



NORDsilencer

Silencers

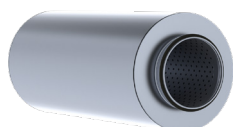
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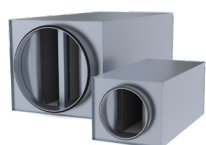
NKE Round silencer

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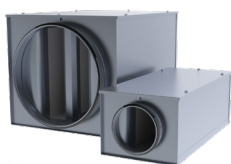
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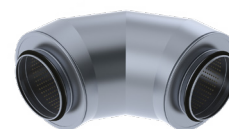
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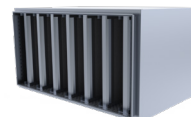
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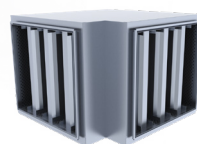
MRKA/MRPA/MRCA Rectangular openable silencer

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MPK/MPP/MPC MPKI/MPPI/MPCI Rectangular bend silencer

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General

The products of the NORDsilencer product group are designed to reduce unwanted noise in ducts. The product group includes silencers for both rectangular and round ventilation systems.

Silencers provide effective noise protection and create a comfortable living and working environment. Noise reduction has been tested according to ISO 7235. The mineral wool and synthetic insulation material used is resistant to cleaning (nylon brush washing) and independent research has proven that with proper care, these insulations have a service life of up to 50 years in residential and office buildings. Synthetic insulation material corresponds to the purity class M1 of building materials.

The use of silencers is especially important in public buildings with large and powerful ventilation ducts. Such as residential and commercial premises, public spaces, sports and industrial halls, schools, hotels, etc.

Check out our SILENCERiQ selection program.

Material

Standard products are made of galvanized steel sheet coated with minimum thickness of zinc inside and out of 275 g/m² (material thickness 0,5-1,2 mm). Acid-proof and zinc-magnesium coated steel products are made as a special order.

Product materials and respective standards:

- Hot-dip galvanized steel sheet according to standard EN 10346:2015, DX51D+Z275
- Acid proof steel according to standard EN 10088-2:2014, EN 1.4436 or AISI 316L
- Zinc-magnesium coated steel according to standard EN 10346:2015, DX51D+ZM310

Material Markings

Basic materials are not mentioned in product marking (standard material – hot-dip galvanized steel sheet).

Other materials:

- H - acid-proof steel AISI 316L
 ZM - zinc-magnesium coated steel

Isolation Marking

The following insulation methods and markings are used for the insulation of silencers with a rectangular insulated outer shell:

- S - thermal insulation, insulation thickness (mm), S50, S100
 M - sound absorbing insulation with perforated inner shell, insulation layer thickness (mm), M30, M50, M100
 C - absorption material Cleantec® mineral wool with washable surface layer
 EI120 - fire insulation (100 mm), fire resistance in minutes. Used fire insulation meets the testing methods requirements according to EN 1366-1 and is VTT certified. Fire insulation strengths in accordance with EN 13501-1.

The insulation is marked according to the product marking.

Duct Connections

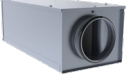
Rectangular silencers have a joining Z-profile. Components are joined with a sliding C-profile and two seal profiles (not included).

It is possible to order silencers with europrofile connection (E20, E30).

Silencers with Circular Connection

Product	Nominal size (mm)		E 120 _(ve-ho) S (single) *	Absorption element	Special characteristics
	Ø d	Length L			

Absorption material is mineral wool

	NRF 50	100-315	300; 600; 900; 1200	NRF-T 50	-	Sound absorption 50 and 100 mm, with perforated inner tube
	NRF 100	100-1250		NRF-T 100	-	
	NRFB 100	315-1250	600; 900; 1200	NRFB-T 100	Yes	Sound absorption 100 mm, with perforated inner tube
	NTF	100-630	300; 600; 1000	NTF-T	Ø 400-630	Low installation height, excellent sound attenuation
	NTFA	100-630	300; 600; 1000	-	Ø 400-630	Low installation height, inspection door
	NRFV 50	125-315	225-415	-	-	Bend silencer 90° with perforated inner tube

Absorption material synthetic sound insulation (M1*)

	NRP 50	100-500	300; 600; 900; 1200	-	-	Sound absorption 50 and 100 mm, with perforated inner tube
	NRP 100	100-1250		-	-	
	NRPB 100	315-800	600; 900; 1200	-	Yes	Sound absorption 100 mm, with perforated inner tube
	NKE	100-200	600; 1000	-	-	Compact
	NTP	100-630	300; 600; 1000	-	Ø 400-630	Low installation height, excellent sound attenuation
	NTPA	100-630	300; 600; 1000	-	Ø 400-630	Low installation height, inspection door
	NKL	100-200	600; 1000	-	-	90° horizontal change of direction
	NKU	100-200	600; 1000	-	-	90° vertical change of direction
	NRPV 50	125-315	225-415	-	-	Bend silencer 90° with perforated inner tube

M1* - products meet the M1 cleanliness classification.

E 120 S* - products are suitable for installation in smoke ducts. Duct system has been tested in 600°C / 2 hours (according to the standard EN 1366-9).

Silencers with Rectangular Connection

Product		Absorption material	Nominal size (mm)			Absorption element	Special characteristics
			Width b	Height b	Length L		
	MSK	Mineral wool	200-2000	200-2000	600-2500	100 150 200	AHU and VAV-systems
	MSP	Synthetic sound insulation					
	MSC	Mineral wool					Absorption element with Cleantec®
	MSK-T	Mineral wool	200-1250	200-1000			E 120_(ve-ho)S (single) *
	MSKI	Mineral wool	200-2000	200-2000	600-2500	100 150 200	AHU and VAV-systems, insulated outer shell
	MSPi	Synthetic sound insulation					
	MSCi	Mineral wool					Absorption element with Cleantec®
	MRKA	Mineral wool	300-2000	300-2000	600-2000	100 150 200	Openable side door allows to remove elements for the cleaning
	MRPA	Synthetic sound insulation					
	MRCA	Mineral wool					
	MPK-1 *	Mineral wool	200-2350	200-2350	200-2350	100 150 200	90° horizontal change of direction
	MPP-1 *	Synthetic sound insulation					
	MPC-1 *	Mineral wool					Absorption element with Cleantec®
	MPK-2 *	Mineral wool	200-2350	200-2350	200-2350	100 150 200	90° vertical change of direction
	MPP-2 *	Synthetic sound insulation					
	MPC-2 *	Mineral wool					Absorption element with Cleantec®

*Can also be ordered with an insulated outer shell.

NRF 50 / NRP 50 Round Silencer

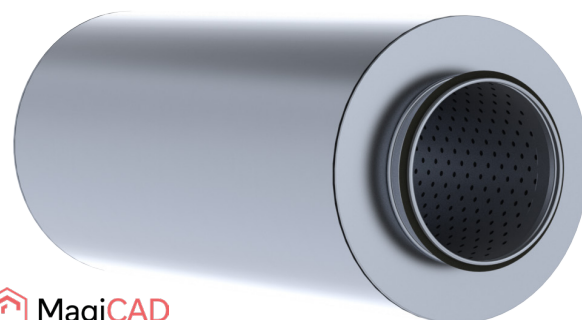
Round silencer with 50 mm sound absorption.

NRF-silencer's sound absorption material is mineral wool and NRP-silencer's a synthetic sound insulation. The perforated inner tube and outer shell are manufactured of galvanized steel. Between the inner tube and the insulation, there is fabric to prevent wool particles from the duct system.

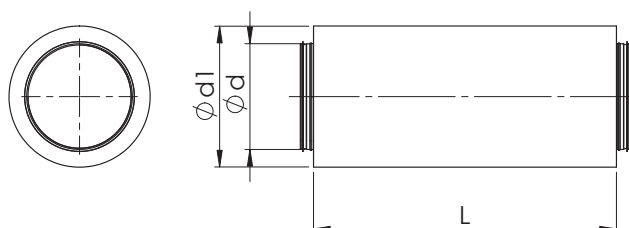
Fulfills tightness class D according to standard EN 15727:2010.

NRF 50 fire-resistance class EI15, E60.

EI60 is met provided that the specified safety distances are maintained, ensuring protection for evacuating persons and limiting heat flux to 2,5 kW/ m².



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Sound Attenuation and Dimensions

NRF 50 (absorption material is mineral wool)

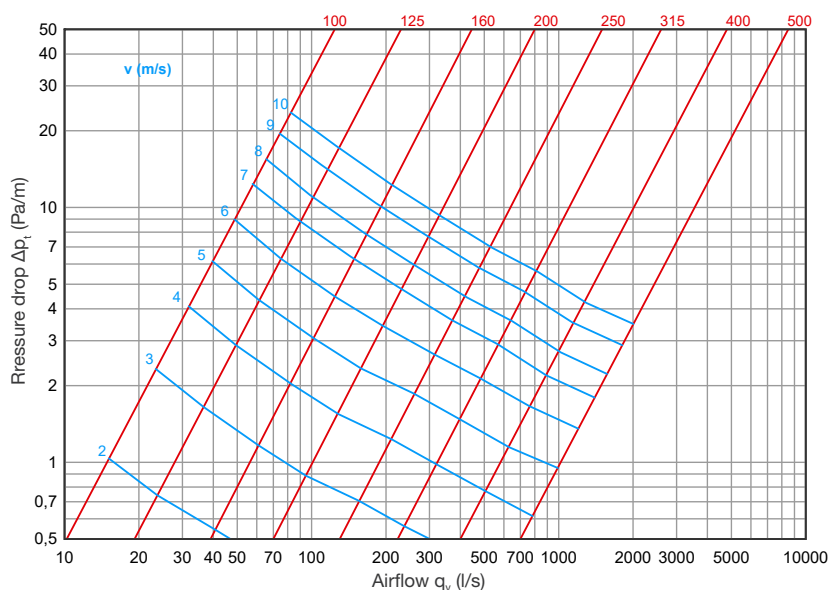
Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Safety distance, EI60 (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
				63	125	250	500	1000	2000	4000	8000	
100	300	200	-	3	4	8	15	26	26	20	11	2,3
*100	600	200	50	4	7	13	25	41	47	33	17	4,1
*100	900	200	50	5	8	18	34	49	49	41	23	5,2
100	1200	200	-	6	9	21	41	53	52	48	28	6,5
125	300	225	-	2	4	7	13	19	24	17	11	2,7
*125	600	225	50	3	6	13	24	35	43	25	16	5,2
*125	900	225	50	3	6	15	31	45	47	35	19	6,2
125	1200	225	-	4	6	20	42	54	49	41	23	7,5
160	300	260	-	1	3	5	12	16	19	11	9	3,0
*160	600	260	50	2	4	10	20	28	31	18	13	6,1
*160	900	260	50	2	6	14	27	37	35	24	17	8,6
160	1200	260	-	2	7	17	34	48	44	30	19	9,2
200	300	300	-	1	2	5	10	13	16	9	8	4,1
*200	600	300	60	2	4	9	17	23	27	15	11	6,9
*200	900	300	60	2	5	13	23	35	37	24	15	10,9
200	1200	300	-	3	6	16	30	45	44	24	16	12,0
*250	600	350	70	2	3	8	15	22	21	12	10	8,6
*250	900	350	70	2	4	12	22	31	28	15	13	11,7
250	1200	350	-	3	5	14	28	38	36	18	16	16,0
315	600	415	-	1	2	7	12	18	13	9	9	13,4
315	900	415	-	1	3	8	16	24	18	12	11	16,3
315	1200	415	-	1	4	10	20	32	22	14	13	21,1

* Marked products achieve fire-resistance class EI60, provided that the specified safety distances are maintained. This ensures protection for evacuating persons by limiting the heat flux to 2,5 kW/m².

