



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

OVERVIEW

Overview :

The CL-VRC series of variable flow regulators are regulation units to be used in single duct systems. these regulators are used to control and maintain the air quantity in the systems with variable air flow. **The tightness of the blade assure class 3 as per EN 1751**

Technical characteristics:

The CL-VRC regulators are assemble from:

- circular casing in galvanized steel from 100 up to 400 mm diameters equal to the standard circular air ducts.
- regulation damper in galvanized steel with hold gaskets to guaranty the maximum linearity in the regulation and level of minimal noise.
- Dynamic Δp probe for the measure and maintenance of the flow of air in relation to that requested in the room.
- motor regulator in linear with the regulation and control of the flow.

Applications:

The CL-VRC series regulators are used to supply a variable flow of air to the room to be conditioned, in relation to the variation of its thermal loads so as to maintain the maximum thermal comfort conditions. The auto-generated and irradiated noise tests have been carried out to EN ISO 3741 standards.

Text for tender:

Circular regulator with variable air flow for single duct for supply or extraction of air model CL-VRC manufactured by MP3 Srl, made in galvanized steel complete of differential pressure detector, temperature probe, regulator and actuator.

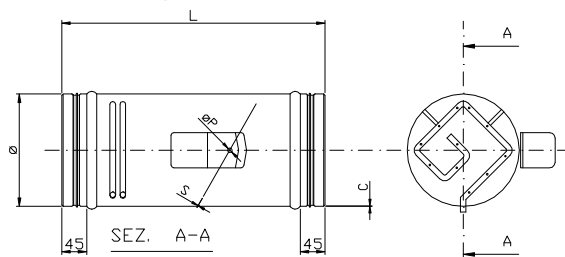
Accessories :

- double casing
- equalizing net to be install at the entrance to better spread the flow of air
- additional silencer L=500mm or L=1000mm

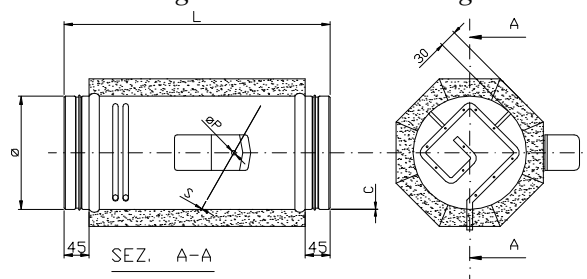
The regulators are supplied, as standard, complete with motors from our test benches according to customer request.

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.

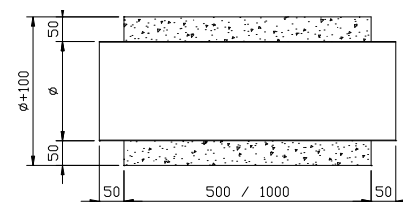
Variable air flow regulator CL-VRC-N



Variable air flow regulator with double casing CL-VRC-I



Additional silencer CL-VSC



Main dimensions :

Ø (mm)	Ø P (mm)	S (mm)	L (mm)	C (mm)
100	8	0,6	370	0,8
125	8	0,6	370	0,8
160	8	0,6	415	0,8
200	8	0,6	470	0,8
250	8	1,2	540	0,8
315	12	1,2	630	0,8
355	12	1,2	685	0,8
400	12	1,2	750	0,8
500	12	1,2	820	0,8
630	120	1,2	920	0,8

Executions :

With motor:

- Siemens GDB I81.1/E3/MP;
- Belimo NMV-D3-MP;
- Belimo LMV-D3-MP;
- Belimo NM24AV + reg. VRD3;
- other motor types to be agreed at quotation stage.

Possibility of fitting for use in extraction with control of the static room Δp to guarantee negative or positive pressures in relation to the use of the room.



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WORKING PRINCIPLES

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 (probe for dynamic Δp).
- 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

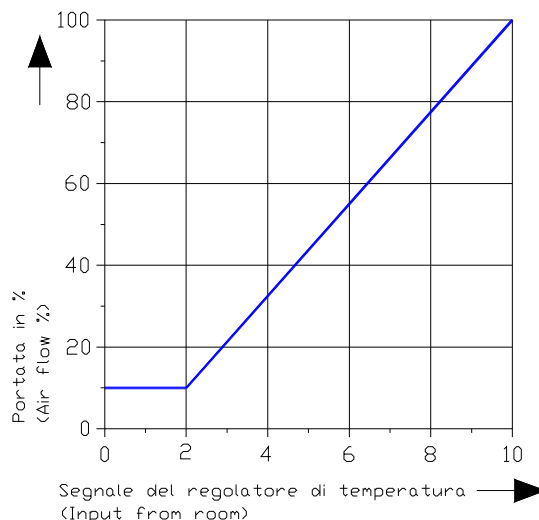
When ordering, is necessary to specify the type of signal that will be used for the adjustment.

