VARIABLE AIR FLOW UNITS

OVERVIEW

CL-VCC
CL-VCL
SERIES

Overview :
The CL-VCC and CL-VC variable air flow models are regulation units to be used in single duct ventilation systems with a working range between 20 and 1500 Pa. These regulators are used to control and maintain the quantity of air in variable air flow systems.
The tightness of the blade assure class 3 as per EN 1751
The tightness of the envelope is class C till 800Pa and class B greater pressures as per EN 12589

Technical characteristics:
The CL-VCC and CL-VCL models are composed of:
- casing in galvanized steel with hanging hook for fitting by bars or specific fixing bars;
- round entry port on the faster air flow side dynamic Δp probe to measure and maintain the air flow in relation to that requested in the room;
- rectangular exit port on low air speed side;
- silencer section with sound absorbing material in rock wool covered with black glass felt, with M0 fire resistance;
- round airtight regulation damper with gaskets;
- Regulation with motorised linear control.

Applications:
The CL-VCC and CL-VCC units are used to supply a variable air flow in the room to be conditioned in relation to the variation of its thermal loads in order to maintain the best possible temperature comfort.
The tests for the self-generated and irradiated noise have been carried out to EN ISO 3741 standards.

Product description for projects:
SHORT MODEL variable air flow unit for single duct systems in supply or extraction. Model CL-VCC manufactured by MP3 Srl, made in galvanized steel complete with differential pressure detector, temperature probe, regulator and actuator.

EXTRA SILENT MODEL variable air flow unit for single duct systems in supply or extraction. Model CL-VCL manufactured by MP3 Srl, made in galvanized steel complete with differential pressure detector, temperature probe, regulator and actuator.

Accessories:
- water or electric post-heating coil;
- additional silencer;
- double casing;
- equalizing net to be fitted at the entry port to better distribute the flow of air.
- micro perforated net protection for the sound absorbing material;

Other covers, even with fibre class material, can be proposed in the offer faze.

Versions:
With motor:
With motor:
- Siemens GDB 181.1/E3/MP;
- Belimo NMV-D3-MP;
- Belimo LMV-D3-MP;
- Belimo NM24AV + reg. VRD3;
- other motorisations may be agreed in the quotation.

It may be possible to fit the unit for use in extraction with the control of the static room Δp to guarantee negative or positive pressures in relation to the use of the space.
The units are supplied, as standard, complete with motors from our test benches according to customer request.
For requests without motor, that will in any case have to be calibrated and applied by the customer, MP3 can not in any way guarantee the correct functioning of the apparatus.

Test of the tight of the casing

VARIABLE AIR FLOW UNITS

WORKING PRINCIPLES

CL-VCC
CL-VCL
SERIES

WORKING PRINCIPLE "INDEPENDENT PRESSURE"

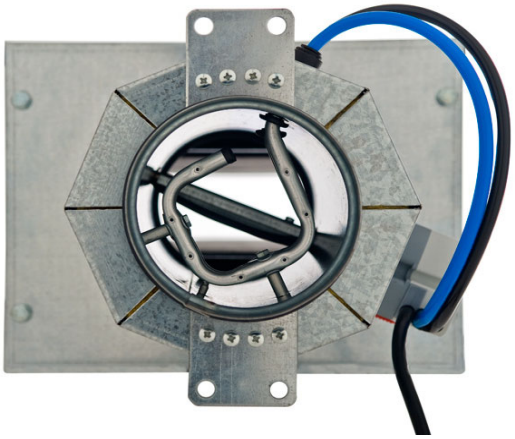
The regulation of the air flow is made by a dynamic pressure control system that can guaranty "the initial independence of the pressure". In so doing, all the requested air flow variations will not disturb the other air flows of other uses.
The control system is comprised of the following elements:
- Air flow measuring element
- Regulation element (the air flow regulator) that receives actual information relative to the measurement of the flow of air and to the request from the room.
- This regulator analyses the difference between the true measurement and that needed in the room so as to transmit a command to a specific motorised unit (the damper) that acts on the flow of air so as to obtain the final requested value by closing in the event of excess and opening in the event of lack of air.
- In the case of variable flow, the set point of the flow is variable from a maximum to a minimum value in relation to the regulation of the temperature;
- The system will always work so as to work the requested air flow in that moment to satisfy the room requirements.

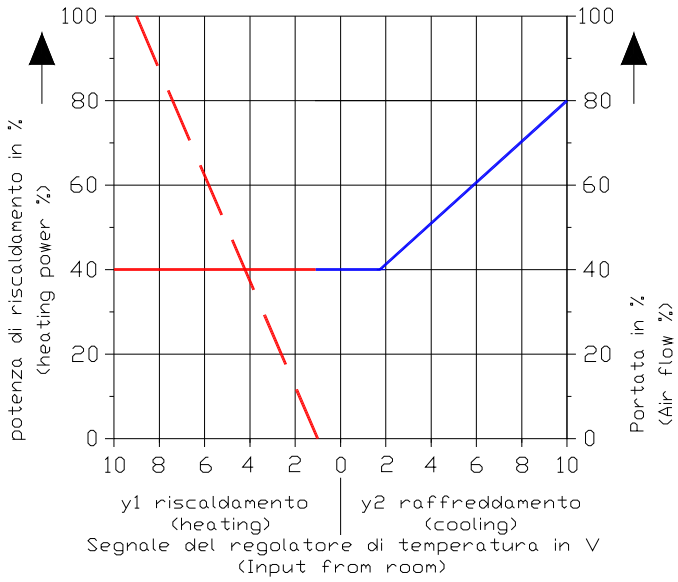
COMMAND SIGNALS USED

When ordering, you must specify the type of signal that will be used for the adjustment.
The signals used are
- Signal 0V-10V;
- Signal 0V-10V with separate control of total closure;
- Signal 2V-10V;
- Signal 2V-10V with separate control of total closure;
- Signal 2V-10V with total closure to 0V.

ENVIRONMENTS IN PRESSURE OR DEPRESSION

In this type of environments it is possible to control the adjustment in extraction via a differential pressure sensor to ensure the overpressure or depression prescribed independently of the flow and the presence of other air outlet, for example in the presence of hoods or frequent opening of the door for access to the room



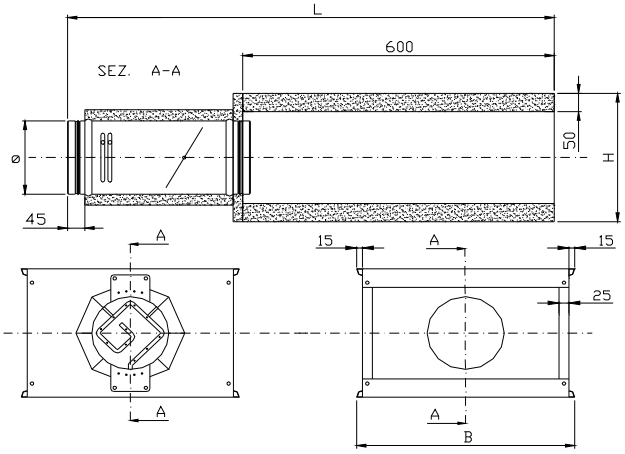


VARIABLE AIR FLOW UNITS

TECHNICAL CHARACTERISTICS

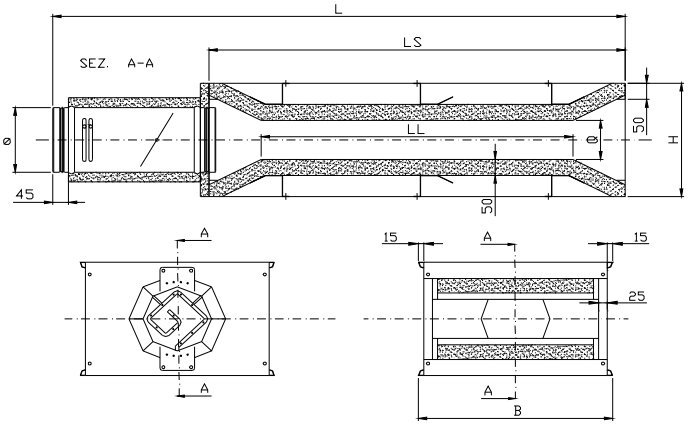
CL-VCC
CL-VCL
SERIES

SHORT MODEL CL-VCC UNITS



Ø (mm)	B (mm)	H (mm)	L (mm)
125	380	270	950
160	380	270	995
200	560	360	1050
250	560	360	1120
315	780	460	1210
355	780	460	1265
400	980	510	1330
500	980	610	1400
630	1180	740	1500

EXTRA SILENT CL-VCL UNITS WITH SIMPLE CASING



Optional: internal cover with protective micro perforated net for the sound absorbing material