NRP 50 (absorption material synthetic sound insulation)

Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
100	300	200	1	3	7	10	17	21	11	11	1,9
100	600	200	2	7	11	16	26	34	21	16	3,2
100	900	200	4	10	16	23	34	43	30	22	4,5
100	1200	200	6	12	20	29	42	45	35	28	5,9
125	300	225	1	2	5	8	16	17	10	8	2,2
125	600	225	1	5	9	14	23	27	17	13	3,6
125	900	225	3	7	13	19	32	40	25	19	5,1
125	1200	225	5	10	16	23	38	42	30	22	6,5
160	300	260	0	3	4	6	14	9	7	6	2,8
160	600	260	1	5	7	11	21	17	12	12	4,6
160	900	260	3	7	10	14	27	22	16	14	6,4
160	1200	260	4	8	13	19	33	28	19	17	8,4
200	300	300	0	3	5	8	16	17	10	10	3,3
200	600	300	1	4	6	10	20	20	12	12	5,3
200	900	300	2	5	9	12	24	23	15	13	7,3
200	1200	300	3	6	11	16	29	28	18	15	9,4
250	600	350	1	3	5	8	17	14	10	8	6,4
250	900	350	1	4	7	11	22	20	14	12	8,8
250	1200	350	2	6	12	19	32	47	36	28	12
315	600	415	0	2	4	7	16	9	9	8	7,8
315	900	415	1	3	5	9	20	13	11	12	11
315	1200	415	2	4	7	12	25	16	14	15	13
400	600	500	0	1	3	6	15	5	7	7	9,7
400	900	500	0	2	4	8	18	8	9	10	13,5
400	1200	500	0	2	5	10	23	9	12	12	15,9
500	600	600	0	0	1	4	9	3	4	4	12,1
500	900	600	0	1	2	6	12	5	5	5	16,9
500	1200	600	0	1	2	8	14	6	7	7	19,9

Technical Data



Product Marking

	NRF	-	H	50	d	-	L
Marking							
NRF - absorption material mineral wool							
NRP - absorption material synthetic sound insulation							
Material							
Galvanized steel (Z275), standard material							
ZM - Zinc-magnesium coated steel (ZM310)							
H - Acidproof stainless steel (AISI 316L)							
Insulation thickness 50 mm							
Diameter d							
Length L							

Example: NRF 50 315-600
NRF-H 50 315-600

NRF 100 / NRP 100 Round Silencer

Round silencer with 100 mm sound absorption.

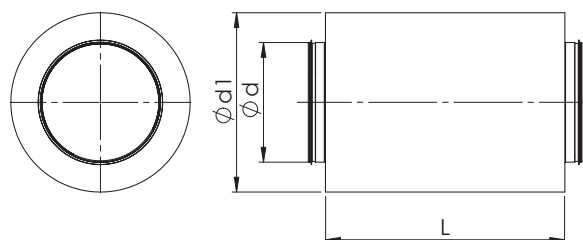
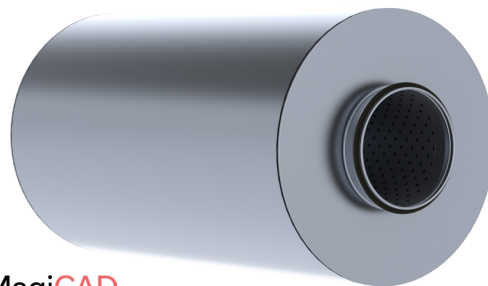
NRF-silencer's sound absorption material is mineral wool and NRP-silencer's a synthetic sound insulation.

The perforated inner tube and outer shell are manufactured of galvanized steel. Between the inner tube and the insulation, there is fabric to prevent wool particles from entering the duct system.

Fulfills tightness class D according to standard EN 15727:2010.

NRF 100 fire-resistance class EI30.

EI60 is met provided that the specified safety distances are maintained, ensuring protection for evacuating persons and limiting heat flux to 2,5 kW/ m².



Sound Attenuation and Dimensions

NRF 100 (absorption material is mineral wool)

Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Safety distance, (mm)		Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			EI30	EI60	63	125	250	500	1000	2000	4000	8000	
100	300	305	-	-	3	5	12	17	23	28	21	11	5,6
100	600	305	-	-	6	10	18	28	39	44	32	17	9,0
100	900	305	-	-	7	12	25	37	51	50	42	23	13,0
100	1200	305	-	-	8	13	30	40	55	52	46	29	16,1
125	300	325	-	-	4	5	9	14	18	24	18	11	6,1
125	600	325	-	-	4	9	17	25	34	38	25	17	9,3
125	900	325	-	-	6	10	23	34	46	47	36	20	13,0
125	1200	325	-	-	8	12	28	38	52	51	42	24	17,0
160	300	360	-	-	4	3	7	11	15	20	13	9	7,1
160	600	360	-	-	4	7	14	21	29	34	18	13	11,4
160	900	360	-	-	5	9	20	31	41	45	25	16	15,7
160	1200	360	-	-	7	10	28	34	48	49	29	19	20,0
200	300	400	-	-	4	3	6	9	13	16	10	8	9,3
200	600	400	-	-	5	5	10	15	22	26	18	13	14,0
200	900	400	-	-	5	8	19	24	35	33	19	15	19,0
200	1200	400	-	-	7	9	24	33	44	42	23	16	22,0
250	300	450	-	-	2	3	4	7	13	16	10	7	13,0
250	600	450	-	-	4	4	11	15	21	21	12	11	15,0
250	900	450	-	-	3	5	16	22	31	24	14	12	22,0
250	1200	450	-	-	5	7	21	28	40	34	17	15	28,0
315	300	510	-	-	2	3	3	6	12	14	8	6	14,0
315	600	510	-	-	1	4	8	11	17	14	9	9	18,0
*315	900	510	0	50	2	5	12	16	25	19	12	11	25,0
*315	1200	510	0	50	3	6	17	23	34	25	15	14	32,0
400	300	600	-	-	2	2	3	5	9	12	7	5	20,0
400	600	600	-	-	1	4	6	7	10	9	7	6	25,0
*400	900	600	0	50	2	5	12	15	20	15	12	9	32,0
*400	1200	600	0	50	4	6	15	20	27	21	13	13	42,0
500	600	710	-	-	1	2	5	7	11	10	7	5	38,0
*500	900	710	0	50	2	5	9	12	14	11	9	9	41,0
*500	1200	710	0	50	3	5	11	17	19	14	12	11	51,0
*630	900	840	0	50	2	4	7	12	14	11	9	7	50,0
*630	1200	840	0	50	3	5	11	16	14	13	9	7	64,0
800	900	1000	-	-	2	4	8	12	11	9	8	6	76,0

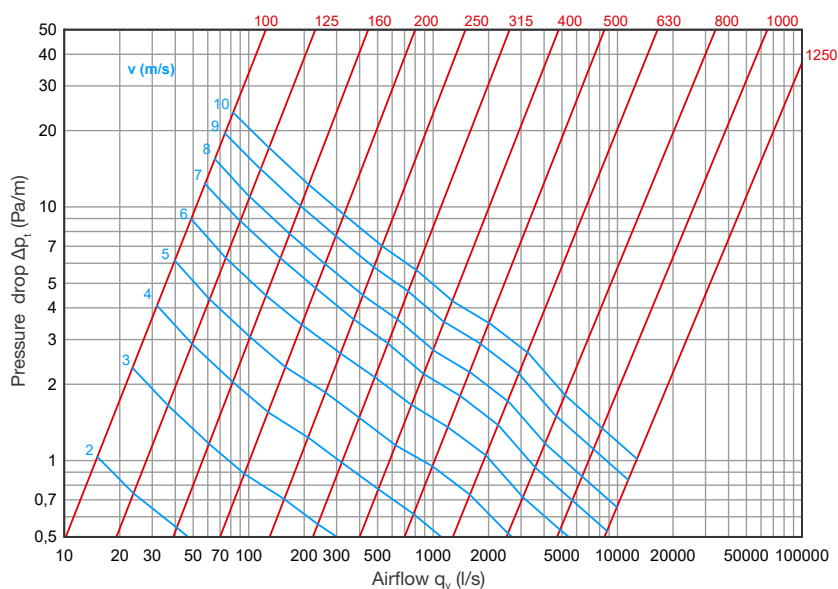
Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Safety distance, (mm)		Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			EI30	EI60	63	125	250	500	1000	2000	4000	8000	
800	1200	1000	-	-	2	4	9	13	12	10	9	7	81,0
1000	900	1200	-	-	0	1	7	7	4	3	3	3	84,0
1000	1200	1200	-	-	1	3	9	9	6	4	4	4	106,0
1250	1200	1450	-	-	1	3	9	6	5	4	3	2	129,0

*Products achieve fire-resistance classes EI30 and EI60, provided that the specified safety distances are maintained. This ensures protection for evacuating persons by limiting the heat flux to 2.5 kW/m².

NRP 100 (absorption material synthetic sound insulation)

Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
100	300	305	3	6	13	14	27	23	19	11	5,3
100	600	305	7	11	17	17	32	34	31	19	8,6
100	900	305	9	15	24	32	50	48	42	28	12,5
100	1200	305	11	15	27	31	55	51	46	33	14,8
125	300	325	4	6	8	12	21	20	17	12	5,7
125	600	325	5	11	16	14	32	28	23	18	8,7
125	900	325	8	12	22	21	43	40	35	22	12,0
125	1200	325	11	15	29	26	52	48	45	30	16,0
160	300	360	4	4	8	9	18	17	12	10	6,6
160	600	360	5	9	13	11	31	28	18	15	11,0
160	900	360	6	11	21	18	38	35	26	18	15,4
160	1200	360	8	12	29	21	49	39	31	22	19,0
200	300	400	6	4	7	8	21	18	11	12	9,0
200	600	400	5	6	10	7	24	22	19	14	13,2
200	900	400	6	9	18	10	31	26	19	16	18,0
200	1200	400	8	11	23	20	40	34	24	18	21,0
250	300	450	2	3	4	7	13	16	10	7	13,0
250	600	450	5	6	9	6	22	18	13	11	14,0
250	900	450	3	6	14	9	27	19	14	13	21,0
250	1200	450	6	8	19	14	33	27	18	17	27,0
315	300	510	2	3	3	6	12	14	8	6	14,0
315	600	510	1	5	6	5	16	13	9	9	18,0
315	900	510	2	6	9	9	23	18	12	13	24,0
315	1200	510	4	8	14	12	27	23	17	17	32,0
400	300	600	2	2	3	5	9	12	7	5	19,0
400	600	600	2	5	3	3	8	9	7	6	23,0
400	900	600	2	5	9	9	17	15	12	10	31,0
400	1200	600	4	8	12	10	21	20	14	14	39,0
500	600	710	1	2	3	5	10	9	6	5	37,0
500	900	710	2	6	6	9	12	9	8	10	40,0
500	1200	710	2	5	8	12	16	13	12	11	49,0
630	900	840	2	5	4	11	13	10	11	7	47,0
630	1200	840	3	5	8	14	13	12	12	7	60,0
800	900	1000	2	4	8	12	11	9	8	7	71,0
800	1200	1000	2	4	8	12	12	9	9	8	76,0
1000	900	1200	0	2	5	7	4	3	3	4	63,0
1000	1200	1200	1	3	8	10	6	5	5	7	79,0
1250	1200	1450	1	3	8	7	5	4	3	3	96,0

