

# TECHNICAL SOUND SOLUTIONS FOR FLUE GAS SYSTEMS

www.jeremias.de/int



Sound protection for flue gas systems

Advantages of Jeremias

Sound measurements on flue gas systems

Page 8-9

The quick and easy way to finding the right silencer

Page 10

Overview of flue gas silencers

Page 11

Distinguishing features of flue gas silencers

Description of symbols

Flue gas silencers for boilers

Page 23-24

Flue gas silencers for boilers and combined heat & power plants

Page 25-32

Flue gas silencers for combined heat & power plants

Accessories

### **Steel Chimney**

Technical sound solutions for industrial applications

## SERVICE, QUALITY, INNOVATION

With more than

### 40 years of experience

the companies from the Jeremias Group are leading global manufacturers of flue and chimney solutions as well as free-standing steel chimneys.

### more than 30 countries

In the field of sound protection, Jeremias Industries is a leading provider of flue gas silencers, offering a wide range of products and the right solution for every application.

There are more than enough reasons to choose flue solutions from Jeremias:

### **SERVICE**

- > Highly flexible production
- > Individual solutions and variants according to customer wishes
- > Planning support and design consultation
- > Technical support and after-sales service
- > Auditable chimney statics
- > Sound measurements on site
- > Free software solutions

### **QUALITY**

- > Own test bench for flue gas silencers
- > More than 100 CE-certified systems
- > Documented compliance with national and international standards
- > CNC laser and punching technology
- > Extended service life resulting from the use of high-quality materials
- > Condensate-proof and gas-tight welding
- > Polished weld seams
- > 25-year corrosion warranty on our stainless steel products

- **INNOVATION** > Largest range of products on the market
  - > Constantly growing product portfolio
  - > Joint product development between boiler, combined heat & power plant and stove manufacturers
  - > Computer-based simulations

### HOW TO **CONTACT US**



**Quotation** department Tel. + 49 (0) 9832 68 68 - 8001

**Orders** Tel. + 49 (0) 9832 68 68 - 8008

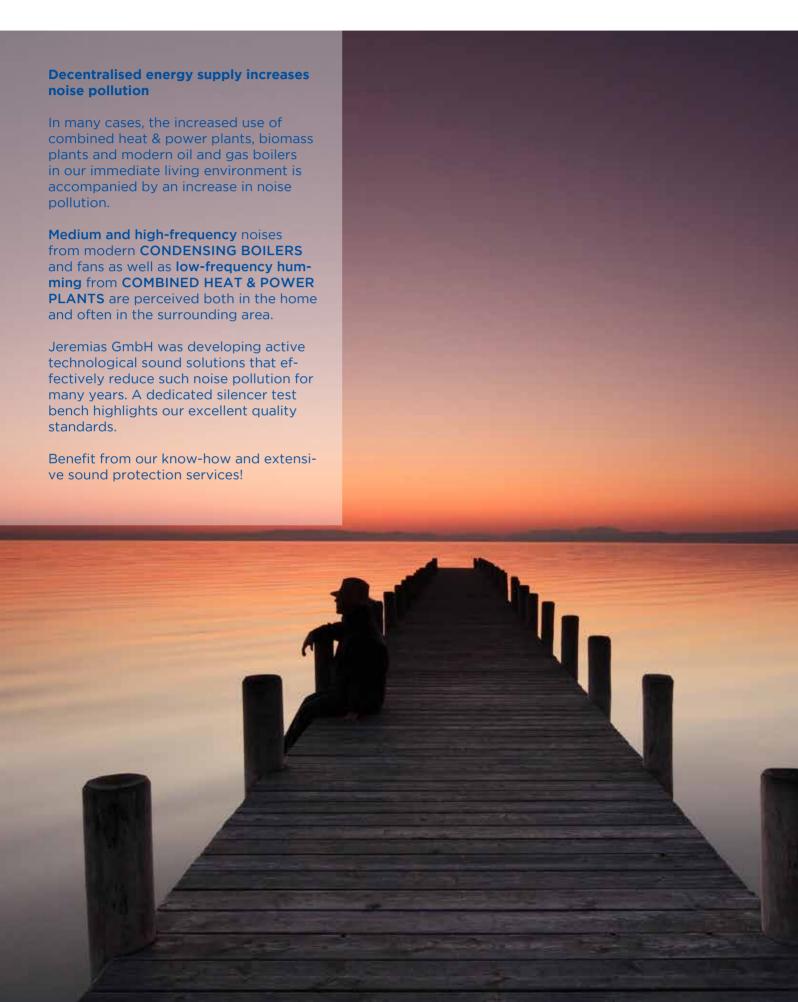
Hotline Tel. + 49 (0) 9832 68 68 - 50 bestellung@jeremias.de

Fax 0800 537 364 27 (freephone)

info@jeremias.de

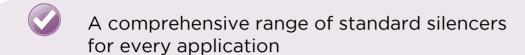
Department	Contact	Tel. +49 (0) 9832 68 68-	E-mail
Managing Director	Stefan Engelhardt Christoph Wißmüller	893 893	stefan.engelhardt@jeremias.de christoph.wissmueller@jeremias.de
Sales Manager	Alexander Wening	893	alexander.wening@jeremias.de
Quotations	Thomas Eichhorn Heinz Kipfmüller Sebastian Müller Peter Rank Daniel Rothgang	43 898 45 57 899	thomas.eichhorn@jeremias.de heinz.kipfmueller@jeremias.de sebastian.mueller@jeremias.de peter.rank@jeremias.de daniel.rothgang@jeremias.de
Orders	Natalie Amslinger Andreas Hertle Heidi Kretschmer Sandra Pfitzinger Tina Hiemeyer	119 896 796 44 107	natalie.amslinger@jeremias.de andreas.hertle@jeremias.de heidi.kretschmer@jeremias.de sandra.pfitzinger@jeremias.de tina.hiemeyer@jeremias.de
International orders	David Katz	96	david.katz@jeremias.de
Order processing	Rainer Kispert Bruno Mikusch Thomas Riedelsheimer Ernst Schüttler	55 53 797 42	rainer.kispert@jeremias.de bruno.mikusch@jeremias.de thomas.riedelsheimer@jeremias.de ernst.schuettler@jeremias.de
Production management	Michael Zaun	520	michael.zaun@jeremias.de
Manufacturing manager	Marcus Broll	734	marcus.broll@jeremias.de
Complaint handling/ Quality assurance	Thomas Heidrich Thomas Fischer	892 28	thomas.heidrich@jeremias.de thomas.fischer@jeremias.de
Payments	Nadine Klügl	102	nadine.kluegl@jeremias.de
Financial accounting management	Jasmin Bohnacker	76	jasmin.bohnacker@jeremias.de
Silencer development	Siegfried Semsch	998	siegfried.semsch@jeremias.de

### **SOUND PROTECTION FOR FLUE GAS SYSTEMS**



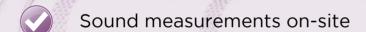


### **ADVANTAGES OF JEREMIAS:**



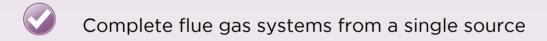


Silencers manufactured according to customer requirements and special designs created





Technical calculation of flue gas system acoustics





Individual consultation



# SOUND MEASUREMENTS ON FLUE GAS SYSTEMS

Stainless steel flue gas systems are good sound conductors due to their inherent material properties. Sound generated by the heating system is transferred via the flue pipe to the chimney outlet, where it is dissipated into the surrounding environment. The sound level at the chimney outlet must be below the emission limit values specified by corresponding expertises.