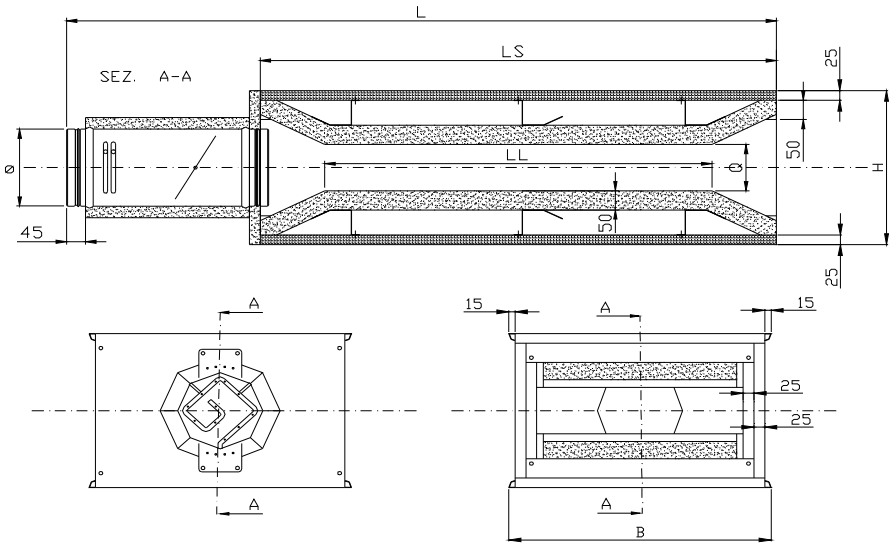
Ø (mm)	B (mm)	H (mm)	L (mm)	Q (mm)	LS (mm)	LL (mm)
125	380	270	1350	90	1000	800
160	380	270	1395	90	1000	800
200	560	360	1650	130	1200	900
250	560	360	1720	130	1200	900
315	780	460	2010	180	1400	1000
355	780	460	2065	180	1400	1000
400	980	510	2230	230	1500	1100
500	980	610	2300	230	1500	1100
630	1180	740	2500	360	1600	1200

VARIABLE AIR FLOW UNITS

TECHNICAL CHARACTERISTICS

CL-VCC
CL-VCL
SERIES

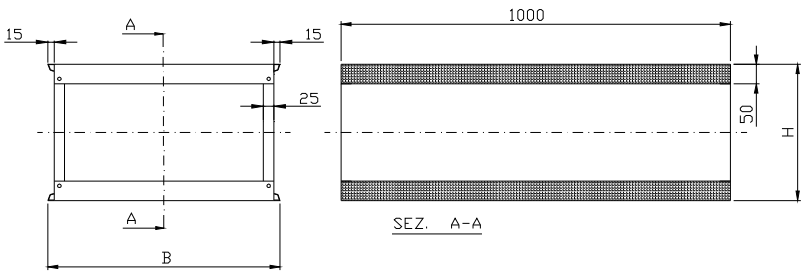
EXTRA SILENT MODEL CL-VCL UNIT WITH DOUBLE CASING



Optional: internal cover with protective micro perforated net for the sound absorbing material

Ø (mm)	B (mm)	H (mm)	L (mm)	Q (mm)	LS (mm)	LL (mm)
125	380	270	1350	90	1000	800
160	380	270	1395	90	1000	800
200	560	360	1650	130	1200	900
250	560	360	1720	130	1200	900
315	780	460	2010	180	1400	1000
355	780	460	2065	180	1400	1000
400	980	510	2230	230	1500	1100
500	1030	660	2300	230	1500	1100
630	1230	790	2500	360	1600	1200

ADDITIONAL SILENCER CL-VSR



Ø (mm)	B (mm)	H (mm)
125	380	270
160	380	270
200	560	360
250	560	360
315	780	460
355	780	460
400	980	510
500	1030	660
630	1230	790

CASSETTE
A PORTATA VARIABILE

PERFORMANCE

SERIE
CL-VCC
CL-VCL

Regulator calibration and choice of motor

For the calibration of the CL-VCC and CL-VCL regulators, it will be necessary to indicate the maximum and minimum flows requested for the intended use.

The maximum air flow must be between the two values indicated in the table.
The minimum air flow must be greater or equal to the value indicated in the table

Furthermore, it will be necessary to indicate the signal given from the sensor of the room temperature; 0-10V, 2-10V, three point or other.
When necessary, it will be necessary to indicate the side on which it is required to install the controls in relation to the flow of air. In the absence of this information, the controls will be fitted on the right hand side in relation to the direction of the flow of air.

Installation conditions:
For a correct reading of the performances and for a air flow tolerance of 5%, it is necessary at the source to supply a straight section of duct of a length equal to two to three times the dimension of the diameter of the regulator. In the opposite case, the air flow may be affected by a variation between 10% and 20% in comparison to the calibrated value.

Pressure losses through a closed damper :
The air tight gasket, fitted on the perimeter of the damper, can maintain a level of pressure loss through it below 0.1% of the nominal air flow, with a maximum pressure of 1000 Pa.
The tightness of the blade assure class 3 as per EN 1751

Diameter mm	Pressure loss Pa	Air speed m/s	Air flow m³/h
125	20	5,8	243
	30	7,1	300
	50	9,0	380
160	20	5,6	391
	30	7,5	521
	50	9,4	658
200	20	5,7	622
	30	6,9	757
	50	8,8	961
250	20	6,8	1166
	30	8,3	1431
	50	10,9	1872
315	20	6,8	1879
	30	8,4	2299
	50	11,1	3056
355	20	5,6	1959
	30	7,1	2493
	50	9,3	3241
400	20	5,1	2261
	30	8,2	3662
	50	11,0	4883
500	20	6,2	4380
	30	7,6	5369
	50	9,8	6924
630	20	6,0	6730
	30	7,4	8300
	50	9,6	10768

The air flow loss indicated referes to the minimum value for use in air supply.

AIR FLOWS REGULATION		
Diametro (mm)	Q min (m³/h)	Q max (m³/h)
125	>60	115÷430*
160	>95	190÷715*
200	>150	300÷1125*
250	>230	460÷1725*
315	>360	720÷2700*
355	>480	960÷3600*
400	>630	1260÷4725*
500	>910	1800÷7000*
630	>1450	2900÷11200*

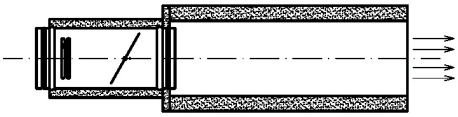
* Qmax calculated for 10m/s velocity

VARIABLE AIR FLOW UNITS

CL-VCC SERIES

NOISE DATA

SOUND POWER OF THE GENERATED NOISE: CL-VCC



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	48	24	26	23	21	22	25	21	31
		220	50	37	44	36	27	26	19	26	39
		400	51	40	40	42	31	27	23	27	41
		570	53	42	50	43	31	28	25	28	44
	500	60	45	29	36	31	26	26	21	28	35
		220	51	42	45	42	35	32	25	29	43
		400	50	60	52	50	38	34	39	32	51
		570	54	58	59	48	41	36	37	31	53
	1000	60	34	29	31	28	26	25	28	29	34
		220	46	46	52	46	38	35	33	32	47
		400	51	65	56	55	41	42	41	36	55
		570	52	63	63	54	46	44	40	36	57
160	200	100	42	29	32	26	23	23	23	26	32
		350	52	42	46	38	29	25	26	21	40
		700	61	51	53	44	35	29	27	26	47
		950	61	52	52	44	35	36	29	29	47
	500	100	46	36	37	29	26	29	29	28	36
		350	56	51	53	47	38	35	31	32	48
		700	61	57	61	53	43	36	31	32	55
		950	62	62	60	54	44	36	36	32	55
	1000	100	56	41	43	37	29	32	28	27	40
		350	56	53	57	46	36	41	33	29	51
		700	59	56	61	58	45	42	36	32	57
		950	59	63	62	61	44	41	37	35	60
200	200	230	36	32	33	31	24	23	26	23	33
		560	45	44	44	35	26	25	29	26	39
		1000	55	49	51	42	30	29	29	26	45
		1500	56	51	52	42	33	35	28	32	46
	500	230	48	42	39	36	29	26	32	26	39
		560	55	49	54	44	33	35	32	29	48
		1000	53	55	59	49	40	36	39	35	53
		1500	59	61	63	51	41	39	44	47	57
	1000	230	53	45	48	40	33	31	25	29	43
		560	52	52	56	47	41	36	36	36	50
		1000	56	59	62	55	46	44	43	37	57
		1500	61	65	66	59	45	49	43	44	61

