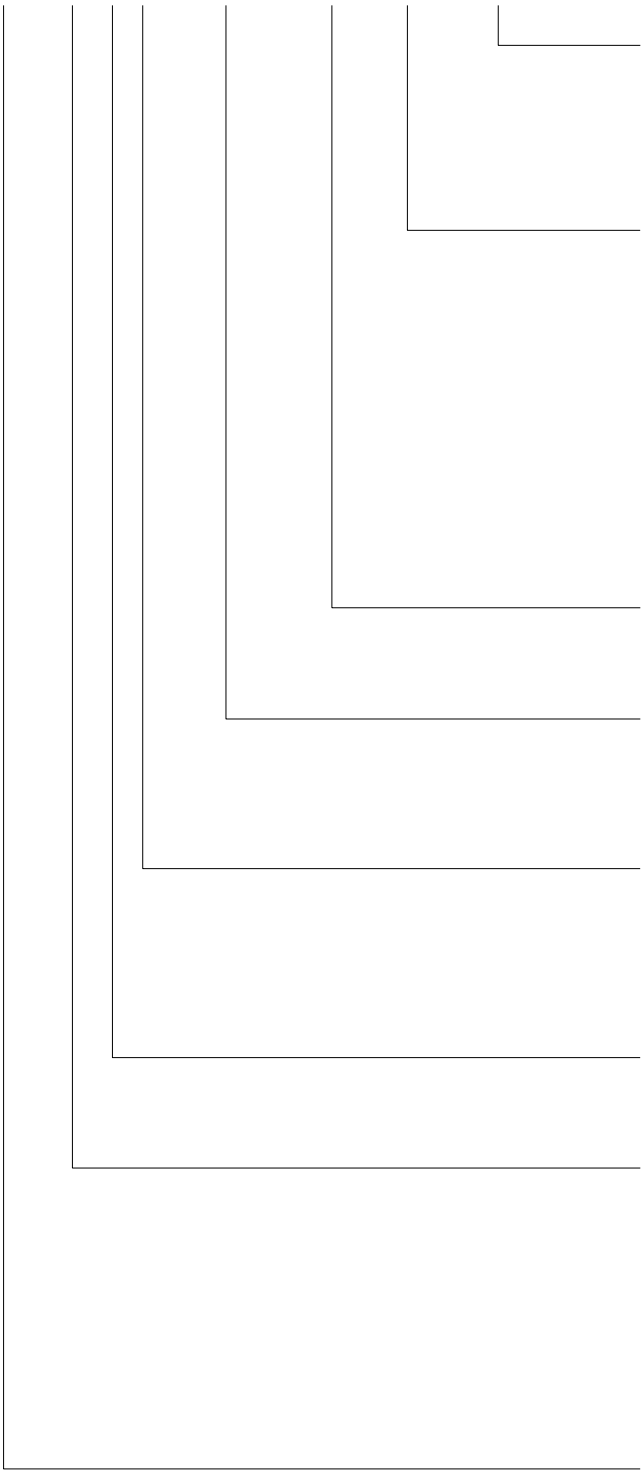
V_{max} [m/s] - maksymalna prędkość na wylocie z anemostatu

dB(A) - ciśnienie akustyczne

A_{ef} [m²] - powierzchnia efektywna

Product Marking ASN

ASN–AL–4–P–595×595–RAL–SR/Ø–WMC



Assambly:
Standard – visible screws
WMC - central screw
B - without holes

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper regulation inside and isoation
Z - additional mounting elements

Surface finish:
Standard - RAL 9003

Dimensions:
External dimensions A - Diffusers ASN
External dimension np. A/K - Ceiling system ASN-K

Air flow regulation:
P - galv. Steel damper
P al. - aluminium damper
P ko - stainless steel damper

Air flow direction:
Standard - 4 (4-ways)

Material:
Standard - black steel painted RAL 9003
alp - aluminium painted in Ral colour
oc - galvanized steel
ocp - galvaznied steel painted RAL colour
ko - stainless steel

Type of diffusers

Example:
ASN–4–P–595×595–SR/Ø160–WMC

4-ways diffuser with damper P. Dimensions 595x595, standard RAL 9003, plenum box with diameter Ø160, central screw.
If one does not write all details RDJ Klima will make standard one.

2.1.4. Circular supply diffuser ANO, ANO-K

Use:
Supply and exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Recommended for horizontal air supply in rooms up to approximately 4m high.

Assembly:
With a central bolt on rectangular profile air ducts, in plenum boxes, in suspended ceilings and at the outlets of circular ducts. Fitting plenum box or KP adapter.

Construction:
Diffuser made from aluminium profiles.

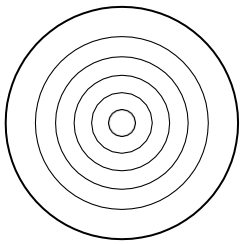
Material:
Aluminum, alloy 6063

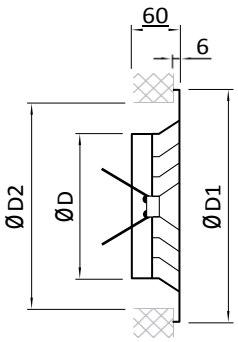
Surface finish
Standard RAL 9016, differsnt RAL colour on demand

Air flow regulation:
Damper on the inlet of plenum box

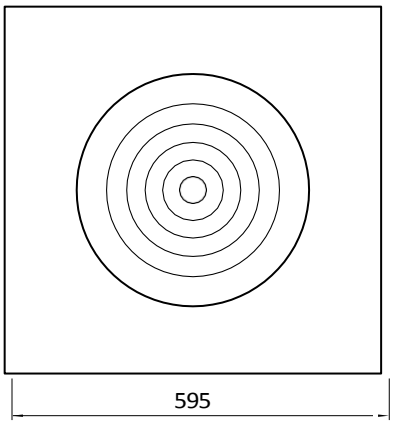
Certificates:
Hygienic certificate: BK/K/0926/01/2018

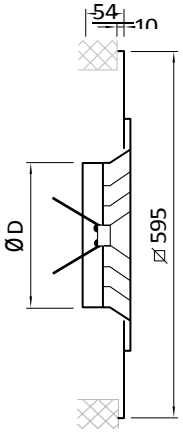
Type and dimension marking:





ANO





ANO-K

Products range:

Dimensions AN0 [mm]	ØD [mm]	ØD1 [mm]	ØD2 [mm]
150	149	257	225
200	199	307	275
250	249	357	325
300	299	407	375
350	349	457	425

Table for selection circular diffusers ANO

Air stream volume Q [m³/h]	Dimensions	150	200	250	300	350
100	air speed V_{ef} [m/s]	2,75	1,2	0,77	0,54	0,4
	Δp [Pa]	7	3	2	2	2
	$L_{0,25}$ [m]	0,92	0,7	0,61	0,55	0,51
	L_{WA} [dB(A)]	<15	<15	<15	<15	<15
150	air speed V_{ef} [m/s]	4,12	1,79	1,16	0,81	0,6
	Δp [Pa]	13	4	3	2	2
	$L_{0,25}$ [m]	1,25	0,92	0,79	0,7	0,64
	L_{WA} [dB(A)]	<15	<15	<15	<15	<15
200	air speed V_{ef} [m/s]	5,5	2,39	1,55	1,08	0,81
	Δp [Pa]	22	6	3	3	2
	$L_{0,25}$ [m]	1,59	1,13	0,96	0,85	0,77
	L_{WA} [dB(A)]	<15	<15	<15	<15	<15
250	air speed V_{ef} [m/s]	6,87	2,99	1,94	1,35	1,01
	Δp [Pa]	33	8	4	3	3
	$L_{0,25}$ [m]	1,92	1,35	1,14	0,99	0,89
	L_{WA} [dB(A)]	32	18	<15	<15	<15
300	air speed V_{ef} [m/s]	8,25	3,59	2,32	1,61	1,21
	Δp [Pa]	47	10	5	4	3
	$L_{0,25}$ [m]	2,25	1,57	1,32	1,14	1,02
	L_{WA} [dB(A)]	37	24	<15	<15	<15
350	air speed V_{ef} [m/s]	9,62	4,18	2,71	1,88	1,41
	Δp [Pa]	63	13	7	4	3
	$L_{0,25}$ [m]	2,58	1,79	1,49	1,29	1,15
	L_{WA} [dB(A)]	41	28	18	<15	<15
400	air speed V_{ef} [m/s]	10,99	4,78	3,1	2,15	1,61
	Δp [Pa]	82	17	8	5	4
	$L_{0,25}$ [m]	2,91	2,01	1,67	1,43	1,28
	L_{WA} [dB(A)]	45	32	21	<15	<15
450	air speed V_{ef} [m/s]	12,37	5,38	3,49	2,42	1,81
	Δp [Pa]	103	21	10	6	4
	$L_{0,25}$ [m]	3,24	2,23	1,84	1,58	1,4
	L_{WA} [dB(A)]	48	35	25	16	<15
500	air speed V_{ef} [m/s]		5,98	3,87	2,69	2,02
	Δp [Pa]		26	12	7	5
	$L_{0,25}$ [m]		2,45	2,02	1,73	1,53
	L_{WA} [dB(A)]		38	28	19	<15
600	air speed V_{ef} [m/s]		7,17	4,65	3,23	2,42
	Δp [Pa]		36	16	9	6
	$L_{0,25}$ [m]		2,88	2,37	2,02	1,78
	L_{WA} [dB(A)]		43	33	24	17

Air stream volume Q [m³/h]	Dimensions	150	200	250	300	350
700	air speed V_{ef} [m/s]		8,37	5,42	3,37	2,82
	Δp [Pa]		48	21	11	7
	$L_{0,25}$ [m]		3,32	2,72	2,31	2,04
	L_{WA} [dB(A)]		47	37	29	21
800	air speed V_{ef} [m/s]			6,2	4,31	3,22
	Δp [Pa]			27	14	9
	$L_{0,25}$ [m]			3,08	2,61	2,29
	L_{WA} [dB(A)]			41	32	25
900	air speed V_{ef} [m/s]			6,97	4,84	3,67
	Δp [Pa]			34	17	10
	$L_{0,25}$ [m]			3,43	2,9	2,55
	L_{WA} [dB(A)]			44	36	29
1000	air speed V_{ef} [m/s]			7,75	3,38	4,03
	Δp [Pa]			41	21	13
	$L_{0,25}$ [m]			3,78	3,19	2,8
	L_{WA} [dB(A)]			8,52	39	32
1100	air speed V_{ef} [m/s]			5,08	5,92	4,43
	Δp [Pa]			29	25	15
	$L_{0,25}$ [m]			4,13	3,49	3,05
	L_{WA} [dB(A)]			50	41	34
1200	air speed V_{ef} [m/s]				6,46	4,84
	Δp [Pa]				29	17
	$L_{0,25}$ [m]				3,78	3,31
	L_{WA} [dB(A)]				44	37
1300	air speed V_{ef} [m/s]				7	5,24
	Δp [Pa]				34	20
	$L_{0,25}$ [m]				4,07	3,56
	L_{WA} [dB(A)]				46	39
1500	air speed V_{ef} [m/s]					6,05
	Δp [Pa]					26
	$L_{0,25}$ [m]					4,07
	L_{WA} [dB(A)]					43
1700	air speed V_{ef} [m/s]					6,85
	Δp [Pa]					33
	$L_{0,25}$ [m]					4,58
	L_{WA} [dB(A)]					46
2000	air speed V_{ef} [m/s]					7,66
	Δp [Pa]					41
	$L_{0,25}$ [m]					5,08
	L_{WA} [dB(A)]					50

Product marking ANO

ANO–K–200–RAL–SR/Ø

Assmably:
Standard - plenum box or adapter KP

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper regulation inside and isolation
Z - additional assambly elements

Finish surface:
Standard - RAL 9016

Dimensions:
Dimensions Ø - Diffusers dimensions

Ceiling system:
K - dimensions 595x595

Material:
Standard - aluminium painted RAL 9016

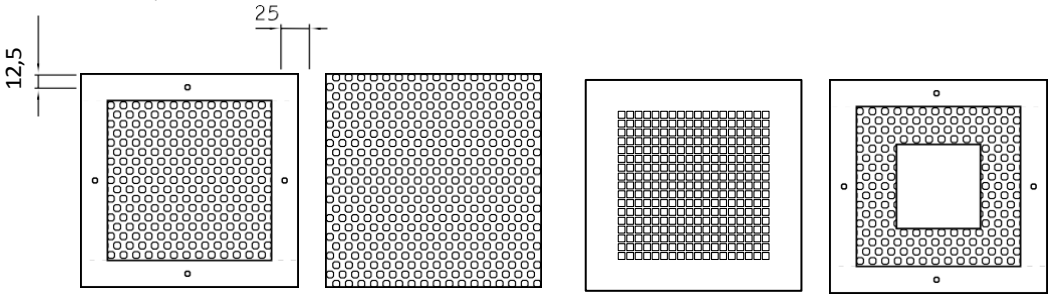
Typ nawiewnika

Order's example:
ANO–160–SR/Ø125

Diffuser dimension Ø160, with plenum box Ø125, standard RAL 9016. If one does not write all details RDJ Klima will make standard one.

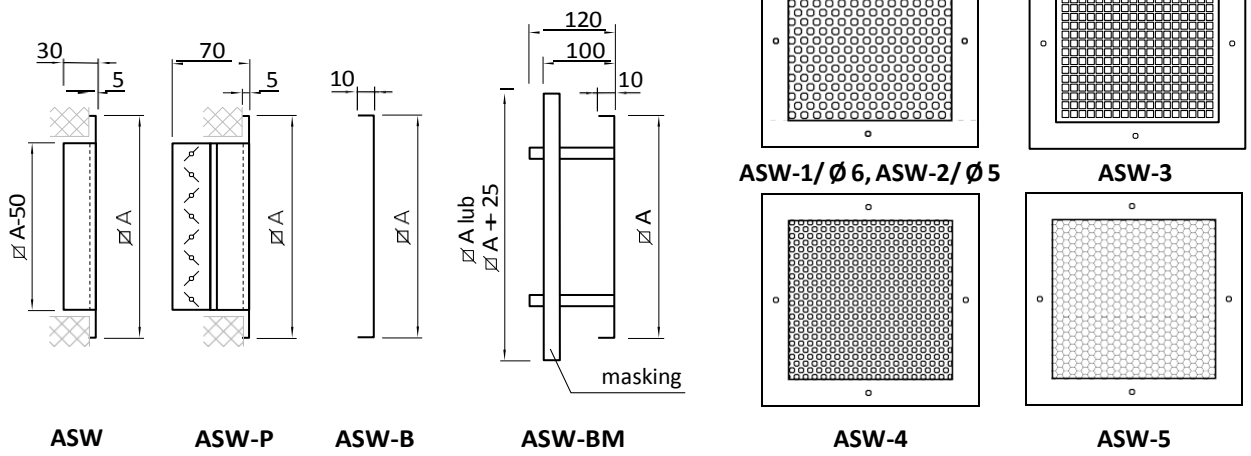
2.1.5. Exhaust diffuser ASW

Use:
Exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%.
Assembly:
On rectangular ducts or plenum box. Possibilty on ceiling system. Assambly by central screw or visible screws (standard).
Construction:
Diffuser made of rolled steel with perforated steel inside. Four types of perforation: ASW-1 (perforation ø 6 mm) - 30% i ASW-2 (perforation ø 5 mm) - 30%, ASW-3 (perforation 10 mm) - 50% and ASW-4 (perforation ø 5 mm) - 63%, ASW-5 - 52%. There is ossibility to order without frame ASW-B, without frame but with masking steel ASW-BM, with 4-ways version ASW-N.
Material:
Black steel sheet, galvaznied steel, aluminium, stainless steel.
Surface finish
RAL 9003 white powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
With damper P or damper in inlet of plenum box.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

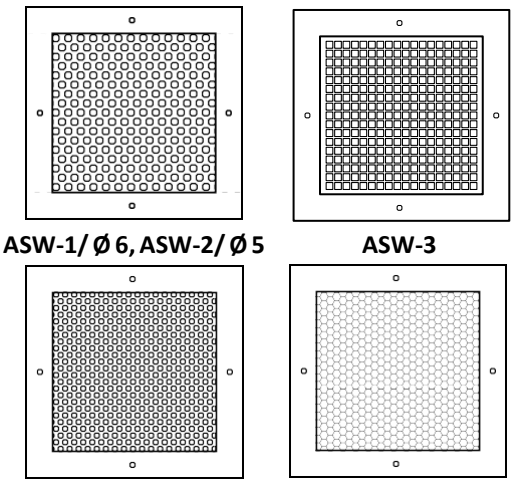


ASW ASW-B ASW-595/A ASW-N

Perforation types:

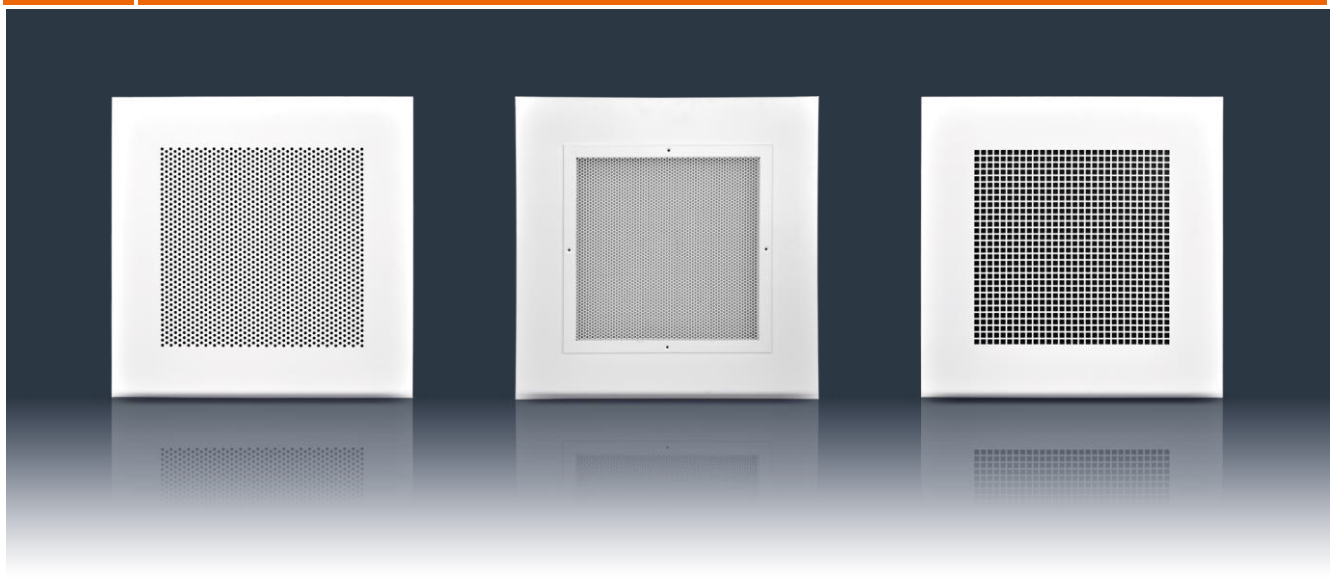


ASW ASW-P ASW-B ASW-BM



ASW-1/ Ø 6, ASW-2/ Ø 5 ASW-3 ASW-4 ASW-5

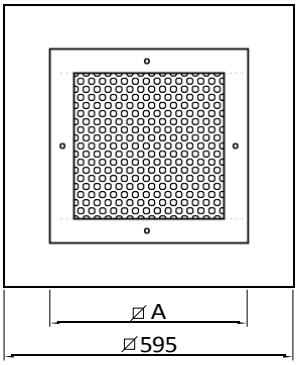
2.1.6. Ceiling system exhaust diffusers ASW-K

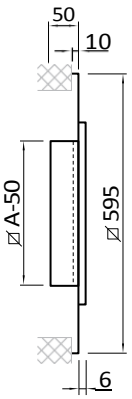


Use:
Exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%.
Assembly:
On rectangular ducts or plenum box. Possibilty on ceiling system. Assambly by central screw or visible screws (standard).
Construction:
Diffuser made of rolled steel with perforated steel inside. Four types of perforation: ASW-1 (perforation ø 6 mm) - 30% i ASW-2 (perforation ø 5 mm) - 30%, ASW-3 (perforation 10 mm) - 50% and ASW-4 (perforation ø 5 mm) - 63%, ASW-5 - 52%.
Material:
Black steel sheet, galvaznied steel, aluminium, stainless steel.
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
With damper P or damper in inlet of plenum box.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

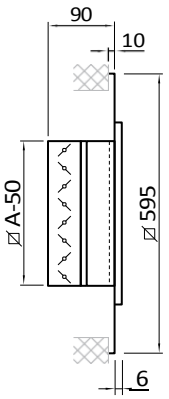
Type and dimension:

Version A



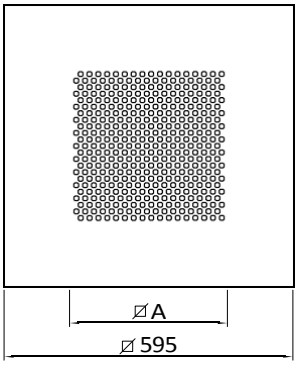


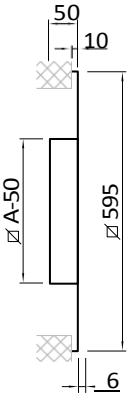
ASW-1-K, ASW-2-K
ASW-3-K, ASW-4-K



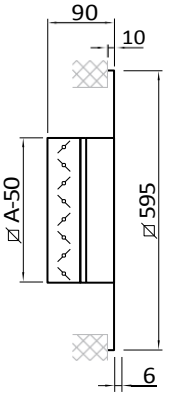
ASW-1-K-P, ASW-2-K-P,
ASW-2-K-P, ASW-4-K-P

Version B





ASW-1-K, ASW-3-K



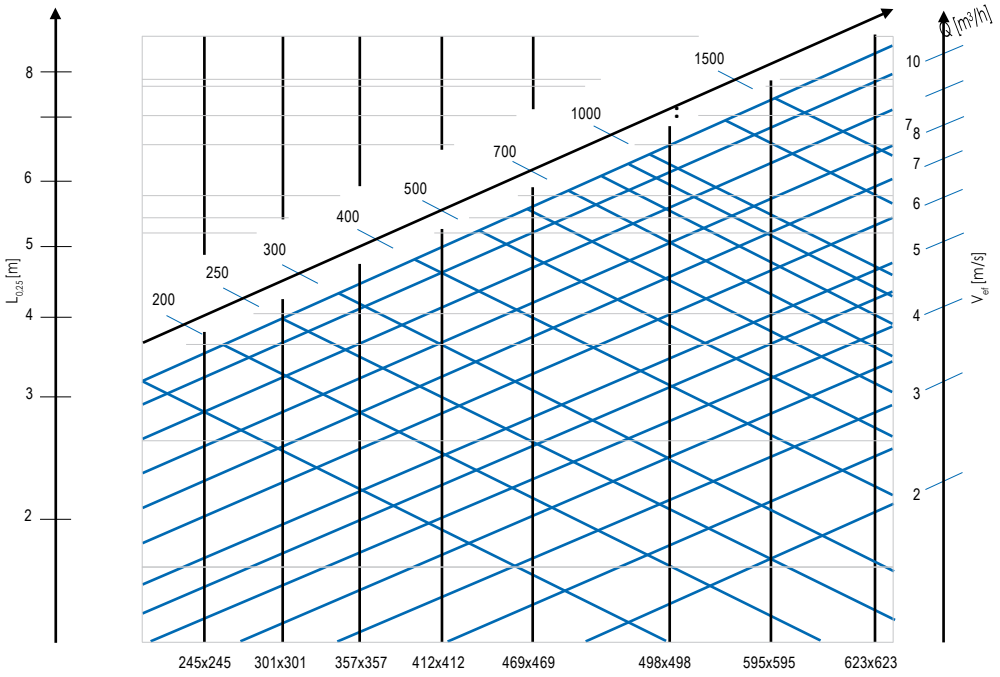
ASW-1-K-P, ASW-3-K-P

Chart for selection exhaust diffusers ASW

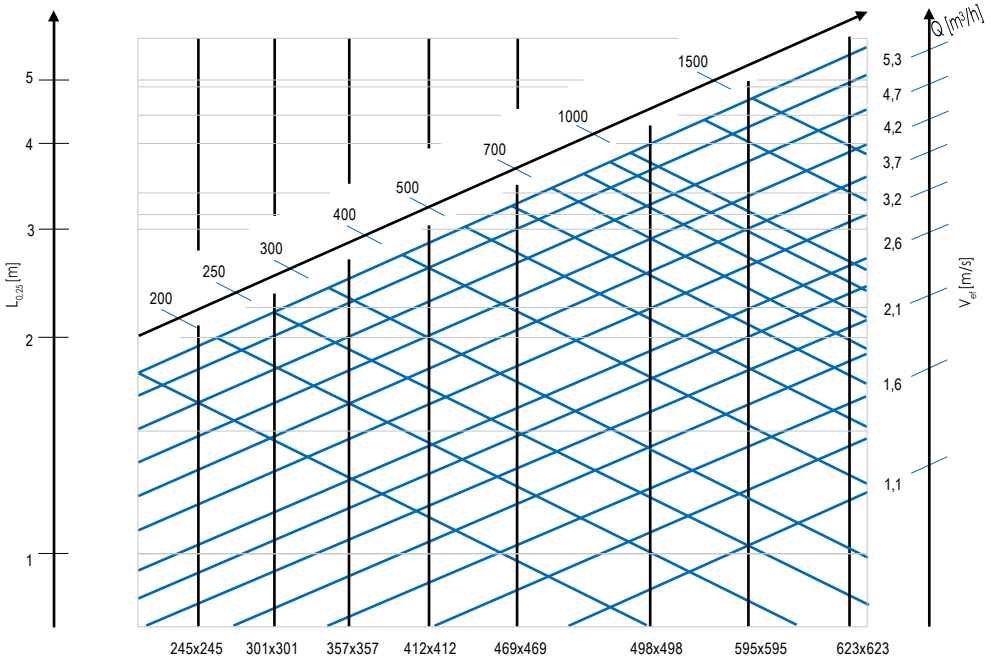
Pressure loss relation (Δp), maximum stream velocity relation (V_{ef}), range of velocity stream V=0,25 m/s ($L_{0,25}$), and a level of acoustic power (L_{WA}) from air stream volume (Q).

⍁A [mm]
245
301
357
412
469
498
595
623

Diffuser ASW-1

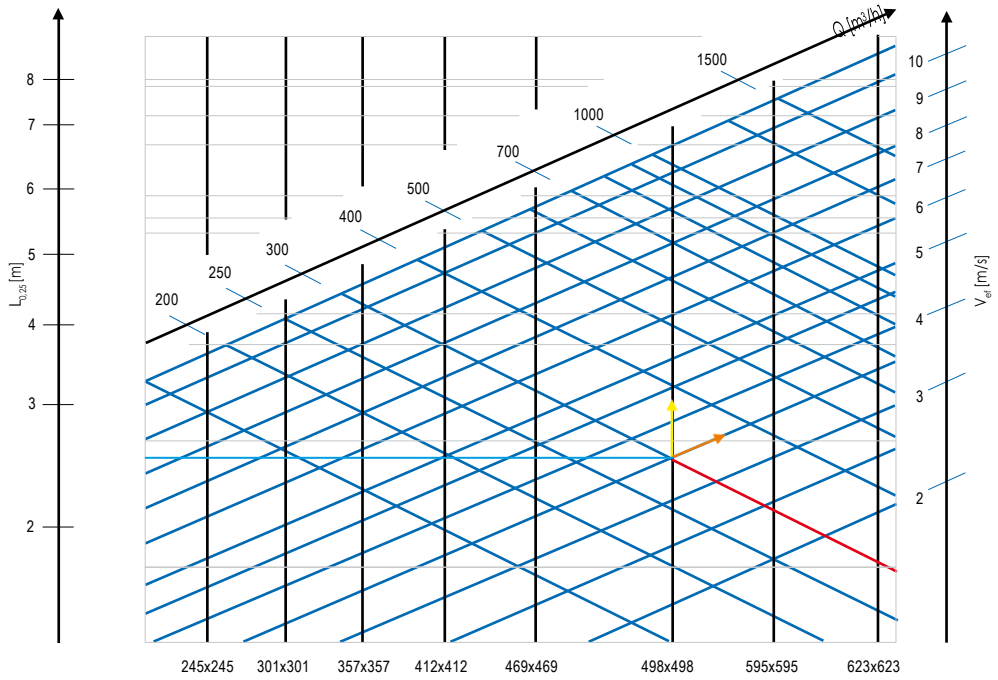


Diffusers ASW-3



Instrucion of using chart for selection exhaust diffusers ASW

Diffuser ASW-1



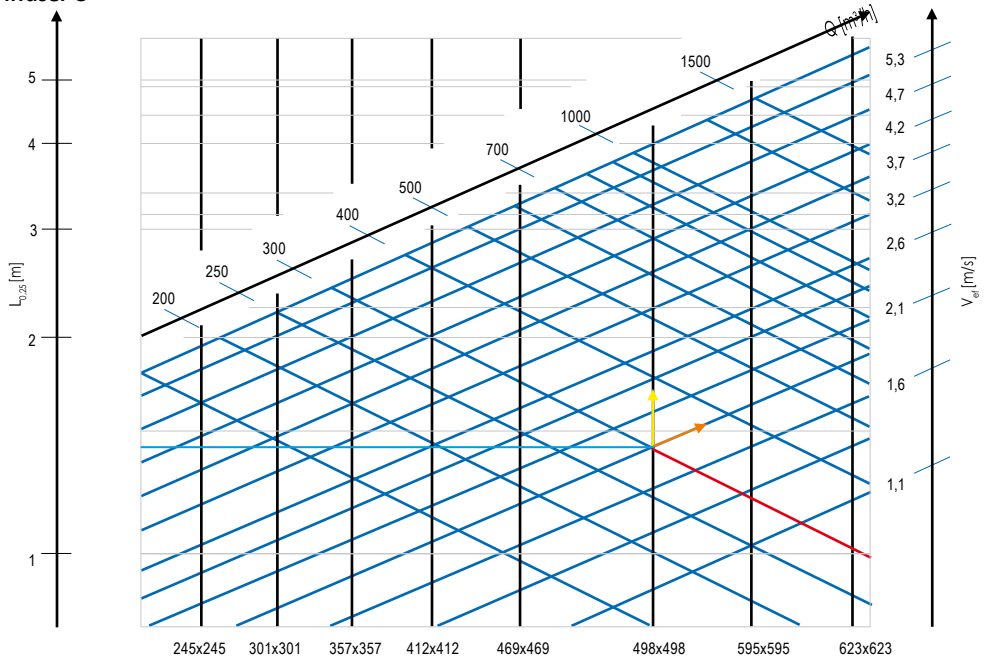
Przykład (kolory zgodne z liniami):

- zadany Air stream volume 300 m³/h
- prędkość przepływu 0,25 m/s w zasięgu L=2,5 m

Odczyt z diagramu:

- wielkość anemostatu 498 x 498
- prędkość wypływu 3,5 m/s

Diffuser-3



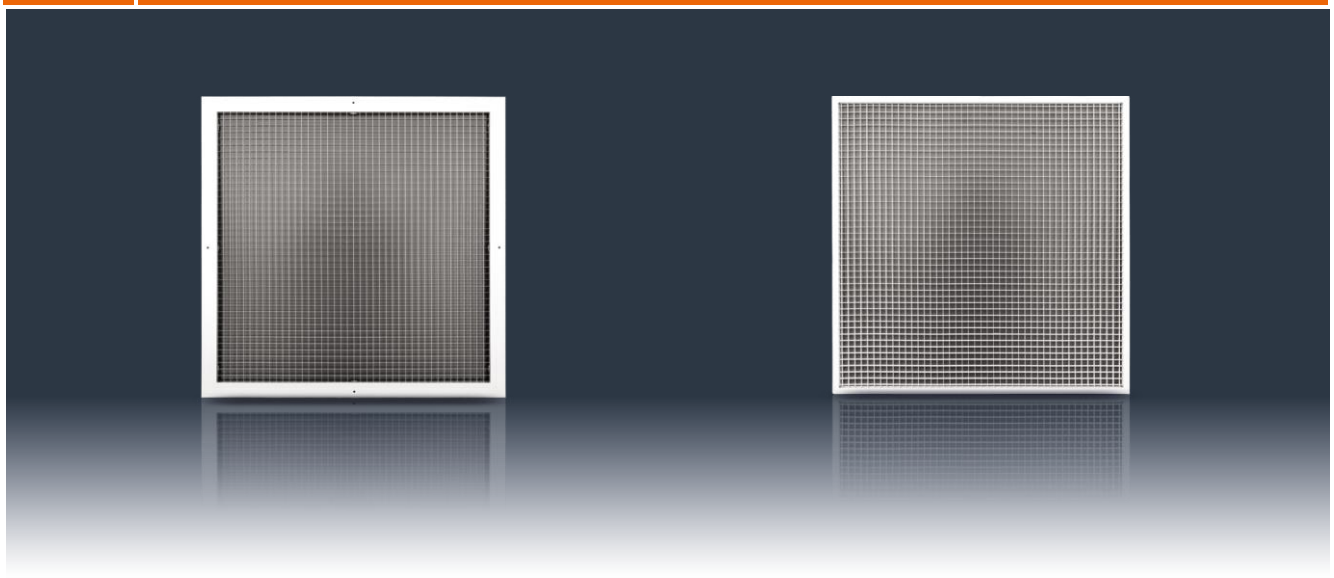
Przykład (kolory zgodne z liniami):

- zadany Air stream volume 300 m³/h
- prędkość przepływu 0,25 m/s w zasięgu L=1,5 m

Odczyt z diagramu:

- wielkość anemostatu 498 x 498
- prędkość wypływu 1,9m/s

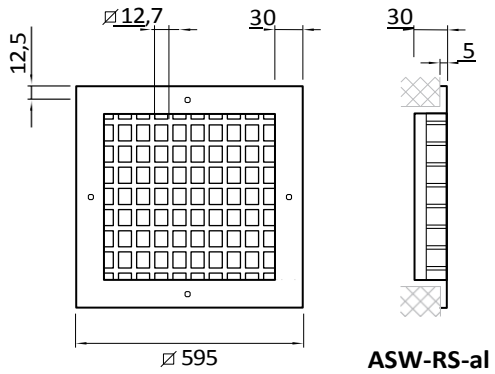
2.1.7. Egg crate diffuser ASW-RS-al



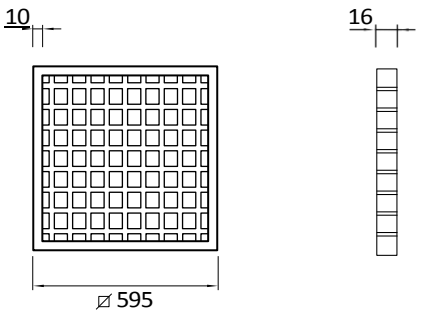
Use:
Exhust in ventilation system.
Assembly:
On rectangular ducts, plenum box or ceiling system.
ASW-RS-al. Visible screws ASW-RS-al.-R with steel frame for lay on ceiling panels.
Construction:
Made from aluminium profiles.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminium (frame) row aluminum (inside) or painting in RAL colour on demand.
Air flow regulation:
With damper P or damper in the intlet of plenum box.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:

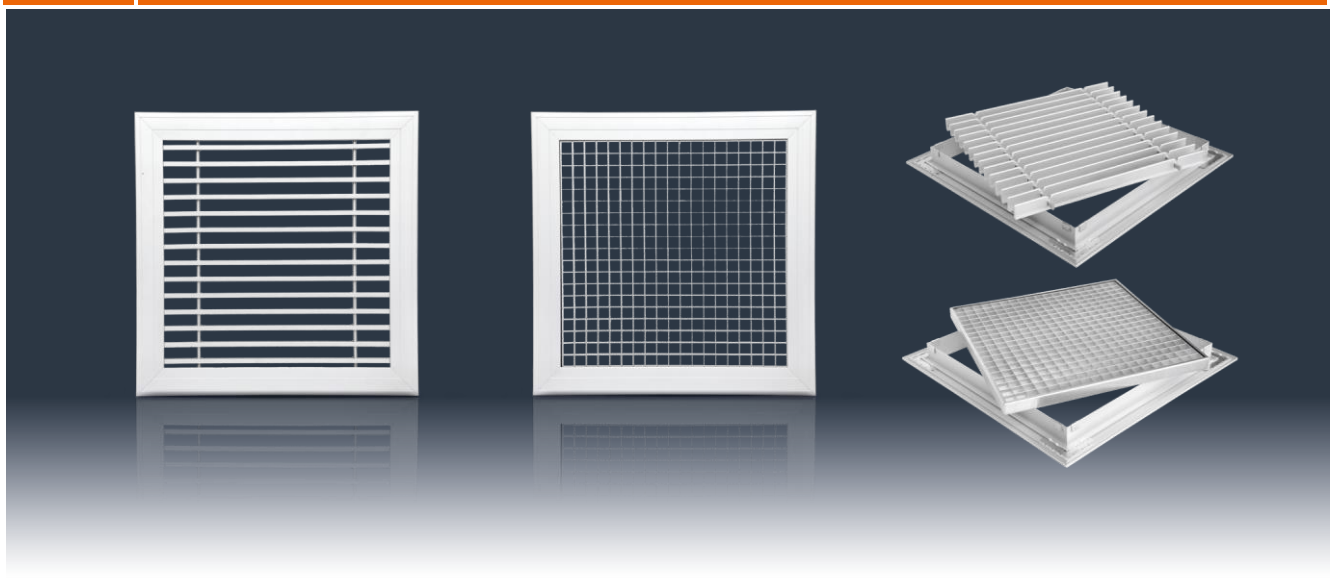


ASW-RS-al



ASW-RS-al-R

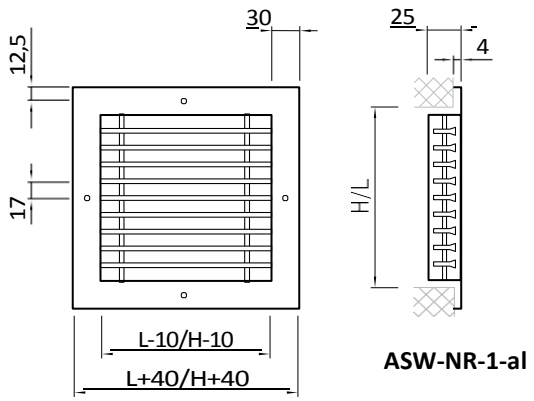
2.1.8. Revision diffuser ASW-NR-al



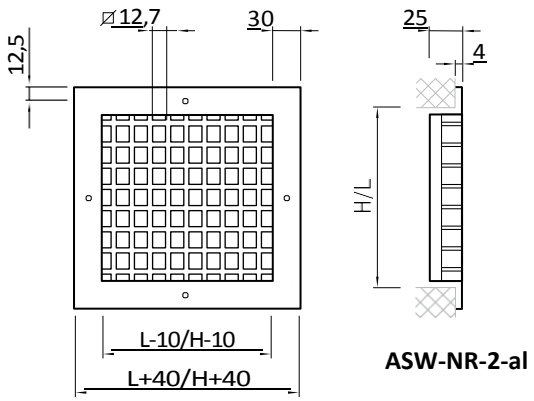
Use:
Exhaust in ventilation system
Assembly:
On rectangular ducts or plenum box.
Construction:
Made from aluminum profiles. Two types of inside elements.
First: fixed blades, second: egg crate.

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum or paintng in RAL colour on demand.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



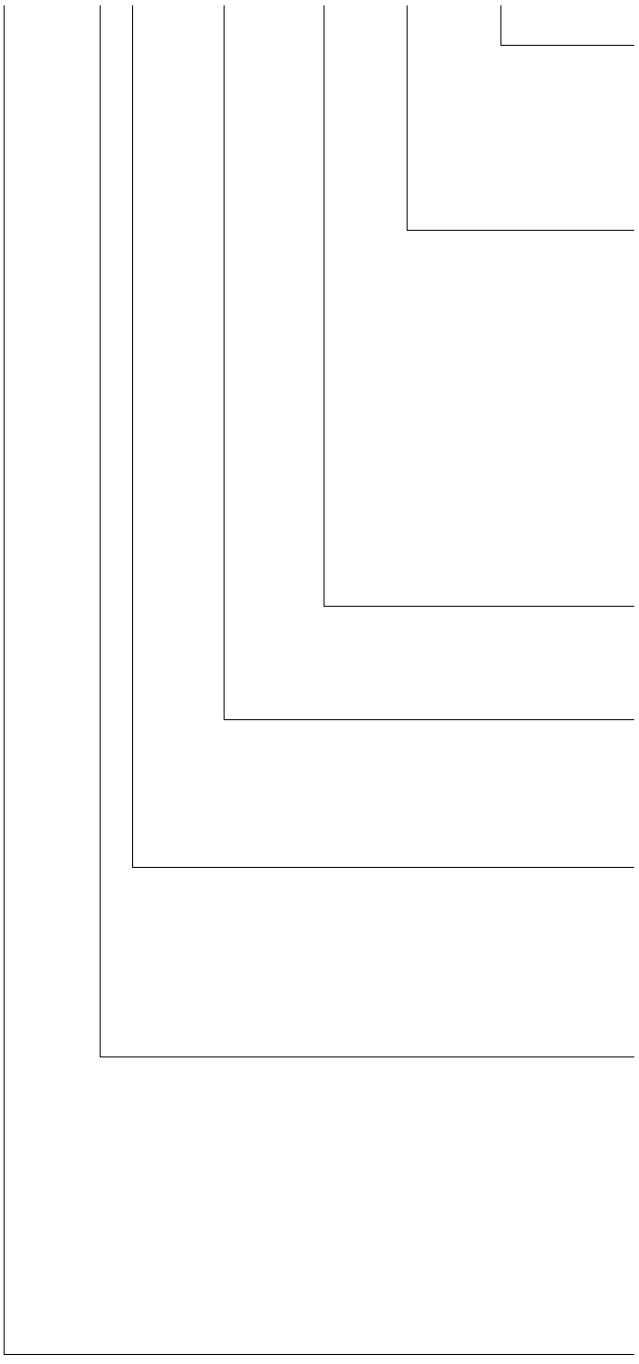
ASW-NR-1-al



ASW-NR-2-al

Product marking ASW

ASW–1–al–P–595×595–RAL–SR/Ø–WMC



Assambly:
Standard – visible screws
WMC - central screws
B - without holes

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plnuem box with damper and isolation
SRIPw - plenum box with damper regulation insside and isolation
Z - additional assambly elements

Surface finish:
Standard - RAL 9003

Dimensions:
External dimension A - Diffusers ASW
External dimension np. A/K - Ceiling system ASW-K

Air flow regulation:
P - galvanized steel damper
P al. - aluminum damper
P ko - stainless steel damper

Material:
Standard - black steel sheet
al - anodized aluminum
alp - aluminum painted in RAL
oc - galvanized steel
ocp - galvaznied steel painted in RAL colour
ko - stainless steel

Type of diffusers

Order's example:
ASW–1–P–595–SR/Ø160–WMC

Diffuser with perforation Ø6 with damper P galv. steel, Dimensions 595x595, standard RAL 9003, plenum box Ø160, central assambly.
If one does not write all details RDJ Klima will make standard one.

2.2.1. Swirl diffusers AWR-1

Use:
Supply in low and medium pressure installations, in non aggressive environment with relative humidity up to 70%. The air stream causes high air entrainment providing ventilation in rooms without draughts. Designed for ventilating rooms between 2,6 and 4,5m high..

Assembly:
In rectangular profile ducts, in plenum boxes and in suspended ceilings. Fitted using visible screws in holes pressed in the front frame, or by the means of a central screw.

Construction:
Steel panel with fixed blades, two supply diameters Ø 350, Ø540 in square panel AWR-1-PK or circular one AWR-1-PO without or with circular neck C.C=30 mm.

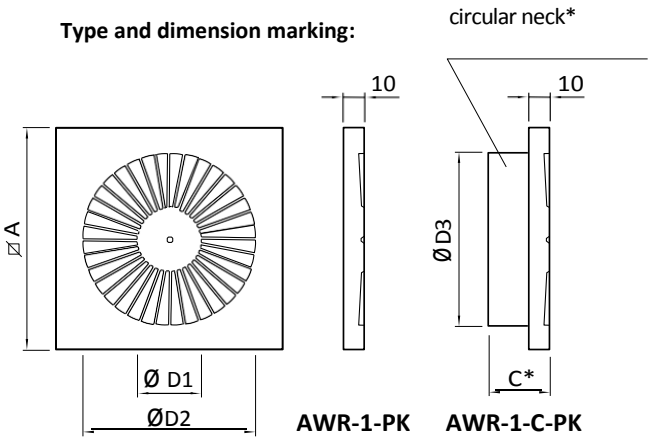
Material:
Black steel sheet, galvanized or aluminum.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

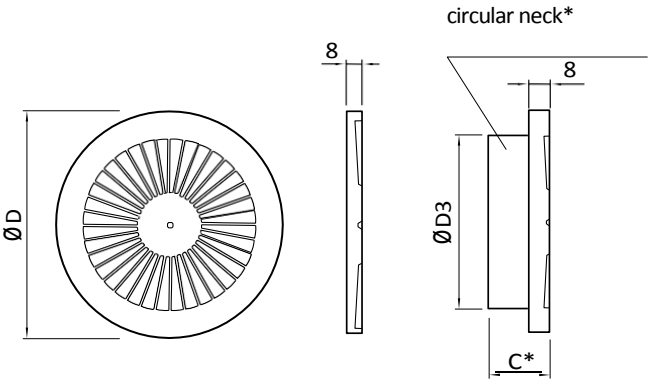
Air flow regulation:
With damper in the inlate of plenum box.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



AWR-1-PK **AWR-1-C-PK**

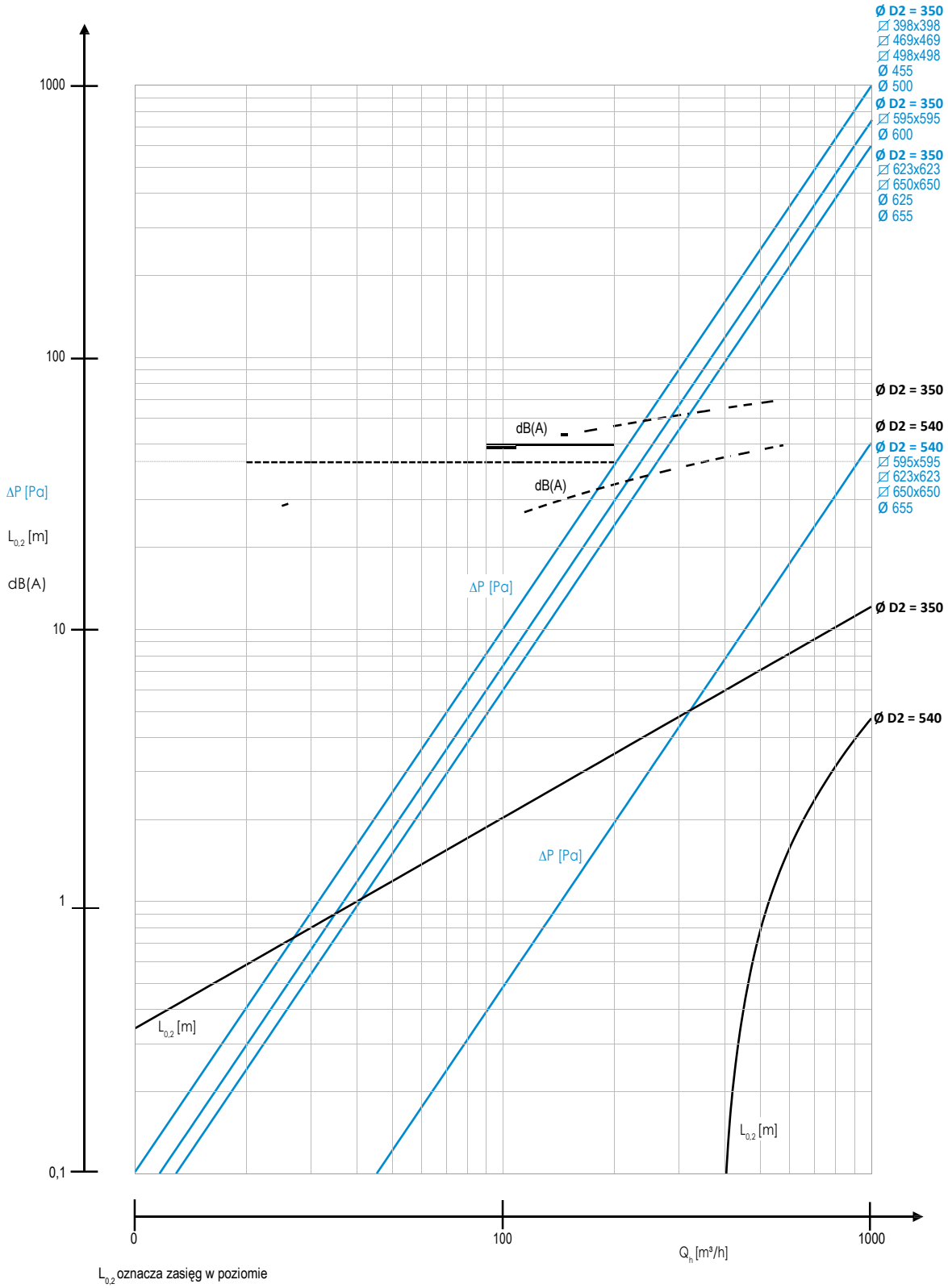


AWR-1-PO **AWR-1-C-PO**

AWR-1 Products range:

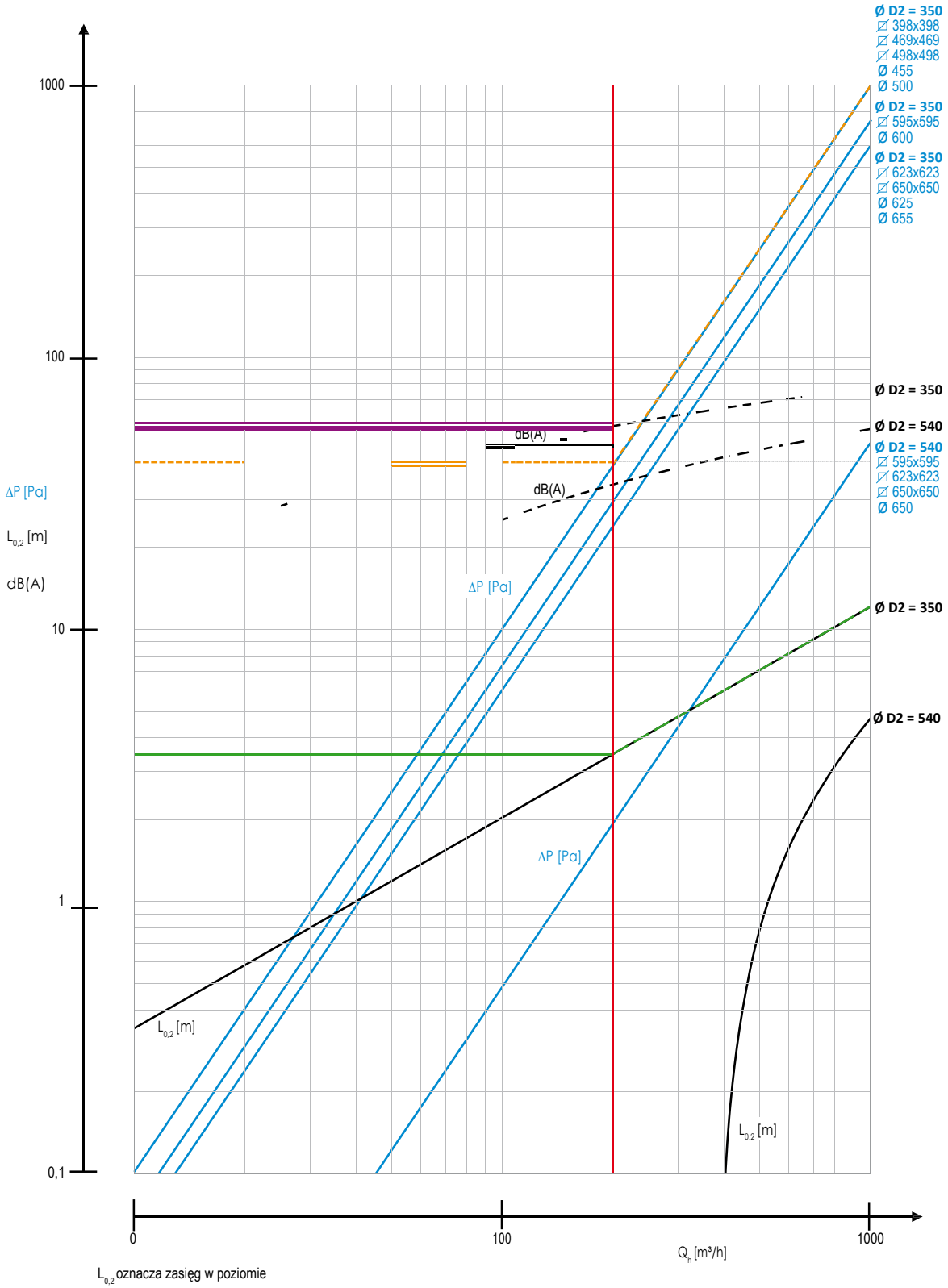
Dimensions		Air supply diameter		Diameter of internal circle	Circular neck diameter C		The arc of blades	
A	Ø D	Ø D1	Ø D2	Ø D3	z	bez	30°	45°
398	-	130	350	355	X	X	X	-
-	455				X	X	X	-
469	-				X	X	X	-
498	-				X	X	X	-
-	500				X	X	X	-
595	-				X	X	X	-
-	600				X	X	X	-
623	-				X	X	X	-
-	625				X	X	X	-
650	-				X	X	X	-
-	655				X	X	X	-
595	-	200	540	545	X	X	-	X
-	600				X	-	-	X
623	-				X	X	-	X
-	625				X	-	-	X
650	-				X	X	-	X
-	655				X	-	-	X
800	800				X	-	-	X

Diagram for selection swirl diffusers AWR-1 (blades arc of supply 30°)



$L_{0,2}$ oznacza zasięg w poziomie

Instruction of using diagram for selection swirl diffusers AWR-1 (blades arc supply 30°)



Przykład:
Air stream volume 200 m³/h dla nawiewnika AWR-1 typu D1 = 130 i D2 = 350 o Dimensionsach 498x498.
Od punktu przecięcia pionowej linii odpowiadającej wydatkowi 200 m³/h (czerwona) z ukośną niebieską linią odpowiadającą nawiewnikowi, prowadzimy poziomą linię (pomarańczową) odczytując stratę ciśnienia 40 Pa.

