

Halton SA, sound attenuator- Technical description

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1 Introduction

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1.2 About this document

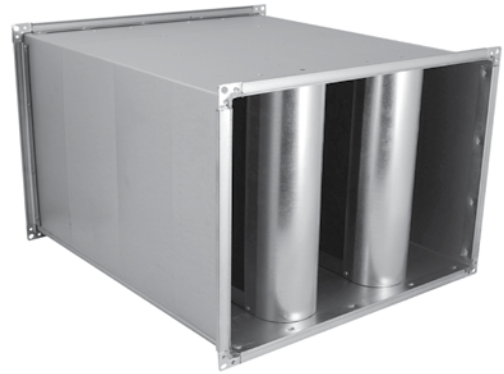
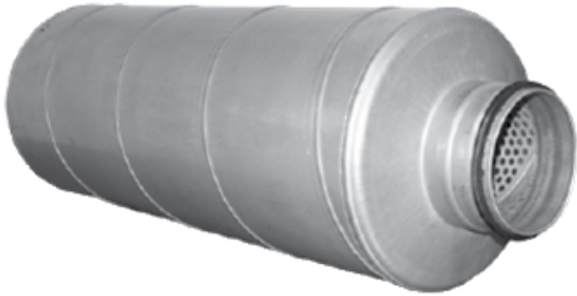
This technical description is intended for anyone needing detailed technical information about the product. It also provides general design-related information, such as design examples. More detailed designs can be carried out using the Halton eHIT selection tool, available at www.ehit.halton.com.

1.3 Summary of changes

| Release | Date | Description |
|---------|-------------|----------------------|
| 1.1 | 14-May-2024 | Minor visual updates |
| 1.0 | 28-Feb-2024 | First release |

2 Product description

2.1 Overview



Halton offers high-quality circular and rectangular sound attenuators for reducing noise levels in the duct. The sound attenuators are available as an accessory with the following available options:

- Connection types:
 - Circular
 - Rectangular
- Lengths:
 - Circular 600,1200 mm
 - Rectangular 1000 mm
- Insulation material options:
 - Mineral wool (MW)
 - Polyester fibre (PF)
- Class C tightness level