VARIABLE AIR FLOW UNITS

NOISE DATA

CL-VCC SERIES

SOUND POWER OF THE GENERATED NOISE: CL-VCC

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	43	36	36	33	26	29	29	28	37
		900	50	48	46	44	32	33	30	27	44
		1600	51	49	47	42	39	35	30	28	45
		2300	55	50	46	42	37	43	36	28	47
	500	250	46	39	41	36	28	34	31	32	40
		900	56	57	55	52	44	42	34	35	53
		1600	62	62	61	55	46	45	38	35	57
		2300	60	63	59	56	47	49	44	35	57
	1000	250	57	45	45	39	36	35	37	36	44
		900	60	57	63	52	47	45	39	42	57
		1600	64	66	71	62	54	46	45	46	65
		2300	66	69	70	65	56	53	51	51	66
315	200	400	51	39	36	36	36	34	29	25	41
		1500	62	51	46	42	39	38	35	25	46
		2500	61	53	46	42	42	37	33	26	47
		3600	59	49	45	45	38	39	36	29	47
	500	400	55	44	46	39	42	37	44	38	48
		1500	64	56	51	52	48	47	45	37	55
		2500	72	63	61	55	51	48	46	39	58
		3600	75	66	59	57	51	51	48	39	60
	1000	400	70	52	44	44	56	46	42	44	57
		1500	67	65	63	56	58	54	53	49	63
		2500	73	64	71	61	61	57	53	50	67
		3600	79	65	70	63	60	58	52	52	67
355	200	500	48	39	33	37	28	32	26	28	38
		1800	59	49	44	42	32	33	31	31	43
		3300	63	53	52	45	40	39	37	33	49
		4800	71	64	58	57	49	46	39	41	58
	500	500	56	46	41	39	36	28	27	35	42
		1800	65	61	55	51	44	36	35	36	53
		3300	75	69	61	58	44	47	41	43	59
		4800	78	72	65	57	45	49	42	43	61
	1000	500	63	49	47	38	36	37	36	40	46
		1800	67	67	66	58	51	48	45	42	61
		3300	74	75	71	62	55	54	51	46	66
		4800	80	72	70	60	54	54	54	45	65
400	200	700	46	37	33	32	26	25	29	29	36
		2500	62	53	46	36	32	31	28	29	43
		4400	66	54	48	48	41	36	35	33	49
		6300	70	59	50	52	49	39	42	36	54
	500	700	56	49	46	45	35	32	31	31	45
		2500	70	66	53	52	43	36	38	41	54
		4400	74	68	61	53	48	40	42	40	58
		6300	73	68	61	61	49	43	45	44	61
	1000	700	65	53	46	38	38	39	42	40	48
		2500	69	71	61	52	47	41	53	52	60
		4400	78	74	69	62	52	46	54	53	65
		6300	77	71	66	61	52	51	52	50	63

VARIABLE AIR FLOW UNITS

CL-VCC SERIES

NOISE DATA

SOUND POWER OF THE GENERATED NOISE: CL-VCC

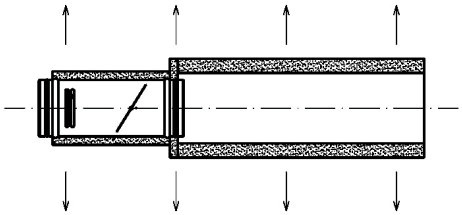
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	47	40	40	37	30	33	33	32	41
		2900	54	52	50	48	36	37	34	31	48
		5200	55	53	51	46	43	39	34	32	49
		7400	59	54	50	46	41	47	40	32	51
	500	800	50	43	45	40	32	38	35	36	44
		2900	60	61	59	56	48	46	38	39	57
		5200	66	66	65	59	50	49	42	39	61
		7400	64	67	63	60	51	53	48	39	61
	1000	800	61	49	49	43	40	39	41	40	48
		2900	64	61	67	56	51	49	43	46	61
		5200	68	70	75	66	58	50	49	50	69
		7400	70	73	74	69	60	57	55	55	70
630	200	1600	54	42	39	39	39	37	32	28	44
		5600	65	54	49	45	42	41	38	28	49
		10100	64	56	49	45	45	40	36	29	50
		14600	62	52	48	48	41	42	39	32	50
	500	1600	58	47	49	42	45	40	47	41	51
		5600	67	59	54	55	51	50	48	40	58
		10100	75	66	64	58	54	51	49	42	61
		14600	78	69	62	60	54	54	51	42	63
	1000	1600	73	55	47	47	59	49	45	47	60
		5600	70	68	66	59	61	57	56	52	66
		10100	76	67	74	64	64	60	56	53	70
		14600	82	68	73	66	63	61	55	55	70

VARIABLE AIR FLOW UNITS

CL-VCC SERIES

NOISE DATA

SOUND POWER OF THE IRRADIED NOISE: CL-VCC



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	44	22	21	17	17	17	17	17	25
		220	45	31	35	30	22	20	20	17	32
		400	45	34	36	32	25	21	18	17	33
		570	45	33	36	32	26	21	17	17	33
	500	60	33	23	24	22	19	19	17	17	26
		220	41	33	37	33	27	26	19	17	35
		400	45	42	45	43	35	31	23	19	43
		570	48	46	48	43	35	30	23	19	44
	1000	60	35	25	27	26	22	22	20	18	29
		220	41	38	43	39	34	33	25	21	41
		400	46	42	46	44	38	37	27	23	45
		570	49	46	49	44	38	36	27	23	46
160	200	100	41	25	24	20	18	18	22	22	28
		350	48	38	39	34	25	21	19	19	35
		700	56	42	46	39	30	24	20	19	41
		950	54	40	43	37	30	23	21	19	39
	500	100	41	28	28	25	20	21	20	19	29
		350	49	39	44	39	30	26	22	20	40
		700	57	50	53	49	36	30	24	20	49
		950	53	53	54	48	38	31	25	21	49
	1000	100	38	28	27	25	22	24	23	23	31
		350	49	40	48	45	36	32	26	24	45
		700	54	51	57	53	41	35	29	24	53
		950	53	53	57	55	41	35	29	24	54
200	200	230	37	30	31	26	23	22	20	19	30
		560	43	41	41	33	27	25	23	22	36
		1000	52	44	45	37	29	26	24	22	40
		1500	53	44	43	37	31	26	24	20	39
	500	230	46	36	38	32	26	24	22	20	35
		560	47	46	50	42	33	29	27	26	44
		1000	53	52	55	47	37	35	33	30	49
		1500	58	55	57	48	39	36	34	29	51
	1000	230	47	41	44	37	31	27	25	24	39
		560	53	46	53	46	41	38	37	31	49
		1000	52	53	59	51	42	38	35	33	53
		1500	56	60	63	54	44	40	37	35	57

VARIABLE AIR FLOW UNITS

CL-VCC SERIES

NOISE DATA

SOUND POWER OF THE IRRADIED NOISE: CL-VCC

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	40	33	34	27	20	19	17	17	30
		900	49	46	44	34	25	22	18	17	38
		1600	49	43	39	33	25	22	17	17	35
		2300	53	44	40	38	33	28	22	17	39
	500	250	43	37	38	31	25	22	18	17	34
		900	53	52	53	43	35	31	24	19	47
		1600	59	56	56	46	35	32	25	19	50
		2300	58	53	52	43	35	32	25	19	46
	1000	250	50	42	43	37	29	28	22	18	39
		900	55	55	58	48	41	37	29	24	52
		1600	61	63	65	54	44	41	33	26	58
		2300	64	63	63	54	44	42	34	27	57
315	200	400	46	35	32	28	25	26	19	17	32
		1500	59	48	41	34	31	31	23	17	40
		2500	59	47	41	35	30	29	22	17	39
		3600	56	41	40	37	30	27	21	17	38
	500	400	55	43	39	35	32	33	27	24	39
		1500	64	57	50	42	39	40	32	21	48
		2500	72	59	54	45	40	41	33	21	51
		3600	71	58	53	46	39	39	32	21	51
	1000	400	65	45	43	38	34	34	28	24	43
		1500	66	60	57	50	45	46	38	27	54
		2500	71	67	62	53	47	48	41	29	58
		3600	78	69	63	54	46	47	41	29	59
355	200	500	44	36	29	25	20	18	17	17	28
		1800	57	44	35	30	24	21	18	17	35
		3300	63	50	45	39	30	25	21	19	42
		4800	68	56	51	46	36	30	24	21	48
	500	500	51	44	36	31	25	21	19	18	34
		1800	64	56	49	42	34	29	24	25	46
		3300	72	62	57	48	39	36	27	25	53
		4800	76	63	56	50	40	37	28	21	54
	1000	500	58	48	38	36	30	27	22	20	39
		1800	65	62	56	49	42	37	31	28	52
		3300	73	71	62	53	45	40	33	30	59
		4800	78	65	58	51	42	38	30	27	56
400	200	700	44	38	30	23	18	18	17	17	28
		2500	58	49	38	30	24	21	18	17	37
		4400	64	57	45	37	30	26	21	19	44
		6300	66	56	46	43	35	31	25	21	46
	500	700	51	46	37	32	25	22	19	18	35
		2500	65	60	49	41	33	31	25	24	47
		4400	73	66	54	47	38	36	28	24	53
		6300	74	62	51	47	39	37	29	26	52
	1000	700	59	51	41	35	28	26	24	21	40
		2500	66	66	54	49	40	37	30	29	53
		4400	74	72	59	53	43	41	33	29	58
		6300	76	64	53	48	40	39	31	28	54

