

VarioflowBOX COMF



Technical parameters

Functions

The box is used for autonomous control of supply and exhaust air to the ventilated space in central ventilation systems.

Construction

In the galvanized cabinet with removable inspection cover there are two flow controllers for supply and exhaust air to the ventilated space. For connection to the circular duct, the box is equipped with four circular throats, which are fitted with a lip seal. The damper located in the box has class 2 leakage according to EN1751 when closed. The control actuators are equipped with a thermo-anemometric air flow sensor. The box housing is fitted with clamping profiles with four oval holes for wall or ceiling mounting.

Elektro

Supply voltage 1×230 V/50 Hz. The box is equipped with a 230 V/24 V power supply unit with a connection cable terminated with a 230 V plug. The built-in flow regulators are completely connected inside the box with the power supply unit. The air flow through the box can be regulated by an analog 0...10V signal from the remote control or an external humidity, CO₂ or VOC sensor with an output signal of 0...10V, which can be directly connected to the box's power supply unit (sensors can be powered either 24V or 230V). The regulated amount of air in the supply branch of the box is the same as in the outlet branch of the box (INLET = WATERWAY). Degree of protection of the box IP20.

Mounting

Mounting on the wall or under the ceiling with horizontal or vertical air flow directions. The box can also be mounted in a 600 mm wide furniture cabinet. It is necessary to observe the directions of air flow, which are shown by arrows on the lid of the box and to ensure sufficient access for the possibility of removing the service lid of the box (i.e. in the case of placement in the ceiling, the ceiling must be provided with an inspection hole for easy access to the inspection lid of the box). The bearing capacity of the anchors for wall or ceiling mounting must correspond to the weight of the box.

Operating conditions

The maximum speed of the flowing air is 5 m/s. Max. the possible pressure difference before and after the flap is 900 Pa. The range of transported air temperatures from 0°C to +50°C. Max. relative humidity of the flowing air up to 95% r.h. (condensation must be prevented on the surface of the box or on the internal components of the box). The air flowing through the box must be free of sticky and abrasive additives to prevent clogging of the sensor of the flow rate sensor and the control valve.

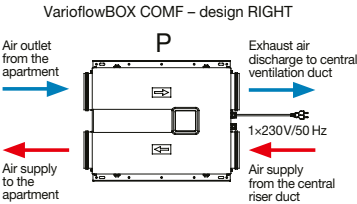
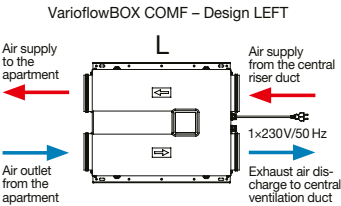
Accessories

- Remote spatial flow controller CRA24-B3 (with smooth steering) or CRA24-B1P (3 flow rates).
- MAA silencer
- MTS silencer
- SONOULTRA flexible silencer
- SPIRO circular pipe
- SEMIFLEX SONO soundproof hose