Our range of services includes sound measurements at the chimney outlet by **specially trained personnel** in accordance with DIN EN 45 635 Part 47.

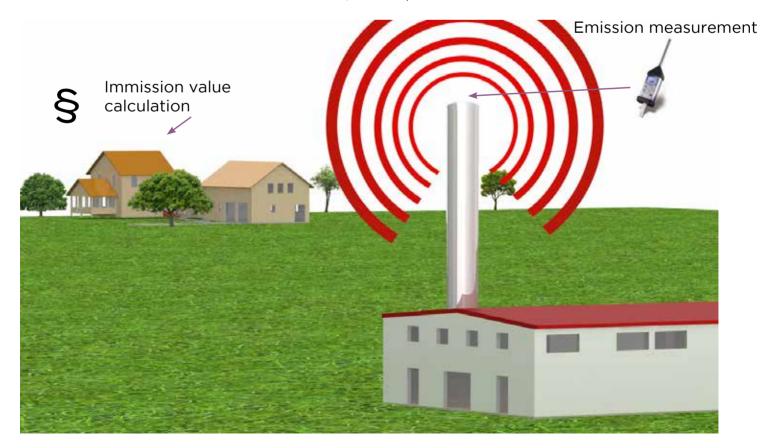
### Range of sound measurement services

- > On-site system inspection
- > Measurement of emission sound level at chimney outlet
- > Measurement of quiescent/background noise level
- > Test for low-frequency noise
- > Test report with total level and sound spectrum

The acquired data can then be used to optimise the silencer design.

### Practical sound measurement

Using a sound analyser, we measure the sound emissions of the installation at a distance of one metre from the chimney outlet. Experts or engineering offices then use the results of this emission measurement to calculate the acoustic immission values achieved in residential areas, for example.





# PERMITTED IMMISSION LIMIT VALUES

The noise rating level calculated from the emission values must not exceed the following immission guide / limit values of the relevant countries:

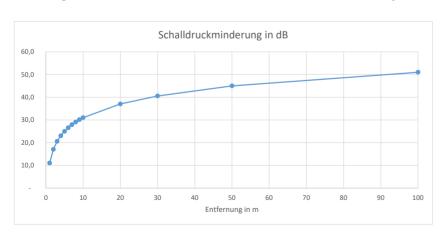
Germany 🥮	Immission guide value dB(A)			
Level stipulated by German Technical Directive on Noise Pollution Control (August 1998)	Daytime	Night- time		
Industrial areas	70	70		
Commercial areas	65	50		
Core areas/village and mixed areas	60	45		
General residential areas and small housing estates	55	40		
Purely residential areas	50	35		
Spa areas	45	35		

Switzerland 🜐	Immission limit value dB(A)			
Noise protection regulations (August 2010)	Daytime	Night-time		
Industrial zones	70	60		
Residential and commercial zones (mixed zones) as well as agricultural zones	65	55		
Residential zones and zones with public buildings and facilities	60	50		
Recreational zones	55	45		

Austria 🥮	Immission	Immission limit value dB(A)				
ÖNORM S 5021 regulation (April 2010)	Daytime	Evenings	Night-time			
Area with significant acoustic emissions (e.g. industrial area)	-	-	-			
Area for enterprises with commercial and industrial goods production and service centres	65	60	55			
Core area (offices, shops, retail outlets, administration buildings, apartments), companies without acoustic emissions	60	55	50			
Urban residential area, area for buildings of agricultural and forestry companies with residential accommodation	55	50	45			
Residential area in suburbs, weekend home area, rural residential area	50	45	35			
Quiet zone, spa area	45	40	35			

### Distance-based sound abatement:

Doubling of the distance reduces the acoustic immission level by 6 dB.



Distance in m	Sound pressure reduction in dB*
1	11,0
2	17,0
3	20,5
4	23,0
5	25,0
6	26,6
7	27,9
8	29,1
9	30,1
10	31,0
20	37,0
30	40,5
50	45,0
100	51,0
200	57,0
500	65,0
1000	71,0

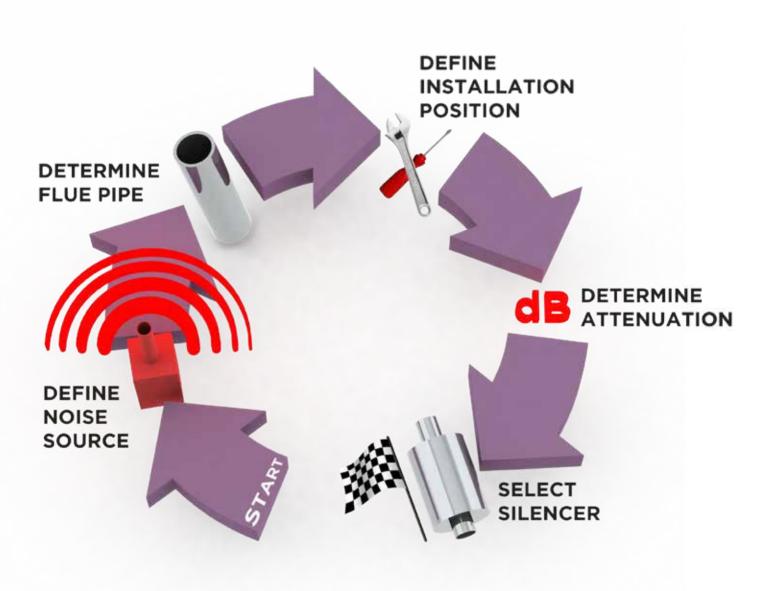
<sup>\*</sup> Spherical sound radiation

Are you interested in a sound measurement for your project?

Call our our experts on +49 (0) 9832 - 68 68 998, they will be glad to advise you!

# THE QUICK AND EASY WAY TO FINDING THE RIGHT SILENCER

The Jeremias Group offers a large range of flue gas silencers for different applications and requirements. We can identify the right silencer for you in five easy steps!





### **Example:** Five steps to the right flue gas silencer

Situat	tion analysis	Silencer selection
1.	Flue gas/acoustic generator Gas heating value Viessmann Vitocrossal 300 (CM3)	Gas
2.	Flue gas system Condensing boiler Max. delivery pressure 70 Pa Max. flue gas temperature 75° C Suitable flue gas system Renovation EW-ALBI Cross section calculation	Wet operation Up to 200 Pa Up to 200° C EW-ALBI Mat. 1.4404 Nominal diameter 130
3.	Installation option Horizontal connecting pipe 2m	Silencer length, max. 1.5 m, horizontal installation
4.	Silencer output Attenuation specification 10dB according to planner	Silencer output class up to 15 dB
5.	Silencer selection	ASD-B-EC015 NW130 or ASD-B15 NW130

## Are you interested in the right silencer for your project?

Our quotation department will be glad to assist you on +49 (0) 9832 - 68 68 8001!

### **OVERVIEW OF FLUE GAS SILENCERS**

In the following section, we categorise our flue gas silencers according to the **noise source** because flue gas silencers for boilers and combined heat & power plants may have to meet different requirements.