VARIABLE AIR FLOW UNITS

NOISE DATA

CL-VCC SERIES

SOUND POWER OF THE IRRADIED NOISE: CL-VCC

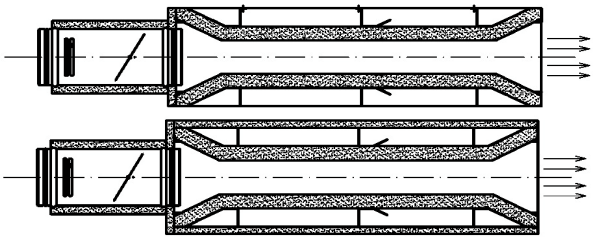
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	44	37	38	31	24	23	21	21	34
		2900	53	50	48	38	29	26	22	21	42
		5200	53	47	43	37	29	26	21	21	39
		7400	57	48	44	42	37	32	26	21	43
	500	800	47	41	42	35	29	26	22	21	38
		2900	57	56	57	47	39	35	28	23	51
		5200	63	60	60	50	39	36	29	23	54
		7400	62	57	56	47	39	36	29	23	50
	1000	800	54	46	47	41	33	32	26	22	43
		2900	59	59	62	52	45	41	33	28	56
		5200	65	67	69	58	48	45	37	30	62
		7400	68	67	67	58	48	46	38	31	61
630	200	1600	49	38	35	31	28	29	22	20	35
		5600	62	51	44	37	34	34	26	20	43
		10100	62	50	44	38	33	32	25	20	42
		14600	59	44	43	40	33	30	24	20	41
	500	1600	58	46	42	38	35	36	30	27	42
		5600	67	60	53	45	42	43	35	24	51
		10100	75	62	57	48	43	44	36	24	54
		14600	74	61	56	49	42	42	35	24	54
	1000	1600	68	48	46	41	37	37	31	27	46
		5600	69	63	60	53	48	49	41	30	57
		10100	74	70	65	56	50	51	44	32	61
		14600	81	72	66	57	49	50	44	32	62

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

SOUND POWER OF THE GENERATED NOISE: CL-VCL



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	47	22	23	18	17	17	18	17	26
		220	49	35	41	32	22	20	17	17	35
		400	49	40	36	35	26	22	18	17	35
		570	51	41	46	36	29	23	18	17	40
	500	60	43	30	31	26	20	20	17	17	29
		220	48	38	43	35	28	28	20	18	38
		400	50	57	51	44	35	32	32	24	47
		570	53	50	56	45	37	33	25	21	49
	1000	60	34	27	26	24	21	21	20	20	28
		220	46	42	47	40	33	32	24	22	42
		400	48	61	55	49	40	36	36	28	51
		570	51	54	60	50	42	37	29	25	53
160	200	100	41	26	27	21	19	19	17	17	27
		350	50	42	45	36	25	21	18	18	39
		700	58	46	50	40	31	25	20	19	44
		950	56	46	49	40	32	27	22	18	43
	500	100	43	32	33	26	20	20	18	18	30
		350	52	45	49	42	30	26	21	24	43
		700	57	54	57	49	36	30	23	21	51
		950	56	58	57	50	38	30	24	21	52
	1000	100	44	35	37	30	23	23	21	20	33
		350	52	48	52	45	34	30	24	24	46
		700	57	55	59	54	39	33	27	27	54
		950	55	61	61	55	41	34	27	26	56
200	200	230	34	30	32	27	21	20	19	18	30
		560	43	39	41	33	24	22	20	20	36
		1000	52	45	47	39	29	24	21	20	41
		1500	52	46	47	38	32	27	26	24	42
	500	230	43	37	38	33	26	23	21	20	35
		560	49	46	49	43	32	27	21	20	44
		1000	52	52	57	47	36	30	27	25	50
		1500	58	57	58	49	38	36	33	34	52
	1000	230	48	42	44	38	30	26	21	20	39
		560	51	49	54	47	38	33	31	28	49
		1000	54	55	60	52	42	36	35	33	54
		1500	58	61	64	56	44	39	36	35	58

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

SOUND POWER OF THE GENERATED NOISE: CL-VCL

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	40	34	34	28	21	19	17	17	30
		900	50	46	44	37	25	23	20	18	39
		1600	51	46	42	35	29	26	21	17	38
		2300	52	45	43	38	34	32	27	20	41
	500	250	45	37	38	32	23	21	19	18	34
		900	54	55	53	45	34	31	26	26	47
		1600	61	58	57	48	36	32	28	26	51
		2300	60	57	54	46	38	36	32	26	49
	1000	250	52	43	43	37	28	26	24	25	39
		900	55	57	58	49	40	36	31	32	52
		1600	63	66	65	55	44	40	35	34	59
		2300	66	67	65	56	44	42	37	34	59
315	200	400	48	38	32	29	25	25	20	17	33
		1500	59	49	43	36	30	30	24	18	41
		2500	61	51	42	38	31	30	23	18	42
		3600	57	43	40	38	32	28	22	18	39
	500	400	55	44	40	35	31	32	33	29	40
		1500	64	58	51	44	38	39	33	26	48
		2500	72	61	56	46	39	40	34	26	52
		3600	73	63	55	49	40	39	34	26	53
	1000	400	67	48	44	39	35	35	31	30	45
		1500	67	63	58	51	45	45	40	33	55
		2500	72	61	65	55	45	47	42	35	59
		3600	78	61	65	56	46	47	41	35	60
355	200	500	47	37	33	27	20	21	17	17	31
		1800	58	48	44	35	25	21	22	18	39
		3300	62	53	51	42	32	28	26	22	46
		4800	71	63	56	49	40	36	31	27	53
	500	500	53	46	40	33	25	22	23	19	37
		1800	64	59	53	43	34	30	31	32	48
		3300	71	66	60	51	41	37	35	32	55
		4800	77	70	62	55	41	38	34	31	59
	1000	500	62	49	42	36	29	26	27	27	41
		1800	66	67	60	51	42	38	36	35	56
		3300	73	74	65	56	46	42	39	37	61
		4800	78	72	65	57	43	40	37	32	61
400	200	700	45	37	31	23	19	18	17	17	29
		2500	59	50	43	32	25	22	21	18	39
		4400	63	53	46	39	31	27	24	21	43
		6300	66	55	50	46	37	34	29	24	48
	500	700	54	46	40	33	24	23	25	20	37
		2500	65	61	53	43	34	33	34	33	49
		4400	73	67	58	48	39	36	34	29	55
		6300	71	62	57	52	38	36	32	27	54
	1000	700	62	52	45	37	30	28	30	29	43
		2500	67	66	58	50	41	39	40	39	55
		4400	75	73	65	54	45	42	41	36	61
		6300	73	64	60	54	40	38	35	29	56

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

SOUND POWER OF THE GENERATED NOISE: CL-VCL

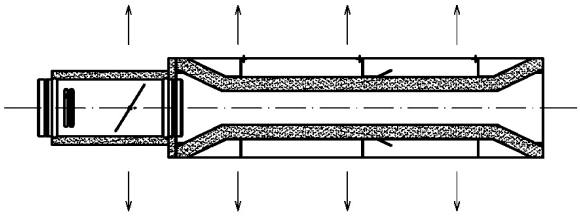
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	44	38	38	32	25	23	21	21	34
		2900	54	50	48	41	29	27	24	22	43
		5200	55	50	46	39	33	30	25	21	42
		7400	56	49	47	42	38	36	31	24	45
	500	800	49	41	42	36	27	25	23	22	38
		2900	58	59	57	49	38	35	30	30	51
		5200	65	62	61	52	40	36	32	30	55
		7400	64	61	58	50	42	40	36	30	53
	1000	800	56	47	47	41	32	30	28	29	43
		2900	59	61	62	53	44	40	35	36	56
		5200	67	70	69	59	48	44	39	38	63
		7400	70	71	69	60	48	46	41	38	63
630	200	1600	51	41	35	32	28	28	23	20	36
		5600	62	52	46	39	33	33	27	21	43
		10100	64	54	45	41	34	33	26	21	45
		14600	60	46	43	41	35	31	25	21	42
	500	1600	58	47	43	38	34	35	36	32	43
		5600	67	61	54	47	41	42	36	29	51
		10100	75	64	59	49	42	43	37	29	55
		14600	76	66	58	52	43	42	37	29	56
	1000	1600	70	51	47	42	38	38	34	33	48
		5600	70	66	61	54	48	48	43	36	58
		10100	75	64	68	58	48	50	45	38	62
		14600	81	64	68	59	49	50	44	38	63