Technical Data



Product Marking

	NRF	-	H	100	d	-	L
Marking							
Material							
Insulation thickness 100 mm							
Diameter d							
Length L							

Marking

NRF - absorption material mineral wool
NRP - absorption material synthetic sound insulation

Material

Galvanized steel (Z275), standard material
ZM - zinc-magnesium coated steel (ZM310)
H - acidproof stainless steel (AISI 316L)

Insulation thickness 100 mm

Diameter d

Length L

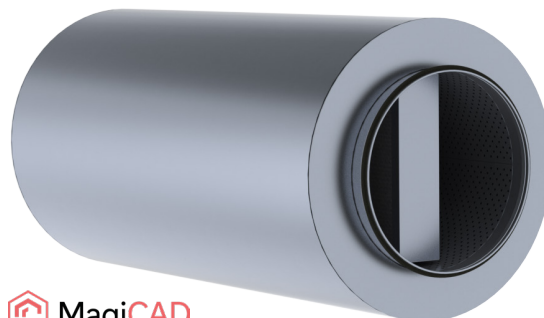
Example: NRP 100 315-600
NRF-H 100 315-600

NRFB 100 / NRPB 100 Round Silencer

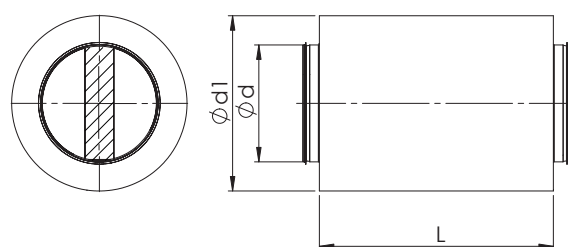
Round silencer with 100 mm sound absorption and 100 mm absorption element. NRFB-silencer's sound absorption material is mineral wool and NRPB-silencer's a synthetic sound insulation.

The perforated inner tube and outer shell are manufactured of galvanized steel. Between the inner tube and the insulation, there is fabric to prevent wool particles from entering the duct system.

Fulfills tightness class C.



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Sound Attenuation and Dimensions

NRFB (absorption material mineral wool)

Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
315	600	515	3	7	11	18	24	33	23	16	18
315	900	515	4	8	16	26	34	43	30	20	26
315	1200	515	7	12	23	34	42	52	35	23	34
400	900	600	4	8	13	21	30	34	22	15	31
400	1200	600	5	11	19	28	37	42	26	18	41
500	600	700	2	4	8	14	22	22	14	11	27
500	900	700	3	6	11	18	27	25	16	13	38
500	1200	700	4	8	15	23	33	32	20	15	49
630	900	830	2	5	9	15	23	18	13	10	46
630	1200	830	3	7	12	19	28	21	15	12	59
800	900	1000	1	3	7	15	23	17	10	7	56
800	1200	1000	2	5	9	14	21	17	11	9	73
1000	1200	1200	1	3	7	12	17	13	6	3	92
1000	1500	1200	1	3	9	15	22	16	8	4	113
1250	2000	1450	2	4	10	15	23	13	6	3	196
*1400	2000	1700	3	6	9	16	15	9	4	2	280

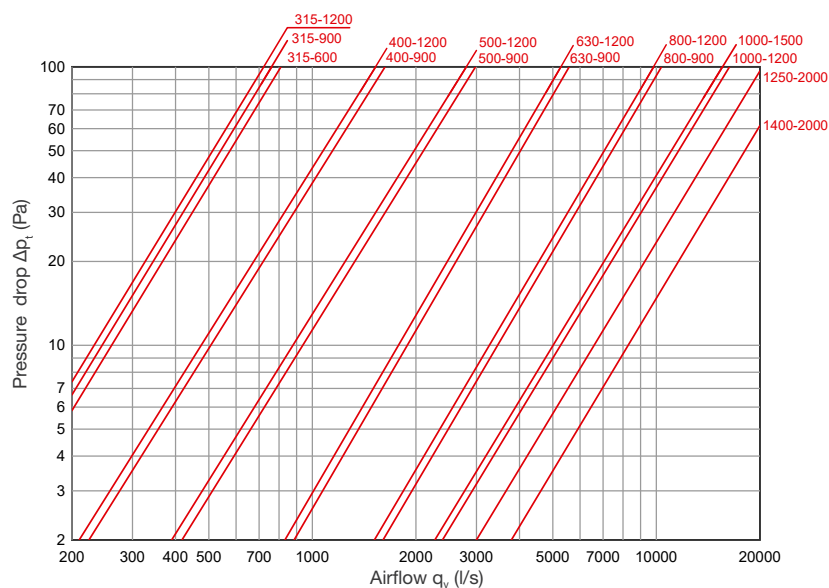
* A silencer with 150 mm insulation.

NRPB (absorption material synthetic sound insulation)

Nominal size Ø d (mm)	L (mm)	Ø d ₁ (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
315	600	515	3	7	8	9	22	31	23	17	15
315	900	515	4	9	12	15	30	41	30	22	21
315	1200	515	8	14	18	20	34	48	34	23	28
400	900	600	4	8	12	15	26	34	22	16	26
400	1200	600	5	12	15	15	29	40	26	18	34
500	900	700	3	7	7	12	24	15	15	14	31

Nominal size Ø d (mm)	L (mm)	Ø d _i (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
500	1200	700	3	9	10	16	26	24	20	15	40
630	900	830	2	6	6	14	21	16	16	10	37
630	1200	830	3	7	9	16	26	19	17	12	49
800	900	1000	1	3	7	15	23	17	9	8	47
800	1200	1000	2	5	9	13	22	16	11	11	60

Technical Data



Product Marking

	NRFB	-	H	100	d	-	L
Marking							
NRFB - absorption material mineral wool							
NRPB - absorption material synthetic sound insulation							
Material							
Galvanized steel (Z275), standard material							
ZM - zinc-magnesium coated steel (ZM310)							
H - acidproof stainless steel (AISI 316L)							
Insulation thickness 100 mm							
Diameter d							
Lenght L							

Example: NRFB 100 315-600
NRPB-H 100 315-600

NKE Round Silencer

NKE – rectangular silencer with round duct connections and without perforated sheet inside. Suitable for general ventilation system silencer, especially in situations where the silencer dimensions should be smaller and the absorption values should be good.

Fulfills tightness class C.



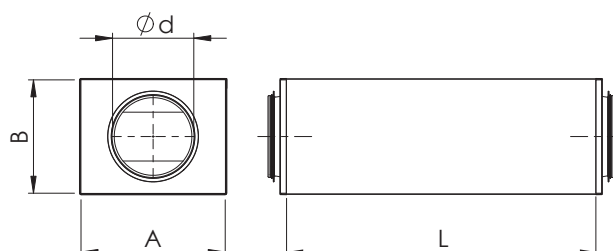
MagiCAD

Design and Dimensions

NKE-silencer's outer shell is made of galvanized sheet steel. Connections are with rubber gaskets.

Sound absorption duct element with good attenuation characteristics is made from special formed synthetic material and covered by fabric.

Standard lengths 600 and 1000 mm.

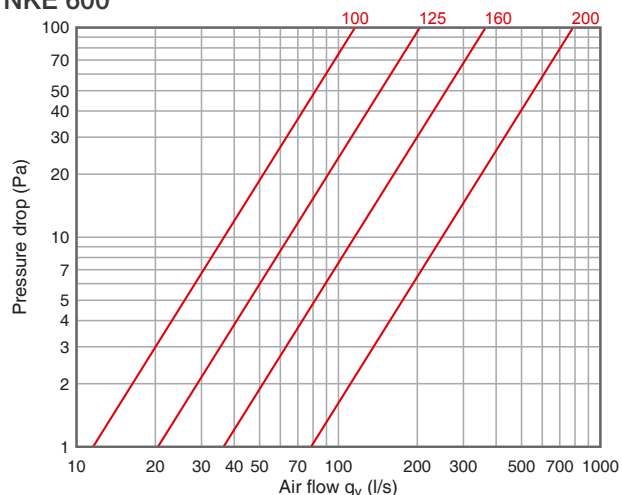


Sound Attenuation

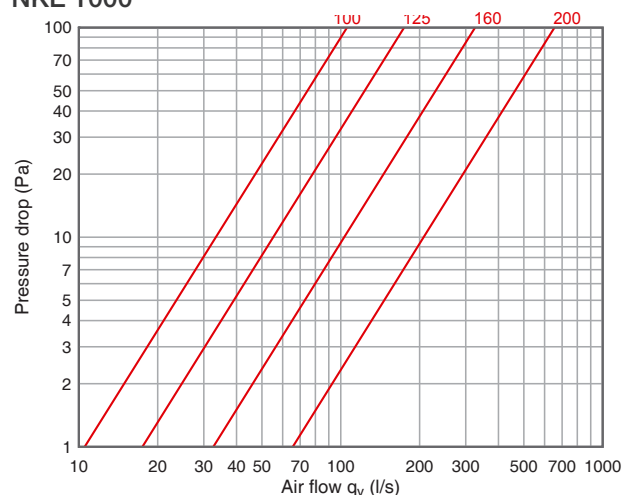
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Sound attenuation (dB)								Weight (kg)
				Mean frequency of octave band (Hz)								
				63	125	250	500	1000	2000	4000	8000	
100	600	215	160	8	7	16	19	25	38	38	36	3,6
125	600	245	185	7	7	11	17	27	31	25	23	4,2
160	600	285	225	6	7	10	15	20	22	21	18	5,0
200	600	325	260	8	5	9	12	7	17	13	15	5,9
100	1000	215	160	8	16	19	27	39	49	40	47	5,4
125	1000	245	185	8	11	15	25	39	47	38	35	6,2
160	1000	285	225	8	12	15	23	33	42	34	25	7,6
200	1000	325	260	8	12	13	24	27	37	21	23	8,7

Pressure Drop

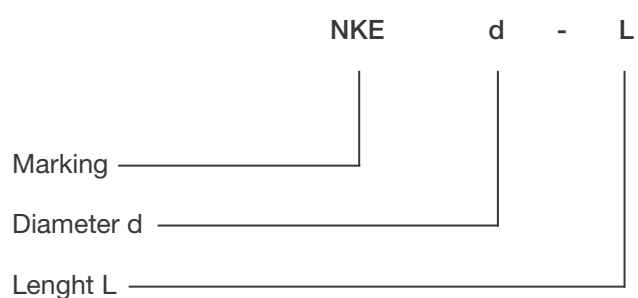
NKE 600



NKE 1000



Product Marking



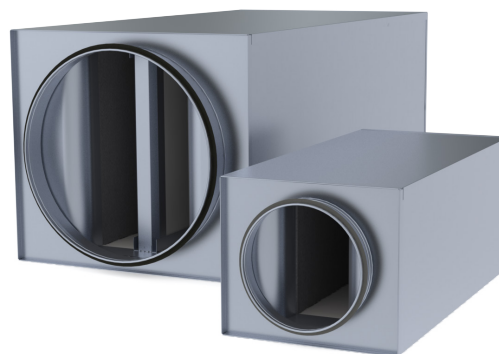
Example: NKE 125-600

NTF/NTP Round Silencer

NTF/NTP – rectangular silencer with round duct connections and without perforated sheet inside. Suitable for general ventilation system silencer, especially in situations where the silencer dimensions should be smaller and the absorption values should be good.