### Flue gas silencers for boilers

The waste gases generated during the combustion process are dissipated into the surrounding environment via the flue gas system, whereby flame noises are transmitted from the boiler chamber.

The following Jeremias silencers are suitable for reducing these mostly **medium and high-frequency noises**:

	Oil	Gas	FB	Connection	DN	Tempe- rature	Operation type	Mate- rial	TIG	Max. pressure	Attenuation 1)	Installation 1)
Code						rature	type	Hai		NP / PP		
ASD-B-ECO	<b>₩</b>	$\checkmark$	×	EW-ALBI	Up to 300	200° C	Wet	1.4404		200 Pa	15 dB, 20 dB	H/V
ASE-ECO	4	4	×	EW-ALBI	Up to 300	200° C	Wet	1.4404		200 Pa	10-20 dB	H/V
ASD-EW	4	W/	4	EW-FU	Up to 600	600° C	Dry	1.4404	4	-40 Pa	15 dB, 25 dB	H/V
ASD-DW	4	4	4	DW-FU	Up to 600	600° C	Dry	1.4404	4	-40 Pa	15 dB, 25 dB	H/V
ASD-B	4	A	×	EW-ALBI	Up to 400	200° C	Wet	1.4404	4	200 Pa	15 dB, 25 dB	H/V
ASD-B-DW	4	4	×	DW-AL	Up to 400	200° C	Wet	1.4404	4	200 Pa	15 dB, 25 dB	H/V
ASD-W	4	$\langle \varphi \rangle$	4	EW-FU	Up to 400	400° C	Wet	1.4404	4	-40 Pa	25 dB	H/V
ASD-T	4	4	V	EW-FU	Up to 250	400° C	Dry	1.4404	4	-40 Pa	10 dB	Н
SDK	4	4	V			400° C		1.4404	4		5-15 dB	V
KSD-EW	4	4	4	EW-FU	Up to 350	400° C	Dry	1.4404	4	-40 Pa	25 dB	H/V
KSD-B	4	₩/	×	EW-ALBI	Up to 350	200° C	Wet	1.4404	4	200Pa	25 dB	H/V
ASD-PP	×	4	×	EW-PPS	80	120° C	Wet	PP		5000 Pa	20 dB, 30 dB	H/V
ASD-H	<b>₩</b>	$ \checkmark $	×	EW-KL	Up to 130	400° C	Wet	1.4404	W	5000 Pa	20, 25, 35 dB	H/V

<sup>&</sup>lt;sup>1)</sup> More detailed information in the technical data sheet. Assembly instructions, certification see System. Silencer norm is currently being formulated by CEN/TC166.

Application options must be clarified in each individual case

### Flue gas silencers for combined heat & power plants

The diesel/gas engines in combined heat & power plants produce electrical energy and heat. Flue gas noise is often perceived as a **low-frequency hum**. Adapted flue gas silencers are required for effective noise reduction. An overview of our silencer solutions for combined heat & power plants:

	Diesel	Gas	FB	Connection	DN	Tempe- rature	Operation type	Mate- rial	TIG	Max. pressure	Attenuation <sup>1)</sup>	Installation 1)2)
Code										NP / PP		
ASD-PP	×	4	-	EW-PPS	80	120° C	Wet	PP		5000 Pa	20 dB, 30 dB	H/V
ASD-H	W.	4	-	EW-KL	Up to 130	400° C	Wet	1.4404	4	5000 Pa	20, 25, 35 dB	H/V
AED-KL	$\mathcal{A}$	₩/	-	EW-KL	Up to 250	600 °C	Wet	1.4404	4	5000 Pa	15 dB, 25 dB	H/V
AED-FL	$\mathcal{A}$	4	-	Aluminium flange	Up to 250	200 °C	Wet	1.4404	4	5000 Pa	15 dB, 25 dB	H/V
AEL-KL	W)	4	-	EW-KL	Up to 250	600 °C	Wet	1.4404	W/	5000 Pa	15 dB, 25 dB	H/V
AEL-FL	A)	w/	-	Aluminium flange	Up to 250	200 °C	Wet	1.4404	w/	5000 Pa	15 dB, 25 dB	H/V
KED-KL	W)	4	-	EW-KL	Up to 250	600 °C	Wet	1.4404	4	5000 Pa	35 dB	H/V
KED-FL	W)	W/	-	Aluminium flange	Up to 250	200° C	Wet	1.4404	4	5000 Pa	35 dB	H/V
KEL-KL	W/	₩/	-	EW-KL	Up to 250	600 °C	Wet	1.4404	4	5000 Pa	35 dB	H/V
KEL-FL	W/	₩/	-	Aluminium flange	Up to 250	200 °C	Wet	1.4404	W/	5000 Pa	35 dB	H/V

<sup>&</sup>lt;sup>9</sup> More detailed information in the technical data sheet. Assembly instructions, certification see System. Silencer norm is currently being formulated by CEN/TC166.

<sup>2)</sup> **H** Horizontal

**V** Vertica

<sup>2)</sup> **H** Horizontal

V Vertical



# DISTINGUISHING FEATURES of FLUE GAS SILENCERS



### Absorption silencers (ASD/AED)

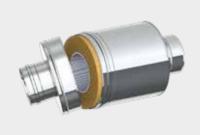
These passive silencers use porous material such as mineral wool to achieve attenuation, mainly in the medium and high frequency range. Any acoustic energy is absorbed by friction effects on the wool and transformed into heat.

### Combined silencers (KSD/KED)

This type combines incorporates silencers with several resonance chambers for the additional attenuation of lower frequencies. Each of the chambers is responsible for filtering out a specific frequency range, which leads to broadband attenuation of the noise.

### Noise insulating cores (SDK)

Noise insulating cores are predominantly designed for retrofitting in chimneys and contribute to effectively reducing noise peaks according to the principle of absorption. They are suspended from above and therefore very easy to install. When a noise insulating core is retrofitted, it is necessary to calculate the cross-section of the chimney due to an increase in the flow resistance.







### **DESCRIPTION OF SYMBOLS**

also for wet operation



Dry operation



Negative pressure



also for positive pressure



Discount group Flue gas silencer



Operating temperature



Solid fuels



Oil



Gas



Diesel



### **ASD-B-ECO**

### **DESCRIPTION**

- > Cost-efficient silencers that meet high quality standards
- > Modular design for easy enhancement of attenuation effect

### AREA OF APPLICATION

- > Oil and gas boilers for wet or dry operation
- > Fans

#### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool cartridges with protective fleece made from stainless steel wool and expanded metal

### **ATTENUATION GRADE**

15 dB / 20 dB

### SYSTEM CONNECTION

EW-ALBI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **SPECIAL VERSIONS**

Can also be used without seal as an EW-FU system up to 600 °C negative pressure

### **FURTHER INFORMATION**

- > If necessary, can be extended to include additional ASE-B-ECO modules
- > Including internal seal
- > See page 33 for accessories















ASD-B-EC015



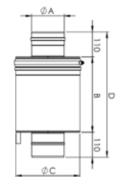
ASD-B-ECO20

### **DOWNLOAD**

www.jeremias.de/asddaten (login required)



