## VRS-LP

- Circular
- Galvanized steel
- For low air speeds

# Constant air volume control dampers type VRS-LP

Adjustable self-regulating constant air volume control dampers in galvanised steel. To be used to regulate airstreams at pressures between 40 and 500 Pa and temperature ranges between –30°C and 100°C. Air-flow value can easily be changed by use of an allen key SW2

### Application

- For air volume regulation in ventilation and air-conditioning systems with following air volumes and duct sizes
  - Ø80: adjustable between 25 & 80 m³/h
  - Ø100: adjustable between 40 & 125 m³/h
  - Ø125: adjustable between 65 & 220 m³/h
  - Ø160: adjustable between 100 & 350 m³/h
  - Ø200: adjustable between 160 & 500 m³/h
  - Ø250: adjustable between 240 & 800 m³/h
- Accuracy: +/- 10% of the set air volume

### Material

- Galvanized steel housing
- Aluminium regulation blade with piston and spring

### Composition

- Round housing made out of laser welded galvanised steel in standard duct sizes according to DIN EN 12237
- Airtight connection up to class D with EPDM rubber according to DIN EN 12237
- Balanced self-regulating aluminium blade with PTFE bearing and piston to prevent oscillations

### Mounting

- To be inserted at both sides into a round duct and to be equipped with a silencer if necessary
- horizontal or vertical mounting

### Accessories

- Stainless steel models or insulation shells available upon request

## Text for tender

- The constant volume control dampers shall be of the circular type, made of galvanized steel and to be inserted at both ends in to the ductwork. They shall contain a self regulating valve, piston and stainless steel spring and shall have an adjustable air volume. The valves shall be used for a pressure range between 40 and 500Pa.
- **Cairox** Type **VRS-LP**

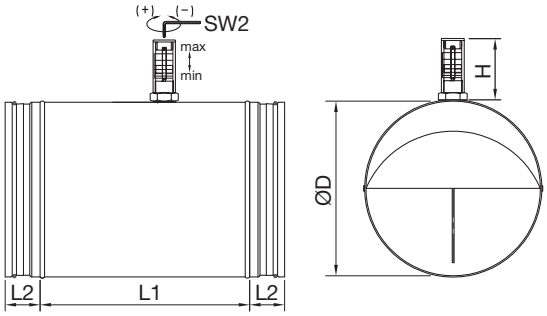
## Order example

- **VRS-LP, 125**

Explanation
**VRS-LP**= Type of constant air valve
**125** = Duct diameter

## Other available products

- Version ATEX available upon request




| Dimensions | | | | |
|---|---|---|---|---|
| VRS-LP | ØD [mm] | L1 [mm] | L2 [mm] | H [mm] |
| 80 | 79 | 140 | 40 | 70 |
| 100 | 99 | 170 | 40 | 70 |
| 125 | 124 | 170 | 40 | 70 |
| 160 | 159 | 240 | 40 | 70 |
| 200 | 199 | 240 | 40 | 70 |
| 250 | 249 | 240 | 40 | 70 |