VARIABLE AIR FLOW UNITS

NOISE DATA

CL-VCL SERIES

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL SIMPLE CASING MODEL



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	44	22	21	17	17	17	17	17	25
		220	45	31	35	30	22	20	20	17	32
		400	45	34	36	32	25	21	18	17	33
		570	45	33	36	32	26	21	17	17	33
	500	60	33	23	24	22	19	19	17	17	26
		220	41	33	37	33	27	26	19	17	35
		400	45	42	45	43	35	31	23	19	43
		570	48	46	48	43	35	30	23	19	44
	1000	60	35	25	27	26	22	22	20	18	29
		220	41	38	43	39	34	33	25	21	41
		400	46	42	46	44	38	37	27	23	45
		570	49	46	49	44	38	36	27	23	46
160	200	100	41	25	24	20	18	18	22	22	28
		350	48	38	39	34	25	21	19	19	35
		700	56	42	46	39	30	24	20	19	41
		950	54	40	43	37	30	23	21	19	39
	500	100	41	28	28	25	20	21	20	19	29
		350	49	39	44	39	30	26	22	20	40
		700	57	50	53	49	36	30	24	20	49
		950	53	53	54	48	38	31	25	21	49
	1000	100	38	28	27	25	22	24	23	23	31
		350	49	40	48	45	36	32	26	24	45
		700	54	51	57	53	41	35	29	24	53
		950	53	53	57	55	41	35	29	24	54
200	200	230	37	30	31	26	23	22	20	19	30
		560	43	41	41	33	27	25	23	22	36
		1000	52	44	45	37	29	26	24	22	40
		1500	53	44	43	37	31	26	24	20	39
	500	230	46	36	38	32	26	24	22	20	35
		560	47	46	50	42	33	29	27	26	44
		1000	53	52	55	47	37	35	33	30	49
		1500	58	55	57	48	39	36	34	29	51
	1000	230	47	41	44	37	31	27	25	24	39
		560	53	46	53	46	41	38	37	31	49
		1000	52	53	59	51	42	38	35	33	53
		1500	56	60	63	54	44	40	37	35	57

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL SIMPLE CASING MODEL

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	40	33	34	27	20	19	17	17	30
		900	49	46	44	34	25	22	18	17	38
		1600	49	43	39	33	25	22	17	17	35
		2300	53	44	40	38	33	28	22	17	39
	500	250	43	37	38	31	25	22	18	17	34
		900	53	52	53	43	35	31	24	19	47
		1600	59	56	56	46	35	32	25	19	50
		2300	58	53	52	43	35	32	25	19	46
	1000	250	50	42	43	37	29	28	22	18	39
		900	55	55	58	48	41	37	29	24	52
		1600	61	63	65	54	44	41	33	26	58
		2300	64	63	63	54	44	42	34	27	57
315	200	400	46	35	32	28	25	26	19	17	32
		1500	59	48	41	34	31	31	23	17	40
		2500	59	47	41	35	30	29	22	17	39
		3600	56	41	40	37	30	27	21	17	38
	500	400	55	43	39	35	32	33	27	24	40
		1500	64	57	50	42	39	40	32	21	48
		2500	72	59	54	45	40	41	33	21	51
		3600	71	58	53	46	39	39	32	21	51
	1000	400	65	45	43	38	34	34	28	24	43
		1500	66	60	57	50	45	46	38	27	54
		2500	71	67	62	53	47	48	41	29	58
		3600	78	69	63	54	46	47	41	29	59
355	200	500	44	36	29	25	20	18	17	17	29
		1800	57	44	35	30	24	21	18	17	35
		3300	63	50	45	39	30	25	21	19	42
		4800	68	56	51	46	36	30	24	21	48
	500	500	51	44	36	31	25	21	19	18	34
		1800	64	56	49	42	34	29	24	25	46
		3300	72	62	57	48	39	36	27	25	53
		4800	76	63	56	50	40	37	28	21	54
	1000	500	58	48	38	36	30	27	22	20	39
		1800	65	62	56	49	42	37	31	28	52
		3300	73	71	62	53	45	40	33	30	59
		4800	78	65	58	51	42	38	30	27	56
400	200	700	44	38	30	23	18	18	17	17	28
		2500	58	49	38	30	24	21	18	17	37
		4400	64	57	45	37	30	26	21	19	44
		6300	66	56	46	43	35	31	25	21	46
	500	700	51	46	37	32	25	22	19	18	35
		2500	65	60	49	41	33	31	25	24	47
		4400	73	66	54	47	38	36	28	24	53
		6300	74	62	51	47	39	37	29	26	52
	1000	700	59	51	41	35	28	26	24	21	40
		2500	66	66	54	49	40	37	30	29	53
		4400	74	72	59	53	43	41	33	29	58
		6300	76	64	53	48	40	39	31	28	54

VARIABLE AIR FLOW UNITS

NOISE DATA

CL-VCL SERIES

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL SIMPLE CASING MODEL

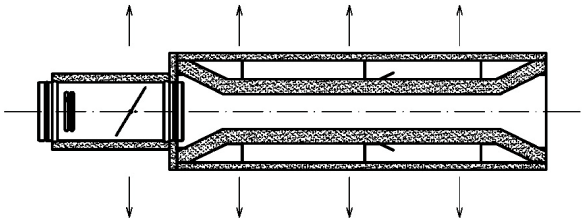
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	44	37	38	31	24	23	21	21	34
		2900	53	50	48	38	29	26	22	21	42
		5200	53	47	43	37	29	26	21	21	39
		7400	57	48	44	42	37	32	26	21	43
	500	800	47	41	42	35	29	26	22	21	38
		2900	57	56	57	47	39	35	28	23	51
		5200	63	60	60	50	39	36	29	23	54
		7400	62	57	56	47	39	36	29	23	50
	1000	800	54	46	47	41	33	32	26	22	43
		2900	59	59	62	52	45	41	33	28	56
		5200	65	67	69	58	48	45	37	30	62
		7400	68	67	67	58	48	46	38	31	61
630	200	1600	49	38	35	31	28	29	22	20	35
		5600	62	51	44	37	34	34	26	20	43
		10100	62	50	44	38	33	32	25	20	42
		14600	59	44	43	40	33	30	24	20	41
	500	1600	58	46	42	38	35	36	30	27	42
		5600	67	60	53	45	42	43	35	24	51
		10100	75	62	57	48	43	44	36	24	54
		14600	74	61	56	49	42	42	35	24	54
	1000	1600	68	48	46	41	37	37	31	27	46
		5600	69	63	60	53	48	49	41	30	57
		10100	74	70	65	56	50	51	44	32	61
		14600	81	72	66	57	49	50	44	32	62

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL DOUBLE CASING MODEL



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	39	15	15	15	15	15	15	15	22
		220	40	22	24	21	15	15	15	15	24
		400	40	26	24	24	15	15	15	15	25
		570	42	25	23	24	17	15	15	15	25
	500	60	30	15	15	15	15	15	15	15	22
		220	36	25	28	25	18	19	15	15	27
		400	38	35	36	34	26	23	15	15	34
		570	41	37	39	35	25	22	15	15	35
	1000	60	32	16	20	19	15	15	15	15	23
		220	37	29	36	29	23	21	15	15	31
		400	41	31	40	32	28	26	18	15	35
		570	44	35	41	32	30	25	19	15	36
160	200	100	35	16	16	15	15	15	15	15	22
		350	44	28	28	25	18	15	15	15	27
		700	51	30	30	29	21	15	15	15	30
		950	50	31	32	30	21	15	15	15	31
	500	100	37	17	17	15	15	15	15	15	22
		350	46	30	34	32	19	15	15	15	31
		700	53	39	42	39	25	19	15	15	39
		950	48	45	45	39	27	19	15	15	40
	1000	100	34	20	20	18	15	15	15	15	23
		350	44	32	39	37	29	22	15	15	37
		700	50	39	45	40	27	22	20	15	40
		950	49	41	45	41	29	21	20	15	41
200	200	230	33	22	23	15	15	15	15	15	23
		560	40	28	28	21	15	15	15	15	25
		1000	49	34	35	25	16	15	15	15	30
		1500	48	34	34	26	20	15	15	15	30
	500	230	42	25	25	21	15	15	15	15	25
		560	43	32	37	29	22	18	15	15	32
		1000	50	42	45	39	26	22	20	18	40
		1500	54	44	45	38	29	25	22	19	40
	1000	230	44	28	31	29	22	17	15	15	30
		560	50	33	42	35	28	27	25	19	38
		1000	51	43	45	37	29	28	25	20	40
		1500	52	47	49	44	32	31	29	23	45