### ASD-B-ECO / ASD-B-ECO15



A   Ø	100	115	120	130	150	160	180	200	225	250	300
В	330	330	330	330	330	330	500	500	500	500	500
С	250	250	250	250	300	300	450	450	450	500	500
D	550	550	550	550	550	550	720	720	720	720	720

### ASD-B-ECO / ASD-B-ECO20

A   Ø	100	115	120	130	150	160	180	200	225	250	300
В	500	500	500	500	500	500	750	750	750	750	750
С	250	250	250	250	300	300	450	450	450	500	500
D	720	720	720	720	720	720	970	970	970	970	970



### EXTENSION MODULE FOR ASD-B-ECO

### **ASE-B-ECO**











### **DESCRIPTION**

> Cost-efficient extension module for ASD-B-ECO 15/20 for step-by-step increase in attenuation effect

### **AREA OF APPLICATION**

- > Oil and gas boilers for wet or dry operation
- > Fans

#### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool cartridges with protective fleece made from stainless steel wool and expanded metal

### ATTENUATION GRADE

10 dB / 15 dB / 20 dB

### SYSTEM CONNECTION

EW-ALBI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

>250 Hz (medium to high frequencies)

### **SPECIAL VERSIONS**

Can also be used without seal as an EW-FU system up to 600 °C negative pressure

### **FURTHER INFORMATION**

- > Attachment of a maximum of two ASE-B-ECO extension elements possible
- > Including internal seal
- > See page 33 for accessories









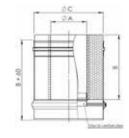
### **DOWNLOAD**

www.jeremias.de/asddaten



### ASE-B-ECO / ASE10 ECO - Additional attenuation 10 dB

A   Ø	100	115	120	130	150	160	180	200	225	250	300
В	250	250	250	250	250	250	330	330	330	330	330
С	250	250	250	250	300	300	450	450	450	500	500



### ASE-B-ECO / ASE15 ECO - Additional attenuation 15 dB

A   Ø	100	115	120	130	150	160	180	200	225	250	300
В	330	330	330	330	330	330	500	500	500	500	500
С	250	250	250	250	300	300	450	450	450	500	500

### ASE-B-ECO / ASE20 ECO - Additional attenuation 20 dB

A   Ø	100	115	120	130	150	160	180	200	225	250	300
В	500	500	500	500	500	500	750	750	750	750	750
С	250	250	250	250	300	300	450	450	450	500	500

### **ASD-EW**













### **DESCRIPTION**

- > Absorption silencer for single-wall (EW) flue gas systems
- > Converts acoustic energy into heat through friction from fine mineral wool texture

### AREA OF APPLICATION

- > Oil and gas boilers for dry operation
- > Suitable for solid fuels to a limited extent
- > Fans

Stainless steel 1.4404

### ATTENUATION MATERIAL

High-quality mineral wool

### **ATTENUATION GRADE**

15 dB / 25 dB

### SYSTEM CONNECTION

EW-FU

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > If space is restricted, we recommend silencer ASD-T as an alternative
- > A noise insulating core can also be added to enhance the attenuation effect
- > See page 33 for accessories







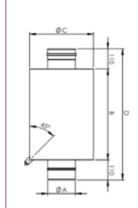




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### ASD-EW / ASD-EW15

A   Ø	100	115	120	130	140	150	160	180	200	250	300	350	400	450	500	550	600
В	500	500	500	500	500	500	500	600	600	750	800	900	1000	1000	1250	1250	1500
С	300	300	300	300	300	350	350	400	400	450	500	600	675	750	800	875	950
D	720	720	720	720	720	720	720	820	820	970	1020	1120	1220	1220	1470	1470	1720

### ASD-EW / ASD-EW25

A   Ø	100	115	120	130	140	150	160	180	200	250	300	350	400	450	500	550	600
В	800	800	800	800	800	800	800	900	900	1200	1300	1300	1500	1500	2000	2000	2500
С	300	300	300	300	300	350	350	400	400	450	500	600	675	750	800	875	950
D	1020	1020	1020	1020	1020	1020	1020	1120	1120	1420	1520	1520	1720	1720	2220	2220	2720



### **ASD-DW**













### **DESCRIPTION**

- > Absorption silencer for double-wall (DW) flue gas systems
- > Converts acoustic energy into heat through friction from fine mineral wool texture

### **AREA OF APPLICATION**

- > Oil and gas boilers for dry operation
- > Suitable for solid fuels to a limited extent
- > Fans

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

High-quality mineral wool

### **ATTENUATION GRADE**

15 dB / 25 dB

### **SYSTEM CONNECTION**

DW/ EII

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > A noise insulating core can also be added to enhance the attenuation effect
- > See page 33 for accessories



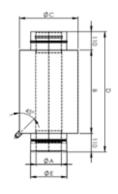
### **DOWNLOAD**

Texts for invitation to tender technical data sheet

www.jeremias.de/asddaten (login required)



### ASD-DW / ASD-DW15



	A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350	400	450	500	550	600
	В	500	500	500	500	500	500	500	600	600	750	750	800	900	1000	1000	1250	1250	1500
	С	300	300	300	300	300	350	350	400	400	450	450	500	600	675	750	800	875	950
	D	720	720	720	720	720	720	720	820	820	970	970	1020	1120	1220	1220	1470	1470	1720
ĺ	Е	165	180	185	195	205	215	225	245	265	290	315	365	415	465	515	565	615	665

### ASD-DW / ASD-DW25

,	A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350	400	450	500	550	600
	В	800	800	800	800	800	800	800	900	900	1200	1200	1300	1300	1500	1500	2000	2000	2500
	С	300	300	300	300	300	350	350	400	400	450	450	500	600	675	750	800	875	950
	D	1020	1020	1020	1020	1020	1020	1020	1120	1120	1420	1420	1520	1520	1720	1720	2220	2220	2720
	Е	165	180	185	195	205	215	225	245	265	290	315	365	415	465	515	565	615	665

### **ASD-B**











### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### **AREA OF APPLICATION**

- > Oil and gas boilers for wet or dry operation
- > Fans

#### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

High-quality stainless steel wool

### **ATTENUATION GRADE**

15 dB / 25 dB

### SYSTEM CONNECTION

EW-ALBI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > Including internal seal
- > A noise insulating core can also be added to enhance the attenuation effect
- > See page 33 for accessories







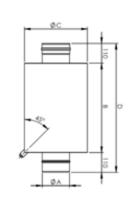




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### ASD-B / ASD-B15

A   Ø	100	115	120	130	140	150	160	180	200	250	300	350	400
В	500	500	500	500	500	500	500	600	600	750	800	900	1000
С	300	300	300	300	300	350	350	400	400	450	500	600	675
D	720	720	720	720	720	720	720	820	820	970	1020	1120	1220

### ASD-B / ASD-B25

A   Ø	100	115	120	130	140	150	160	180	200	250	300	350	400
В	800	800	800	800	800	800	800	900	900	1250	1300	1300	1500
С	300	300	300	300	300	350	350	400	400	450	500	600	675
D	1020	1020	1020	1020	1020	1020	1020	1120	1120	1420	1520	1520	1720



### **ASD-B DW**













### **DESCRIPTION**

- > Absorption silencer for double-wall flue gas systems
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### **AREA OF APPLICATION**