Type key for ordering

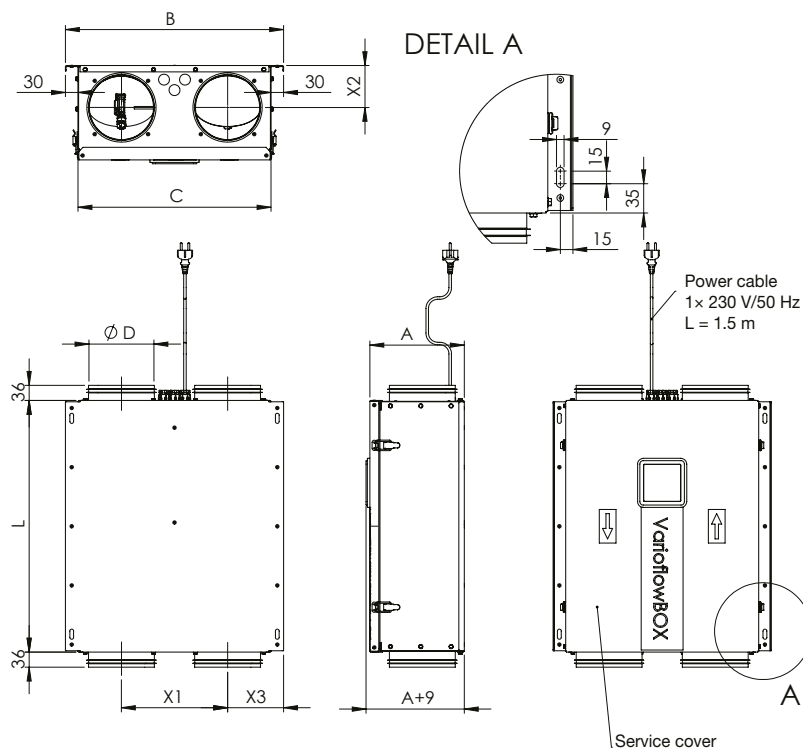
VarioflowBOX COMF	1	0	0	- I
	1	2		

- 1 – box size:
100, 125, 150, 160
- 2 – implementation:
S = standard box design without internal branch insulation
I = box with internal insulation of the inlet and outlet branches with Armaflex insulation



Type	supply voltage [V/Hz]	electrical input [VA]	Q _{min} [m³/h]	Q _{max} [m³/h]	weight [kg]
VarioflowBOX COMF 100	1×230/50	10	14	141	10,9
VarioflowBOX COMF 125	1×230/50	10	22	221	13,6
VarioflowBOX COMF 150	1×230/50	10	32	318	16,3
VarioflowBOX COMF 160	1×230/50	10	36	362	17,6

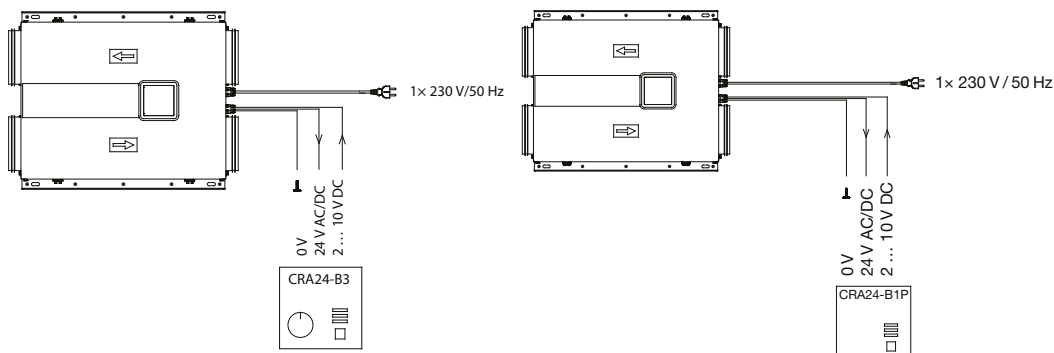
Dimensions and airflow directions



Type Varioflow	A [mm]	B [mm]	C [mm]	D [mm]	X1 [mm]	X2 [mm]	X3 [mm]	L [mm]
BOX COMF 100	165	460	400	98	253	70	103,5	480
BOX COMF 125	191	510	450	122	278	83	116	530
BOX COMF 150	215	550	490	147	293	95	128,5	580
BOX COMF 160	225	560	500	157	293	100	133,5	600