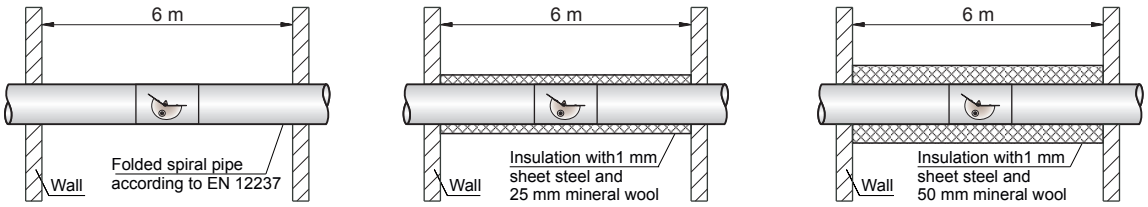
| Sound data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ø | v (m/s) | Q (m³/h) | Lw [dB/Oct] - 100 Pa | | | | | | | Lw(A) |
| | | | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | |
| 80 | 1.4 | 25 | 29 | 33 | 32 | 32 | 32 | 33 | 28 | 27 | 37 |
| | 2.9 | 52 | 39 | 39 | 37 | 36 | 35 | 36 | 31 | 30 | 41 |
| | 4.4 | 80 | 48 | 46 | 43 | 41 | 39 | 39 | 33 | 31 | 44 |
| 100 | 1.4 | 40 | 32 | 34 | 34 | 33 | 33 | 34 | 29 | 27 | 39 |
| | 2.9 | 82 | 46 | 43 | 40 | 37 | 35 | 35 | 28 | 27 | 41 |
| | 4.4 | 125 | 50 | 48 | 45 | 42 | 40 | 40 | 33 | 32 | 45 |
| 125 | 1.5 | 65 | 35 | 36 | 36 | 35 | 35 | 36 | 30 | 29 | 41 |
| | 3.2 | 142 | 48 | 46 | 42 | 39 | 37 | 37 | 30 | 29 | 43 |
| | 5 | 220 | 52 | 50 | 47 | 44 | 42 | 42 | 36 | 34 | 48 |
| 160 | 1.4 | 100 | 37 | 38 | 38 | 37 | 36 | 36 | 30 | 28 | 41 |
| | 3.1 | 225 | 49 | 47 | 43 | 40 | 38 | 37 | 31 | 29 | 43 |
| | 4.8 | 350 | 53 | 51 | 48 | 45 | 43 | 42 | 36 | 35 | 48 |
| 200 | 1.4 | 160 | 40 | 41 | 40 | 38 | 38 | 37 | 31 | 29 | 43 |
| | 2.9 | 330 | 50 | 47 | 44 | 40 | 38 | 37 | 30 | 29 | 43 |
| | 4.4 | 500 | 54 | 51 | 48 | 45 | 43 | 42 | 36 | 34 | 48 |
| 250 | 1.4 | 240 | 42 | 42 | 41 | 39 | 38 | 38 | 31 | 28 | 43 |
| | 2.9 | 520 | 51 | 48 | 45 | 41 | 39 | 38 | 31 | 29 | 44 |
| | 4.5 | 800 | 55 | 53 | 49 | 46 | 44 | 43 | 37 | 35 | 49 |
| Ø | v (m/s) | Q (m³/h) | Lw [dB/Oct] - 250 Pa | | | | | | | Lw(A) |
| | | | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | |
| 80 | 1.4 | 25 | 38 | 40 | 40 | 40 | 41 | 42 | 36 | 35 | 46 |
| | 2.9 | 52 | 40 | 43 | 44 | 45 | 46 | 49 | 44 | 44 | 53 |
| | 4.4 | 80 | 51 | 51 | 50 | 48 | 48 | 49 | 44 | 44 | 54 |
| 100 | 1.4 | 40 | 41 | 42 | 42 | 42 | 42 | 43 | 38 | 36 | 48 |
| | 2.9 | 82 | 50 | 49 | 48 | 46 | 45 | 46 | 40 | 40 | 51 |
| | 4.4 | 125 | 53 | 53 | 51 | 50 | 50 | 50 | 45 | 45 | 55 |
| 125 | 1.5 | 65 | 43 | 45 | 45 | 44 | 44 | 45 | 39 | 37 | 49 |
| | 3.2 | 142 | 52 | 52 | 50 | 49 | 48 | 48 | 43 | 42 | 53 |
| | 5 | 220 | 61 | 59 | 56 | 53 | 51 | 51 | 44 | 43 | 56 |
| 160 | 1.4 | 100 | 46 | 47 | 46 | 45 | 45 | 45 | 39 | 37 | 50 |
| | 3.1 | 225 | 54 | 54 | 52 | 50 | 49 | 49 | 43 | 42 | 54 |
| | 4.8 | 350 | 62 | 60 | 57 | 54 | 52 | 51 | 45 | 43 | 57 |
| 200 | 1.4 | 160 | 48 | 49 | 48 | 47 | 46 | 46 | 40 | 38 | 51 |
| | 2.9 | 330 | 56 | 55 | 52 | 50 | 49 | 49 | 43 | 42 | 55 |
| | 4.4 | 500 | 59 | 58 | 56 | 54 | 54 | 54 | 48 | 47 | 59 |
| 250 | 1.4 | 240 | 51 | 51 | 50 | 48 | 47 | 47 | 40 | 37 | 52 |
| | 2.9 | 520 | 57 | 56 | 54 | 52 | 50 | 50 | 44 | 43 | 56 |
| | 4.5 | 800 | 61 | 60 | 58 | 56 | 55 | 55 | 49 | 48 | 60 |
| Ø | v (m/s) | Q (m³/h) | Lw [dB/Oct] - 500 Pa | | | | | | | Lw(A) |
| | | | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | |
| 80 | 1.4 | 25 | 45 | 47 | 47 | 47 | 47 | 48 | 43 | 42 | 53 |
| | 2.9 | 52 | 46 | 49 | 50 | 52 | 53 | 55 | 51 | 51 | 59 |
| | 4.4 | 80 | 57 | 57 | 56 | 55 | 55 | 56 | 51 | 50 | 60 |
| 100 | 1.4 | 40 | 47 | 49 | 49 | 49 | 49 | 50 | 44 | 43 | 54 |
| | 2.9 | 82 | 50 | 52 | 53 | 54 | 55 | 57 | 52 | 52 | 61 |
| | 4.4 | 125 | 59 | 59 | 58 | 57 | 56 | 57 | 52 | 51 | 62 |
| 125 | 1.5 | 65 | 50 | 52 | 51 | 51 | 51 | 51 | 45 | 44 | 56 |
| | 3.2 | 142 | 53 | 55 | 56 | 57 | 57 | 59 | 54 | 54 | 63 |
| | 5 | 220 | 62 | 62 | 60 | 59 | 59 | 59 | 54 | 53 | 64 |
| 160 | 1.4 | 100 | 53 | 54 | 53 | 52 | 52 | 52 | 45 | 44 | 57 |
| | 3.1 | 225 | 56 | 58 | 58 | 59 | 59 | 60 | 55 | 54 | 65 |
| | 4.8 | 350 | 64 | 64 | 62 | 60 | 60 | 60 | 55 | 54 | 65 |
| 200 | 1.4 | 160 | 55 | 56 | 55 | 54 | 53 | 53 | 46 | 44 | 58 |
| | 2.9 | 330 | 58 | 60 | 60 | 60 | 60 | 61 | 55 | 54 | 65 |
| | 4.4 | 500 | 65 | 65 | 63 | 61 | 60 | 61 | 55 | 54 | 66 |
| 250 | 1.4 | 240 | 57 | 58 | 56 | 55 | 54 | 53 | 46 | 44 | 59 |
| | 2.9 | 520 | 61 | 62 | 62 | 62 | 61 | 62 | 56 | 55 | 67 |
| | 4.5 | 800 | 67 | 67 | 65 | 63 | 62 | 62 | 56 | 55 | 67 |

