

Disc Valves

- Type LVS
- for supply and extract air



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Description

Type LVS disc valves are suitable for all types of ventilation systems. They have been redesigned and thus satisfy the highest standards for comfort criteria. Depending on the application, different constructions for supply (type Z-LVS) and extract air (type LVS) are available.

By rotating the central disc, the air volume flow rate can be changed. This results in changes to acoustic and pressure drop figures.

Construction

This disc valves consist of the valve ring and central disc.

To guarantee a perfect seat, the valve ring is fitted with a peripheral sealing strip.

The air volume flow rate is adjusted by rotating the central disc which alters the size of the gap. The central disc is held in position with a locknut.

Material

Face sections made of sheet steel with electrostatic powder coating (similar to RAL 9010, coating thickness 60 µm), threaded spindle and nut made of galvanised steel, installation subframe made of galvanised sheet steel.

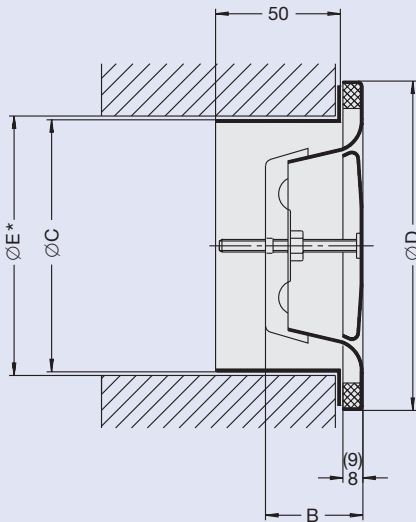
Dimensions · Installation Details · Quick Selection Table

Dimensions							
Type	Size	B	ØC	ØD	ØD ₁	ØE*	Weight in kg
LVS	100	40	99	132	125	104	0.200
	125	46	124	162	150	129	0.290
	160	54	159	205	185	164	0.440
	200	61	199	245	225	204	0.590
Z-LVS	100	40	99	132	125	104	0.230
	125	46	124	162	150	129	0.320
	160	54	159	205	185	164	0.500
	200	61	199	245	225	204	0.670

Quick selection table (for nomenclature see page 4)						
Type	Size	\dot{V} in m ³ /h	\dot{V} in l/s	Δp_t in Pa	L _{WA} in dB(A)	L in m
LVS s = 0 mm	100	115	32	130	40	–
	125	180	50	135	40	–
	160	260	72	125	40	–
	200	350	97	110	40	–
Z-LVS s = 12 mm	100	100	28	37	40	1.7
	125	155	43	77	40	2.5
	160	235	65	90	40	4.0
	200	290	81	90	40	4.6

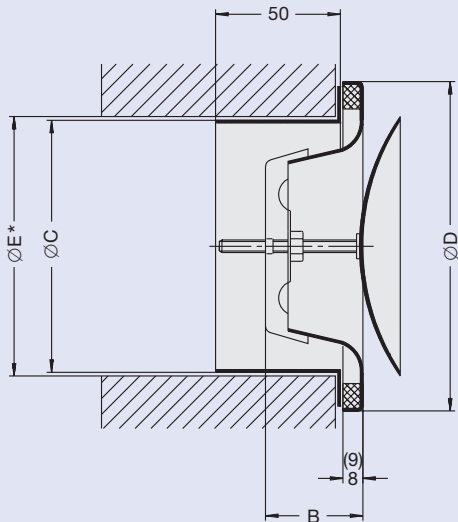
* Dimension E must be adjusted according to the line used!

LVS



() – NW 160/200

Z-LVS

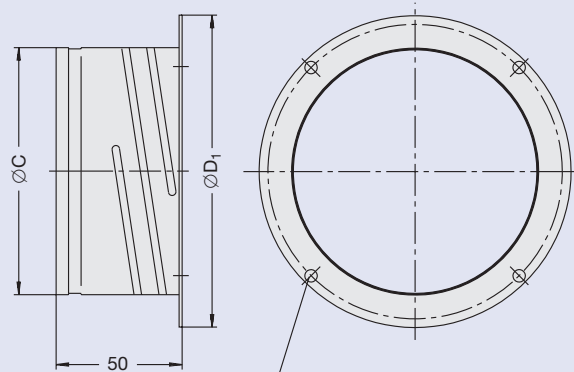


() – NW 160/200

Installation Details

The LVS and Z-LVS units are supplied with subframe.
A bayonet fixing is used to locate the unit in the subframe.