- > Oil and gas boilers for wet or dry operation
- > Fans

#### **MATERIAL**

Stainless steel 1.4404 / IIID

### ATTENUATION MATERIAL

High-quality stainless steel wool

### ATTENUATION GRADE

15 dB / 25 dB

### SYSTEM CONNECTION

DW-AI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > Including internal seal
- > A noise insulating core can also be added to enhance the attenuation effect
- > See page 33 for accessories



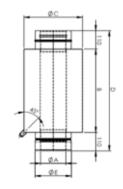
### **DOWNLOAD**

Texts for invitation to tender

www.jeremias.de/asddaten (login required)



### ASD-B-DW / ASD-B-DW15



A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350	400
В	500	500	500	500	500	500	500	600	600	750	750	800	900	1000
С	300	300	300	300	300	350	350	400	400	450	450	500	600	675
D	720	720	720	720	720	720	720	820	820	970	970	1020	1120	1220
Е	165	180	185	195	205	215	225	245	265	290	315	365	415	465

### ASD-B-DW / ASD-B-DW25

A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350	400
В	800	800	800	800	800	800	800	900	900	1200	1200	1300	1300	1500
С	300	300	300	300	300	350	350	400	400	450	450	500	600	675
D	1020	1020	1020	1020	1020	1020	1020	1120	1420	1420	1420	1520	1520	1720
Е	165	180	185	195	205	215	225	245	265	290	315	365	415	465

### **ASD-W**

### DESCRIPTION

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### AREA OF APPLICATION

- > Oil and gas boilers for wet or dry operation
- > Suitable for solid fuels to a limited extent
- > Fans

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient stainless steel wool

### **ATTENUATION GRADE**

25 dB

### SYSTEM CONNECTION

EW-FU

### **INSTALLATION**

Horizontal

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > Available with asymmetric design as an option
- > See page 33 for accessories













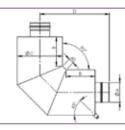


### **DOWNLOAD**

Texts for invitation to tender technical data sheet

www.jeremias.de/asddaten (login required)





### ASD-W / ASD-W25

A   Ø	100	115	120	130	140	150	160	180	200	250	300	350	400
В	200	200	200	225	225	225	225	250	250	275	275	275	300
С	300	300	300	300	300	350	350	400	400	450	500	600	675
D	488	488	488	513	513	538	538	588	588	638	663	713	776



### **ASD-T**



### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### AREA OF APPLICATION

- > Oil and gas boilers for wet or dry operation> Suitable for solid fuels to a limited extent
- > Fans

### **MATERIAL**

Stainless steel 1.4404

### **ATTENUATION MATERIAL**

Highly efficient stainless steel wool

### **ATTENUATION GRADE**

10 dB

### **SYSTEM CONNECTION**

EW-FU

### **INSTALLATION**

Horizontal

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > Removable noise insulating core
- > See page 33 for accessories



### **DOWNLOAD**

www.jeremias.de/asddaten (login required)



### ASD-T / ASD-T

A   Ø	100	115	130	150	180	200	225	250
В	400	400	400	420	450	550	600	650
С	200	200	200	260	300	350	380	450
D	400	400	400	460	500	550	580	650
Е	318	311	303	313	328	418	456	493

### NOISE INSULATING CORE

### **SDK**





### **DESCRIPTION**

- > Absorption silencer for flue gas systems, for hanging in the chimney outlet
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### AREA OF APPLICATION

- > Oil and gas boilers for wet or dry operation
- > Also compatible with solid fuels to a limited extent

Perforated metal plate made of high-quality stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient stainless steel wool

### **ATTENUATION GRADE**

5 dB/10 dB/15 dB/20dB

### **INSTALLATION**

Vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

> When a noise insulating core is retrofitted, calculated verification must always be provided as per DIN EN 13884

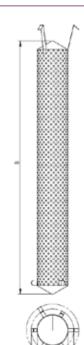




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### SDK / SDK1

A   Ø	100	130	150	180	200	250	300	350	400
В	1000	1000	1000	1000	1000	1000	1000	1000	1000
С	70	100	100	120	150	180	200	220	250

### SDK / SDK2

A   Ø	100	130	150	180	200	250	300	350	400
В	1500	1500	1500	1500	1500	1500	1500	1500	1500
С	70	100	100	120	150	180	200	220	250

### SDK / SDK3

A   Ø	100	130	150	180	200	250	300	350	400
В	2000	2000	2000	2000	2000	2000	2000	2000	2000
С	70	100	100	120	150	180	200	220	250

### SDK / SDK4

A   Ø	100	130	150	180	200	250	300	350	400
В	3000	3000	3000	3000	3000	3000	3000	3000	3000
С	70	100	100	120	150	180	200	220	250



### **KSD-EW**













### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)

### **AREA OF APPLICATION**

- > Oil and gas boilers for dry operation
- > Suitable for solid fuels to a limited extent
- > Fans

### **MATERIAL**

Stainless steel 1.4404

### **ATTENUATION MATERIAL**

High-quality mineral wool

### **ATTENUATION GRADE**

25 aB

### **SYSTEM CONNECTION**

EW-FU

### **INSTALLATION**

Horizontal or vertical

### FREQUENCY RANGE

> 125 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

 $>45^{\circ}$  condensate drain with internal thread incl. closing screw

> See page 33 for accessories

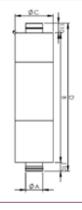


### **DOWNLOAD**

Texts for invitation to tender technical data sheet

www.jeremias.de/asddaten (login required)





### KSD / KSD-EW25

A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350
В	1030	1030	1130	1130	1405	1405	1405	1550	1550	1750	1750	1900	1950
С	300	300	300	300	300	350	350	450	450	450	500	600	650
D	1250	1250	1350	1350	1625	1625	1625	1770	1770	1970	1970	2120	2170

### KSD-B











### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)

### **AREA OF APPLICATION**

> Oil and gas boilers for wet operation

#### MATEDIAL

Stainless steel 1.4404

### **ATTENUATION MATERIAL**

Highly efficient stainless steel wool

### **ATTENUATION GRADE**

25 dB

### SYSTEM CONNECTION

EW-ALBI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 125 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

- > 45° condensate drain with internal thread incl. closing screw
- > Including internal seal
- > See page 33 for accessories

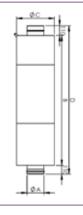


### **DOWNLOAD**

Texts for invitation to tender

www.jeremias.de/asddaten (login required)





### KSD / KSD-B25

A   Ø	100	115	120	130	140	150	160	180	200	225	250	300	350
			1130										
С	300	300	300	300	300	350	350	450	450	450	500	600	650
D	1250	1250	1350	1350	1625	1625	1625	1770	1770	1970	1970	2120	2170



### **ASD-PP**



### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from fine mineral wool texture

### AREA OF APPLICATION

Condensing boilers, small combined heat & power plants for wet or dry operation

### **MATERIAL**

Plastic (polypropylene)

#### ATTENUATION MATERIAL

Highly efficient mineral wool behind stainless steel perforated metal plate and protective fleece made from stainless steel wool

### **ATTENUATION GRADE**

20 dB / 30 dB

### SYSTEM CONNECTION

EW-PPS

### **INSTALLATION**

Horizontal and vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with external thread
- > See page 33 for accessories