The used signals 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 recovery 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 of access to the room.





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PERFORMANCE

Regulator calibration

For the calibration of the regulator CL-VRC 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 arrangements:

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 three times the dimension of the larger size 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

RANGE OF REGULATION OF THE AIR FLOW		
Diametro (mm)	Q min (m ³ /h)	Q max (m ³ /h)
100	>35	75÷280*
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

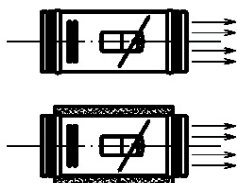


CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

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SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC



Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-dB/ott.)								
			frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
100	200	40	39	36	37	37	37	34	28	22	41
		140	48	48	50	49	46	42	36	30	51
		260	52	53	55	53	49	45	40	32	54
		364	55	57	58	57	52	48	42	34	58
	500	40	42	40	42	45	46	43	38	35	50
		140	52	52	54	55	54	51	47	42	58
		260	56	57	60	61	58	54	51	45	63
		364	59	61	64	64	61	56	53	47	66
	1000	40	45	43	46	51	52	50	46	44	56
		140	55	54	58	61	61	57	54	51	65
		260	60	60	64	66	65	61	59	54	69
		364	63	64	68	70	68	63	61	56	72
125	200	60	41	38	39	39	39	36	29	23	43
		220	50	50	52	51	48	44	38	31	53
		400	55	56	58	56	51	47	42	34	57
		570	58	60	61	60	54	50	44	36	60
	500	60	44	42	44	47	48	45	40	37	52
		220	54	54	57	58	57	53	49	44	61
		400	59	60	63	64	61	57	53	47	66
		570	62	64	67	67	64	59	56	49	69
	1000	60	47	45	48	53	55	52	48	46	59
		220	58	57	61	64	64	60	57	53	68
		400	63	63	67	69	68	64	62	57	72
		570	66	67	71	73	71	66	64	59	75
160	200	100	44	40	40	40	40	37	31	25	44
		350	54	52	53	52	49	45	40	33	54
		700	58	58	59	58	53	49	44	37	59
		950	61	62	63	61	56	51	46	39	62
	500	100	47	45	45	48	49	47	42	38	53
		350	58	57	58	59	58	54	51	45	62
		700	62	63	65	65	62	58	55	49	67
		950	66	66	69	69	65	60	58	51	70
	1000	100	50	48	49	53	56	54	49	47	60
		350	61	60	62	65	65	61	58	55	69
		700	66	66	69	70	69	65	63	58	73
		950	69	70	73	74	72	67	66	60	76