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL DOUBLE CASING MODEL

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	37	25	25	20	15	15	15	15	24
		900	45	40	34	22	15	15	15	15	29
		1600	45	31	30	24	15	15	15	15	27
		2300	49	31	30	23	19	17	15	15	28
	500	250	40	26	30	20	15	15	15	15	26
		900	50	39	39	33	27	23	15	15	35
		1600	55	45	44	31	22	24	15	15	38
		2300	54	41	41	30	22	23	15	15	36
	1000	250	47	31	29	24	16	16	15	15	27
		900	52	41	45	48	30	23	17	15	46
		1600	57	50	51	39	34	28	20	16	45
		2300	59	52	50	38	32	28	24	16	44
315	200	400	43	23	19	19	15	18	15	15	24
		1500	55	38	30	22	18	22	15	15	32
		2500	56	38	30	25	20	21	15	15	32
		3600	55	38	32	24	19	21	15	15	32
	500	400	52	34	28	24	21	22	15	15	30
		1500	59	45	39	29	25	28	20	15	37
		2500	67	48	41	32	29	29	20	15	43
		3600	67	48	39	31	29	30	22	15	42
	1000	400	61	32	33	27	22	22	15	15	36
		1500	63	50	50	43	34	32	23	15	45
		2500	67	59	53	44	35	34	25	19	49
		3600	73	55	51	45	35	34	26	20	50
355	200	500	39	25	18	15	15	15	15	15	23
		1800	51	32	25	21	15	15	15	15	28
		3300	58	42	37	25	22	15	15	15	35
		4800	63	45	37	34	22	23	15	15	39
	500	500	47	31	25	19	17	15	15	15	26
		1800	61	41	35	30	22	18	15	15	37
		3300	67	51	47	39	26	25	15	15	44
		4800	73	51	46	39	28	25	15	15	48
	1000	500	54	35	25	24	18	15	15	15	30
		1800	60	45	41	35	29	23	19	15	39
		3300	67	55	47	40	35	26	19	18	45
		4800	72	53	48	40	34	25	23	21	48
400	200	700	39	26	19	15	15	15	15	15	23
		2500	53	40	25	18	15	15	15	15	30
		4400	59	46	32	28	19	15	15	15	36
		6300	63	45	35	35	24	19	15	15	39
	500	700	48	32	27	24	16	15	15	15	27
		2500	63	47	40	32	25	22	15	15	39
		4400	71	51	45	36	25	29	16	15	46
		6300	70	49	43	35	30	31	19	15	45
	1000	700	55	40	28	22	19	15	16	15	31
		2500	65	51	41	40	28	29	19	21	43
		4400	70	56	46	45	32	30	23	22	48
		6300	70	54	44	42	31	29	22	21	46

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIATED NOISE: CL-VCL DOUBLE CASING MODEL

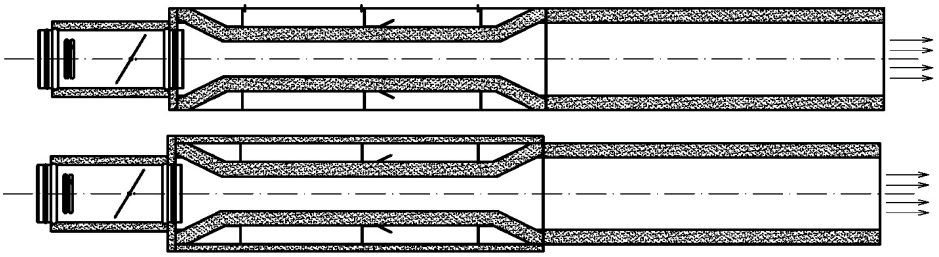
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	41	29	29	24	19	19	19	19	28
		2900	49	44	38	26	19	19	19	19	33
		5200	49	35	34	28	19	19	19	19	31
		7400	53	35	34	27	23	21	19	19	32
	500	800	44	30	34	24	19	19	19	19	30
		2900	54	43	43	37	31	27	19	19	39
		5200	59	49	48	35	26	28	19	19	42
		7400	58	45	45	34	26	27	19	19	40
	1000	800	51	35	33	28	20	20	19	19	31
		2900	56	45	49	52	34	27	21	19	50
		5200	61	54	55	43	38	32	24	20	49
		7400	63	56	54	42	36	32	28	20	48
630	200	1600	46	26	22	22	18	21	18	18	27
		5600	58	41	33	25	21	25	18	18	35
		10100	59	41	33	28	23	24	18	18	35
		14600	58	41	35	27	22	24	18	18	35
	500	1600	55	37	31	27	24	25	18	18	33
		5600	62	48	42	32	28	31	23	18	40
		10100	70	51	44	35	32	32	23	18	46
		14600	70	51	42	34	32	33	25	18	45
	1000	1600	64	35	36	30	25	25	18	18	39
		5600	66	53	53	46	37	35	26	18	48
		10100	70	62	56	47	38	37	28	22	52
		14600	76	58	54	48	38	37	29	23	53

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE GENERATED NOISE: CL-VCL WITH ADDITIONAL SILENCER



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	45	20	21	15	15	15	15	15	24
		220	48	32	38	29	18	17	15	15	32
		400	49	36	33	30	21	18	15	15	31
		570	50	35	42	32	25	19	15	15	36
	500	60	41	26	26	22	17	18	15	15	26
		220	45	35	40	29	25	23	16	15	34
		400	45	52	47	36	29	28	26	17	42
		570	50	50	52	38	32	30	23	17	45
	1000	60	30	25	22	18	18	19	17	19	25
		220	40	35	40	36	30	29	22	18	38
		400	40	53	48	42	36	33	30	23	45
		570	45	50	55	42	37	33	27	22	48
160	200	100	35	21	21	17	16	15	15	15	23
		350	46	38	40	28	17	17	15	15	33
		700	54	40	44	28	24	19	16	16	37
		950	53	41	44	30	25	21	19	15	37
	500	100	38	28	28	21	16	16	15	15	25
		350	47	40	46	29	21	20	16	17	38
		700	52	48	51	32	26	21	18	17	43
		950	52	52	51	34	28	24	19	20	44
	1000	100	35	30	31	24	17	18	18	16	28
		350	42	43	45	37	28	22	20	18	39
		700	46	48	50	45	30	22	21	20	45
		950	46	54	52	45	31	24	21	21	47
200	200	230	29	26	28	18	15	15	15	15	24
		560	40	36	36	22	16	16	16	15	30
		1000	48	40	41	22	20	20	18	16	34
		1500	50	42	41	26	22	21	19	18	35
	500	230	40	35	35	22	19	19	16	15	29
		560	46	40	42	26	22	19	15	15	35
		1000	50	48	49	28	26	22	21	19	41
		1500	54	48	48	34	27	25	24	24	41
	1000	230	44	35	40	32	24	20	18	15	34
		560	50	45	50	40	29	25	25	19	43
		1000	52	45	56	42	29	27	24	26	48
		1500	52	48	56	44	33	32	24	29	49

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE GENERATED NOISE: CL-VCL WITH ADDITIONAL SILENCER

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	32	28	28	17	15	15	15	15	24
		900	44	40	38	24	18	16	15	15	32
		1600	45	40	38	25	22	18	15	15	32
		2300	45	43	40	27	25	23	19	15	35
	500	250	39	31	31	21	17	16	15	15	27
		900	48	48	45	28	25	25	20	19	39
		1600	54	50	47	31	27	25	20	18	41
		2300	54	49	48	35	28	28	26	21	42
	1000	250	45	38	35	30	19	20	20	17	32
		900	45	50	50	42	34	26	22	22	44
		1600	50	55	54	47	34	30	25	22	49
		2300	52	55	53	49	33	30	26	24	49
315	200	400	40	32	26	19	18	18	15	15	26
		1500	50	40	36	23	22	22	18	15	32
		2500	50	42	37	25	21	19	18	15	33
		3600	53	42	35	33	22	23	16	15	34
	500	400	50	35	32	22	22	22	20	21	31
		1500	54	48	33	27	26	26	20	20	36
		2500	61	49	44	34	27	28	22	20	41
		3600	61	49	44	41	30	29	24	21	42
	1000	400	58	40	35	29	27	27	23	21	36
		1500	60	53	45	41	32	38	31	24	45
		2500	60	55	49	41	32	40	31	25	46
		3600	64	57	53	46	36	39	33	28	49
355	200	500	40	28	25	20	15	15	15	15	24
		1800	48	38	35	24	18	15	15	15	30
		3300	50	42	40	29	25	21	20	16	35
		4800	55	52	42	35	32	26	22	20	40
	500	500	45	38	31	22	18	16	15	15	28
		1800	58	49	42	31	25	23	25	24	39
		3300	62	55	51	38	32	30	26	22	46
		4800	67	59	52	45	32	30	27	24	49
	1000	500	55	52	31	28	18	19	20	20	37
		1800	60	60	47	43	30	28	28	25	47
		3300	65	65	53	45	36	31	28	25	51
		4800	69	65	54	45	38	30	30	25	52
400	200	700	35	30	22	15	15	15	15	15	23
		2500	50	40	33	22	17	15	15	15	30
		4400	53	42	35	30	22	20	17	15	33
		6300	53	41	38	35	30	24	20	15	37
	500	700	44	35	28	20	16	16	18	15	27
		2500	55	50	40	29	25	23	25	21	38
		4400	61	52	41	35	30	26	25	20	41
		6300	60	52	45	40	26	25	23	22	42
	1000	700	51	42	37	25	20	18	21	21	33
		2500	56	56	45	41	29	28	28	28	44
		4400	63	59	50	42	35	30	30	29	47
		6300	62	59	52	43	35	31	32	28	48