Z punktu przecięcia pionowej linii wydatku z **czarną linią** zasięgu strumienia odpowiedniego nawiewnika odczytamy zasięg $L_{V=0,2}$ = 3,5 m.
Natomiast z punktu przecięcia linii wydatku z **czarną przerywaną linią** charakterystyki ciśnienia akustycznego odpowiedniego typu nawiewnika odczytamy poziom ciśnienia akustycznego 54 dB(A).

Jeżeli Diffusers zanjdują się w odległości poniżej 4 m od siebie, pomiędzy nimi dojdzie do zwiększenia prędkości. Zasięg zwiększy się 1,8-krotnie. Dla powyższych danych uzyskamy więc zasięg 6,3 m.

Table for selection swirl diffusers AWR-1-PK/PO (blades arc supply 30°)

Ø D2	350 [mm]		
Dimensions	⍁398 ⍁469 ⍁498 Ø 455 Ø 500	⍁595 Ø 600	⍁623 Ø 625 ⍁650 Ø 655
A_{ef} [m²]	0,0138		

Q [m³/h]

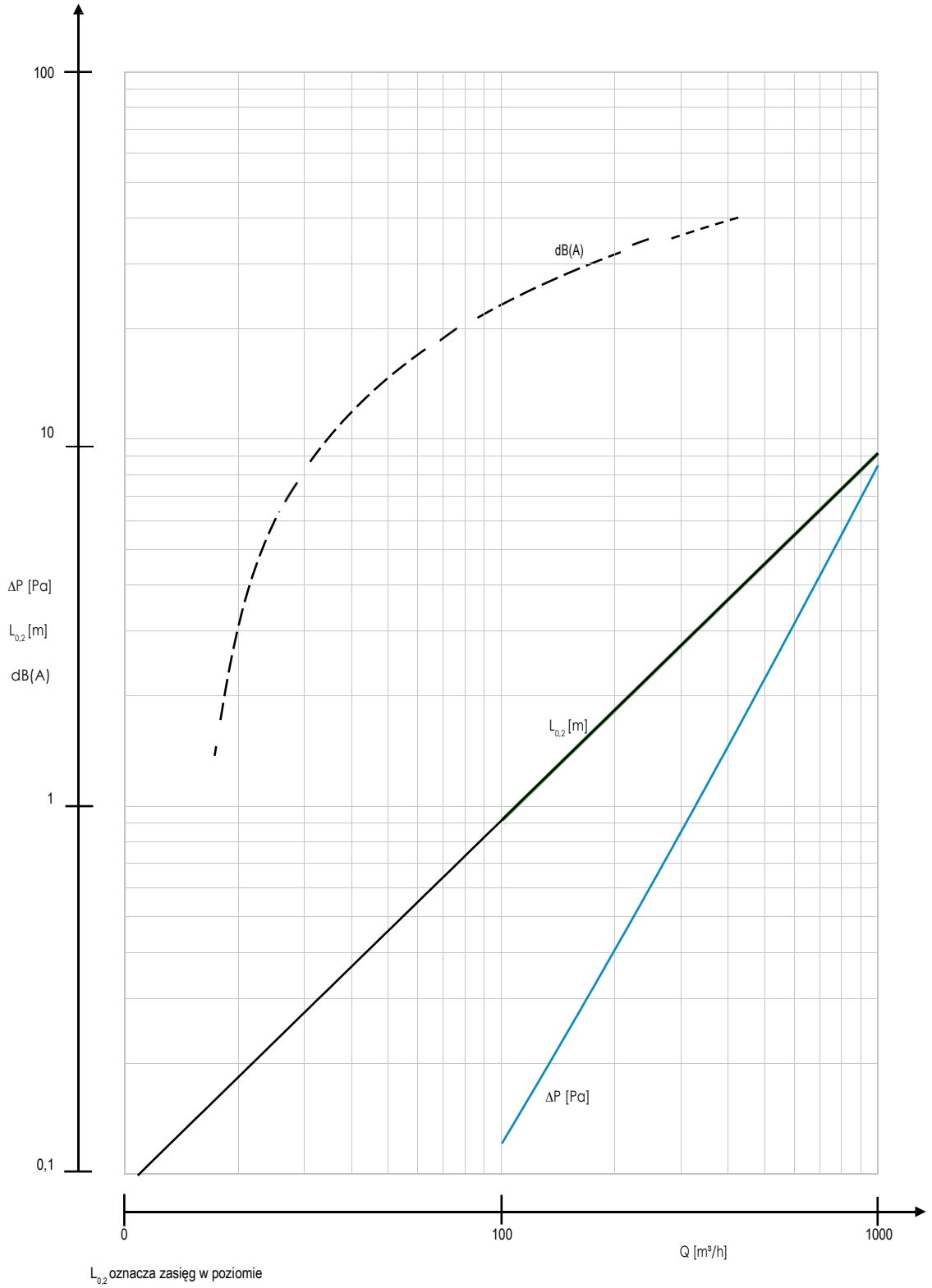
25	$L_{0,2}$ [m]	0,7	0,7	0,7
	V_{max} [m/s]	0,5	0,5	0,5
	$V_{śr}$ [m/s]	0,5	0,5	0,5
	Δp [Pa]	0,6	0,4	0,4
	dB [A]	28	28	28
50	$L_{0,2}$ [m]	1,2	1,2	1,2
	V_{max} [m/s]	1,1	1,1	1,1
	$V_{śr}$ [m/s]	1,0	1,0	1,0
	Δp [Pa]	2,5	1,8	1,5
	dB [A]	37	37	37
75	$L_{0,2}$ [m]	1,6	1,6	1,6
	V_{max} [m/s]	1,7	1,7	1,7
	$V_{śr}$ [m/s]	1,5	1,5	1,5
	Δp [Pa]	5,6	3,9	3,4
	dB [A]	42	42	42
100	$L_{0,2}$ [m]	2,0	2,0	2,0
	V_{max} [m/s]	2,2	2,2	2,2
	$V_{śr}$ [m/s]	2,0	2,0	2,0
	Δp [Pa]	10,0	7,0	6,0
	dB [A]	45	45	45
125	$L_{0,2}$ [m]	2,4	2,4	2,4
	V_{max} [m/s]	2,8	2,8	2,8
	$V_{śr}$ [m/s]	2,5	2,5	2,5
	Δp [Pa]	15,6	10,9	9,4
	dB [A]	48	48	48
150	$L_{0,2}$ [m]	2,8	2,8	2,8
	V_{max} [m/s]	3,4	3,4	3,4
	$V_{śr}$ [m/s]	3,0	3,0	3,0
	Δp [Pa]	22,5	15,8	13,5
	dB [A]	51	51	51
175	$L_{0,2}$ [m]	3,1	3,1	3,1
	V_{max} [m/s]	4,0	4,0	4,0
	$V_{śr}$ [m/s]	3,5	3,5	3,5
	Δp [Pa]	30,6	21,4	18,4
	dB [A]	53	53	53
200	$L_{0,2}$ [m]	3,5	3,5	3,5
	V_{max} [m/s]	4,6	4,6	4,6
	$V_{śr}$ [m/s]	4,0	4,0	4,0
	Δp [Pa]	40,0	28,0	24,0
	dB [A]	54	54	54
250	$L_{0,2}$ [m]	4,1	4,1	4,1
	V_{max} [m/s]	5,8	5,8	5,8
	$V_{śr}$ [m/s]	5,0	5,0	5,0
	Δp [Pa]	62,5	43,8	37,5
	dB [A]	57	57	57
300	$L_{0,2}$ [m]	4,8	4,8	4,8
	V_{max} [m/s]	7,0	7,0	7,0
	$V_{śr}$ [m/s]	6,0	6,0	6,0
	Δp [Pa]	90,0	63,0	54,0
	dB [A]	60	60	60

Ø D2	350 [mm]		
Dimensions	⍁398 ⍁469 ⍁498 Ø 455 Ø 500	⍁595 Ø 600	⍁623 Ø 625 ⍁650 Ø 655
A_{ef} [m²]	0,0138		

Q [m³/h]

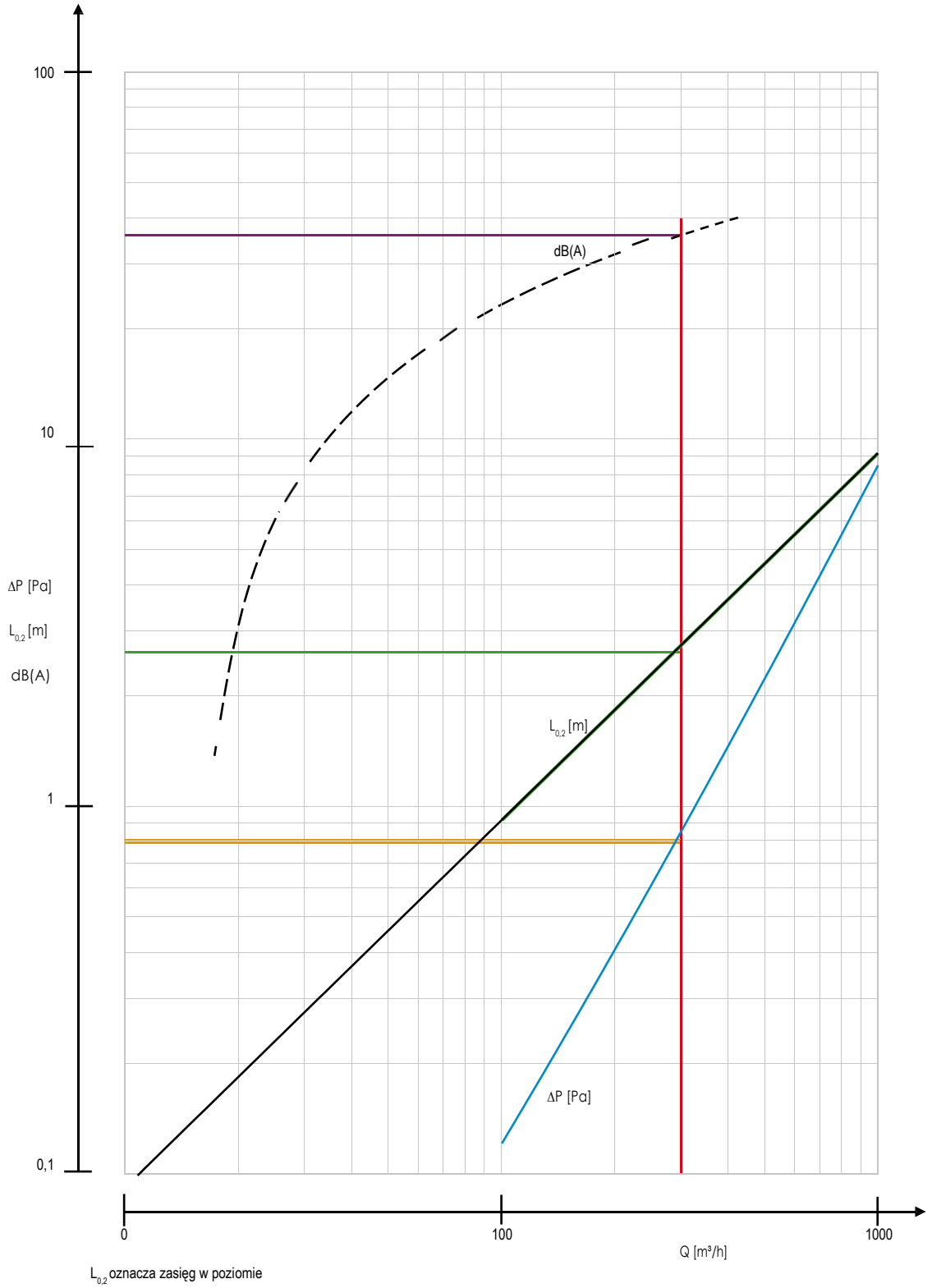
350	$L_{0,2}$ [m]	5,4	5,4	5,4
	V_{max} [m/s]	8,2	8,2	8,2
	$V_{śr}$ [m/s]	7,0	7,0	7,0
	Δp [Pa]	122,5	85,8	73,5
	dB [A]	61	61	61
400	$L_{0,2}$ [m]	6,0	6,0	6,0
	V_{max} [m/s]	9,4	9,4	9,4
	$V_{śr}$ [m/s]	8,1	8,1	8,1
	Δp [Pa]	160,0	112,0	96,0
	dB [A]	63	63	63
450	$L_{0,2}$ [m]	6,5	6,5	6,5
	V_{max} [m/s]	10,6	10,6	10,6
	$V_{śr}$ [m/s]	9,1	9,1	9,1
	Δp [Pa]	202,5	141,8	121,5
	dB [A]	65	65	65
500	$L_{0,2}$ [m]	7,1	7,1	7,1
	V_{max} [m/s]	11,8	11,8	11,8
	$V_{śr}$ [m/s]	10,1	10,1	10,1
	Δp [Pa]	250,0	175,0	150,0
	dB [A]	66	66	66
600	$L_{0,2}$ [m]	8,2	8,2	8,2
	V_{max} [m/s]	14,3	14,3	14,3
	$V_{śr}$ [m/s]	12,1	12,1	12,1
	Δp [Pa]	360,0	252,0	216,0
	dB [A]	68	68	68
700	$L_{0,2}$ [m]	9,2	9,2	9,2
	V_{max} [m/s]	16,7	16,7	16,7
	$V_{śr}$ [m/s]	14,1	14,1	14,1
	Δp [Pa]	490,0	343,0	294,0
	dB [A]	70	70	70
800	$L_{0,2}$ [m]	10,2	10,2	10,2
	V_{max} [m/s]	19,2	19,2	19,2
	$V_{śr}$ [m/s]	16,1	16,1	16,1
	Δp [Pa]	640,0	448,0	384,0
	dB [A]	72	72	72
900	$L_{0,2}$ [m]	11,2	11,2	11,2
	V_{max} [m/s]	21,7	21,7	21,7
	$V_{śr}$ [m/s]	18,1	18,1	18,1
	Δp [Pa]	810,0	567,0	486,0
	dB [A]	74	74	74
1000	$L_{0,2}$ [m]	12,1	12,1	12,1
	V_{max} [m/s]	24,2	24,2	24,2
	$V_{śr}$ [m/s]	20,1	20,1	20,1
	Δp [Pa]	1000,0	700,0	600,0
	dB [A]	75	75	75

Diagram for selection swirl diffusers AWR-1-C-PK/PO-540/45 and AWR-1-PK/PO-540/45 (with and without circular neck C)



$L_{0,2}$ oznacza zasięg w poziomie

Instruction of using chart for selection swirl diffusers AWR-1-C-PK/PO-540/45 and AWR-1-PK/PO-540/45 (with or without circular neck C)



Przykład:

Poniższy diagram dotyczy wyłącznie typu z lamelkami pod kątem 45°, średnicy D1 = 200 mm i D2 = 540 mm (z i bez pierścienia skupiającego).

- Zadany wydatek Q_h = 300 m³/h – prowadzimy pionową linię do przecięcia z ukośnymi liniami. Jedna z linii odpowiada za charakterystykę straty ciśnienia ΔP, **druga za charakterystykę zasięgu strumienia o prędkości 0,2 m/s**. Linia czarna przerywana wskazuje poziom ciśnienia akustycznego. Wartości odczytujemy na osi pionowej.
- Na poziomej osi odczytujemy stratę ciśnienia – ΔP = 0,8 Pa, zasięg $L_{V=0,2}$ = 2,7 m, oraz poziom ciśnienia akustycznego 36 dB(A).

Table for selection swirl diffusers AWR-1-C-PK/PO-540/45 and AWR-1-PK/PO-540/45 (with or without circular neck C)

Typ	540/45
A_{ef} [m²]	0,0819

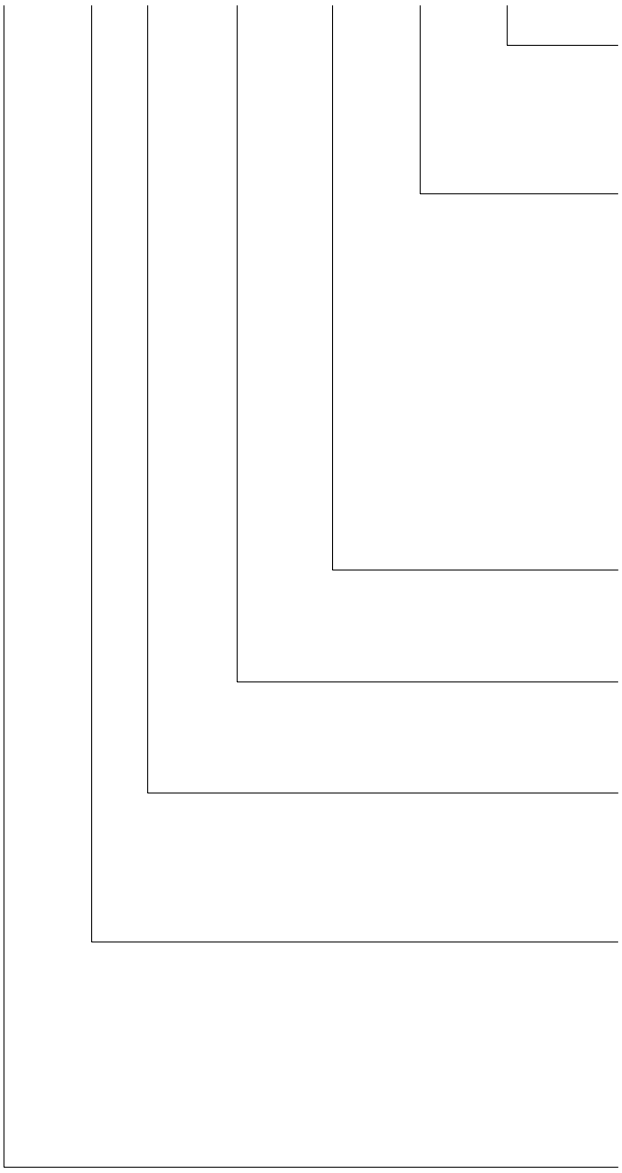
Q [m³/h]		
100	$L_{0,2}$ [m]	0,9
	V_{max} [m/s]	0,4
	$V_{śr}$ [m/s]	0,3
	Δp [Pa]	0,1
	dB [A]	22,7
150	$L_{0,2}$ [m]	1,3
	V_{max} [m/s]	0,7
	$V_{śr}$ [m/s]	0,5
	Δp [Pa]	0,2
	dB [A]	27,6
200	$L_{0,2}$ [m]	1,8
	V_{max} [m/s]	0,9
	$V_{śr}$ [m/s]	0,7
	Δp [Pa]	0,4
	dB [A]	31,1
250	$L_{0,2}$ [m]	2,2
	V_{max} [m/s]	1,1
	$V_{śr}$ [m/s]	0,9
	Δp [Pa]	0,6
	dB [A]	33,8
300	$L_{0,2}$ [m]	2,7
	V_{max} [m/s]	1,3
	$V_{śr}$ [m/s]	1,0
	Δp [Pa]	0,8
	dB [A]	36,0
350	$L_{0,2}$ [m]	3,1
	V_{max} [m/s]	1,6
	$V_{śr}$ [m/s]	1,2
	Δp [Pa]	1,1
	dB [A]	37,9
400	$L_{0,2}$ [m]	3,5
	V_{max} [m/s]	1,8
	$V_{śr}$ [m/s]	1,4
	Δp [Pa]	1,4
	dB [A]	39,5
500	$L_{0,2}$ [m]	4,4
	V_{max} [m/s]	2,2
	$V_{śr}$ [m/s]	1,7
	Δp [Pa]	2,1
	dB [A]	42,2

Typ	540/45
A_{ef} [m²]	0,0819

Q [m³/h]		
600	$L_{0,2}$ [m]	5,3
	V_{max} [m/s]	2,7
	$V_{śr}$ [m/s]	2,0
	Δp [Pa]	3,0
	dB [A]	44,4
700	$L_{0,2}$ [m]	6,2
	V_{max} [m/s]	3,1
	$V_{śr}$ [m/s]	2,4
	Δp [Pa]	4,1
	dB [A]	46,3
800	$L_{0,2}$ [m]	7,1
	V_{max} [m/s]	3,6
	$V_{śr}$ [m/s]	2,7
	Δp [Pa]	5,3
	dB [A]	47,9
900	$L_{0,2}$ [m]	8,0
	V_{max} [m/s]	4,0
	$V_{śr}$ [m/s]	3,1
	Δp [Pa]	6,7
	dB [A]	49,4
1000	$L_{0,2}$ [m]	8,8
	V_{max} [m/s]	4,5
	$V_{śr}$ [m/s]	3,4
	Δp [Pa]	8,2
	dB [A]	50,6
1100	$L_{0,2}$ [m]	9,7
	V_{max} [m/s]	4,9
	$V_{śr}$ [m/s]	3,8
	Δp [Pa]	9,9
	dB [A]	51,8
1200	$L_{0,2}$ [m]	10,6
	V_{max} [m/s]	5,4
	$V_{śr}$ [m/s]	4,1
	Δp [Pa]	11,7
	dB [A]	52,9

Product marking AWR-1

AWR–1–alp–PK–595/540–RAL–SR/Ø–WMC



Assambly:
WMC - central screws

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper regulation inside and isolation
Z - additional assambly elements

Surface finish:
Standard - RAL 9003

Dimensions:
External dimensions A/D - swirl diffuser

Panels:
PK - square panel
PO - circular panel

Materials:
Standard - black steel sheet
alp - aluminum painted in RAL colour
oc - galvanized steel
ocp - galvanized steel painted in RAL colour

Type of diffusers

Order's example:
AWR–1–C–PK–595x595/540–SR/Ø160

Swirl diffuser with circular neck C, Dimensions 595 supply diameter 540 with plenum box Ø160, standard RAL 9003.
If one does not write all details RDJ Klima will make standard one.

2.2.2. Circular swirl diffusers AWR-2, AWR-2-K

Use:
Supply or air exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. The air stream causes high air entrainment providing ventilation in rooms without draughts.
Recommend for cold air supply

Assembly:
On circular ducts. For plenum box central screw or ceiling system AWR-2-K.

Construction:
Made from steel profiles. Fixed blades.

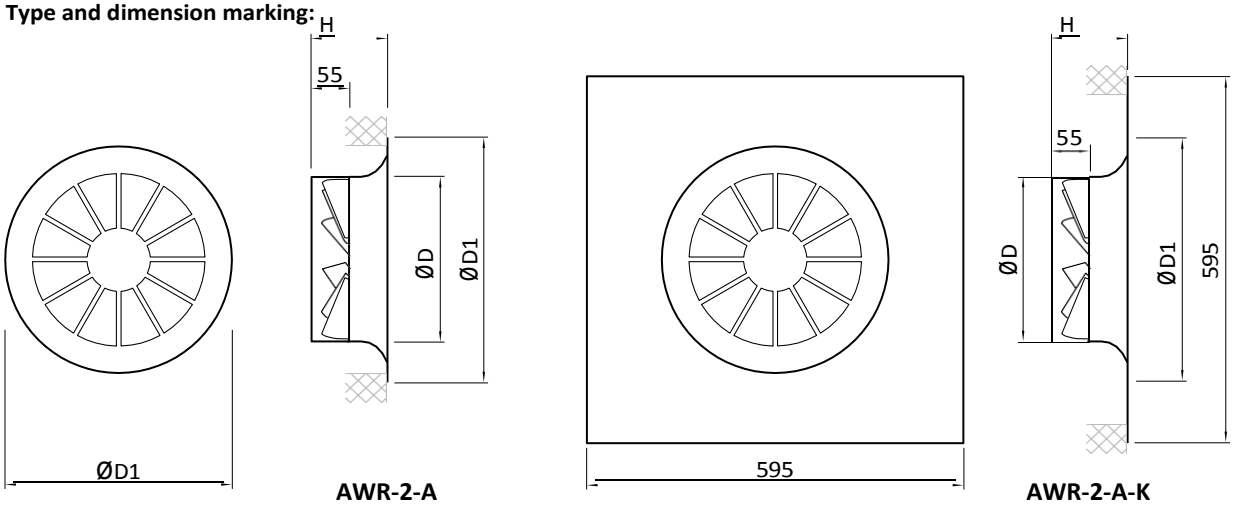
Material:
Black steel

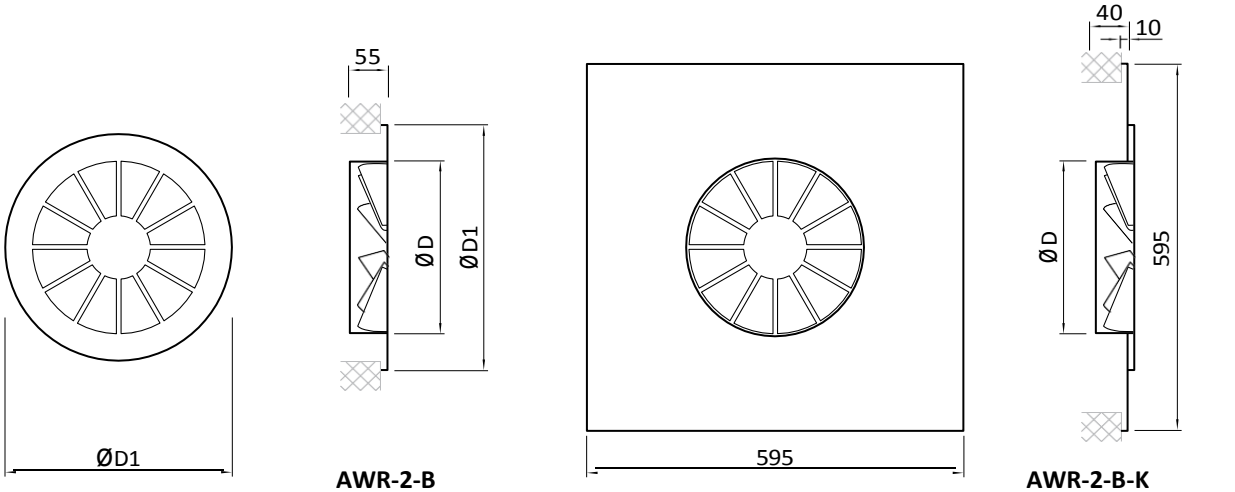
Surface finish
Standard RAL 9010. Other RAL colour on demand

Air flow regulation:
With damper in inlet of plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:





Circular swirl diffusers AWR-2 – technical data

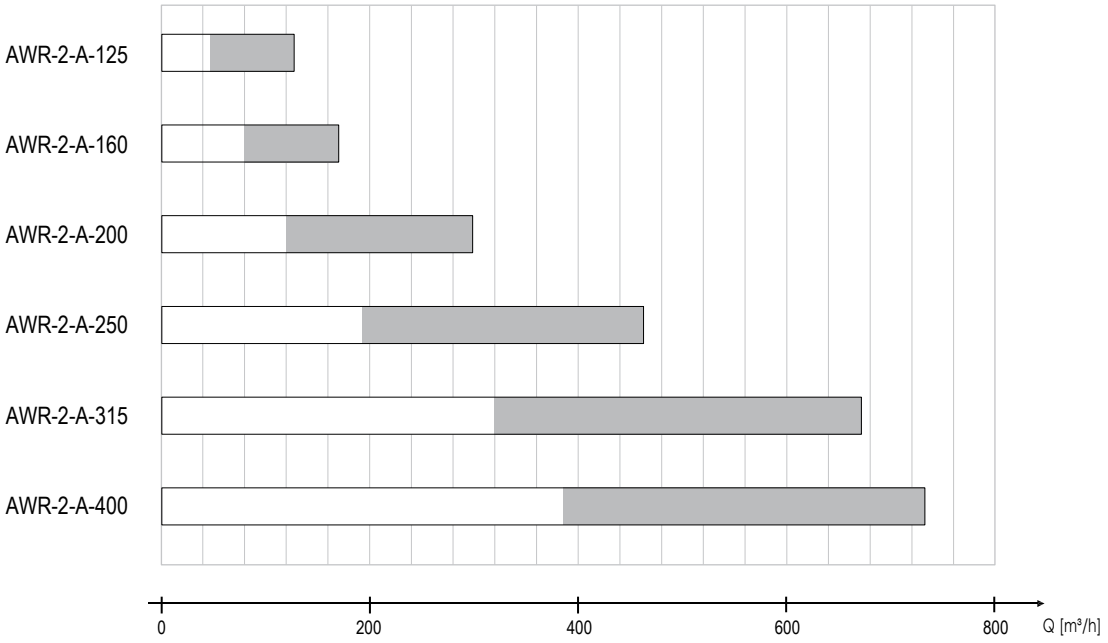
Products range:

Dimensions	AWR-2-A			AWR-2-B		
	Ø D	Ø D1	H	Ø D	Ø D1	H
125	122	225	82	122	171	55
160	157	250		157	214	
200	197	300		197	264	
250	247	350	85	247	326	
315	312	415		312	404	
400	398	520	103	398	500	

Select table AWR-2-A:

Dimensions	Air stream Q [m³/h]	Pressure loss Δp [Pa]	Accustic level L_{WA} [dB(A)]	Length $L_{0,2}$ [m]
125	60 - 130	20 - 90	<20 - 44	0,8 - 1,8
160	80 - 170	10 - 43	<20 - 45	0,8 - 1,7
200	120 - 300	9 - 50	<20 - 45	0,9 - 2,0
250	190 - 460	8 - 47	<20 - 45	1,4 - 2,6
315	320 - 670	9 - 37	<20 - 45	1,5 - 2,5
400	380-730	14 - 44	<20 - 45	1,8 - 3,0

Range of use AWR-2-A:

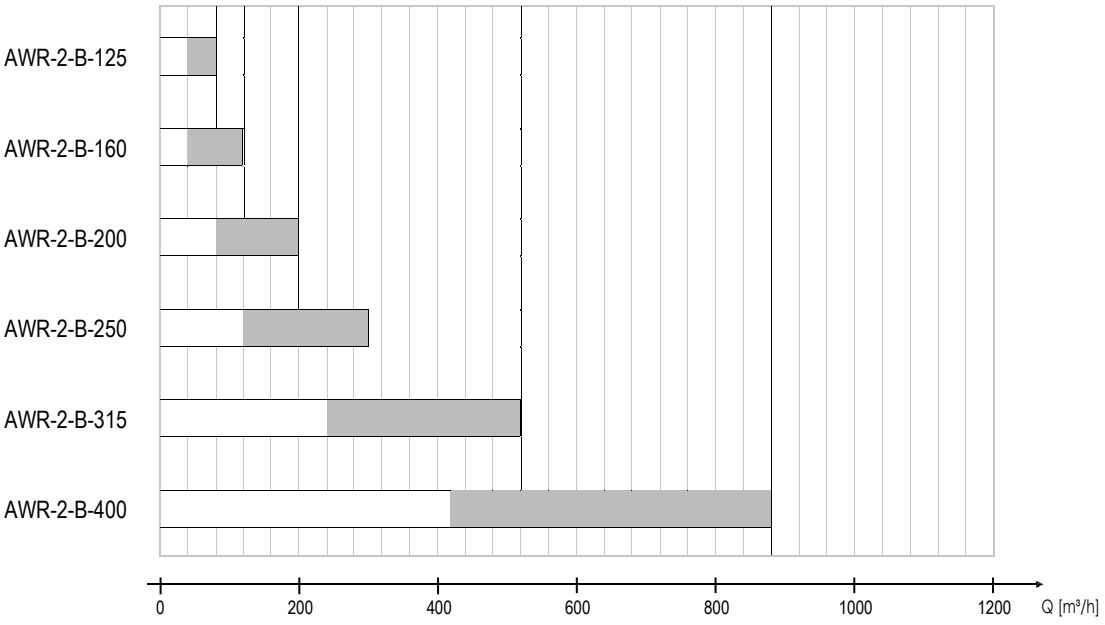


Circular swirl diffuser AWR-2 – technical data

Select table AWR-2-B:

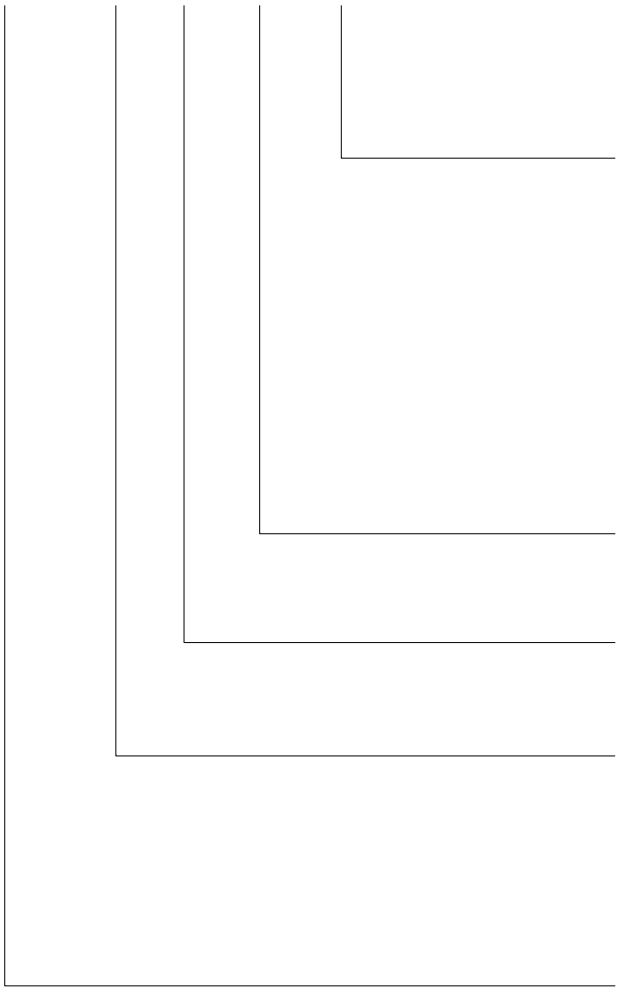
Wielkość	Strumień powietrza Q [m³/h]	Spadek ciśnienia Δp [Pa]	Poziom hałasu L_{WA} [dB(A)]	Zasięg poziomy $L_{0,2}$ [m]
125	30 - 90	5 - 36	<20 - 44	0,8 - 3,2
160	50 - 120	4 - 25	<20 - 45	1,2- 3,1
200	90 - 210	6 - 31	<20 - 45	1,6 - 3,6
250	130 - 310	4 - 21	<20 - 45	2,2 - 4,5
315	250 - 520	6 - 26	<20 - 45	2,8 - 4,9
400	420 - 890	6 - 29	<20 - 45	3,6 - 6,0

Range of use AWR-2-B:



Product marking AWR-2

AWR–2–A–K–Ø200–RAL–SR/Ø



Assamby:
Standard - central screw

Plenum box / diameter:
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper regulation inside and isolation
Z - additional assambly elements

Finish surface:
Standard - RAL 9010

Dimensions:
Dimensions diameter Ø - circular swirl diffuser AWR-2

Front pane:
K - ceiling system 595x595

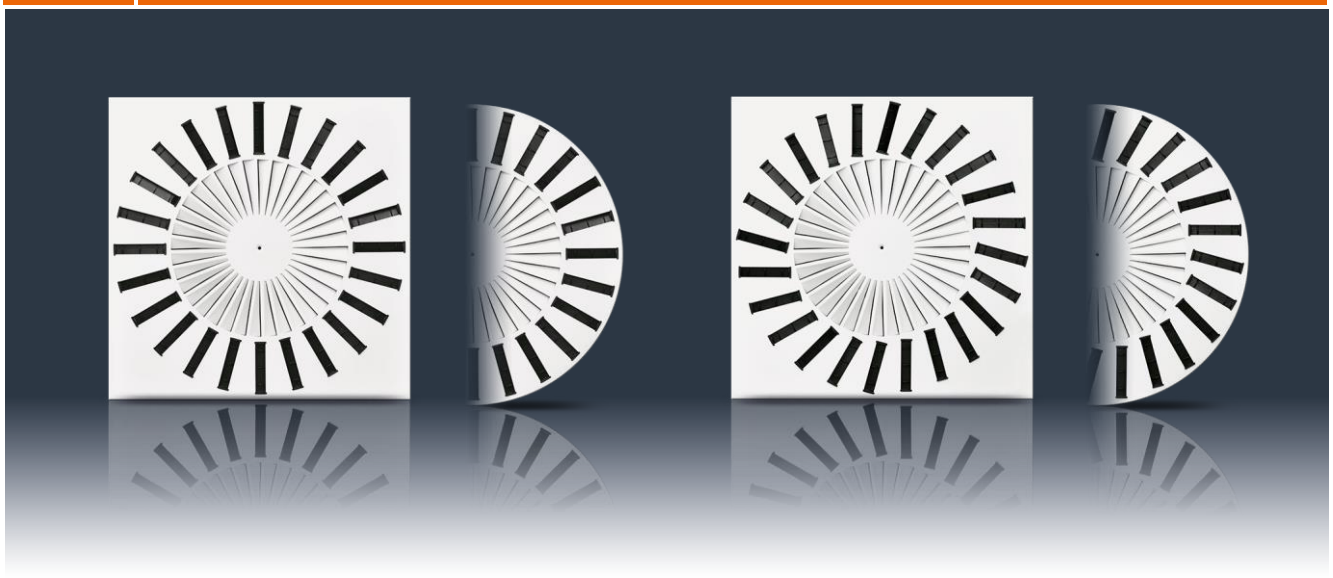
Material:
Standard - black steel sheet painted RAL 9010

Type of diffusers

Przykład zamówienia:
AWR–2–A–K–Ø200–SR/Ø160

Ceiling system diffuser Ø200, with plenum box Ø160, RAL 9010. If one does not write all details RDJ Klima will make standard one.

2.2.3. Mixed swirl diffuser AWR-3



Use:
Supply or Exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%.Recommended for horizontal air supply in rooms up to approximately 4 m.

Assembly:
On rectangular ducts, in plenum box with central screw.

Construction:
Steel panel with pressed fixed blades and air outlet diameter Ø 350 in square panel AWR-3-PK or circular AWR-3-PO, as well as radially placed vents (standard number of vents 16, 24 and 32), adjustable (recommended adjustment: 45°).

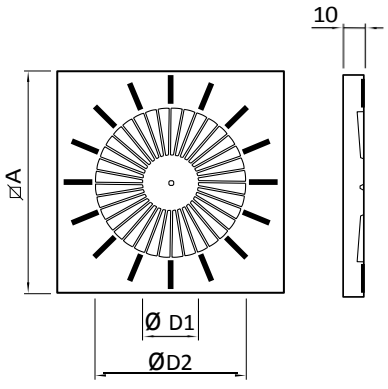
Material:
Black steel sheet, galvanized steel, aluminum.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

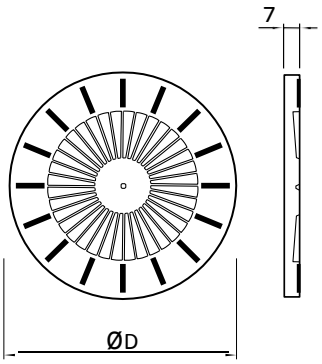
Air flow regulation:
With damper in inlet of plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:

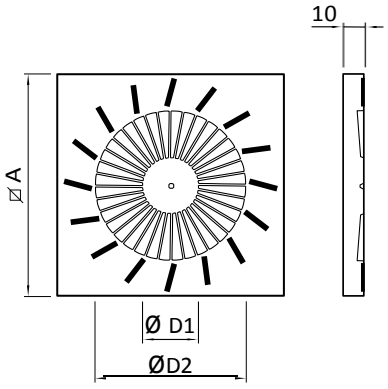


AWR-3-1-PK

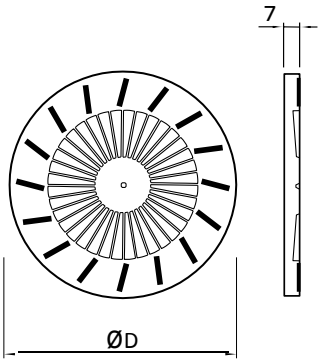


AWR-3-1-PO

⍁ A	Ø D1	Ø D2	Ø D
595	130	350	600
623			625



AWR-3-2-PK



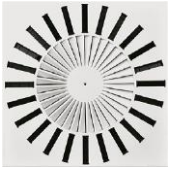
AWR-3-2-PO

Typ	600/625-16	600/625-24	600/625-32
A_{ef} (m²)	0,0438	0,0496	0,0708

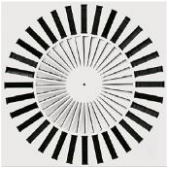
A_{ef} – free area of whole diffuser depands on plastic elements

Mixed swirl diffuser AWR-3 - varianty

AWR-3-1-PK/600-16 /625-16*



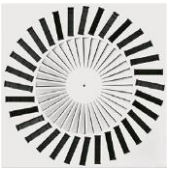
AWR-3-1-PK/600-24 /625-24*



AWR-3-1-PK/600-32 /625-32*

AWR-3-2-PK/600-16 /625-16*

AWR-3-2-PK/600-24 /625-24*



AWR-3-2-PK/600-32 /625-32*

AWR-3-1-PO/600-16 /625-16*

AWR-3-1-PO/600-24 /625-24*

AWR-3-1-PO/600-32 /625-32*

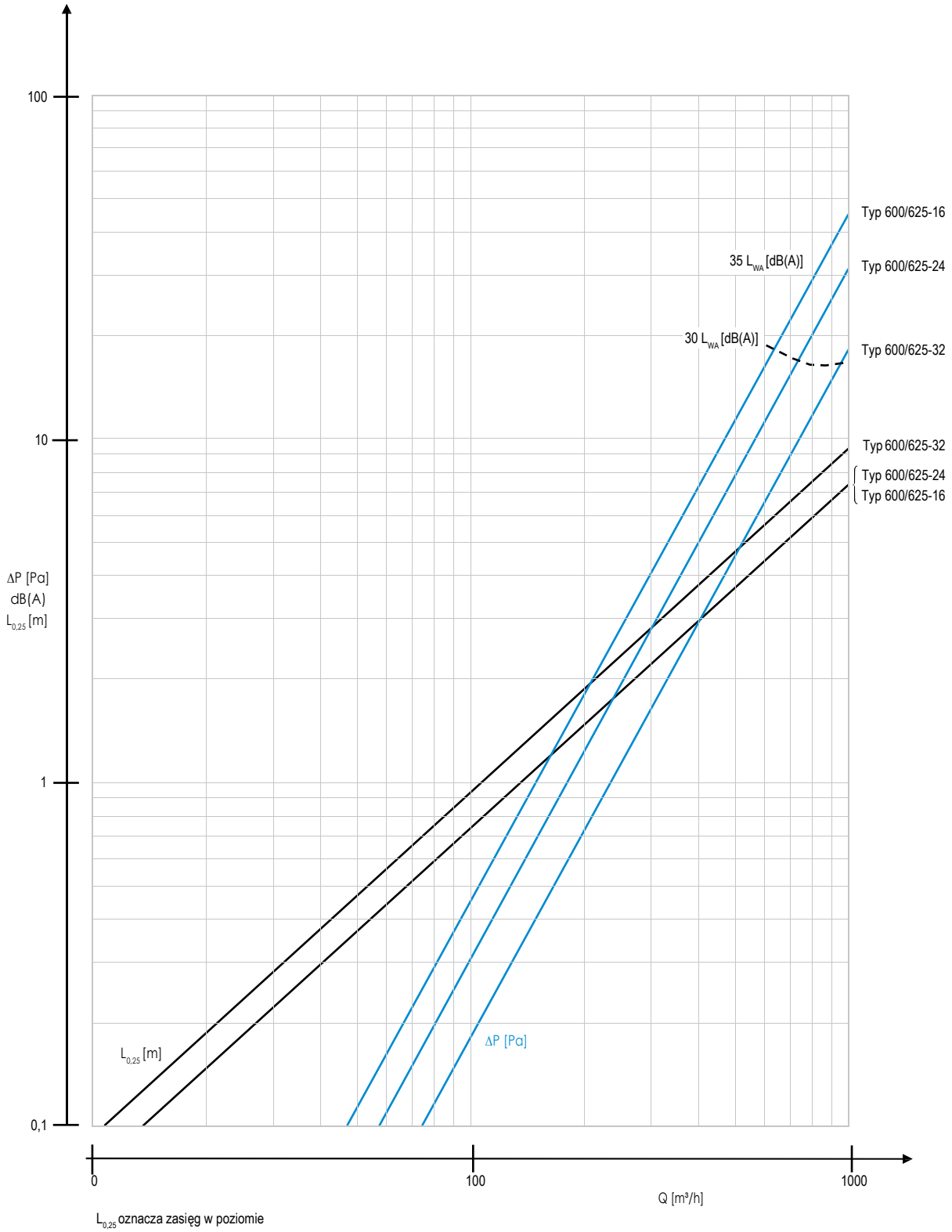
AWR-3-2-PO/600-16 /625-16*

AWR-3-2-PO/600-24 /625-24*

AWR-3-2-PO/600-32 /625-32*

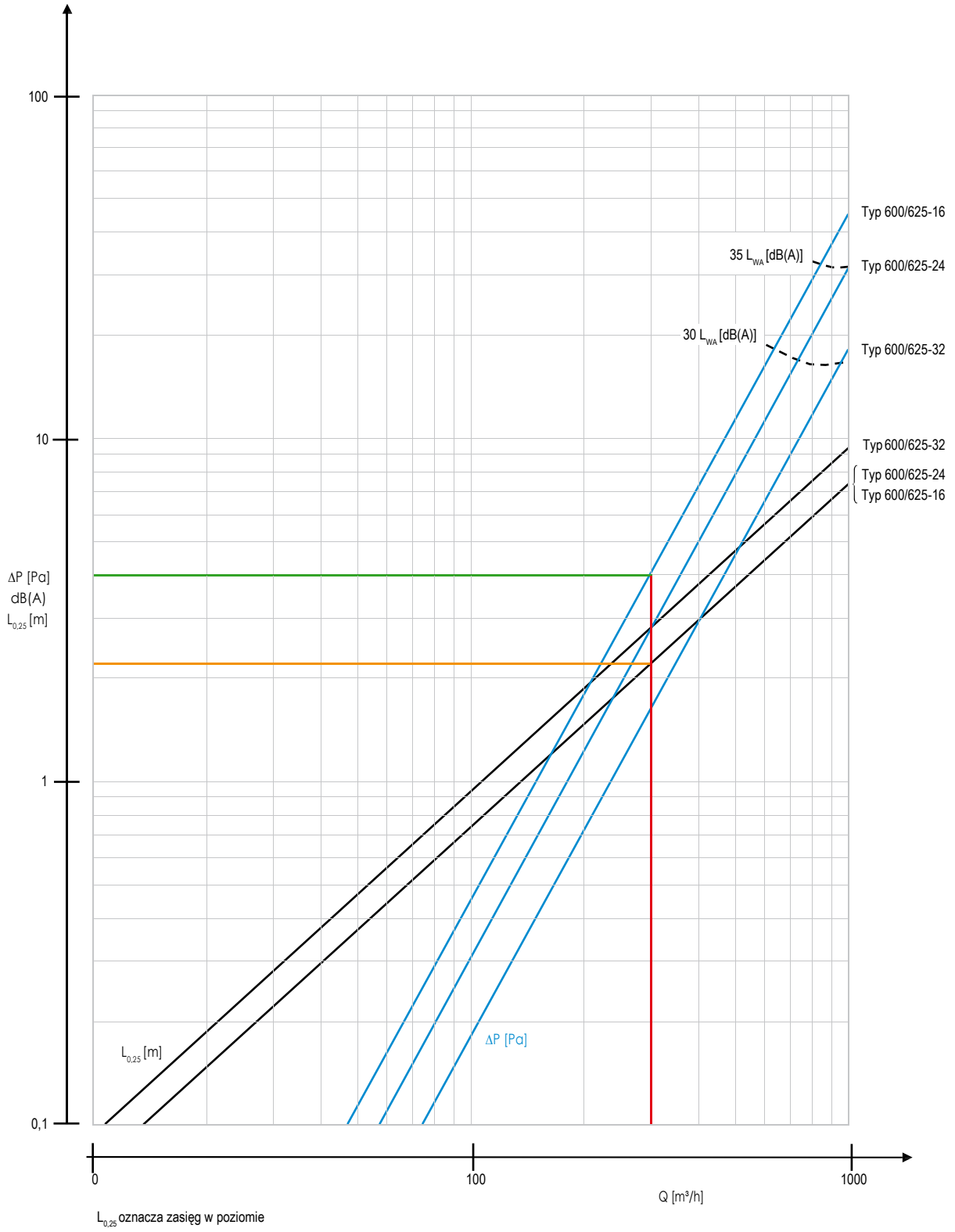
*) opptional.

Diagram for selection mied swirl diffuser AWR-3-1-PK and AWR-3-2-PK (blades 45°)



$L_{0,25}$ oznacza zasięg w poziomie

Instruction of using diagram for selection mixed swirl diffuser AWR-3-1-PK and AWR-3-2-PK (blades 45°)



Example:
The chart applies to the diffuser with adjustable blades set at 45°. Pressure losses shall be read from the vertical axis, characteristics are presented by blue lines. Stream range L0.25=0.2 also read from the horizontal axis, characteristics are presented by-diagonal black lines. Range types 600-16 and 600-24 virtually overlap each other and are represented by a single line

- Diffuser type 600-16
- Demanded air outlet 300 m3/h
- Stream range 2.1 m/s
- Pressure loss at single diffuser 3.5 Pa
- Acoustic power level below 30 LWA [dB(A)]

Table for selection mixed swirl diffuser AWR-3

Typ		600/625-16	600/625-24	600/625-32
A_{ef} [m²]		0,0438	0,0496	0,0708
Q [m³/h]				
25	$L_{0,25}$ [m]	0,2	0,2	0,2
	V_{max} [m/s]	0,3	0,2	0,2
	$V_{śr}$ [m/s]	0,2	0,1	0,1
	Δp [Pa]	0,0	0,0	0,0
	L_{WA} [dB(A)]	<30	<30	<30
50	$L_{0,25}$ [m]	0,4	0,4	0,5
	V_{max} [m/s]	0,5	0,4	0,3
	$V_{śr}$ [m/s]	0,3	0,3	0,2
	Δp [Pa]	0,1	0,1	0,0
	L_{WA} [dB(A)]	<30	<30	<30
100	$L_{0,25}$ [m]	0,7	0,8	0,9
	V_{max} [m/s]	1,0	0,8	0,7
	$V_{śr}$ [m/s]	0,6	0,6	0,4
	Δp [Pa]	0,4	0,3	0,2
	L_{WA} [dB(A)]	<30	<30	<30
150	$L_{0,25}$ [m]	1,1	1,1	1,4
	V_{max} [m/s]	1,5	1,3	1,0
	$V_{śr}$ [m/s]	1,0	0,8	0,6
	Δp [Pa]	1,0	0,7	0,4
	L_{WA} [dB(A)]	<30	<30	<30
200	$L_{0,25}$ [m]	1,5	1,5	1,9
	V_{max} [m/s]	2,0	1,7	1,3
	$V_{śr}$ [m/s]	1,3	1,1	0,8
	Δp [Pa]	1,8	1,2	0,7
	L_{WA} [dB(A)]	<30	<30	<30
250	$L_{0,25}$ [m]	1,8	1,9	2,3
	V_{max} [m/s]	2,5	2,1	1,7
	$V_{śr}$ [m/s]	1,6	1,4	1,0
	Δp [Pa]	2,8	1,9	1,1
	L_{WA} [dB(A)]	<30	<30	<30
300	$L_{0,25}$ [m]	2,2	2,3	2,8
	V_{max} [m/s]	3,0	2,5	2,0
	$V_{śr}$ [m/s]	1,9	1,7	1,2
	Δp [Pa]	4,0	2,8	1,6
	L_{WA} [dB(A)]	<30	<30	<30
350	$L_{0,25}$ [m]	2,6	2,7	3,2
	V_{max} [m/s]	3,5	2,9	2,3
	$V_{śr}$ [m/s]	2,2	2,0	1,4
	Δp [Pa]	5,5	3,8	2,2
	L_{WA} [dB(A)]	<30	<30	<30
400	$L_{0,25}$ [m]	2,9	3,0	3,7
	V_{max} [m/s]	4,0	3,4	2,7
	$V_{śr}$ [m/s]	2,5	2,2	1,6
	Δp [Pa]	7,2	4,9	2,9
	L_{WA} [dB(A)]	<30	<30	<30

Typ		600/625-16	600/625-24	600/625-32
A_{ef} [m²]		0,0438	0,0496	0,0708
Q [m³/h]				
500	$L_{0,25}$ [m]	3,7	3,8	4,6
	V_{max} [m/s]	5,0	4,2	3,3
	$V_{śr}$ [m/s]	3,2	2,8	2,0
	Δp [Pa]	11,2	7,7	4,5
	L_{WA} [dB(A)]	<30	<30	<30
600	$L_{0,25}$ [m]	4,4	4,5	5,6
	V_{max} [m/s]	6,0	5,1	4,0
	$V_{śr}$ [m/s]	3,8	3,4	2,4
	Δp [Pa]	16,2	11,1	6,5
	L_{WA} [dB(A)]	30	<30	<30
700	$L_{0,25}$ [m]	5,2	5,3	6,5
	V_{max} [m/s]	7,0	5,9	4,7
	$V_{śr}$ [m/s]	4,4	3,9	2,7
	Δp [Pa]	22,1	15,2	8,8
	L_{WA} [dB(A)]	<35	30	<30
800	$L_{0,25}$ [m]	5,9	6,1	7,4
	V_{max} [m/s]	8,0	6,7	5,4
	$V_{śr}$ [m/s]	5,1	4,5	3,1
	Δp [Pa]	28,8	19,9	11,5
	L_{WA} [dB(A)]	35	<35	<30
900	$L_{0,25}$ [m]	6,6	6,8	8,3
	V_{max} [m/s]	9,0	7,6	6,0
	$V_{śr}$ [m/s]	5,7	5,0	3,5
	Δp [Pa]	36,5	25,2	14,6
	L_{WA} [dB(A)]	<40	<35	30
1000	$L_{0,25}$ [m]	7,4	7,6	9,3
	V_{max} [m/s]	10,0	8,4	6,7
	$V_{śr}$ [m/s]	6,3	5,6	3,9
	Δp [Pa]	45,1	31,1	18,0
	L_{WA} [dB(A)]	40	35	<35
1100	$L_{0,25}$ [m]	8,1	8,3	10,2
	V_{max} [m/s]	11,0	9,3	7,4
	$V_{śr}$ [m/s]	7,0	6,2	4,3
	Δp [Pa]	54,6	37,7	21,8
	L_{WA} [dB(A)]	>40	<40	35
1200	$L_{0,25}$ [m]	8,8	9,1	11,1
	V_{max} [m/s]	12,0	10,1	8,0
	$V_{śr}$ [m/s]	7,6	6,7	4,7
	Δp [Pa]	64,9	44,9	26,0
	L_{WA} [dB(A)]	>40	40	<40

2.2.4. Swirl diffuser AWR-4

Use:
Supply or exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Recommended for horizontal air supply in rooms up to approximately 4 m

Assembly:
For rectangular ducts or plenum box, assambly by sentral screw.

