



ALD | SOUND INSULATION



Exterior wall air outlets from LUNOS

The ALD suitable for all applications

LUNOS has been developing and manufacturing exterior wall air outlets for residential ventilation for over 60 years. They have been the fresh air supply in ventilation systems and also in modern heat pumps up to the present day. Depending on the requirements, the ALD from LUNOS can be selected with high sound values in all volume flow ranges.

The accessories can also be selected as required: from plastic screens in various designs to design elements made of glass, from standard filters to fine filters of filter class F7 to functional screens for maximum sound insulation, the interior design can be adapted to the customers' wishes and requirements. There are also many options to choose from on or in the facade: Whether plastic or metal grilles in various colours and materials, weather protection hoods made of aluminum or stainless steel, or fully integrated facade solutions, everything is possible with exterior wall air outlets from LUNOS.

Sound values ALD: Get the maximum out of it!

On the following pages you will find the sound values of ALD, ALD-SV and ALD-S:

ALD: page 4-5
ALD-SV: page 6-7
ALD-S: page 8-9

In these tables, you can read off with which wall thickness and equipment the respective maximum standard sound level difference can be achieved. The existing wall thickness in the first column tells you which row is the right one for you. In this row you can read off the required value. In the illustration you can then see which accessories, including the appropriate sound insulation elements, your ALD must be equipped with. Of course, lower sound insulation values are also possible, but we assume that you want to get the maximum out of it.

Have fun configuring your perfect ALD.

You can count on us

The same applies to the technical data of LUNOS. Consequently, sound values are of course measured and tested with the ventilation unit open. A closed unit may let through less sound, but ventilation is ultimately about the supply of fresh air. And this is precisely what has been close to LUNOS' heart for over 60 years. That's why the ventilation control is equipped with humidity and temperature control as standard.

