



SMED - circular measuring flange.

INTRODUCTION

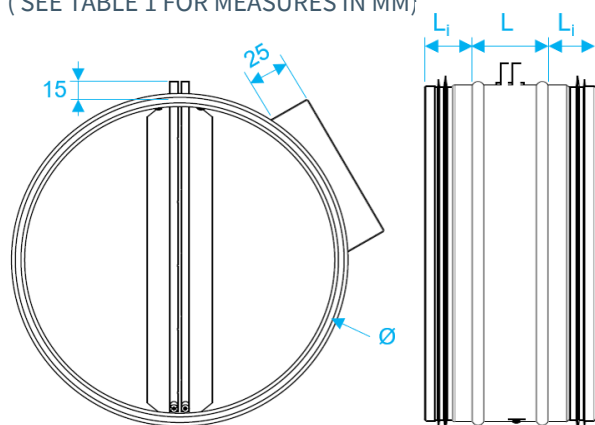
SMED is a circular measuring flange equipped with double measuring sockets. SMED is included in measuring unit DCV-MFb, circular.

FUNCTIONS

The measuring flange is, in addition to its measuring sockets, equipped with a bracket for airflow controller FBLb. SMED connected to FBLb is used for measurement of a variable airflow.

DIMENSIONS AND OTHER DATA

(SEE TABLE 1 FOR MEASURES IN MM)



| Ø, mm | L ₁ | L | Weight (Kg) | k-factor (k) |
|-------|----------------|----|-------------|--------------|
| 100 | 33 | 66 | 0,35 | 5,2 |
| 125 | 35 | 40 | 0,35 | 9,5 |
| 160 | 35 | 35 | 0,4 | 15,4 |
| 200 | 35 | 35 | 0,6 | 23,9 |
| 250 | 35 | 55 | 0,8 | 36,9 |
| 315 | 55 | 37 | 1,4 | 57,8 |
| 400 | 55 | 37 | 1,5 | 91,7 |
| 500 | 55 | 44 | 1,85 | 141 |
| 630 | 55 | 44 | 2,4 | 236 |

Table 1: Dimensions, weight and K-factor for each damper size.
Airflow calculation formula: $\text{Airflow}(q) = k\text{-factor} \times \sqrt{\Delta p} [l/s]$.

TECHNICAL SPECIFICATIONS

Airflow measurement with SMED and FBLb

Calibration: Duct dimension is specified after logging in to airflow controller FBLb. On-site verification is not needed.

Recommended measurement range: 0.5 to 6.0 m/s

Maximum range: 0.2 to 7.0 m/s

Measurement accuracy*: $\pm 5\%$ or at least $\pm x l/s$ where x = duct area in dm^2

*Applies together with Lindinvent's controller FBLb.

General

Material

Housing and measuring flange are manufactured as standard in galvanized sheet steel (C3) but can be ordered in stainless acid-resistant steel sheet (C5). Measuring tube in aluminium (C4). Duct sealing of EPDM rubber. For surface treatments, see *Material* under section *Order Information*.

Size

Sizes: Ø100 to Ø630 mm according to EN 1506:2007

PLACEMENT

For accurate airflow measurement, SMED must be correctly oriented in the airflow direction and preceded by an undisturbed straight duct section corresponding to a length of 3.5 times the duct diameter.

When SMED is placed after a silencer, with a different cross-sectional area, SMED must be preceded by a straight duct section corresponding to 2.0 times the duct diameter where the length of the silencer is not included.

After SMED, no minimum distance to a subsequent bend or other disturbance is required.