### **DOWNLOAD**

Texts for invitation to tende

www.jeremias.de/asddaten (login required)





### **ASD-H**











### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from the fine fibre structure of the stainless steel wool used

### AREA OF APPLICATION

Condensing boilers, small combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient stainless steel wool

### ATTENUATION GRADE

20 dB / 25dB / 35 dB

### SYSTEM CONNECTION

#### **INSTALLATION**

Horizontal and vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

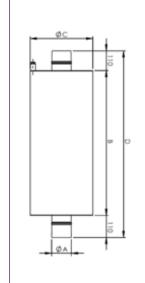
- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories



### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### ASD-H / ASD-H20

A   Ø	60	80	100	130
В	340	340	500	500
С	250	300	325	375
D	560	560	720	720

### ASD-H / ASD-H25

A   Ø	60	80	100	130
В	670	670	750	750
С	250	300	325	375
D	890	890	970	970

### ASD-H / ASD-H35

A   Ø	60	80	100	130
В	1000	1000	1000	1000
С	250	300	325	375
D	1220	1220	1220	1220



### **AED-KL**













### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from fine mineral wool texture

### AREA OF APPLICATION

> Combined heat & power plants for wet or dry operation

#### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### ATTENUATION GRADE

15 dB / 25 dB

### SYSTEM CONNECTION

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

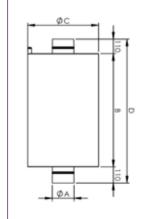
- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories



### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### AED / AED-KL15

A   Ø	80	100	120	130	150	200	250
В	500	500	700	700	800	1000	1300
С	300	350	400	400	500	600	700
D	720	720	920	920	1020	1220	1520

### AED / AED-KL25

A   Ø	80	100	120	130	150	200	250
В	1000	1100	1300	1300	1500	1800	2300
С	300	350	400	400	500	600	700
D	1220	1320	1520	1520	1720	2020	2520

### **AED-FL**











### **DESCRIPTION**

- > Absorption silencer for single-wall flue gas systems
- > Converts acoustic energy into heat through friction from fine mineral wool texture

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### ATTENUATION GRADE

15 dB / 25 dB

### SYSTEM CONNECTION

Aluminium loose flange (DIN 2642)

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories









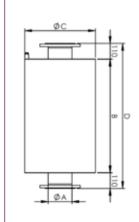




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### AED / AED-FL15

A   Ø	50	65	80	100	125	150	200	250
В	350	500	500	500	700	800	1000	1300
С	250	250	300	350	400	500	600	700
D	570	720	720	720	920	1020	1220	1520

### AED / AED-FL25

A   Ø	50	65	80	100	125	150	200	250
В	700	850	1000	1100	1300	1500	1800	2300
С	250	250	300	350	400	500	600	700
D	920	1070	1220	1320	1520	1720	2020	2520



### **AEL-KL**











### **DESCRIPTION**

- > Acoustic attenuation through conversion of acoustic energy into heat through friction from fine mineral wool texture. (sound absorption)
- > Outlet at side of housing

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### **ATTENUATION GRADE**

15 dB / 25 dB

### **SYSTEM CONNECTION**

EW-KL

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium and high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories



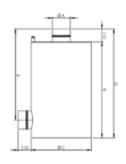
### **DOWNLOAD**

Texts for invitation to tender

www.jeremias.de/asddaten (login required)



### **AEL / AEL-KL15**



A   Ø	80	100	120	130	150	200	250
В	500	500	700	700	800	1000	1300
С	300	350	400	400	500	600	700
D	720	720	920	920	1020	1220	1520

### AEL / AEL-KL15

A   Ø	80	100	120	130	150	200	250
В	1000	1100	1300	1300	1500	1800	2300
С	300	350	400	400	500	600	700
D	1220	1320	1520	1520	1720	2020	2520

### **AEL-FL**











### **DESCRIPTION**

- > Acoustic attenuation through conversion of acoustic energy into heat through friction from fine mineral wool texture. (sound absorption)
- > Outlet at side of housing

### AREA OF APPLICATION

Combined heat & power plants for wet or dry operation

#### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### **ATTENUATION GRADE**

15 dB / 25 dB

### **SYSTEM CONNECTION**

Aluminium loose flange (DIN 2642)

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 250 Hz (medium and high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories









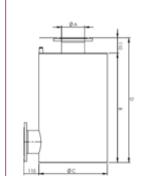




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### **AEL / AEL-FL15**

A   Ø	50	65	80	100	125	150	200	250
В	350	500	500	500	700	800	1000	1300
С	250	250	300	350	400	500	600	700
D	570	720	720	720	920	1020	1220	1520

### **AEL / AEL-FL25**

A   Ø	50	65	80	100	125	150	200	250
В	700	850	1000	1100	1300	1500	1800	2300
С	250	250	300	350	400	500	600	700
D	920	1070	1220	1320	1520	1720	2020	2520



### **KED-KL**



### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### **ATTENUATION GRADE**

35 dB

### SYSTEM CONNECTION

FW-KI

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 100 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories

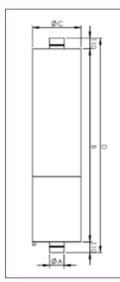


### **DOWNLOAD**

Texts for invitation to tender

www.jeremias.de/asddaten (login required)





### KED / KED-KL35

A   Ø	80	100	120	130	150	200	250
В	1650	2000	2000	2000	2000	2200	2600
С	350	400	450	450	500	600	700
D	1870	2220	2220	2220	2220	2420	2820

### **KED-FL**













### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### **ATTENUATION GRADE**

35 dB

### SYSTEM CONNECTION

Aluminium loose flange (DIN 2642)

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 100 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

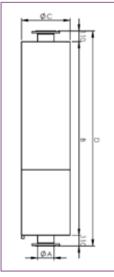
- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories



### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### **KED / KED-FL35**

A   Ø	50	65	80	100	125	150	200	250
В	1300	1300	1650	2000	2000	2000	2200	2600
С	250	275	350	400	450	500	600	700
D	1520	1520	1870	2220	2220	2220	2420	2820



### **KEL-KL**



### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)
- > Outlet at side of housing

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### **ATTENUATION GRADE**

35 dB

### SYSTEM CONNECTION

EW-KL

### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 100 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories

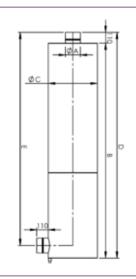


### **DOWNLOAD**

Texts for invitation to tender

www.jeremias.de/asddaten (login required)





### **KEL / KEL-KL35**

A   Ø	80	100	120	130	150	200	250
В	1740	2120	2120	2120	2170	2420	2890
С	350	400	450	450	500	600	700
D	1850	2230	2230	2230	2280	2530	3000
Е	1760	2130	2130	2130	2150	2380	2830

### **KEL-FL**











### **DESCRIPTION**

- > Combined silencer for single-wall flue gas systems
- > Resonance chambers for attenuation of low-frequency noise by reflecting sound waves
- > Additional conversion of acoustic energy into heat through friction from fine mineral wool texture (absorption)
- > Outlet at side of housing

### **AREA OF APPLICATION**

Combined heat & power plants for wet or dry operation

### **MATERIAL**

Stainless steel 1.4404

### ATTENUATION MATERIAL

Highly efficient mineral wool with additional protection from stainless steel wool fleece

