

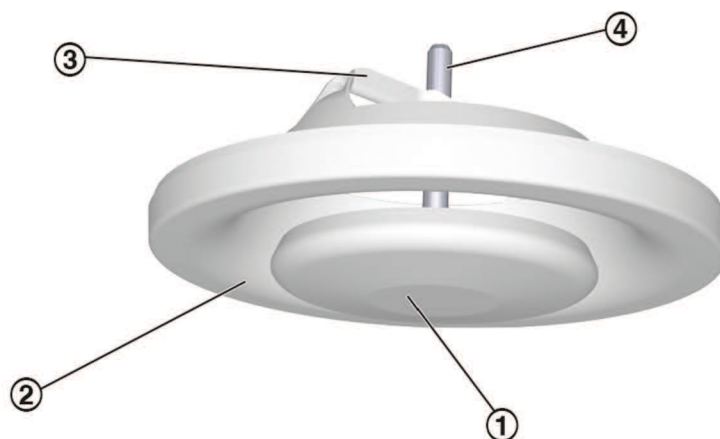


DISC VALVES



Out standing technique for highest demands Unique in comfort, acousrics and design

Construction



1- Frame and disc
Steel sheet construction.

2- Mounting rings
Galvanized sheet steel.

- ① Valve disc
- ② Valve casing
- ③ Cross bar
- ④ Threaded spindle with lock nut



Description

- Frame and disc is made of high quality galvanized steel sheet construction with powder coating to RAL colors.
- Disc is attached to the frame by threaded rod.
- Air flow can be adjusted by regulating the cone up or down (+A or -A).
- Foam gasket is sealed around the back of the frame to avoid air leakage.
- These valves can be used for supply, exhaust and ventilation applications.
- Air master disc valves are best suited to air distribution systems handling relatively low air flow rates within small circular duct work.
- Can be mounted in wall, ceiling or exposed air ducts with mounting rings.
- Recommended for exhaust of greasy and damp air in damp areas such as toilets, bathrooms and kitchens.

Standard finishes

- Steel sheet powder coated to RAL 9010 color.
- Flexibility of finishing is available as option.

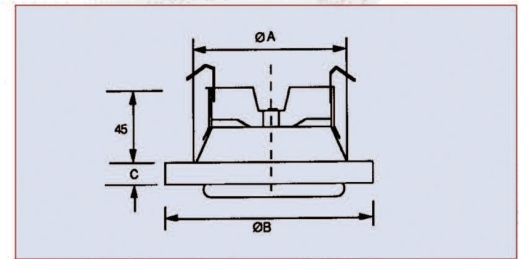
Standard sizes

N = Neck size in mm dia	80	100	125	160	200
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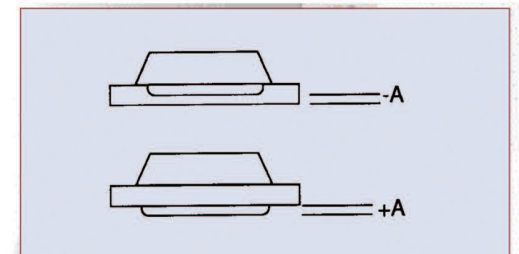
Fixing details

- Direct fixing into the duct with mounting rings.
- First mounting ring has to be fixed into the duct outlet before the valve is pushed into the ring.

DV



POSITION OF THE DISC



Size	DV		
	A	B	C
80	80	106	15
100	100	135	15
125	125	160	15
160	160	194	15
200	200	238	18

Technical Data

Application

- Type DV disc valves are used as extract air devices in small rooms.
- For variable and constant volume flows.
- For walls and suspended ceilings.

Special characteristics

- Continuous volume flow rate balancing by turning the valve disc.
- Easy to install.

Nominal sizes

- 100, 125, 160, 200.

Parts and characteristics

- Valve disc with threaded spindle and lock nut.
- Valve casing including cross bar with orifice for the threaded spindle.
- Installation sub frame that accommodates the disc valve.

Materials and surfaces

- Valve casing and valve disc made of galvanized sheet steel.
- Installation sub frame, cross bar, threaded spindle and lock nut made of galvanized steel.
- Foam seal.
- Valve casing and valve disc powder-coated RAL 9010, pure white.

Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Maintenance

- Maintenance-free as construction and materials are not subject to wear.
- Inspection and cleaning to VDI 6022.