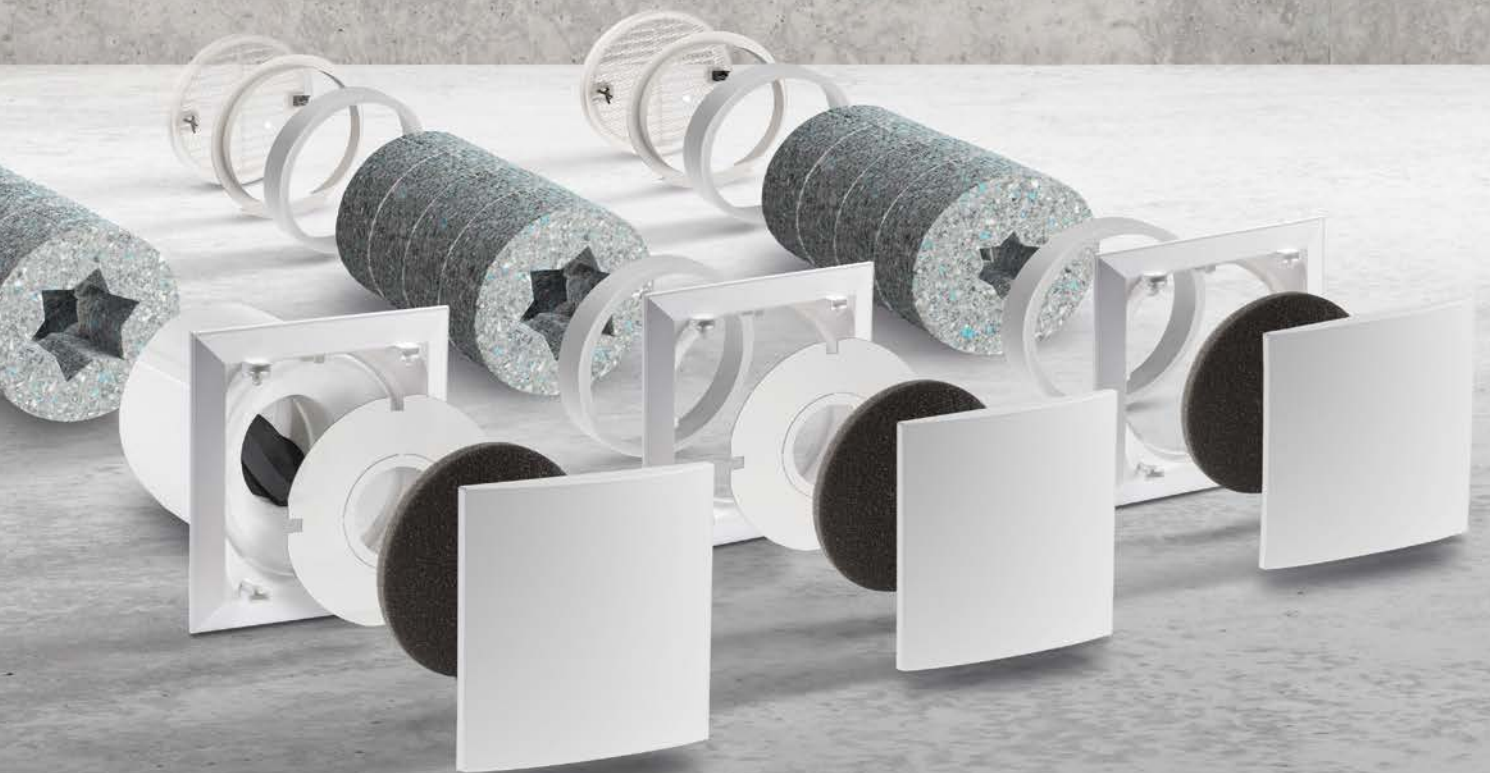
Made in Germany



Properties	ALD	ALD-SV	ALD-S
Volume flow	15 - 25 m ³ /h	15 - 25/30* m ³ /h	7 - 15 m ³ /h
Maximum standard sound level difference $D_{n,e,w}$	69 dB	71 dB	75 dB
Core drilling	162 mm		
Minimum installation length	200 mm	90 mm	
Dimensions	Insert Ø 154 x 360 mm		
Compatibility	All 160 systems incl. LUNOtherm and external hoods as external closure		

Measurement reports and certificates available on request. All data are mathematically rounded.

*Volume flow of the ALD-SV with an even arrangement of the sound insulation elements.



ALD

The exterior wall air outlet for all applications: Proven and efficient for use in living rooms and bedrooms. The ALD has an airflow regulator to adjust the required volume flow. In addition, a wind pressure relief is installed as standard.

The wind pressure relief of the ALD: Between 15 and 40 Pa wind pressure (depending on the setting of the airflow regulator), the valve closes fully automatically and allows less fresh air to pass through, thus preventing drafts.

ALD-SV

This exterior wall air outlet stands for enhanced sound insulation at the highest possible volume flow. Without wind pressure relief, but with a likewise adjustable airflow regulator, there are three characteristic curves available here as well, which, however, have very similar characteristics.

ALD-S

The ALD-S is the specialist for maximum sound insulation. The volume flow is reduced, in comparison to the other ALDs, and an airflow regulator is not required.

Sound protection table ALD





Wall thickness from 200 - 480 mm

Get the maximum out of it!

In this table you will find the sound insulation values that the ALD can achieve. For initial orientation, determine which wall thickness will be available to you in the construction project. You will find the available wall thicknesses in the first column. The following columns list the inner and outer closures that can be used. Depending on the selected products, different sound

values are possible. Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories are needed to achieve it. The column "Number of sound insulation elements" shows you how many sound insulation elements are required to achieve this sound insulation value.

Standard sound level difference $D_{n,e,w}$ in dB:

Accessories		Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
Wall thickness				
in mm	Number of sound absorbers			
→ from ←		+	+	+
		1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBS
200	1	43	47	49
270	2	46	50	51
340	3	50	53	53
410	4	52	55	55
480	5	56	57	58

Higher values are possible with shortened sound protection elements on request.



SOUND VALUES

Applies to all suppressions and volume flows:
 2 Pa: 15 m³/h
 4 Pa: 20 m³/h
 8 Pa: 25 m³/h

More information on our sound protection accessories

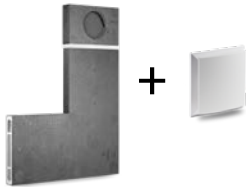
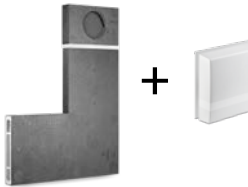
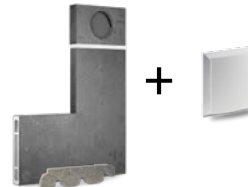
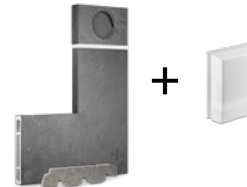
In the info section on pages 10 - 13 you will find more information about the ALD and the sound protection accessories as well as all article numbers.