NOISE GENERATION – DIAGRAMS

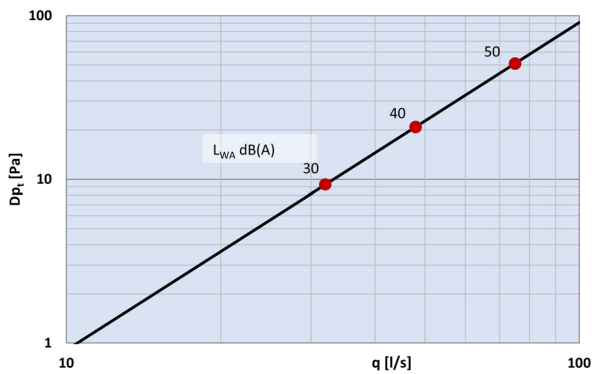


Diagram 1: Total A-weighted sound power level, dB(A) for SMED-100

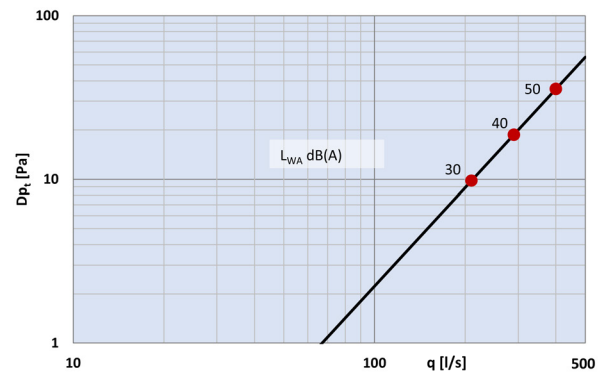


Diagram 5: Total A-weighted sound power level, dB(A) for SMED-250

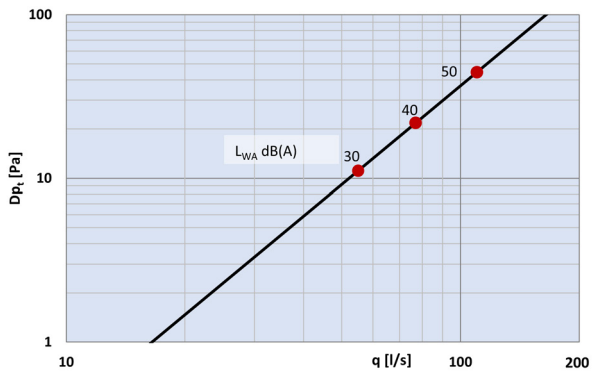


Diagram 2: Total A-weighted sound power level, dB(A) for SMED-125

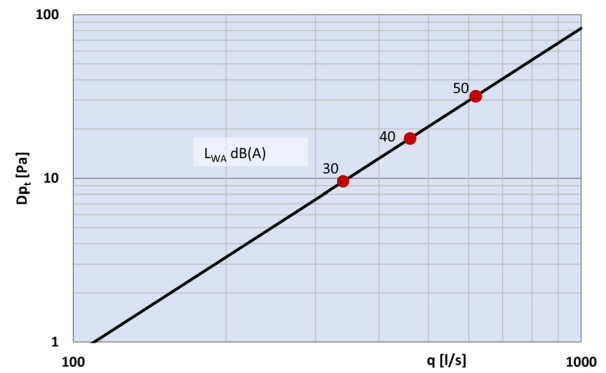


Diagram 6: Total A-weighted sound power level, dB(A) for SMED-315

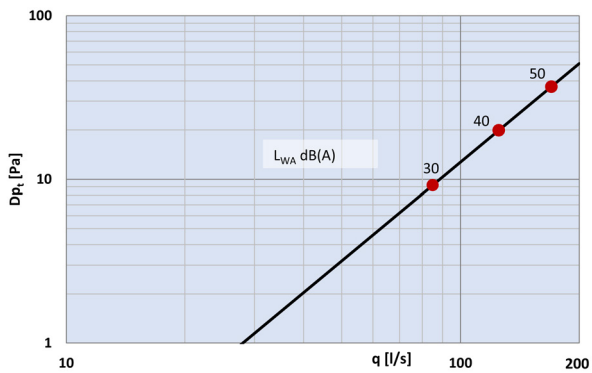


Diagram 3: Total A-weighted sound power level, dB(A) for SMED-160

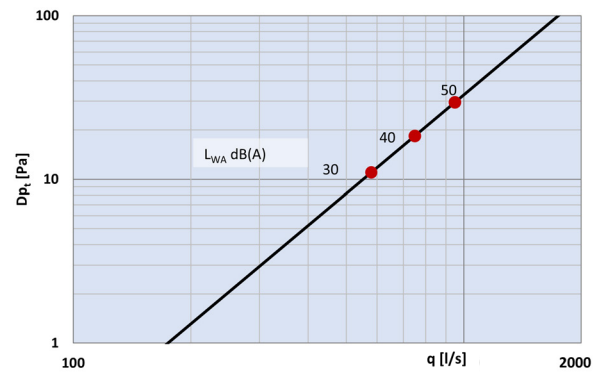


Diagram 7: Total A-weighted sound power level, dB(A) for SMED-400

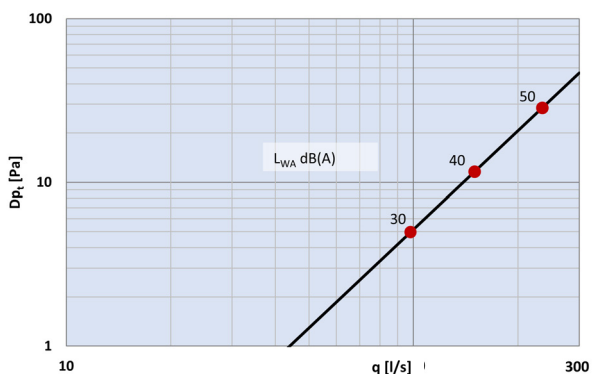


Diagram 4: Total A-weighted sound power level, dB(A) for SMED-200

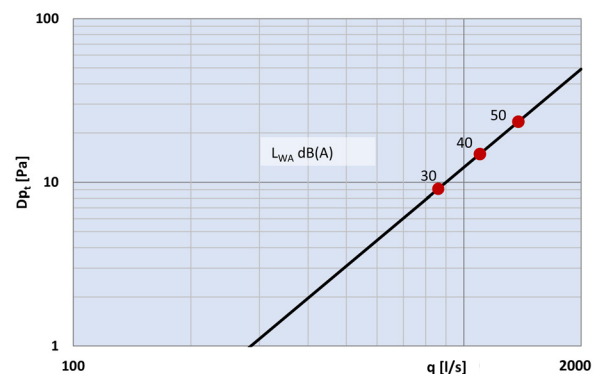


Diagram 8: Total A-weighted sound power level, dB(A) for SMED-500

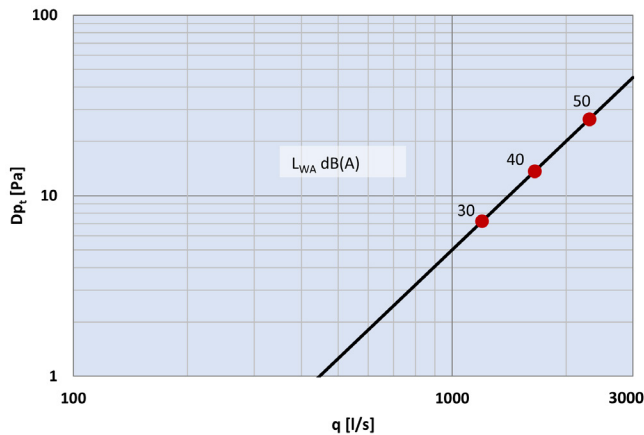


Diagram 9: Total A-weighted sound power level, dB(A) for SMED-630

NOISE GENERATION – CALCULUS

$$L_W = L_{WA} + K_0$$

L_W = Sound power level in dB. See table 2 for tolerances.

L_{WA} = Total A-weighted sound power level, dB(A), is read from the sound level diagram for the respective SMED.

K_0 = Correction factor for frequency bands are read from table 3.

Measurements of sound pressure and sound power have been carried out according to ISO 3741 and ISO 5135.

| Hz | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|------|----|-----|-----|-----|----|----|----|----|
| ± dB | 6 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |

Table 2: Tolerance, Sound power level, L_W dB

| Ød \ Hz | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|---------|-----|-----|-----|-----|----|-----|-----|-----|
| 100 | -16 | -7 | -1 | -2 | -4 | -10 | -19 | -33 |
| 125 | -16 | -7 | -1 | -2 | -4 | -10 | -19 | -33 |
| 160 | -16 | -8 | -2 | -2 | -4 | -9 | -18 | -35 |
| 200 | -17 | -10 | -4 | -4 | -3 | -8 | -15 | -30 |