Technical Data

Table 9.2(A) Air flow data Supply air disc valve

Neck size in mm dia	Position of disc	Air flow rate								
		CFM	10	20	40	60	80	100	120	140
		M ³ /sec	0.0047	0.0094	0.0189	0.0283	0.0378	0.0472	0.0567	0.0661
80	A =+10	P _t in mm H ₂ O NC in dB	0.76 <20	1.83 22	5.6 38	-----	-----	-----	-----	-----
	A =0	P _t in mm H ₂ O NC in dB	1.22 <20	3.4 26	9.6 44	-----	-----	-----	-----	-----
	A =-10	P _t in mm H ₂ O NC in dB	2.04 <20	5.6 35	>20 >45	-----	-----	-----	-----	-----
100	A =+10	P _t in mm H ₂ O NC in dB	0.51 <20	1.12 <20	3.46 30	6.6 38	-----	-----	-----	-----
	A =0	P _t in mm H ₂ O NC in dB	0.71 <20	2.04 20	6.11 36	11.21 44	-----	-----	-----	-----
	A =-10	P _t in mm H ₂ O NC in dB	1.43 <20	4.08 31	12.23 45	>20 >45	-----	-----	-----	-----
125	A =+10	P _t in mm H ₂ O NC in dB	0.41 <20	1.12 <20	3.06 26	5.61 33	9.2 42	-----	-----	-----
	A =0	P _t in mm H ₂ O NC in dB	0.82 <20	1.83 <20	5.61 33	9.4 40	14.78 >45	-----	-----	-----
	A =-10	P _t in mm H ₂ O NC in dB	1.22 <20	3.06 26	8.87 42	16.3 >45	>20 >45	-----	-----	-----
160	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	0.61 <20	1.83 20	4.3 25	5.7 31	9.2 37	12.7 40	-----
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	1.22 <20	3.78 25	8.2 35	11.2 41	18.3 45	>20 >45	-----
	A =-10	P _t in mm H ₂ O NC in dB	1.0 <20	2.75 30	8.2 41	16.3 >45	>20 >45	>20 >45	>20 >45	-----
200	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	0.82 <20	1.63 <20	3.1 22	4.1 25	5.1 33	7.9 37
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	0.71 <20	1.83 <20	4.1 24	5.61 30	9.1 36	10.7 40	18.3 45
	A =-10	P _t in mm H ₂ O NC in dB	<0.4 <20	1.22 <20	4.3 26	7.6 35	10.7 39	18.3 45	>20 >45	>20 >45

- P_t = Total pressure loss across the disc valve in mm of H₂O.
- NC based on a room attenuation of 10 dB.
- A = +10,0 & -10 = Position of the disc 10 mm down of normal position, at normal position, and 10 mm above normal position.

Technical Data

Table 9.2(B) Air flow data Return air disc valve

Neck size in mm dia	Position of disc	Air flow rate								
		CFM	10	20	40	60	80	100	150	200
		M ³ /sec	0.0047	0.0094	0.0189	0.0283	0.0378	0.0472	0.071	0.094
80	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	0.91 <20	4.3 26	10.2 37	-----	-----	-----	-----
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	1.43 <20	7.1 32	17.3 45	-----	-----	-----	-----
	A =-10	P _t in mm H ₂ O NC in dB	1.83 <20	5.1 23	18 45	>20 >45	-----	-----	-----	-----
100	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	1.63 <20	3.8 23	5.8 31	9.7 37	-----	-----
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	0.76 <20	2.5 <20	5.6 30	9.7 35	14.7 45	-----	-----
	A =-10	P _t in mm H ₂ O NC in dB	0.61 <20	2.24 <20	7.6 35	15.2 40	>20 >45	>20 >45	-----	-----
125	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	0.71 <20	1.42 <20	2.9 20	4.1 25	9.7 37	-----
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	1.83 <20	4.1 21	8.15 30	11.2 35	>20 >45	-----
	A =-10	P _t in mm H ₂ O NC in dB	<0.4 <20	2.1 <20	7.1 23	16.8 35	>20 >45	>20 >45	>20 >45	-----
160	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	0.4 <20	0.81 <20	1.43 <20	2.1 <20	5.2 28	9.7 37
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	0.81 <20	1.74 <20	3.4 <20	5.3 25	12.2 37	>20 45
	A =-10	P _t in mm H ₂ O NC in dB	<0.4 <20	0.5 <20	1.74 <20	3.8 <20	7.6 27	14.7 35	>20 >45	>20 >45
200	A =+10	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	<0.4 <20	<0.4 <20	0.76 <20	1.12 <20	2.6 27	4.38 34
	A =0	P _t in mm H ₂ O NC in dB	<0.4 <20	<0.4 <20	0.7 <20	1.4 <20	2.3 <20	3.4 20	8.4 35	12.2 42
	A =-10	P _t in mm H ₂ O NC in dB	<0.4 <20	0.5 <20	1.62 <20	3.4 <20	7.1 <20	11.2 34	>20 >45	>20 >45