Maximum or minimum, it's your decision!

The ALD can already be used from a wall thickness of 134 mm without a sound insulation element. If you need values for this, we will be pleased to provide you with advice. In addition to the inner and outer closures used, however, it is the wall thickness - and thus the possibility of using sound insulation elements in the ventilation duct - that is decisive for high sound insulation.

A high wall thickness is therefore the guarantee for high sound insulation. Already from a wall thickness of 480 mm you can achieve best values with the ALD. Of course, lower sound insulation values are also possible, but we assume that you want to get the highest possible sound insulation out of your ALD.

LUNOthem-S and standard inner screen	LUNOthem-S and sound-insulating inner screen	LUNOthem-S+ and standard inner screen	LUNOthem-S+ and sound-insulating inner screen
 LUNOthem-S and 9/IBE	 LUNOthem-S and 9/IBS	 LUNOthem-S+ and 9/IBE	 LUNOthem-S+ and 9/IBS
56	58	61	62
58	59	63	63
61	62	64	65
62	64	65	67
63	65	66	69

For LUNOthem-S and -S+ note 55 mm unit construction. All data are mathematically rounded.

$D_{n,e,w}$ | Best values according to wall thickness, in dB

Wall thickness	-	200 mm	270 mm	340 mm	410 mm	480 mm
ALD	-	62	63	65	67	69
Wall thickness	160 mm	230 mm	300 mm	360 mm	430 mm	500 mm
ALD-SV	60	62	64	66	69	71
ALD-S	63	67	69	71	72	75

Sound protection table ALD-SV



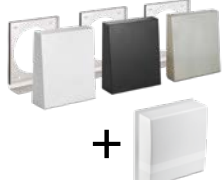

Wall thickness from 160 - 500 mm

Get the maximum out of it!

In this table you will find the sound insulation values that the ALD-SV can achieve. For initial orientation, determine which wall thickness will be available to you in the construction project. You will find the available wall thicknesses in the first column. The following columns list the inner and outer closures that can be used. Depending on the selected products, different sound values are

possible. Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories are needed to achieve it. The column "Number of sound insulation elements" shows you how many sound insulation elements are required to achieve this sound insulation value.

Standard sound level difference $D_{n,e,w}$ in dB:

Accessories		Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
Wall thickness	Number of sound absorbers			
in mm				
→ from ←		1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBS
160	1	40	47	48
230	2	44	49	49
300	3	49	53	53
360	4	53	56	56
430	5	56	58	59
500	6	61	62	63

*Higher values are possible with shortened sound protection elements on request.

SOUND VALUES

Applies to all suppressions and volume flows:
 2 Pa: 15 m³/h
 4 Pa: 20 m³/h
 8 Pa: 25/30* m³/h

*Volume flow with an even arrangement of the sound insulation elements.

More information on our sound protection accessories

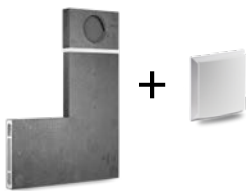
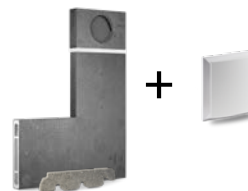
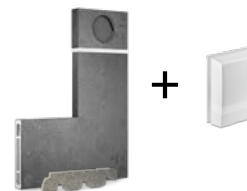
In the info section on pages 10 - 13 you will find more information about the ALD and the sound protection accessories as well as all article numbers.



Maximum or minimum, it's your decision!

The ALD-SV can already be used from a wall thickness of 160 mm with one sound insulation element. An application in an even smaller wall thickness is possible, but hardly practicable. Experience has shown that, in addition to the inner and outer closures used, a high wall thickness is decisive for high sound insulation. It determines the number of sound insulation elements that can be

installed in the ventilation duct and thus the sound insulation that can be achieved. You can achieve the best values from a wall thickness of 500 mm and more. Of course, lower sound insulation values are also possible, but we assume that you want to get the highest possible sound insulation out of your ALD-SV.