Installation subframe for LVS and Z-LVS

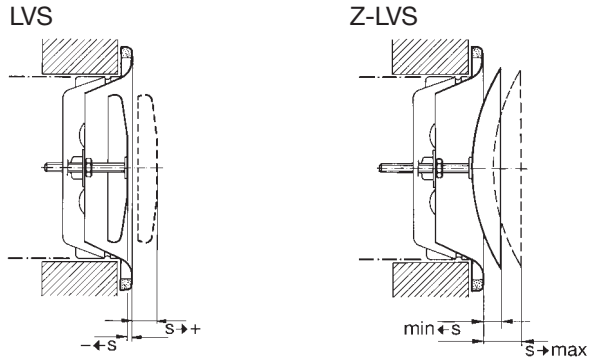


Mounting the installation subframe with screws through the holes provided in the flange.

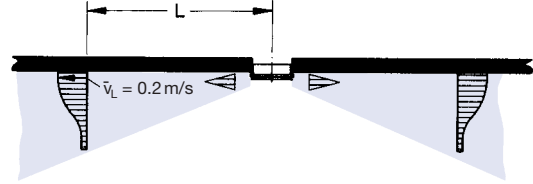
Nomenclature · Aerodynamic Data

Nomenclature

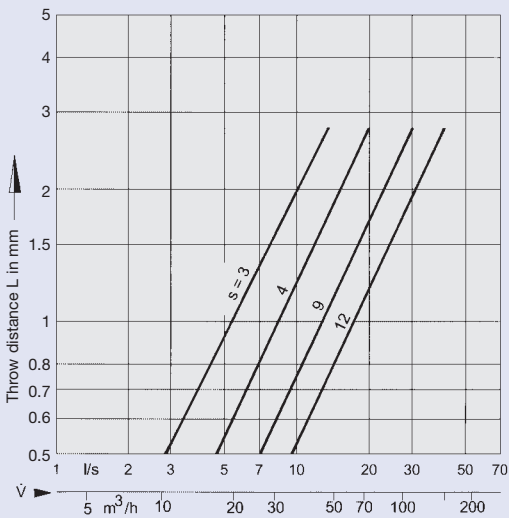
\dot{V}	in l/s or m ³ /h:	Volume flow rate per disc valve
L	in m:	Throw distance related to $\bar{v}_L = 0.2$ m/s
s	in mm:	Gap size
\bar{v}_L	in m/s:	Time average air velocity at the wall
Δp_t	in Pa:	Total pressure drop
L_{WA}	in dB(A):	A-weighted sound power level
L_{WNC}	:	NC rating of sound power level
L_{WNR}	:	$L_{WNR} = L_{WNC} + 3$
L_{pA}, L_{pNC}	:	A weighting or NC rating respectively of room sound pressure level
		$L_{pA} \approx L_{WA} - 8$ dB
		$L_{pNC} \approx L_{WNC} - 8$ dB