- P_t = Total pressure loss across the disc valve in mm of H₂O.
- NC based on a room attenuation of 10 dB.
- A = +10,0 & -10 = Position of the disc 10 mm down of normal position, at normal position, and 10 mm above normal position.

Technical Data

Quick Sizing

- Quick sizing tables provide a good overview of the volume flow rates and corresponding sound power levels and differential pressures.

DV/100, DV /125, sound power level and total differential pressure

Nominal size			Gap width					
			5 mm		0 mm		-5 mm	
			Δp_t	L_{WA}	Δp_t	L_{WA}	Δp_t	L_{WA}
			Pa	dB(A)	Pa	dB(A)	Pa	dB(A)
100	10	36	8	<15	14	<15	30	16
	15	54	19	<15	32	19	67	26
	20	72	33	22	56	27	119	33
	25	90	52	28	88	32	186	39
125	15	54	9	<15	13	<15	22	<15
	20	72	15	<15	23	<15	40	19
	25	90	24	<15	36	18	62	24
	30	108	35	18	52	23	90	29

DV /160, sound power level and total differential pressure

Nominal size			Gap width					
			5 mm		-5 mm		-10 mm	
			Δp_t	L_{WA}	Δp_t	L_{WA}	Δp_t	L_{WA}
			Pa	dB(A)	Pa	dB(A)	Pa	dB(A)
160	20	100	9	<15	24	<15	43	17
	25	90	14	<15	38	18	67	24
	30	108	20	<15	55	23	96	29
	35	126	27	16	75	27	131	34

DV /200, sound power level and total differential pressure

Nominal size			Gap width					
			5 mm		-5 mm		-15 mm	
			Δp_t	L_{WA}	Δp_t	L_{WA}	Δp_t	L_{WA}
			Pa	dB(A)	Pa	dB(A)	Pa	dB(A)
200	25	90	4	<15	9	<15	21	<15
	35	126	9	<15	17	<15	41	20
	45	162	14	<15	28	16	68	27
	50	180	18	<15	34	19	84	30

Sizing example

Given data

$V = 25 \text{ l/s}$ (90 m^3/h)

Extract air valve

Maximum sound power level 30 dB(A)