LUNOthem-S and standard inner screen	LUNOthem-S and sound-insulating inner screen	LUNOthem-S+ and standard inner screen	LUNOthem-S+ and sound-insulating inner screen
 LUNOthem-S and 9/IBE	 LUNOthem-S and 9/IBS	 LUNOthem-S+ and 9/IBE	 LUNOthem-S+ and 9/IBS
56	57	60	60
58	58	62	62
60	60	64	64
62	62	66	66
63	65	68	69
65	67	69	71

For LUNOthem-S and -S+ note 55 mm unit construction. All data are mathematically rounded.

$D_{n,e,w}$ Best values according to wall thickness, in dB						
Wall thickness	-	200 mm	270 mm	340 mm	410 mm	480 mm
ALD	-	62	63	65	67	69
Wall thickness	160 mm	230 mm	300 mm	360 mm	430 mm	500 mm
ALD-SV	60	62	64	66	69	71
ALD-S	63	67	69	71	72	75

Sound protection table ALD-S



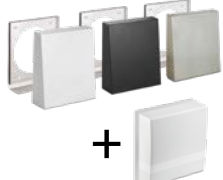

Wall thickness from 160 - 500 mm

Get the maximum out of it!

In this table you will find the sound insulation values that the ALD-S can achieve. For initial orientation, determine which wall thickness is available to you in the building project. You will find the available wall thicknesses in the first column. The following columns list the inner and outer closures that can be used. Depending on the selected products, different sound values are

possible. Once you have discovered the perfect value for you in the row, you can see in the illustration which accessories are needed to achieve it. The column "Number of sound insulation elements" shows you how many sound insulation elements are required to achieve this sound insulation value.

Standard sound level difference $D_{n,e,w}$ in dB:

Accessories		Outer grille and standard inner screen	Outer hood and standard inner screen	Outer hood and sound-insulating inner screen
Wall thickness	Number of sound absorbers			
in mm				
→ from ←		1/BE 180, 1/WE 180 or 1/AZ 180 and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBE	1/HWE, 1/HAZ or 1/HES and 9/IBS
160	1	45	51	51
230	2	49	54	54
300	3	53	57	57
360	4	56	60	60
430	5	61	63	63
500	6	67	68	68

*Higher values are possible with shortened sound protection elements on request.

SOUND VALUES

Applies to all suppressions and volume flows:
 2 Pa: 7 m³/h
 4 Pa: 10 m³/h
 8 Pa: 15 m³/h

More information on our sound protection accessories

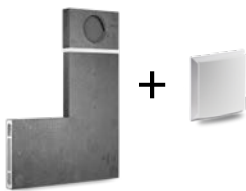
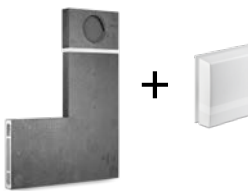
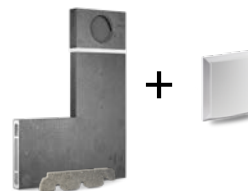
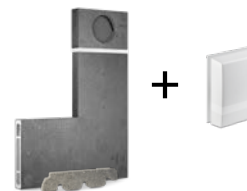
In the info section on pages 10 - 13 you will find more information about the ALD and the sound protection accessories as well as all article numbers.



Maximum or minimum, it's your decision!

The ALD-S can already be used from a wall thickness of 160 mm with one sound insulation element. An application in an even smaller wall thickness is possible, but hardly practicable. Experience has shown that, in addition to the inner and outer closures used, a high wall thickness is decisive for high sound insulation. It determines the number of sound insulation elements that can be

installed in the ventilation duct and thus the sound insulation that can be achieved. You can achieve the best values from a wall thickness of 500 mm and more. Of course, lower sound insulation values are also possible, but we assume that you want to get the highest possible sound insulation out of your ALD-S.

LUNOthem-S and standard inner screen	LUNOthem-S and sound-insulating inner screen	LUNOthem-S+ and standard inner screen	LUNOthem-S+ and sound-insulating inner screen
 LUNOthem-S and 9/IBE	 LUNOthem-S and 9/IBS	 LUNOthem-S+ and 9/IBE	 LUNOthem-S+ and 9/IBS
58	60	63	63
62	62	66	67
65	66	68	69
68	68	70	71
69	70	71	72
70	71	75	73

For LUNOthem-S and -S+ note 55 mm unit construction. All data are mathematically rounded.