2.2 Dimensions and weight

Circular

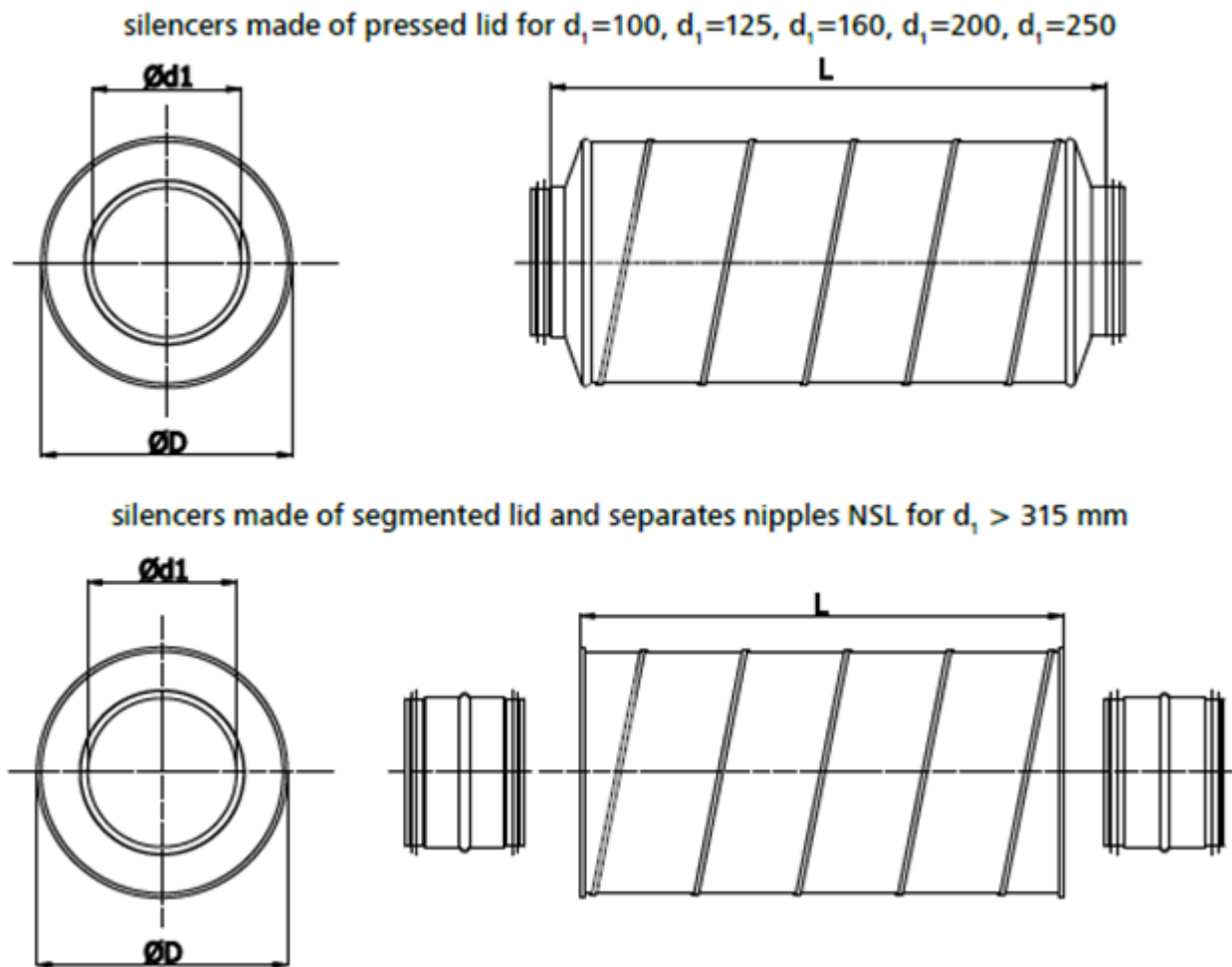


Fig. 1. Dimensions of circular sound attenuator

| d1 [mm] | D [mm] | L [mm] | Attenuation [dB] for frequency [Hz] | | | | | | | Mass [kg] |
|------------|-----------|-----------|-------------------------------------|-----|-----|------|------|------|------|--------------|
| | | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| 100 | 200 | 600 | 9 | 17 | 30 | 45 | 49 | 27 | 29 | 3 |
| 100 | 200 | 1200 | 15 | 23 | 35 | 50 | 54 | 32 | 34 | 7 |
| 125 | 224 | 600 | 8 | 15 | 27 | 41 | 45 | 24 | 25 | 4 |
| 125 | 224 | 1200 | 14 | 21 | 32 | 46 | 50 | 29 | 31 | 9 |
| 160 | 250 | 600 | 7 | 14 | 24 | 37 | 39 | 21 | 22 | 6 |
| 160 | 250 | 1200 | 13 | 19 | 29 | 42 | 44 | 26 | 27 | 10 |
| 200 | 315 | 600 | 6 | 11 | 20 | 35 | 35 | 19 | 20 | 7 |
| 200 | 315 | 1200 | 11 | 17 | 26 | 41 | 41 | 25 | 26 | 12 |
| 250 | 355 | 600 | 5 | 11 | 19 | 30 | 28 | 16 | 18 | 11 |
| 250 | 355 | 1200 | 11 | 17 | 25 | 35 | 34 | 21 | 23 | 17 |