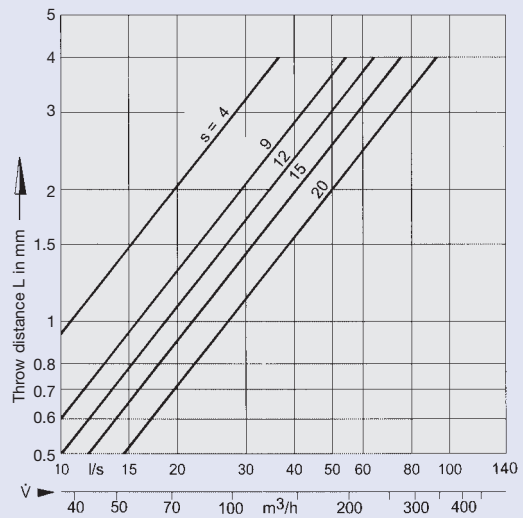
Definition of the throw distance



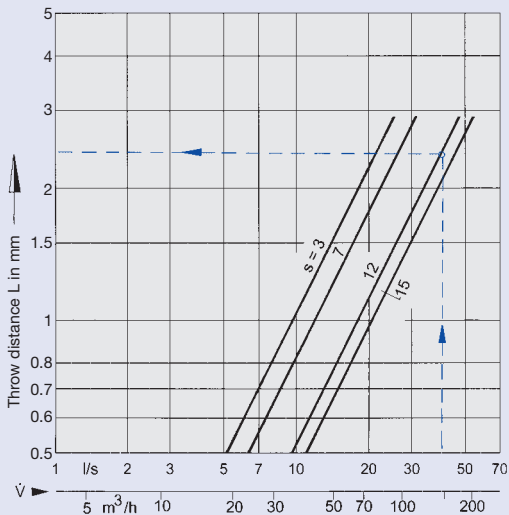
1 Throw distance Size 100



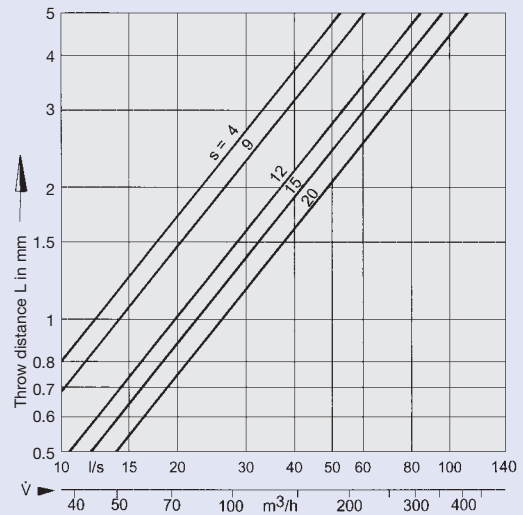
3 Throw distance Size 160



2 Throw distance Size 125

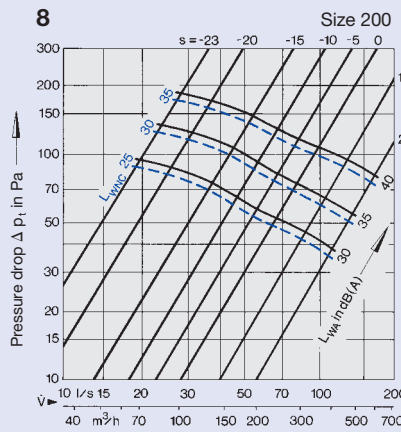
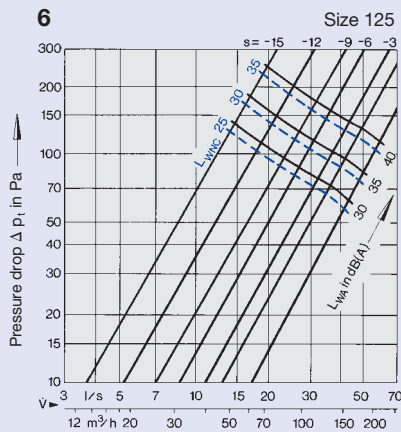
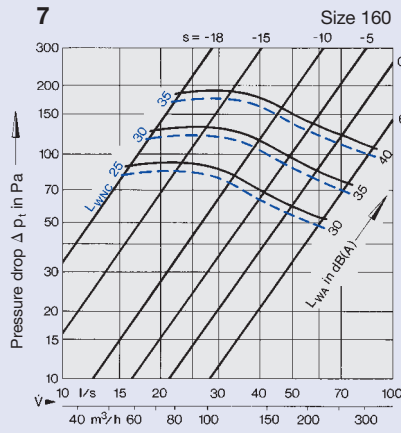
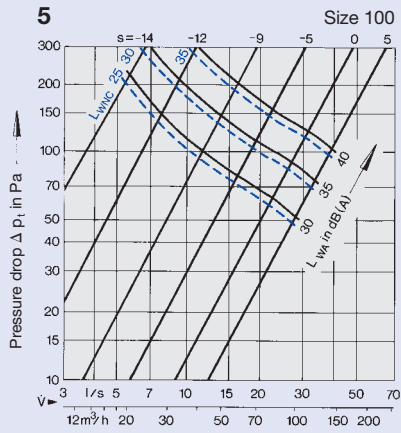