## Symbols and specifications

- Q [m³/h] = Air volume in m³/h
- Ø = Duct diameter in mm
- 100Pa, 250Pa of 500Pa = Static pressure in Pa
- Lw[dB/Oct] = Generated sound power in the duct divided into dB per octave band

| Radiated sound data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ø | ΔLw [dB/Oct] - non insulated duct | | | | | | | |
| | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz |
| 80 | 36 | 33 | 32 | 23 | 17 | 12 | 11 | 11 |
| 100 | 34 | 32 | 30 | 22 | 16 | 12 | 11 | 10 |
| 125 | 29 | 29 | 31 | 24 | 21 | 19 | 15 | 11 |
| 160 | 23 | 23 | 20 | 18 | 11 | 10 | 9 | 8 |
| 200 | 22 | 19 | 16 | 16 | 15 | 11 | 9 | 8 |
| 250 | 19 | 16 | 13 | 12 | 12 | 10 | 9 | 8 |
| Ø | ΔLw [dB/Oct] - insulated duct (25mm) | | | | | | | |
| | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz |
| 80 | 39 | 35 | 39 | 35 | 32 | 33 | 34 | 29 |
| 100 | 38 | 35 | 38 | 34 | 31 | 33 | 34 | 28 |
| 125 | 35 | 33 | 37 | 36 | 32 | 33 | 36 | 27 |
| 160 | 27 | 26 | 28 | 29 | 27 | 31 | 31 | 25 |
| 200 | 23 | 18 | 23 | 26 | 29 | 29 | 29 | 24 |
| 250 | 23 | 18 | 20 | 24 | 26 | 30 | 28 | 24 |
| Ø | ΔLw [dB/Oct] - insulated duct (50mm) | | | | | | | |
| | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz |
| 80 | 42 | 37 | 45 | 46 | 47 | 54 | 56 | 47 |
| 100 | 41 | 38 | 46 | 45 | 47 | 54 | 57 | 47 |
| 125 | 35 | 36 | 42 | 48 | 51 | 60 | 58 | 45 |
| 160 | 29 | 28 | 35 | 40 | 44 | 51 | 54 | 44 |
| 200 | 26 | 22 | 29 | 37 | 42 | 51 | 53 | 43 |
| 250 | 25 | 20 | 26 | 35 | 41 | 50 | 52 | 42 |

$$L_{w2} = L_W - \Delta L_w$$




$L_{W2} = L_W - \Delta L_W$
$L_{W2}$ = Case radiated noise in dB
$L_W$ = Sound power given for the frequencies f[Hz] from 63 up to 8000 Hz
$\Delta L_W$ = Correction values for case radiated noise in dB