$D_{n,e,w}$ Best values according to wall thickness, in dB						
Wall thickness	-	200 mm	270 mm	340 mm	410 mm	480 mm
ALD	-	62	63	65	67	69
Wall thickness	160 mm	230 mm	300 mm	360 mm	430 mm	500 mm
ALD-SV	60	62	64	66	69	71
ALD-S	63	67	69	71	72	75

Info area

Accessories, ordering information and installation instructions

Accessory data and ordering information

Product	Type, description	Order number	Dimensions
	ALD-built-in device Exterior wall air outlet	039 997	(Ø x D) 154 x 360 mm
	ALD-SV-built-in device Exterior wall air outlet	040 148	(Ø x D) 154 x 360 mm
	ALD-S-built-in device Exterior wall air outlet	041 133	(Ø x D) 154 x 360 mm
	9/IBE Standard inner screen	039 851	(H x W x D) 180 x 180 x 35 mm
	9/IBS Sound-insulating inner screen	039 947	(H x W x D) 250 x 250 x 78 mm
	1/BE 180, 1/WE 180 und 1/AZ 180 Grille with facade protection ring	039 917 039 852 041 143	(Ø x D) 180 x 16,5 mm
	1/HWE, 1/HAZ und 1/HES Outer hood with sound insulation	040 020 040 021 040 218	(H x W x D) 235 x 205 x 72 mm
	LUNOtherm-S, S-60 Facade element with sound insulation	041 154	(H x W x D) 630 x 400 x 60 mm
	LUNOtherm-S+, S-60+ Facade element with higher level of sound insulation	041 167	(H x W x D) 630 x 400 x 60 mm
	9/SD-S sound absorber	039 919	(Ø x D) 154 x 69 mm
9/SD-SK sound absorber	041 134	(Ø x D) 154 x 69 mm	



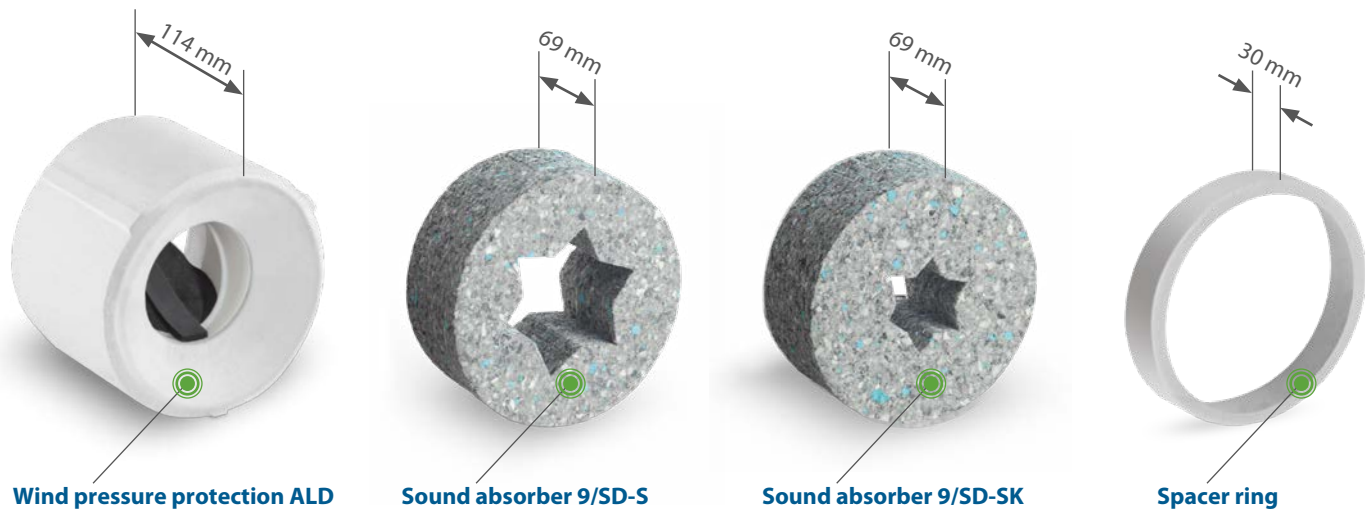
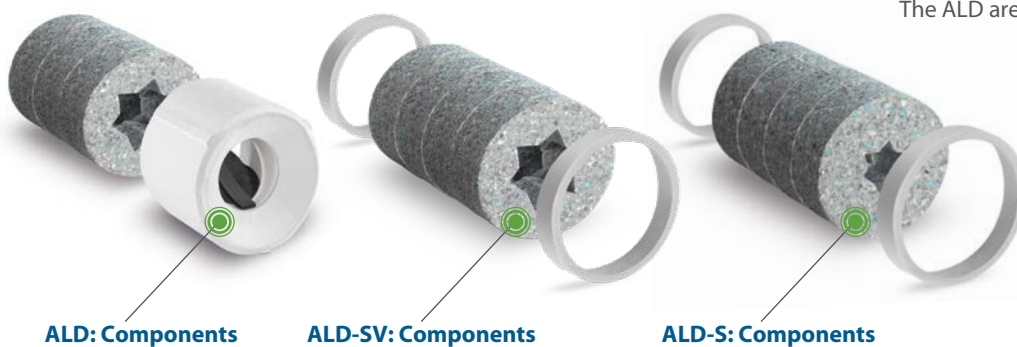
Installation instructions for the sound protection of the ALD