| d1 | D | L | Attenuation [dB] for frequency [Hz] | | | | | | | Mass |
|------|------|------|-------------------------------------|-----|-----|------|------|------|------|------|
| | | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | |
| [mm] | [mm] | [mm] | | | | | | | | [kg] |
| 315 | 400 | 600 | 5 | 8 | 16 | 25 | 19 | 14 | 15 | 12 |
| 315 | 400 | 1200 | 10 | 14 | 21 | 30 | 24 | 19 | 21 | 19 |
| 400 | 500 | 600 | 4 | 8 | 15 | 20 | 15 | 12 | 13 | 15 |
| 400 | 500 | 1200 | 9 | 14 | 21 | 25 | 20 | 17 | 19 | 25 |
| 500 | 600 | 600 | 3 | 7 | 14 | 17 | 11 | 11 | 12 | 32 |
| 500 | 600 | 1200 | 9 | 13 | 19 | 22 | 17 | 16 | 17 | 59 |
| 630 | 710 | 1200 | 8 | 12 | 17 | 20 | 14 | 14 | 15 | 42 |

Table 1. Values presented with attenuation material, mineral wool

Rectangular

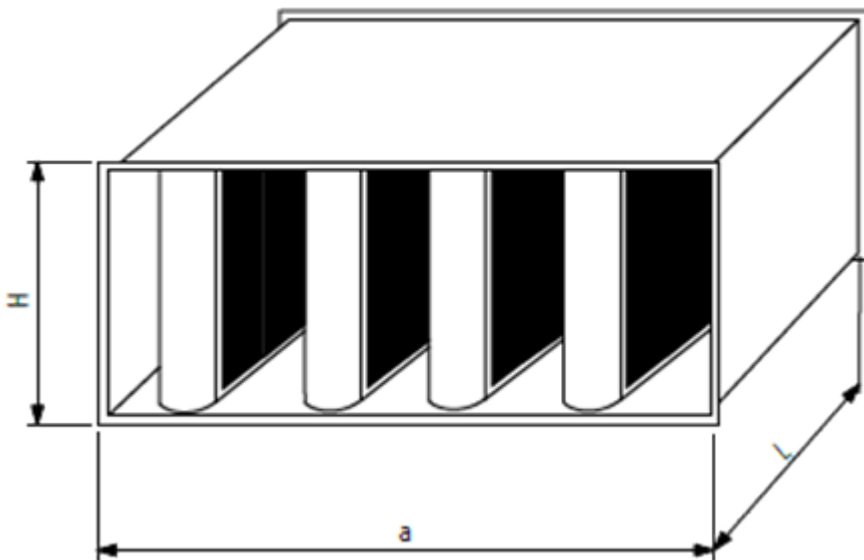


Fig. 2. Dimensions of rectangular sound attenuator

| Width | Height | Airflow | Duct vel | Gap vel | ΔP | Mass |
|-------|--------|---------------------|----------|---------|------------|------|
| [mm] | [mm] | [m ³ /h] | [m/s] | [m/s] | [Pa] | [kg] |
| 200 | 150 | 432 | 4 | 8 | 39 | 7,1 |
| 200 | 200 | 576 | 4 | 8 | 35 | 8,1 |
| 300 | 150 | 648 | 4 | 12 | 63 | 10 |
| 300 | 200 | 864 | 4 | 12 | 59 | 11,1 |
| 300 | 300 | 1296 | 4 | 12 | 53 | 13,5 |
| 400 | 150 | 864 | 4 | 8 | 29 | 11,1 |
| 400 | 200 | 1152 | 4 | 8 | 26 | 12,3 |
| 400 | 300 | 1728 | 4 | 16 | 24 | 14,7 |