Advantages:

- Silencer's dimensions are minimized while maintaining excellent noise reduction characteristics.
- Low pressure drop due to streamlined geometry.
- Insulation material is resistant to cleaning (nylon brush).
- Insulation material coating does not absorb moisture.
- Fulfills tightness class D according to standard EN 15727:2010.
- NTF fire-resistance class E60. EI60 is met provided that the specified safety distances are maintained.



 **MagiCAD**

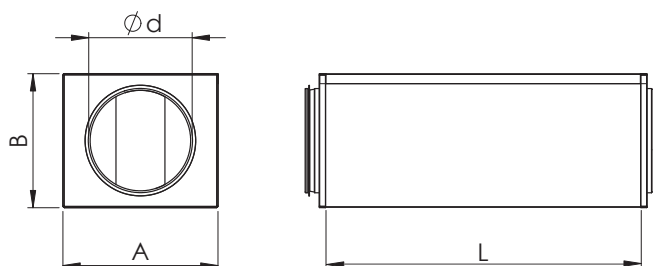
Design and Dimensions

NTF/NTP-silencer's outer shell is made of galvanized sheet steel. Connections are with rubber gaskets. Sound absorption duct element with good attenuation characteristics is made from mineral wool (Cleantec coated) or synthetic material. Used synthetic insulation is classified as M1. Silencers with Ø 400-600 includes also separate absorption element.

Standard lengths 300, 600 and 1000 mm.

Sound Attenuation

Sound attenuation is specified to ISO 7235, i.e. static integral attenuation for duct products.



NTF (absorption material mineral wool)

Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Safety distance EI60 (mm)	Sound attenuation (dB)								Weight (kg)
					Mean frequency of octave band (Hz)								
					63	125	250	500	1000	2000	4000	8000	
100	300	210	155	-	7	8	11	20	22	20	20	15	3,0
*100	600	210	155	510	9	16	19	32	41	43	40	26	4,7
*100	1000	210	155	620	7	28	28	50	50	51	51	45	6,9
125	300	225	180	-	3	11	8	16	17	16	15	11	3,4
*125	600	225	180	530	6	17	14	31	35	39	34	23	5,3
*125	1000	225	180	650	6	24	20	49	50	50	47	31	7,8
160	300	280	215	-	3	5	8	13	13	16	15	11	4,4
*160	600	280	215	600	6	9	15	23	28	31	26	19	6,8
*160	1000	280	215	740	8	15	20	42	41	50	43	30	10,0
200	300	295	255	-	3	4	7	11	12	15	11	9	5,0
*200	600	295	255	620	5	10	15	20	24	26	21	15	7,7
*200	1000	295	255	760	7	16	25	40	48	49	40	27	11,3
*250	600	325	305	650	7	7	13	17	22	22	17	12	9,1
*250	1000	325	305	810	10	13	22	32	40	39	29	21	13,3
*315	600	365	370	690	3	6	10	13	17	15	14	12	10,8
*315	1000	365	370	870	6	9	16	22	28	25	21	17	15,8
*400	600	510	455	820	6	8	10	14	23	30	24	16	17,5
*400	1000	510	455	1050	7	14	17	24	38	44	41	27	25,5
500	600	560	555	-	1	9	11	20	26	26	21	16	21,6
500	1000	560	555	-	4	12	20	30	40	40	34	25	31,6
630	600	720	685	-	8	9	13	19	23	25	19	16	30,4
630	1000	720	685	-	13	15	21	33	39	38	32	25	45,1

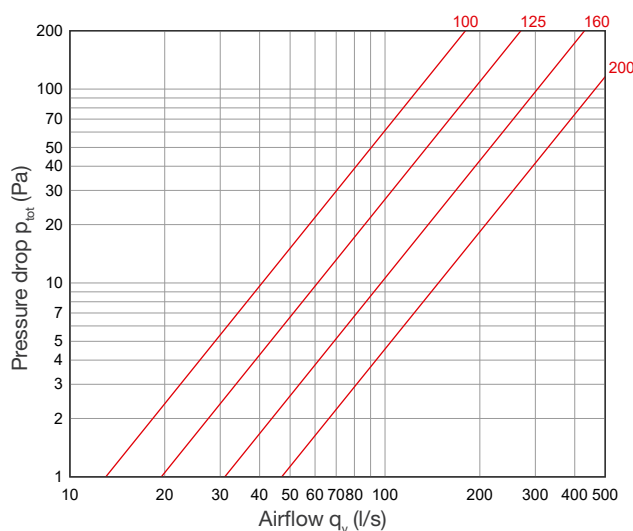
*Marked products achieve fire-resistance class EI60, provided that the specified safety distances are maintained. This ensures protection for evacuating persons by limiting the heat flux to 2,5 kW/m².

NTP (absorption material synthetic sound insulation)

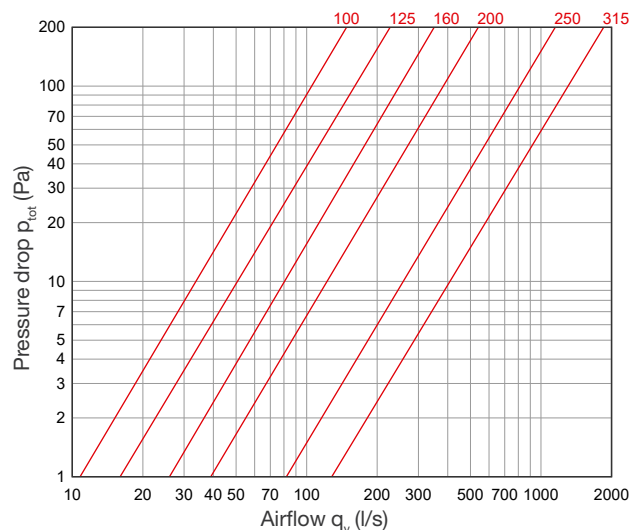
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
				63	125	250	500	1000	2000	4000	8000	
100	300	210	155	8	10	8	10	16	24	20	15	2,9
100	600	210	155	16	15	14	17	29	35	37	31	4,5
100	1000	210	155	14	22	18	29	37	46	44	43	6,6
125	300	225	180	4	11	7	11	20	20	16	12	3,3
125	600	225	180	7	14	11	18	28	33	34	23	5,1
125	1000	225	180	14	18	16	25	36	44	44	37	7,5
160	300	280	215	5	8	7	13	21	19	17	13	4,3
160	600	280	215	13	9	10	19	29	33	30	22	6,6
160	1000	280	215	13	13	16	26	37	44	44	37	9,6
200	300	295	255	4	6	7	12	17	15	12	9	4,8
200	600	295	255	16	7	11	17	28	31	24	17	7,4
200	1000	295	255	17	11	16	24	37	43	42	30	10,8
250	600	325	305	11	4	9	16	27	24	18	13	8,7
250	1000	325	305	14	8	14	22	34	39	27	18	12,7
315	600	365	370	4	5	8	14	22	16	15	12	10,3
315	1000	365	370	8	8	12	20	30	29	22	17	15,0
400	600	510	455	7	7	11	17	21	25	22	18	16,4
400	1000	510	455	8	11	15	25	33	36	35	29	23,7
500	600	560	555	0	8	10	18	24	26	23	19	20,3
500	1000	560	555	3	11	15	25	36	37	38	35	29,4
630	600	720	685	8	8	11	18	24	26	22	19	28,2
630	1000	720	685	11	12	17	27	34	37	36	27	41,4

Pressure drop for dimensions 100-315

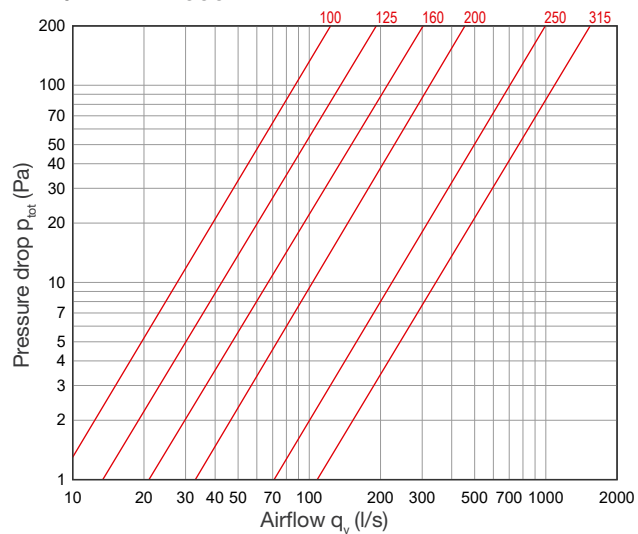
NTF/NTP L=300



NTF/NTP L=600

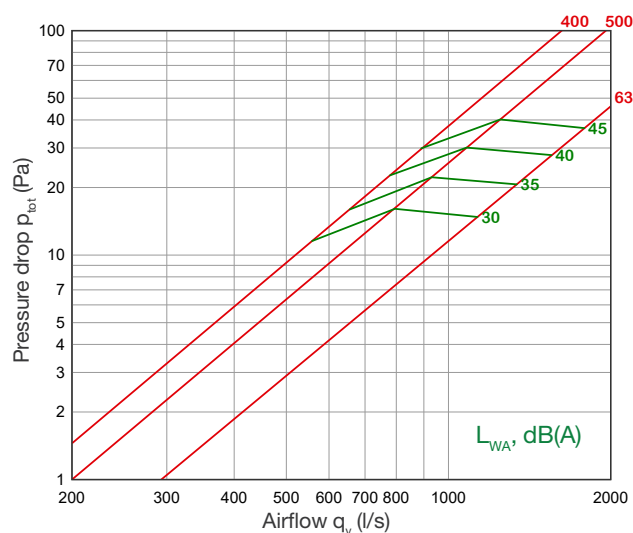


NTF/NTP L=1000

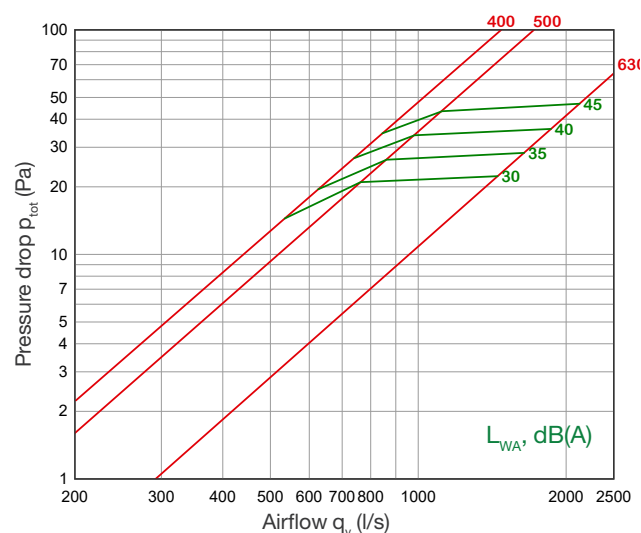


Pressure drop for dimensions 400-600

NTF/NTP L=600



NTF/NTP L=1000



$$L_{w,okt} = L_{WA} + K_{okt}$$

NTF/NTP	Sound level correction factor K_{okt} (dB)							
	63	125	250	500	1k	2k	4k	8k
NTF/NTP 400-600	17	7	-1	-4	-5	-9	-15	-21
NTF/NTP 400-1000	14	5	0	-4	-5	-8	-15	-22
NTF/NTP 500-600	7	5	0	-3	-5	-8	-14	-21
NTF/NTP 500-1000	8	5	1	-3	-5	-9	-15	-22
NTF/NTP 600-600	10	4	-3	-4	-4	-7	-15	-20
NTF/NTP 600-1000	8	3	-4	-4	-5	-6	-14	-22