### ATTENUATION GRADE

### **SYSTEM CONNECTION**

Aluminium loose flange (DIN 2642)

#### **INSTALLATION**

Horizontal or vertical

### **FREQUENCY RANGE**

> 100 Hz (low, medium and high frequencies)

### **FURTHER INFORMATION**

- > Condensate drain with internal thread incl. closing screw
- > See page 33 for accessories









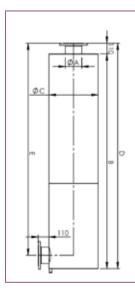




### **DOWNLOAD**

www.jeremias.de/asddaten (login required)





### **KEL / KEL-FL35**

A   Ø	50	65	80	100	125	150	200	250
В	1365	1390	1740	2110	2110	2170	2420	2890
С	250	275	350	400	450	500	600	700
D	1475	1500	1850	2230	2230	2280	2530	3000
Е	1400	1420	1760	2130	2130	2150	2380	2830

### ACCESSORIES FOR FLUE GAS SILENCERS

FLOOR INSTALLATION						
Sound-proofed substructure, for nominal diameters 250/275/300 mm	Support h = 800-1200 mm, for nominal diameters 80-600 mm					
ZUTE.1150	VL11					

	WALL INSTALLATION								
Fixed wall spacer, 50 mm	Adjustable wall spacer, 50-360 mm	Wall strut & cross member <b>Type I</b> 350 mm	Wall strut & cross member Type II 500 mm	Wall strut & cross member <b>Type III</b> 750 mm	Wall strut & cross member Type IV 1030 mm				
	Q								
VL09	VL293	DW391	DW392	DW393	DW407				

### Isolation of the flue pipe

As part of expert planning a flue pipe, isolation of system vibrations must be taken into consideration in addition to sound insulation.

Vibrations from the boiler, combined heat & power plant or flue gas noise are transmitted along the flue pipe to the structure of the building and are often perceived as a low-frequency hum inside the building.

If analysis is performed after installation, cost-intensive deployment of experts is usually required to bring the transmission of vibrations under control. Planning corresponding isolation measures against vibrations and structureborne sound in advance can largely prevent this.

Contact our experts on

+49 (0) 9832 - 68 68 8001 for advice on suitable isolation measures!







TECHNICAL SOUND SOLUTIONS FOR INDUSTRIAL APPLICATIONS

www.jeremias-group.com





# OUR LARGE-SCALE SOLUTIONS FOR INDUSTRIAL APPLICATIONS

For the INDUSTRIAL SECTOR, the Jeremias Group also offers a WIDE RANGE OF ROBUST FLUE GAS SILENCERS.

As from nominal diameters of 400 mm, absorption silencers, combined flue gas silencers consisting of resonance and absorption chambers as well as noise insulating cores are manufactured at Engelhardt GmbH and distributed to customers all over the world.

The flue gas silencer type is selected according to the source of the noise (for example, generated by oil and gas boilers, fans, wood-burning systems, ventilation systems or gas turbines) and attenuation requirements.

Our flue gas silencers are suitable for wet and dry operation and incorporate high-quality materials that provide effective, long-term noise insulation.

## HOW TO CONTACT US

Hotline Tel.: +49 (0) 9832 / 68 68 - 1130

Fax: +49 (0) 9832 / 68 68 - 64



Department	Contact	Tel. Fax +49 (0) 9832 -	E-mail
Managing Director	Christoph Wißmüller	6868 - <b>0</b> / 6868 - <b>861</b>	christoph.wissmueller@jeremias.de
Sales Manager	Peter Veit	6868 - <b>108</b> / 6868 - <b>868</b>	peter.veit@jeremias.de
Technical Manager	Martin Niederlöhner	6868 - <b>14</b> / 6868 - <b>8614</b>	martin.niederloehner@jeremias.de
Project Manager	Anja Paul Harald Höhenberger Markus Pawlak	6868 - <b>48</b> / 6868 - <b>8648</b> 6868 - <b>992</b> / 6868 - <b>8687</b> 6868 - <b>991</b> / 6868 - <b>8649</b>	anja.paul@jeremias.de harald.hoehenberger@jeremias.de markus.pawlak@jeremias.de
Sales / Office team	Matthias Kunkel Philipp Banczyk Anna Mattheis	6868 - <b>18</b> / 6868 - <b>978</b> 6868 - <b>358</b> / 6868 - <b>978</b> 6868 - <b>975</b> / 6868 - <b>978</b>	matthias.kunkel@jeremias.de philipp.banczyk@jeremias.de anna.mattheis@jeremias.de
Silencer development	Siegfried Semsch	6868 - <b>998</b> / 6868 - <b>68</b>	siegfried.semsch@jeremias.de
Financial accounting management	Wolfgang Roth	6868 - <b>36</b> / 6868 - <b>8636</b>	wolfgang.roth@jeremias.de

### **ASD**













### **DESCRIPTION**

Absorption silencer with thick-walled, cylindrical housing in solid industrial design

### AREA OF APPLICATION

Oil / gas boilers, fans, wood burners, combined heat & power plants/engines

#### **FUNCTIONALITY**

The sound waves pass through a perforated metal plate into the porous mineral absorber. Friction effects on the fine mineral fibres draw energy from the sound waves and attenuate them

Stainless steel 1.4404 / 1.4571

### ATTENUATION MATERIAL

Water-repellent, non-flammable mineral wool that is protected by a perforated metal plate and an additional cover fleece to prevent fibre discharge into the flow of flue gas

### ATTENUATION GRADE

15 dB / 25 dB, higher values on request

#### SYSTEM CONNECTION

Nominal diameter 400 - 1200 mm Connections either single-wall or with flange according to works standard

#### FREQUENCY RANGE

> 250 Hz (medium to high frequencies)

### **FURTHER INFORMATION**

Condensate drain

### SPECIAL VERSIONS

- > An internal cylindrical noise insulating core can also be integrated to improve performance
- > If space is limited, the absorption silencer can be integrated in the chimney or fitted as an outlet silencer















### **DOWNLOAD** and INFORMATIONS







### Are you interested in the right silencer for your project?

Simply fill out the form at www.jeremias.de/en/service-kontakt/downloads/formulare or write an e-mail to our Order team at info@jeremias.de. We will be more than happy to help!