Additional illustration

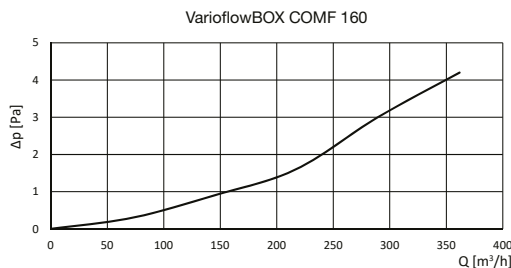
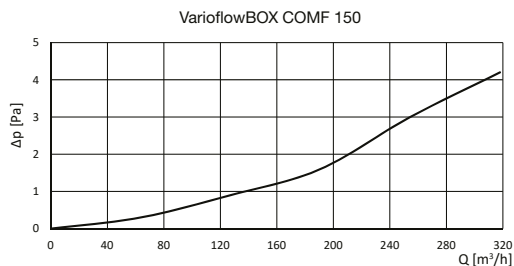
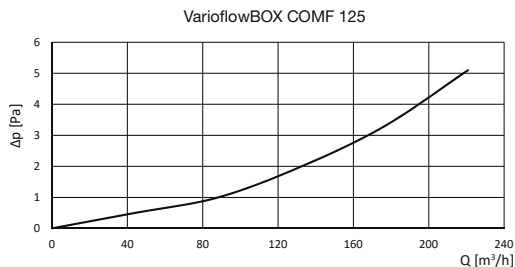
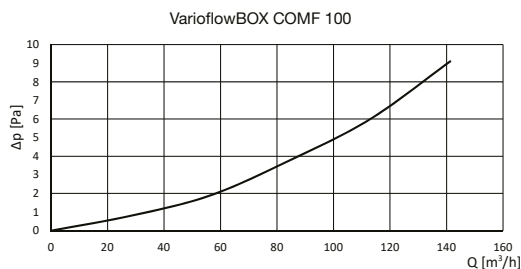
Wiring diagram of the box and surround controller



Characteristics

Box pressure loss

The following box pressure drop curve applies to the box with the flow regulator flap open.
 The pressure loss of the inlet and outlet parts is the same.



Noise data

Noise data are given at different pressure differences on the flap of the built-in VarioflowBOX flow regulator.

- L_w (dB) sound power level into the supply or exhaust pipe in octave bands
- L_{WA} (dB(A)) acoustic power level to the inlet or outlet pipe corrected by filter "A" (applies to one branch of the VarioflowBOX).
- Δp (Pa) static pressure difference before and after the VarioflowBOX (measured on one branch – inlet or outlet)
- Δp_{min} (Pa) minimum static pressure difference before and after the VarioBOX (during operation of the VarioBOX flow regulator flap)

VarioflowBOX COMF

Size VarioBOXu 100

Air flow		Speed	Δp_{min}
[l/s]	[m³/h]	[m/s]	[Pa]
7,9	28	1	<5
16	57	2	<5
24	85	3	5
39	141	5	15

Difference in static pressure Δp [Pa]									
50									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
53	41	39	37	33	24	<20	<20	38	
55	48	45	40	36	26	<20	<20	42	
58	52	49	44	29	29	<20	<20	46	
63	58	54	49	36	36	27	<20	51	

Difference in static pressure Δp [Pa]									
100									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
56	43	42	42	40	33	24	<20	44	
59	51	50	46	43	36	27	<20	48	
62	56	53	50	44	38	29	20	51	
66	62	59	55	49	43	36	27	56	

Air flow		Speed	Δp_{min}
[l/s]	[m³/h]	[m/s]	[Pa]
7,9	28	1	<5
16	57	2	<5
24	85	3	5
39	141	5	15

Difference in static pressure Δp [Pa]									
200									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
59	45	46	47	47	43	36	30	51	
63	54	54	52	50	47	40	32	55	
66	59	58	55	51	47	40	34	57	
69	67	65	61	55	50	44	38	62	

Difference in static pressure Δp [Pa]									
300									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
61	46	48	50	51	49	43	38	55	
65	56	57	55	54	53	47	41	59	
68	61	61	59	55	52	47	41	61	
71	69	68	64	59	54	50	44	65	

Size VarioBOXu 125

Air flow		Rychlost	Δp_{min}
[l/s]	[m³/h]	[m/s]	[Pa]
12,3	44	1	<5
25	88	2	<5
37	133	3	<5
61	221	5	11

Difference in static pressure Δp [Pa]									
50									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
51	39	36	32	29	23	<20	<20	35	
54	46	42	37	31	22	<20	<20	39	
59	50	46	41	35	28	<20	<20	43	
66	56	52	48	41	34	23	<20	49	