Construction:
Steel panel with fixed blades, two supply diameters Ø 350, Ø540 in square panel AWR-4-PK or circular one AWR-4-PO without or with circular neck C. C=30 mm.

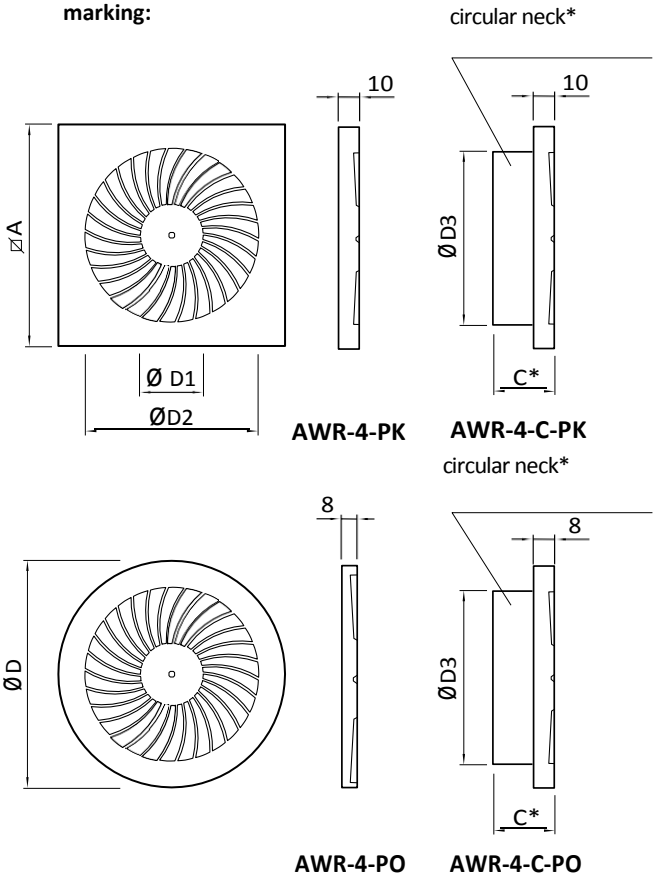
Material:
blacha czarna, ocynkowana lub aluminium.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
za pomocą przepustnicy jednopłaszczyznowej na wlocie do skrzynki rozprężnej SR.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:

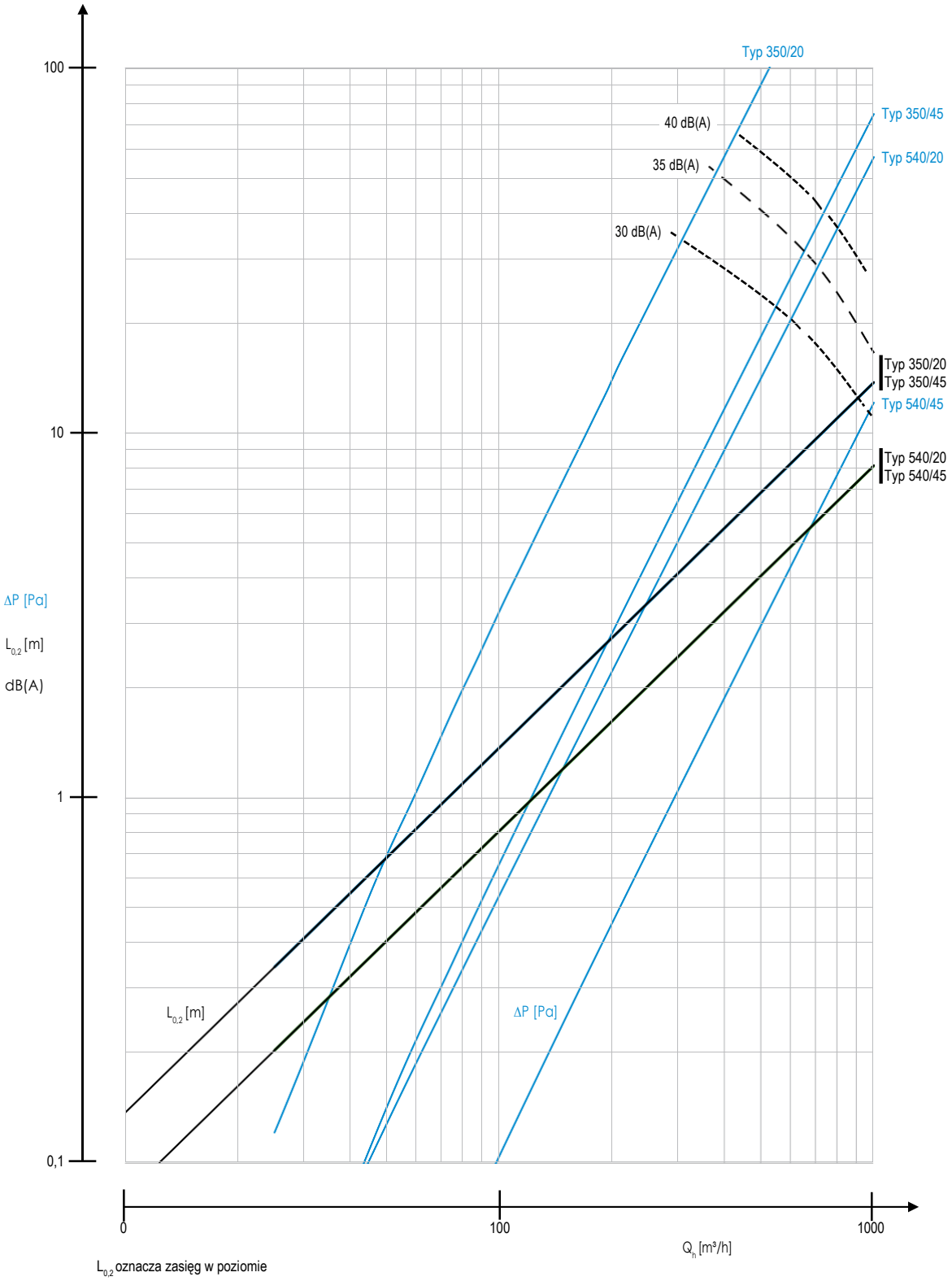


AWR-4 Products range:

Dimensions		Air supplu diameter		Diameter C	Diameter circular neck C		Blades arc	
A	Ø D	Ø D1	Ø D2	Ø D3	z	bez	30°	45°
398	-	120	350	355	X	X	X	X
-	455				X	X	X	X
469	-				X	X	X	X
498	-				X	X	X	X
-	500				X	X	X	X
595	-				X	X	X	X
-	600				X	X	X	X
623	-				X	X	X	-
-	625				X	X	X	-
595	-	180	540	545	X	X	X	X
-	600				X	-	X	X
623	-				X	X	X	-
-	625				X	-	X	-
650	-				X	X	X	-
-	655				X	-	X	-

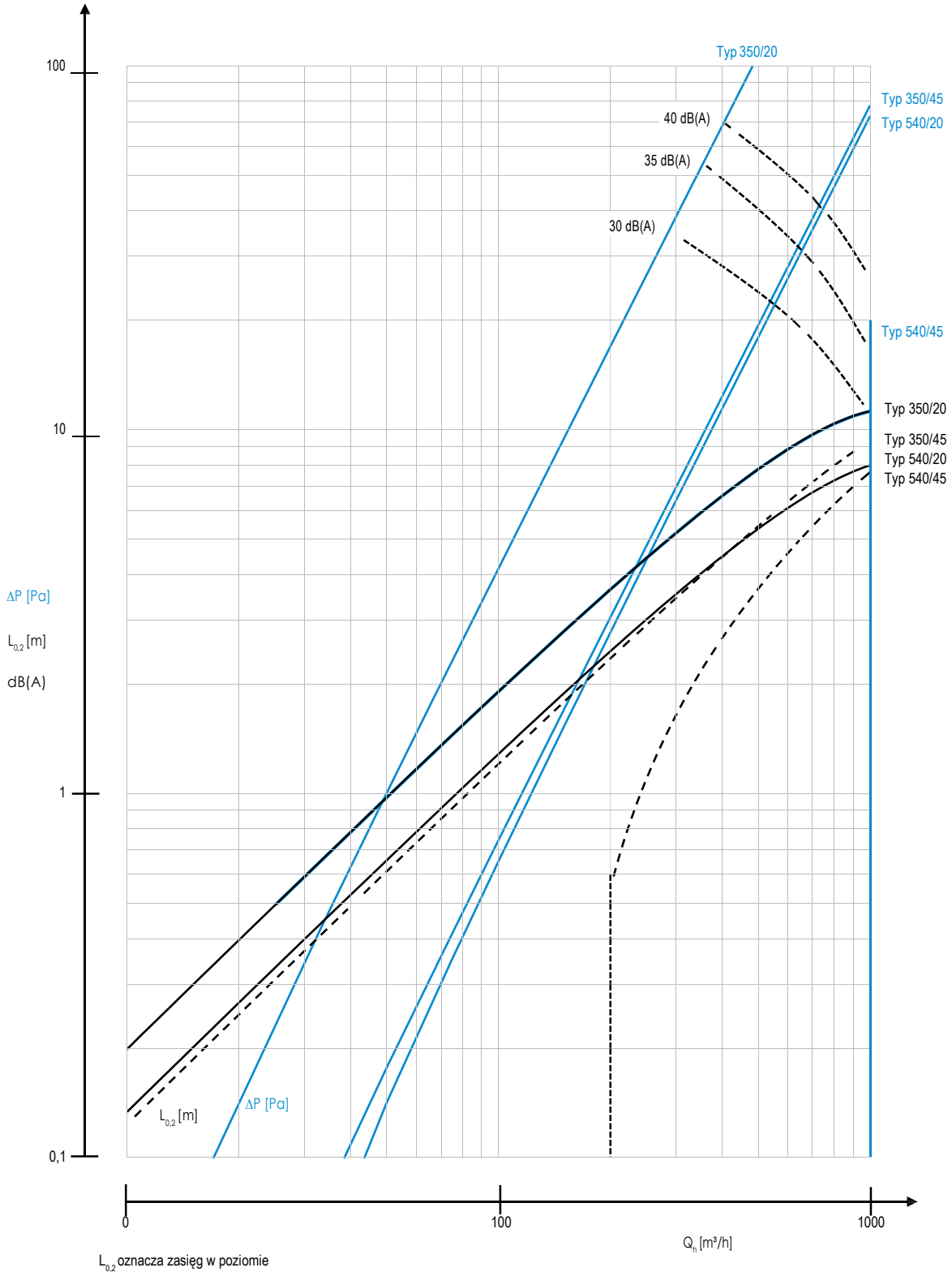
*) it's recommend for use without plenum box to get a right stream of air see page - 113

Diagram for selection swirl diffusers AWR-4-PK/PO



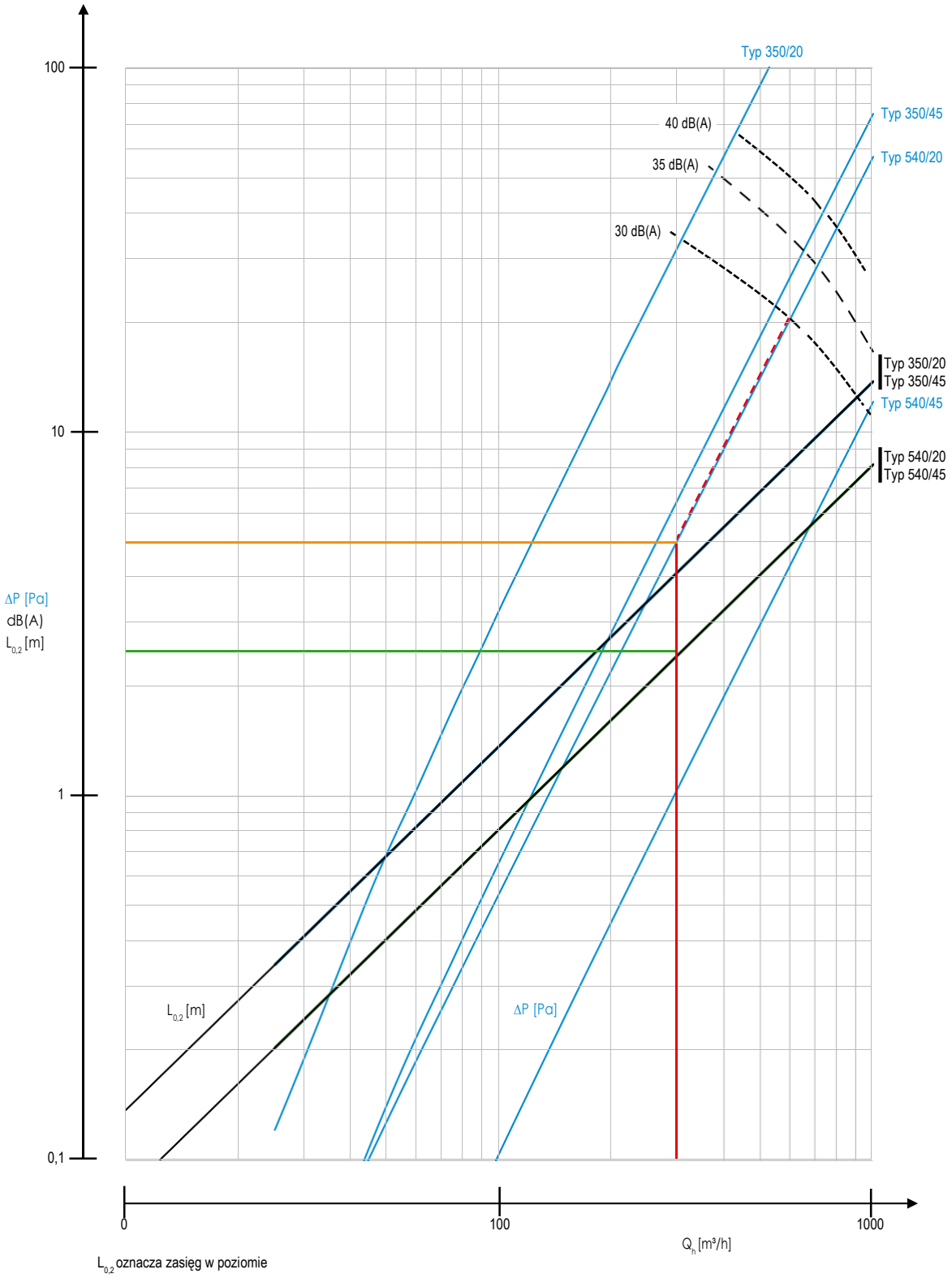
$L_{0,2}$ oznacza zasięg w poziomie

Diagram for selection swirl diffusers AWR-4-C-PK/PO (with circular neck C)



$L_{0,2}$ oznacza zasięg w poziomie

Instruction of using diagram for selection swirl diffusers AWR-4-PK/PO



Example of: AWR-4-PK/540/45:

- Zadany wydatek Q_h = 300 m³/h - prowadzimy pionową linię do przecięcia z ukośnymi liniami typu 540/45. Jedna z linii odpowiada za charakterystykę straty ciśnienia ΔP, druga za charakterystykę zasięgu strumienia o prędkości 0,2 m/s.
- Na poziomej osi odczytujemy stratę ciśnienia – ΔP = 5 Pa oraz zasięg $L_{V=0,2}$ = 2,4.
- Wzdłuż ukośnej linii charakterystyki straty ciśnienia sprawdzamy poziom ciśnienia akustycznego. W tym przypadku jest on poniżej 30 dB(A).

Table for selection swirl diffusers AWR-4-PK/PO

Typ		350/20	350/45	540/20	540/45
A_{ef} [m²]		0,0143	0,0275	0,0346	0,0673
Q [m³/h]					
25	$L_{0,2}$ [m]	0,3	0,3	0,2	0,2
	V_{max} [m/s]	0,7	0,3	0,3	0,1
	$V_{śr}$ [m/s]	0,5	0,3	0,2	0,1
	Δp [Pa]	0,1	0,0	0,0	0,0
	dB [A]	<20	<20	<20	<20
50	$L_{0,2}$ [m]	0,7	0,7	0,4	0,4
	V_{max} [m/s]	1,4	0,7	0,6	0,3
	$V_{śr}$ [m/s]	1,0	0,5	0,4	0,2
	Δp [Pa]	0,7	0,1	0,1	0,0
	dB [A]	<20	<20	<20	<20
75	$L_{0,2}$ [m]	1,0	1,0	0,6	0,6
	V_{max} [m/s]	2,1	1,0	0,9	0,4
	$V_{śr}$ [m/s]	1,5	0,8	0,6	0,3
	Δp [Pa]	1,7	0,4	0,3	0,1
	dB [A]	<20	<20	<20	<20
100	$L_{0,2}$ [m]	1,4	1,4	0,8	0,8
	V_{max} [m/s]	2,7	1,4	1,2	0,6
	$V_{śr}$ [m/s]	2,0	1,0	0,8	0,4
	Δp [Pa]	3,2	0,7	0,5	0,1
	dB [A]	<20	<20	<20	<20
150	$L_{0,2}$ [m]	2,1	2,1	1,2	1,2
	V_{max} [m/s]	4,1	2,1	1,8	0,8
	$V_{śr}$ [m/s]	3,0	1,5	1,2	0,6
	Δp [Pa]	7,5	1,6	1,2	0,2
	dB [A]	<20	<20	<20	<20
200	$L_{0,2}$ [m]	2,7	2,7	1,6	1,6
	V_{max} [m/s]	5,5	2,7	2,4	1,1
	$V_{śr}$ [m/s]	3,9	2,0	1,6	0,8
	Δp [Pa]	13,6	2,8	2,2	0,5
	dB [A]	<20	<20	<20	<20
250	$L_{0,2}$ [m]	3,4	3,4	2,0	2,0
	V_{max} [m/s]	6,9	3,4	2,9	1,4
	$V_{śr}$ [m/s]	4,9	2,6	2,0	1,0
	Δp [Pa]	21,6	4,5	3,5	0,7
	dB [A]	22	<20	<20	<20
300	$L_{0,2}$ [m]	4,1	4,1	2,4	2,4
	V_{max} [m/s]	8,2	4,1	3,5	1,7
	$V_{śr}$ [m/s]	5,9	3,1	2,5	1,3
	Δp [Pa]	31,3	6,5	5,1	1,0
	dB [A]	27	<20	<20	<20

Typ		350/20	350/45	540/20	540/45
A_{ef} [m²]		0,0143	0,0275	0,0346	0,0673
Q [m³/h]					
350	$L_{0,2}$ [m]	4,8	4,8	2,8	2,8
	V_{max} [m/s]	9,6	4,8	4,1	1,9
	$V_{śr}$ [m/s]	6,9	3,6	2,9	1,5
	Δp [Pa]	42,8	8,9	6,9	1,4
	dB [A]	32	20	<20	<20
400	$L_{0,2}$ [m]	5,5	5,5	3,2	3,2
	V_{max} [m/s]	11,0	5,5	4,7	2,2
	$V_{śr}$ [m/s]	7,9	4,1	3,3	1,7
	Δp [Pa]	56,2	11,7	9,0	1,9
	dB [A]	36	23	20	<20
500	$L_{0,2}$ [m]	6,9	6,9	4,1	4,1
	V_{max} [m/s]	13,7	6,9	5,9	2,8
	$V_{śr}$ [m/s]	9,9	5,1	4,1	2,1
	Δp [Pa]	88,3	18,4	14,1	3,0
	dB [A]	43	30	27	<20
600	$L_{0,2}$ [m]	8,2	8,2	4,9	4,9
	V_{max} [m/s]	16,5	8,2	7,1	3,3
	$V_{śr}$ [m/s]	11,8	6,1	4,9	2,5
	Δp [Pa]	127,7	26,6	20,4	4,3
	dB [A]	49	35	32	<20
700	$L_{0,2}$ [m]	9,6	9,6	5,7	5,7
	V_{max} [m/s]	19,2	9,6	8,3	3,9
	$V_{śr}$ [m/s]	13,8	7,2	5,7	2,9
	Δp [Pa]	174,3	36,3	27,8	5,9
	dB [A]	54	40	37	22
800	$L_{0,2}$ [m]	11,0	11,0	6,5	6,5
	V_{max} [m/s]	21,9	11,0	9,4	4,4
	$V_{śr}$ [m/s]	15,8	8,2	6,5	3,3
	Δp [Pa]	228,1	47,6	36,3	7,7
	dB [A]	58	44	41	26
900	$L_{0,2}$ [m]	12,3	12,3	7,3	7,3
	V_{max} [m/s]	24,7	12,3	10,6	5,0
	$V_{śr}$ [m/s]	17,8	9,2	7,4	3,9
	Δp [Pa]	289,2	60,3	46,0	9,7
	dB [A]	62	48	45	30
1000	$L_{0,2}$ [m]	13,7	13,7	8,1	8,1
	V_{max} [m/s]	27,4	13,7	11,8	5,5
	$V_{śr}$ [m/s]	19,7	10,2	8,2	4,2
	Δp [Pa]	357,5	74,6	56,8	12,1
	dB [A]	65	51	48	33

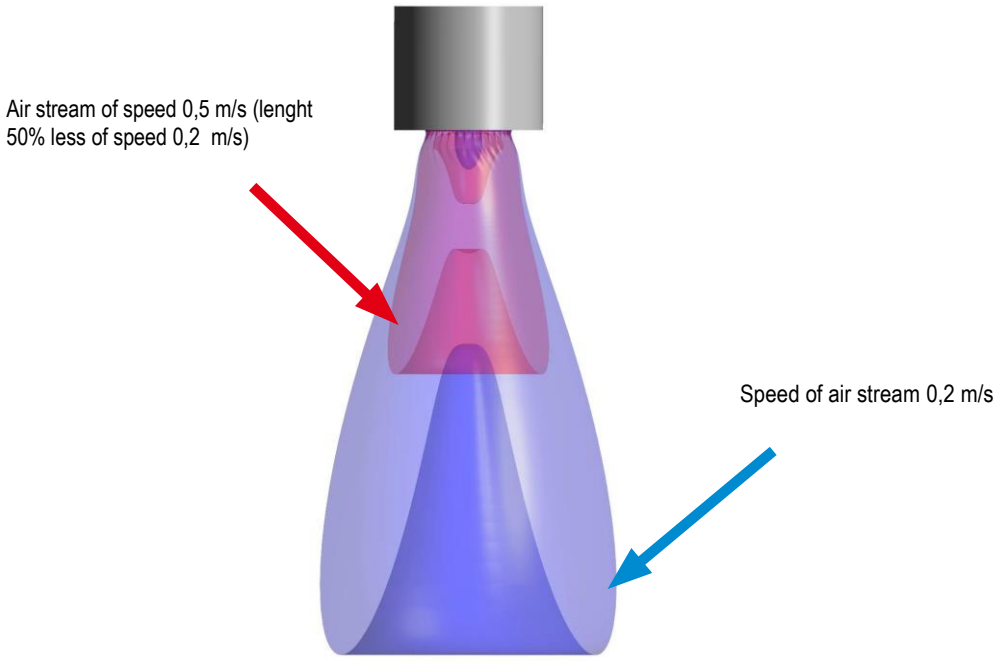
Table for selection swirl diffusers AWR-4-C-PK/PO (with circular neck C)

Typ		350/20	350/45	540/20	540/45
A_{ef} [m²]		0,0121	0,0259	0,0293	0,0624
Q [m³/h]					
25	$L_{0,2}$ [m]	0,5	0,3	0,3	0,0
	V_{max} [m/s]	0,8	0,3	0,3	0,1
	$V_{śr}$ [m/s]	0,6	0,3	0,2	0,1
	Δp [Pa]	0,2	0,0	0,0	0,0
	dB [A]	<20	<20	<20	<20
50	$L_{0,2}$ [m]	1,0	0,7	0,6	0,0
	V_{max} [m/s]	1,6	0,7	0,7	0,3
	$V_{śr}$ [m/s]	1,2	0,5	0,5	0,2
	Δp [Pa]	1,0	0,2	0,1	0,0
	dB [A]	<20	<20	<20	<20
75	$L_{0,2}$ [m]	1,4	1,0	0,9	0,0
	V_{max} [m/s]	2,5	1,0	1,0	0,4
	$V_{śr}$ [m/s]	1,8	0,8	0,7	0,3
	Δp [Pa]	2,3	0,4	0,4	0,1
	dB [A]	<20	<20	<20	<20
100	$L_{0,2}$ [m]	1,9	1,3	1,2	0,0
	V_{max} [m/s]	3,3	1,3	1,3	0,5
	$V_{śr}$ [m/s]	2,3	1,1	1,0	0,4
	Δp [Pa]	4,2	0,7	0,7	0,1
	dB [A]	<20	<20	<20	<20
150	$L_{0,2}$ [m]	2,8	1,9	1,8	0,0
	V_{max} [m/s]	4,9	2,0	2,0	0,8
	$V_{śr}$ [m/s]	3,5	1,6	1,5	0,7
	Δp [Pa]	9,7	1,7	1,5	0,3
	dB [A]	<20	<20	<20	<20
200	$L_{0,2}$ [m]	3,6	2,5	2,4	0,5
	V_{max} [m/s]	6,6	2,6	2,7	1,1
	$V_{śr}$ [m/s]	4,7	2,2	2,0	0,9
	Δp [Pa]	17,5	3,1	2,8	0,5
	dB [A]	<20	<20	<20	<20
250	$L_{0,2}$ [m]	4,4	3,0	2,9	1,1
	V_{max} [m/s]	8,2	3,3	3,4	1,4
	$V_{śr}$ [m/s]	5,9	2,7	2,4	1,1
	Δp [Pa]	27,4	4,8	4,4	0,8
	dB [A]	22	<20	<20	<20
300	$L_{0,2}$ [m]	5,2	3,5	3,4	1,6
	V_{max} [m/s]	9,9	4,0	4,0	1,6
	$V_{śr}$ [m/s]	7,0	3,2	2,9	1,3
	Δp [Pa]	39,6	6,9	6,4	1,2
	dB [A]	27	<20	<20	<20

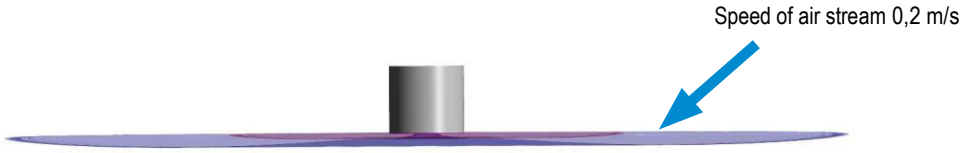
Typ		350/20	350/45	540/20	540/45
A_{ef} [m²]		0,0121	0,0259	0,0293	0,0624
Q [m³/h]					
350	$L_{0,2}$ [m]	5,9	4,0	4,0	2,2
	V_{max} [m/s]	11,5	4,6	4,7	1,9
	$V_{śr}$ [m/s]	8,2	3,8	3,4	1,6
	Δp [Pa]	54,1	9,5	8,7	1,6
	dB [A]	32	20	<20	<20
400	$L_{0,2}$ [m]	6,6	4,5	4,5	2,7
	V_{max} [m/s]	13,2	5,3	5,4	2,2
	$V_{śr}$ [m/s]	9,4	4,3	3,9	1,8
	Δp [Pa]	70,8	12,4	11,4	2,1
	dB [A]	36	23	20	<20
500	$L_{0,2}$ [m]	7,8	5,3	5,4	3,7
	V_{max} [m/s]	16,5	6,6	6,7	2,7
	$V_{śr}$ [m/s]	11,7	5,4	4,9	2,2
	Δp [Pa]	110,9	19,4	18,0	3,2
	dB [A]	43	30	27	<20
600	$L_{0,2}$ [m]	8,8	6,1	6,3	4,6
	V_{max} [m/s]	19,8	7,9	8,0	3,3
	$V_{śr}$ [m/s]	14,1	6,5	5,9	2,7
	Δp [Pa]	160,0	28,0	26,0	4,7
	dB [A]	49	35	32	<20
700	$L_{0,2}$ [m]	9,7	6,7	7,2	5,4
	V_{max} [m/s]	23,0	9,2	9,4	3,8
	$V_{śr}$ [m/s]	16,4	7,5	6,8	3,1
	Δp [Pa]	218,0	38,1	35,5	6,4
	dB [A]	54	40	37	23
800	$L_{0,2}$ [m]	10,4	7,2	8,0	6,2
	V_{max} [m/s]	26,3	10,6	10,7	4,4
	$V_{śr}$ [m/s]	18,8	8,6	7,8	3,6
	Δp [Pa]	285,0	49,8	46,5	8,3
	dB [A]	58	44	41	26
900	$L_{0,2}$ [m]	10,9	7,7	8,7	7,0
	V_{max} [m/s]	29,6	11,9	12,1	4,9
	$V_{śr}$ [m/s]	21,1	9,7	8,8	4,0
	Δp [Pa]	361,0	63,1	58,9	10,5
	dB [A]	62	48	45	31
1000	$L_{0,2}$ [m]	11,2	8,0	9,4	7,6
	V_{max} [m/s]	32,9	13,2	13,4	5,4
	$V_{śr}$ [m/s]	23,5	10,8	9,8	4,5
	Δp [Pa]	445,9	77,9	72,8	13,0
	dB [A]	65	51	48	35

Influance of circular neck C for air stream AWR-4

1. Dimensions C = 8 mm (without circular neck) or C = 30 mm with circular neck



2. Dimensions C = 50/100* mm



* only for AWR-4 540/45

Product marking AWR-3, AWR-4

AWR–3/4–alp–PK–595/540–RAL–SR/Ø–WMC

Assambly:
WMC - central screw

Plenum box / diameter:
SR - Plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper relugaltion inside and isolation
Z - additional assambly elements

Surface finish:
Standard - RAL 9003

Dimensions:
External dimension A/D - swirl diffusers

Panels:
PK - square panel
PO - round panel

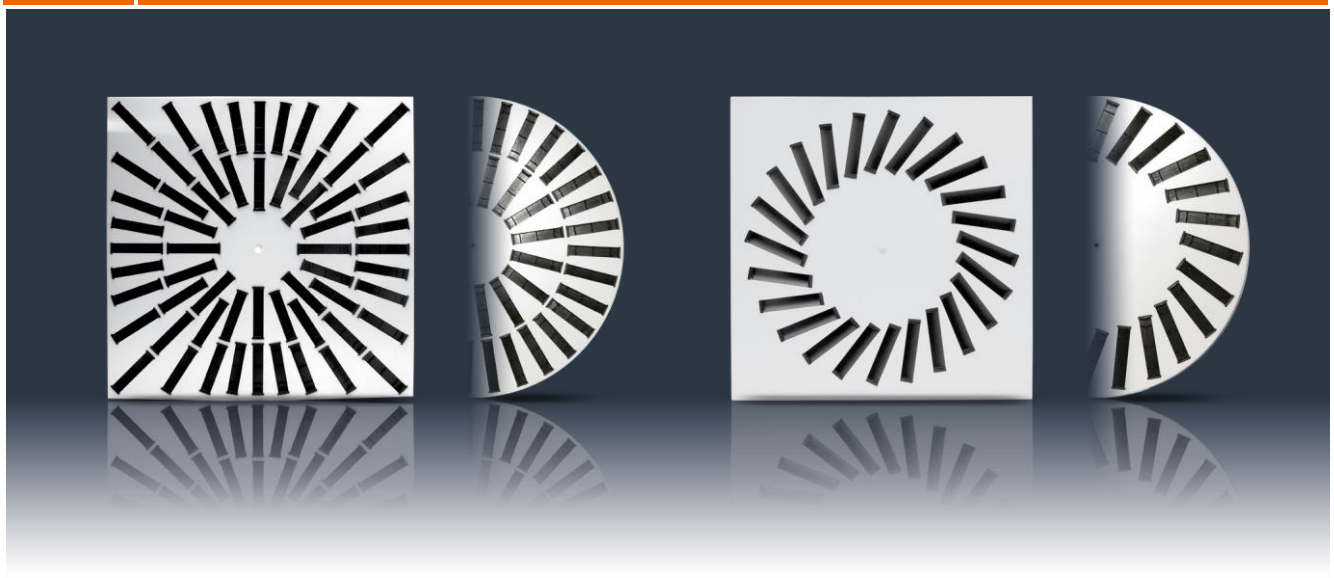
Material:
Standard - black steel sheet
alp - aluminum painted in RAL colour
oc - galvanized steel
ocp - galvanized steel painted RAL colour

type of diffusers

Order's example:
AWR–4–C–PK–595x595/540–SR/Ø160

Swirl diffuser with circular neck C, Dimensions 595 supply diameter 540 with plenum box Ø160, central screw, RAL 9003.
If one does not write all details RDJ Klima will make standard one.

2.2.5. Directional diffuser with pastic blades AWK-1, AWK-2



Use:
Supply or exhust in medium and low pressure systems in a non aggressive environment with humidity up to 70%.

Assembly:
Rectangular ducts in plenum box. Assambly by central screw.

Construction:
Radially arranged slots (8, 16, 24, 28, 36, 48 or 84) provide even air stream distribution. It is possible to guide the air stream into different directions depending on the setting of the plastic blades.. Standard blade colours – black, white on demand.

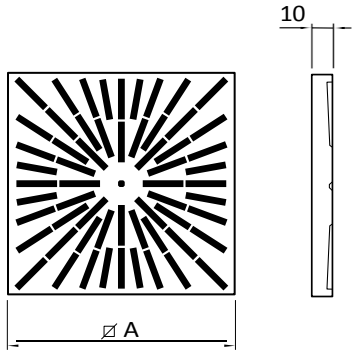
Material:
Black steel sheet, galvanized steel, aluminum (models PK i PO), stainless steel (model PK).

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

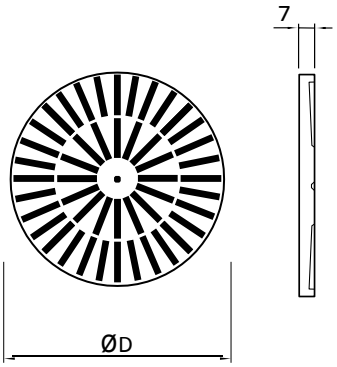
Air flow regulation:
By damper in the inlet of plenum box.

Certificates:
Hygienic certificate: BK/K/0926/01/2018

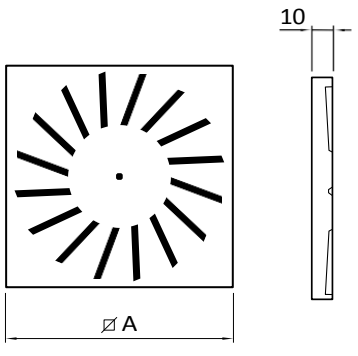
Type and dimension marking:



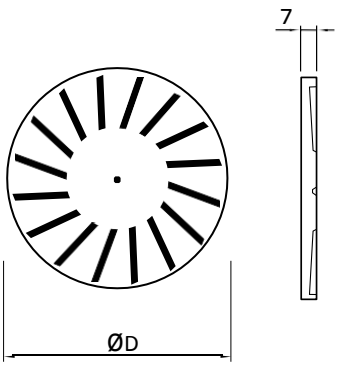
AWK-1-PK



AWK-1-PO



AWK-2-PK



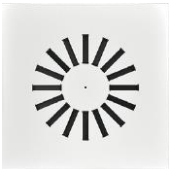
AWK-2-PO

Products range:

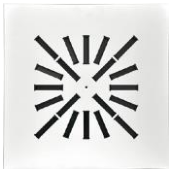
Typ	⌀ A	Ø D
310	310	310
400	398	400
500	498	500
600	595	600
625	623	623
800	800	800

Directional diffusers with plastic blades AWK-1-PK, AWK-2-PK - varianty

AWK-1-PK/310-8
/400-8,/500-8,/600-8,/625-8

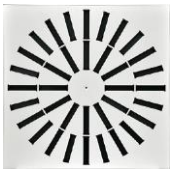


AWK-1-PK/400-16
/500-16, /600-16, /625-16,/800-16



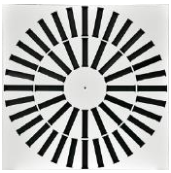
AWK-1-PK/400-20
/500-20, /600-20, /625-20, /800-20

AWK-1-PK/500-24
/600-24, /625-24, /800-24

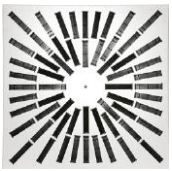


AWK-1-PK/600-36
/625-36, 800-36

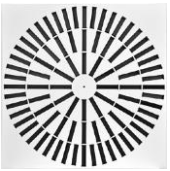
AWK-1-PK/500-44
/600-44, /625-44, /800-44



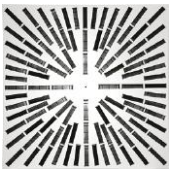
AWK-1-PK/625-48
/800-48



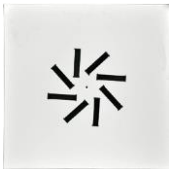
AWK-1-PK/600-60
/625-60, /800-60



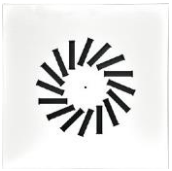
AWK-1-PK/800-84



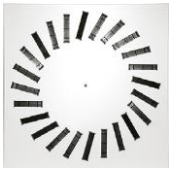
AWK-1-PK/800-108



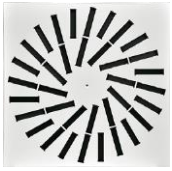
AWK-2-PK/310-8
/400-8,/500-8,/600-8,/625-8



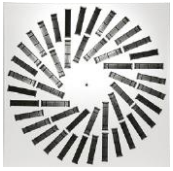
AWK-2-PK/400-16
/500-16, /600-16, /625-16,/800-16



AWK-2-PK/500-24
/600-24, /625-24, /800-24



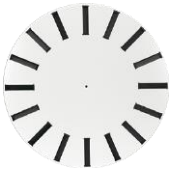
AWK-2-PK/600-36
/625-36, /800-36



AWK-2-PK/600-48
/625-48, /800-48

Directional swirl diffuser AWK-1-PO, AWK-2-PO - varianty

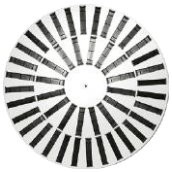
AWK-1-PO/310-8
/400-8, /500-8, 600-8, /625-8



AWK-1-PO/400-16
/500-16, /600-16, /625-16,/800-16

AWK-1-PO/500-24
/600-24, /625-24, /800-24

AWK-1-PO/600-36
/625-36, /800-36



AWK-1-PO/600-48
/625-48, /800-48

AWK-1-PO/800-84

AWK-2-PO/310-8
/400-8,/500-8,/600-8,/625-8

AWK-2-PO/400-16
/500-16, /600-16, /625-16,/800-16

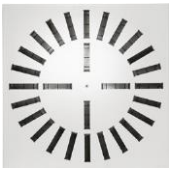
AWK-2-PO/500-24
/600-24, /625-24, /800-24

AWK-2-PO/600-36
/625-36, /800-36

AWK-2-PO/600-48
/625-48, /800-48

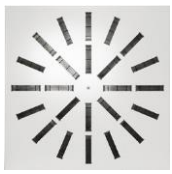
Directional swirl diffuser AWK-1, AWK-2 - non-standard varianty

AWK-PK/600/A-20

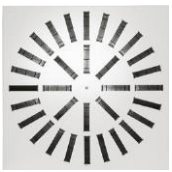


AWK-PK/600/A-28

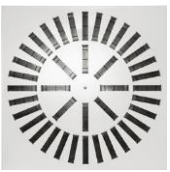
AWK-PK/600/A-36



AWK-PK/600/B-24

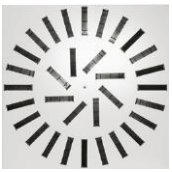


AWK-PK/600/B-32



AWK-PK/600/B-40

AWK-PK/600/C-24



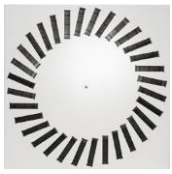
AWK-PK/600/C-32

AWK-PK/600/C-40

AWK-PK/600/D-32

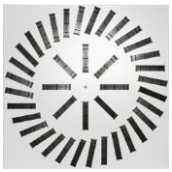
AWK-PK/600/D-36

AWK-PK/800/D-88



AWK-PK/600/E-32

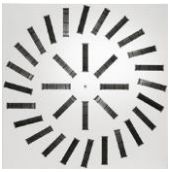
AWK-PK/600/E-36



AWK-PK/600/E-40

AWK-PK/600/F-24

AWK-PK/600/F-28



AWK-PK/600/F-32

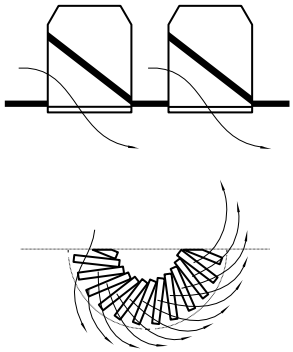
UWAGA!

Powyższe Diffusers magą być wykonane w panelu okrągłym PO za wyjątkiem AWK-D.

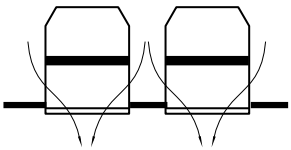
Directional swirl diffusers AWK-1 i AWK-2 - technical data

Blades positions:

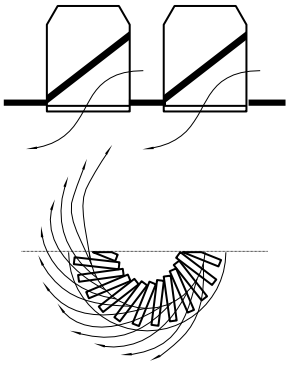
Left swirl



Vertical position

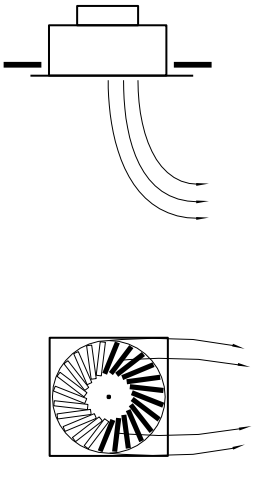


Right swirl



The supply direction:

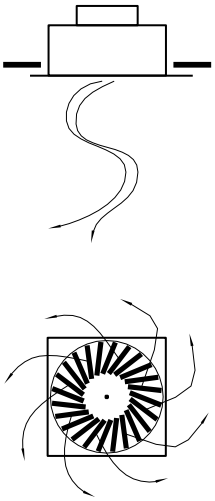
One-side



Blades set in half to the left and the other half to the right

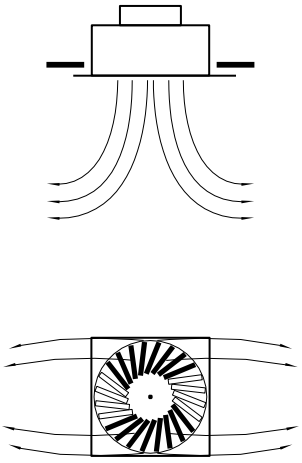
.

Vertical



All blades set on vartical swirl

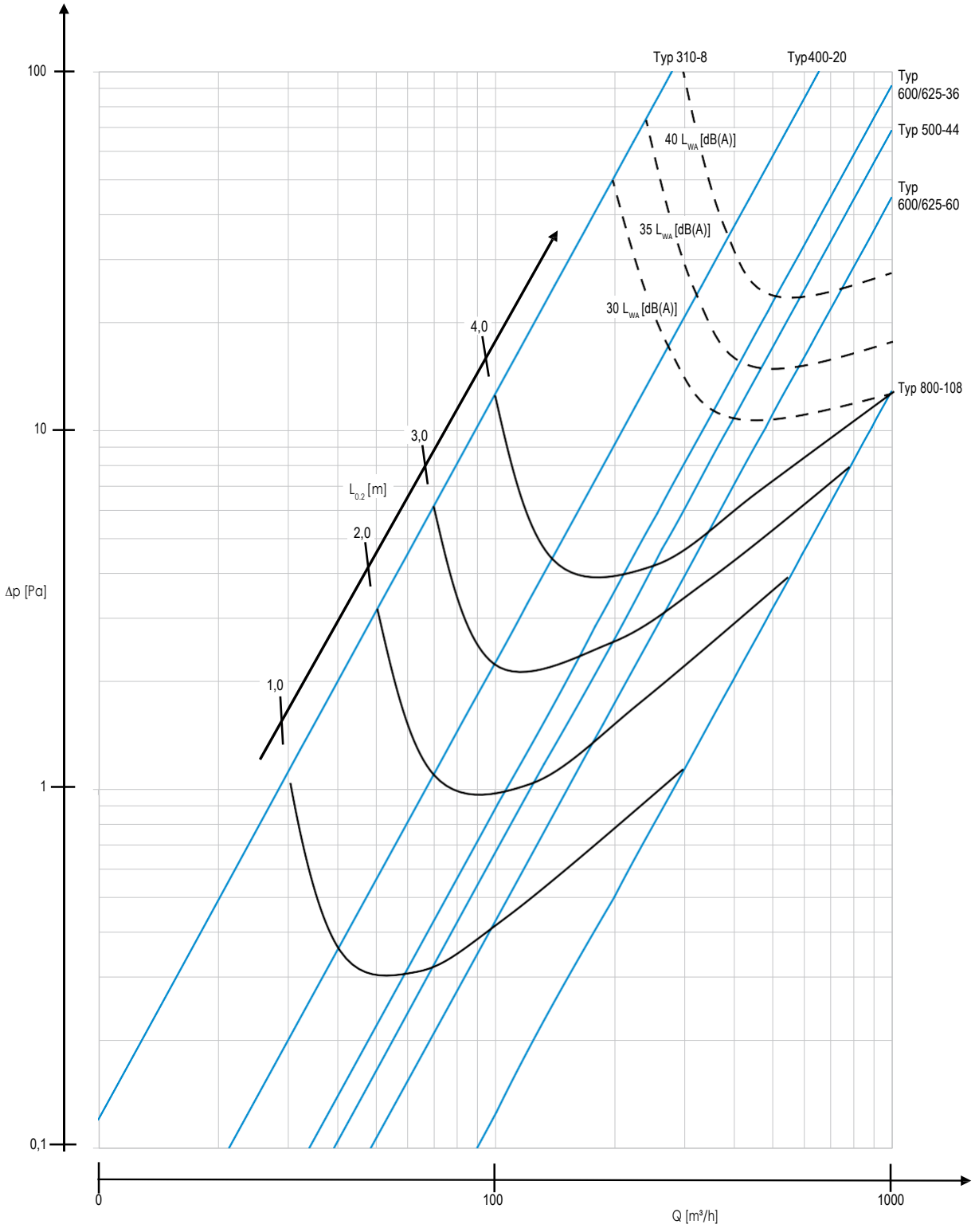
Two-side



Blades in opposing quarters set to the left and to the right

Diagram for directional swirl diffuser AWK-1 square panel (horizontal blades set)

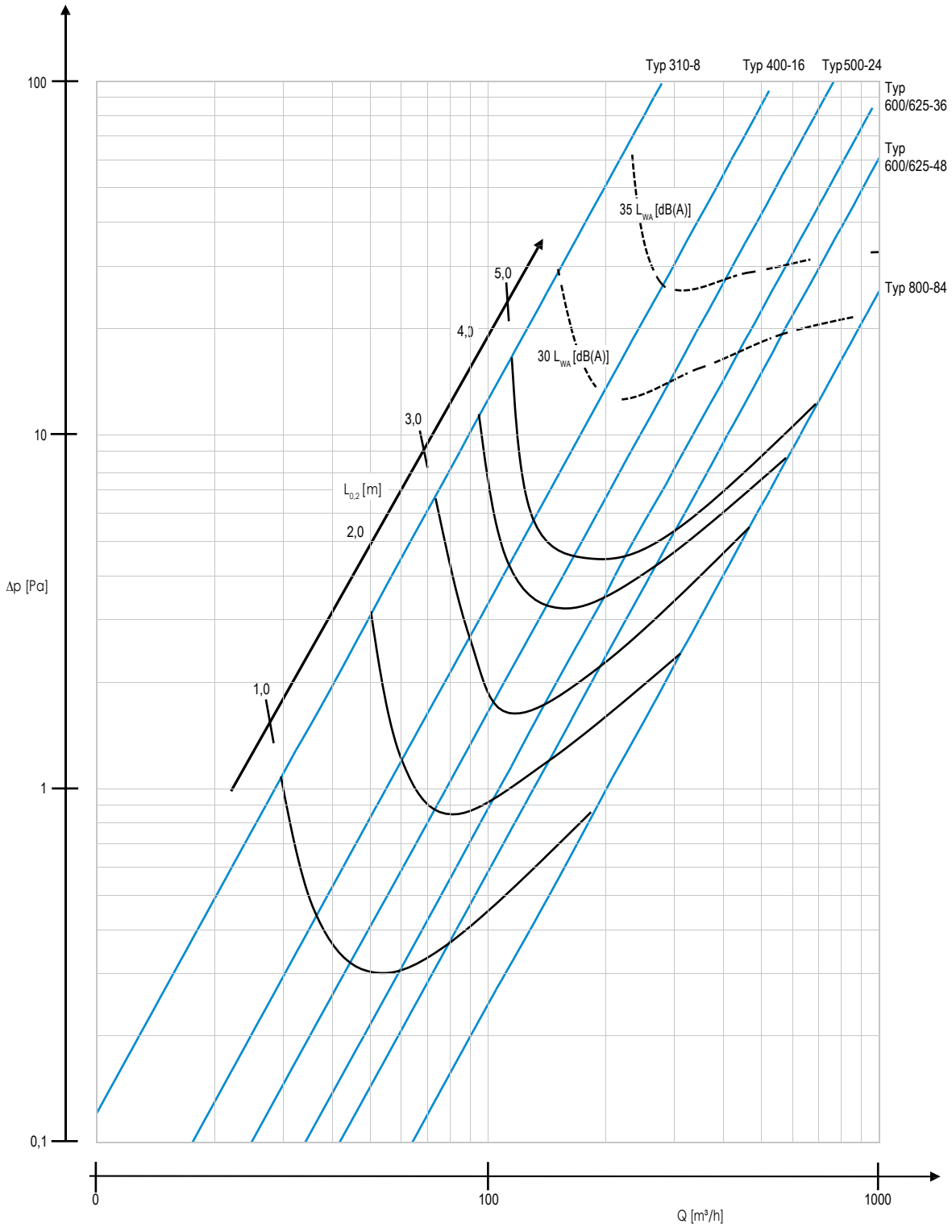
Relation of pressure loss (Δp), a range of velocity stream V=0,25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).



$L_{0,2}$ oznacza zasięg w pionie

Diagra for directional swirl diffusers AWK-1 round and square panel (horizontal blades set)

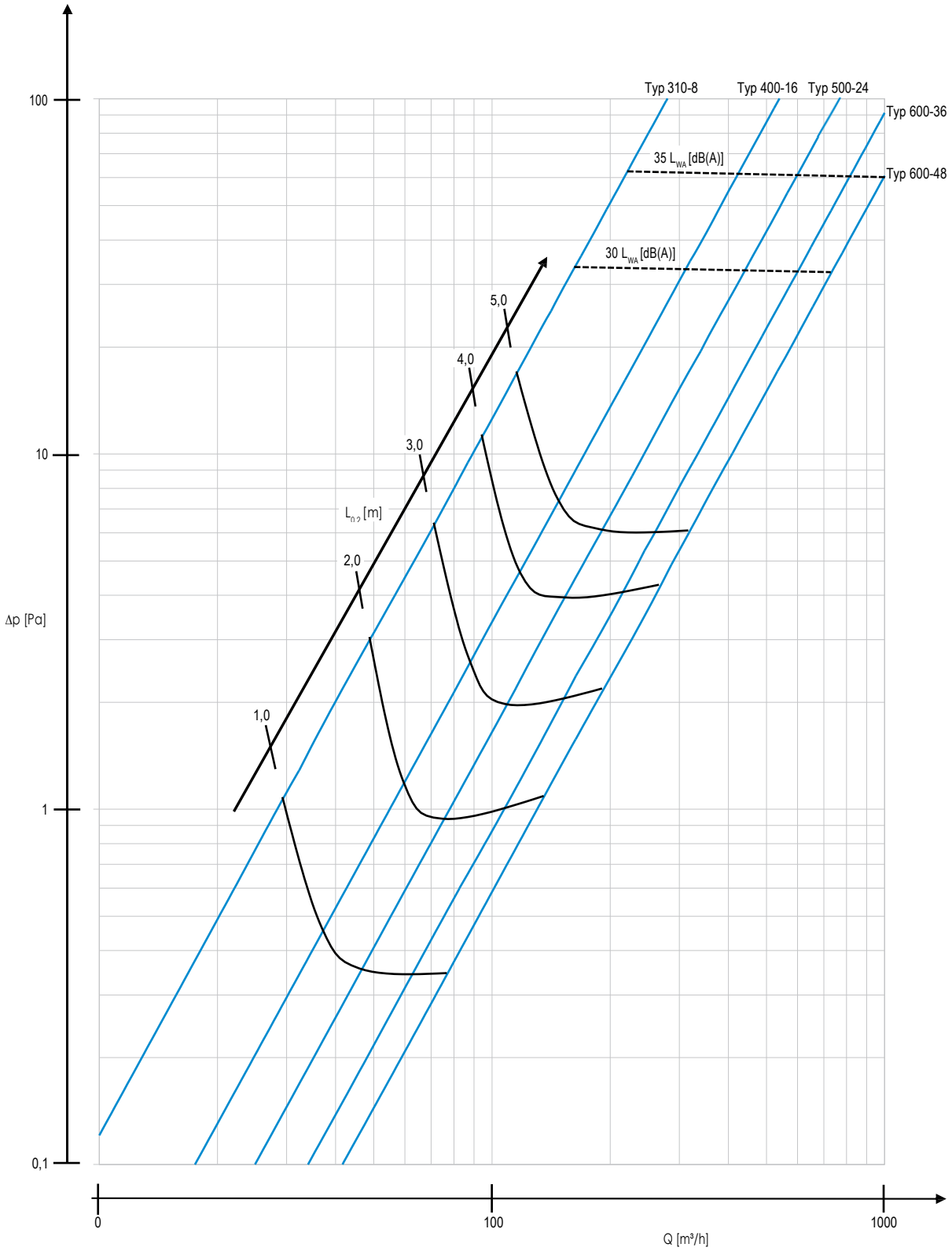
Relation of pressure loss (Δp), a range of velocity stream V=0,25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).