VARIABLE AIR FLOW UNITS

NOISE DATA

CL-VCL SERIES

NOISE LEVEL OF THE GENERATED NOISE: CL-VCL WITH ADDITIONAL SILENCER

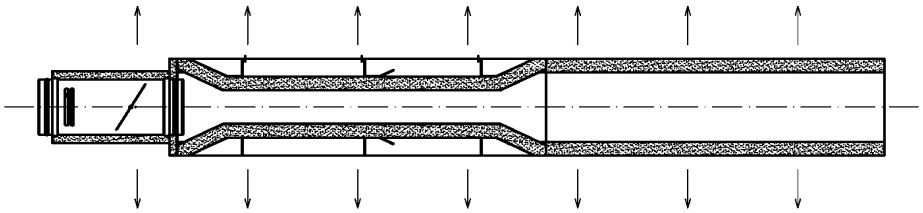
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	36	32	32	21	19	19	19	19	28
		2900	48	44	42	28	22	20	19	19	36
		5200	49	44	42	29	26	22	19	19	36
		7400	49	47	44	31	29	27	23	19	39
	500	800	43	35	35	25	21	20	19	19	31
		2900	52	52	49	32	29	29	24	23	43
		5200	58	54	51	35	31	29	24	22	45
		7400	58	53	52	39	32	32	30	25	46
	1000	800	49	42	39	34	23	24	24	21	36
		2900	49	54	54	46	38	30	26	26	48
		5200	54	59	58	51	38	34	29	26	53
		7400	56	59	57	53	37	34	30	28	53
630	200	1600	43	35	29	22	21	21	18	18	29
		5600	53	43	39	26	25	25	21	18	35
		10100	53	45	40	28	24	22	21	18	36
		14600	56	45	38	36	25	26	19	18	37
	500	1600	53	38	35	25	25	25	23	24	34
		5600	57	51	36	30	29	29	23	23	39
		10100	64	52	47	37	30	31	25	23	44
		14600	64	52	47	44	33	32	27	24	45
	1000	1600	61	43	38	32	30	30	26	24	39
		5600	63	56	48	44	35	41	34	27	48
		10100	63	58	52	44	35	43	34	28	49
		14600	67	60	56	49	39	42	36	31	52

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL SIMPLE CASING WITH ADDITIONAL SILENCER



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	44	22	21	17	17	17	17	17	25
		220	45	31	35	30	22	20	20	17	32
		400	45	34	36	32	25	21	18	17	33
		570	45	33	36	32	26	21	17	17	33
	500	60	33	23	24	22	19	19	17	17	26
		220	41	33	37	33	27	26	19	17	35
		400	45	42	45	43	35	31	23	19	43
		570	48	46	48	43	35	30	23	19	44
	1000	60	35	25	27	26	22	22	20	18	29
		220	41	38	43	39	34	33	25	21	41
		400	46	42	46	44	38	37	27	23	45
		570	49	46	49	44	38	36	27	23	46
160	200	100	41	25	24	20	18	18	22	22	28
		350	48	38	39	34	25	21	19	19	35
		700	56	42	46	39	30	24	20	19	41
		950	54	40	43	37	30	23	21	19	39
	500	100	41	28	28	25	20	21	20	19	29
		350	49	39	44	39	30	26	22	20	40
		700	57	50	53	49	36	30	24	20	49
		950	53	53	54	48	38	31	25	21	49
	1000	100	38	28	27	25	22	24	23	23	31
		350	49	40	48	45	36	32	26	24	45
		700	54	51	57	53	41	35	29	24	53
		950	53	53	57	55	41	35	29	24	54
200	200	230	37	30	31	26	23	22	20	19	30
		560	43	41	41	33	27	25	23	22	36
		1000	52	44	45	37	29	26	24	22	40
		1500	53	44	43	37	31	26	24	20	39
	500	230	46	36	38	32	26	24	22	20	35
		560	47	46	50	42	33	29	27	26	44
		1000	53	52	55	47	37	35	33	30	49
		1500	58	55	57	48	39	36	34	29	51
	1000	230	47	41	44	37	31	27	25	24	39
		560	53	46	53	46	41	38	37	31	49
		1000	52	53	59	51	42	38	35	33	53
		1500	56	60	63	54	44	40	37	35	57

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL SIMPLE CASING WITH ADDITIONAL SILENCER

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	40	33	34	27	20	19	17	17	30
		900	49	46	44	34	25	22	18	17	38
		1600	49	43	39	33	25	22	17	17	35
		2300	53	44	40	38	33	28	22	17	39
	500	250	43	37	38	31	25	22	18	17	34
		900	53	52	53	43	35	31	24	19	47
		1600	59	56	56	46	35	32	25	19	50
		2300	58	53	52	43	35	32	25	19	46
	1000	250	50	42	43	37	29	28	22	18	39
		900	55	55	58	48	41	37	29	24	52
		1600	61	63	65	54	44	41	33	26	58
		2300	64	63	63	54	44	42	34	27	57
315	200	400	46	35	32	28	25	26	19	17	32
		1500	59	48	41	34	31	31	23	17	40
		2500	59	47	41	35	30	29	22	17	39
		3600	56	41	40	37	30	27	21	17	38
	500	400	55	43	39	35	32	33	27	24	39
		1500	64	57	50	42	39	40	32	21	48
		2500	72	59	54	45	40	41	33	21	51
		3600	71	58	53	46	39	39	32	21	51
	1000	400	65	45	43	38	34	34	28	24	43
		1500	66	60	57	50	45	46	38	27	54
		2500	71	67	62	53	47	48	41	29	58
		3600	78	69	63	54	46	47	41	29	59
355	200	500	44	36	29	25	20	18	17	17	28
		1800	57	44	35	30	24	21	18	17	35
		3300	63	50	45	39	30	25	21	19	42
		4800	68	56	51	46	36	30	24	21	48
	500	500	51	44	36	31	25	21	19	18	34
		1800	64	56	49	42	34	29	24	25	46
		3300	72	62	57	48	39	36	27	25	53
		4800	76	63	56	50	40	37	28	21	54
	1000	500	58	48	38	36	30	27	22	20	39
		1800	65	62	56	49	42	37	31	28	52
		3300	73	71	62	53	45	40	33	30	59
		4800	78	65	58	51	42	38	30	27	56
400	200	700	44	38	30	23	18	18	17	17	28
		2500	58	49	38	30	24	21	18	17	37
		4400	64	57	45	37	30	26	21	19	44
		6300	66	56	46	43	35	31	25	21	46
	500	700	51	46	37	32	25	22	19	18	35
		2500	65	60	49	41	33	31	25	24	47
		4400	73	66	54	47	38	36	28	24	53
		6300	74	62	51	47	39	37	29	26	52
	1000	700	59	51	41	35	28	26	24	21	40
		2500	66	66	54	49	40	37	30	29	53
		4400	74	72	59	53	43	41	33	29	58
		6300	76	64	53	48	40	39	31	28	54

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL SIMPLE CASING WITH ADDITIONAL SILENCER

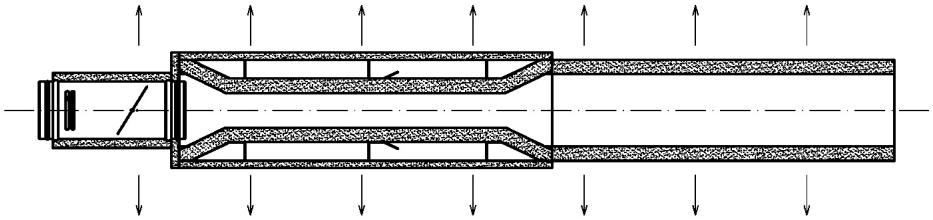
Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	44	37	38	31	24	23	21	21	34
		2900	53	50	48	38	29	26	22	21	42
		5200	53	47	43	37	29	26	21	21	39
		7400	57	48	44	42	37	32	26	21	43
	500	800	47	41	42	35	29	26	22	21	38
		2900	57	56	57	47	39	35	28	23	51
		5200	63	60	60	50	39	36	29	23	54
		7400	62	57	56	47	39	36	29	23	50
	1000	800	54	46	47	41	33	32	26	22	43
		2900	59	59	62	52	45	41	33	28	56
		5200	65	67	69	58	48	45	37	30	62
		7400	68	67	67	58	48	46	38	31	61
630	200	1600	49	38	35	31	28	29	22	20	35
		5600	62	51	44	37	34	34	26	20	43
		10100	62	50	44	38	33	32	25	20	42
		14600	59	44	43	40	33	30	24	20	41
	500	1600	58	46	42	38	35	36	30	27	42
		5600	67	60	53	45	42	43	35	24	51
		10100	75	62	57	48	43	44	36	24	54
		14600	74	61	56	49	42	42	35	24	54
	1000	1600	68	48	46	41	37	37	31	27	46
		5600	69	63	60	53	48	49	41	30	57
		10100	74	70	65	56	50	51	44	32	61
		14600	81	72	66	57	49	50	44	32	62

