



CIRCULAR SILENCER TYPE CAK

CAK

FOR THE REDUCTION OF NOISE IN PLASTIC CIRCULAR **DUCTS FOR CONTAMINATED AIR**

Plastic circular silencers for the reduction of noise in the circular ducts of extract air systems for aggressive media

- Absorption material is non-combustible mineral wool with RAL quality mark, biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- Mineral wool faced with non-woven glass fibre as protection against erosion due to airflow velocities up to 20 m/s
- Casing and perforated inner duct are flame-resistant polypropylene (PPs) to DIN 4102, building class B1
- Variant with spigot suitable for circular ducts according to DIN 8077 or DIN 8078
- Insertion loss measured according to ISO 7235 Casing air leakage to EN 15727, class D

Optional equipment and accessories

· With flanges on both ends

Application **Application**

• Plastic circular silencers Type CAK for the reduction of noise in the circular ducts of air conditioning systems

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- Suitable for contaminated air
- For the reduction of air-regenerated noise of air terminal units TVRK and TVLK
- For the reduction of fan noise

Special features

- Insertion loss measured according to ISO 7235
- Absorption material is non-combustible

Nominal sizes

• 125, 160, 200, 250, 315, 400 mm

Description

Variants

- CAK: Circular silencer
- VF2: Circular silencer with flanges on both ends

Parts and characteristics

- Casing
- Perforated inner tube
- Absorption material

Accessories

• Matching flanges for both ends, including seals

Construction features

- Circular casing
- Spigot suitable for circular ducts according to DIN 8077 or DIN 8078
- Maximum operating pressure 1000 Pa
- Max. operating temperature 100 °C

Materials and surfaces

- Casing and perforated inner duct are flame-resistant polypropylene (PPs) to DIN 4102, building class B1
- Lining is mineral wool

Mineral wool

- To EN 13501, fire rating class A2, non-combustible
- RAL quality mark RAL-GZ 388
- Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- Faced with glass fibre as protection against erosion through airflow velocities up to 20 m/s
- Inert to fungal and bacterial growth

Standards and guidelines

- Insertion loss measured according to ISO 7235
- Casing air leakage to EN 15727, class D

Maintenance

• Maintenance-free as construction and materials are not subject to wear

TECHNICAL INFORMATION

Technical data, Quick sizing, Specification text, Order code

Nominal sizes	125 - 400 mm
Operating pressure	1000 Pa
Operating temperature	100 °C max.

The stated differential pressures for circular silencers correspond to the values for smooth pipes. Deviations, if any, are of no practical relevance. For ductwork calculation, if the length of a circular silencer is included in the total length of the ductwork, no extra length must be added.

CAK, insertion loss

Nominal size	Nominal	Centre frequency f _m [Hz] 63 125 250 500 1000 2000 4000 8000							
Hommar Size	length	63	125	250	500	1000	2000	4000	8000
Nominal size	Nominal length		D _e						
	mm				,	Hz		,	,
125	500	1	6	7	14	25	23	14	12
	1000	2	9	13	22	34	35	24	16
125	1500	3	12	19	31	42	43	33	20
160	500	0	3	5	11	22	21	12	10
	1000	1	4	9	18	30	31	19	13
160	1500	2	7	13	25	38	41	27	17
200	500	0	2	4	10	21	17	10	8
	1000	1	4	9	15	29	25	16	11
200	1500	1	6	12	21	36	33	20	14
250	500	0	2	4	9	19	13	9	8
	1000	0	4	8	14	26	22	15	11
250	1500	1	6	11	20	35	30	20	15
315	500	0	2	3	8	18	12	7	6
	1000	0	4	6	14	26	17	11	8
315	1500	1	6	9	19	34	23	15	10
400	500	0	2	3	6	14	8	6	4
	1000	0	3	6	11	25	13	10	7
400	1500	1	4	8	16	29	15	11	8

CAK, differential pressure

Nominal size Neminal size Imm) Nominal size I/s Napst 125 150 180 2 2 4 125 342 4 6 10 126 432 6 10 14 125 522 6 14 20 160 155 558 2 6 8 160 155 558 2 6 8 200 235 846 6 10 14 200 245 882 2 2 2 245 882 2 4 6 370 1332 4 8 10 250 385 1386 2 4 4 250 385 1386 2 4 4 250 385 1386 2 4 6 315 580 2088 4 6				Neni	nlänge	[mm]	
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1495 5382 <2 4 4	400	1245	4482	<2	2	4	
		1495	5382	<2	4	4	

Plastic circular silencers for use in extract air systems subject to aggressive media; they reduce the air-regenerated noise in plastic ducts (absorption principle).