$L_{0,2}$ oznacza zasięg w pionie

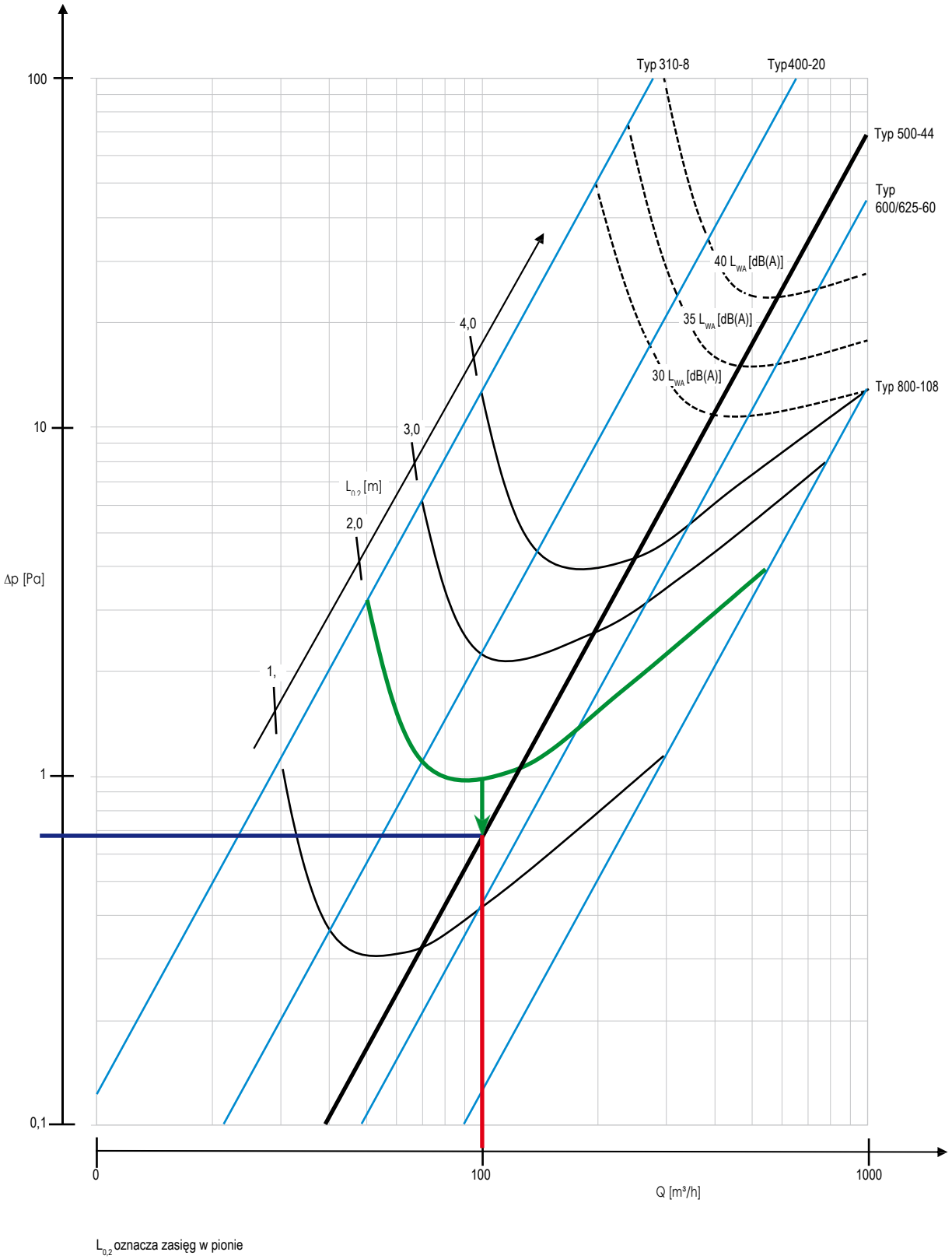
Diagram for directionalswirl diffusers AWK-2 round and square panel (horizontal blades set)

Relation of pressure loss (Δp), a range of velocity stream V=0,25 m/s ($L_{0,25}$) and a level of acoustic power (L_{WA}) from air stream volume (Q).



$L_{0,2}$ oznacza zasięg w pionie

Intruction of using diagram for selection directional swirl diffuser AWK-1, AWK-2



$L_{0,2}$ oznacza zasięg w pionie

Instruction: Attention, diagrams refer to diffusers with horizontal blades.For oblique blades it is recommended to use an appropriate selection chart.Air stream range Qh=100 m3/h and vertical range LV0,25 < 2m. Sought after diffuser size. We draw a horizontal line (red) corresponding to Qh=100 m3/h untilcurve intersection L

$v_{0,25}$. Sought after diffuser curve below the curve range, in this case we find Type 500 (black).

From the point of intersection leading a horizontal line (blue) we will read a pressure loss on the diffuser (0,7 Pa).

Table for selection directional swirl diffusers AWK-1-PK (single diffuser, horizontal blades set)

Typ		310-8	400-20	600/625-20	500-44	600/625-60	800-108
A_{ef} [m²]		0,0166	0,0415	0,0748	0,0914	0,1246	0,2243
Q [m³/h]							
	$L_{0,2}$ [m]	0,8	0,5	0,2			
	V_{max} [m/s]	1,1	0,5	0,3			
25	$V_{śr}$ [m/s]	0,4	0,2	0,1			
	Δp [Pa]	0,8	0,1	0,1			
	dB [A]	<30	<25	<25			
	$L_{0,2}$ [m]	1,9	1,4	0,8	0,6	0,3	
	V_{max} [m/s]	2,2	1,1	0,7	0,6	0,5	
50	$V_{śr}$ [m/s]	0,8	0,3	0,2	0,2	0,1	
	Δp [Pa]	3,1	0,6	0,2	0,2	0,1	
	dB [A]	<30	<30	<30	<30	<30	
	$L_{0,2}$ [m]	4,3	3,1	2,0	1,6	1,0	
	V_{max} [m/s]	4,4	2,2	1,4	1,2	0,9	
100	$V_{śr}$ [m/s]	1,7	0,7	0,4	0,3	0,2	
	Δp [Pa]	12,6	2,3	0,9	0,7	0,4	
	dB [A]	<30	<30	<30	<30	<30	
	$L_{0,2}$ [m]	6,7	4,9	3,2	2,6	1,6	0,2
	V_{max} [m/s]	6,6	3,2	2,0	1,7	1,4	0,9
150	$V_{śr}$ [m/s]	2,5	1,0	0,6	0,5	0,3	0,2
	Δp [Pa]	28,5	5,1	2,0	1,5	1,0	0,3
	dB [A]	<30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	9,1	6,7	4,4	3,6	2,3	0,5
	V_{max} [m/s]	8,8	4,3	2,7	2,3	1,8	1,2
200	$V_{śr}$ [m/s]	3,3	1,3	0,7	0,6	0,4	0,2
	Δp [Pa]	50,9	9,1	3,6	2,7	1,7	0,5
	dB [A]	30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	11,4	8,5	5,7	4,6	3,0	0,7
	V_{max} [m/s]	11,0	5,4	3,4	2,9	2,3	1,4
250	$V_{śr}$ [m/s]	4,2	1,7	0,9	0,8	0,6	0,3
	Δp [Pa]	79,8	14,3	5,6	4,2	2,7	0,8
	dB [A]	35	30	<30	<30	<30	<30
	$L_{0,2}$ [m]		10,3	6,9	5,6	3,7	0,9
	V_{max} [m/s]		6,5	4,1	3,5	2,7	1,7
300	$V_{śr}$ [m/s]		2,0	1,1	0,9	0,7	0,4
	Δp [Pa]		20,6	8,1	6,1	3,9	1,1
	dB [A]		35	30	<30	<30	<30
	$L_{0,2}$ [m]		12,0	8,1	6,6	4,4	1,1
	V_{max} [m/s]		7,5	4,8	4,1	3,2	2,0
350	$V_{śr}$ [m/s]		2,3	1,3	1,1	0,8	0,4
	Δp [Pa]		28,1	11,0	8,3	5,4	1,5
	dB [A]		40	<35	<30	<30	<30

Typ		310-8	400-20	600/625-20	500-44	600/625-60	800-108
A_{ef} [m²]		0,0166	0,0415	0,0748	0,0914	0,1246	0,2243
Q [m³/h]							
	$L_{0,2}$ [m]			9,3	7,6	5,1	1,3
	V_{max} [m/s]			5,4	4,7	3,7	2,3
400	$V_{śr}$ [m/s]			1,5	1,2	0,9	0,5
	Δp [Pa]			14,4	10,8	7,0	2,0
	dB [A]			35	30	<30	<30
	$L_{0,2}$ [m]			11,7	9,6	6,4	1,8
	V_{max} [m/s]			6,8	5,8	4,6	2,9
500	$V_{śr}$ [m/s]			1,9	1,5	1,1	0,6
	Δp [Pa]			22,6	16,9	11,0	3,2
	dB [A]			40	35	<30	<30
	$L_{0,2}$ [m]				11,6	7,8	2,2
	V_{max} [m/s]				7,0	5,5	3,5
600	$V_{śr}$ [m/s]				1,8	1,3	0,7
	Δp [Pa]				24,5	15,9	4,6
	dB [A]				40	30	<30
	$L_{0,2}$ [m]					9,2	2,6
	V_{max} [m/s]					6,4	4,0
700	$V_{śr}$ [m/s]					1,6	0,9
	Δp [Pa]					21,6	6,3
	dB [A]					35	<30
	$L_{0,2}$ [m]					10,5	3,1
	V_{max} [m/s]					7,3	4,6
800	$V_{śr}$ [m/s]					1,8	1,0
	Δp [Pa]					28,3	8,2
	dB [A]					37	<30
	$L_{0,2}$ [m]					11,9	3,5
	V_{max} [m/s]					8,2	5,2
900	$V_{śr}$ [m/s]					2,0	1,1
	Δp [Pa]					35,9	10,4
	dB [A]					43	<30
	$L_{0,2}$ [m]						3,9
	V_{max} [m/s]						5,8
1000	$V_{śr}$ [m/s]						1,2
	Δp [Pa]						12,9
	dB [A]						30
	$L_{0,2}$ [m]						4,4
	V_{max} [m/s]						6,4
1100	$V_{śr}$ [m/s]						1,4
	Δp [Pa]						15,6
	dB [A]						32

Table for selection AWK-1-PO (singel diffuser with horizontal blades set)

Typ		310-8	400-16	500-24	600/625-36	600/625-48	800-84
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997	0,1744
Q [m³/h]							
	$L_{0,2}$ [m]	0,8	0,6	0,4			
	V_{max} [m/s]	1,1	0,6	0,5			
25	$V_{śr}$ [m/s]	0,4	0,2	0,1			
	Δp [Pa]	0,8	0,2	0,1			
	dB [A]	<30	<25	<25			
	$L_{0,2}$ [m]	1,9	1,5	1,2	0,8	0,5	
	V_{max} [m/s]	2,2	1,3	0,9	0,7	0,5	
50	$V_{śr}$ [m/s]	0,8	0,4	0,3	0,2	0,1	
	Δp [Pa]	3,1	0,8	0,4	0,2	0,1	
	dB [A]	<30	<25	<30	<30	<30	
	$L_{0,2}$ [m]	4,3	3,5	2,8	2,0	1,4	0,4
	V_{max} [m/s]	4,4	2,6	1,9	1,4	1,1	0,7
100	$V_{śr}$ [m/s]	1,7	0,8	0,6	0,4	0,3	0,2
	Δp [Pa]	12,6	3,4	1,7	0,9	0,6	0,2
	dB [A]	<30	<25	<30	<30	<30	<30
	$L_{0,2}$ [m]	6,7	5,4	4,4	3,2	2,3	0,7
	V_{max} [m/s]	6,6	3,8	2,8	2,0	1,6	1,1
150	$V_{śr}$ [m/s]	2,5	1,3	0,8	0,6	0,4	0,2
	Δp [Pa]	28,5	7,6	3,7	2,0	1,3	0,6
	dB [A]	<30	<25	<30	<30	<30	<30
	$L_{0,2}$ [m]	9,1	7,4	6,0	4,4	3,2	1,1
	V_{max} [m/s]	8,8	5,1	3,7	2,7	2,2	1,4
200	$V_{śr}$ [m/s]	3,3	1,7	1,1	0,7	0,6	0,3
	Δp [Pa]	50,9	13,6	6,7	3,6	2,4	1,0
	dB [A]	32	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	11,4	9,4	7,7	5,7	4,1	1,5
	V_{max} [m/s]	11,0	6,4	4,7	3,4	2,7	1,8
250	$V_{śr}$ [m/s]	4,2	2,1	1,4	0,9	0,7	0,4
	Δp [Pa]	79,8	21,3	10,5	5,6	3,7	1,6
	dB [A]	36	32	<30	<30	<30	<30
	$L_{0,2}$ [m]		11,3	9,3	6,9	5,1	1,9
	V_{max} [m/s]		7,7	5,6	4,1	3,3	2,1
300	$V_{śr}$ [m/s]		2,5	1,7	1,1	0,8	0,5
	Δp [Pa]		30,7	15,1	8,1	5,4	2,3
	dB [A]		37	<30	30	<30	<30
	$L_{0,2}$ [m]			10,9	8,1	6,0	2,3
	V_{max} [m/s]			6,5	4,8	3,8	2,5
350	$V_{śr}$ [m/s]			2,0	1,3	1,0	0,6
	Δp [Pa]			20,7	11,0	7,3	3,1
	dB [A]			30	<30	<30	<30

Typ		310-8	400-16	500-24	600/625-36	600/625-48	800-84
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997	0,1744
Q [m³/h]							
	$L_{0,2}$ [m]				9,3	6,9	2,7
	V_{max} [m/s]				5,4	4,4	2,8
400	$V_{śr}$ [m/s]				1,5	1,1	0,6
	Δp [Pa]				14,4	9,6	4,0
	dB [A]				35	<30	<30
	$L_{0,2}$ [m]				11,7	8,7	3,4
	V_{max} [m/s]				6,8	5,4	3,5
500	$V_{śr}$ [m/s]				1,9	1,4	0,8
	Δp [Pa]				22,6	15,0	6,3
	dB [A]				40	<30	<30
	$L_{0,2}$ [m]					10,5	4,2
	V_{max} [m/s]					6,5	4,2
600	$V_{śr}$ [m/s]					1,7	1,0
	Δp [Pa]					21,7	9,1
	dB [A]					32	<30
	$L_{0,2}$ [m]						5,0
	V_{max} [m/s]						4,9
700	$V_{śr}$ [m/s]						1,1
	Δp [Pa]						12,5
	dB [A]						<30
	$L_{0,2}$ [m]						5,8
	V_{max} [m/s]						5,6
800	$V_{śr}$ [m/s]						1,3
	Δp [Pa]						16,3
	dB [A]						<30
	$L_{0,2}$ [m]						6,5
	V_{max} [m/s]						6,3
900	$V_{śr}$ [m/s]						1,4
	Δp [Pa]						20,7
	dB [A]						30
	$L_{0,2}$ [m]						7,3
	V_{max} [m/s]						7,0
1000	$V_{śr}$ [m/s]						1,6
	Δp [Pa]						25,6
	dB [A]						32
	$L_{0,2}$ [m]						8,1
	V_{max} [m/s]						7,7
1100	$V_{śr}$ [m/s]						1,8
	Δp [Pa]						31,0
	dB [A]						35

Table selection for directional swirl diffuser AWK-1-PK (singel diffuser with 45 blades set)

Typ		310-8	400-20	600/625-20	500-44	600/625-60	800-108
A_{ef} [m²]		0,0166	0,0415	0,0748	0,0914	0,1246	0,2243
Q [m³/h]							
	$L_{0,2}$ [m]	0,4	0,2				
	V_{max} [m/s]	1,2	0,6				
25	$V_{śr}$ [m/s]	0,4	0,2				
	Δp [Pa]	0,7	0,1				
	dB [A]	<30	<30				
	$L_{0,2}$ [m]	1,0	0,7	0,4	0,3	0,1	
	V_{max} [m/s]	2,3	1,1	0,7	0,6	0,5	
50	$V_{śr}$ [m/s]	0,8	0,3	0,2	0,2	0,1	
	Δp [Pa]	2,6	0,5	0,2	0,1	0,1	
	dB [A]	<30	<30	<30	<30	<30	
	$L_{0,2}$ [m]	2,2	1,6	1,0	0,8	0,5	
	V_{max} [m/s]	4,7	2,3	1,4	1,2	1,0	
100	$V_{śr}$ [m/s]	1,7	0,7	0,4	0,3	0,2	
	Δp [Pa]	10,7	1,9	0,7	0,6	0,4	
	dB [A]	<30	<30	<30	<30	<30	
	$L_{0,2}$ [m]	3,3	2,5	1,6	1,3	0,8	0,1
	V_{max} [m/s]	7,0	3,4	2,2	1,9	1,5	0,9
150	$V_{śr}$ [m/s]	2,5	1,0	0,6	0,5	0,3	0,2
	Δp [Pa]	24,2	4,3	1,7	1,3	0,8	0,2
	dB [A]	<30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	4,5	3,3	2,2	1,8	1,2	0,2
	V_{max} [m/s]	9,3	4,6	2,9	2,5	1,9	1,2
200	$V_{śr}$ [m/s]	3,3	1,3	0,7	0,6	0,4	0,2
	Δp [Pa]	43,3	7,7	3,0	2,3	1,5	0,4
	dB [A]	30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	5,7	4,2	2,8	2,3	1,5	0,3
	V_{max} [m/s]	11,7	5,7	3,6	3,1	2,4	1,5
250	$V_{śr}$ [m/s]	4,2	1,7	0,9	0,8	0,6	0,3
	Δp [Pa]	67,8	12,1	4,7	3,6	2,3	0,7
	dB [A]	35	30	<30	<30	<30	<30
	$L_{0,2}$ [m]		5,1	3,4	2,8	1,8	0,4
	V_{max} [m/s]		6,8	4,3	3,7	2,9	1,8
300	$V_{śr}$ [m/s]		2,0	1,1	0,9	0,7	0,4
	Δp [Pa]		17,5	6,8	5,1	3,3	1,0
	dB [A]		35	30	<30	<30	<30
	$L_{0,2}$ [m]		6,0	4,0	3,3	2,2	0,6
	V_{max} [m/s]		8,0	5,1	4,3	3,4	2,1
350	$V_{śr}$ [m/s]		2,3	1,3	1,1	0,8	0,4
	Δp [Pa]		23,9	9,3	7,0	4,5	1,3
	dB [A]		40	<35	<30	<30	<30

Typ		310-8	400-20	600/625-20	500-44	600/625-60	800-108
A_{ef} [m²]		0,0166	0,0415	0,0748	0,0914	0,1246	0,2243
Q [m³/h]							
	$L_{0,2}$ [m]			4,6	3,8	2,5	0,7
	V_{max} [m/s]			5,8	4,9	3,9	2,4
400	$V_{śr}$ [m/s]			1,5	1,2	0,9	0,5
	Δp [Pa]			12,2	9,2	6,0	1,7
	dB [A]			35	30	<30	<30
	$L_{0,2}$ [m]			5,9	4,8	3,2	0,9
	V_{max} [m/s]			7,2	6,2	4,8	3,1
500	$V_{śr}$ [m/s]			1,9	1,5	1,1	0,6
	Δp [Pa]			19,2	14,4	9,3	2,7
	dB [A]			40	35	<30	<30
	$L_{0,2}$ [m]				5,8	3,9	1,1
	V_{max} [m/s]				7,4	5,8	3,7
600	$V_{śr}$ [m/s]				1,8	1,3	0,7
	Δp [Pa]				20,8	13,5	3,9
	dB [A]				40	30	<30
	$L_{0,2}$ [m]					4,6	1,3
	V_{max} [m/s]					6,8	4,3
700	$V_{śr}$ [m/s]					1,6	0,9
	Δp [Pa]					18,4	5,3
	dB [A]					35	<30
	$L_{0,2}$ [m]					5,3	1,5
	V_{max} [m/s]					7,7	4,9
800	$V_{śr}$ [m/s]					1,8	1,0
	Δp [Pa]					24,1	7,0
	dB [A]					37	<30
	$L_{0,2}$ [m]					6,0	1,8
	V_{max} [m/s]					8,7	5,5
900	$V_{śr}$ [m/s]					2,0	1,1
	Δp [Pa]					30,5	8,8
	dB [A]					43	<30
	$L_{0,2}$ [m]						2,0
	V_{max} [m/s]						6,1
1000	$V_{śr}$ [m/s]						1,2
	Δp [Pa]						10,9
	dB [A]						30
	$L_{0,2}$ [m]						2,2
	V_{max} [m/s]						6,7
1100	$V_{śr}$ [m/s]						1,4
	Δp [Pa]						13,2
	dB [A]						32

Table for selection directional swirl diffuser AWK-1-PO (singular diffuser, 45 degree blades set)

Typ		310-8	400-16	500-24	600/625-36	600/625-48	800-84
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997	0,1744
Q [m³/h]							
	$L_{0,2}$ [m]	0,4	0,3	0,2			
	V_{max} [m/s]	1,2	0,7	0,5			
25	$V_{śr}$ [m/s]	0,4	0,2	0,1			
	Δp [Pa]	0,7	0,2	0,1			
	dB [A]	<30	<30	<30			
	$L_{0,2}$ [m]	1,0	0,8	0,6	0,4	0,2	
	V_{max} [m/s]	2,3	1,4	1,0	0,7	0,6	
50	$V_{śr}$ [m/s]	0,8	0,4	0,3	0,2	0,1	
	Δp [Pa]	2,6	0,7	0,3	0,2	0,1	
	dB [A]	<30	<30	<30	<30	<30	
	$L_{0,2}$ [m]	2,2	1,7	1,4	1,0	0,7	0,2
	V_{max} [m/s]	4,7	2,7	2,0	1,4	1,2	0,7
100	$V_{śr}$ [m/s]	1,7	0,8	0,6	0,4	0,3	0,2
	Δp [Pa]	10,7	2,8	1,4	0,7	0,5	0,2
	dB [A]	<30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	3,3	2,7	2,2	1,6	1,2	0,4
	V_{max} [m/s]	7,0	4,1	3,0	2,2	1,7	1,1
150	$V_{śr}$ [m/s]	2,5	1,3	0,8	0,6	0,4	0,2
	Δp [Pa]	24,2	6,5	3,2	1,7	1,1	0,5
	dB [A]	<30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	4,5	3,7	3,0	2,2	1,6	0,6
	V_{max} [m/s]	9,3	5,4	4,0	2,9	2,3	1,5
200	$V_{śr}$ [m/s]	3,3	1,7	1,1	0,7	0,6	0,3
	Δp [Pa]	43,3	11,5	5,7	3,0	2,0	0,8
	dB [A]	30	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	5,7	4,7	3,8	2,8	2,1	0,8
	V_{max} [m/s]	11,7	6,8	4,9	3,6	2,9	1,9
250	$V_{śr}$ [m/s]	4,2	2,1	1,4	0,9	0,7	0,4
	Δp [Pa]	67,8	18,1	8,9	4,7	3,2	1,3
	dB [A]	35	30	<30	<30	<30	<30
	$L_{0,2}$ [m]		5,7	4,6	3,4	2,5	1,0
	V_{max} [m/s]		8,1	5,9	4,3	3,5	2,2
300	$V_{śr}$ [m/s]		2,5	1,7	1,1	0,8	0,5
	Δp [Pa]		26,1	12,9	6,8	4,6	1,9
	dB [A]		35	<30	30	<30	<30
	$L_{0,2}$ [m]			5,4	4,0	3,0	1,1
	V_{max} [m/s]			6,9	5,1	4,0	2,6
350	$V_{śr}$ [m/s]			2,0	1,3	1,0	0,6
	Δp [Pa]			17,6	9,3	6,2	2,6
	dB [A]			30	<35	<30	<30

Typ		310-8	400-16	500-24	600/625-36	600/625-48	800-84
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997	0,1744
Q [m³/h]							
	$L_{0,2}$ [m]				4,6	3,4	1,3
	V_{max} [m/s]				5,8	4,6	3,0
400	$V_{śr}$ [m/s]				1,5	1,1	0,6
	Δp [Pa]				12,2	8,1	3,4
	dB [A]				35	<30	<30
	$L_{0,2}$ [m]				5,9	4,4	1,7
	V_{max} [m/s]				7,2	5,8	3,7
500	$V_{śr}$ [m/s]				1,9	1,4	0,8
	Δp [Pa]				19,2	12,8	5,4
	dB [A]				40	<30	<30
	$L_{0,2}$ [m]					5,3	2,1
	V_{max} [m/s]					6,9	4,5
600	$V_{śr}$ [m/s]					1,7	1,0
	Δp [Pa]					18,4	7,8
	dB [A]					32	<30
	$L_{0,2}$ [m]						2,5
	V_{max} [m/s]						5,2
700	$V_{śr}$ [m/s]						1,1
	Δp [Pa]						10,6
	dB [A]						<30
	$L_{0,2}$ [m]						2,9
	V_{max} [m/s]						6,0
800	$V_{śr}$ [m/s]						1,3
	Δp [Pa]						13,9
	dB [A]						<30
	$L_{0,2}$ [m]						3,3
	V_{max} [m/s]						6,7
900	$V_{śr}$ [m/s]						1,4
	Δp [Pa]						17,6
	dB [A]						30
	$L_{0,2}$ [m]						3,7
	V_{max} [m/s]						7,5
1000	$V_{śr}$ [m/s]						1,6
	Δp [Pa]						21,7
	dB [A]						32
	$L_{0,2}$ [m]						4,0
	V_{max} [m/s]						8,2
1100	$V_{śr}$ [m/s]						1,8
	Δp [Pa]						26,3
	dB [A]						35

Table for selection directional swirl diffuser AWK-1-PK/PO 310-8 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK, AWK-1-PO

Typ		310-8	x (distance from wall)				
A_{ef} [m²]		0,0166	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
25	$L_{0,2}$ [m]	0,4					
	V_{max} [m/s]	1,2					
	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
50	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	2,3					
	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	2,6					
	dB [A]	<30					
100	$L_{0,2}$ [m]	2,2	0,3				
	V_{max} [m/s]	4,7					
	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	10,7					
	dB [A]	<30					
150	$L_{0,2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	7,0					
	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	24,2					
	dB [A]	<30					
200	$L_{0,2}$ [m]	4,5	1,0	0,7	0,3	0,1	
	V_{max} [m/s]	9,3					
	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	43,3					
	dB [A]	30					
250	$L_{0,2}$ [m]	5,7	1,3	1,0	0,6	0,3	
	V_{max} [m/s]	11,7					
	$V_{śr}$ [m/s]	4,2					
	Δp [Pa]	67,8					
	dB [A]	35					
300	$L_{0,2}$ [m]	6,9	1,6	1,4	0,9	0,4	0,1
	V_{max} [m/s]	14,0					
	$V_{śr}$ [m/s]	5,0					
	Δp [Pa]	98,0					
	dB [A]	40					
350	$L_{0,2}$ [m]	8,1	1,9	1,7	1,2	0,6	0,2
	V_{max} [m/s]	16,3					
	$V_{śr}$ [m/s]	5,9					
	Δp [Pa]	133,7					
	dB [A]	43					

Table for selection directional swirl diffuser AWK-1-PK 400-20, AWK-1-PO 400-16 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK

Typ		400-20	x (odległość od ściany)				
A_{ef} [m²]		0,0415	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
25	$L_{0,2}$ [m]	0,2					
	V_{max} [m/s]	0,6					
	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,1					
	dB [A]	<30					
50	$L_{0,2}$ [m]	0,7					
	V_{max} [m/s]	1,1					
	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,5					
	dB [A]	<30					
100	$L_{0,2}$ [m]	1,6	0,2				
	V_{max} [m/s]	2,3					
	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	1,9					
	dB [A]	<30					
150	$L_{0,2}$ [m]	2,5	0,4	0,1			
	V_{max} [m/s]	3,4					
	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	4,3					
	dB [A]	<30					
200	$L_{0,2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	4,6					
	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	7,7					
	dB [A]	<30					
250	$L_{0,2}$ [m]	4,2	0,9	0,6	0,3		
	V_{max} [m/s]	5,7					
	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	12,1					
	dB [A]	30					
300	$L_{0,2}$ [m]	5,1	1,1	0,9	0,5	0,2	
	V_{max} [m/s]	6,8					
	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	17,5					
	dB [A]	35					
350	$L_{0,2}$ [m]	6,0	1,4	1,1	0,7	0,3	0,1
	V_{max} [m/s]	8,0					
	$V_{śr}$ [m/s]	2,3					
	Δp [Pa]	23,9					
	dB [A]	40					

AWK-1-PO

Typ		400-16	x (odległość od ściany)				
A_{ef} [m²]		0,0332	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
25	$L_{0,2}$ [m]	0,3					
	V_{max} [m/s]	0,7					
	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,2					
	dB [A]	<30					
50	$L_{0,2}$ [m]	0,8					
	V_{max} [m/s]	1,4					
	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
100	$L_{0,2}$ [m]	1,7	0,2				
	V_{max} [m/s]	2,7					
	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	2,8					
	dB [A]	<30					
150	$L_{0,2}$ [m]	2,7	0,5	0,2			
	V_{max} [m/s]	4,1					
	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	6,5					
	dB [A]	<30					
200	$L_{0,2}$ [m]	3,7	0,7	0,5	0,2		
	V_{max} [m/s]	5,4					
	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	11,5					
	dB [A]	<30					
250	$L_{0,2}$ [m]	4,7	1,0	0,8	0,4	0,1	
	V_{max} [m/s]	6,8					
	$V_{śr}$ [m/s]	2,1					
	Δp [Pa]	18,1					
	dB [A]	30					
300	$L_{0,2}$ [m]	5,7	1,3	1,0	0,6	0,3	
	V_{max} [m/s]	8,1					
	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	26,1					
	dB [A]	35					
350	$L_{0,2}$ [m]	6,6	1,5	1,3	0,8	0,4	0,1
	V_{max} [m/s]	9,5					
	$V_{śr}$ [m/s]	2,9					
	Δp [Pa]	35,6					
	dB [A]	40					

Table for selection directional swirl diffuser AWK-1-PK 500-44, AWK-1-PO 500-24 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK

Typ		500-44	x (odległość od ściany)				
A_{ef} [m²]		0,0914	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	0,3					
	V_{max} [m/s]	0,6					
50	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,1					
	dB [A]	<30					
	$L_{0,2}$ [m]	0,8					
	V_{max} [m/s]	1,2					
100	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,6					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,3					
	V_{max} [m/s]	1,9					
150	$V_{śr}$ [m/s]	0,5					
	Δp [Pa]	1,3					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,8	0,2				
	V_{max} [m/s]	2,5					
200	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	2,3					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	4,3					
350	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	7,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,8	0,8	0,5	0,2		
	V_{max} [m/s]	4,9					
400	$V_{śr}$ [m/s]	1,2					
	Δp [Pa]	9,2					
	dB [A]	30					
	$L_{0,2}$ [m]	4,8	1,0	0,8	0,4	0,1	
	V_{max} [m/s]	6,2					
500	$V_{śr}$ [m/s]	1,5					
	Δp [Pa]	14,4					
	dB [A]	35					
	$L_{0,2}$ [m]	5,8	1,3	1,1	0,6	0,3	
	V_{max} [m/s]	7,4					
600	$V_{śr}$ [m/s]	1,8					
	Δp [Pa]	20,8					
	dB [A]	40					
	$L_{0,2}$ [m]	6,8	1,6	1,4	0,9	0,4	
	V_{max} [m/s]	8,6					
700	$V_{śr}$ [m/s]	2,1					
	Δp [Pa]	28,4					
	dB [A]	43					
	$L_{0,2}$ [m]	7,8	1,9	1,6	1,1	0,6	0,2
	V_{max} [m/s]	9,9					
800	$V_{śr}$ [m/s]	2,4					
	Δp [Pa]	37,2					
	dB [A]	47					

AWK-1-PO

Typ		500-24	x (odległość od ściany)				
A_{ef} [m²]		0,0498	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	0,6					
	V_{max} [m/s]	1,0					
50	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,3					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,4	0,1				
	V_{max} [m/s]	2,0					
100	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	1,4					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,2	0,3	0,1			
	V_{max} [m/s]	3,0					
150	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	3,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,0	0,6	0,3			
	V_{max} [m/s]	4,0					
200	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	5,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	5,4	1,2	1,0	0,6	0,2	
	V_{max} [m/s]	6,9					
350	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	17,6					
	dB [A]	30					
	$L_{0,2}$ [m]	6,3	1,4	1,2	0,7	0,3	0,1
	V_{max} [m/s]	7,9					
400	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	23,0					
	dB [A]	32					
	$L_{0,2}$ [m]	7,9	1,9	1,7	1,1	0,6	0,2
	V_{max} [m/s]	9,9					
500	$V_{śr}$ [m/s]	2,8					
	Δp [Pa]	36,0					
	dB [A]	36					
	$L_{0,2}$ [m]	9,5	2,3	2,1	1,5	0,8	0,3
	V_{max} [m/s]	11,9					
600	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	52,1					
	dB [A]	42					
	$L_{0,2}$ [m]	11,1	2,7	2,6	1,8	1,1	0,4
	V_{max} [m/s]	13,9					
700	$V_{śr}$ [m/s]	3,9					
	Δp [Pa]	71,0					
	dB [A]	48					
	$L_{0,2}$ [m]	12,7	3,2	3,0	2,2	1,3	0,5
	V_{max} [m/s]	15,8					
800	$V_{śr}$ [m/s]	4,5					
	Δp [Pa]	93,0					
	dB [A]	52					

Table for selection directional swirl diffuser AWK-1-PK 600/625-60 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK

Typ		600/625-60	x (odległość od ściany)				
A_{ef} [m²]		0,1246	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
100	$L_{0,2}$ [m]	0,5					
	V_{max} [m/s]	1,0					
	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,4					
	dB [A]	<30					
150	$L_{0,2}$ [m]	0,8					
	V_{max} [m/s]	1,5					
	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,8					
	dB [A]	<30					
200	$L_{0,2}$ [m]	1,2					
	V_{max} [m/s]	1,9					
	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	1,5					
	dB [A]	<30					
250	$L_{0,2}$ [m]	1,5	0,1				
	V_{max} [m/s]	2,4					
	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	2,3					
	dB [A]	<30					
300	$L_{0,2}$ [m]	1,8	0,2				
	V_{max} [m/s]	2,9					
	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,3					
	dB [A]	<30					
350	$L_{0,2}$ [m]	2,2	0,3	0,0			
	V_{max} [m/s]	3,4					
	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	4,5					
	dB [A]	<30					
400	$L_{0,2}$ [m]	2,5	0,4	0,1			
	V_{max} [m/s]	3,9					
	$V_{śr}$ [m/s]	0,9					
	Δp [Pa]	6,0					
	dB [A]	<30					

Typ		600/625-60	x (odległość od ściany)				
A_{ef} [m²]		0,1246	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
450	$L_{0,2}$ [m]	2,9	0,5	0,2	0,0		
	V_{max} [m/s]	4,4					
	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	7,6					
	dB [A]	<30					
500	$L_{0,2}$ [m]	3,2	0,6	0,3	0,0		
	V_{max} [m/s]	4,8					
	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	9,3					
	dB [A]	<30					
600	$L_{0,2}$ [m]	3,9	0,8	0,5	0,2		
	V_{max} [m/s]	5,8					
	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	13,5					
	dB [A]	30					
700	$L_{0,2}$ [m]	4,6	1,0	0,7	0,4	0,1	
	V_{max} [m/s]	6,8					
	$V_{śr}$ [m/s]	1,6					
	Δp [Pa]	18,4					
	dB [A]	35					
800	$L_{0,2}$ [m]	5,3	1,2	0,9	0,5	0,2	
	V_{max} [m/s]	7,7					
	$V_{śr}$ [m/s]	1,8					
	Δp [Pa]	24,1					
	dB [A]	37					
900	$L_{0,2}$ [m]	6,0	1,3	1,1	0,7	0,3	0,1
	V_{max} [m/s]	8,7					
	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	30,5					
	dB [A]	43					
1000	$L_{0,2}$ [m]	6,6	1,5	1,3	0,8	0,4	0,1
	V_{max} [m/s]	9,7					
	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	37,8					
	dB [A]	45					

Table for selection directional swirl diffuser AWK-1-PO 600/625-48 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PO

Typ		600/625-48	x (odległość od ściany)				
A_{ef} [m²]		0,0997	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	0,7					
	V_{max} [m/s]	1,2					
100	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,5					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,2					
	V_{max} [m/s]	1,7					
150	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	1,1					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,6	0,2				
	V_{max} [m/s]	2,3					
200	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	2,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,1	0,3				
	V_{max} [m/s]	2,9					
250	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,5	0,4	0,1			
	V_{max} [m/s]	3,5					
300	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	4,6					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,0	0,5	0,3			
	V_{max} [m/s]	4,0					
350	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	6,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,4	0,7	0,4	0,1		
	V_{max} [m/s]	4,6					
400	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	8,1					
	dB [A]	<30					

Typ		600/625-48	x (odległość od ściany)				
A_{ef} [m²]		0,0997	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	3,4	0,8	0,5	0,2		
	V_{max} [m/s]	4,6					
450	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	8,1					
	dB [A]	<30					
	$L_{0,2}$ [m]	4,4	0,9	0,7	0,3	0,1	
	V_{max} [m/s]	5,8					
500	$V_{śr}$ [m/s]	1,4					
	Δp [Pa]	12,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	5,3	1,2	0,9	0,5	0,2	
	V_{max} [m/s]	6,9					
600	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	18,4					
	dB [A]	32					
	$L_{0,2}$ [m]	6,2	1,4	1,2	0,7	0,3	0,1
	V_{max} [m/s]	8,1					
700	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	25,1					
	dB [A]	36					
	$L_{0,2}$ [m]	7,1	1,7	1,4	0,9	0,5	0,1
	V_{max} [m/s]	9,2					
800	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	32,9					
	dB [A]	40					
	$L_{0,2}$ [m]	8,0	1,9	1,7	1,1	0,6	0,2
	V_{max} [m/s]	10,4					
900	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	41,7					
	dB [A]	44					
	$L_{0,2}$ [m]	8,9	2,2	1,9	1,3	0,7	0,3
	V_{max} [m/s]	11,5					
1000	$V_{śr}$ [m/s]	2,8					
	Δp [Pa]	51,6					
	dB [A]	47					

Table for selection directional swirl diffuser AWK-1-PK 600/625-36 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK

Typ		600/625-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	1,4					
100	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,6					
	V_{max} [m/s]	2,2					
150	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	1,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,2					
	V_{max} [m/s]	2,9					
200	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,8	0,5				
	V_{max} [m/s]	3,6					
250	$V_{śr}$ [m/s]	0,9					
	Δp [Pa]	4,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,4	0,7				
	V_{max} [m/s]	4,3					
300	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	6,8					
	dB [A]	30					
	$L_{0,2}$ [m]	4,0	0,8	0,6			
	V_{max} [m/s]	5,1					
350	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	9,3					
	dB [A]	<35					
	$L_{0,2}$ [m]	4,6	1,0	0,7			
	V_{max} [m/s]	5,8					
400	$V_{śr}$ [m/s]	1,5					
	Δp [Pa]	12,2					
	dB [A]	35					

Typ		600/625-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	5,3	1,2	0,9	0,5		
	V_{max} [m/s]	6,5					
450	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	15,5					
	dB [A]	<35					
	$L_{0,2}$ [m]	5,9	1,3	1,1	0,7		
	V_{max} [m/s]	7,2					
500	$V_{śr}$ [m/s]	1,9					
	Δp [Pa]	19,2					
	dB [A]	40					
	$L_{0,2}$ [m]	7,1	1,7	1,4	0,9		
	V_{max} [m/s]	8,7					
600	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	27,7					
	dB [A]	42					
	$L_{0,2}$ [m]	8,3	2,0	1,8	1,2	0,7	
	V_{max} [m/s]	10,1					
700	$V_{śr}$ [m/s]	2,6					
	Δp [Pa]	37,8					
	dB [A]	45					
	$L_{0,2}$ [m]	9,5	2,3	2,1	1,5	0,8	
	V_{max} [m/s]	11,5					
800	$V_{śr}$ [m/s]	3,0					
	Δp [Pa]	49,5					
	dB [A]	48					
	$L_{0,2}$ [m]	10,7	2,6	2,5	1,8	1,0	0,4
	V_{max} [m/s]	13,0					
900	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	62,7					
	dB [A]	50					
	$L_{0,2}$ [m]	11,9	3,0	2,8	2,0	1,2	0,5
	V_{max} [m/s]	14,4					
1000	$V_{śr}$ [m/s]	3,7					
	Δp [Pa]	77,6					
	dB [A]	52					

Table for selection directional swirl diffuser AWK-1-PO 600/625-36 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PO

Typ		600/625-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	1,4					
100	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,6					
	V_{max} [m/s]	2,2					
150	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	1,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,2	0,3				
	V_{max} [m/s]	2,9					
200	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,8	0,5				
	V_{max} [m/s]	3,6					
250	$V_{śr}$ [m/s]	0,9					
	Δp [Pa]	4,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,4	0,7	0,4			
	V_{max} [m/s]	4,3					
300	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	6,8					
	dB [A]	30					
	$L_{0,2}$ [m]	4,0	0,8	0,6			
	V_{max} [m/s]	5,1					
350	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	9,3					
	dB [A]	<35					
	$L_{0,2}$ [m]	4,6	1,0	0,7	0,4		
	V_{max} [m/s]	5,8					
400	$V_{śr}$ [m/s]	1,5					
	Δp [Pa]	12,2					
	dB [A]	35					

Typ		600/625-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	5,3	1,2	0,9	0,5		
	V_{max} [m/s]	6,5					
450	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	15,5					
	dB [A]	<35					
	$L_{0,2}$ [m]	5,9	1,3	1,1	0,7	0,3	
	V_{max} [m/s]	7,2					
500	$V_{śr}$ [m/s]	1,9					
	Δp [Pa]	19,2					
	dB [A]	40					
	$L_{0,2}$ [m]	7,1	1,7	1,4	0,9	0,5	
	V_{max} [m/s]	8,7					
600	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	27,7					
	dB [A]	42					
	$L_{0,2}$ [m]	8,3	2,0	1,8	1,2	0,7	0,2
	V_{max} [m/s]	10,1					
700	$V_{śr}$ [m/s]	2,6					
	Δp [Pa]	37,8					
	dB [A]	45					
	$L_{0,2}$ [m]	9,5	2,3	2,1	1,5	0,8	0,3
	V_{max} [m/s]	11,5					
800	$V_{śr}$ [m/s]	3,0					
	Δp [Pa]	49,5					
	dB [A]	48					
	$L_{0,2}$ [m]	10,7	2,6	2,5	1,8	1,0	0,4
	V_{max} [m/s]	13,0					
900	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	62,7					
	dB [A]	50					
	$L_{0,2}$ [m]	11,9	3,0	2,8	2,0	1,2	0,5
	V_{max} [m/s]	14,4					
1000	$V_{śr}$ [m/s]	3,7					
	Δp [Pa]	77,6					
	dB [A]	52					

Table for selection directional swirl diffuser AWK-1-PK 800-108 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PK

Typ		800-108	x (odległość od ściany)				
A_{ef} [m²]		0,2243	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	0,2					
	V_{max} [m/s]	1,2					
200	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,4					
	dB [A]	<30					
	$L_{0,2}$ [m]	0,4					
	V_{max} [m/s]	1,8					
300	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	1,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	0,7					
	V_{max} [m/s]	2,4					
400	$V_{śr}$ [m/s]	0,5					
	Δp [Pa]	1,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,1					
	V_{max} [m/s]	3,7					
600	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,9					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,5	0,1				
	V_{max} [m/s]	4,9					
800	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	7,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,0	0,3				
	V_{max} [m/s]	6,1					
1000	$V_{śr}$ [m/s]	1,2					
	Δp [Pa]	10,9					
	dB [A]	30					
	$L_{0,2}$ [m]	2,4	0,4	0,1			
	V_{max} [m/s]	7,3					
1200	$V_{śr}$ [m/s]	1,5					
	Δp [Pa]	15,8					
	dB [A]	35					

Typ		800-108	x (odległość od ściany)				
A_{ef} [m²]		0,2243	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	2,8	0,5	0,2			
	V_{max} [m/s]	8,6					
1400	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	21,5					
	dB [A]	42					
	$L_{0,2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	9,8					
1600	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	28,2					
	dB [A]	42					
	$L_{0,2}$ [m]	3,7	0,7	0,5	0,2		
	V_{max} [m/s]	11,0					
1800	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	35,7					
	dB [A]	46					
	$L_{0,2}$ [m]	4,2	0,9	0,6	0,3		
	V_{max} [m/s]	12,2					
2000	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	44,2					
	dB [A]	50					
	$L_{0,2}$ [m]	4,6	1,0	0,7	0,4	0,1	
	V_{max} [m/s]	13,5					
2200	$V_{śr}$ [m/s]	2,7					
	Δp [Pa]	53,5					
	dB [A]	55					
	$L_{0,2}$ [m]	5,0	1,1	0,9	0,5	0,2	
	V_{max} [m/s]	14,7					
2400	$V_{śr}$ [m/s]	3,0					
	Δp [Pa]	63,8					
	dB [A]	60					
	$L_{0,2}$ [m]	5,5	1,2	1,0	0,6	0,2	
	V_{max} [m/s]	15,9					
2600	$V_{śr}$ [m/s]	3,2					
	Δp [Pa]	75,0					
	dB [A]	65					

Table for selection directional swirl diffuser AWK-1-PO 800-84 (45 degree all blades set, influance of wall distance or second diffuser)

AWK-1-PO

Typ		800-84	x (odległość od ściany)				
A_{ef} [m²]		0,1744	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	0,6					
	V_{max} [m/s]	1,5					
200	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	2,2					
300	$V_{śr}$ [m/s]	0,5					
	Δp [Pa]	1,9					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,3	0,1				
	V_{max} [m/s]	3,0					
400	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	3,4					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,1	0,3				
	V_{max} [m/s]	4,5					
600	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	7,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,9	0,5	0,2			
	V_{max} [m/s]	6,0					
800	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	13,9					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,7	0,7	0,5	0,2		
	V_{max} [m/s]	7,5					
1000	$V_{śr}$ [m/s]	1,6					
	Δp [Pa]	21,7					
	dB [A]	32					
	$L_{0,2}$ [m]	4,4	0,9	0,7	0,3	0,1	
	V_{max} [m/s]	8,9					
1200	$V_{śr}$ [m/s]	1,9					
	Δp [Pa]	31,4					
	dB [A]	35					

Typ		800-84	x (odległość od ściany)				
A_{ef} [m²]		0,1744	1 m	2 m	3 m	4 m	5 m
Q[m³/h]		L_{pion} (zasięg w pionie)					
	$L_{0,2}$ [m]	5,2	1,1	0,9	0,5	0,2	
	V_{max} [m/s]	10,4					
1400	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	42,8					
	dB [A]	41					
	$L_{0,2}$ [m]	6,0	1,4	1,1	0,7	0,3	0,1
	V_{max} [m/s]	11,9					
1600	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	56,0					
	dB [A]	42					
	$L_{0,2}$ [m]	6,8	1,6	1,3	0,9	0,4	0,1
	V_{max} [m/s]	13,4					
1800	$V_{śr}$ [m/s]	2,9					
	Δp [Pa]	71,0					
	dB [A]	47					
	$L_{0,2}$ [m]	7,5	1,8	1,6	1,0	0,5	0,2
	V_{max} [m/s]	14,9					
2000	$V_{śr}$ [m/s]	3,2					
	Δp [Pa]	87,9					
	dB [A]	52					
	$L_{0,2}$ [m]	8,3	2,0	1,8	1,2	0,7	0,2
	V_{max} [m/s]	16,4					
2200	$V_{śr}$ [m/s]	3,5					
	Δp [Pa]	106,5					
	dB [A]	57					
	$L_{0,2}$ [m]	9,1	2,2	2,0	1,4	0,8	0,3
	V_{max} [m/s]	17,9					
2400	$V_{śr}$ [m/s]	3,8					
	Δp [Pa]	126,9					
	dB [A]	62					
	$L_{0,2}$ [m]	9,8	2,4	2,2	1,6	0,9	0,3
	V_{max} [m/s]	19,4					
2600	$V_{śr}$ [m/s]	4,1					
	Δp [Pa]	149,1					
	dB [A]	67					

Table for selection directional swirl diffuser AWK-2 (singular diffuser, all blades horizontaly set)

Typ		310-8	400-16	500-24	600-36	600-48
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997
Q [m³/h]						
25	$L_{0,2}$ [m]	0,8	0,6	0,4		
	V_{max} [m/s]	1,1	0,6	0,5		
	$V_{śr}$ [m/s]	0,4	0,2	0,1		
	Δp [Pa]	0,8	0,2	0,1		
	dB [A]	<30	<30	<30		
50	$L_{0,2}$ [m]	1,9	1,5	1,2	0,8	0,5
	V_{max} [m/s]	2,2	1,3	0,9	0,7	0,5
	$V_{śr}$ [m/s]	0,8	0,4	0,3	0,2	0,1
	Δp [Pa]	3,1	0,8	0,4	0,2	0,1
	dB [A]	<30	<30	<30	<30	<30
100	$L_{0,2}$ [m]	4,3	3,5	2,8	2,0	1,4
	V_{max} [m/s]	4,4	2,6	1,9	1,4	1,1
	$V_{śr}$ [m/s]	1,7	0,8	0,6	0,4	0,3
	Δp [Pa]	12,6	3,4	1,7	0,9	0,6
	dB [A]	<30	<30	<30	<30	<30
150	$L_{0,2}$ [m]	6,7	5,4	4,4	3,2	2,3
	V_{max} [m/s]	6,6	3,8	2,8	2,0	1,6
	$V_{śr}$ [m/s]	2,5	1,3	0,8	0,6	0,4
	Δp [Pa]	28,5	7,6	3,7	2,0	1,3
	dB [A]	<30	<30	<30	<30	<30
200	$L_{0,2}$ [m]	9,1	7,4	6,0	4,4	3,2
	V_{max} [m/s]	8,8	5,1	3,7	2,7	2,2
	$V_{śr}$ [m/s]	3,3	1,7	1,1	0,7	0,6
	Δp [Pa]	50,9	13,6	6,7	3,6	2,4
	dB [A]	32	<30	<30	<30	<30
250	$L_{0,2}$ [m]	11,4	9,4	7,7	5,7	4,1
	V_{max} [m/s]	11,0	6,4	4,7	3,4	2,7
	$V_{śr}$ [m/s]	4,2	2,1	1,4	0,9	0,7
	Δp [Pa]	79,8	21,3	10,5	5,6	3,7
	dB [A]	36	32	<30	<30	<30

Typ		310-8	400-16	500-24	600-36	600-48
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997
Q [m³/h]						
300	$L_{0,2}$ [m]		11,3	9,3	6,9	5,1
	V_{max} [m/s]		7,7	5,6	4,1	3,3
	$V_{śr}$ [m/s]		2,5	1,7	1,1	0,8
	Δp [Pa]		30,7	15,1	8,1	5,4
	dB [A]		37	<30	<30	<30
350	$L_{0,2}$ [m]			10,9	8,1	6,0
	V_{max} [m/s]			6,5	4,8	3,8
	$V_{śr}$ [m/s]			2,0	1,3	1,0
	Δp [Pa]			20,7	11,0	7,3
	dB [A]			30	<30	<30
400	$L_{0,2}$ [m]				9,3	6,9
	V_{max} [m/s]				5,4	4,4
	$V_{śr}$ [m/s]				1,5	1,1
	Δp [Pa]				14,4	9,6
	dB [A]				<30	<30
500	$L_{0,2}$ [m]				11,7	8,7
	V_{max} [m/s]				6,8	5,4
	$V_{śr}$ [m/s]				1,9	1,4
	Δp [Pa]				22,6	15,0
	dB [A]				33	<30
600	$L_{0,2}$ [m]					10,5
	V_{max} [m/s]					6,5
	$V_{śr}$ [m/s]					1,7
	Δp [Pa]					21,7
	dB [A]					32

Table for selection swirl directional diffusers AWK-2 (singular diffuser, 45 degree blades set)

Typ		310-8	400-16	500-24	600-36	600-48
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997
Q [m³/h]						
	$L_{0,2}$ [m]	0,4	0,3	0,2	0,1	
	V_{max} [m/s]	1,2	0,7	0,5	0,4	
25	$V_{śr}$ [m/s]	0,4	0,2	0,1	0,1	
	Δp [Pa]	0,7	0,2	0,1	0,0	
	dB [A]	<30	<30	<30	<30	
	$L_{0,2}$ [m]	1,0	0,8	0,6	0,4	0,2
	V_{max} [m/s]	2,3	1,4	1,0	0,7	0,6
50	$V_{śr}$ [m/s]	0,8	0,4	0,3	0,2	0,1
	Δp [Pa]	2,6	0,7	0,3	0,2	0,1
	dB [A]	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	2,2	1,7	1,4	1,0	0,7
	V_{max} [m/s]	4,7	2,7	2,0	1,4	1,2
100	$V_{śr}$ [m/s]	1,7	0,8	0,6	0,4	0,3
	Δp [Pa]	10,7	2,8	1,4	0,7	0,5
	dB [A]	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	3,3	2,7	2,2	1,6	1,2
	V_{max} [m/s]	7,0	4,1	3,0	2,2	1,7
150	$V_{śr}$ [m/s]	2,5	1,3	0,8	0,6	0,4
	Δp [Pa]	24,2	6,5	3,2	1,7	1,1
	dB [A]	<30	<30	<30	<30	<30
	$L_{0,2}$ [m]	4,5	3,7	3,0	2,2	1,6
	V_{max} [m/s]	9,3	5,4	4,0	2,9	2,3
200	$V_{śr}$ [m/s]	3,3	1,7	1,1	0,7	0,6
	Δp [Pa]	43,3	11,5	5,7	3,0	2,0
	dB [A]	32	<30	<30	<30	<30
	$L_{0,2}$ [m]	5,7	4,7	3,8	2,8	2,1
	V_{max} [m/s]	11,7	6,8	4,9	3,6	2,9
250	$V_{śr}$ [m/s]	4,2	2,1	1,4	0,9	0,7
	Δp [Pa]	67,8	18,1	8,9	4,7	3,2
	dB [A]	36	32	<30	<30	<30