Product Marking

	NTF	-	H	d	-	L
Marking						
NTF - absorption material mineral wool						
NTP - absorption material synthetic sound insulation						
Material						
Galvanized steel (Z275), standard material						
ZM - zinc-magnesium coated steel (ZM310)						
H - acidproof stainless steel (AISI 316L)						
Diameter d						
Lenght						

Example: NTF 160-600

NTP-H 160-600

NTFA/NTPA Round Openable Silencer

NTFA/NTPA – openable rectangular silencer with round duct connections and without perforated sheet inside. Suitable for general ventilation system silencer, especially in situations where the silencer dimensions should be smaller and the absorption values should be good.

Advantages:

- Silencer's dimensions are minimized while maintaining excellent noise reduction characteristics.
- Low pressure drop due to streamlined geometry.
- Insulation material is resistant to cleaning (nylon brush).
- Insulation material coating does not absorb moisture.
- Used as a cleaning and inspection door.



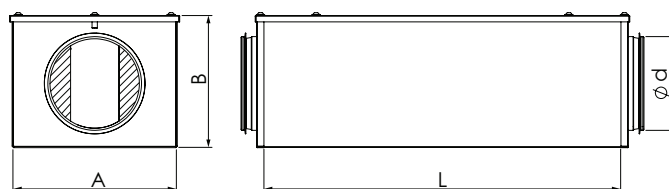
Design and Dimensions

NTFA/NTPA-silencer's outer shell is made of galvanized sheet steel. Connections are with rubber gaskets. Sound absorption duct element with good attenuation characteristics is made from mineral wool (Cleantec coated) or synthetic material. Used synthetic insulation is classified as M1.

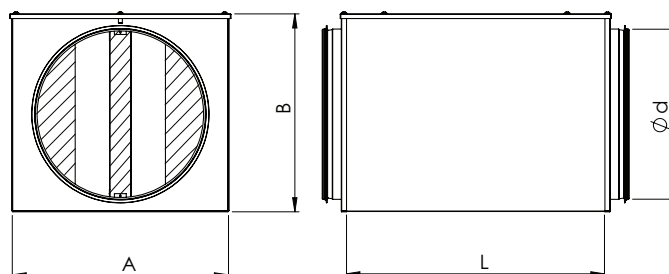
Silencers with Ø 400-600 includes also separate absorption element.

Standard lengths 300, 600 and 1000 mm.

Ø 100-315



Ø 400-630



Sound Attenuation

Sound attenuation is specified to ISO 7235, i.e. static integral attenuation for duct products.

NTFA (absorption material mineral wool)

Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Sound attenuation (dB)								Weight (kg)
				Mean frequency of octave band (Hz)								
				63	125	250	500	1000	2000	4000	8000	
100	300	210	161	7	8	11	20	22	20	20	15	3,1
100	600	210	161	9	16	19	32	41	43	40	26	4,8
100	1000	210	161	7	28	28	50	50	51	51	45	7,1
125	300	225	186	3	11	8	16	17	16	15	11	3,5
125	600	225	186	6	17	14	31	35	39	34	23	5,5
125	1000	225	186	6	24	20	49	50	50	47	31	8,0
160	300	280	221	3	5	8	13	13	16	15	11	4,5
160	600	280	221	6	9	15	23	28	31	26	19	7,0
160	1000	280	221	8	15	20	42	41	50	43	30	10,2
200	300	295	261	3	4	7	11	12	15	11	9	5,2
200	600	295	261	5	10	15	20	24	26	21	15	7,9
200	1000	295	261	7	16	25	40	48	49	40	27	11,6
250	600	325	311	7	7	13	17	22	22	17	12	9,3
250	1000	325	311	10	13	22	32	40	39	29	21	13,6
315	600	365	376	3	6	10	13	17	15	14	12	11,1
315	1000	365	376	6	9	16	22	28	25	21	17	16,2

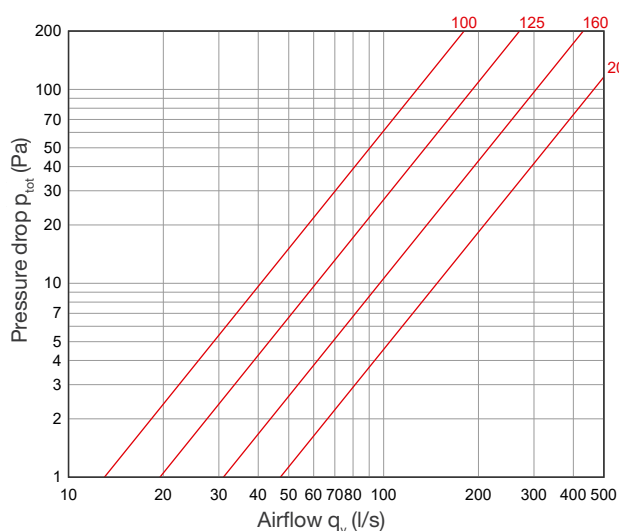
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Sound attenuation (dB)								Weight (kg)
				Mean frequency of octave band (Hz)								
				63	125	250	500	1000	2000	4000	8000	
400	600	510	461	6	8	10	14	23	30	24	16	17,9
400	1000	510	461	7	14	17	24	38	44	41	27	26,1
500	600	560	561	1	9	11	20	26	26	21	16	22,1
500	1000	560	561	4	12	20	30	40	40	34	25	32,3
630	600	720	691	8	9	13	19	23	25	19	16	31,1
630	1000	720	691	13	15	21	33	39	38	32	25	46,1

NTPA (absorption material synthetic sound insulation)

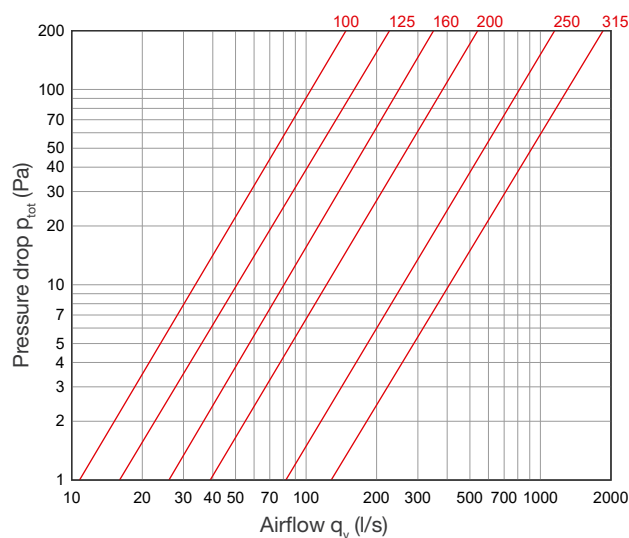
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	Sound attenuation (dB)								Weight (kg)
				Mean frequency of octave band (Hz)								
				63	125	250	500	1000	2000	4000	8000	
100	300	210	161	8	10	8	10	16	24	20	15	3,0
100	600	210	161	16	15	14	17	29	35	37	31	4,7
100	1000	210	161	14	22	18	29	37	46	44	43	6,9
125	300	225	186	4	11	7	11	20	20	16	12	3,4
125	600	225	186	7	14	11	18	28	33	34	23	5,4
125	1000	225	186	14	18	16	25	36	44	44	37	7,8
160	300	280	221	5	8	7	13	21	19	17	13	4,3
160	600	280	221	13	9	10	19	29	33	30	22	6,9
160	1000	280	221	13	13	16	26	37	44	44	37	10,0
200	300	295	261	4	6	7	12	17	15	12	9	5,0
200	600	295	261	16	7	11	17	28	31	24	17	7,7
200	1000	295	261	17	11	16	24	37	43	42	30	11,3
250	600	325	311	11	4	9	16	27	24	18	13	9,1
250	1000	325	311	14	8	14	22	34	39	27	18	13,3
315	600	365	376	4	5	8	14	22	16	15	12	10,8
315	1000	365	376	8	8	12	20	30	29	22	17	15,6
400	600	510	464	7	7	11	17	21	25	22	18	17,1
400	1000	510	461	8	11	15	25	33	36	35	29	24,7
500	600	560	561	0	8	10	18	24	26	23	19	21,2
500	1000	560	561	3	11	15	25	36	37	38	35	30,6
630	600	720	691	8	8	11	18	24	26	22	19	29,4
630	1000	720	691	11	12	17	27	34	37	36	27	43,1