| Width | Height | Airflow | Duct vel | Gap vel | ΔP | Mass |
|-------|--------|---------------------|----------|---------|------------|------|
| [mm] | [mm] | [m ³ /h] | [m/s] | [m/s] | [Pa] | [kg] |
| 400 | 400 | 2304 | 4 | 8 | 20 | 17 |
| 500 | 150 | 1080 | 4 | 6,7 | 60 | 17,9 |
| 500 | 200 | 1440 | 4 | 6,7 | 54 | 19,7 |
| 500 | 300 | 2160 | 4 | 6,7 | 52 | 23,1 |
| 500 | 400 | 2880 | 4 | 6,7 | 50 | 26,6 |
| 500 | 500 | 3600 | 4 | 6,7 | 49 | 30,1 |
| 600 | 150 | 1296 | 4 | 12 | 64 | 20,5 |
| 600 | 200 | 1728 | 4 | 12 | 59 | 22,4 |
| 600 | 250 | 2160 | 4 | 12 | 55 | 24,3 |
| 600 | 300 | 2592 | 4 | 9 | 79 | 28 |
| 600 | 400 | 3456 | 4 | 12 | 49 | 30,1 |
| 600 | 500 | 4320 | 4 | 12 | 48 | 34 |
| 600 | 600 | 5184 | 4 | 12 | 49 | 37,8 |
| 800 | 200 | 2304 | 4 | 8 | 26 | 25,6 |
| 800 | 250 | 2880 | 4 | 8,5 | 65 | 32,1 |
| 800 | 300 | 3456 | 4 | 8,5 | 61 | 34,4 |
| 800 | 400 | 4608 | 4 | 8 | 21 | 33,3 |

| Width | Height | Attenuation [dB] for frequency [Hz] | | | | | | | |
|-------|--------|-------------------------------------|-----|------|------|------|------|------|------|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| [mm] | [mm] | | | | | | | | |
| 200 | 150 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 200 | 200 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 300 | 150 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 300 | 200 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 300 | 300 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 400 | 150 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |
| 400 | 200 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |
| 400 | 300 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |
| 400 | 400 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |
| 500 | 150 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 500 | 200 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 500 | 300 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |

| Width [mm] | Height [mm] | Attenuation [dB] for frequency [Hz] | | | | | | | |
|---------------|----------------|-------------------------------------|-----|------|------|------|------|------|------|
| | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 500 | 400 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 500 | 500 | 2 | 3,6 | 12,5 | 22,4 | 32 | 30,1 | 22,1 | 17,6 |
| 600 | 150 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 600 | 200 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 600 | 250 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 600 | 300 | 2,1 | 5,8 | 19,1 | 28,1 | 36,6 | 35,7 | 29,1 | 27 |
| 600 | 400 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 600 | 500 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 600 | 600 | 1,8 | 7,8 | 20,3 | 39 | 39,6 | 33,2 | 22,6 | 18,2 |
| 800 | 200 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |
| 800 | 250 | 2 | 5,1 | 17 | 26,3 | 35 | 34,2 | 26,8 | 23,9 |
| 800 | 300 | 2 | 5,1 | 17 | 26,3 | 35 | 34,2 | 26,8 | 23,9 |
| 800 | 400 | 1,1 | 4,7 | 14,3 | 26,3 | 24,4 | 15,8 | 10,5 | 7,6 |

Table 2. Values presented with attenuation material, mineral wool

2.3 Order code

| Main options | |
|---------------------------------|--|
| S = Type of duct connection | |
| C | Circular |
| R | Rectangular |
| D = Diameter of attenuator [mm] | 0, 100, 125, 160, 200, 250, 315, 400, 500, 630 |
| W = Width of attenuator [mm] | 0, 200, 250, 300, 400, 500, 600, 800 |
| H = Height of attenuator [mm] | 0, 150, 200, 250, 300, 400 |

| Other options | |
|---------------------------------|-----------------|
| L = Length of attenuator [mm] | 600,1200 |
| AT = Sound attenuation material | |
| W | Mineral wool |
| P | Polyester fibre |
| ZT = Tailored product | |
| N | No |
| Y | Yes (ETO) |

Order code example

RH/C-160-0-0, RT=E, RE=2, RW=NA