Quick sizing

Type DV

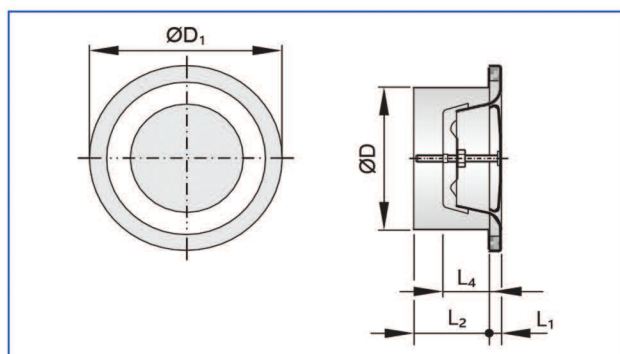
Selectable nominal sizes: 125, 160, 200

Selected: DV/125

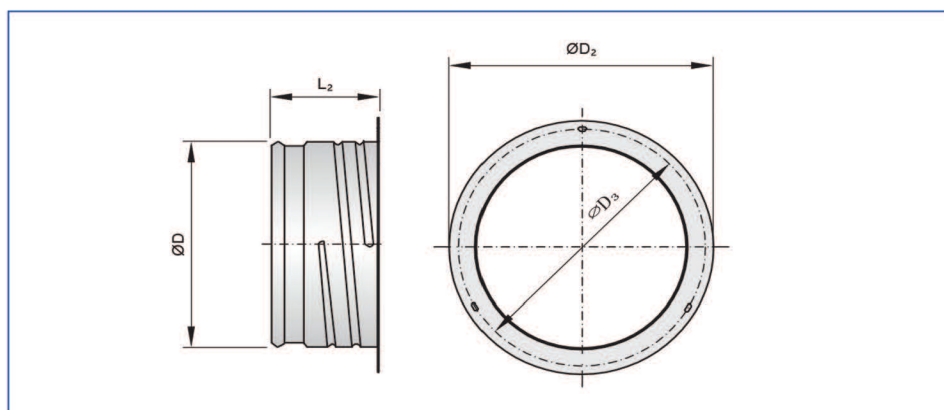
Technical Data

Dimensions and weight

DV



Installation sub frame for DV and Z- DV



DV

Nominal size	$\varnothing D_1$ mm	L_1 mm	L_2 mm	L_4 mm	$\varnothing D$ mm	$\varnothing D_2$ mm	$\varnothing D_3$ mm	m kg
100	132	8	50	32	99	122	114	0.20
125	162	9	50	38	124	148	140	0.29
160	192	10	50	43	159	184	176	0.44
200	245	11	50	52	199	225	217	0.59

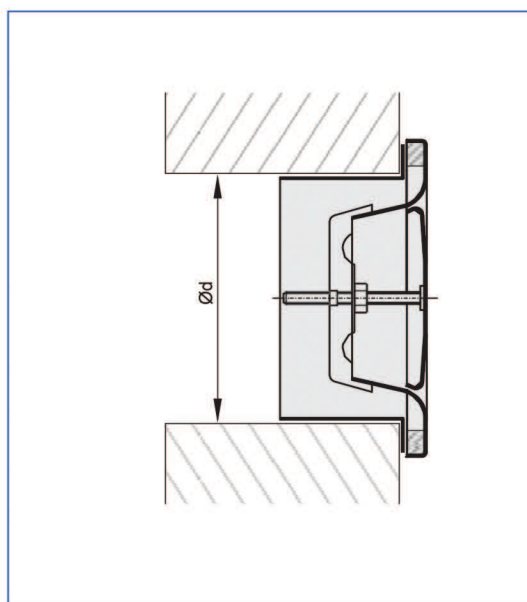
Technical Data

Installation details

Installation and commissioning

- Installation flush with the wall or ceiling.
- Perform volume flow rate balancing by turning the valve disc, then tighten the lock nut to fix the valve disc in the required position.
- These are only schematic diagrams to illustrate installation details.

Installation flush with the wall or ceiling, with installation sub frame

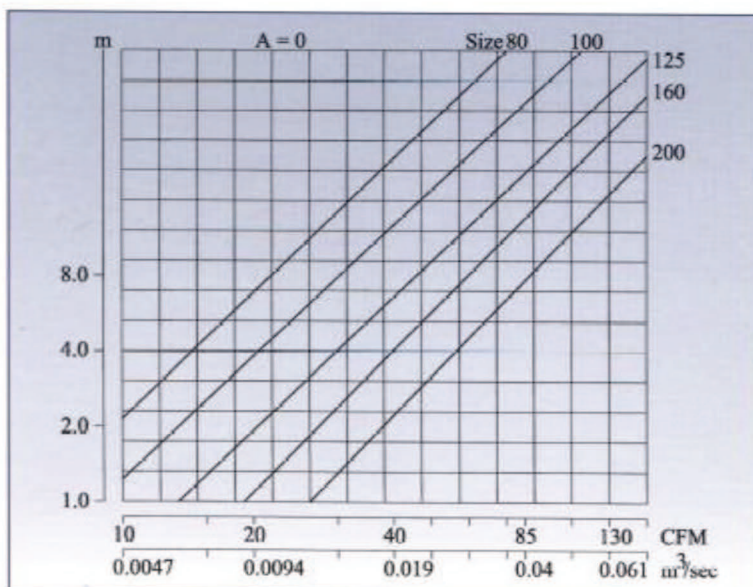


Installation opening

Nominal size	Ød
	mm
100	104
125	129
160	164
200	204

Performance Data

Table 9.1 Supply air valves Vs Throw in meters ($A = 0$)



Note

- For position $A = +10$, reduce throw by 30%.
- For position $A = -10$, increase throw by 40%.

How To Order