In order to be able to easily calculate the maximum usable sound insulation elements within the walltube, please refer to the dimensioned pictures below, as well as to the tables showing the complete lengths of the built-in devices including the sound

insulation elements. For optimum utilisation of the wall thickness, the sound insulation elements can be shortened.

Wall-tubes for the 160 series

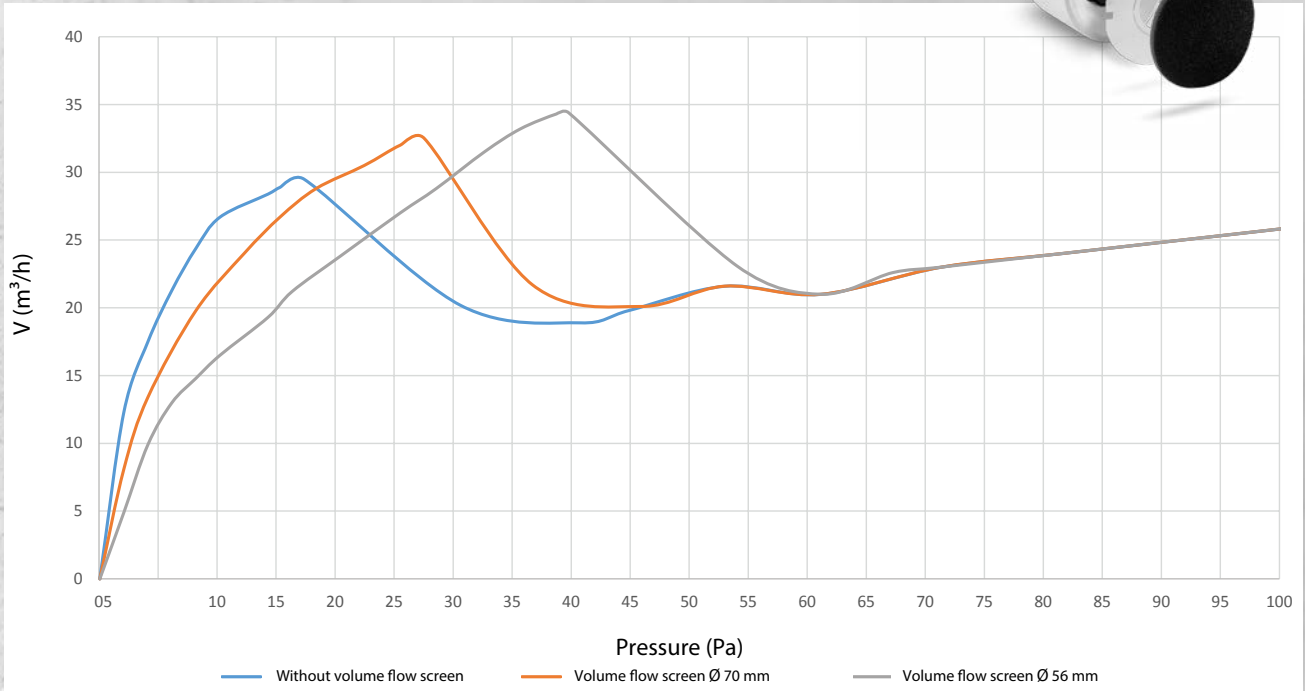
The ALD are installed in a wall-tube in the outer wall, available as 9/R 160-500, (Dimensions Ø x D): 160 x 500 mm and 9/R 160-700, (Dimensions Ø x D): 160 x 700 mm