| 250 | -7 | -9 | -9 | -3 | -4 | -8 | -14 | -30 |
| 315 | -3 | -7 | -2 | -2 | -5 | -9 | -17 | -31 |
| 400 | -1 | -7 | -4 | -2 | -5 | -8 | -13 | -26 |
| 500 | 3 | 0 | 0 | -2 | -4 | -12 | -19 | -32 |
| 630 | 5 | 1 | 1 | -3 | -5 | -10 | -17 | -30 |

Table 3: Correction factor K_0 [SMED-100 to -630]

ORDER INFORMATION

Circular measuring flange SMED, Lindinvent AB. When ordering, in addition to the product name, size, material/ surface treatment, colour and gloss number are specified.

Size: 100, 125, 160, 200, 250, 315, 400, 500, 630

Material: Galvanized steel sheet, epoxy-coated steel sheet or powder-coated steel sheet. SMED can be ordered in stainless steel, acid-resistant SS 23 43.

Colour: An epoxy-lacquered damper has RAL9003 as standard with gloss 85, corrosivity class C5. Powder coated has RAL9003 as standard with gloss 30, corrosivity class C4. Other colours and gloss levels can be ordered.



Environmental Product Declaration, EPD, is something many companies are becoming familiar with as they are increasingly required. The application of EPDs has existed for a long time as an EU directive with the aim of tightening the requirements regarding the declaration of various products' environmental impact. You can find our EPDs on EPD Hub, which is one of the international systems for third-party verified EPDs. www.epdhub.com

ADDITIONAL PRODUCT DOCUMENTATION

Download available in the product page for SPMF at lindinvent.com

| Document | Comments |
|-------------------------------|--|
| Installation instruction | See the installation instruction for DCV-MFb. |
| Start-up instruction | Not relevant. |
| Maintenance instruction | Cleaning and control measurement. |
| External connection diagram | Not relevant. |
| Building material declaration | Assessed byByggvarubedömningen in Sweden. EPD registered in June 2022. |
| Modbus list | Not relevant. |
| AMA text | Available for download via the product's website. |