4 Throw distance Size 200



Acoustic Data – Extract Air · Supply Air

Extract air – Sound power level and Pressure drop – Type LVS



Example

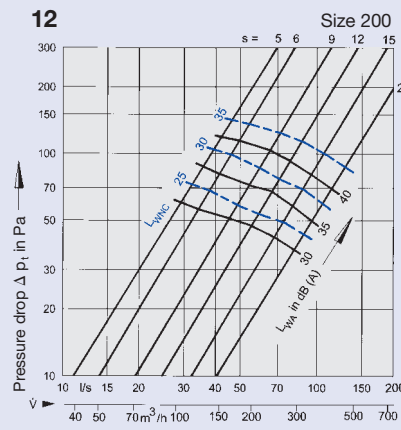
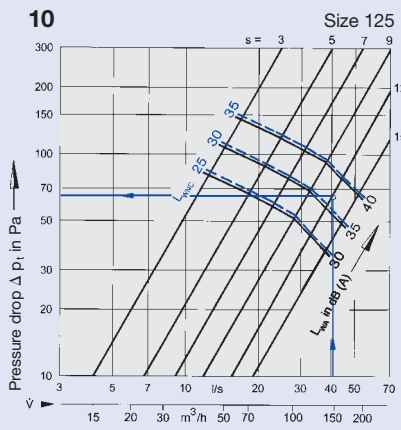
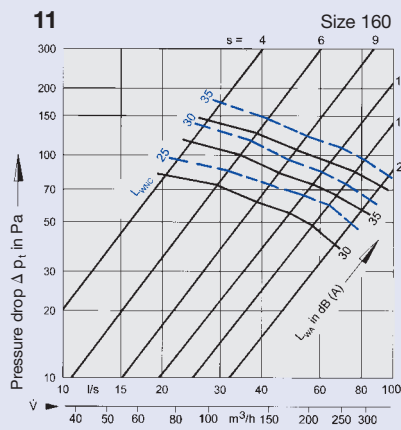
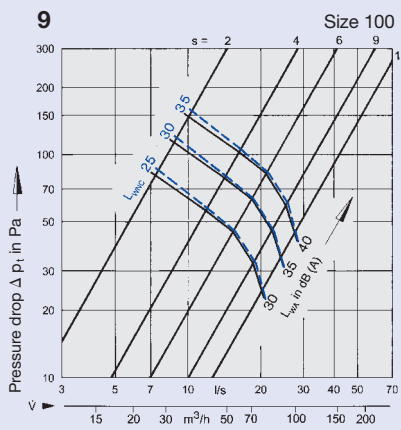
Data given:
 Z-LVS / Size 125
 Volume flow per disc valve $\dot{V} = 40 \text{ l/s}$
 Gap size $s = 12 \text{ mm}$

Diagram 10:
 Sound power level and Pressure drop
 $L_{WA} = 37 \text{ dB(A)}$ ($L_{WNC} = 32 \text{ NC}$)
 $\Delta p_t = 65 \text{ Pa}$

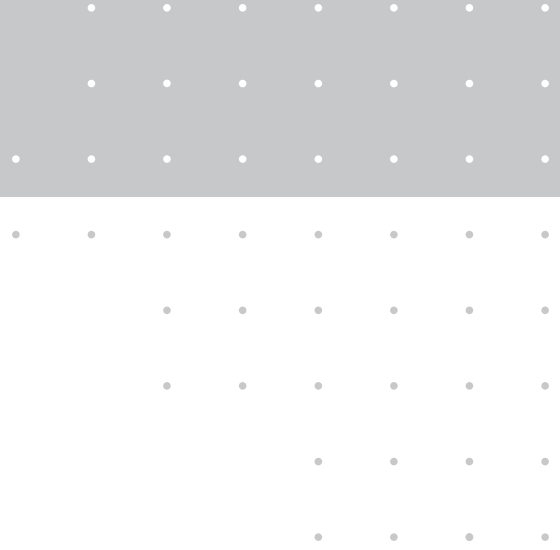
Diagram 2: Throw distance
 $L = 2.4 \text{ m}$

At a distance of $L = 2.4 \text{ m}$, the time average air velocity $\bar{v}_L = 0.2 \text{ m/s}$.

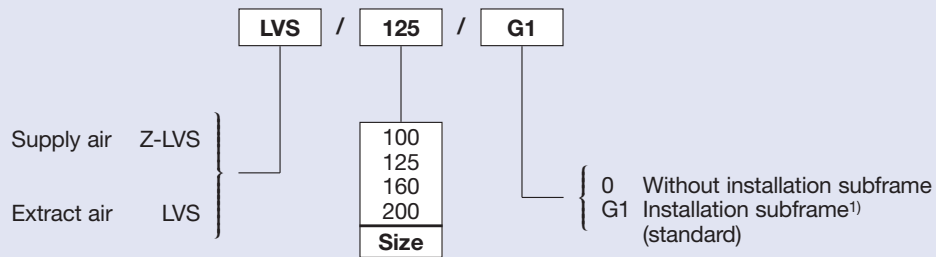
Supply air – Sound power level and Pressure drop – Type Z-LVS



Order Details



Order Code



1) If not stated, installation subframe (G1) will be supplied

Specification Text

Circular disc valves, suitable for supply and extract air, comprising valve ring with peripheral seal, central disc with threaded spindle and locknut and installation subframe with volume flow rate adjustment by rotating the central disc.

Material

Face sections sheet steel with electrostatic powder coating (colour similar to RAL 9010, thickness 60 µm), galvanised steel threaded spindle and lock nut, installation subframe galvanised sheet steel.

Order Example

Make: TROX
Type: LVS / 125 / G1