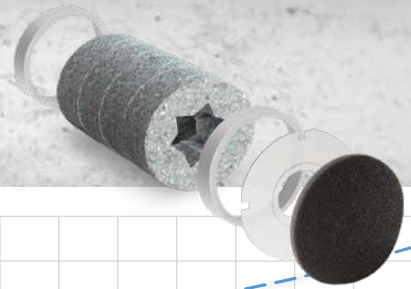
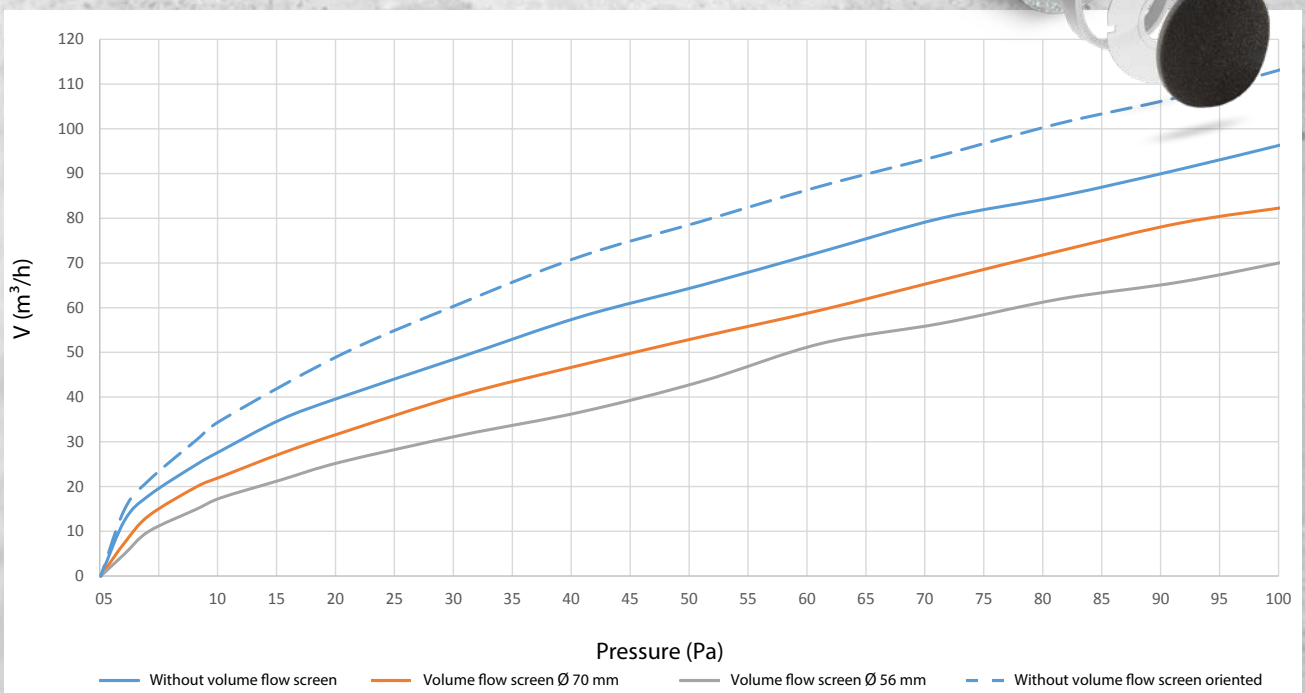
Info area