Typ		310-8	400-16	500-24	600-36	600-48
A_{ef} [m²]		0,0166	0,0332	0,0498	0,0748	0,0997
Q [m³/h]						
	$L_{0,2}$ [m]		5,4	4,6	3,4	2,5
	V_{max} [m/s]		6,9	5,9	4,3	3,5
300	$V_{śr}$ [m/s]		2,0	1,7	1,1	0,8
	Δp [Pa]		17,6	12,9	6,8	4,6
	dB [A]		30	<30	<30	<30
	$L_{0,2}$ [m]			5,4	4,0	3,0
	V_{max} [m/s]			6,9	5,1	4,0
350	$V_{śr}$ [m/s]			2,0	1,3	1,0
	Δp [Pa]			17,6	9,3	6,2
	dB [A]			30	<30	<30
	$L_{0,2}$ [m]				4,6	3,4
	V_{max} [m/s]				5,8	4,6
400	$V_{śr}$ [m/s]				1,5	1,1
	Δp [Pa]				12,2	8,1
	dB [A]				<30	<30
	$L_{0,2}$ [m]				5,9	4,4
	V_{max} [m/s]				7,2	5,8
500	$V_{śr}$ [m/s]				1,9	1,4
	Δp [Pa]				19,2	12,8
	dB [A]				31	<30
	$L_{0,2}$ [m]					5,3
	V_{max} [m/s]					6,9
600	$V_{śr}$ [m/s]					1,7
	Δp [Pa]					18,4
	dB [A]					32

Table for selection swirl directional diffusers AWK-2-PK/PO 310-8 (45 degree all blades set, influance of wall distance or second diffusers)

AWK-2-PK, AWK-2-PO

Typ		310-8	x (distance from wall)				
A_{ef} [m²]		0,0166	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
25	$L_{0,2}$ [m]	0,4					
	V_{max} [m/s]	1,2					
	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
50	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	2,3					
	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	2,6					
	dB [A]	<30					
100	$L_{0,2}$ [m]	2,2	0,3				
	V_{max} [m/s]	4,7					
	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	10,7					
	dB [A]	<30					
150	$L_{0,2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	7,0					
	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	24,2					
	dB [A]	<30					
200	$L_{0,2}$ [m]	4,5	1,0	0,7	0,3	0,1	
	V_{max} [m/s]	9,3					
	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	43,3					
	dB [A]	30					
250	$L_{0,2}$ [m]	5,7	1,3	1,0	0,6	0,3	
	V_{max} [m/s]	11,7					
	$V_{śr}$ [m/s]	4,2					
	Δp [Pa]	67,8					
	dB [A]	35					
300	$L_{0,2}$ [m]	6,9	1,6	1,4	0,9	0,4	0,1
	V_{max} [m/s]	14,0					
	$V_{śr}$ [m/s]	5,0					
	Δp [Pa]	98,0					
	dB [A]	40					
350	$L_{0,2}$ [m]	8,1	1,9	1,7	1,2	0,6	0,2
	V_{max} [m/s]	16,3					
	$V_{śr}$ [m/s]	5,9					
	Δp [Pa]	133,7					
	dB [A]	43					

Table for selection swirl directional diffusers AWK-2-PK/PO 400-16 (45 degree all blades set, influance of wall distance or second diffusers)

AWK-2-PK, AWK-2-PO

Typ		400-16	x (distance from wall)				
A_{ef} [m²]		0,0332	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			**L_{pion} (zasięg w pionie)**				
	$L_{0,2}$ [m]	0,3					
	V_{max} [m/s]	0,7					
25	$V_{śr}$ [m/s]	0,2					
	Δp [Pa]	0,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	0,8					
	V_{max} [m/s]	1,4					
50	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,7	0,2				
	V_{max} [m/s]	2,7					
100	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	2,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,7	0,5	0,2			
	V_{max} [m/s]	4,1					
150	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	6,5					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,7	0,7	0,5	0,2		
	V_{max} [m/s]	5,4					
200	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	11,5					
	dB [A]	<30					
	$L_{0,2}$ [m]	4,7	1,0	0,8	0,4	0,1	
	V_{max} [m/s]	6,8					
250	$V_{śr}$ [m/s]	2,1					
	Δp [Pa]	18,1					
	dB [A]	32					
	$L_{0,2}$ [m]	5,7	1,3	1,0	0,6	0,3	
	V_{max} [m/s]	8,1					
300	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	26,1					
	dB [A]	36					
	$L_{0,2}$ [m]	6,6	1,5	1,3	0,8	0,4	0,1
	V_{max} [m/s]	9,5					
350	$V_{śr}$ [m/s]	2,9					
	Δp [Pa]	35,6					
	dB [A]	40					

Table for selection swirl directional diffusers AWK-2-PK/PO 500-24 (45 degree all blades set, influance of wall distance or second diffusers)

AWK-2-PK, AWK-2-PO

Typ		500-24	x (distance from wall)				
A_{ef} [m²]		0,0498	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
50	$L_{0,2}$ [m]	0,6					
	V_{max} [m/s]	1,0					
	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,3					
	dB [A]	<30					
100	$L_{0,2}$ [m]	1,4	0,1				
	V_{max} [m/s]	2,0					
	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	1,4					
	dB [A]	<30					
150	$L_{0,2}$ [m]	2,2	0,3	0,1			
	V_{max} [m/s]	3,0					
	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	3,2					
	dB [A]	<30					
200	$L_{0,2}$ [m]	3,0	0,6	0,3			
	V_{max} [m/s]	4,0					
	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	5,7					
	dB [A]	<30					
350	$L_{0,2}$ [m]	5,4	1,2	1,0	0,6	0,2	
	V_{max} [m/s]	6,9					
	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	17,6					
	dB [A]	30					
400	$L_{0,2}$ [m]	6,3	1,4	1,2	0,7	0,3	0,1
	V_{max} [m/s]	7,9					
	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	23,0					
	dB [A]	32					
500	$L_{0,2}$ [m]	7,9	1,9	1,7	1,1	0,6	0,2
	V_{max} [m/s]	9,9					
	$V_{śr}$ [m/s]	2,8					
	Δp [Pa]	36,0					
	dB [A]	36					
600	$L_{0,2}$ [m]	9,5	2,3	2,1	1,5	0,8	0,3
	V_{max} [m/s]	11,9					
	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	52,1					
	dB [A]	42					
700	$L_{0,2}$ [m]	11,1	2,7	2,6	1,8	1,1	0,4
	V_{max} [m/s]	13,9					
	$V_{śr}$ [m/s]	3,9					
	Δp [Pa]	71,0					
	dB [A]	48					
800	$L_{0,2}$ [m]	12,7	3,2	3,0	2,2	1,3	0,5
	V_{max} [m/s]	15,8					
	$V_{śr}$ [m/s]	4,5					
	Δp [Pa]	93,0					
	dB [A]	52					

Table for selection swirl directional diffusers AWK-2-PK/PO 600-36 (45 degree all blades set, influance of wall distance or second diffusers)

AWK-2-PK, AWK-2-PO

Typ		600-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	1,0					
	V_{max} [m/s]	1,4					
100	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	0,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,6					
	V_{max} [m/s]	2,2					
150	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	1,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,2	0,3				
	V_{max} [m/s]	2,9					
200	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,8	0,5				
	V_{max} [m/s]	3,6					
250	$V_{śr}$ [m/s]	0,9					
	Δp [Pa]	4,7					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,4	0,7	0,4			
	V_{max} [m/s]	4,3					
300	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	6,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	4,0	0,8	0,6			
	V_{max} [m/s]	5,1					
350	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	9,3					
	dB [A]	<30					
	$L_{0,2}$ [m]	4,6	1,0	0,7	0,4		
	V_{max} [m/s]	5,8					
400	$V_{śr}$ [m/s]	1,5					
	Δp [Pa]	12,2					
	dB [A]	<30					

Typ		600-36	x (odległość od ściany)				
A_{ef} [m²]		0,0748	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	5,9	1,2	0,9	0,5		
	V_{max} [m/s]	7,2					
450	$V_{śr}$ [m/s]	1,9					
	Δp [Pa]	19,2					
	dB [A]	31					
	$L_{0,2}$ [m]	5,9	1,3	1,1	0,7	0,3	
	V_{max} [m/s]	7,2					
500	$V_{śr}$ [m/s]	1,9					
	Δp [Pa]	19,2					
	dB [A]	30					
	$L_{0,2}$ [m]	7,1	1,7	1,4	0,9	0,5	
	V_{max} [m/s]	8,7					
600	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	27,7					
	dB [A]	31					
	$L_{0,2}$ [m]	8,3	2,0	1,8	1,2	0,7	0,2
	V_{max} [m/s]	10,1					
700	$V_{śr}$ [m/s]	2,6					
	Δp [Pa]	37,8					
	dB [A]	33					
	$L_{0,2}$ [m]	9,5	2,3	2,1	1,5	0,8	0,3
	V_{max} [m/s]	11,5					
800	$V_{śr}$ [m/s]	3,0					
	Δp [Pa]	49,5					
	dB [A]	35					
	$L_{0,2}$ [m]	10,7	2,6	2,5	1,8	1,0	0,4
	V_{max} [m/s]	13,0					
900	$V_{śr}$ [m/s]	3,3					
	Δp [Pa]	62,7					
	dB [A]	39					
	$L_{0,2}$ [m]	11,9	3,0	2,8	2,0	1,2	0,5
	V_{max} [m/s]	14,4					
1000	$V_{śr}$ [m/s]	3,7					
	Δp [Pa]	77,6					
	dB [A]	45					

Table for selection swirl directional diffusers AWK-2-PK/PO 600-48 (45 degree all blades set, influance of wall distance or second diffusers)

AWK-2-PK, AWK-2-PO

Typ		600-48	x (distance from wall)				
A_{ef} [m²]		0,0997	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	0,7					
	V_{max} [m/s]	1,2					
100	$V_{śr}$ [m/s]	0,3					
	Δp [Pa]	0,5					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,2					
	V_{max} [m/s]	1,7					
150	$V_{śr}$ [m/s]	0,4					
	Δp [Pa]	1,1					
	dB [A]	<30					
	$L_{0,2}$ [m]	1,6	0,2				
	V_{max} [m/s]	2,3					
200	$V_{śr}$ [m/s]	0,6					
	Δp [Pa]	2,0					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,1	0,3				
	V_{max} [m/s]	2,9					
250	$V_{śr}$ [m/s]	0,7					
	Δp [Pa]	3,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	2,5	0,4	0,1			
	V_{max} [m/s]	3,5					
300	$V_{śr}$ [m/s]	0,8					
	Δp [Pa]	4,6					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,0	0,5	0,3			
	V_{max} [m/s]	4,0					
350	$V_{śr}$ [m/s]	1,0					
	Δp [Pa]	6,2					
	dB [A]	<30					
	$L_{0,2}$ [m]	3,4	0,7	0,4	0,1		
	V_{max} [m/s]	4,6					
400	$V_{śr}$ [m/s]	1,1					
	Δp [Pa]	8,1					
	dB [A]	<30					

Typ		600-48	x (distance from wall)				
A_{ef} [m²]		0,0997	1 m	2 m	3 m	4 m	5 m
Q[m³/h]			L_{pion} (zasięg w pionie)				
	$L_{0,2}$ [m]	3,9	0,8	0,5	0,2		
	V_{max} [m/s]	5,2					
450	$V_{śr}$ [m/s]	1,3					
	Δp [Pa]	10,3					
	dB [A]	<30					
	$L_{0,2}$ [m]	4,4	0,9	0,7	0,3	0,1	
	V_{max} [m/s]	5,8					
500	$V_{śr}$ [m/s]	1,4					
	Δp [Pa]	12,8					
	dB [A]	<30					
	$L_{0,2}$ [m]	5,3	1,2	0,9	0,5	0,2	
	V_{max} [m/s]	6,9					
600	$V_{śr}$ [m/s]	1,7					
	Δp [Pa]	18,4					
	dB [A]	32					
	$L_{0,2}$ [m]	6,2	1,4	1,2	0,7	0,3	0,1
	V_{max} [m/s]	8,1					
700	$V_{śr}$ [m/s]	2,0					
	Δp [Pa]	25,1					
	dB [A]	36					
	$L_{0,2}$ [m]	7,1	1,7	1,4	0,9	0,5	0,1
	V_{max} [m/s]	9,2					
800	$V_{śr}$ [m/s]	2,2					
	Δp [Pa]	32,9					
	dB [A]	40					
	$L_{0,2}$ [m]	8,0	1,9	1,7	1,1	0,6	0,2
	V_{max} [m/s]	10,4					
900	$V_{śr}$ [m/s]	2,5					
	Δp [Pa]	41,7					
	dB [A]	44					
	$L_{0,2}$ [m]	8,9	2,2	1,9	1,3	0,7	0,3
	V_{max} [m/s]	11,5					
1000	$V_{śr}$ [m/s]	2,8					
	Δp [Pa]	51,6					
	dB [A]	47					

Instruction for using table for selection directional swirl diffusers AWK-1 and AWK-2 without influance of wall distance and second diffuser

	AWK1	310-8	x (distance from wall)				
	A_{ef} [m^2]	0,0166	1 m	2 m	3 m	4 m	5 m
Q_h [m^3/h]			L_{pion} (zasięg pionie)				
25	$L_{poziom\ V=0.2}$ [m]	0,4					
	V_{max} [m/s]	1,2					
	$V_{śr}$ [m/s]	0,4					
	ΔP [Pa]	0,7					
	dB(A)	<30					
50	$L_{poziom\ V=0.2}$ [m]	1,0					
	V_{max} [m/s]	2,3					
	$V_{śr}$ [m/s]	0,8					
	ΔP [Pa]	2,6					
	dB(A)	<30					
100	$L_{poziom\ V=0.2}$ [m]	2,2	0,3				
	V_{max} [m/s]	4,7					
	$V_{śr}$ [m/s]	1,7					
	ΔP [Pa]	10,7					
	dB(A)	<30					
150	$L_{poziom\ V=0.2}$ [m]	3,3	0,6	0,4	0,1		
	V_{max} [m/s]	7,0					
	$V_{śr}$ [m/s]	2,5					
	ΔP [Pa]	24,2					
	dB(A)	<30					
200	$L_{poziom\ V=0.2}$ [m]	4,5	1,0	0,7	0,3	0,1	
	V_{max} [m/s]	9,3					
	$V_{śr}$ [m/s]	3,3					
	ΔP [Pa]	43,3					
	dB(A)	30					
250	$L_{poziom\ V=0.2}$ [m]	5,7	1,3	1,0	0,6	0,3	
	V_{max} [m/s]	11,7					
	$V_{śr}$ [m/s]	4,2					
	ΔP [Pa]	67,8					
	dB(A)	35					
300	$L_{poziom\ V=0.2}$ [m]	6,9	1,6	1,4	0,9	0,4	0,1
	V_{max} [m/s]	14,0					
	$V_{śr}$ [m/s]	5,0					
	ΔP [Pa]	98,0					
	dB(A)	40					
350	$L_{poziom\ V=0.2}$ [m]	8,1	1,9	1,7	1,2	0,6	0,2
	V_{max} [m/s]	16,3					
	$V_{śr}$ [m/s]	5,9					
	ΔP [Pa]	133,7					
	dB(A)	43					

Part of the basic diagram concerning a reflow along the ceiling without the influence of a wall..

Part considering the influence of a wall or other diffuser for range.

Example:

1) Singular diffuser without the influence of a wall eg. Qh=250 m3/h has the stream range velocity equal to 0,2 m/s 5,7m.
2) If we take into consideration the influence of a wall eg. from a distance equal to 3 m, then: Range through a ceiling is equal to 3 m till a wall, vertical range through a ceiling equals 0,6 m from a ceiling (alltogether 3 m + 0,6 m = 3,6 m).
3) If we have two diffusers in a distance of eg. 6 m from each other and we search for a stream range between them, it is expected to divide by two the distance between them (so in this case it will be 3 m) and to read it as for the influence of a wall in a distance of 3 m.

2.2.6. Directional swirl diffusers AWK-3

Use:
Supply or exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%.

Assembly:
On rectangular ducts or plenum box assambly central screw.

Construction:
Crosswise placement of vents (standard number: 16, 28, 56 or 80) provide an even air stream distribution. Different direction of air flow (horizontally under the ceiling or swirl-type in the direction of people) depending
on adequate setting of plastic material blades. Standard colour of blades - black. A panel with white blades or without on request..

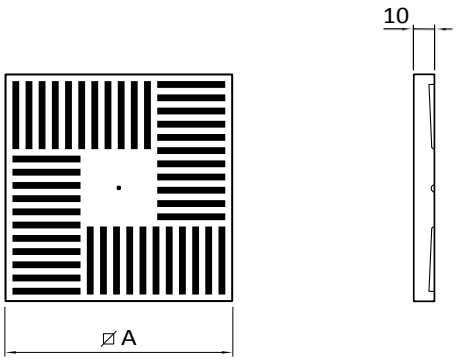
Material:
Black steel sheet, galvaznied steel, aluminum.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

Air flow regulation:
With damper on inlet in plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



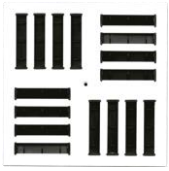
AWK-3

Products range:

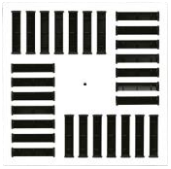
Size	⌀ A	Nr of blades
310	306	16
400	396	28
500	496	56
600	596	80

Directional swirl diffusers AWK-3 - technical data

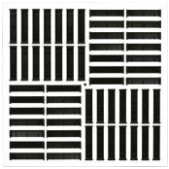
Varianty:



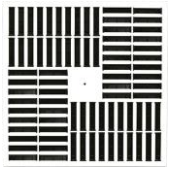
AWK-3/310-16



AWK-3/400-28



AWK-3/500-56

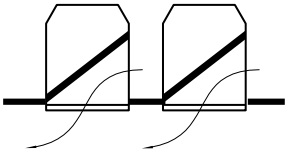


AWK-3/600-80

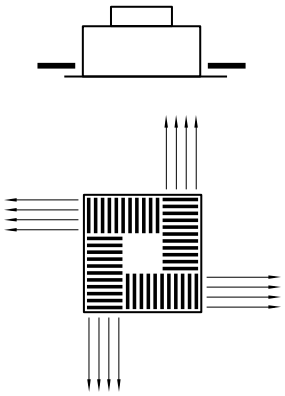
Blades direction:

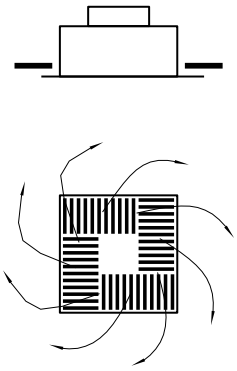
Angular 45° to outside

Angular 45° to inside



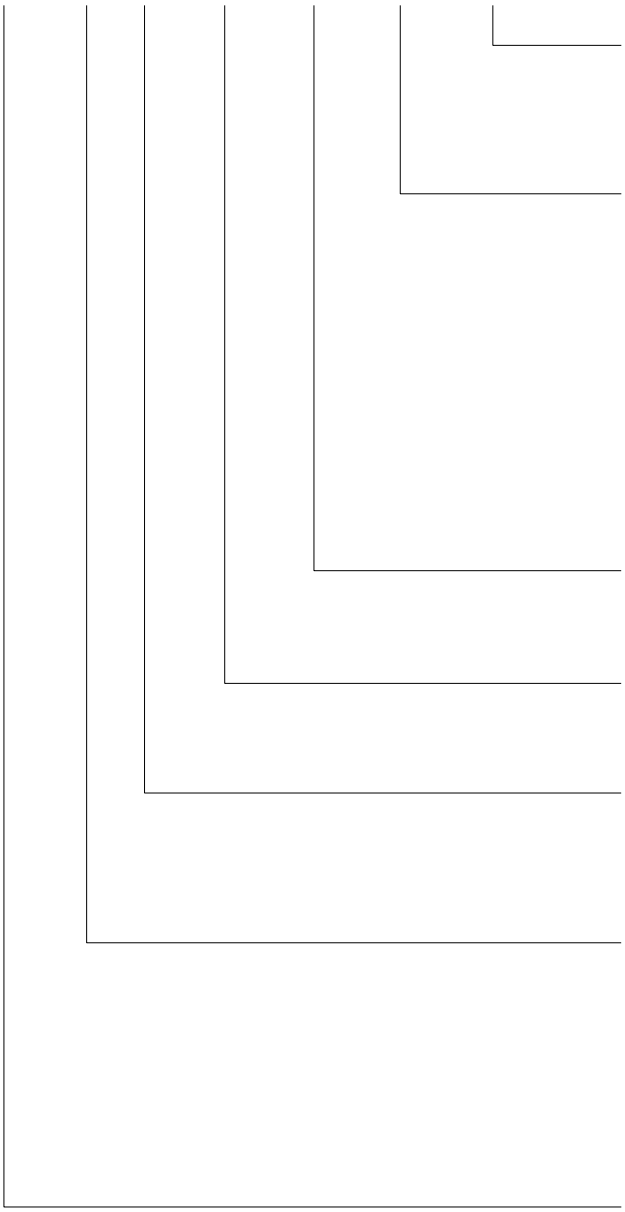
Supply direction:





Product marking AWK-1, AWK-2, AWK-3

AWK–1-alp–PK–600/48–RAL–SR/Ø–WMC



Assambly:
WMC - central screw

Plenum box / diameter
SR - plenum box
SRP - plenum box with damper
SRPw - plenum box with damper regulation inside
SRIP - plenum box with damper and isolation
SRIPw - plenum box with damper regulation inside, isolation
Z - additional assambly elements

Surface finish:
Standard - RAL 9003

Dimensions:
Type of diffuser / nr of blades - swirl diffuser AWK

Panels:
PK - square panel
PO - round panel

Material:
Standard - black steel sheet
alp - aluminium painted RAL colour
oc - galvanized steel
ocp - galvanized steel painted RAL
ko - stainless steel

Type's of diffusers

Order's example:
AWK–2–PK–600/48–SR/Ø160

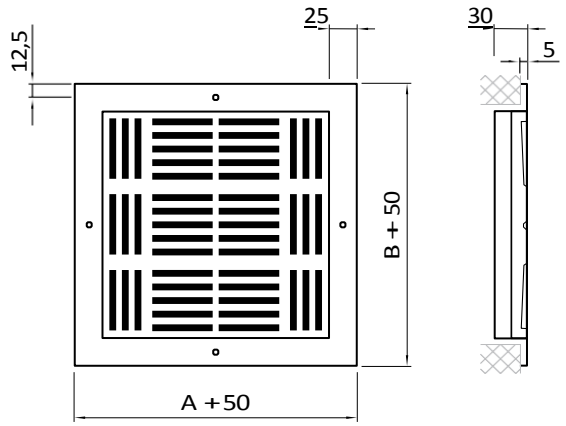
Directional swirl diffuser, Dimensions 600x600/48 plenum box Ø160, standard RAL 9003.
If one does not write all details RDJ Klima will make standard one.

2.2.7. Multi- directional swirl diffusers AWK-W

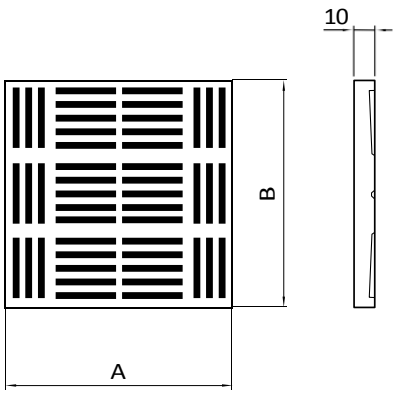
Use:
Supply or exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%
Assembly:
On rectangular ducts or plenum box.
Construction:
Segmented vents (standard number: 8, 10, 15, 16, 20, 24, 30, 32, 40, 45, 48, 60, 64, 75 or 90) provide an even distribution of air stream. Different direction of air flow depending on adequate setting of plastic material blades. Standard colour of blades - white. A panel with white blades or without on request. An option to order a diffuser in the form of a panel without the front frame - AWK-W-B

Material:
Black steel sheet, galvaznied steel or aluminum
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
With damper in inlet in plenum box
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



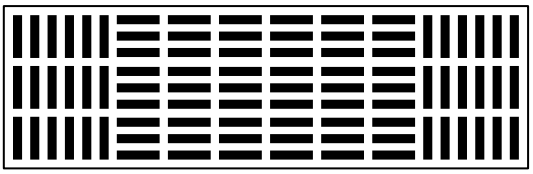
AWK-W



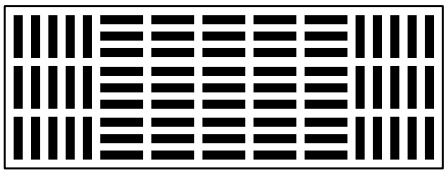
AWK-W-B

Multi-directional diffusers AWK-W - varianty

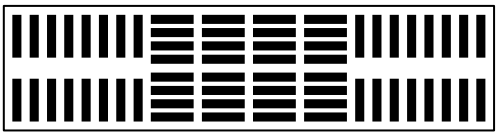
Varianty:



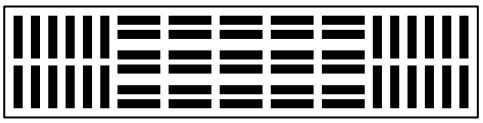
AWK-W-18/5



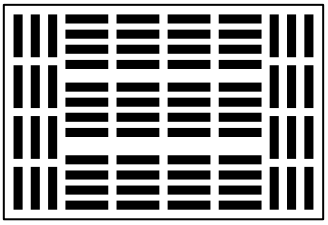
AWK-W-15/5



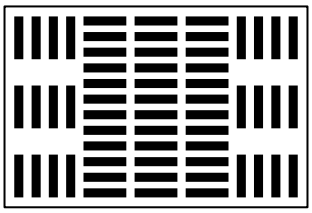
AWK-W-16/4



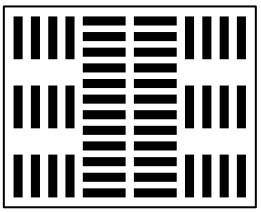
AWK-W-12/5-C



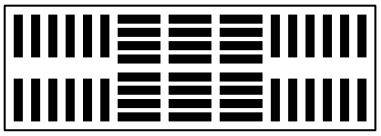
AWK-W-12/5-A



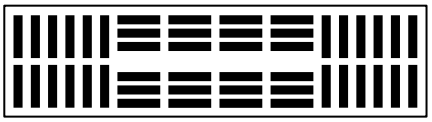
AWK-W-12/5-B



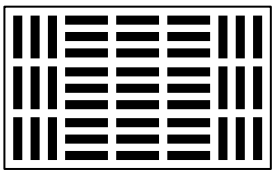
AWK-W-12/4-B



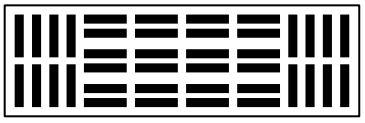
AWK-W-12/4-A



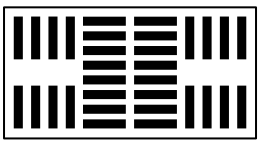
AWK-W-12/4-C



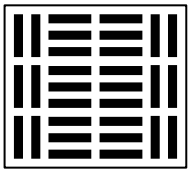
AWK-W-9/5



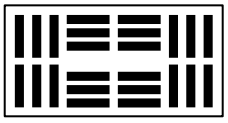
AWK-W-8/5



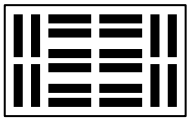
AWK-W-8/4



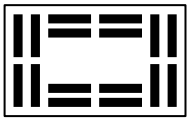
AWK-W-6/5



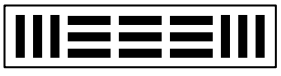
AWK-W-6/4



AWK-W-4/5



AWK-W-4/4



AWK-W-3/5

AWK-W-2/5

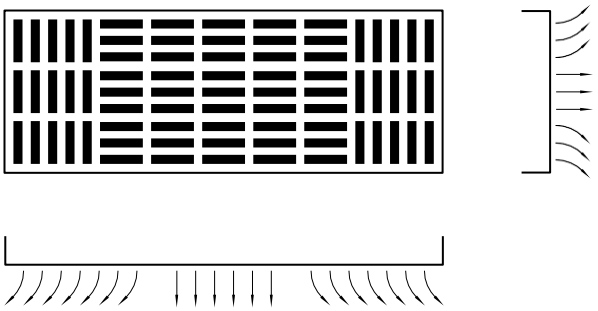
AWK-W-2/4

Multi-directional diffusers AWK-W - technical data

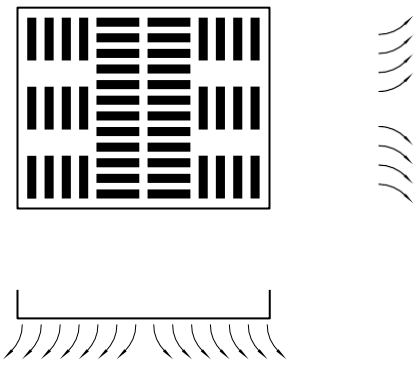
Products range:

A	1105	930	1020	995	570	640	525	775	885	570	750	525	390	460	390		570	390	
B	370		310	260	500	450	445	310	260	370	260	310	370	260			145		
Nr of blades	90	75	64	60			48			45	40	32	30	24	20	16	15	10	8
Nr suply	5	5	4	5			4			5	5	4	5	4	5	4	5	5	4

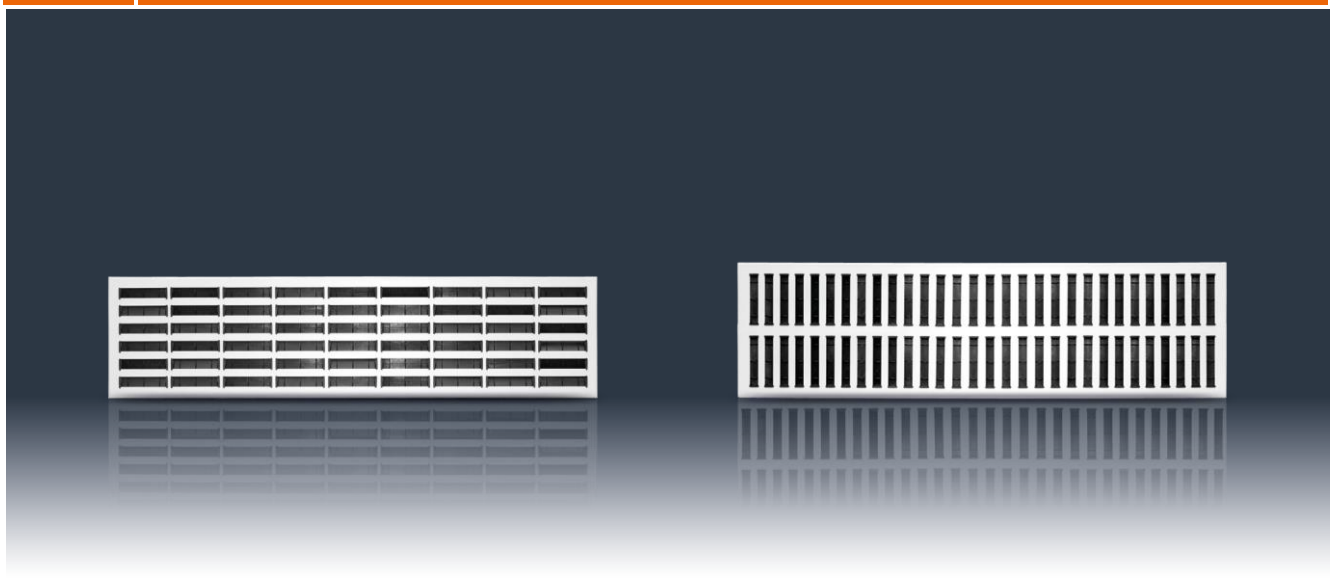
Example AWK-W-15/5.



Example **AWK-W-12/4-B.**



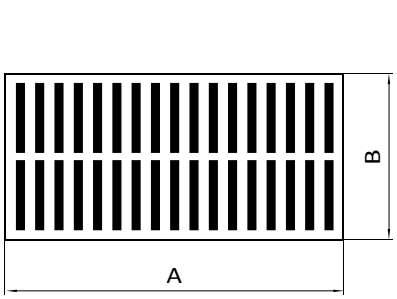
2.2.8. Conecting multi-directional diffusers AWK-T



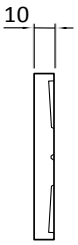
Use:
Supply or exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%
Assembly:
On rectangular ducts
Construction:
Segmented vents (standard number: 8, 10, 15, 16, 20, 24, 30, 32, 40, 45, 48, 60, 64, 75 or 90) provide an even distribution of air stream. Different direction of air flow depending on adequate setting of plastic material blades. Standard colour of blades - white. A panel with white blades or without on request. An option to order a diffuser in the form of a panel without the front frame - AWK-W-B
Material:
blacha czarna, ocynkowana lub aluminium.
Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.
Air flow regulation:
With damper in inlet in plenum box
Certificates:
Hygienic certificate: BK/K/0926/01/2018

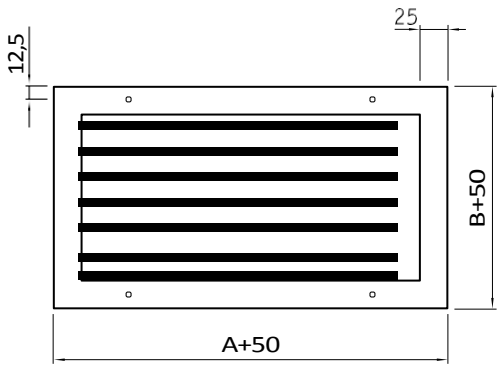
Type and dimension marking:

AWK-T-1

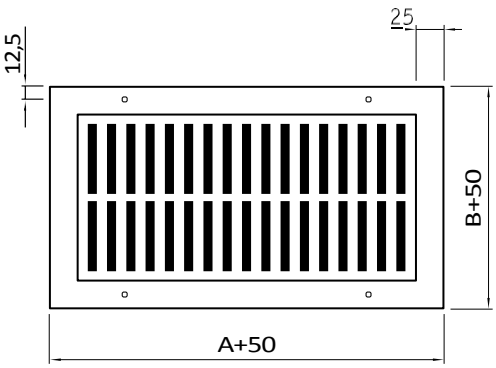


AWK-T-2

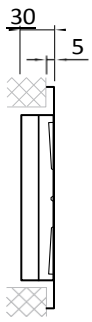




AWK-T-R-1

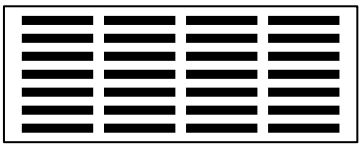


AWK-T-R-2

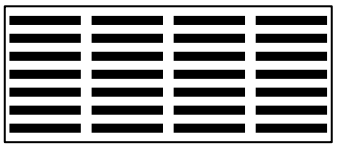


Conecting multi-directional diffusers AWK-T - warianty wykonań

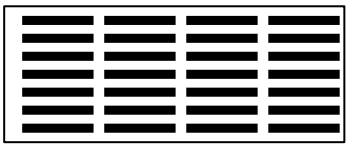
Varianty:



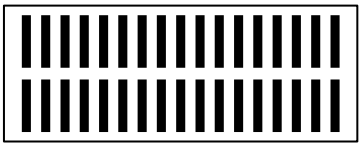
AWK-T-1



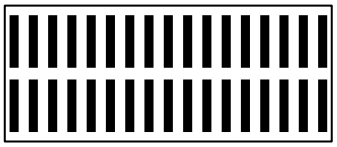
AWK-T-1-LR



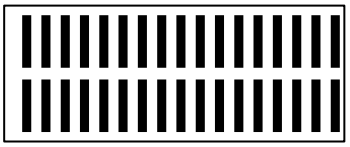
AWK-T-1-E



AWK-T-2

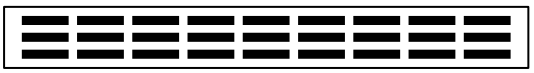


AWK-T-2-LR

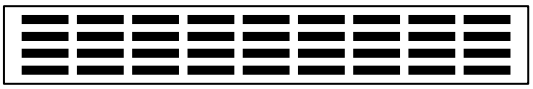


AWK-T-2-E

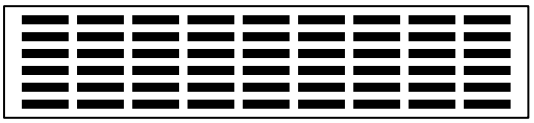
AWK-T-1/18



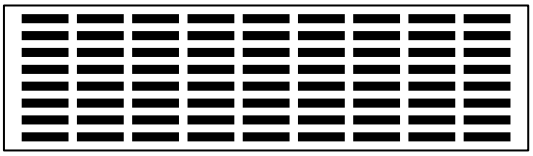
AWK-T-1/27



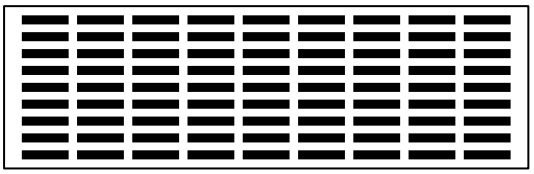
AWK-T-1/36



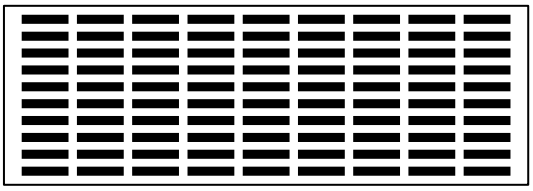
AWK-T-1/54



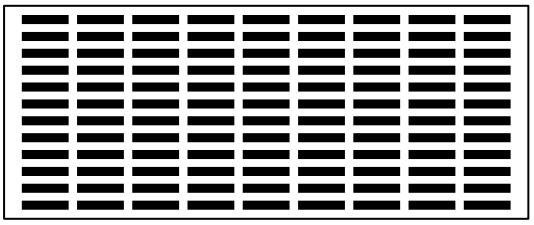
AWK-T-1/72



AWK-T-1/81

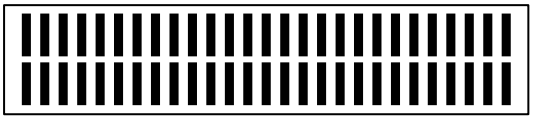


AWK-T-1/90

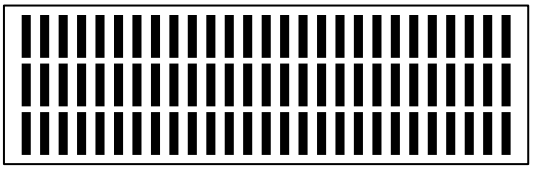


AWK-T-1/108

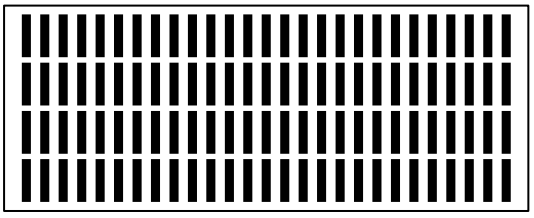
AWK-T-2/27



AWK-T-2/54



AWK-T-2/81



AWK-T-2/108

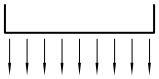
Nawiewnik kierunkowy taśmowy AWK-T - technical data

Products range:

Typ nawiewnika	Nr of blades	A	B	Łącznik LR	Panel skrajny E
AWK-T-1	18	1035	100	999	1017
	27		135		
	36		170		
	54		240		
	72		310		
	81		345		
	90		380		
	108		450		
AWK-T-2	27	950	150	918	934
	54		265		
	81		380		
	108		495		

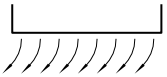
Supply direcion: AWK-T-1

wszystkie kierownice poziomo



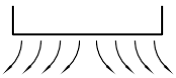
vertical supply

wszystkie kierownice pod kątem 45°

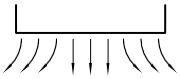


one side supply

½ kierownic pod kątem 45° w lewo
½ kierownic pod kątem 45° w prawo



⅓ kierownic pod kątem 45° w lewo
⅓ kierownic poziomo
⅓ kierownic pod kątem 45° w prawo



2.2.9. Multi-directional diffusers with nozzles AWK-D

Use:
Supply or exhaust in low and medium pressure installation in non aggressive environment with relative humidity up to 70%. Possibility to gain any profile of the supplied air. Designed for ventilation of rooms height from 2.6 m to 4.5 m.

Assembly:
On rectangular or circular ducts, in plenum box assambly central screw

Construction:
Steel panel with outlets placed in series and sinusoidal shape of openings. Different direction of air flow depending on adequate setting of plastic material outlets. Typical diameters of outlets: 38 mm and 55 mm (efficiency of the outlet respectively: 6,5 m3/h i 8 m3/h for LWA = 30 [dB(A)]). Standard colour of outlets - white.

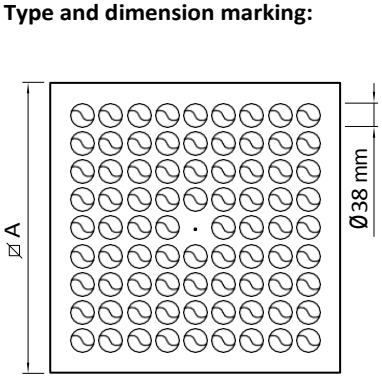
Material:
Black steel sheet, galvanized, aluminum

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

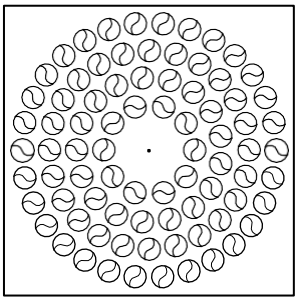
Air flow regulation:
With damper in inlet of plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

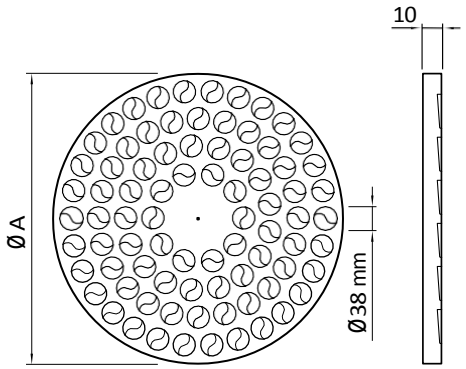
Type and dimension marking:



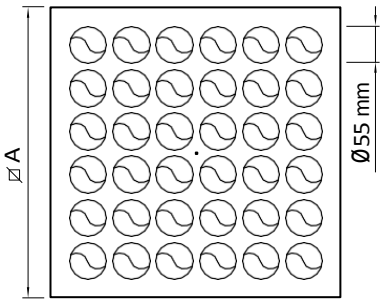
AWK-D-1-PK



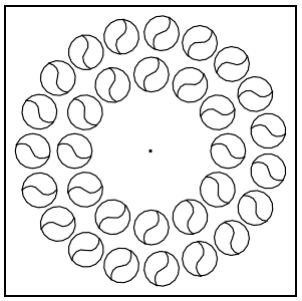
AWK-D-1A-PK



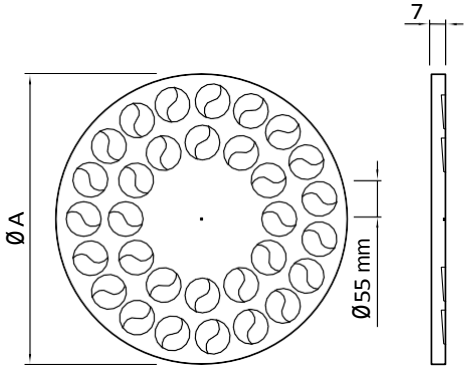
AWK-D-1-PO



AWK-D-2-PK



AWK-D-2A-PK



AWK-D-2-PO

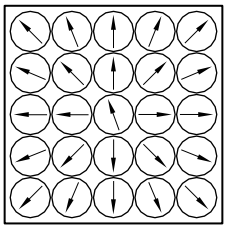
Multi- directional diffusers with nozzles AWK-D - technical data

Products range:

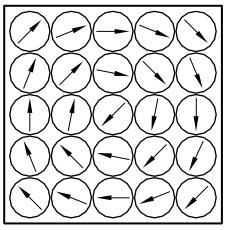
Sizes	⧅ A	Ø D	Nr. Of nozzles Ø 38 mm	Nr of nozzles Ø 55 mm	Type of diffusers
300	310	–	36	–	AWK-D-1-PK/310-36
			–	16	AWK-D-2-PK/310-16
					AWK-D-1A/310-25
					AWK-D-2A/310-12
	–	310	25	–	AWK-D-1-PO/310-25
			–	12	AWK-D-2-PO/310-12
400	398	–	64	–	AWK-D-1-PK/400-64
			–	24	AWK-D-2-PK/400-24
					AWK-D-1A/400-45
					AWK-D-2A/400-24
	–	398	45	–	AWK-D-1-PO/400-45
			–	24	AWK-D-2-PO/400-24
500	498	–	100	–	AWK-D-1-PK/500-100
			–	36	AWK-D-2-PK/500-36
					AWK-D-1A/500-79
					AWK-D-2A/500-36
	–	498	79	–	AWK-D-1-PO/500-79
			–	36	AWK-D-2-PO/500-36
600	595	–	144	–	AWK-D-1-PK/600-144
			–	48	AWK-D-2-PK/600-48
					AWK-D-1A/600-114
					AWK-D-2A/600-58
	–	595	114	–	AWK-D-1-PO/600-114
			–	58	AWK-D-2-PO/600-58

Supply direction:

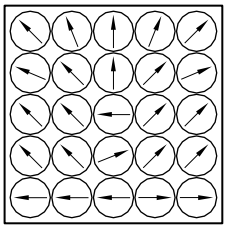
4 ways



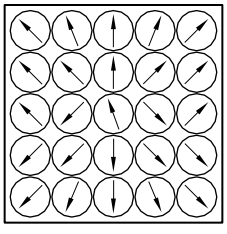
round



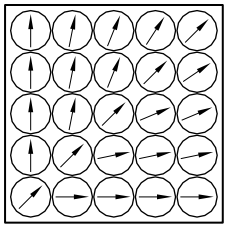
3 ways



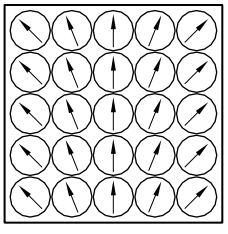
2 ways



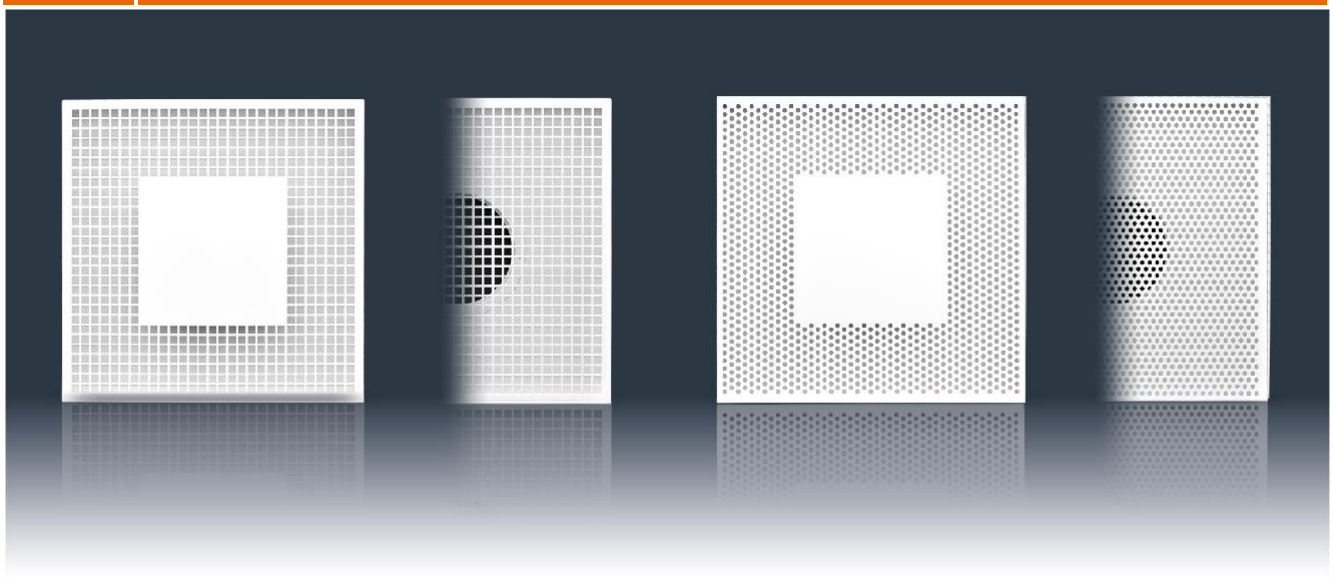
2 ways



1 way



2.2.10. Perforated diffusers AWP



Use:
Supply and exhaust in low and medium pressure systems, used especially for heating or cooling of rooms up to 4 meters high in case of high air temperature diversification between the supplied air and the internal air.

Assembly:
On ducts and in plenum boxes

Construction:
Front panel made of perforated steel: AWP-1 (perforation 10) - 50%, AWP-2 (perforation ø 6) - 30%.

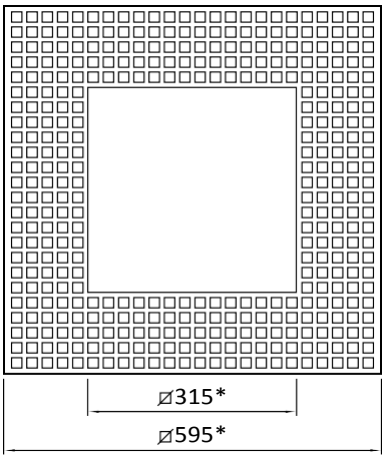
Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

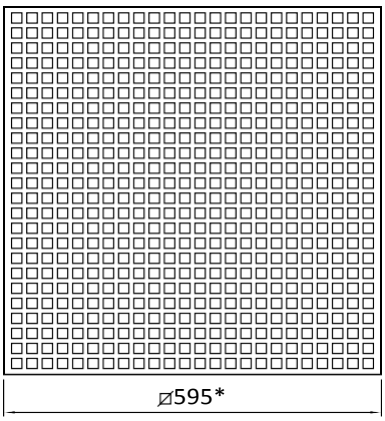
Air flow regulation:
With damper in inlet in plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

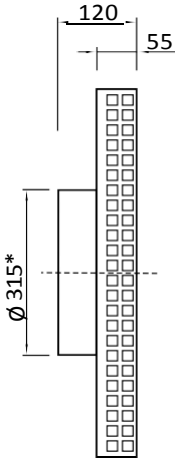
Type and dimension marking:



AWP-N (nawiew)



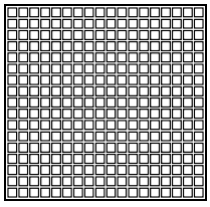
AWP-W (wywiew)



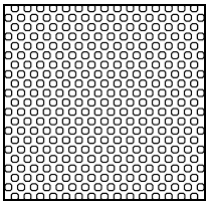
AWP

***) one can choice the dimension and diameter of diffuser ⧄/Ø.**

Perforation's diameter:



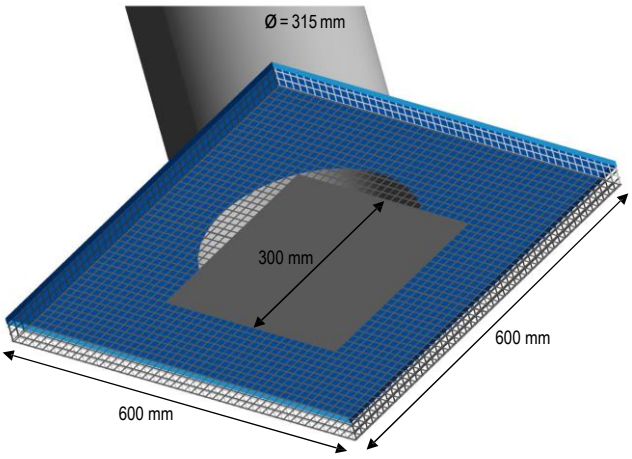
AWP-1



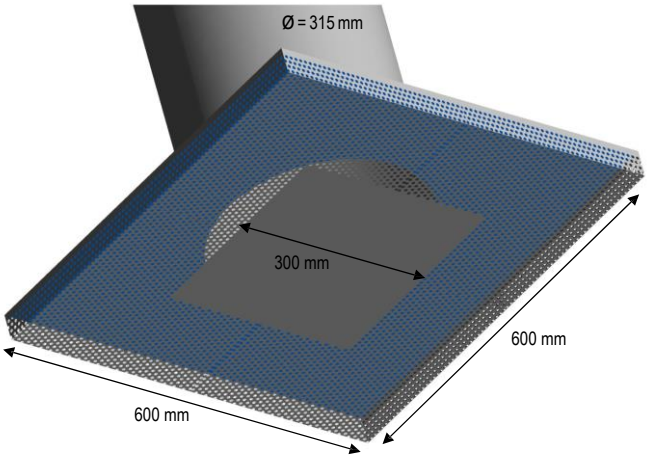
AWP-2

Diagram for selection perforated diffusers AWP-1 i AWP-2

AWP-1



AWP-2



Zależność zasięgu strumienia o prędkości V=0,25 m/s ($L_{0,25}$) od strumienia objętości powietrza (Q).