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL DOUBLE CASING WITH ADDITIONAL SILENCER



Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	39	15	15	15	15	15	15	15	22
		220	40	22	24	21	15	15	15	15	24
		400	40	26	24	24	15	15	15	15	25
		570	42	25	23	24	17	15	15	15	25
	500	60	30	15	15	15	15	15	15	15	22
		220	36	25	28	25	18	19	15	15	27
		400	38	35	36	34	26	23	15	15	34
		570	41	37	39	35	25	22	15	15	35
	1000	60	32	16	20	19	15	15	15	15	23
		220	37	29	36	29	23	21	15	15	31
		400	41	31	40	32	28	26	18	15	35
		570	44	35	41	32	30	25	19	15	36
160	200	100	35	16	16	15	15	15	15	15	22
		350	44	28	28	25	18	15	15	15	27
		700	51	30	30	29	21	15	15	15	30
		950	50	31	32	30	21	15	15	15	31
	500	100	37	17	17	15	15	15	15	15	22
		350	46	30	34	32	19	15	15	15	31
		700	53	39	42	39	25	19	15	15	39
		950	48	45	45	39	27	19	15	15	40
	1000	100	34	20	20	18	15	15	15	15	23
		350	44	32	39	37	29	22	15	15	37
		700	50	39	45	40	27	22	20	15	40
		950	49	41	45	41	29	21	20	15	41
200	200	230	33	22	23	15	15	15	15	15	23
		560	40	28	28	21	15	15	15	15	25
		1000	49	34	35	25	16	15	15	15	30
		1500	48	34	34	26	20	15	15	15	30
	500	230	42	25	25	21	15	15	15	15	25
		560	43	32	37	29	22	18	15	15	32
		1000	50	42	45	39	26	22	20	18	40
		1500	54	44	45	38	29	25	22	19	40
	1000	230	44	28	31	29	22	17	15	15	30
		560	50	33	42	35	28	27	25	19	38
		1000	51	43	45	37	29	28	25	20	40
		1500	52	47	49	44	32	31	29	23	45

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL DOUBLE CASING WITH ADDITIONAL SILENCER

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	37	25	25	20	15	15	15	15	24
		900	45	40	34	22	15	15	15	15	29
		1600	45	31	30	24	15	15	15	15	27
		2300	49	31	30	23	19	17	15	15	28
	500	250	40	26	30	20	15	15	15	15	26
		900	50	39	39	33	27	23	15	15	35
		1600	55	45	44	31	22	24	15	15	38
		2300	54	41	41	30	22	23	15	15	36
	1000	250	47	31	29	24	16	16	15	15	27
		900	52	41	45	48	30	23	17	15	46
		1600	57	50	51	39	34	28	20	16	45
		2300	59	52	50	38	32	28	24	16	44
315	200	400	43	23	19	19	15	18	15	15	24
		1500	55	38	30	22	18	22	15	15	32
		2500	56	38	30	25	20	21	15	15	32
		3600	55	38	32	24	19	21	15	15	32
	500	400	52	34	28	24	21	22	15	15	30
		1500	59	45	39	29	25	28	20	15	37
		2500	67	48	41	32	29	29	20	15	43
		3600	67	48	39	31	29	30	22	15	42
	1000	400	61	32	33	27	22	22	15	15	36
		1500	63	50	50	43	34	32	23	15	45
		2500	67	59	53	44	35	34	25	19	49
		3600	73	55	51	45	35	34	26	20	50
355	200	500	39	25	18	15	15	15	15	15	23
		1800	51	32	25	21	15	15	15	15	28
		3300	58	42	37	25	22	15	15	15	35
		4800	63	45	37	34	22	23	15	15	39
	500	500	47	31	25	19	17	15	15	15	26
		1800	61	41	35	30	22	18	15	15	37
		3300	67	51	47	39	26	25	15	15	44
		4800	73	51	46	39	28	25	15	15	48
	1000	500	54	35	25	24	18	15	15	15	30
		1800	60	45	41	35	29	23	19	15	39
		3300	67	55	47	40	35	26	19	18	45
		4800	72	53	48	40	34	25	23	21	48
400	200	700	39	26	19	15	15	15	15	15	23
		2500	53	40	25	18	15	15	15	15	30
		4400	59	46	32	28	19	15	15	15	36
		6300	63	45	35	35	24	19	15	15	39
	500	700	48	32	27	24	16	15	15	15	27
		2500	63	47	40	32	25	22	15	15	39
		4400	71	51	45	36	25	29	16	15	46
		6300	70	49	43	35	30	31	19	15	45
	1000	700	55	40	28	22	19	15	16	15	31
		2500	65	51	41	40	28	29	19	21	43
		4400	70	56	46	45	32	30	23	22	48
		6300	70	54	44	42	31	29	22	21	46

VARIABLE AIR FLOW UNITS

CL-VCL SERIES

NOISE DATA

NOISE LEVEL OF THE IRRADIED NOISE: CL-VCL DOUBLE CASING WITH ADDITIONAL SILENCER

Ø	ΔP	Q	Sound power (Lw-db/ott.)								
mm	Pa	m³/h	frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
500	200	800	41	29	29	24	19	19	19	19	28
		2900	49	44	38	26	19	19	19	19	33
		5200	49	35	34	28	19	19	19	19	31
		7400	53	35	34	27	23	21	19	19	32
	500	800	44	30	34	24	19	19	19	19	30
		2900	54	43	43	37	31	27	19	19	39
		5200	59	49	48	35	26	28	19	19	42
		7400	58	45	45	34	26	27	19	19	40
	1000	800	51	35	33	28	20	20	19	19	31
		2900	56	45	49	52	34	27	21	19	50
		5200	61	54	55	43	38	32	24	20	49
		7400	63	56	54	42	36	32	28	20	48
630	200	1600	46	26	22	22	18	21	18	18	27
		5600	58	41	33	25	21	25	18	18	35
		10100	59	41	33	28	23	24	18	18	35
		14600	58	41	35	27	22	24	18	18	35
	500	1600	55	37	31	27	24	25	18	18	33
		5600	62	48	42	32	28	31	23	18	40
		10100	70	51	44	35	32	32	23	18	46
		14600	70	51	42	34	32	33	25	18	45
	1000	1600	64	35	36	30	25	25	18	18	39
		5600	66	53	53	46	37	35	26	18	48
		10100	70	62	56	47	38	37	28	22	52
		14600	76	58	54	48	38	37	29	23	53

VARIABLE AIR FLOW UNITS

ACCESSORIES

CL-VCL SERIES

ADDITIONAL RECTANGULAR SILENCERS		
CODE	DIAMETER VAV mm	LENGTH mm
CL-VSR125	125	1000
CL-VSR160	160	1000
CL-VSR200	200	1000
CL-VSR250	250	1000
CL-VSR315	315	1000
CL-VSR355	355	1000
CL-VSR400	400	1000
CL-VSR500	500	1000
CL-VSR630	630	1000

VARIABLE AIR FLOW UNITS

CL-VCC
CL-VCL
SERIES

HOW TO ORDER

CL-VC Variable air flow unit

C Short
L Extra silent

Size

M Supply
R Extraction

D Right hand motor
S Left hand motor

N Simple casing
I Double casing
R Simple casing+net (*)
T Double casing+net (*)

(*) Only for extra silent units

CL-VC L 315 M D I

CL-VM Motor for regulator

A Siemens GDB 181.1/E3/MP
H Belimo NMV-D3-MP
N Belimo LMV-D3-MP
D Belimo NM24AV + reg. VRD3;

CL-VM A

NOTE
A standard motorisation is non provided, it will be necessary to always indicated the requested motor.
For help in the choice of motors please contact our commercial office.

ACCESSORI

CL-VSR Additional rectangular silencer

Size (**)

CL-VSR 315

(**) size of the variable air flow unit
Standard length 1000mm

CL-VML Differential pressure sensor Belimo VFP 300

CL-VMG Centralina Belimo VRP M per gestione dati di pressione differenziale

CL-VMF motor Belimo LMQ24A-SRV-ST for extraction

The use of VML-CL + CL + CL-VMF-VMG in equipment in extraction allows the management of environments in overpressure or depression with AP up to 300Pa