Pressure-flow characteristics

Pressure-flow characteristic ALD

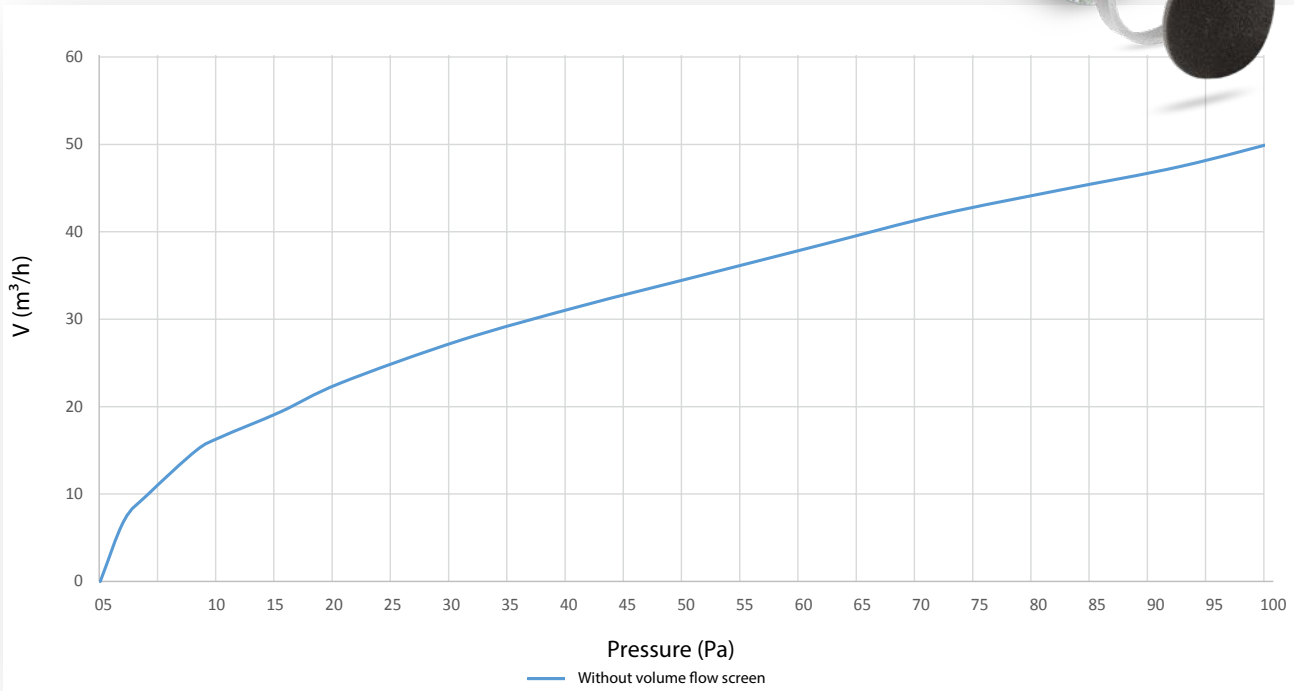


Pressure-flow characteristic ALD-SV





Pressure-flow characteristic ALD-S



Explanatory notes on the characteristic curves of the ALD

The **ALD** has an airflow regulator to adjust to the required volume flow in the room. In addition, a wind pressure relief or storm protection is installed as standard. Between 15 and 40 Pa wind pressure (depending on the setting of the airflow regulator), this valve closes fully automatically and allows less fresh air to pass through, in order to effectively prevent drafts in the room.

The **ALD-SV** stands for enhanced sound insulation at the highest possible volume flow and positions itself between the ALD and the ALD-S. Without wind pressure relief, but also with an adjustable airflow regulator, there are four characteristic curves here as well, which, however, have very similar characteristics. The dashed line represents the volume flow of the ALD-SV with a straight arrangement of the sound insulation elements.

The **ALD-S** is the specialist for maximum sound insulation. For physical reasons, the volume flow is reduced, in comparison to the other variants, and an additional airflow regulator is not required.

In the graphs shown, the respective flow rate through the ALD can easily be read off on the basis of the negative pressures planned in the residential unit.

In Germany, a negative pressure of 2, 4 or max. 8 Pa is normatively considered (see e.g. DIN 1946-6 or DIN 180917-3) as a possible upper limit of negative pressure for minimising drafts and possible flue gas input by combustion systems (e.g. gas heating systems). Should higher negative pressures be used, the tables offer values up to 100 Pa negative pressure. We will be pleased to provide higher values on request.

Representatives

Germany



- Berlin, Brandenburg
- Saxony
- Thuringia
- Mecklenburg-Western Pomerania
- Hamburg, Schleswig-Holstein
- Southern North Rhine-Westphalia
- Lower Saxony, northern North Rhine-Westphalia
- Saxony-Anhalt
- Rhineland-Palatinate, Saarland
- Hesse, western Franconia, northern Baden
- Baden-Württemberg
- Franconia
- Bavaria

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- New Zealand
- Norway
- Poland
- Portugal
- Slovakia
- Slovenia
- South Africa
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- Spain
- Sweden
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- Thailand
- Ukraine
- USA

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