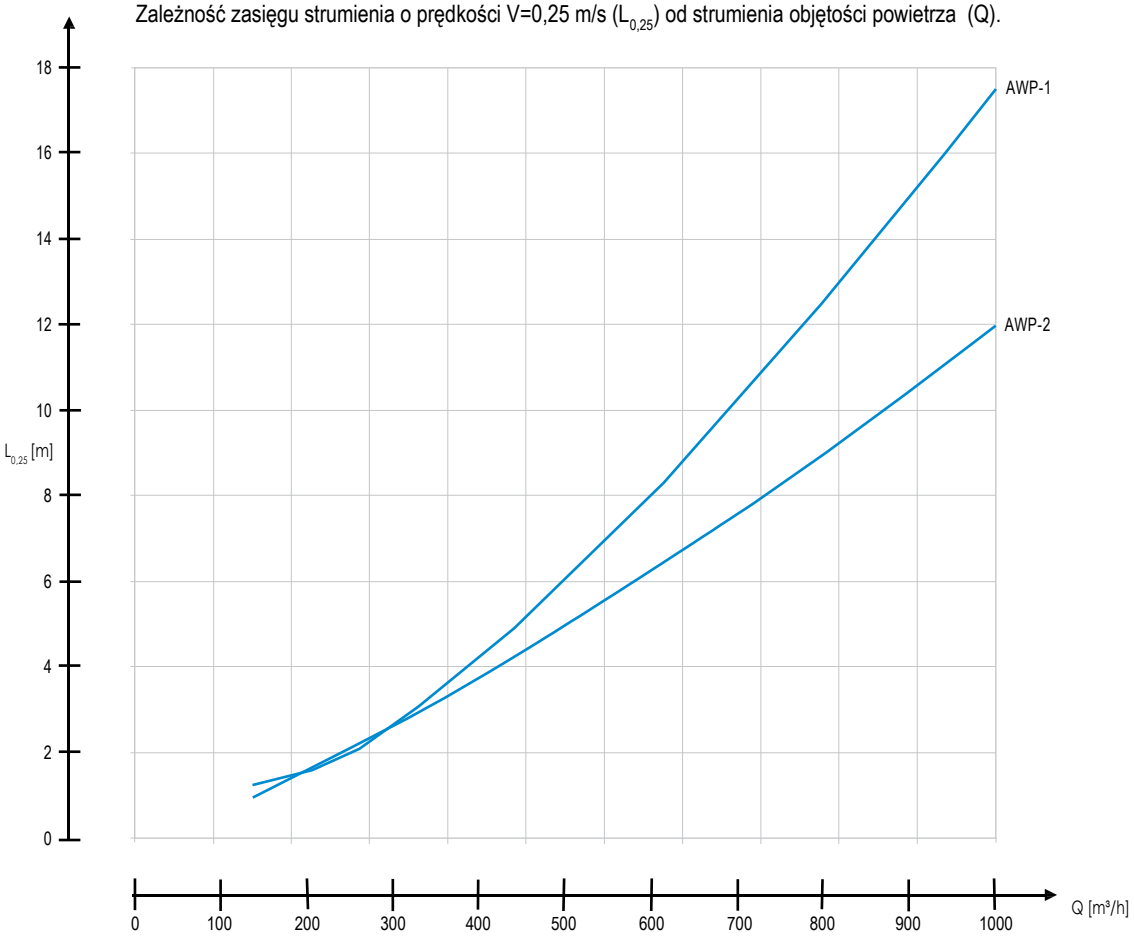
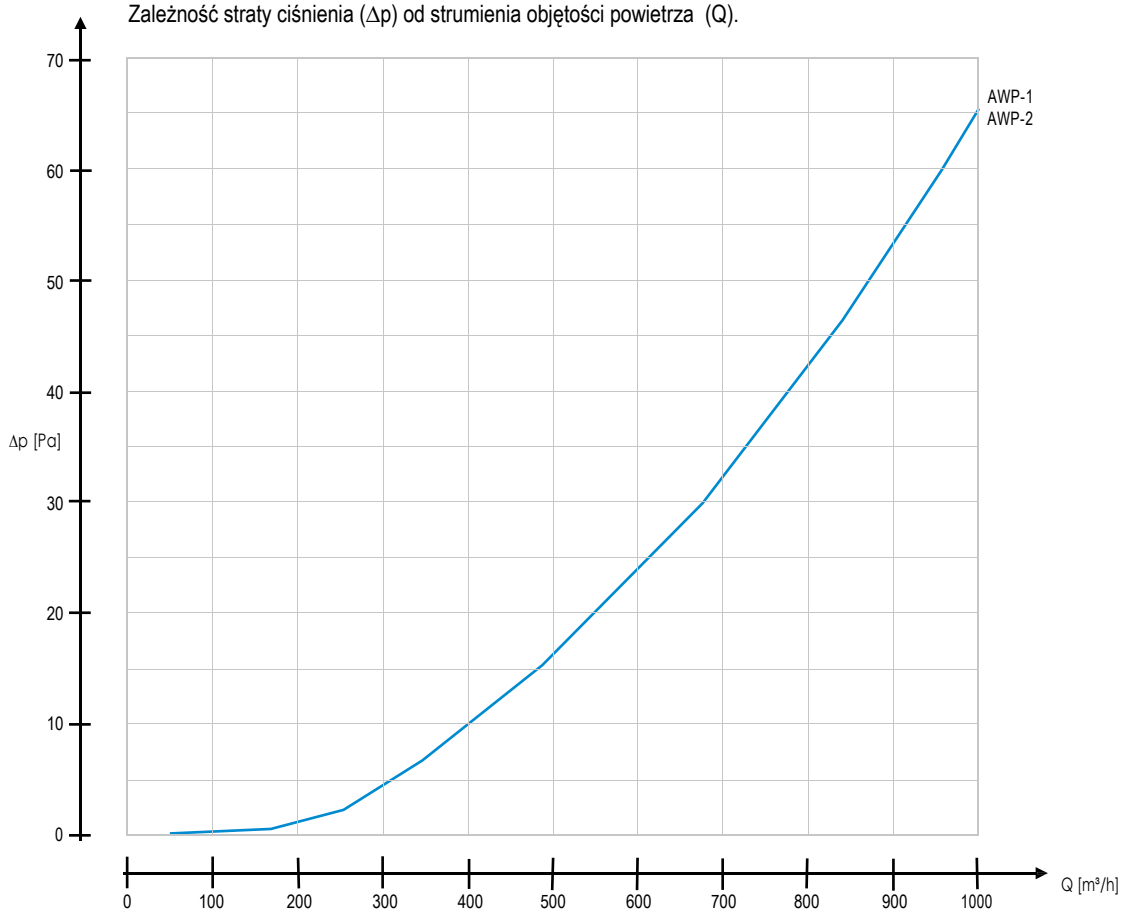
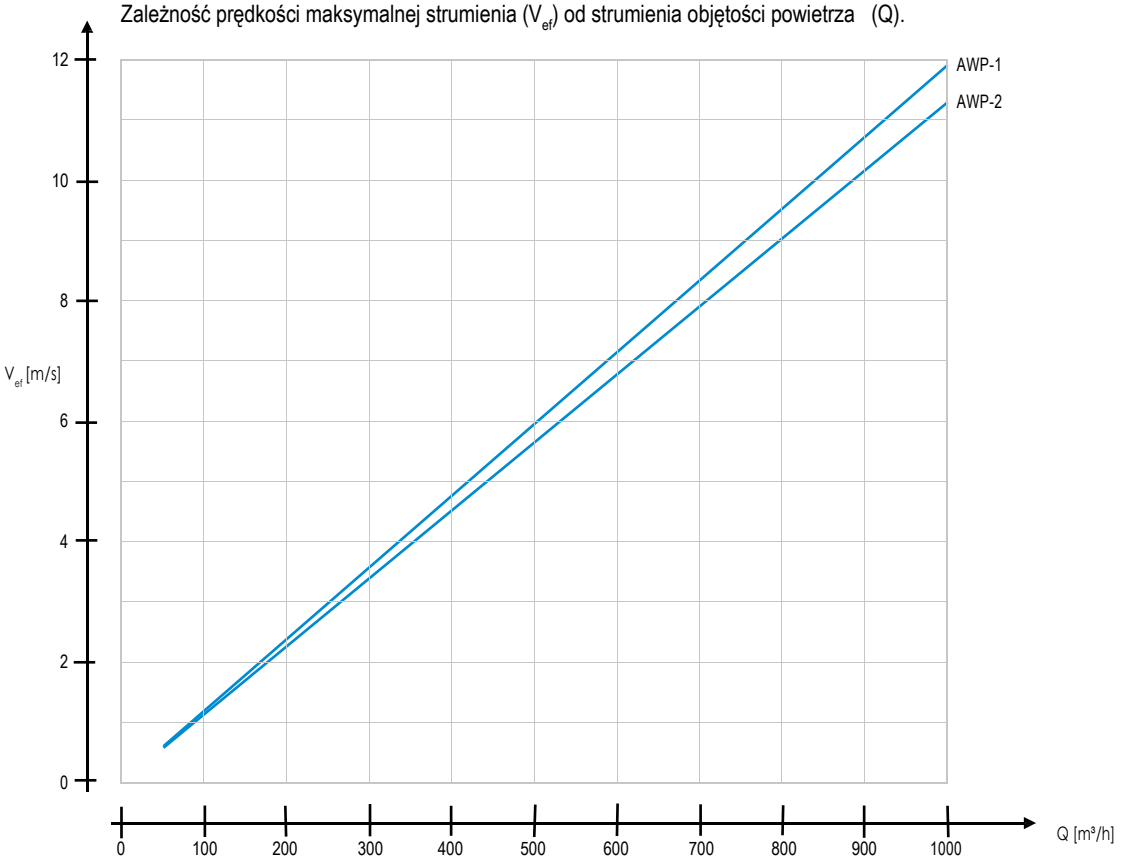


Diagram of selection perforated diffusers AWP-1 i AWP-2

Zależność straty ciśnienia (Δp) od strumienia objętości powietrza (Q).

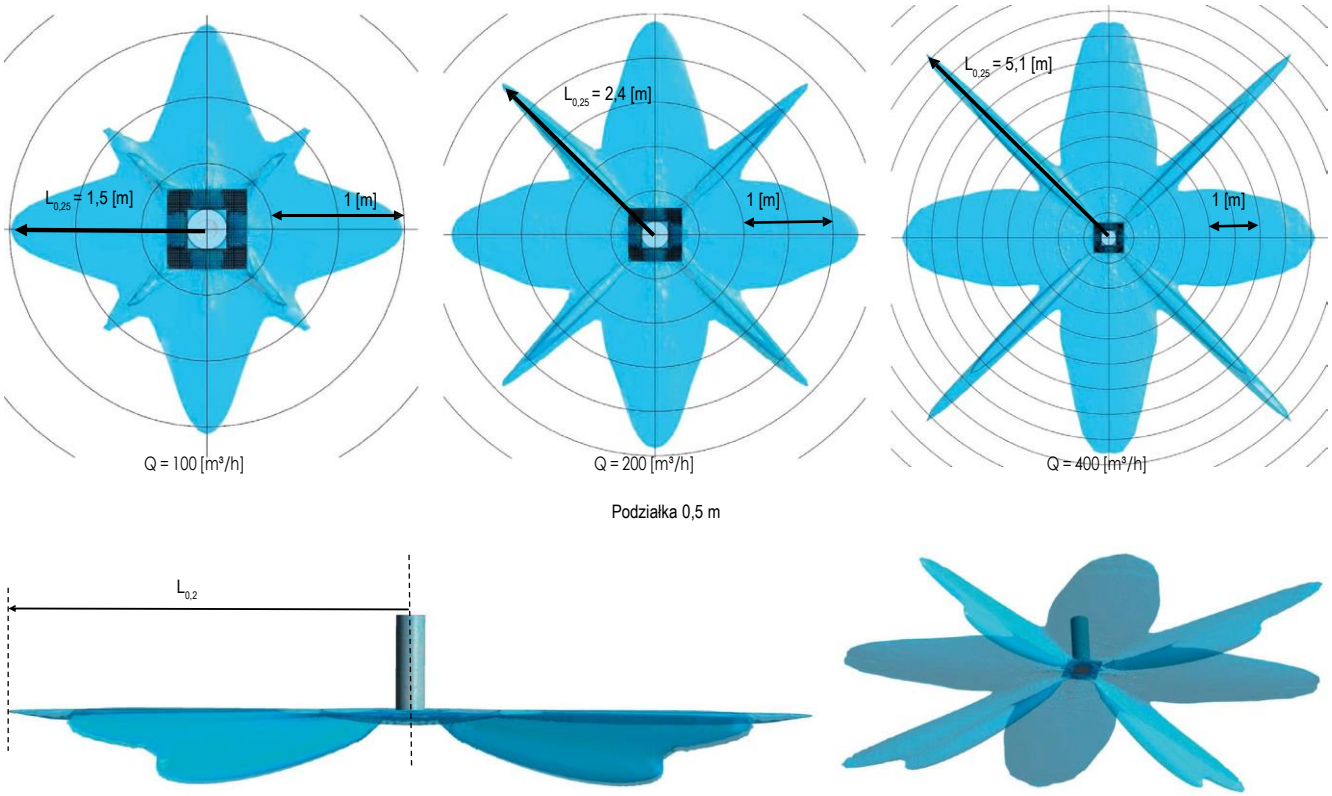


Zależność prędkości maksymalnej strumienia (V_{ef}) od strumienia objętości powietrza (Q).

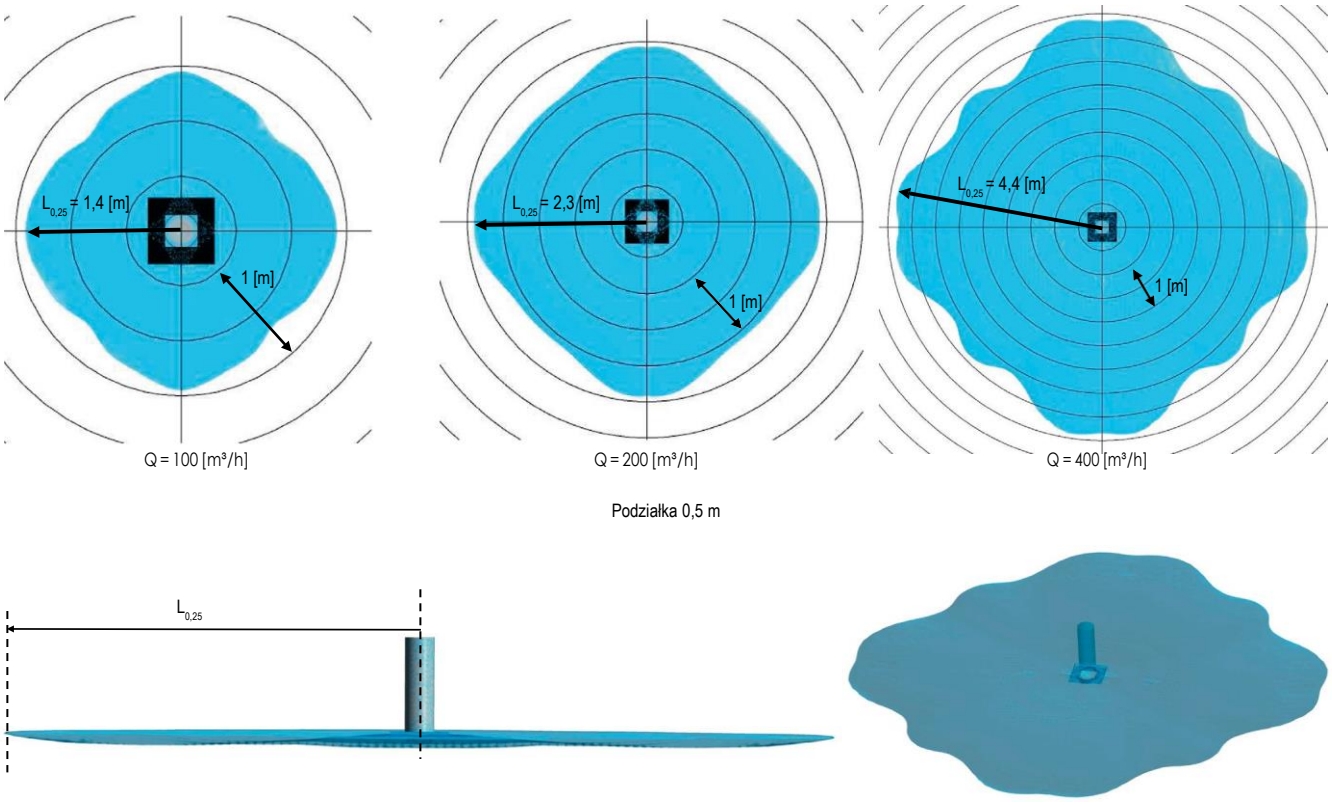


Perforated diffusers AWP-1 i AWP-2 - technical data

Rozpływ powietrza wzdłuż sufitu z pojedynczego nawiewnika AWP-1 (zasięg $L_{0,25}$)



Rozpływ powietrza wzdłuż sufitu z pojedynczego nawiewnika AWP-2 (zasięg $L_{0,25}$)



Perforated diffusers AWP-1 and AWP-2 - technical data

Charakterystyki nawiewników AWP-1 i AWP-2 (nawiew)

Perforacja kwadratowa AWP-1

Q [m³/h]	Q [m³/s]	$L_{0,25}$ [m]	V_{ef} [m/s]	Δp [Pa]
50	0,01389	1,2	0,6	0,2
100	0,02778	1,5	1,2	0,6
150	0,04167	1,9	1,8	1,4
200	0,05556	2,4	2,4	2,6
250	0,06944	3,0	3,0	4,0
300	0,08333	3,6	3,6	5,8
350	0,09722	4,3	4,2	7,9
400	0,11111	5,1	4,8	10,4
450	0,12500	5,9	5,4	13,2
500	0,13889	6,8	6,0	16,3
550	0,15278	7,8	6,5	19,7
600	0,16667	8,7	7,1	23,5
650	0,18056	9,8	7,7	27,5
700	0,19444	10,8	8,3	32,0
750	0,20833	11,9	8,9	36,7
800	0,22222	13,0	9,5	41,8
850	0,23611	14,1	10,1	47,2
900	0,25000	15,2	10,7	53,0
950	0,26389	16,4	11,3	59,0
1000	0,27778	17,5	11,9	65,5

Zalecany dobór w ramce Poziom mocy akustycznej < 45 dB [A]

Perforacja okrągła AWP-2

Q [m³/h]	Q [m³/s]	$L_{0,25}$ [m]	V_{ef} [m/s]	Δp [Pa]
50	0,01389	1,0	0,6	0,2
100	0,02778	1,4	1,1	0,6
150	0,04167	1,9	1,7	1,4
200	0,05556	2,3	2,3	2,5
250	0,06944	2,8	2,8	4,0
300	0,08333	3,4	3,4	5,7
350	0,09722	3,9	4,0	7,8
400	0,11111	4,4	4,5	10,2
450	0,12500	5,0	5,1	12,9
500	0,13889	5,5	5,7	16,0
550	0,15278	6,1	6,2	19,4
600	0,16667	6,7	6,8	23,1
650	0,18056	7,3	7,3	27,1
700	0,19444	7,9	7,9	31,5
750	0,20833	8,6	8,5	36,2
800	0,22222	9,2	9,0	41,2
850	0,23611	9,9	9,6	46,6
900	0,25000	10,6	10,2	52,2
950	0,26389	11,3	10,7	58,2
1000	0,27778	12,0	11,3	64,6

Charakterystyki nawiewników AWP-1 i AWP-2 (wywiew)

Perforacja kwadratowa AWP-1

Q [m³/h]	Q [m³/s]	Δp [Pa]	V_{ef} [m/s]
50	0,01389	0,02	0,3
100	0,02778	0,07	0,6
150	0,04167	0,15	0,9
200	0,05556	0,30	1,2
250	0,06944	0,40	1,6
300	0,08333	0,60	1,9
350	0,09722	0,80	2,2
400	0,11111	1,10	2,5
450	0,12500	1,30	2,8
500	0,13889	1,70	3,1
550	0,15278	2,00	3,4
600	0,16667	2,40	3,7
650	0,18056	2,80	4,1
700	0,19444	3,30	4,4
750	0,20833	3,70	4,7
800	0,22222	4,30	5,0
850	0,23611	4,80	5,3
900	0,25000	5,40	5,6
950	0,26389	6,00	5,9
1000	0,27778	6,60	6,2

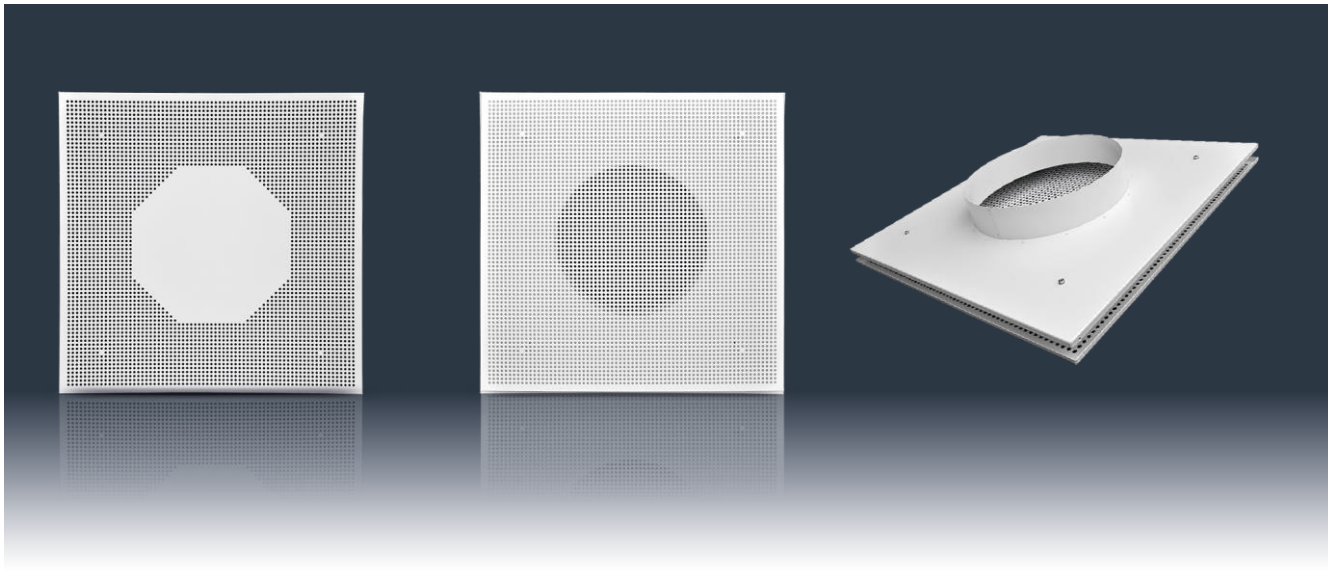
Zalecany przedział doboru
Q < 800 [m³/h]

Perforacja okrągła AWP-2

Q [m³/h]	Q [m³/s]	Δp [Pa]	V_{ef} [m/s]
50	0,01389	0,1	0,6
100	0,02778	0,3	1,2
150	0,04167	0,8	1,8
200	0,05556	1,3	2,4
250	0,06944	2,1	3,0
300	0,08333	3,0	3,6
350	0,09722	4,1	4,1
400	0,11111	5,3	4,7
450	0,12500	6,8	5,3
500	0,13889	8,4	5,9
550	0,15278	10,1	6,5
600	0,16667	12,0	7,1
650	0,18056	14,1	7,7
700	0,19444	16,4	8,3
750	0,20833	18,8	8,9
800	0,22222	21,4	9,5
850	0,23611	24,2	10,1
900	0,25000	27,1	10,7
950	0,26389	30,2	11,2
1000	0,27778	33,4	11,8

Zalecany przedział doboru
Q < 400 [m³/h]

2.2.11. Perforated diffusers AWP-O



Use:
Supply and exhaust in low and medium pressure systems, used especially for heating or cooling of rooms up to 4 meters high in case of high air temperature diversification between the supplied air and the internal air.

Assembly:
On ducts and plenum box

Construction:
Front panel made of perforated steel: AWP-O-1 (perforation ø 6) - 28% or AWP-O-2 (perforation ø 5) - 31%.

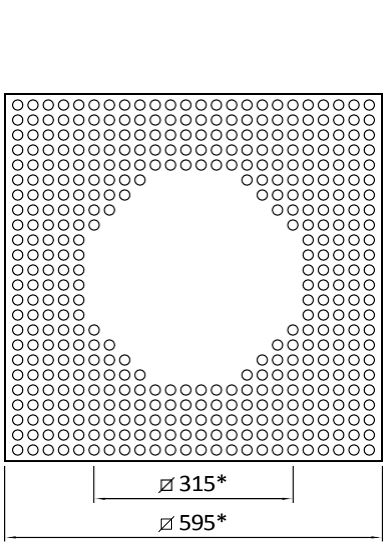
Material:
Black steel sheet, galvanized steel or stainless steel.

Surface finish
RAL 9003 whie powder coat or other RAL colour according to RAL catalogue on demand.

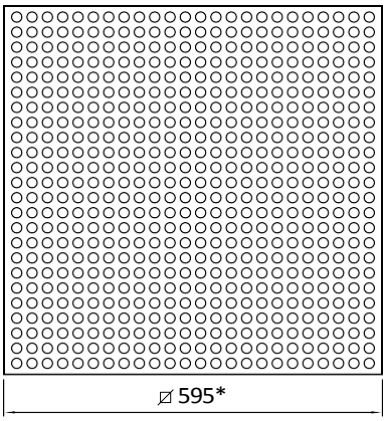
Air flow regulation:
With damper in inlet in plenum box

Certificates:
Hygienic certificate: BK/K/0926/01/2018

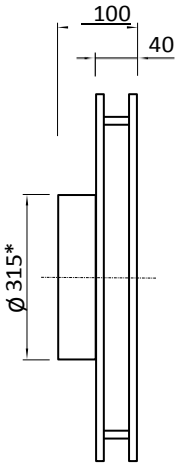
Type and dimension marking:



AWP-O-N (supply)



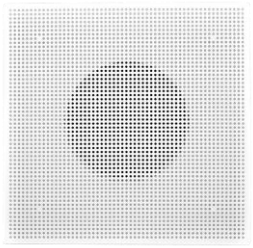
AWP-O-W (exhaust)



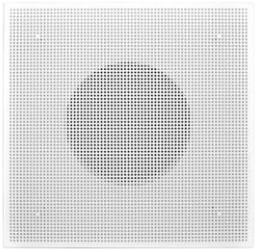
AWP-O

***) one can choose dimension and diameter of diffuser/Ø.**

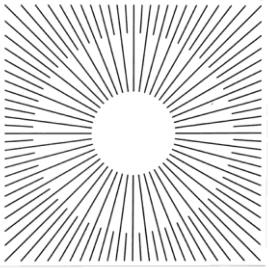
Perforated diffuser AWP-O - varianty



AWP-O-1



AWP-O-2



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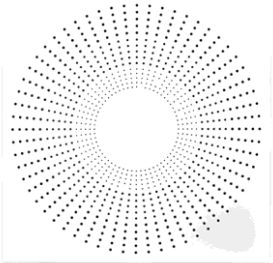
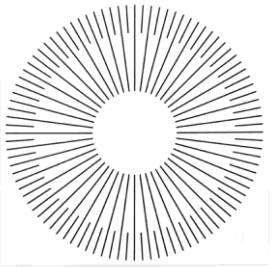


AWP-O-D-2



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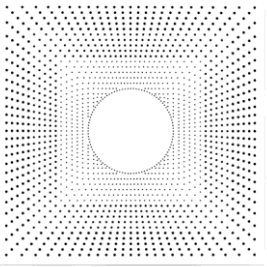
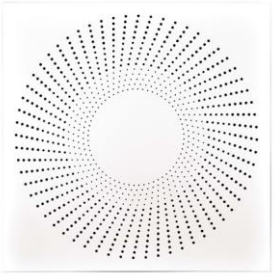
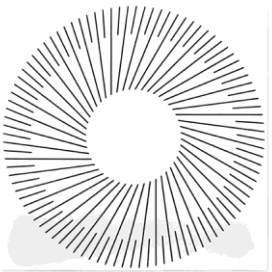


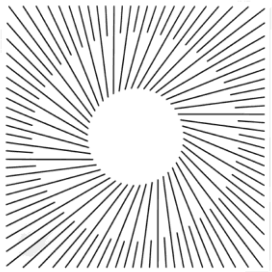
AWP-O-D-4



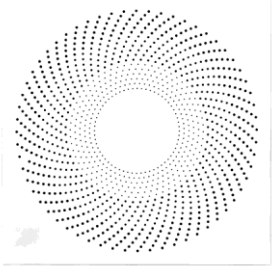
AWP-O-D-5



AWP-O-D-6



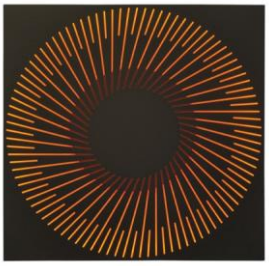
AWP-O-D-7



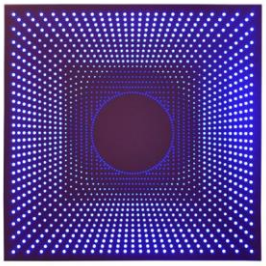
AWP-O-D-8

Perforated diffuser AWP-O - varianty

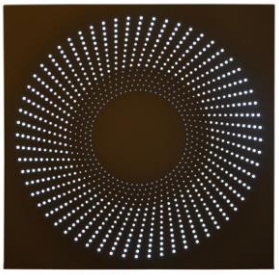
Colours:



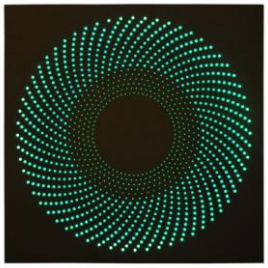
(red) R



(blue) B



(white) W



(green) G

*** do not include power supply**

Product marking AWP

AWP–oc–595/Ø–RAL–SR/Ø

Assambly:
Standard – visible screw

Plenum box / diameter:

SR	- plenum box
SRP	- plenum box with damper
SRPw	- plenum box with damper regulation inside
SRIP	- plenum box with damper and isolation
SRIPw	- plenum box with damper regulation inside and isolation
Z	- additional assambly elements

Surface finish:
Standard - RAL 9003

Dimensions:
External dimension A/Ø AWP

Material:

Standard	- black steel sheet
oc	- galvanized steel
ocp	- galvanized steel painted RAL colour
ko	- stainless steel

Type of diffusers

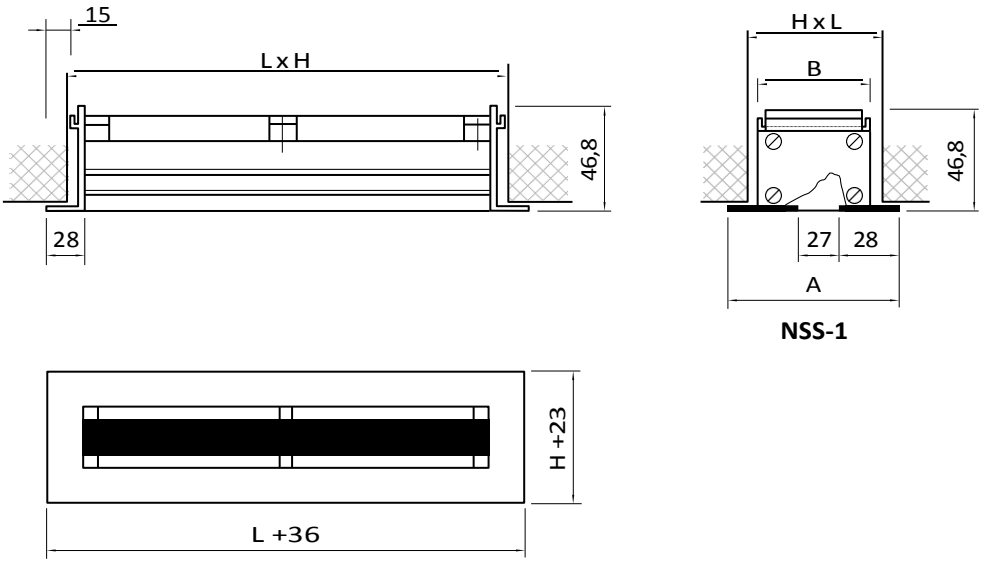
Order's example:
AWP–N–1–595x595/Ø315–SR/Ø160

2.2.12. Slotted diffusers NSS

Use:
Supply In low and medium pressure systems. Suitable for hot and cold air supply.
Assembly:
On plenum box assambly visible screws
Construction:
Diffusers are made from aluminum profiles.
Max. Lengh 2mb

Material:
Aluminum, alloy 6063
Surface finish
Anodized aluminum, painting RAL coulour on demand
Air flow regulation:
With damper in inlet in plenum box
Certificates:
Rekomendacja techniczna: RT-ITB-1148/2010
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



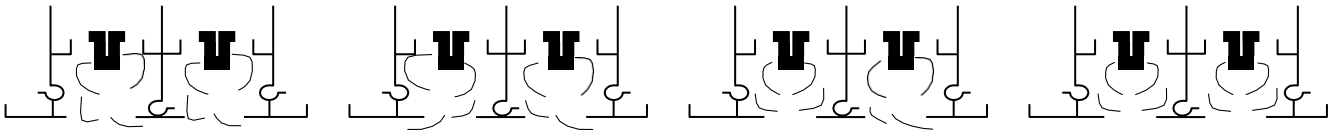
NSS-1

Slotted diffusers NSS - technical data

Products range:

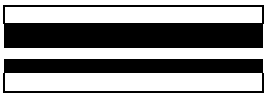
External sizes [mm]	Dimension of mounting holes L x H [mm]	A [mm]	B [mm]
1 szczelina 1036 x 83	1000 x 60	83	53
2 szczeliny 1036 x 127	1000 x 104	127	97
3 szczeliny 1036 x 171	1000 x 148	171	141
4 szczeliny 1036 x 215	1000 x 192	215	185
5 szczelin 1036 x 259	1000 x 236	259	229
6 szczelin 1036 x 303	1000 x 280	303	273

Supply direction:



Varianty:

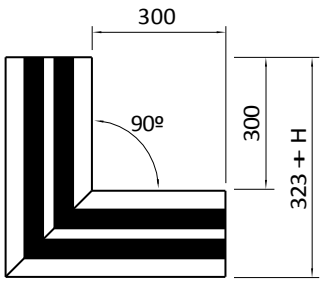
NSS



NSS-LR

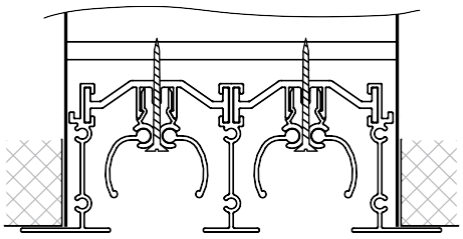
NSS-R

NSS-L

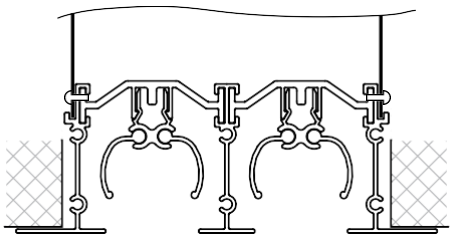


NSS-90°

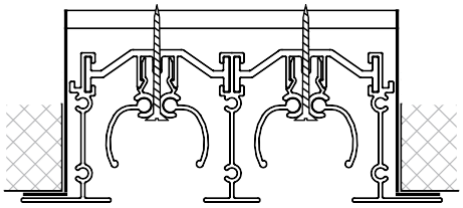
Assambly:



TYP A:



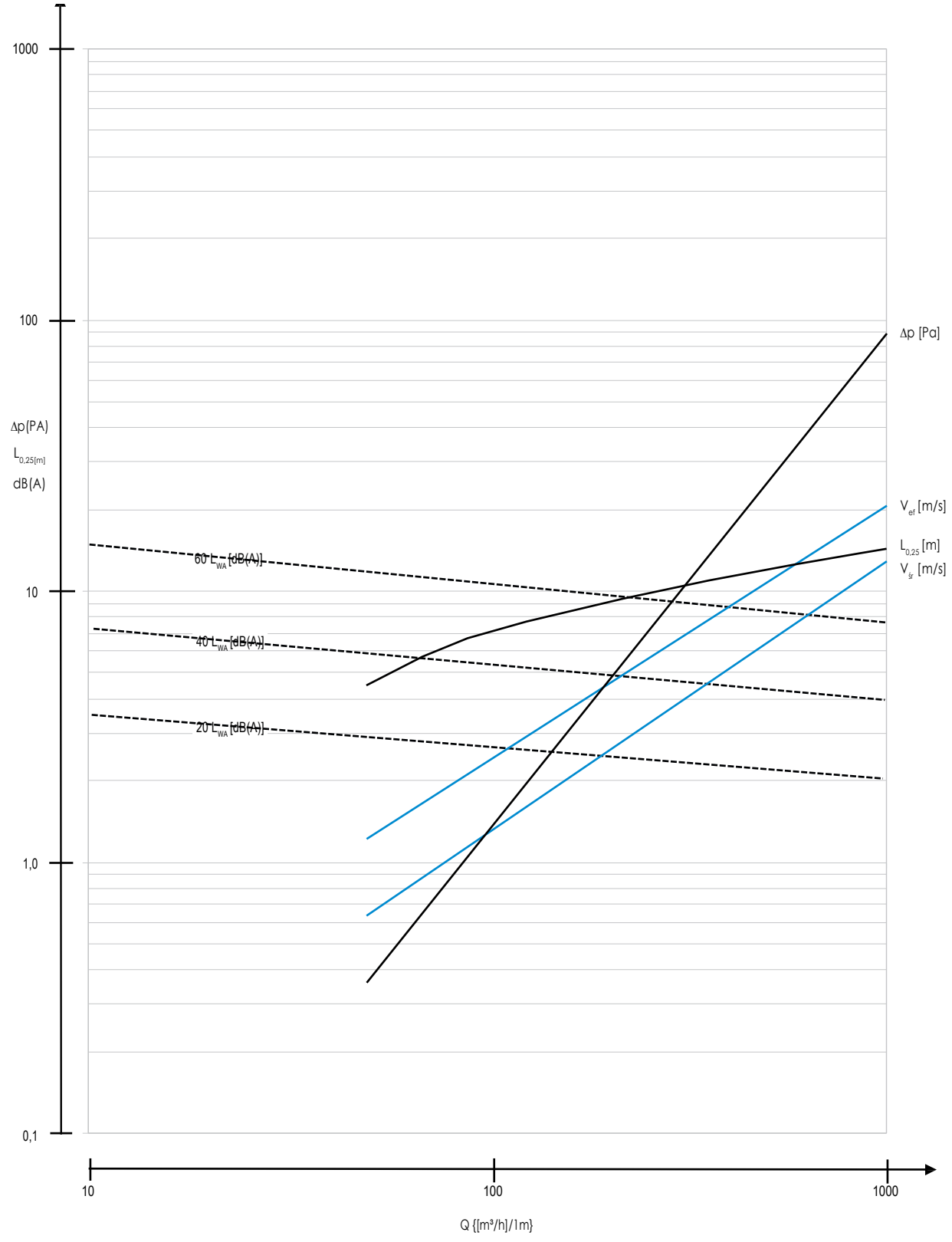
TYP B:



TYP C:

Diagram for selection slotted diffusers NSS (open blades)

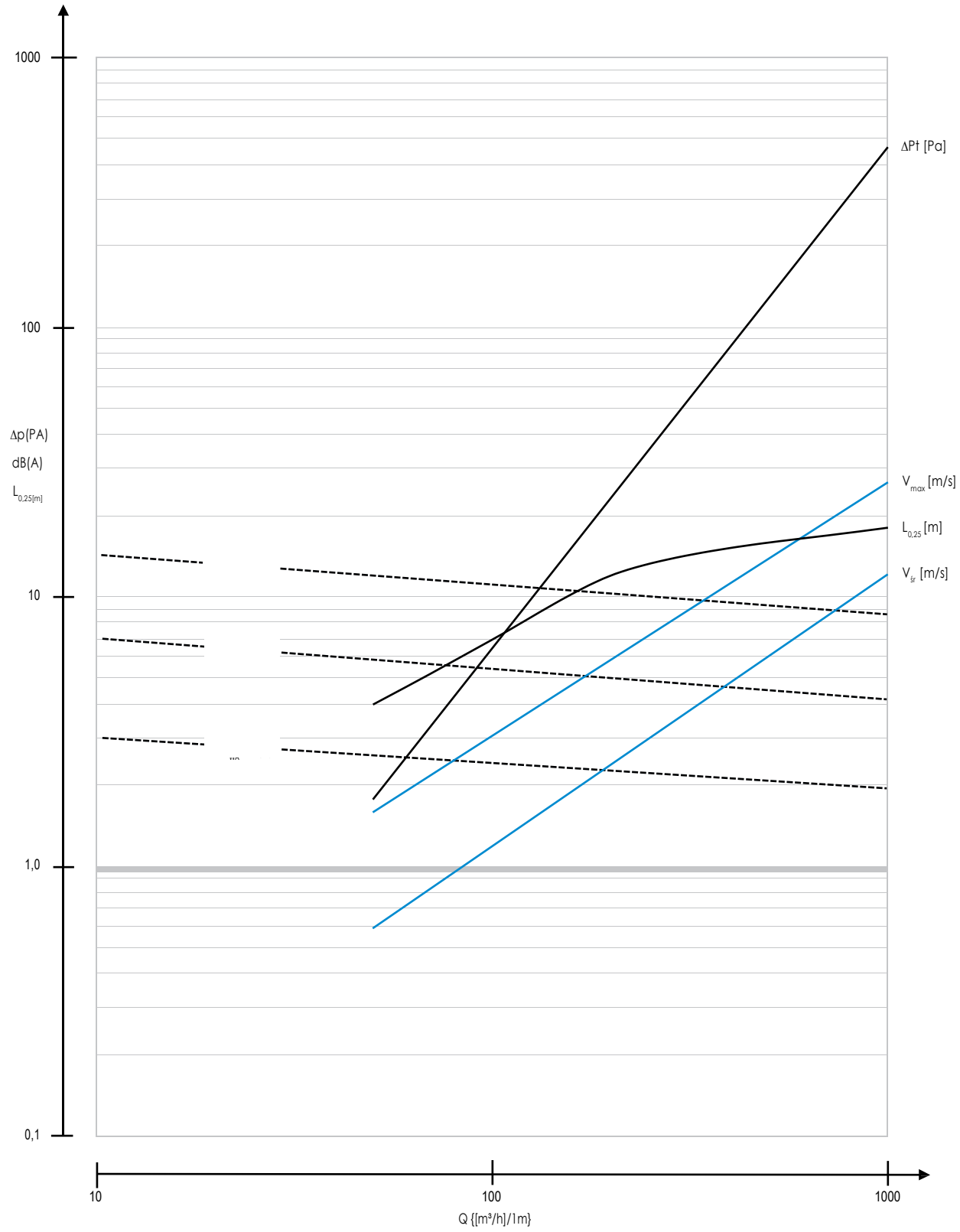
Relation of pressure loss (Δp), maximum stream velocity (V_{ef}), average stream velocity (V_{av}), a range of velocity stream V=0,25 m/s ($L_{0,25}$)) and a level of acoustic power (L_{WA}) from air stream volume (Q).



Uwaga!
Q - Air stream volume przypadający na pojedynczy nawiewnik długości 1 m. Dla nawiewników wieloszczelinowych oraz o innych długościach patrz uwagi!!!

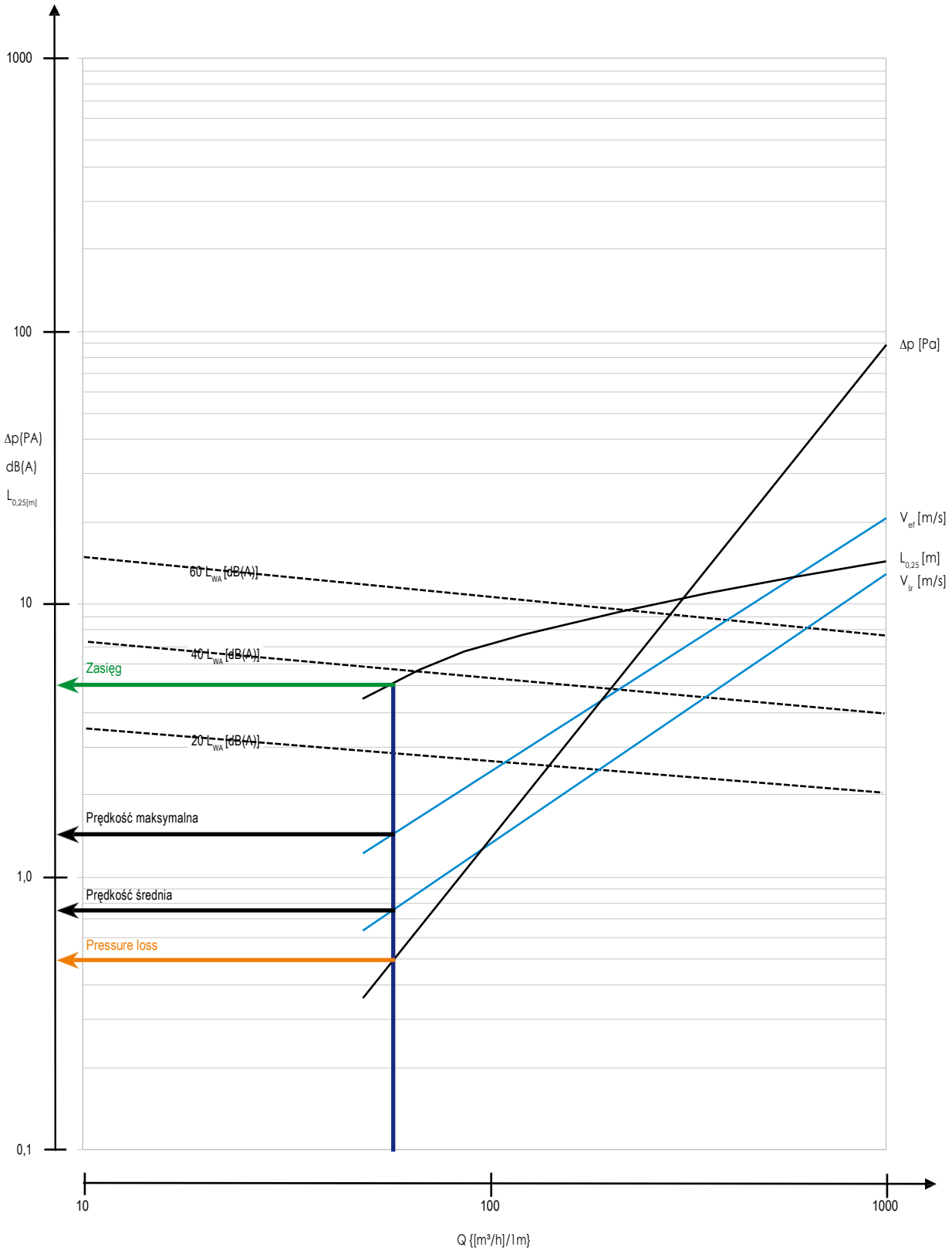
Diagram for selection slotted diffuser NSS (one blade closed)

Relation of pressure loss (Δp), maximum stream velocity (V_{ad}), average stream velocity (V_{ar}), a range of velocity stream V=0,25 m/s ($L_{0,25}$)) and a level of acoustic power (L_{WA}) from air stream volume (Q).



Uwaga!
Q - Air stream volume przypadający na pojedynczy nawiewnik długości 1 m. Dla nawiewników wieloszczelinowych oraz o innych długościach patrz uwagi!!!

Instruction of using diagram for selection slotted diffusers NSS



Uwaga!
Q - Air stream volume przypadający na pojedynczy nawiewnik długości 1 m. Dla nawiewników wieloszczelinowych oraz o innych długościach patrz uwagi!!!

Instrukcja korzystania z diagramu doboru dla nawiewników szczelinowych NSS

Annotations:
Characteristics are relevant for a single 1 m long diffuser (unit characteristics)In case of using a longer diffuser, or using two or three units, in order to calculate the demanded air outlet and correctly read the value from the diagram one needs to calculate the following:

$$Q_h \text{ diagram} = \frac{Q_h \text{ demanded}}{D \times N}$$

Where: N = 2 for two diffusers,
N = 3 for three diffusers,
D = diffuser length in meters.

Chart 1. Correction coefficients for other lengths:

L [m]	1	1,5	2	3	4	5	6	8	10
ΔPt [Pa]	x1	x1,05	x1,1				x1,15		
$L_{0,2}$ [m]									
NR [dB]	0	+2	+3	+4	+5	+6	+7	+9	+10

Values of range, pressure loss and velocity read from Q diagram, and corrected according to the above chart represent a complete diffuser. For lower air outlets then in the diagram the curves should be linearly prolonged.

When looking for the outlet covering the demanded range one has to use the following formula:

$$Q_h = Q_h \text{ diagram} \times D \times N$$

Active surface of the diffuser depends on the blade fixing:

$$A_{ef} \text{ max single} = 0{,}022 * L[m]$$

Given values are given for orientation purposes. In special cases characteristics may depend on the room hight where the diffuser is to be fitted (shape and size) and depends on the system to which the diffuser is attached (e.g. depending on the plenum box or damper used in the system).

Annotations for two or three slotted diffusers:
Counter directional fixing of blades is not recommended because of the non-stationary air flow. In special cases the air stream may be vertical despite shifted blades, instead being directed horizontally in opposing directions. Such possibility should be verified during mounting of the diffuser.
When one of the slots is open, the other slot blade is closed, as for achieving horizontal air flow, we will get a skew air stream deviating approx. 20-30° from the perpendicular. That will not provide two air streams – where one is vertical and the other is horizontal. In order to obtain two air streams flowing in different directions it is recommended to use two independent diffusers fitted at least one width from each other.

Example of selection:

Task 1:
4 m high room. Demanded velocity at 1.5 m lower than 0.5 m/s. Planned 3 m long diffuser. Vertical air supply, open blades.

2,5 m distance from the diffuser. At the crossing point of the orange line $L_{0,5}$ and the 2,5 value we find the outlet for 1m long diffuser Q_h diagram = 90{[m³/h]/m}.

For a single diffuser:
Demanded air outlet:
$Q_h = 90 \times 3 \text{ m} = 270 \text{ m}^3/\text{h}$
Pressure loss can be also read from the diagram ΔPt = 1 Pa
(for Q_h diagram = 90 {[m³/h]/m}.
Maximum velocity equals 1,1 m/s and the average is 1,02 m/s.
Air stream range $L_{0,2}$ = 6,5 m.

For two diffusers:
$Q_h = 90 \times 3 \times 2 = 540 \text{ m}^3/\text{h}$
ΔPt total = 1 Pa
Maximum velocity and range $L_{0,2}$ as with a single diffuser

For two diffusers:
$Q_h = 90 \times 3 \times 3 = 810 \text{ m}^3/\text{h}$
ΔPt total = 1 Pa
Maximum velocity and range $L_{0,2}$ as with a single diffuser.

Task 2:
Demanded air outlet 200 m³/h. Horizontal air supply. 1.5 m long diffuser. Looking for the range and pressure loss.

Single diffuser:
Q_h diagram = 200/1,5 = 133,3 {[m³/h]/m}
ΔPt total = 13 Pa

$L_{0,5}$ = 7,5 m
$L_{0,2}$ = 9,5 m
V_{max} = 4,2 m/s
V_{du} = 1,6 m/s

Double diffuser:
Q_h diagram = 200/(1,5 x 2) = 66,6 {[m³/h]/m}
ΔPt total = 3 Pa

$L_{0,5}$ = 1,4 m
$L_{0,2}$ = 5 m
V_{max} = 2,3 m/s
V_{du} = 0,8 m/s

Triple diffuser:
Q_h diagram = 200/(1,5 x 3) = 44,4 {[m³/h]/m}
ΔPt total = 1,33 Pa

$L_{0,5}$ = 0,3 m
$L_{0,2}$ = 3,5 m
V_{max} = 1,4 m/s
V_{du} = 0,5 m/s

Table for selection slotted diffusers NSS

Singular diffuser 1 m

(open blades)

Q [m³/h]	Q [m³/s]	ΔPt [Pa]	V_{max} [m/s]	$V_{śr}$ [m/s]	$L_{0,25}$ [m]
50	0,014	0,4	1,2	0,6	4,5
100	0,028	1,4	2,3	1,3	6,8
150	0,042	3,1	3,4	1,9	8,1
200	0,056	5,2	4,5	2,6	9,0
250	0,069	7,8	5,6	3,2	9,8
300	0,083	10,9	6,6	3,9	10,4
350	0,097	14,5	7,7	4,5	10,9
400	0,111	18,6	8,7	5,1	11,3
450	0,125	23,1	9,7	5,8	11,7
500	0,139	28,0	10,7	6,4	12,0
550	0,153	33,4	11,8	7,1	12,4
600	0,167	39,2	12,8	7,7	12,6
650	0,181	45,4	13,8	8,4	12,9
700	0,194	52,1	14,8	9,0	13,1
750	0,208	59,1	15,8	9,7	13,4
800	0,222	66,6	16,7	10,3	13,6
850	0,236	74,5	17,7	11,0	13,8
900	0,250	82,7	18,7	11,6	14,0
950	0,264	91,4	19,7	12,3	14,1
1000	0,278	100,4	20,7	12,9	14,3

(close blades)

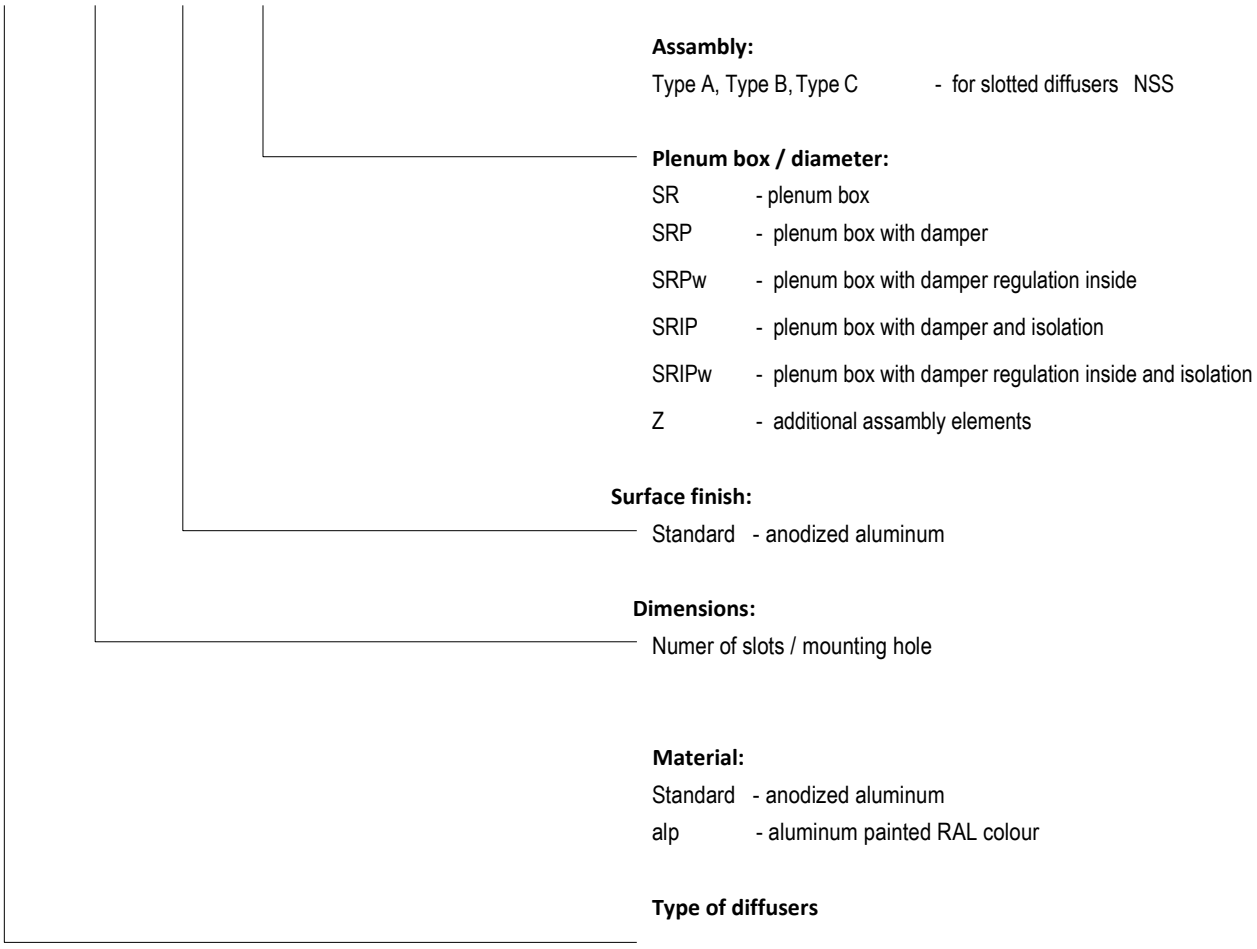
Q [m³/h]	Q [m³/s]	ΔPt [Pa]	V_{max} [m/s]	$V_{śr}$ [m/s]	$L_{0,25}$ [m]
50	0,014	1,7	1,6	0,6	4,3
100	0,028	6,3	3,1	1,2	7,3
150	0,042	13,5	4,5	1,8	9,1
200	0,056	23,0	5,9	2,4	10,3
250	0,069	34,9	7,3	3,0	11,3
300	0,083	48,9	8,6	3,6	12,1
350	0,097	65,2	10,0	4,2	12,8
400	0,111	83,6	11,3	4,8	13,3
450	0,125	104,1	12,6	5,4	13,9
500	0,139	126,6	13,9	6,1	14,3
550	0,153	151,2	15,3	6,7	14,7
600	0,167	177,8	16,6	7,3	15,1
650	0,181	206,3	17,8	7,9	15,5
700	0,194	236,9	19,1	8,5	15,8
750	0,208	269,3	20,4	9,1	16,1
800	0,222	303,7	21,7	9,7	16,4
850	0,236	340,0	23,0	10,4	16,6
900	0,250	378,1	24,2	11,0	16,9
950	0,264	418,1	25,5	11,6	17,1
1000	0,278	460,0	26,8	12,1	17,3

Air outlet Q for single vent diffuser and unit length of 1 meter.
For 2-vent diffuser: multiply Q from the table x2 to result the air outlet for the entire 1 m diffuser.
For 3-vent diffuser: multiply Q from the table x3 to result the air outlet for the entire 1 m diffuser.