## COMBINED FLUE GAS SILENCER KSD















### **DESCRIPTION**

- > Combined flue gas silencer with several resonance and absorption chambers installed in series
- > Cylindrical stainless steel housing in solid industrial design with tightly welded chambers
- > Particularly thick-walled end plates provide sufficient sound wave resistance and a high housing rigidity

### AREA OF APPLICATION

Oil / gas boilers, fans, wood burners, combined heat & power plants/engines

### **FUNCTIONALITY**

- > Low-frequency sound waves are reflected in the resonance chambers and attenuated as a result
- > An absorber is installed downstream of the resonance chambers to provide a silencer that acts across a wide sound range Absorber added

### **MATERIAL**

Stainless steel 1.4404 / 1.4571

### ATTENUATION MATERIAL

- > Resonance chambers
- > Absorption chambers with water-repellent, non-flammable mineral wool that is protected by a perforated metal plate and an additional cover fleece to prevent fibre discharge into the flow of flue gas

### **ATTENUATION GRADE**

25 dB / 30 dB, higher values on request

### **SYSTEM CONNECTION**

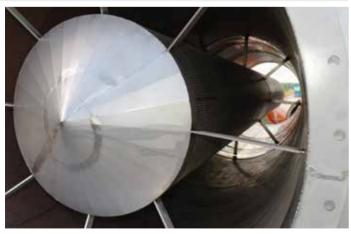
- > Nominal diameter 400 1200 mm
- > Connections either single-wall or with flange according to works standard

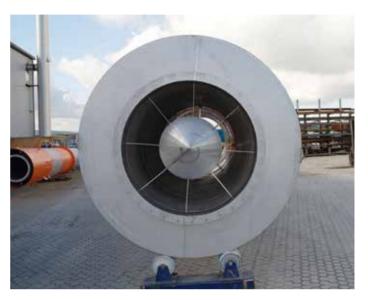
### FREQUENCY RANGE

> 63 Hz / 125 Hz (low, medium and high frequencies)

### **SPECIAL VERSIONS**

An internal cylindrical noise insulating core can also be integrated to improve performance









## Are you interested in the right silencer for your project?

Simply fill out the form at <a href="www.jeremias.de/en/service-kontakt/downloads/formulare">www.jeremias.de/en/service-kontakt/downloads/formulare</a> or write an e-mail to our Order team at <a href="mailto:info@jeremias.de">info@jeremias.de</a>. We will be more than happy to help!

### NOISE INSULATING CORE

### SDK / SKK



#### **DESCRIPTION**

- > Ideal alternative for low attenuation requirements
- > Noise insulating cores are suspended in the chimney and therefore easy to retrofit
- > Available as a pure absorption silencer (SDK) or combined silencer with additional resonance chambers (SKK)

### AREA OF APPLICATION

Oil / gas boilers, fans, wood burners, combined heat & power plants/engines

### **FUNCTIONALITY**

- > The sound waves pass through a perforated metal plate into the porous absorber material. Friction effects on the fine fibres attenuate the sound waves
- > Additional attenuation of low-frequency sound waves through reflection in resonance chambers (SKK)

#### MATERIAL

Stainless steel 1.4404

### **ATTENUATION MATERIAL**

- > Water-repellent mineral wool, stainless steel wool
- > Resonance chambers (SKK)

### **ATTENUATION GRADE**

10 dB, higher values on request

### SYSTEM CONNECTION

Nominal diameter 70-400 mm, others available on request

### FREQUENCY RANGE

> 250 Hz (medium and high frequencies)

### **FURTHER INFORMATION**

A cross section calculation must always be carried out according to DIN EN 13884 when retrofitting!



## DOWNLOAD and INFORMATIONS

http://jeremias-group.com/industrialchimnevs/exhaust-gas-silencers/



### Are you interested in the right silencer for your project?

Simply fill out the form at <a href="www.jeremias.de/en/service-kontakt/downloads/formulare">www.jeremias.de/en/service-kontakt/downloads/formulare</a> or write an e-mail to our Order team at <a href="mailto:info@jeremias.de">info@jeremias.de</a>. We will be more than happy to help!



## SPLITTER SILENCERS **KUD**















#### **DESCRIPTION**

- Noise insulating splitters divide the flue gas duct into several areas
- > Installation of splitters in silencer housing or directly in the chimney
- > A profiled frame provides the necessary rigidity for the splitters

### AREA OF APPLICATION

Gas turbines, fans, wood burners, large-scale plants (power stations)

### **FUNCTIONALITY**

- > The sound waves pass through a perforated metal plate into the porous material absorber. Friction effects on the fine fibres attenuate the sound waves
- > The attenuation effect depends on the clearance between the splitters and the splitter thickness/length

### **MATERIAL**

Stainless steel 1.4301 / 1.4571

### ATTENUATION MATERIAL

The splitters are filled with water-repellent, non-flammable mineral wool that is protected by fabric/fleece to prevent fibre discharge

### ATTENUATION GRADE

15 dB / 25 dB / 35 dB, higher values on request

### SYSTEM CONNECTION

- > Splitter thicknesses 100 400 mm
- > Guide rails, support profiles

### FREQUENCY RANGE

> 125 Hz (low, medium and high frequencies)

### **SPECIAL VERSIONS**

Flow profiles can be fitted to the face ends



## DOWNLOAD and INFORMATIONS

http://jeremias-group.com/industrialchimneys/exhaust-gas-silencers/





## Are you interested in the right silencer for your project?

Simply fill out the form at <a href="www.jeremias.de/en/service-kontakt/downloads/formulare">www.jeremias.de/en/service-kontakt/downloads/formulare</a> or write an e-mail to our Order team at <a href="mailto:info@jeremias.de">info@jeremias.de</a>. We will be more than happy to help!

### **PRODUCTION SITES**

### **GERMANY**

www.jeremias.de

Jeremias GmbH Opfenrieder Str. 11-14 91717 Wassertrüdingen phone: +49 (0) 9832 6868-50 e-mail: info@jeremias.de

### **POLAND**

www.jeremias.pl

### CZECH REPUBLIC

www.jeremias.cz

### **SPAIN**

www.jeremias.com.es

### **RUSSIA**

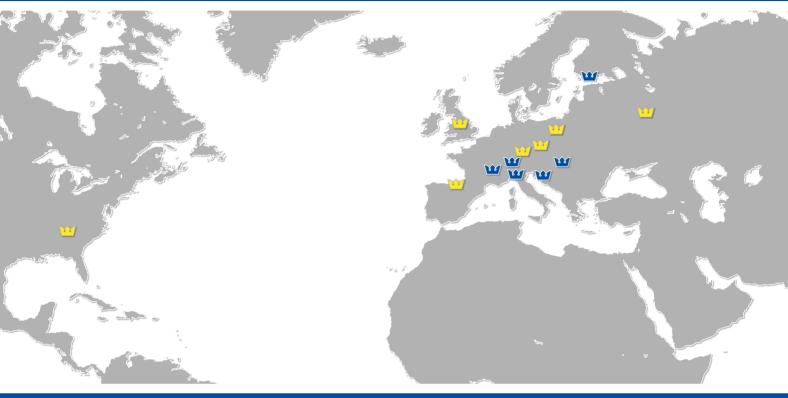
www.jeremias.ru

### **USA**

www.jeremiasinc.com

### UNITED KINGDOM

www.jeremias.uk



### **™** SALES OFFICES

**FRANCE** 

www.jeremias-france.fr

**HUNGARY** 

www.jeremias.hu

**CROATIA** 

www.jeremias.hr

**FINLAND** 

www.jeremias.fi

### **SWITZERLAND**

www.jeremias-schweiz.ch

### **ITALY**

www.jeremias.it

### JEREMIAS IS REPRESENTED IN THE FOLLOWING COUNTRIES:

Austria | Belarus | Belgium | Bulgaria | Brazil | Denmark | Estonia | Hong Kong | Ireland | Kazakhstan | Latvia | Lithuania | Luxembourg | Malta | Netherlands | Norway | Portugal | Romania | Saudi Arabia | Serbia | Singapore | Slovakia | Slovenia | South Africa | Sweden | Tunisia | UAE | Ukraine

The expert in your area:

Jeremias high quality products to be installed only by selected experts.