Insertion loss measured according to ISO 7235.

Absorption material is mineral wool with RAL quality mark RAL-GZ 388.

Spigot, suitable for ducts according to DIN 8077.

Casing air leakage to EN 15727, class D.

Special features

- Insertion loss measured according to ISO 7235
- Absorption material is non-combustible

Materials and surfaces

- Casing and perforated inner duct are flame-resistant polypropylene (PPs) to DIN 4102, building class B1
- Lining is mineral wool

Mineral wool

- To EN 13501, fire rating class A2, non-combustible
- RAL quality mark RAL-GZ 388
- Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- Faced with glass fibre as protection against erosion through airflow velocities up to 20 m/s
- Inert to fungal and bacterial growth

Technical data

Nominal sizes: 125 to 400 mm
Operating pressure: 1000 Pa max.
Operating temperature: 100 °C max.

Sizing data



Order example: CAK/200×1000

Nominal size	200 mm
Length	1000 mm
Type of connection	Spigot

CAK / 160×1000 / GZ / VF2









1 Type

CAK Circular silencer

ii Silericei

2 Nominal size [mm]

3 Length [mm]

500 1000 1500

4 Matching flange

No entry: none

GZ on both ends (only VF2)

5 Type of connection

No entry: spigot **VF2** Flanges on both ends

Variants, Dimensions and weight

CAK

Variant

- Circular silencer for the reduction of noise
- Spigot

CAK/.../VF2

Variant

- Circular silencer for the reduction of noise
- With flanges to make detachable connections to the ductwork

CAK, dimensions

Nominal size	ØD mm	ØD3 mm	ØD1 mm	ØD2 mm	n	T mm
125	125	225	165	185	8	8
160	160	250	200	230	8	8
200	200	280	240	270	8	8
250	250	355	290	320	12	8
315	315	415	350	395	12	10
400	400	500	445	475	16	10

CAK, lengths

Nominal length mm L _N	L mm	L ₁ mm
500	595	495
1000	1095	995
1500	1595	1495

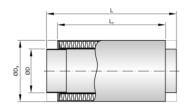
CAK, weights

Nominal size	500 m kg	1000 m kg	1500 m kg
125	2.2	4.1	5.9
160	2.6	4.7	6.8
200	3.2	5.8	8.5
250	4.3	7.6	10.9
315	4.6	8.6	12.5
400	5.2	9.3	13.4

CAK/.../VF2, weights

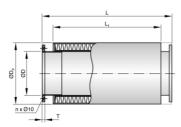
Nominal size	500 m kg	1000 m kg	1500 m kg
125	2.5	4.4	6.2
160	3.0	5.1	7.2
200	3.6	6.2	8.9
250	4.9	8.2	11.5
315	5.3	9.3	13.7
400	6.8	10.9	15.0

CAK





CAK/.../VF2





Installation details, Basic information and nomenclature

Installation and commissioning

- Any installation orientation
 Installation in ducts outside of closed rooms requires sufficient protection against the effects of weather

Principal dimensions

ØD [mm]

Outer diameter of the spigot

ØD₃ [mm]

Outer diameter of circular silencers

L [mm]

Length of attenuator/silencer including spigot (in airflow direction)

L1 [mm]

Length of acoustic cladding and acoustically effective length

B [mm]

Attenuator width and duct width (upright splitters)

H [mm]

Attenuator height and duct height (upright splitters)

T [mm]

Splitter thickness

S [mm]

Airway width

n[]

Number of flange screw holes

m [kg]

Weight

Nomenclature

f_m [Hz]

Octave band centre frequency

L_{WA} [dB(A)]

A-weighted sound power level of air-regenerated noise

D_e [dB]

Insertion loss

V [m³/h] and [l/s]

Volume flow rate

Δp_{st} [Pa]

Static differential pressure

All sound power levels are based on 1 pW.

All values were measured in a TROX lab and to EN ISO 7235. Intermediate values may be achieved by interpolation.

Lab measurements exceeding 50 dB are indicated as 50 dB, in line with common practice.