Pressure drop for dimensions 100-315

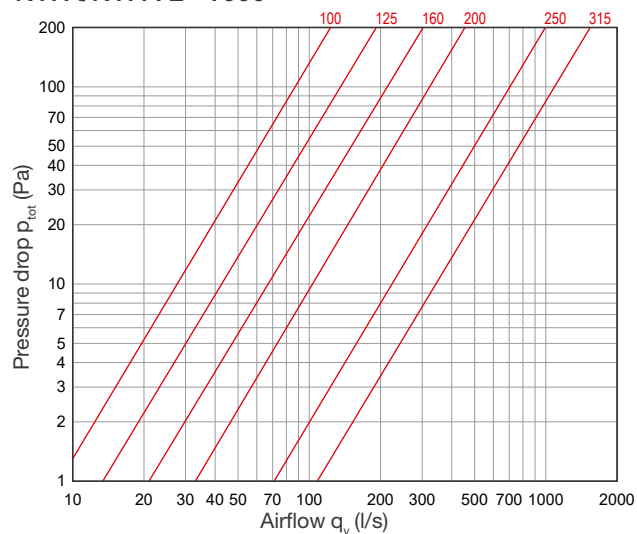
NTFA/NTPA L=300



NTFA/NTPA L=600

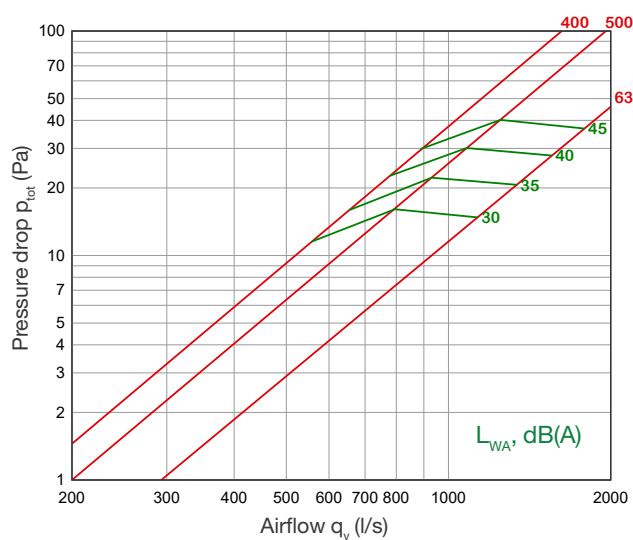


NTFA/NTPA L= 1000

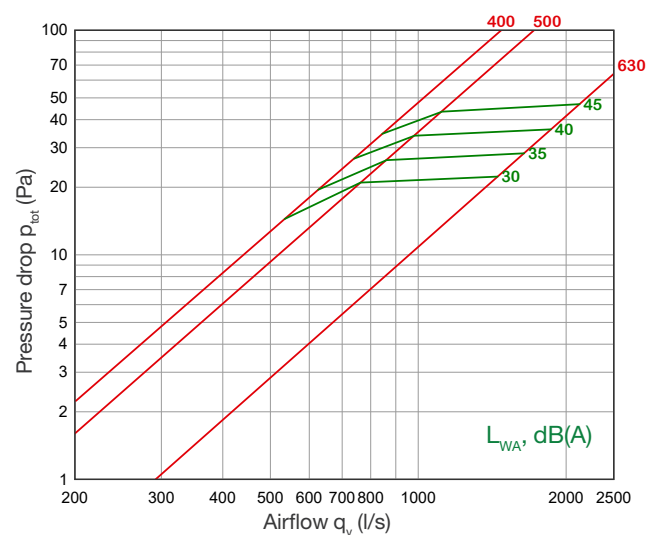


Pressure drop for dimensions 400-630

NTFA/NTPA L=600



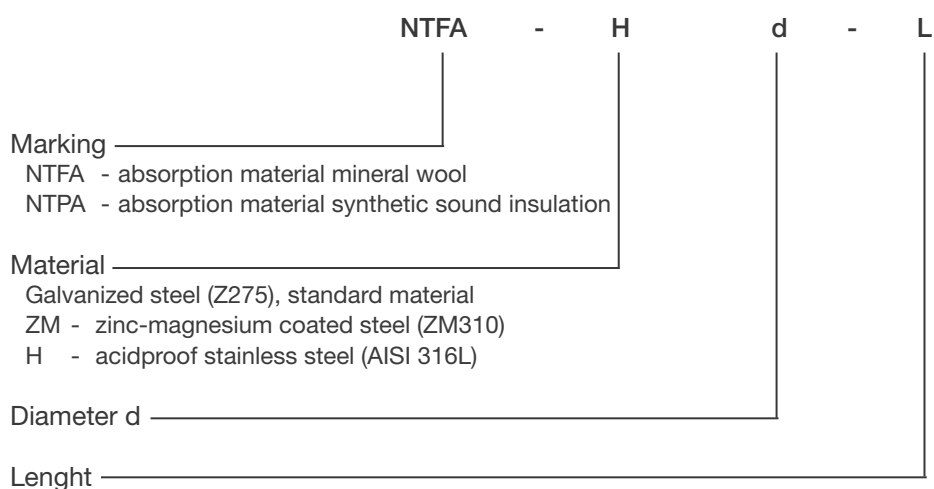
NTFA/NTPA L=1000



$$L_{w,okt} = L_{WA} + K_{okt}$$

NTFA/NTPA	Sound level correction factor K_{okt} (dB)							
	63	125	250	500	1k	2k	4k	8k
NTFA/NTPA 400-600	17	7	-1	-4	-5	-9	-15	-21
NTFA/NTPA 400-1000	14	5	0	-4	-5	-8	-15	-22
NTFA/NTPA 500-600	7	5	0	-3	-5	-8	-14	-21
NTFA/NTPA 500-1000	8	5	1	-3	-5	-9	-15	-22
NTFA/NTPA 630-600	10	4	-3	-4	-4	-7	-15	-20
NTFA/NTPA 630-1000	8	3	-4	-4	-5	-6	-14	-22

Product Marking

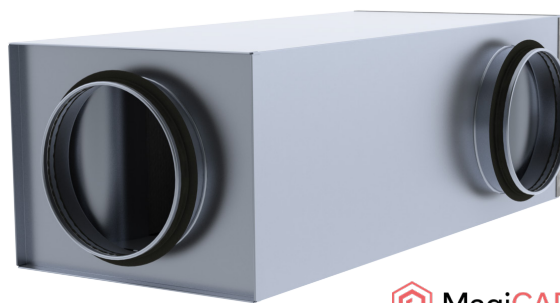


Example: NTFA 160-600

NTFA-H 160-600

NKL Round Bend Silencer

NKL – rectangular bend silencer with round duct connections and without perforated sheet inside. Suitable for general ventilation system silencer and where a horizontal right-angled change of direction is required, especially in situations where the silencer dimensions should be smaller and the absorption values should be good.

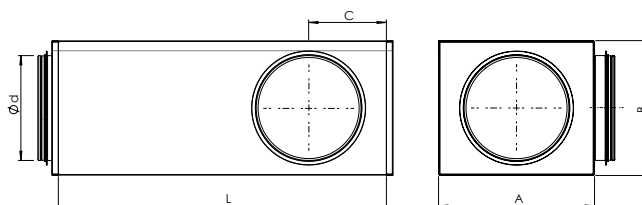


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- Connection from the side.
- Silencer's dimensions are minimized while maintaining excellent noise reduction characteristics.
- The compactness of the silencer makes it suitable for installation above suspended ceilings or in places where installation space is limited.
- Insulation material is resistant to cleaning (nylon brush).
- Insulation material coating does not absorb moisture.
- Tightness class C.

Design and Dimensions

NKL-silencer's outer shell is made of galvanized sheet steel. Connections are with rubber gaskets. Sound absorption duct element with good attenuation characteristics is made from synthetic material. Used synthetic insulation is classified as M1. Standard lengths 600 and 1000 mm.



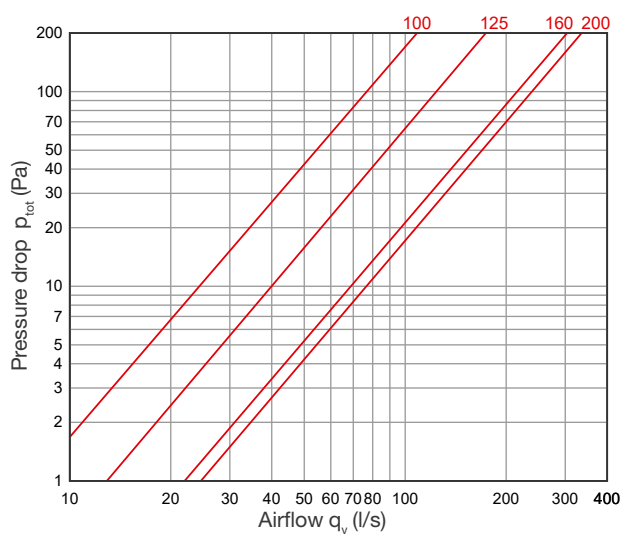
Sound Attenuation

Sound attenuation is specified to ISO 7235, i.e. static integral attenuation for duct products.

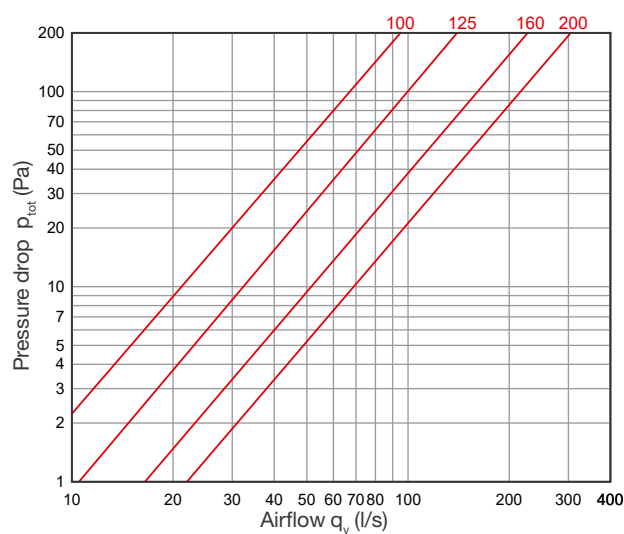
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	C (mm)	Sound attenuation (dB)								Weight (kg)
					Mean frequency of octave band (Hz)								
					63	125	250	500	1000	2000	4000	8000	
100	600	210	155	100	6	16	18	17	31	37	41	35	4,8
100	1000	210	155	100	0	23	25	25	41	48	47	44	7,1
125	600	225	180	112	1	17	14	18	28	34	39	30	5,5
125	1000	225	180	112	4	24	20	25	37	43	47	44	8,0
160	600	280	215	130	0	15	14	20	28	32	31	29	7,0
160	1000	280	215	130	6	19	20	26	36	44	48	44	10,2
200	600	295	255	150	5	10	12	21	26	28	26	25	7,9
200	1000	295	255	150	11	13	18	27	35	44	42	36	11,6

Pressure drop

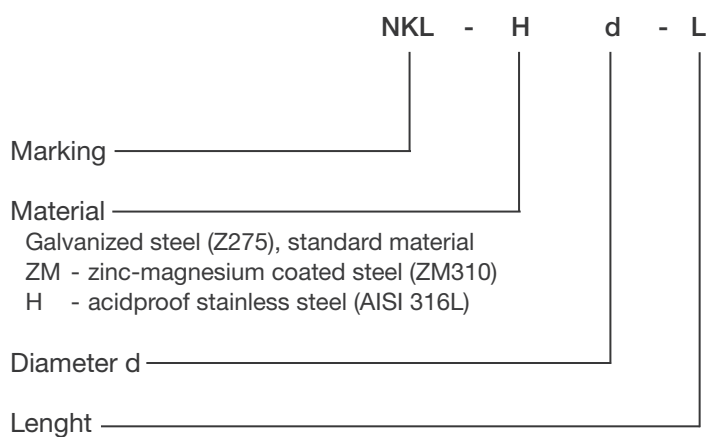
NKL L=600



NKL L=1000



Product Marking



Example: NKL 160-600

NKL-H 160-600

NKU Round Bend Silencer

NKU – rectangular bend silencer with round duct connections and without perforated sheet inside. Suitable for general ventilation system silencer and where a vertical right-angled change of direction is required, especially in situations where the silencer dimensions should be smaller and the absorption values should be good.

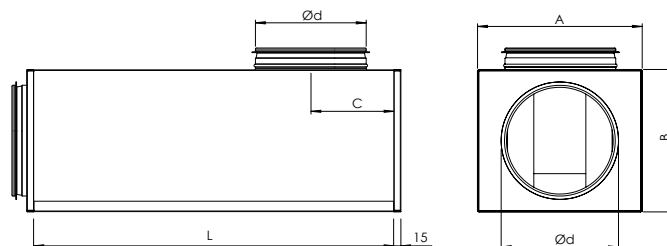


 **MagiCAD**

- Connection from the top.
- Silencer's dimensions are minimized while maintaining excellent noise reduction characteristics.
- The compactness of the silencer makes it suitable for installation above suspended ceilings or in places where installation space is limited.
- Insulation material is resistant to cleaning (nylon brush).
- Insulation material coating does not absorb moisture.
- Tightness class C.