Max A_{ef} = 0.022 [m²] (for single vent 1 m diffuser, open blades)

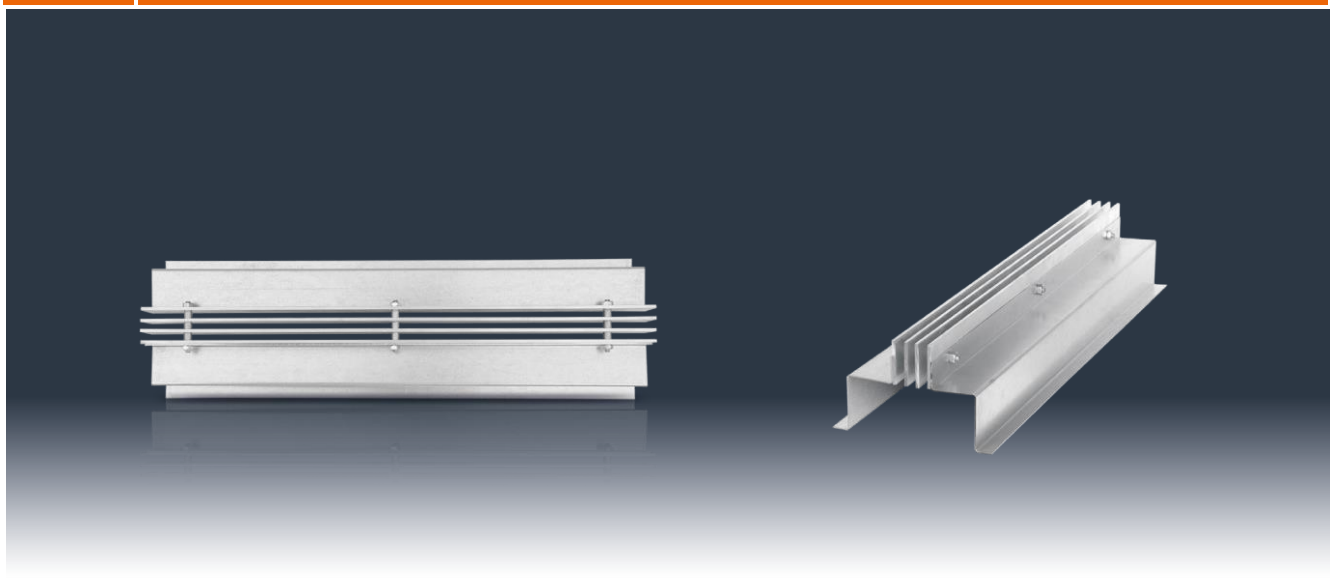
Product marking NSS

NSS–2/1800–RAL–SR/Ø



Order's example:
NSS–2/2000–SR/Ø160

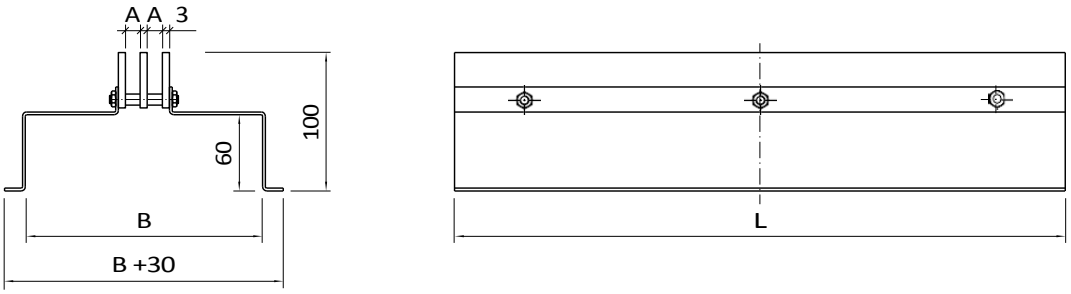
2.2.13. Floor slotted diffusers NSP



Use:
General ventilation system
Assembly:
On ducts in foor.
Construction:
Frame made of galvanized steel, blades made from aluminum profiles..

Material:
aluminium, stop 6063, blacha ocynkowana.
Surface finish
Anodized aluminum **Air**

Type and dimension marking:



Przykład zamwienia:
NSP-12-2/1000

If one does not write all details RDJ Klima will make standard one.

Products range:

Ilość szczelin	Długość nawiewnika L [mm]	Szerokość szczelin A [mm]	
		8	12
		Szerokość skrzynki rozprężnej B [mm]	
1	500 1000 1500 2000	114	118
2		125	133
3		136	148
4		147	163
5		158	178
6		169	193

2.3.1. Supply valves ZWN

Use:
Supply in low and medium pressure systems, in a non-aggressive environment of relative humidity up to 70%. Recommended for sanitary facilities for fresh air supply.

Assembly:
On rectangular ducts in plenum boxes, in suspended ceilings and in walls. Fitted in an additional galvanized fitting frame

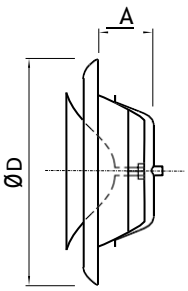
Construction:
Front frame and the disc baffle made of pressed steel sheet elements. Front frame is foam insulated to provide air tight fitting after mounting it with a fitting flange KM

Material:
Black steel sheet or stainless steel.

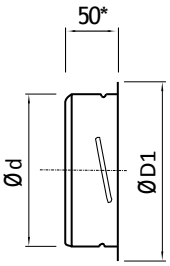
Surface finish
Standard – RAL 9016 or other RAL colour on demand.

Air flow regulation:
By the means of turning the disc baffle which has a regulating screw welded to the valve. Air flow regulation carried out from the front side without the necessity of dismantling the valve.**Certificates:**
Atest higieniczny: HK/B/0637/01/2015

Type and dimension marking:



ZWN/ZWN-ko



KM

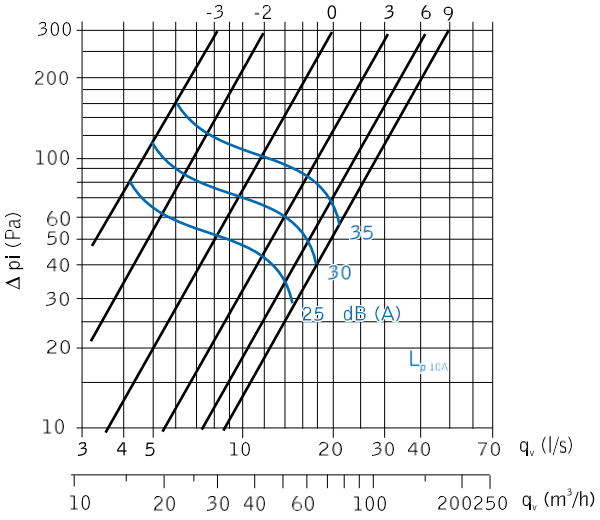
Products range:

size	ØD	A	weight [g]
80	115	41	140
100	137	47	190
125	164	49	310
160	212	60	500
200	248	75	730

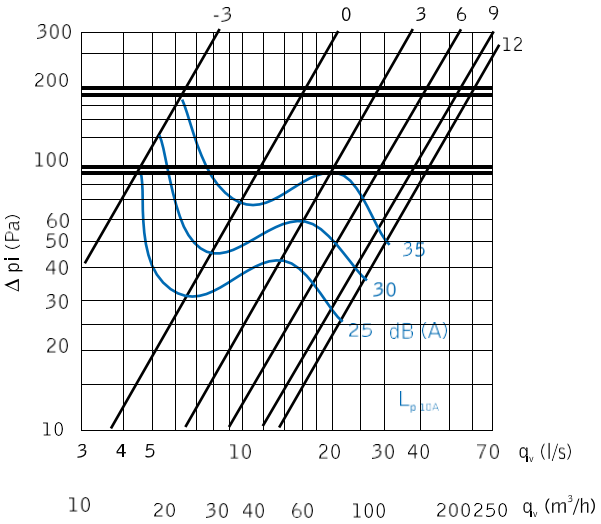
size	Ød	ØD1	weight (g)
80	79	118	40
100	99	125	50
125	124	155	65
160	159	186	100
200	199	230	140

Diagram for selection valves ZWN

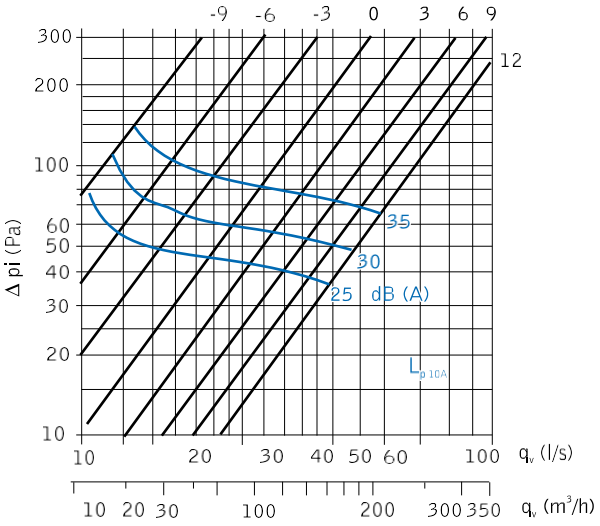
ZWN-80



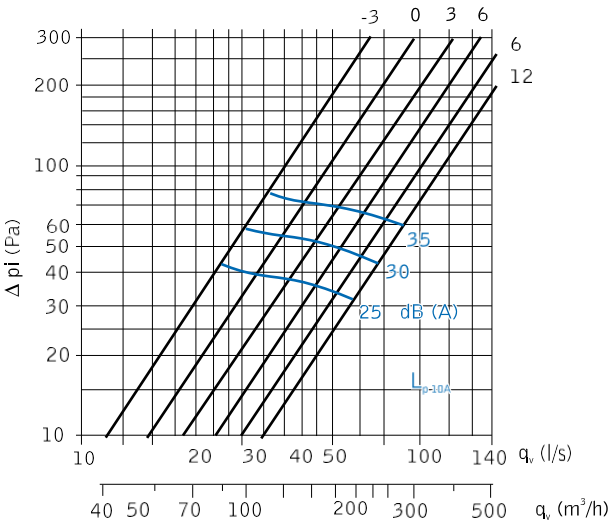
ZWN-100



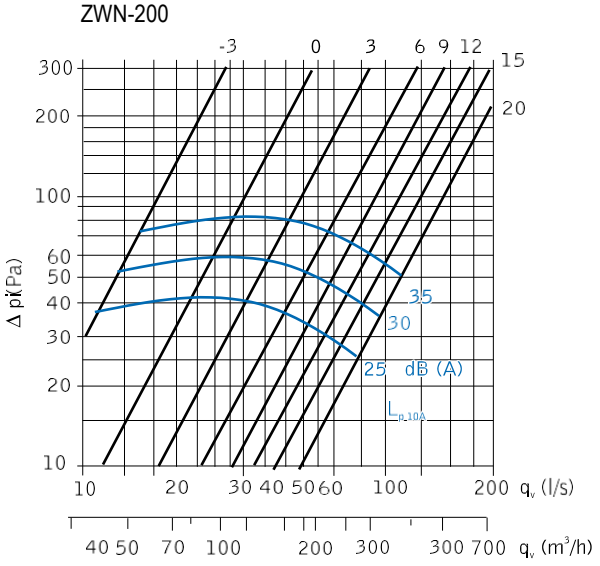
ZWN-125



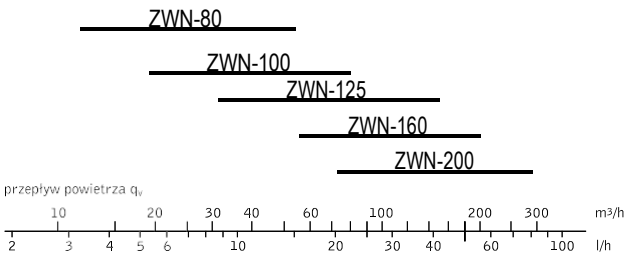
ZWN-160



ZWN-200



Zakres stosowania



Noise characteristic of valves ZWN

Noise level L_w

KE	Correctional coefficient (dB)						
	Average frequency in octaves (Hz)						
	125	250	500	1000	2000	4000	8000
80	2	2	1	0	-3	-9	-17
100	4	3	2	0	-7	-15	-30
125	2	7	3	-2	-10	-20	-32
160	5	7	3	-2	-10	-19	-32
200	8	6	4	-3	-10	-19	-32
tol.±	3	2	2	2	2	2	3

tol. – tolerance

We obtain noise level distribution after adding the Koct correctional coefficient given in the chart to the total acoustic pressure Lp10A, dB(A), according to the below formula:

Lwoct = Lp10A + Koct

The value of the correctional coefficient Koct is the average value of frequency range (Hz).

Noise silencing

KE	Regulation (mm)	Noise silencing L							
		Average frequency in octaves (Hz)							
		63	125	250	500	1000	2000	4000	8000
80	-3	24	21	16	12	9	7	5	5
	+3	24	19	13	10	7	4	4	4
	+9	24	19	13	9	6	3	3	4
100	-3	22	17	13	10	8	8	6	9
	+3	21	16	11	8	6	7	4	7
	+9	21	16	11	8	6	6	3	6
125	-9	22	16	11	8	6	5	6	7
	0	20	15	10	7	5	4	3	6
	+9	20	15	9	6	4	3	3	5
160	-3	18	14	9	7	6	7	6	8
	+6	18	13	8	6	5	5	6	6
	+12	18	13	8	5	4	4	5	6
200	-3	16	12	9	8	9	9	9	8
	+9	16	11	8	6	7	7	7	7
	+15	17	11	7	6	6	5	6	6
tol.±		6	3	2	2	2	2	2	3

tol. – tolerance

The chart provides the average noise silencing from the duct to the room accounting for the final reflection At the connector in case of fitting in a ceiling.

2.3.2. Exhaust valves ZWW

Use:
Air exhaust in low and medium pressure systems, in a non-aggressive environment of relative humidity up to 70%. Recommended for sanitary facilities for exhaust of used air.

Assembly:
On rectangular ducts in plenum boxes, in suspended ceilings and in walls. Fitted in an additional galvanized fitting frame

Construction:
Front frame and the disc baffle made of pressed steel sheet elements. Front frame is foam insulated to provide air tight fitting after mounting it with a fitting flange KM

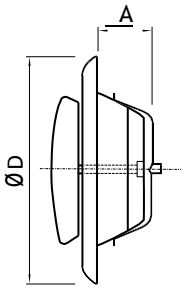
Material:
Black steel sheet or stainless steel.

Surface finish
Standard RAL 9016 or other on demand

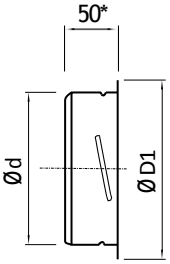
Air flow regulation:
By the means of turning the disc baffle which has a regulating screw welded to the valve. Air flow regulation carried out from the front side without the
necessity of dismantling the valve.

Certificates:
Atest higieniczny: HK/B/0637/01/2015

Type and dimension marking:



ZWW/ZWW-ko



KM

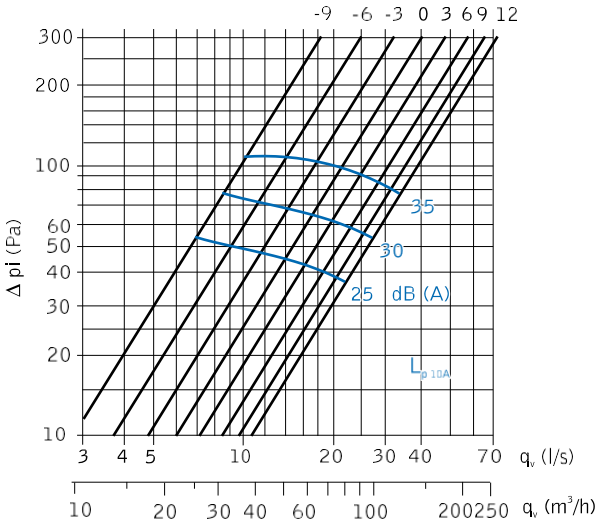
Products range:

sizes	ØD	A	weight [g]
80	115	31	150
100	137	39	195
125	164	44	310
160	212	52	470
200	248	55	660

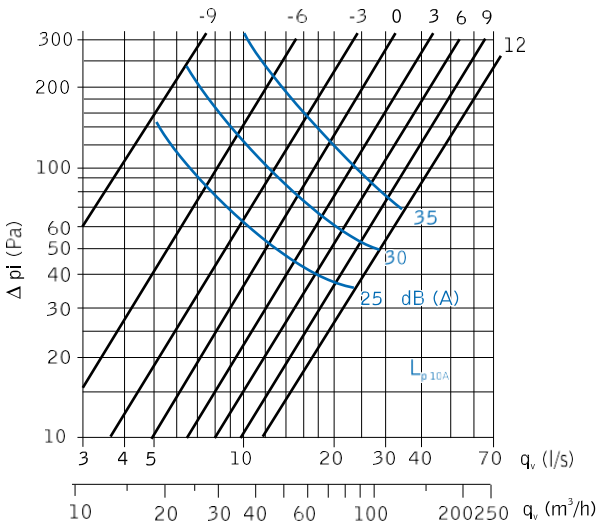
sizes	Ød	ØD1	weight (g)
80	79	118	40
100	99	125	50
125	124	155	65
160	159	186	100
200	199	230	140

Diagram for selection exhust valves ZWW

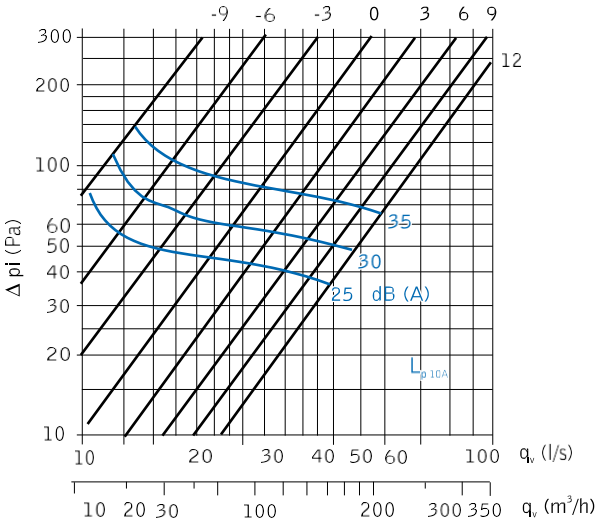
ZWW-80



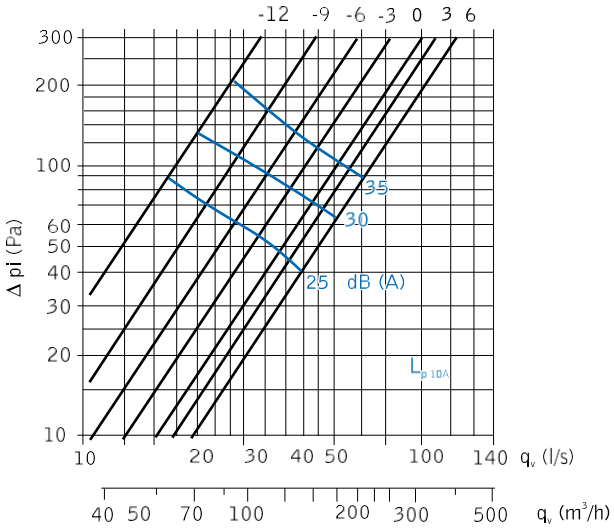
ZWW-100



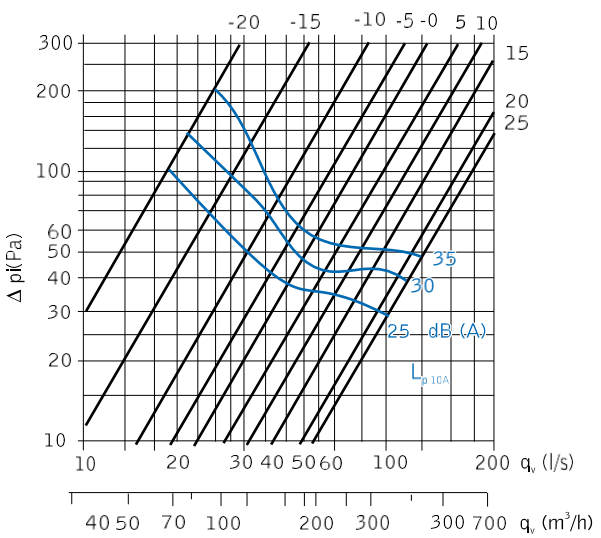
ZWW-125



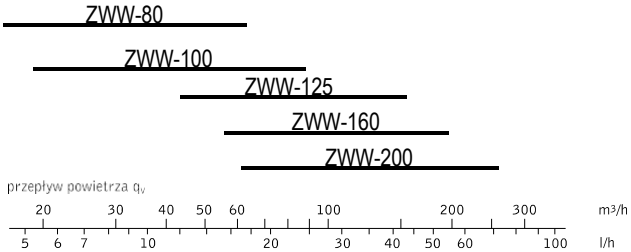
ZWW-160



ZWW-200



Zakres stosowania



Noise characteristic of exhust valves ZWW

Noise level L_w

KE	Correctional coefficient Koct (dB)						
	Average frequency in octaves (Hz)						
	125	250	500	1000	2000	4000	8000
80	1	-2	1	0	-3	-8	-16
100	-2	-4	-3	0	-1	-15	-30
125	4	3	1	-1	-3	-12	-22
160	-1	0	1	0	-4	-13	-26
200	0	-5	1	2	-13	-28	-32
tol.±	3	2	2	2	2	2	3

tol. – tolerance

We obtain noise level distribution after adding the Koct correctional coefficient given in the chart to the total acoustic pressure Lp10A, dB(A), according to the below formula

Lwoct = Lp10A + Koct

The value of the correctional coefficient Koct is the average value of frequency range (Hz).

Noise silencing

KE	Regulation (mm)	Noise silencing L							
		Average frequency in octaves (Hz)							
		63	125	250	500	1000	2000	4000	8000
80	-9	24	20	14	12	8	5	5	6
	0	24	19	13	9	6	3	4	5
	+12	24	19	13	9	5	2	3	4
100	-6	23	17	13	11	9	9	10	12
	0	23	17	12	9	7	7	7	9
	12	22	16	11	7	5	5	5	7
125	-12	21	15	12	11	8	9	12	11
	-3	20	15	10	8	6	6	6	10
	+6	21	14	9	7	4	4	6	8
160	-15	18	14	12	10	9	9	13	15
	-5	14	13	10	7	6	6	9	10
	15	14	13	8	5	4	4	7	7
200	-20	17	13	11	9	8	10	13	11
	+0	17	11	7	6	5	6	8	6
	+20	17	10	6	4	3	4	8	4
tol.±		6	3	2	2	2	2	2	3

tol. – tolerance

The chart provides the average noise silencing from the duct to the room accounting for the final sound reflection at the connector in case of fitting in a ceiling.

2.3.3. Supply- exhaust valves VS

Use:
Air supply or exhaust in low and medium pressure systems Recommended for sanitary facilities for exhaust of used air or supply of fresh air.

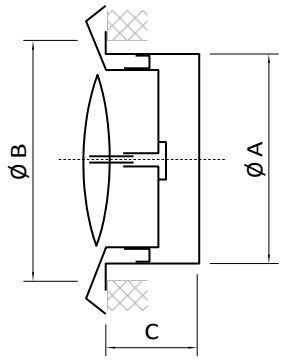
Assembly:
On rectangular ducts in plenum boxes, in suspended ceilings and in walls. Fitted in an additional acid resistant steel fitting frame.

Construction:
Front frame and the disc baffle made of pressed acid resistant steel sheet elements. Front frame is foam insulated to provide air tight fitting aftermounting it with a fitting flange KM

Material:
Stainless steel.

Air flow regulation:
By the means of turning the disc baffle which has a regulating screw welded to the valve. Air flow regulation carried out from the front side without the necessity of dismantling the valve.

Type and dimension marking:



VS

Products range:

Dimensions [mm]	ØA [mm]	ØB [mm]	C [mm]
100	97	118	52
125	120	141	52
150	145	162	52

Order's example:

VS-100

Dimensi

Type

2.3.4. Nozzles DSN

Use:
Air supply or exhaust in low and medium pressure systems Recommended for sanitary facilities for exhaust of used air or supply of fresh air

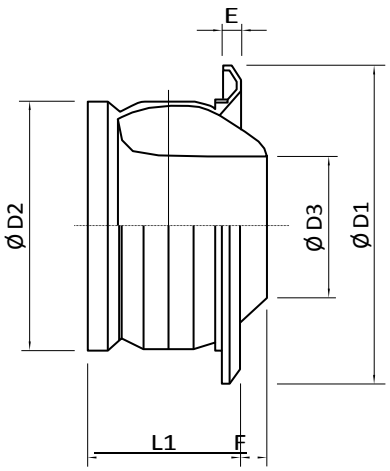
Assembly:
On ventilation ducts.

Material:
aluminium.

Surface finish
Standard RAL 9016, other colours on demand

Air flow regulation:
ustawianie kąta nachylenia strumienia nawiewnego - ręczne.

Type and dimension marking:



DSN

Products range:

Dimensions	Ø D1	Ø D2	Ø D3	E	F	L1
	mm					
100	162	98	50	10	-2	78
125	185	123	64	10	4	89
160	216	158	82	11	10	106
200	273	198	108	16	14	127
250	318	248	136	16	23	159
315	400	313	174	23	29	189
400	483	398	230	24	47	223
500	596	498	286	27,5	60	290

Dimensions	dopuszczalna średnica rury						
	200	250	315	500	630	800	1000
100	•						
125		•					
160			•	•	•	•	
200				•	•	•	
250				•	•	•	
315				•	•	•	
400					•	•	
500						•	•

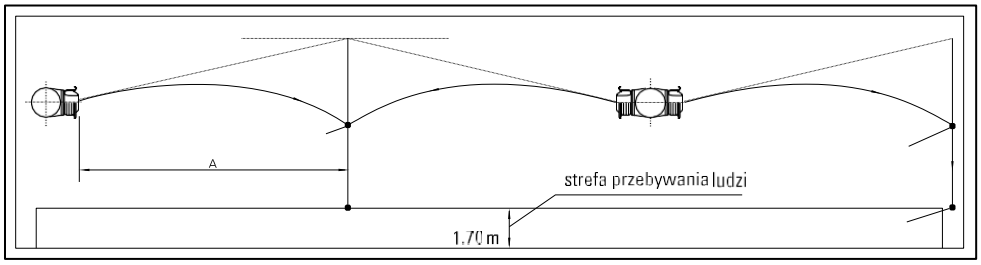
Nozzles DSN - technical data

Zasięg strugi:

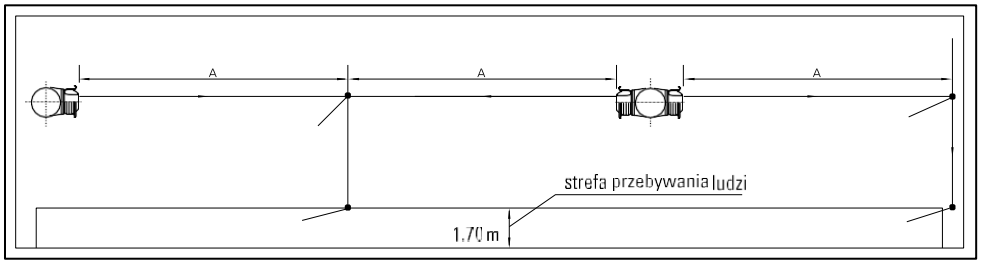
Wielkość [mm]	10 m			20 m			30 m			Końcowa prędkość powietrza [m/s]
	Air stream volume [m³/h]	Pressure loss [Pa]	Level of accustic power [L_{WA}]	Air stream volume [m³/h]	Pressure loss [Pa]	Level of accustic power [L_{WA}]	Air stream volume [m³/h]	Pressure loss [Pa]	Level of accustic power [L_{WA}]	
100	–	–	–	93,6	86	29	140	175	41	
125	–	–	–	122	71	25	180	136	36	
160	82,8	11	<20	165	26	<20	250	98	35	
200	104	–	<20	220	29	<20	306	67	27	**0,25**
250	133	–	<20	272	8,3	<20	382	34	22	
315	180	–	<20	350	11	<20	540	36	20	
400	234	–	<20	465	8	<20	702	13	<20	
100	93,6	86	29	187	300	50	–	–	–	
125	122	71	25	245	265	46	–	–	–	
160	165	26	<20	330	113	44	497	200	55	
200	220	29	<20	435	123	38	655	218	50	**0,50**
250	274	8,3	<20	548	63	34	825	112	45	
315	350	11	<20	690	57	28	1055	104	40	
400	464	8	<20	930	32	20	1394	69	33	
100	187	300	50	–	–	–	–	–	–	
125	245	265	46	–	–	–	–	–	–	
160	330	113	44	–	–	–	–	–	–	
200	435	123	38	870	312	–	–	–	–	**1,00**
250	548	63	34	1100	160	53	–	–	–	
315	700	57	28	1400	150	48	2106	243	–	
400	930	32	20	1860	123	42	2783	273	53	

Warunki pracy dyszy:

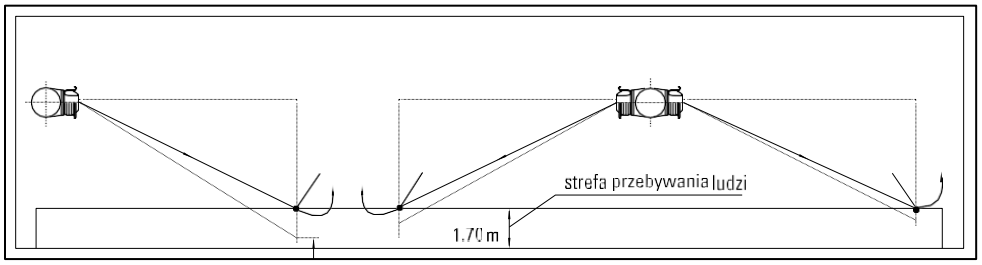
Przepływ zimnego powietrza



Przepływ powietrza o stałej temperaturze

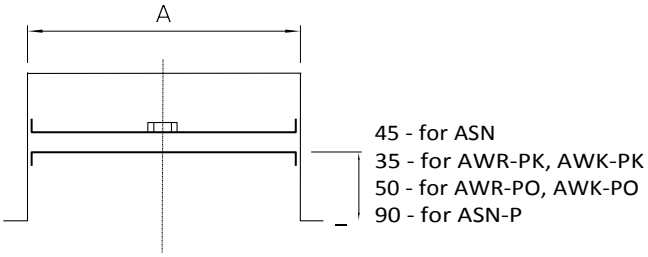


Przepływ gorącego powietrza



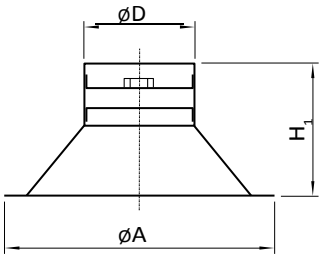
Plenum boxes

Traverse WMC



It's use for cetral mounting system. Standard screws M6 lub or M8.

Connecting port KP

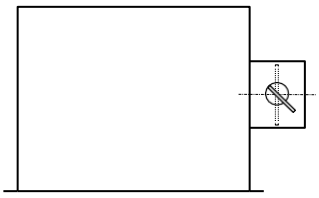


Used for fitting circular ducts to ANO diffusers in cases where fitting a plenum box is unnecessary, and for fitting ANO diffusers in ceilings. Made of galvanized steel sheet with a permanently fixed fitting support inside

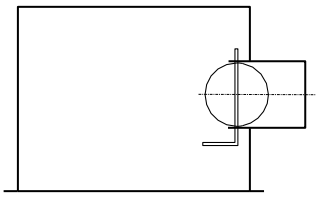
Dimensions ANO [mm]	Dimensions øD [mm]	High H_1 [mm]	Dimensions øA [mm]
150	159	140	257
200	199	140	307
250	249	140	357
300	299	140	407
350	349	140	457

Plenum boxes – dampers in inlet

Standard – outside plenum.



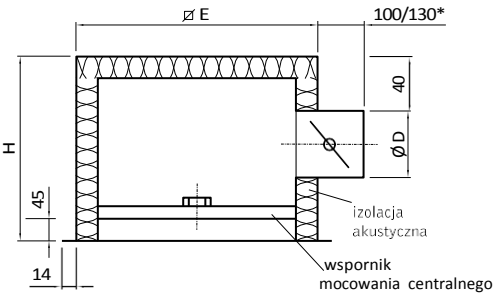
Inside plenum on demand (SRPw i SRIPw).



Plenum boxes

Attention: standard – plenum without damper and isolation.

Plenum boxes for square diffusers.



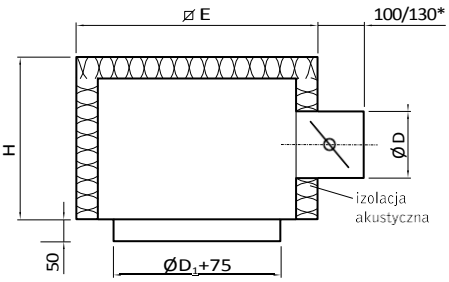
Dimensions for: ASN, ASN-K, ASW, ASW-K

Dimensions A x A [mm]	Dimensions E x E [mm]	High H [mm]	Diameter ØD [mm]	
190 x 190	150 x 150	270	123	lub wg. zamówienia
245 x 245	205 x 205		158	
301 x 301	261 x 261			
357 x 357	317 x 317	330	198	
412 x 412	372 x 372			
469 x 469	429 x 429	380	248	
498 x 498	458 x 458			
595 x 595	555 x 555	420	313	
623 x 623	582 x 582			

Use in low- and medium-pressure installations. For mounting with square diffusers as the element expanding air. Workmanship of a galvanized or an acid-proof sheet. For an order: surface finishing powder varnish layer in a colour in accordance with the catalouge RAL. Regulation of air flow with the use of a single-leaf damper at the intake in the cabinet . It is possible to order cabinets with acoustic and thermal isolation.

Hygienic certificate: BK/K/0926/01/2018 .

Plenum box for circular diffusers



Standard dimension for ANO

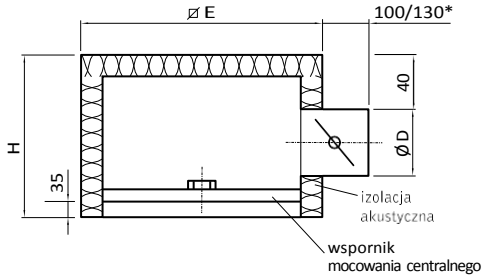
Dimensions $ØD_1$ [mm]	Dimensions E x E [mm]	H [mm]	Diameter ØD [mm]	
150	300 x 300	200	158	lub wg. zamówienia
200	350 x 350	200		
250	400 x 400	250	198	
300	450 x 450	300		
350	500 x 500	300		

Use in low- and medium-pressure installations. For mounting with circle diffusers ANO as the element expanding air. Workmanship of a galvanized sheet. For an order: surface finishing powder varnish layer in a colour in accordance with the catalouge RAL. Regulation of air flow with the use of a single-leaf damper at the intake in the cabinet . It is possible to order cabinets with acoustic and thermal isolatio. **Hygienic certificate: BK/K/0926/01/2018 .**

*) w przypadku przepustnicy jednopłaszczyznowej na króćcu przyłączeniowym skrzynki.

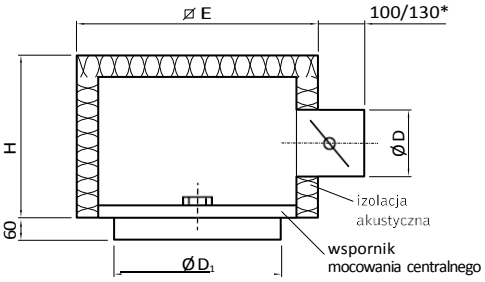
Plenum boxes

Plenum box for swirl diffusers



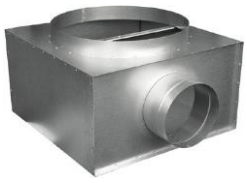
Standard dimensions for AWR-PK i AWK-PK

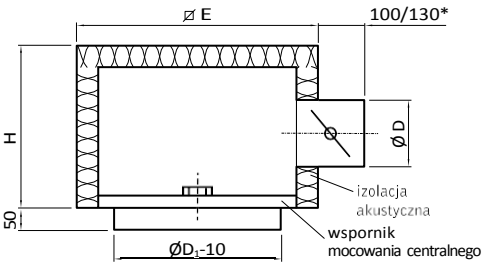
	Dimensions A x A [mm]	Dimensions E x E [mm]	H [mm]	Diameter ØD [mm]	
AWR-PK	398	390 x 390	330	198	lub wg. zamówienia
	469	460 x 460	380	248	
	498	490 x 490			
	595	587 x 587	400	313	
	623	615 x 615			
AWK-PK	310 x 310	300 x 300	270	158	
	400 x 400	390 x 390	330	198	
	500 x 500	490 x 490	380	248	
	600 x 600	587 x 587	400	313	
	625 x 625	615 x 615			
	800 x 800	790 x 790	420		



Standard diamension for AWR-2

Dimensions $ØD_1$ [mm]	Dimensions E x E [mm]	H [mm]	Diameter ØD [mm]	
125	285 x 285	200	123	lub wg. zamówienia
160	320 x 320		158	
200	360 x 360	300	198	
250	410 x 410		248	
315	475 x 475	400	313	
400	560 x 560	500		





Standard dimensions for AWR-PO i AWK-PO

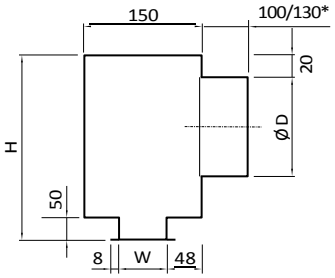
	Dimensions $ØD_1$ [mm]	Dimensions E x E [mm]	H [mm]	diameter ØD [mm]	
AWR-PO	455	550 x 550	300	198	lub wg. zamówienia
	500	600 x 600	330	248	
	600	700 x 700	380	313	
	625	725 x 725			
	655	755 x 755			
AWK-PO	310	410 x 410	270	158	
	400	500 x 500	300	198	
	500	600 x 600	320	248	
	600	700 x 700	380	313	
	625	725 x 725			
	800	900 x 900			

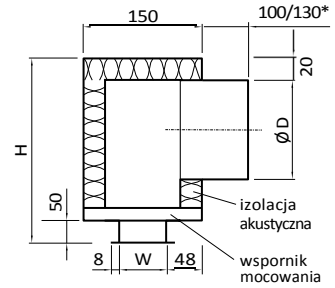
Used in low and medium pressure systems. For fitting with swirl ventilators as an air decompressing element . Made of acid resistant or galvanized steel sheet. On demand the surface can be finished with a powder coat – colour of the coat according to the RAL catalogue. Air flow regulation with a single leaf damper at the outlet of the plenum box. On demand boxes can be fitted with an acoustic or thermal insulatio. **Hygienic certificate: BK/K/0926/01/2018 .**

*) w przypadku przepustnicy jednopłaszczyznowej na króćcu przyłączeniowym skrzynki.

Plenum box for slotted diffusers

Version for NSS-1

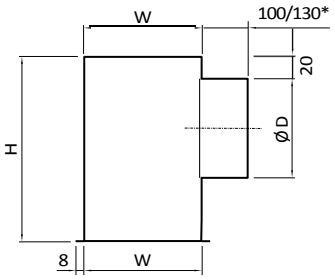


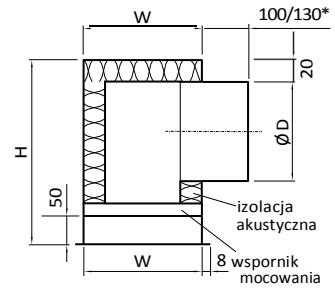


Standard dimensions for NSS

slotts	W [mm]	H [mm]	diameter ØD [mm]	
1	56	250	158	lub wg. zamówienia
2	100		198	
3	144	300		
4	188		248	
5	232	400	313	
6	276			
Długość skrzynki L nawiewnika + 23 mm				

Version for NSS-2 and more



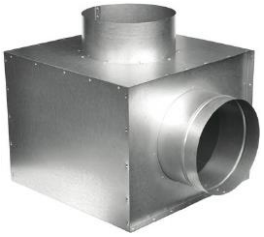


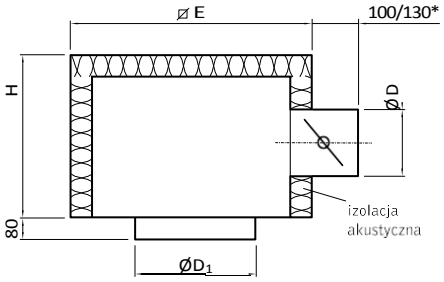
Use in low- and medium-pressure installations. For mounting with slotted diffusers NSS as the element expanding air. Workmanship of a galvanized sheet. For an order: surface finishing powder varnish layer in a colour in accordance with the catalouge RAL. Regulation of air flow with the use of a single-leaf damper at the intake in the cabinet . It is possible to order cabinets with acoustic and thermal isolation. **Hygienic certificate: BK/K/0926/01/2018 .**

*) w przypadku przepustnicy jednopłaszczyznowej na króćcu przyłączeniowym skrzynki.

Plenum boxes

Plenum boxes for perforated diffusers



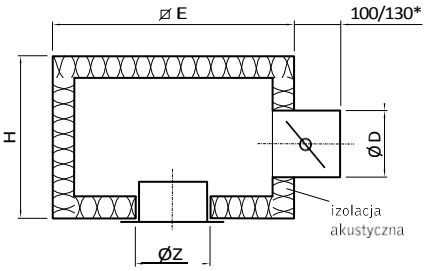


Hygienic certificate: BK/K/0926/01/2018 .

Standard dimenison for AWP

Dimensions A x A [mm]	Diffuser diameter Ø D_1 [mm]	Dimensions E x E [mm]	H [mm]	Ø D [mm]
595 x 595	315	550 x 550	380	313
możliwość zamówienia nawiewnika w dowolnych kombinacjach Dimensions w A x A / Ø D_1				

Plenum box for valves.



Standard dimension for ZWN i ZWW

Dimensions ØZ [mm]	Dimensions E x E [mm]	H [mm]	ØD [mm]	
80	200 x 200	200	123	lub wg. zamówienia
100				
125				
160	250/250	250	198	
200	300/300			
250	350/350	300	250	

Use in low- and medium-pressure installations. For mounting with ventilation valves KE and KK as the element expanding air. Workmanship of a galvanized or an acidproof sheet. For an order: surface finishing powder varnish layer in a colour in accordance with the catalouge RAL. Regulation of air flow with the use of a single-leaf damper at the intake in the cabinet . It is possible to order cabinets with acoustic and thermal isolation. **Hygienic certificate: BK/K/0926/01/2018 .**

*) w przypadku przepustnicy jednopłaszczyznowej na króćcu przyłączeniowym skrzynki.

3. LOUVRES AND DAMPERS

Louvres

Rectangular louvres


CWP


CWP-al

Round louvres


CWO

Dampers

Dampers


PJP


PJO


PWP


IRIS


RSK

Materials:

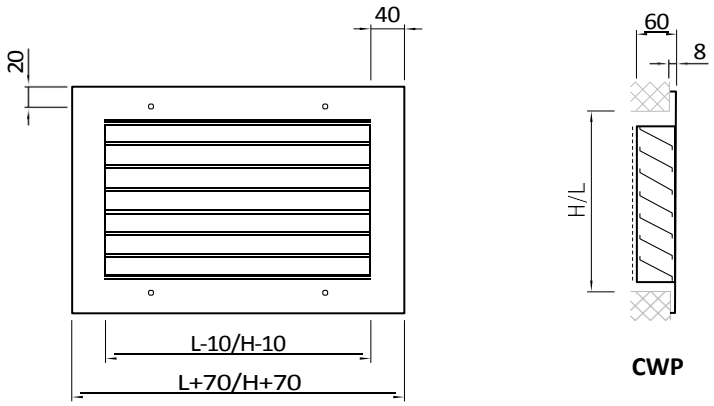
Black steel sheet:	- LAF-DC01-A-M-O	(PN-EN 10130:2009)
	- FePO1 A-M-O	(PN-EN 10130, PN-EN 10139)
Galvanized steel	- GALV-DX51D+Z275-M-A-C	(PN-EN 10142:2003)
	- FePO26 275-M-A-C	(PN-EN 10142:2003, PN-EN 10143:2003, PN-EN 10147:2003)
Stainless steel	-OH18N9 (1.4301)	(PN-EN 10088-1:2007)
Aluminum profiles	- stop EN-AW-6063	(PN-EN 573-3:1994)
Aluminum plate	- 1050A H24	(PN-EN 573-3:2005, PN-EN 485-2:2007)

3.1.1. Rectengular louvres CWP

Use:
External use in ventilation system
Assembly:
Rectangular duct or external wall
Construction:
Blades and frames are made of rolled steel profiles. Net on the neck of louvres 10x10.

Material:
Galvanized steel or stainless steel.
Surface finish
Standard galvanized steel. RAL colour on demand.
Air flow regulation:
With PWP damper.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



CWP

Product marking:

CWP–ko–600x400

- **Dimensions**
- **Material**
  - Standard – galvaznied steel
  - ko - stainless steel
- **Type**

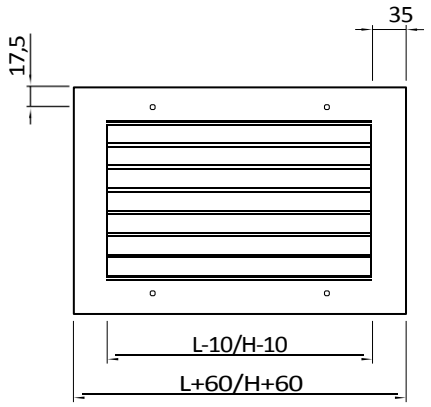
Order's example:
CWP-600x400
Lovres made of galv.steel, Dimensions 600x400 mm.

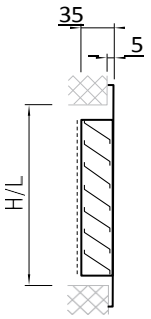
3.1.2. Rectangular louvres CWP-al

Use:
External wall in ventilation system
Assembly:
Rectangular ducts, external walls.
Construction:
Blades and frame made from aluminum profiles. Net on the neck of louvres 5x5.

Material:
Aluminum, alloy 6063
Surface finish
Standard – anodized aluminium, RAL colour on demand
Air flow regulation:
With damper PWP.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:





CWP-al

Product marking:

CWP–al–600x400

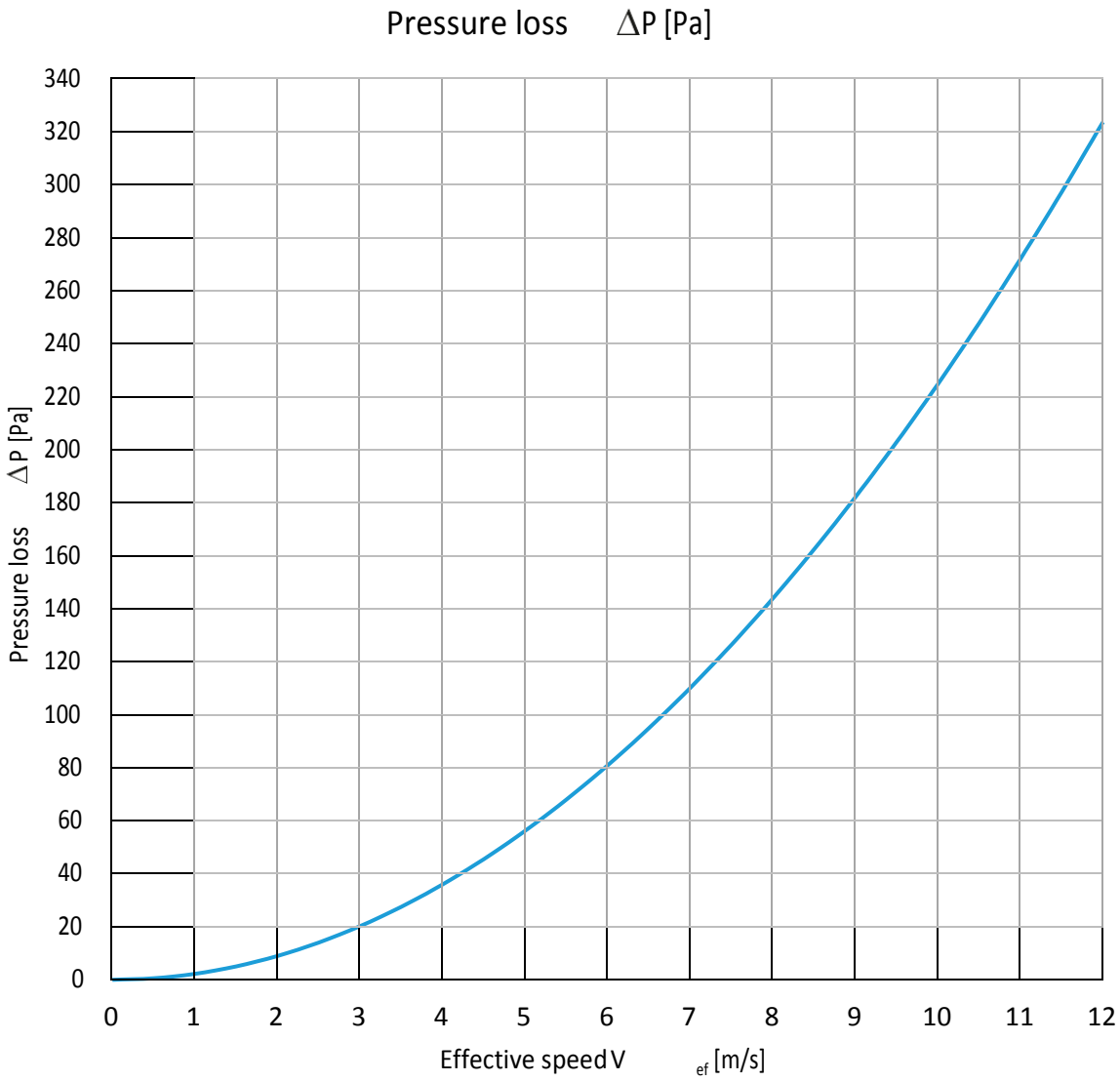
Dimensions. Surface finish

Standard – anodized aluminum
alp - aluminum painted in RAL

Type

Order's example:
CWP-al-600x400
Louvres made from aluminum, Dimensions 600x400 mm.

Diagrams and table for selection CWP

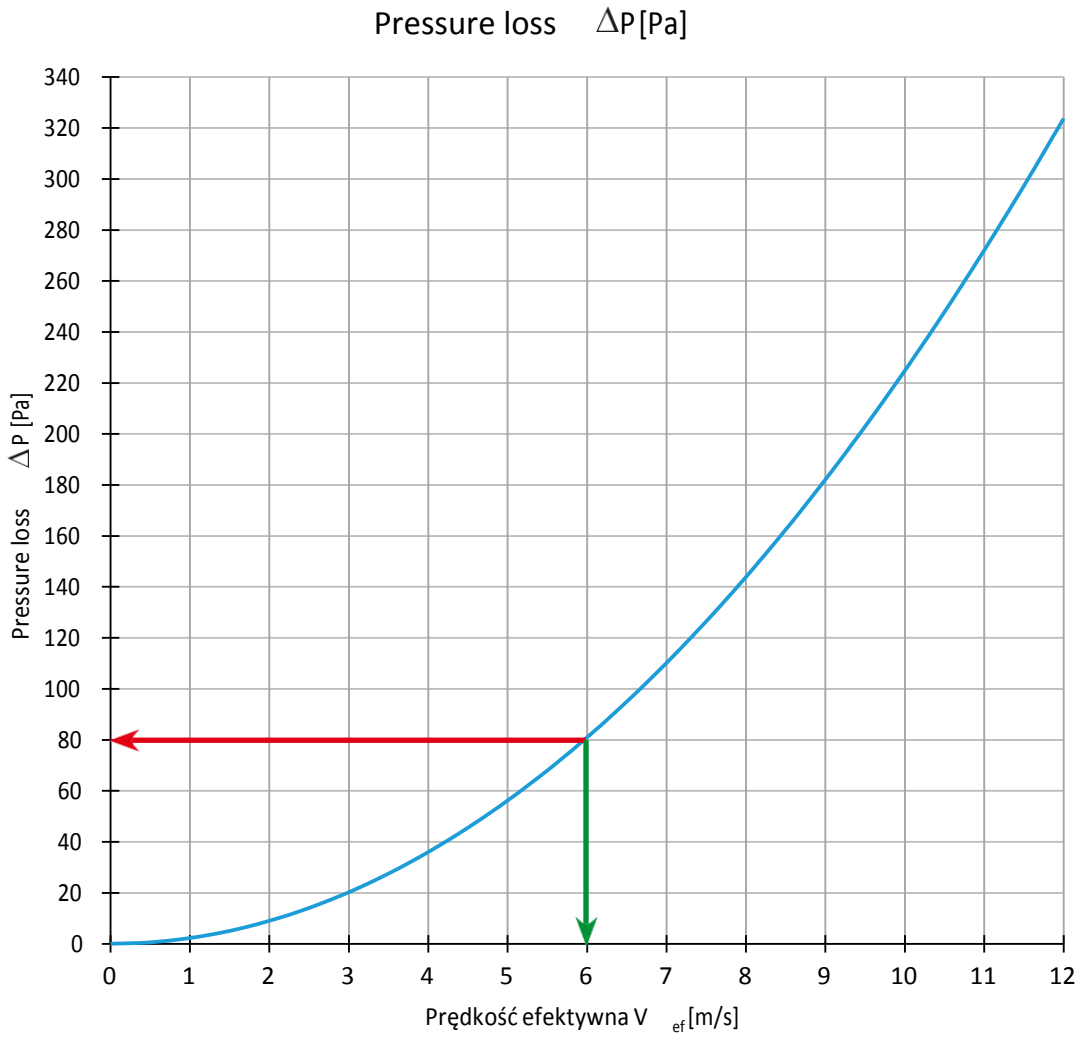


Recommendation:

- As big as possible.
- Opimal choice to V_{ef} = 5 [m/s].
- do not pick louvres more than V_{ef} = 10 [m/s].