Difference in static pressure Δp [Pa]									
100									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
53	42	40	39	38	33	25	<20	42	
57	49	46	43	39	34	25	<20	45	
62	54	51	47	41	35	27	<20	48	
68	60	57	53	47	41	32	23	54	

Air flow		Speed	Δp_{min}
[l/s]	[m³/h]	[m/s]	[Pa]
12,3	44	1	<5
25	88	2	<5
37	133	3	<5
61	221	5	11

Difference in static pressure Δp [Pa]									
200									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
56	44	44	46	46	43	36	27	50	
60	52	51	48	47	45	38	29	52	
65	57	55	52	48	43	38	30	54	
70	63	61	58	53	47	42	33	59	

Difference in static pressure Δp [Pa]									
300									
Sound power level L_w Mean frequency of the octave band [Hz]									
63	125	250	500	1000	2000	4000	8000	L_{WA}	
57	46	46	50	52	49	43	34	55	
61	54	53	52	52	52	45	36	57	
66	59	57	55	51	47	45	38	57	
71	66	64	60	56	51	47	39	62	

VarioflowBOX COMF

Size VarioBOXu 150

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]										Difference in static pressure Δp [Pa]									
				50										100									
				Sound power level L _w										Sound power level L _w									
				Mean frequency of the octave band [Hz]										Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	63	125	250	500	1000	2000	4000	8000	L _{WA}		
17,7	64	1	<5	52	40	40	34	29	<20	<20	<20	36	56	44	44	40	37	32	22	<20	42		
35	127	2	<5	57	47	44	38	31	23	<20	<20	40	60	51	50	45	40	34	25	<20	47		
53	191	3	<5	61	50	48	42	35	27	<20	<20	44	65	54	53	49	43	37	28	20	50		
88	318	5	9	66	55	53	49	42	34	25	<20	50	70	59	58	54	48	42	34	23	55		

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]										Difference in static pressure Δp [Pa]									
				200										300									
				Sound power level L _w										Sound power level L _w									
				Mean frequency of the octave band [Hz]										Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	63	125	250	500	1000	2000	4000	8000	L _{WA}		
17,7	64	1	<5	59	47	49	47	45	43	37	29	50	61	50	51	51	49	50	46	37	55		
35	127	2	<5	64	56	56	52	49	46	37	29	55	66	58	59	57	55	52	44	37	60		
53	191	3	<5	68	58	58	55	51	46	39	32	57	70	61	61	59	55	52	45	39	61		
88	318	5	9	73	63	63	59	54	49	43	33	61	75	66	65	62	58	54	48	40	64		

Size VarioBOXu 160

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]									
				50									
				Sound power level L _w Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	
20	72	1	<5	54	41	37	34	29	21	<20	<20	36	
40	145	2	<5	58	47	44	39	33	25	<20	<20	41	
60	217	3	<5	62	51	49	44	36	28	<20	<20	45	
101	362	5	8	70	57	53	48	43	37	25	<20	51	

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]									
				100									
				Sound power level L _w Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	
56	43	42	40	36	30	23	<20	41					
60	51	50	47	42	36	27	<20	48					
64	56	54	50	44	38	29	21	51					
71	61	58	54	48	44	34	25	56					

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]									
				200									
				Sound power level L _w Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	
20	72	1	<5	57	46	47	47	43	39	32	26	48	
40	145	2	<5	62	55	56	55	51	47	39	32	56	
60	217	3	<5	67	60	60	57	53	48	40	33	58	
101	362	5	8	72	65	63	59	54	50	43	36	60	

Air flow		Speed	Δpmin	Difference in static pressure Δp [Pa]									
				300									
				Sound power level L _w Mean frequency of the octave band [Hz]									
[l/s]	[m³/h]	[m/s]	[Pa]	63	125	250	500	1000	2000	4000	8000	L _{WA}	
58	48	50	51	46	44	37	32	52					
63	58	60	60	56	54	46	40	62					
68	62	63	60	58	53	46	40	62					
73	68	66	61	57	53	48	43	64					

72