Design and Dimensions

NKU-silencer's outer shell is made of galvanized sheet steel. Connections are with rubber gaskets. Sound absorption duct element with good attenuation characteristics is made from synthetic material. Used synthetic insulation is classified as M1. Standard lengths 600 and 1000 mm.



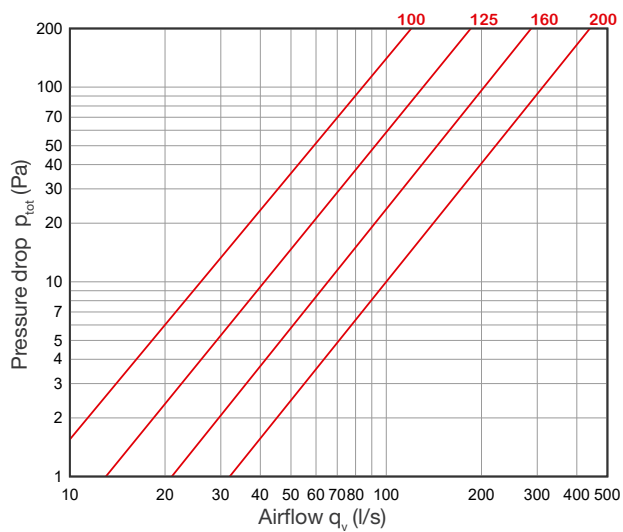
Sound Attenuation

Sound attenuation is specified to ISO 7235, i.e. static integral attenuation for duct products.

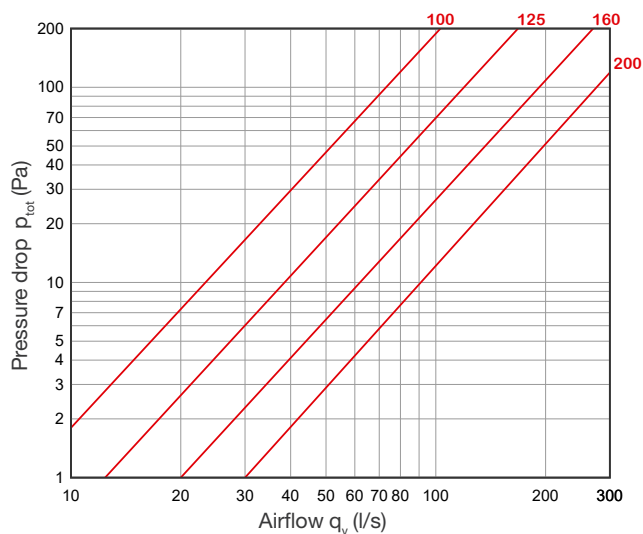
Nominal size Ø d (mm)	L (mm)	A (mm)	B (mm)	C (mm)	Sound attenuation (dB)								Weight (kg)
					Mean frequency of octave band (Hz)								
					63	125	250	500	1000	2000	4000	8000	
100	600	210	155	100	9	15	18	17	35	38	40	36	4,8
100	1000	210	155	100	1	23	24	23	43	50	43	43	7,1
125	600	225	180	112	2	18	15	18	32	36	34	30	5,5
125	1000	225	180	112	4	24	20	23	41	47	48	44	8,0
160	600	280	215	130	1	15	15	20	32	33	29	27	7,0
160	1000	280	215	130	8	20	20	27	41	45	46	41	10,2
200	600	295	255	150	4	10	12	24	30	26	25	22	7,9
200	1000	295	255	150	12	12	18	30	39	42	40	34	11,6

Pressure drop

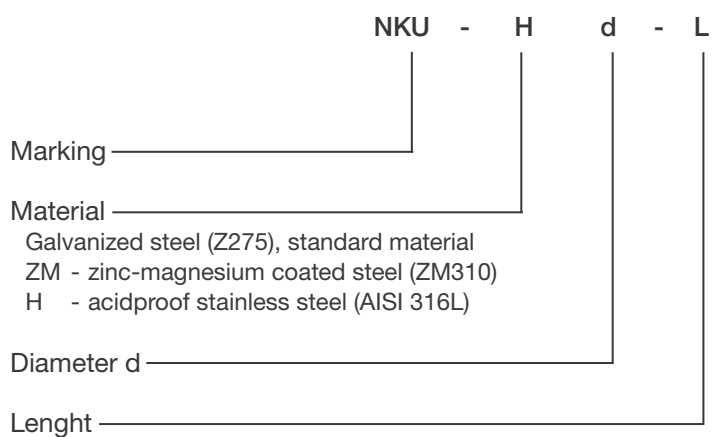
NKU L=600



NKU L=1000



Product Marking



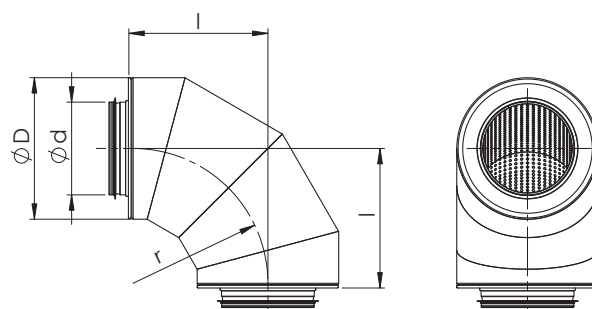
Example: NKU 160-600
NKU-H 160-600

NRFV/NRPV Round Bend Silencer

Round ventilation system bend silencer with round connections and rubber gaskets.

Dimensions and Weights

NRFV-silencer's sound absorption material is mineral wool and NRPV-silencer's a synthetic sound insulation. The perforated inner tube and outer shell are manufactured of galvanized steel. Between the inner tube and the mineral wool insulation, there is fabric to prevent wool particles from entering the duct system.



Sound Attenuation

NRFV, insulation thickness 50 mm (absorption material mineral wool)

Nominal size Ø d (mm)	Ø D (mm)	L (mm)	Sound attenuation (dB) Mean frequency of octave band (Hz)								Weight (kg)
			63	125	250	500	1000	2000	4000	8000	
125	225	225	2	3	7	13	22	31	30	24	3,5
160	260	260	1	3	8	14	20	24	30	24	4,2
200	300	300	1	3	8	14	32	26	44	25	6,7
250	350	350	1	2	6	15	27	28	26	23	9,8
315	415	415	0	2	4	13	18	19	17	16	14,2

Product Marking

	NRFV	-	H	100	-	d
Marking						
Material						
Insulation thickness						
Diameter d						

Example: NRFV 100-315

NRFV-H 100-315

MSK/MSP/MSC Rectangular Silencer

Silencer for rectangular duct systems. Suitable for use in exhaust, intake, discharge and supply air handling systems.

The elements are available in widths 100, 150, and 200 mm.

Standard lengths of rectangular silencers are 1250 and 2000 mm.

Design and Dimensions

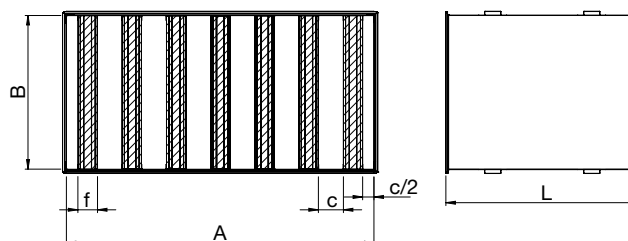
The MSK/MSP/MSC consists of an outer shell and absorption element manufactured of galvanized steel (standard) with Z-profile at both ends.

MSK absorption material: mineral wool board, covered with black glass fibre textile.

MSP absorption material: synthetic sound insulation.

MSC absorption material: Cleantec® mineral wool with washable surface layer.

For systems operating in aggressive environments (or if there is a special need), we also manufacture custom silencers from other materials.



MSK/MSC sound attenuation (absorption material mineral wool)

(Width a= 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400)

MSK/MSC			Sound attenuation (dB)							
Element width f (mm)	Elements spacing c (mm)	Length L (mm)	Mean frequency of octave band (Hz)							
			63	125	250	500	1k	2k	4k	8k
100	100	600	1	2	6	14	29	23	17	10
		900	2	3	7	18	40	29	21	12
		1250	3	5	9	23	49	37	26	15
		1500	3	6	10	29	50	43	31	18
		1800	4	6	11	34	50	46	35	20
		2200	5	8	13	39	50	49	40	23
		2400	6	9	16	43	50	50	44	25
200	100	600	2	5	13	21	27	22	18	13
		900	3	8	20	31	29	26	23	17
		1250	4	11	26	45	47	37	29	19
		1500	5	14	32	47	49	42	35	22
		1800	7	16	38	50	50	47	38	25
		2000	8	18	43	50	50	50	41	28
		2400	9	21	46	50	50	50	44	31

MSP sound attenuation (absorption material synthetic sound insulation)

(Width a=400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400)

MSP			Sound attenuation (dB) Mean frequency of octave band (Hz)							
Element width f (mm)	Elements spacing c (mm)	Lenght L (mm)	63	125	250	500	1k	2k	4k	8k
100	100	600	1	2	6	10	19	19	15	11
		900	2	3	7	11	24	20	16	12
		1250	2	5	9	17	33	31	22	19
		1500	3	6	12	21	42	36	26	21
		1800	5	7	14	25	47	41	31	25
		2000	6	10	16	29	50	45	36	28
		2400	7	11	18	33	50	49	40	32
Element width f (mm)	Elements spacing c (mm)	Lenght L (mm)	63	125	250	500	1k	2k	4k	8k
200	100	600	3	5	12	22	23	16	14	12
		900	4	8	15	26	32	23	19	15
		1250	5	11	18	34	41	31	23	19
		1500	6	13	24	42	45	37	29	21
		1800	7	15	28	45	49	42	33	24
		2000	8	17	32	48	50	47	37	27
		2400	9	20	37	50	50	50	41	30

Product Marking

MSK

-

H

A x B

-

L

-

f x n

-

E30

Marking

MSK - absorption material mineral wool

MSP - absorption material synthetic sound insulation

MSC - absorption material Cleantec® mineral wool with washable surface layer

Material

Galvanized steel (Z275), standard material

ZM - zinc-magnesium coated steel (ZM310)

H - acidproof stainless steel (AISI 316L)

Width A x Height B

Lenght L

Element width x Quantity

Duct connection

Z-profile (standard connection), not marked

E20 - europrofile

E30 - europrofile

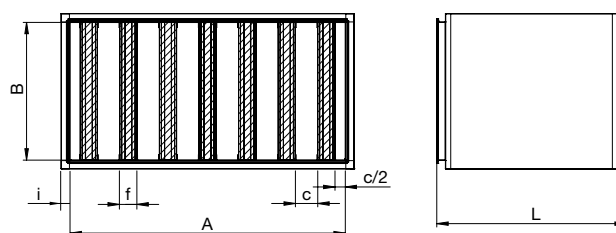
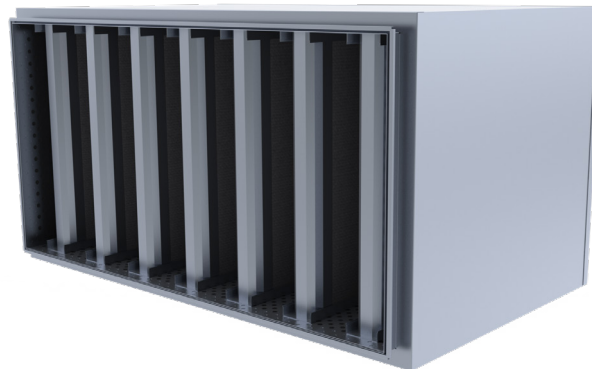
Example: MSK 600x400-1000-100x3
MSP 600x400-1000-100x3
MSC 600x400-1000-100x3-E30

MSKI/MSPI/MSCI Rectangular Silencer

Silencer for rectangular duct systems. Suitable for use in exhaust, intake and discharge, supply air handling systems.