A_{ef} [m²]										
L / H	**300**	**400**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**
300	0,0374	0,0503	0,0761	0,1019	0,1276	0,1534	0,1792	0,2050	0,2308	0,2566
400	0,0690	0,0928	0,1404	0,1879	0,2355	0,2831	0,3307	0,3783	0,4258	0,4734
600	0,1008	0,1356	0,2051	0,2747	0,3442	0,4138	0,4833	0,5528	0,6224	0,6919
800	0,1303	0,1752	0,2650	0,3549	0,4447	0,5346	0,6244	0,7143	0,8041	0,8940
1000	0,1573	0,2116	0,3201	0,4286	0,5371	0,6456	0,7541	0,8626	0,9711	1,0795
1200	0,1820	0,2447	0,3702	0,4957	0,6212	0,7467	0,8722	0,9977	1,1232	1,2487
1400	0,2042	0,2746	0,4155	0,5563	0,6971	0,8380	0,9788	1,1197	1,2605	1,4013
1600	0,2241	0,3013	0,4559	0,6104	0,7649	0,9194	1,0740	1,2285	1,3830	1,5375
1800	0,2415	0,3248	0,4914	0,6579	0,8245	0,9910	1,1576	1,3242	1,4907	1,6573
2000	0,2566	0,3450	0,5220	0,6989	0,8759	1,0528	1,2297	1,4067	1,5836	1,7606

Instruction of using diagram and table for selection CWP



Recommend:

Przykład doboru czerpni CWP

- Założona dopuszczalna Pressure loss ΔP = 80 Pa, wymagany wydatek Q_h = 10000 m3/h
- Z wykresu odczytujemy prędkość efektywną 6 m/s
- P wierzchnia efektywna $A_{ef} \geq \frac{Q_h}{3600 V_{ef}}$ [m²]

czyli $A_{ef} \geq \frac{10000}{3600 \cdot 6}$ [m²], co daje A_{ef} = 0,4633 [m2]. Odpowiada to czerpni o Dimensionsach

np. H x L = 1200 x 800

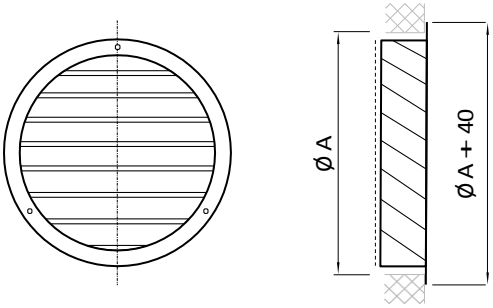
A_{ef} [m²]										
H \ L	300	400	600	800	1000	1200	1400	1600	1800	2000
300	0,0374	0,0503	0,0761	0,1019	0,1276	0,1534	0,1792	0,2050	0,2308	0,2566
400	0,0690	0,0928	0,1404	0,1879	0,2355	0,2831	0,3307	0,3783	0,4258	0,4734
600	0,1008	0,1356	0,2051	0,2747	0,3442	0,4138	0,4833	0,5528	0,6224	0,6919
800	0,1303	0,1752	0,2650	0,3549	0,4447	0,5346	0,6244	0,7143	0,8041	0,8940
1000	0,1573	0,2116	0,3201	0,4286	0,5371	0,6456	0,7541	0,8626	0,9711	1,0795
1200	0,1820	0,2447	0,3702	0,4957	0,6212	0,7467	0,8722	0,9977	1,1232	1,2487
1400	0,2042	0,2746	0,4155	0,5563	0,6971	0,8380	0,9788	1,1197	1,2605	1,4013
1600	0,2241	0,3013	0,4559	0,6104	0,7649	0,9194	1,0740	1,2285	1,3830	1,5375
1800	0,2415	0,3248	0,4914	0,6579	0,8245	0,9910	1,1576	1,3242	1,4907	1,6573
2000	0,2566	0,3450	0,5220	0,6989	0,8759	1,0528	1,2297	1,4067	1,5836	1,7606

3.1.3. Round louvres CWO, CWO-K

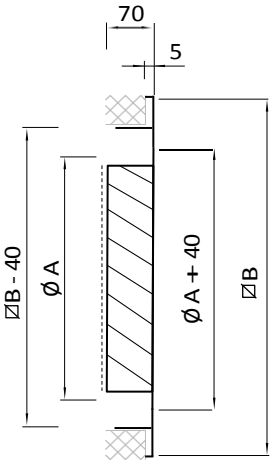
Use:
External use in general ventilation system.
Assembly:
On circular duct, or external wall.
Construction:
Made of rolled steel profiles. There is net 10x10 on the neck of louvres.

Material:
Galvanized steel or stainless steel
Surface finish
Ral colour on demand
Air flow regulation:
With damper PJO.
Certificates:
Hygienic certificate: BK/K/0926/01/2018

Type and dimension marking:



CWO



CWO-K

Products range:

ØA [mm]
100
160
200
250
300
315
350
400

ØA [mm]
450
500
560
630
800
900
1000

Product marking:

CWO–ko–350

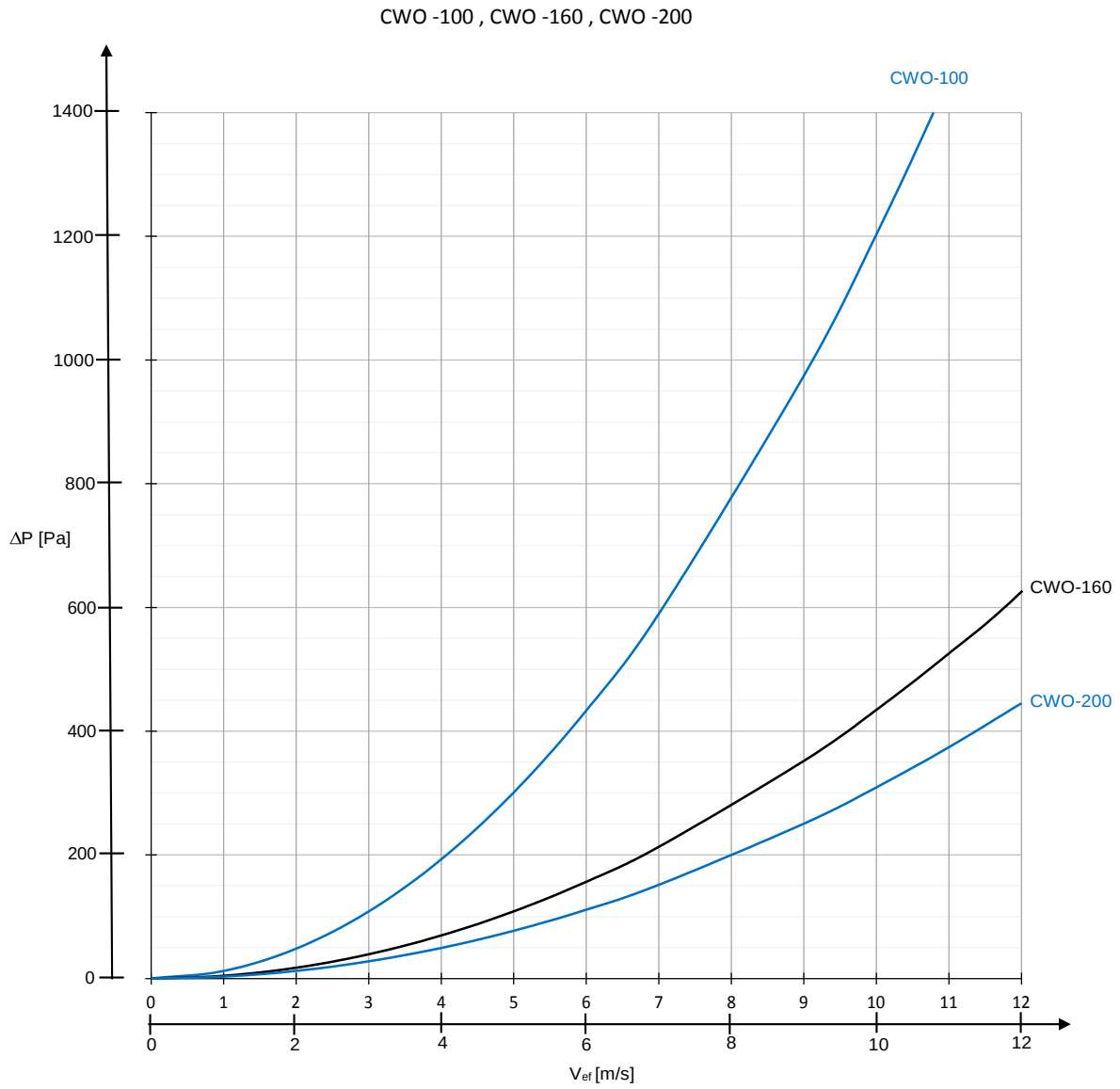
Dimensions

Surface finish
Standard – galvaznied steel
ko - stainless steel

Types
CWO - round lovres
CWO-K - round louvres in panel

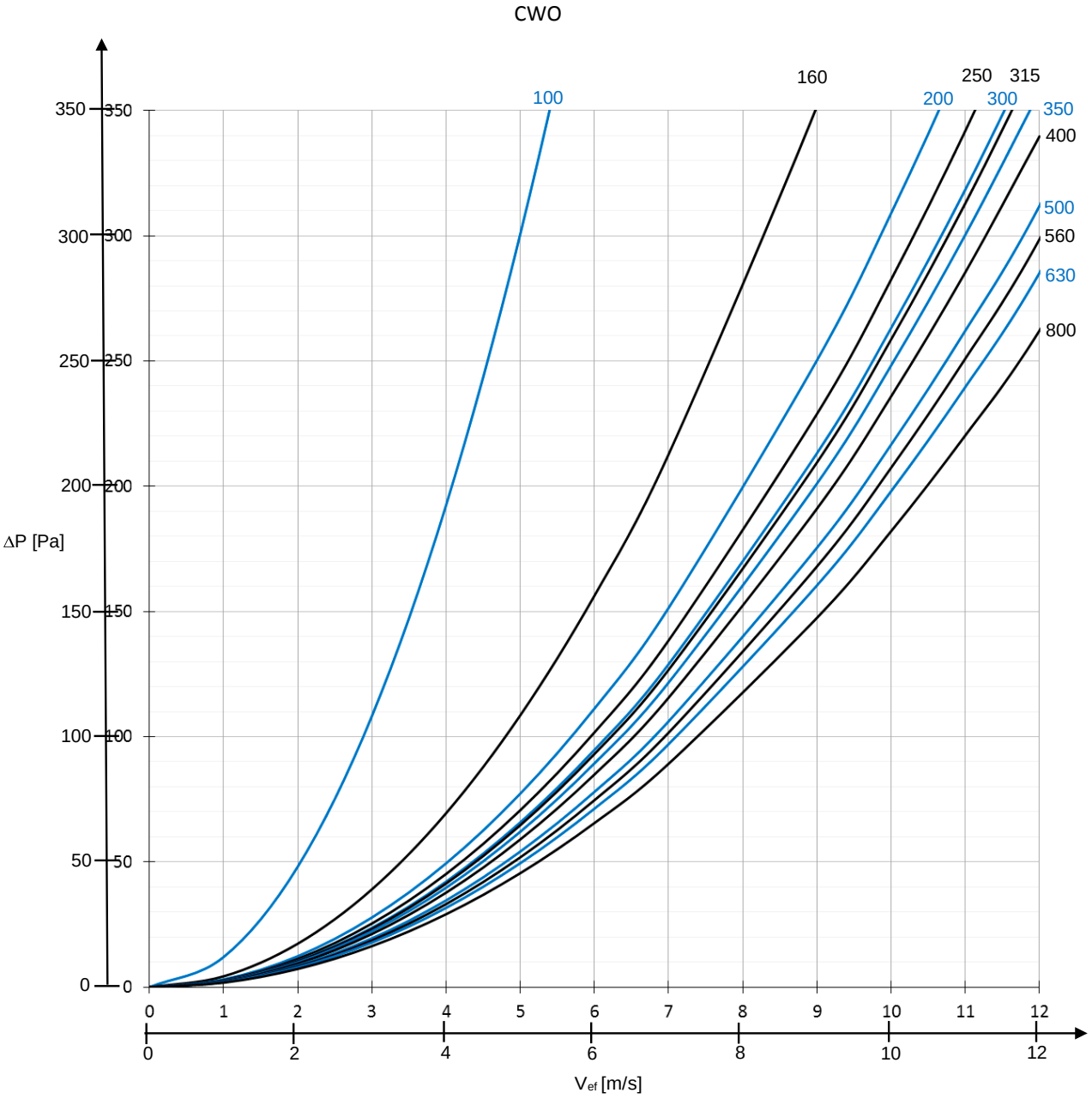
Order's example:
CWO-350
Galvanized round louvres , Dimensions Ø 350 mm.

Diagram and table for selection CWO Range of air flow Q: 0 ÷ 15000 [m³/h]



		CWO											
Typ	**Ø A [mm]**	**100**	**160**	**200**	**250**	**300**	**315**	**350**	**400**	**500**	**560**	**630**	**800**
	A_{ef} [m²]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721

Instruction of using diagram and table for selection CWO Range of air flow Q: 0 ÷ 15000 [m³/h]

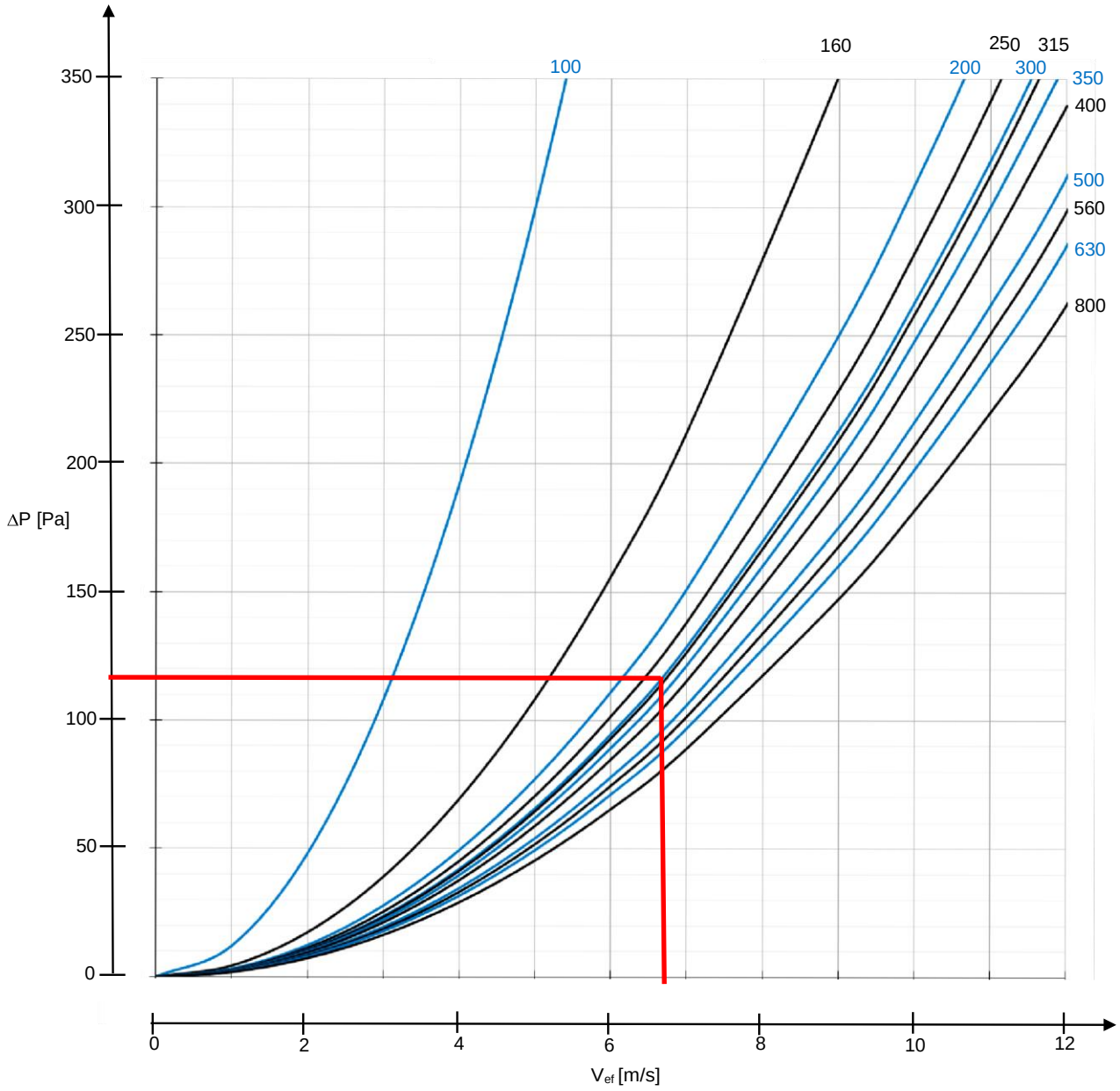


		CWO											
Typ	**ØA [mm]**	**100**	**160**	**200**	**250**	**300**	**315**	**350**	**400**	**500**	**560**	**630**	**800**
	A_{ef} [m²]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721

Diagram and table for selection CWO Range of air flow Q: 0 ÷ 4000 [m³/h]

PRZYKŁAD DOBORU

CWO



Przykład doboru czerpni CWO

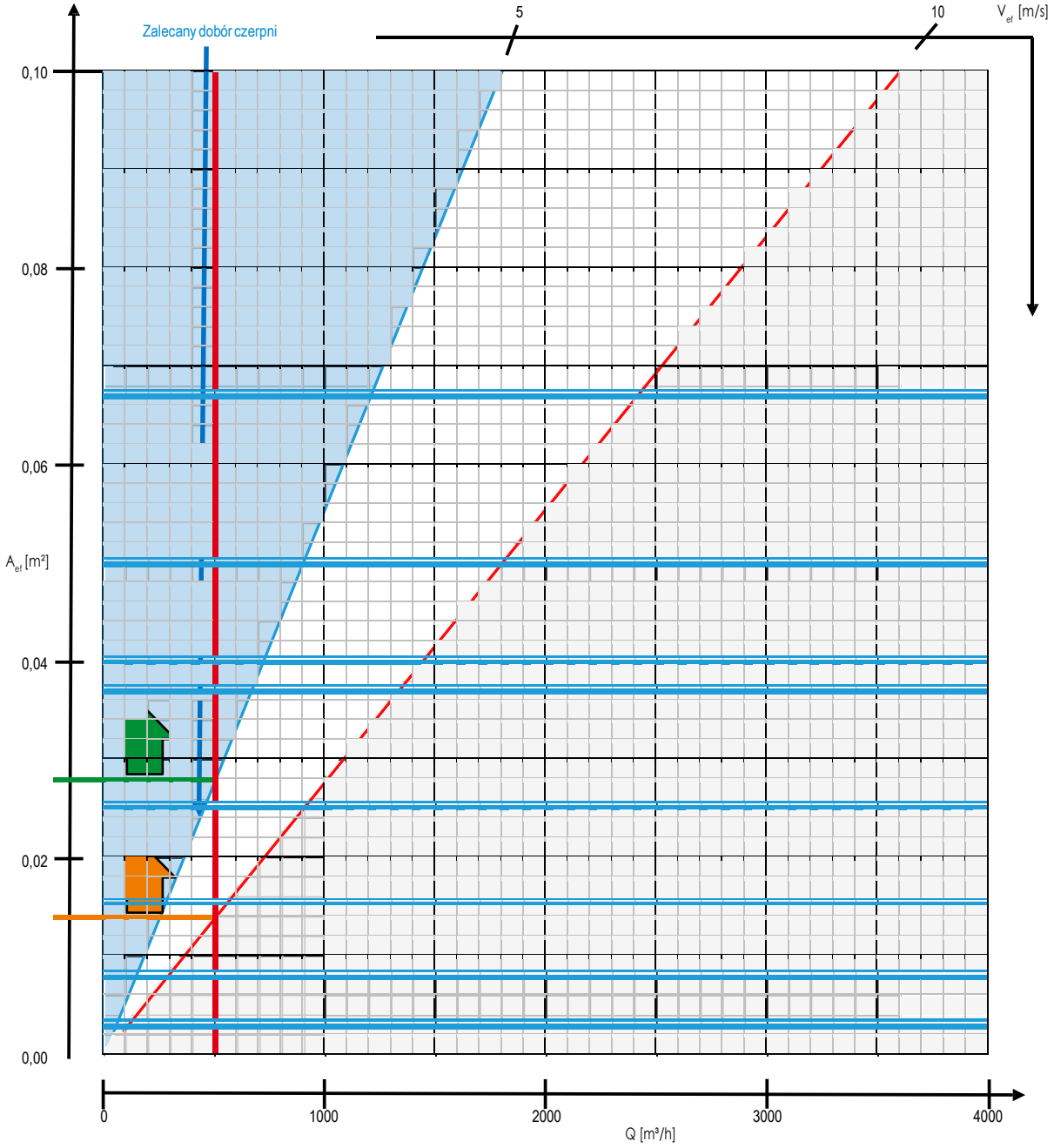
- Założona dopuszczalna Pressure loss DP ≤ 150 Pa, wymagany wydatek Q_h = 1000 m3/h
- Sprawdzamy czy czerpnia np. CWO-300 spełni wymagania

$$V_{ef} = \frac{Q_h}{3600\,A_{ef}} = \frac{1000}{3600 \cdot 0{,}04089} = 6{,}79\ [m/s]$$

Odczytujemy z wykresu ΔP ≈ 118 Pa, czyli spełnia nasze założenie.

		CWO											
Typ	**ØA [mm]**	**100**	**160**	**200**	**250**	**300**	**315**	**350**	**400**	**500**	**560**	**630**	**800**
	A_{ef} [m²]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721

Instruction of using diagram and table for selection CWO Range air flow Q: 0 ÷ 4000 [m³/h]



Typ	Ø A [mm]	100	160	200	250	300	315	350	400	500	560	630	800
	A_{ef} [m²]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721

Zadany wydatek 500 m³/h – czerwona pionowa przerywana linia.
Dobieramy zawsze możliwie największą czerpnię.
Poziome niebieskie linie przerywane odpowiadają Dimensionsom czerpni.

- Czerpnia optymalna jest dla A_{ef} > 0,028 m².
- Dopuszczalne są również czerpnie o powierzchni A_{ef} > 0,012 m².
- Nie zaleca się doboru mniejszych czerpni dla takiego wydatku.

Table for selection round louvres CWO

		CWO											
Typ	A [mm]	100	160	200	250	300	315	350	400	500	560	630	800
	A_{ef} [m^2]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721
Q_h [m^3/h]													
25	ΔP [Pa]	109,8	2,8	0,6									
	V_{ef} [m/s]	3,0	0,8	0,5									
50	ΔP [Pa]	439,0	11,3	2,6	0,9								
	V_{ef} [m/s]	6,0	1,6	0,9	0,6	0,4							
100	ΔP [Pa]	1756,1	45,1	10,3	3,6	1,5	1,2	0,8					
	V_{ef} [m/s]	12,1	3,2	1,8	1,1	0,8	0,7	0,6					
150	ΔP [Pa]	3951,3	101,5	23,1	8,0	3,5	2,8	1,7					
	V_{ef} [m/s]	18,1	4,8	2,7	1,7	1,1	1,0	0,8					
200	ΔP [Pa]		180,5	41,1	14,2	6,1	5,0	3,1	1,7	0,6			
	V_{ef} [m/s]		6,4	3,6	2,2	1,5	1,4	1,1	0,8	0,5			
300	ΔP [Pa]		406,1	92,4	32,0	13,8	11,2	6,9	3,8	1,4	0,8	0,5	
	V_{ef} [m/s]		9,7	5,5	3,4	2,3	2,1	1,7	1,3	0,8	0,6	0,5	
400	ΔP [Pa]		722,0	164,3	56,9	24,5	20,0	12,3	6,7	2,5	1,5	0,9	
	V_{ef} [m/s]		12,9	7,3	4,5	3,1	2,8	2,2	1,7	1,1	0,8	0,7	
500	ΔP [Pa]		1128,1	256,7	88,9	38,3	31,2	19,2	10,5	3,9	2,3	1,3	0,5
	V_{ef} [m/s]		16,1	9,1	5,6	3,8	3,5	2,8	2,1	1,3	1,1	0,8	0,5
600	ΔP [Pa]		1624,5	369,7	128,0	55,2	44,9	27,7	15,2	5,6	3,3	1,9	0,7
	V_{ef} [m/s]		19,3	10,9	6,7	4,6	4,2	3,3	2,5	1,6	1,3	1,0	0,6
700	ΔP [Pa]		2211,2	503,2	174,2	75,2	61,2	37,7	20,7	7,6	4,5	2,6	1,0
	V_{ef} [m/s]		22,6	12,8	7,9	5,3	4,9	3,9	3,0	1,9	1,5	1,2	0,7
800	ΔP [Pa]			657,2	227,5	98,2	79,9	49,2	27,0	9,9	5,9	3,4	1,3
	V_{ef} [m/s]			14,6	9,0	6,1	5,6	4,5	3,4	2,1	1,7	1,3	0,8
900	ΔP [Pa]			831,8	287,9	124,2	101,1	62,3	34,1	12,5	7,5	4,4	1,6
	V_{ef} [m/s]			16,4	10,1	6,9	6,3	5,0	3,8	2,4	1,9	1,5	0,9
1000	ΔP [Pa]			1026,9	355,5	153,4	124,8	76,9	42,1	15,4	9,3	5,4	2,0
	V_{ef} [m/s]			18,2	11,2	7,6	6,9	5,6	4,2	2,7	2,1	1,6	1,0
1200	ΔP [Pa]			1478,7	511,9	220,9	179,8	110,8	60,7	22,2	13,3	7,7	2,9
	V_{ef} [m/s]			21,9	13,5	9,2	8,3	6,7	5,1	3,2	2,5	2,0	1,3
1400	ΔP [Pa]				696,8	300,6	244,7	150,8	82,6	30,3	18,1	10,5	3,9
	V_{ef} [m/s]				15,7	10,7	9,7	7,8	5,9	3,7	3,0	2,3	1,5
1600	ΔP [Pa]				910,0	392,7	319,6	196,9	107,9	39,5	23,7	13,8	5,1
	V_{ef} [m/s]				17,9	12,2	11,1	8,9	6,8	4,3	3,4	2,6	1,7
1800	ΔP [Pa]				1151,8	497,0	404,4	249,2	136,6	50,1	30,0	17,4	6,5
	V_{ef} [m/s]				20,2	13,7	12,5	10,0	7,6	4,8	3,8	3,0	1,9
2000	ΔP [Pa]					613,6	499,3	307,7	168,6	61,8	37,0	21,5	8,0
	V_{ef} [m/s]					15,3	13,9	11,1	8,5	5,3	4,2	3,3	2,1
2500	ΔP [Pa]					958,7	780,2	480,8	263,4	96,6	57,8	33,6	12,5
	V_{ef} [m/s]					19,1	17,4	13,9	10,6	6,7	5,3	4,1	2,6
3000	ΔP [Pa]					1380,5	1123,5	692,3	379,3	139,0	83,3	48,4	18,0
	V_{ef} [m/s]					22,9	20,8	16,7	12,7	8,0	6,3	4,9	3,1
3500	ΔP [Pa]							942,3	516,3	189,2	113,4	65,9	24,5
	V_{ef} [m/s]							19,5	14,8	9,3	7,4	5,8	3,7
4000	ΔP [Pa]							1230,8	674,3	247,2	148,0	86,0	32,0
	V_{ef} [m/s]							22,3	16,9	10,7	8,4	6,6	4,2
4500	ΔP [Pa]								853,4	312,8	187,4	108,9	40,5
	V_{ef} [m/s]								19,0	12,0	9,5	7,4	4,7
5000	ΔP [Pa]								1053,6	386,2	231,3	134,4	50,1
	V_{ef} [m/s]								21,1	13,4	10,6	8,2	5,2
5500	ΔP [Pa]									467,3	279,9	162,7	60,6
	V_{ef} [m/s]									14,7	11,6	9,1	5,8
6000	ΔP [Pa]									556,1	333,1	193,6	72,1
	V_{ef} [m/s]									16,0	12,7	9,9	6,3
6500	ΔP [Pa]									652,7	390,9	227,2	84,6
	V_{ef} [m/s]									17,4	13,7	10,7	6,8
7000	ΔP [Pa]									757,0	453,4	263,5	98,1
	V_{ef} [m/s]									18,7	14,8	11,5	7,3
7500	ΔP [Pa]									869,0	520,5	302,5	112,6
	V_{ef} [m/s]									20,0	15,8	12,4	7,9
8000	ΔP [Pa]									988,7	592,2	344,1	128,2
	V_{ef} [m/s]									21,4	16,9	13,2	8,4
9000	ΔP [Pa]										749,5	435,5	162,2
	V_{ef} [m/s]										19,0	14,8	9,4

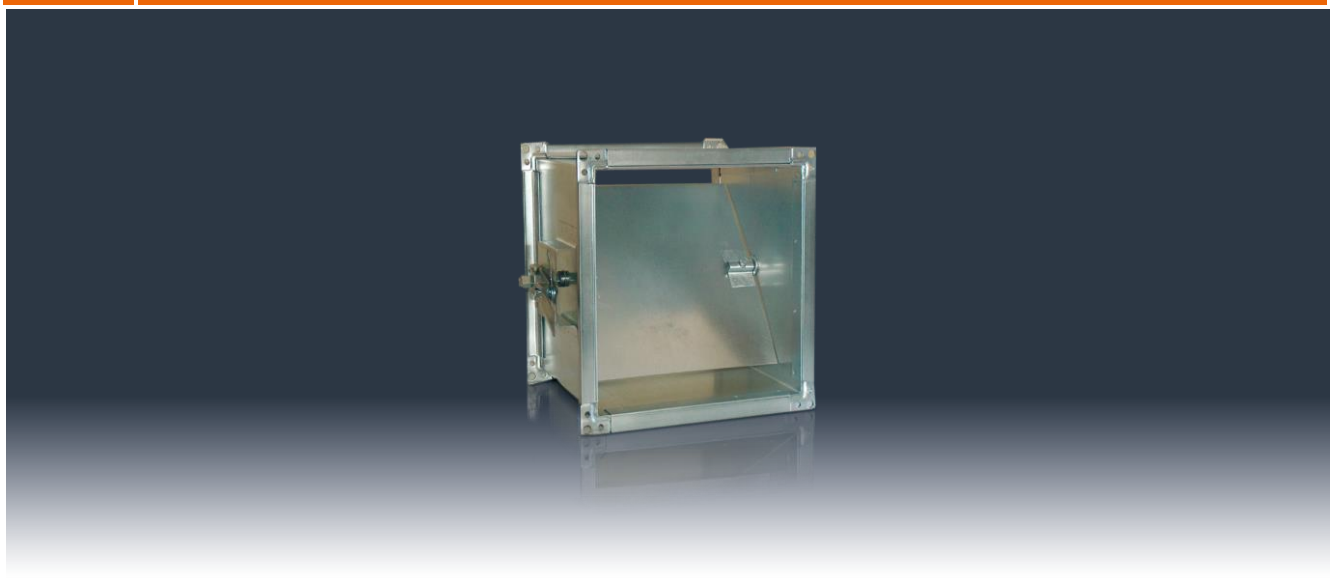
Kolorem oznaczono
- wybór najbardziej optymalny, V_{ef} < 5 m/s
- wybór dopuszczalny, V_{ef} > 5 m/s i V_{ef} < 10 m/s,
- wybór niezalecany, V_{ef} > 10 m/s

Kolorem oznaczono:
- wybór najbardziej optymalny, V_{ef} < 5 m/s
- wybór dopuszczalny, V_{ef} > 5 m/s i V_{ef} < 10 m/s
- wybór niezalecany, V_{ef} > 10 m/s

Table for selection round louvres CWO

		CWO											
Typ	■ A [mm]	100	160	200	250	300	315	350	400	500	560	630	800
	A_{ef} [m^2]	0,00247	0,00901	0,01579	0,02547	0,03725	0,04089	0,05091	0,06688	0,10549	0,13317	0,17047	0,26721
10000	ΔP [Pa]										925,3	537,7	200,2
	V_{ef} [m/s]										21,1	16,5	10,5
11000	ΔP [Pa]											650,6	242,3
	V_{ef} [m/s]											18,1	11,5
12000	ΔP [Pa]											774,3	288,3
	V_{ef} [m/s]											19,8	12,6
13000	ΔP [Pa]											908,7	338,4
	V_{ef} [m/s]											21,4	13,6
14000	ΔP [Pa]												392,5
	V_{ef} [m/s]												14,7
15000	ΔP [Pa]												450,5
	V_{ef} [m/s]												15,7

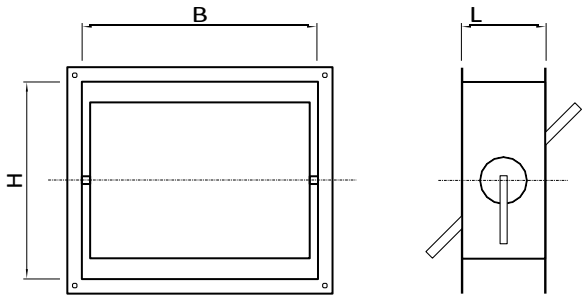
3.2.1. Single- leaf rectangular damper PJP



Use:
Ventilation systems
Assembly:
On rectangular ducts
Construction:
Made of galvanized steel

Material:
Galvaznized steel
Air flow regulation:
Handy regulation or it could be prepared for actuator

Type and dimension marking:



PJP

Products range:

B mm / H mm	160	200	250	300	400	500	600
100	+	+	+	+	+	+	+
160	+	+	+	+	+	+	+
200	+	+	+	+	+	+	+
250	+	+	+	+	+	+	+
300	+	+	+	+	+	+	+
400	+	+	+	+	+	+	+
500	+	+	+	+	+	+	+
600	+	+	+	+	+	+	+
L	200			250			300

Product marking:

PJP–400x250–S

Regulation:
Standard - handly
S - for actuator

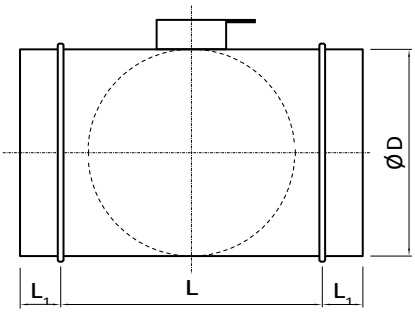
Dimensions

BxH Type

3.2.2. Single- leaf round damper PJO

Use:
Ventilation system
Assembly:
On circular ducts
Construction:
Made of galvanized steel
Material:
Galvanized steel or stainless steel
Air flow regulation:
Regulation handly or it could be prepared for actuator.

Type and dimension marking:



PJO

Products range:

ØD	100	125	160	200	250	315	400	500	630
L	100	125	160	200	250	315	400	500	630
L_1	45	45	45	45	45	65	65	65	65

Product marking:

PJO–200–S

Regulation:
Standard - handly
S - for actuator

Diamet ØD

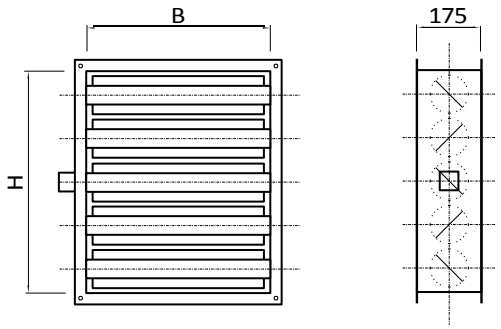
Type

3.2.3. Multi-leaf dampers PWP

Use:
Ventilation system
Assembly:
On rectangular ducts
Construction:
Frames and blades made of galvaznized steel

Material:
Galvanized steel
Air flow regulation:
Handly or it could be prepared for actuator

Type and dimension marking:



PWP

Products range:

B mm / H mm	200	400	600	800	1000	1200	1400
200	+	+	+	+	+	+	+
300	+	+	+	+	+	+	+
400	+	+	+	+	+	+	+
500	+	+	+	+	+	+	+
600	+	+	+	+	+	+	+
800	+	+	+	+	+	+	+
1000	+	+	+	+	+	+	+

Product marking:

PWP–800x400–S

Regulation:
Standard -handly
S - for actuator

Dimensions

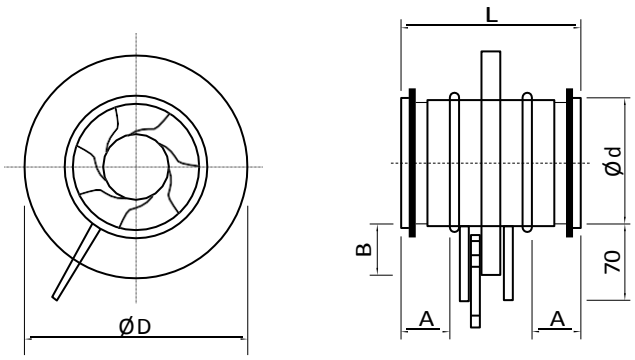
BxH Typ

3.2.4. IRIS dampers IRIS

Use:
Ventilation systems
Assembly:
In ventilation ducts, providing the following straight sections: 4x duct diameter before the damper and 1x duct diameter behind the damper
Construction:
Fitted with a shutter lever for adjustment of the opening diameter, and two tips allowing connection of air flow control.
The regulating lever is fitted with two bolts which fix the desired damper setting. Face edges finished with rubber seals allowing air tight fitting inducts.

Material:
Galvaznied steel
.

Type and dimension marking:



IRIS

Products range:

Typ	Ød [mm]	ØD [mm]	L [mm]	A [mm]	B [mm]
100	99	165	110	30	32
125	124	210	110	30	42
160	159	230	110	30	35
200	199	285	110	30	42
250	249	335	135	40	42
315	314	410	135	40	47
400	398	525	190	60	62

Product marking:

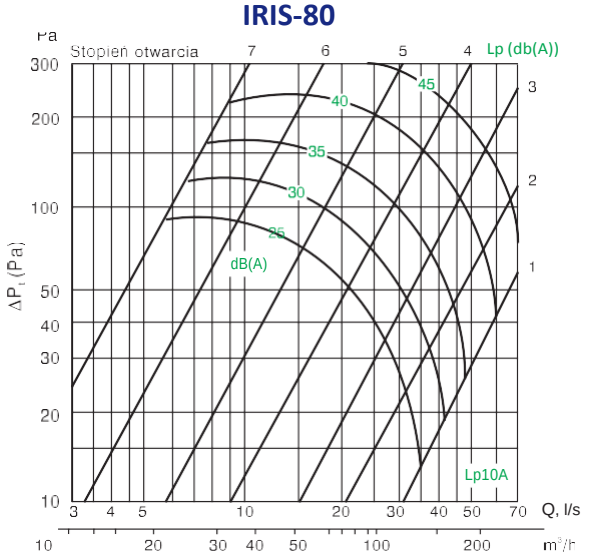
IRIS–Ø200

Diameter

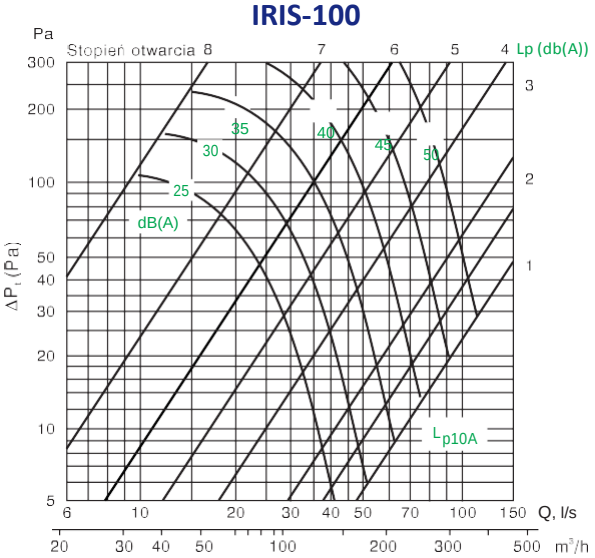
ØD Type

Diagrams for selection IRIS

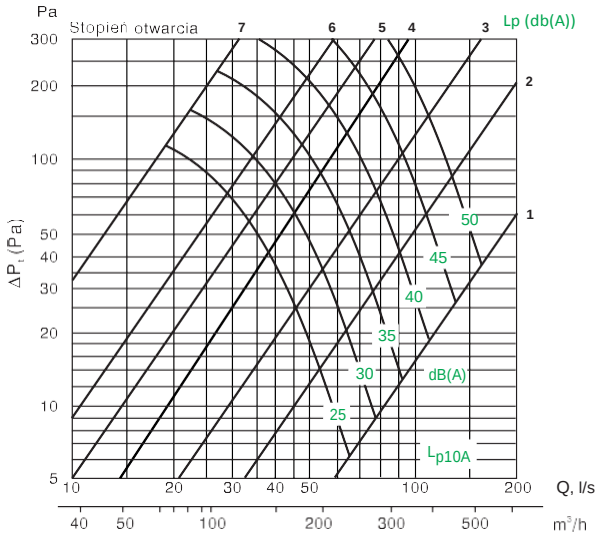
IRIS-80



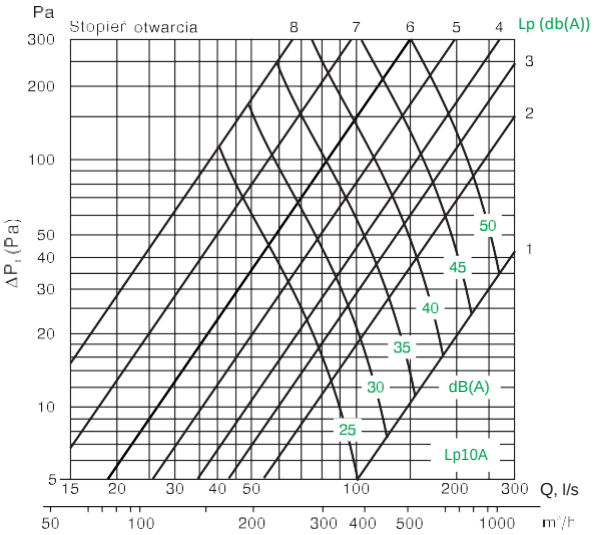
IRIS-100



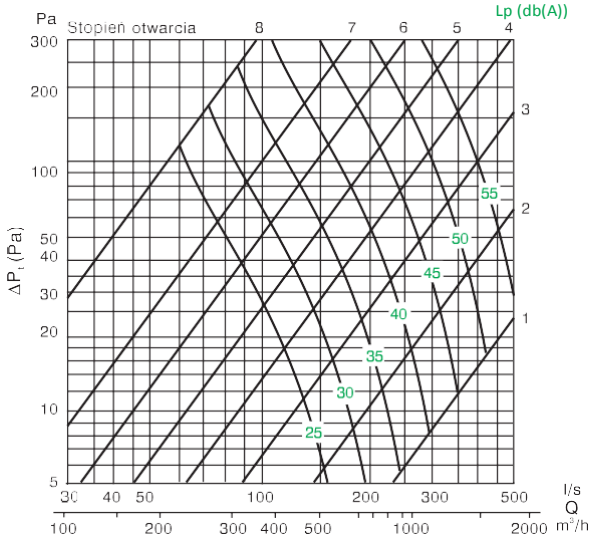
IRIS-125



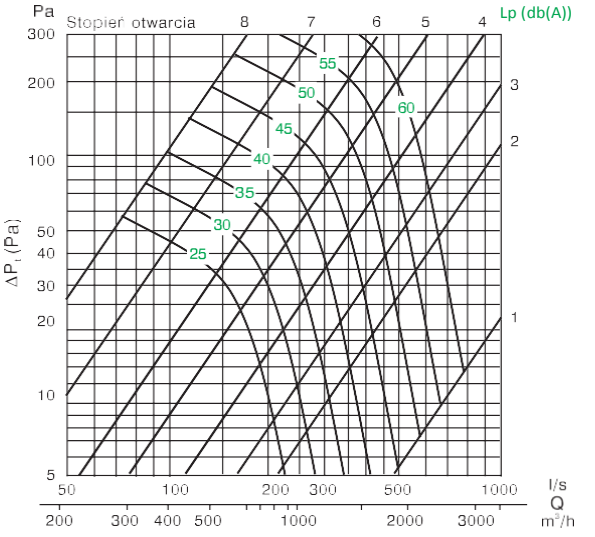
IRIS-160



IRIS-200

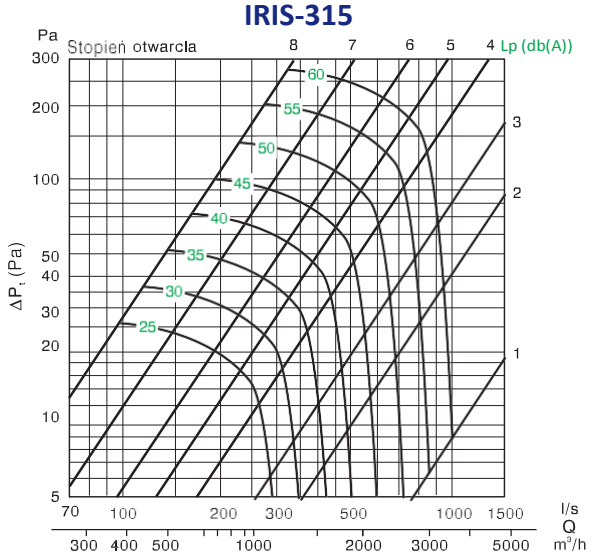


IRIS-250

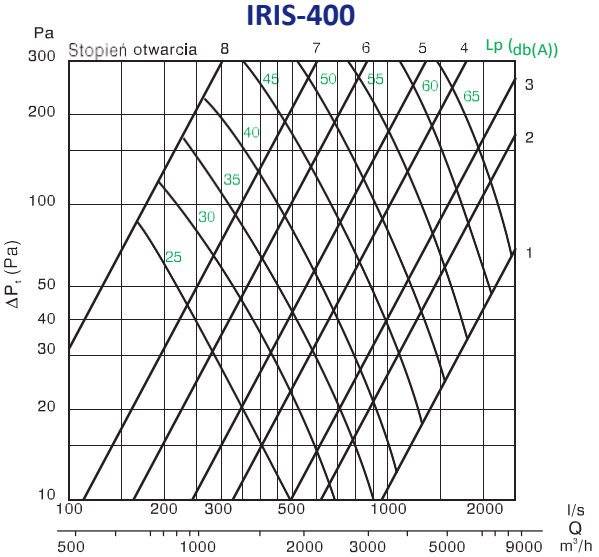


Diagrams for selection IRIS

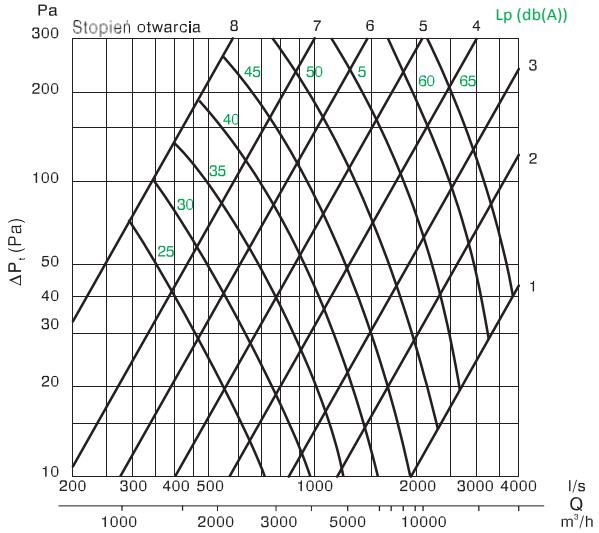
IRIS-315



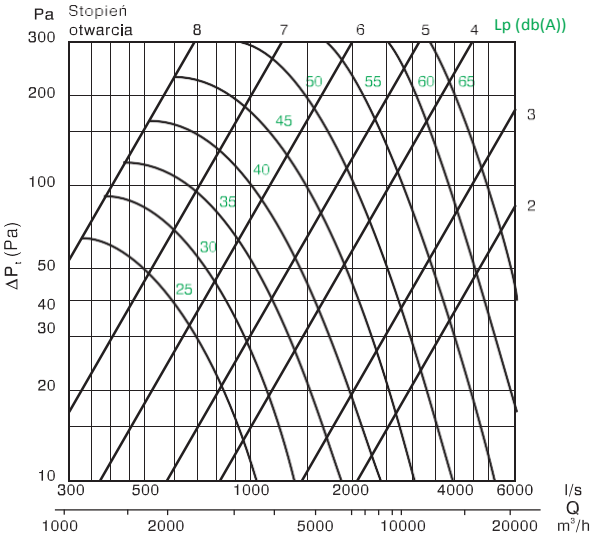
IRIS-400



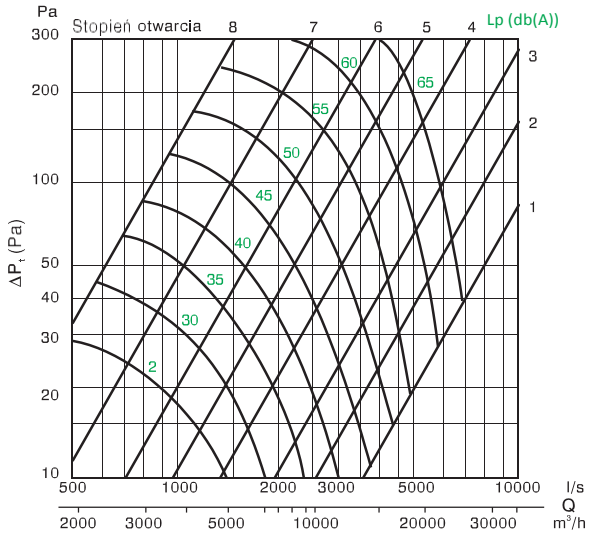
IRIS-500



IRIS-630



IRIS-800



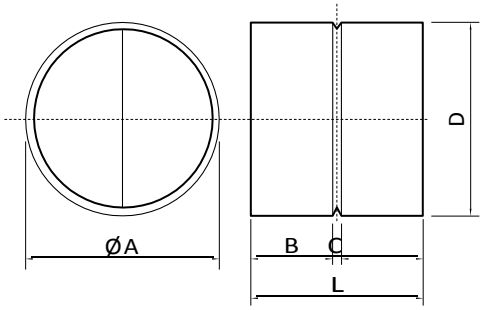
3.2.5. RSK dampers RSK

Use:
In ventilation systems

Construction:
Made of galvanized steel

Material:
Galvanized steel

Type and dimension marking:



RSK

Products range:

Symbol	A [mm]	L [mm]	B [mm]	C [mm]
100	100	88	38	38
125	125	88	38	38
150	150	88	38	38
160	160	88	38	38
200	200	88	38	38
250	250	128	59	59
315	315	128	59	59
355	355	197	75	75
400	400	197	75	75

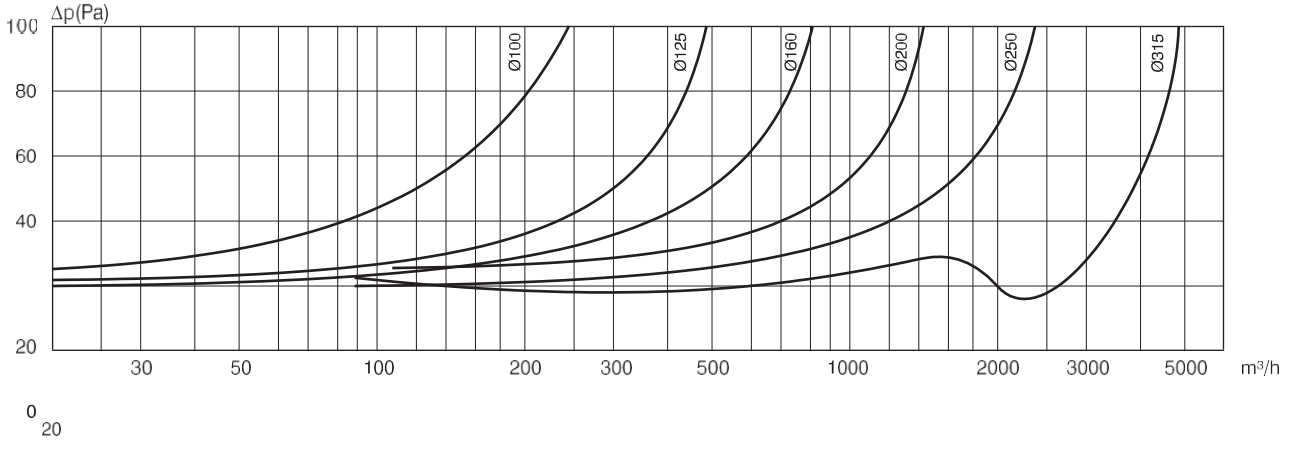
Product marking:

RSK–250

Średnica ØD

Typ

Diagram doboru:



Notes

Informacje przedstawione w katalogu są wyłącznie informacjami handlowymi i nie stanowią oferty w myśl art. 66 § 1 66 Kodeksu Cywilnego.
Producent zastrzega sobie prawo do wprowadzenia zmian technicznych dotyczących poszczególnych produktów bez uprzedzenia.
Zmiany nie upoważniają do reklamacji.
Producent nie ponosi odpowiedzialności za ewentualne błędy w druku.