The elements are available in widths 100, 150 and 200 mm.

Standard lengths of rectangular silencers are 1250 and 2000 mm.



Design and Dimensions

MSKI/MSPI/MSCI-silencers with noise reducing insulation are covered with galvanized sheet metal plate and the internal casing are made of perforated sheet metal plate. Dimensions A and B are for the internal casing. Z-profile are attached to the internal casing at both ends.

MSKI absorption material: mineral wool board, covered with black glass fibre textile.

MSPI absorption material: synthetic sound insulation.

MSCI absorption material: Cleantec® mineral wool with washable surface layer.

For ventilation systems used in aggressive environments (or as special requirements) silencers could be made of special materials.

Product Marking

	MSKI	-	ZM	-	i	-	ZM	A x B	-	L	-	f x n	-	E30
Marking														
MSKI	- absorption material mineral wool													
MSPI	- absorption material synthetic sound insulation													
MSCI	- absorption material Cleantec® mineral wool with washable surface layer													
Material														
Galvanized steel (Z275), standard material														
ZM	- zinc-magnesium coated steel (ZM310)													
H	- acidproof stainless steel (AISI 316L)													
Insulation														
S	- thermal insulation (inner shell metal sheet): 50, 100 mm													
M	- sound insulation (inner shell perforated sheet): 30, 50, 100 mm													
EI120	- fire insulation, 100 mm (inner shell metal sheet)													
Outer shell material														
Galvanized steel (Z275), standard material														
ZM	- zinc-magnesium coated steel (ZM310)													
H	- acidproof stainless steel (AISI 316L)													
Width A x Height B														
Lenght L														
Element width x Quantity														
Duct connection														
Z-profile (standard connection), not marked														
E20	- europrofile													
E30	- europrofile													

Example: MSKI-S50 600x400-1000-100x3

MSPI-ZM-S50-ZM 600x400-1000-100x3-E30

MRKA/MRPA/MRCA Rectangular Openable Silencer

Openable rectangular silencer for rectangular duct systems. Suitable for use in exhaust, intake, discharge and supply air handling systems.

Fulfills tightness class C.

The elements are available in widths 100, 150 and 200 mm.

Standard lengths of rectangular silencers are 1250 and 2000 mm.



Design and Dimensions

The MRKA/MRPA/MRCA is manufactured with an insulated outer shell, an aluminum frame, absorption elements and a hatch. The hatch is equipped with universal hinges that allow the hatch to be opened from the right or left side or removed completely. The MRKA/MRPA/MRCA-silencer's outer shell is made of galvanized sheet steel and is equipped with an E20-europrofile.

Dimensions A and B are the silencer's duct connection dimensions.

The absorption elements are removable and can be cleaned using dry cleaning methods or if necessary with a damp cloth.

MRKA - absorption material mineral wool.

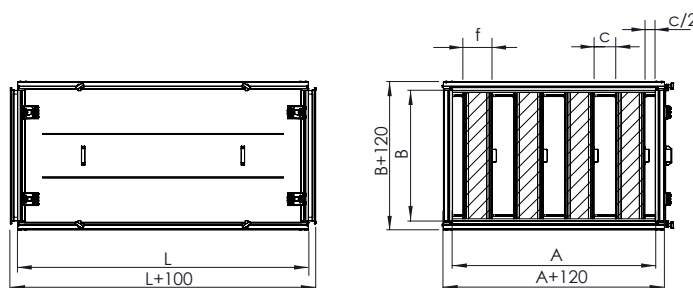
MRPA - absorption material synthetic sound insulation.

MRCA - absorption material Cleantec® mineral wool with washable surface layer.

MRKA/MRCA sound attenuation

(absorption material mineral wool)

(Width A= 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400)



Element width f (mm)	Elements spacing c (mm)	Length L (mm)	Sound attenuation (dB)							
			Mean frequency of octave band (Hz)							
			63	125	250	500	1k	2k	4k	8k
100	100	600	1	2	6	14	29	23	17	10
		900	2	3	7	18	40	29	21	12
		1250	3	5	9	23	49	37	26	15
		1500	3	6	10	29	50	43	31	18
		1800	4	6	11	34	50	46	35	20
		2000	5	8	13	39	50	49	40	23
			63	125	250	500	1k	2k	4k	8k
200	100	600	2	5	13	21	27	22	18	13
		900	3	8	20	31	29	26	23	17
		1250	4	11	26	45	47	37	29	19
		1500	5	14	32	47	49	42	35	22
		1800	7	16	38	50	50	47	38	25
		2000	8	18	43	50	50	50	41	28

MRPA sound attenuation (absorption material synthetic sound insulation)

(Width A= 400, 600, 800, 1000, 1200, 1400, 1600, 1800, 2000, 2200, 2400)

Element width f (mm)	Elements spacing c (mm)	Lenght L (mm)	Sound attenuation (dB)							
			Mean frequency of octave band (Hz)							
			63	125	250	500	1k	2k	4k	8k
100	100	600	1	2	6	10	19	19	15	11
		900	2	3	7	11	24	20	16	12
		1250	2	5	9	17	33	31	22	19
		1500	3	6	12	21	42	36	26	21
		1800	5	7	14	25	47	41	31	25
		2000	6	10	16	29	50	45	36	28
			63	125	250	500	1k	2k	4k	8k
200	100	600	3	5	12	22	23	16	14	12
		900	4	8	15	26	32	23	19	15
		1250	5	11	18	34	41	31	23	19
		1500	6	13	24	42	45	37	29	21
		1800	7	15	28	45	49	42	33	24
		2000	8	17	32	48	50	47	37	27

Product Marking

	MRKA	-	ZM		A x B	-	L	-	f x n	-	E20
Marking											
MRKA	- absorption material mineral wool										
MRPA	- absorption material synthetic sound insulation										
MRCA	- absorption material Cleantec® mineral wool with washable surface layer										
Material											
	Galvanized steel (Z275), standard material										
	ZM - Zinc-magnesium coated steel (ZM310)										
Width A x Height B											
Lenght L											
Element width f x Quantity											
Duct connection											
	E20 - europrofile (standard connection)										
	E30 - europrofile										

Example: MRKA 600x400-1000-100x3-E20
MRPA 600x400-1000-100x3-E20

MPK/MPP/MPC Rectangular Bend Silencer

MPK-rectangular bend silencer is designed for noise reduction in rectangular ventilation systems. There are two different types of MPK silencers – vertical and horizontal.

The outer shell can be without insulation (MPK/MPP/MPC) or insulated (MPKI/MPPi/MPCi).

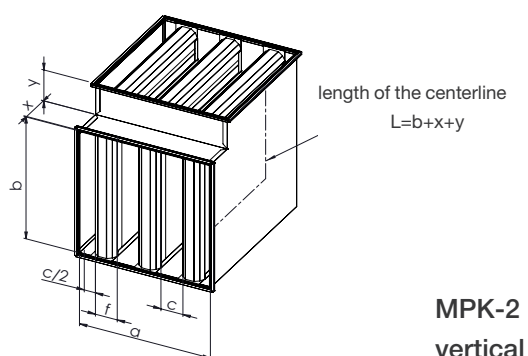
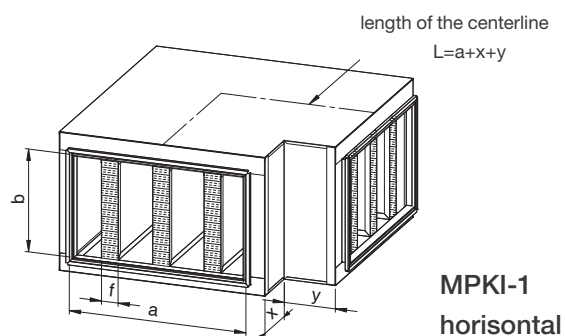


Design

MPK/MPP/MPC silencer consists of an outer shell and absorption elements manufactured of galvanized steel as standard with Z-profile at both ends.

MPKI/MPPi/MPCi silencers with noise reducing insulation are covered with galvanized sheet metal plate and the internal casing are made of perforated sheet metal plate. Dimensions a and b are for the internal casing. Z-profile are attached to the internal casing at both ends.

Dimensions x and y min. 150 mm.



Sound Attenuation

Choose from MSK table suitable silencer, which damping characteristics are sufficient and also calculate the length of the centerline of the silencer using the following formula:

Horizontal pad: $L = a + x + y$

Vertical pad: $L = b + x + y$

Product Marking

Silencer with non-insulated shell

MPK - 1 - ZM A x B - x-y - f x n - E30

Marking

- MPK - absorption material mineral wool
- MPP - absorption material synthetic sound insulation
- MPC - absorption material Cleantec® mineral wool with washable surface layer

Type

- 1 - horizontal
- 2 - vertical

Material

- Galvanized steel (Z275), standard material
- ZM - zinc-magnesium coated steel (ZM310)
- H - acidproof stainless steel (AISI 316L)

Width A x Height B

Depression x-y

x and y min. 150 mm

Element width x Quantity

Duct connection

- Z-profile (standard connection), not marked
- E20 - europrofile
- E30 - europrofile

Example: MPK-1 500x400-150-150-100x2

MPK-1-ZM 500x400-150-150-100x2-E30

Silencer with insulated shell

	MPKI	-	1	-	ZM	-	i	-	ZM	A x B	-	x-y	-	f x n	-	E30
Marking																
MPKI	- insulated, absorption material mineral wool															
MPPi	- insulated, absorption material synthetic sound insulation															
MPCI	- insulated, absorption material Cleantec® minrel wool with washable surface layer															
Type																
1	- horisontal															
2	- vertical															
Material																
	Galvanized steel (Z275), standard material															
ZM	- Zinc-magnesium coated steel (ZM310)															
H	- Acidproof stainless steel (AISI 316L)															
Insulation																
S	- thermal insulation (inner shell metal sheet): 50, 100 mm															
M	- sound insulation (inner shell perforated sheet): 30, 50, 100 mm															
EI120	- fire insulation, 100 mm (inner shell metal sheet)															
Outer shell material																
	Galvanized steel (Z275), standard material															
ZM	- zinc-magnesium coated steel (ZM310)															
H	- acidproof stainless steel (AISI 316L)															
Width A x Height B																
Depression x-y																
	x and y min. 150 mm															
Element width x Quantity																
Duct connection																
	Z-profile (standard connection), not marked															
E20	- europrofile															
E30	- europrofile															

Example: MPKI-1-ZM-S50-ZM 500x400-150-150-100x2-E30



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