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SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.)								
			frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
200	200	230	47	35	38	38	41	38	34	27	45
		560	57	54	52	50	51	47	42	35	55
		1000	61	62	59	56	55	51	46	38	59
		1500	64	67	63	59	58	54	48	40	63
	500	230	51	41	44	45	49	48	44	39	53
		560	61	59	58	57	59	57	52	47	63
		1000	65	67	65	63	63	62	56	50	68
		1500	68	73	69	66	66	64	59	53	71
	1000	230	54	45	48	50	55	56	52	49	61
		560	64	63	63	62	65	65	60	56	70
		1000	68	71	69	68	69	69	64	60	74
		1500	71	77	73	71	72	72	66	62	77
250	200	250	47	46	44	42	44	38	30	29	47
		900	59	58	55	54	51	47	42	37	56
		1600	65	64	61	59	55	51	48	41	61
		2300	68	67	64	62	57	54	51	43	64
	500	250	52	52	51	50	53	48	40	40	56
		900	64	64	62	62	61	57	52	48	65
		1600	69	69	68	67	64	61	57	51	69
		2300	73	73	71	70	66	64	61	54	72
	1000	250	55	56	56	56	61	56	48	48	63
		900	67	68	68	67	68	65	59	56	72
		1600	73	74	73	73	71	69	65	59	76
		2300	76	76	74	74	73	72	67	61	78
315	200	400	52	46	42	43	44	41	37	32	48
		1500	63	59	56	55	53	49	46	40	58
		2500	67	65	62	61	57	53	50	43	63
		3600	70	68	66	64	59	55	52	45	65
	500	400	56	51	47	49	51	50	45	43	56
		1500	67	64	61	62	61	58	55	50	66
		2500	72	70	68	67	65	62	59	54	70
		3600	75	72	71	69	66	62	60	58	71
	1000	400	59	55	51	54	58	57	51	52	62
		1500	70	68	66	66	68	65	61	59	72
		2500	75	74	72	72	72	69	66	63	76
		3600	78	78	76	75	75	71	68	65	79
355	200	500	52	45	44	42	45	42	39	33	49
		1800	63	62	56	58	57	48	48	42	60
		3300	67	65	62	61	57	53	50	43	63
		4800	70	68	66	64	59	55	52	45	65
	500	500	56	53	46	51	52	53	44	44	57
		1800	67	64	61	62	61	58	55	50	66
		3300	72	74	67	70	66	66	57	56	72
		4800	75	74	72	71	68	64	62	56	73
	1000	500	58	56	52	55	58	56	52	53	62
		1800	70	69	67	67	67	66	62	61	72
		3300	75	75	73	73	73	68	67	66	77
		4800	79	77	77	76	74	72	67	66	79



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Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
400	200	700	50	48	43	44	44	43	38	34	49
		2500	65	63	55	59	58	52	50	44	62
		4400	72	66	62	61	58	54	52	47	63
		6300	77	69	66	65	61	56	55	50	67
	500	700	53	53	49	50	52	52	46	44	57
		2500	69	66	62	62	62	59	56	53	66
		4400	76	71	68	67	66	63	61	57	71
		6300	80	75	71	71	69	65	63	60	74
	1000	700	55	58	53	54	58	58	52	52	63
		2500	71	70	66	66	68	66	62	61	72
		4400	78	75	72	72	73	70	67	65	77
		6300	82	79	76	75	75	72	69	67	80
500	200	800	51	50	48	46	48	42	34	33	51
		2900	63	62	59	58	55	51	46	41	60
		5200	69	68	65	63	59	55	52	45	65
		7400	72	71	68	66	61	58	55	47	68
	500	800	56	56	55	54	57	52	44	44	60
		2900	68	68	66	66	65	61	56	52	69
		5200	73	73	72	71	68	65	61	55	73
		7400	77	77	75	74	70	68	65	58	76
	1000	800	59	60	60	60	65	60	52	52	67
		2900	71	72	72	71	72	69	63	60	76
		5200	77	78	77	77	75	73	69	63	80
		7400	80	80	78	78	77	76	71	65	82
630	200	1600	55	49	45	46	47	44	40	35	51
		5600	66	62	59	58	56	52	49	43	61
		10100	70	68	65	64	60	56	53	46	66
		14600	73	71	69	67	62	58	55	48	68
	500	1600	59	54	50	52	54	53	48	46	59
		5600	70	67	64	65	64	61	58	53	69
		10100	75	73	71	70	68	65	62	57	73
		14600	78	75	74	72	69	65	63	61	74
	1000	1600	62	58	54	57	61	60	54	55	65
		5600	73	71	69	69	71	68	64	62	75
		10100	78	77	75	75	75	72	69	66	79
		14600	81	81	79	78	78	74	71	68	82

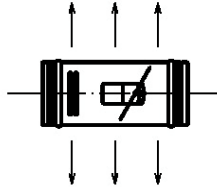


CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC SINGLE CASE VERSION



Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.)								
			frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
100	200	40	16	21	23	26	29	27	20	15	33
		140	25	32	35	37	37	34	29	23	41
		260	30	38	41	42	40	37	32	26	45
		364	32	42	44	46	43	40	34	28	48
	500	40	19	25	28	33	37	35	31	29	41
		140	29	36	40	44	46	43	39	35	50
		260	33	42	46	50	50	47	43	38	54
		364	36	46	50	52	52	49	46	40	56
	1000	40	22	28	31	39	44	42	38	37	48
		140	32	39	44	50	52	50	47	44	56
		260	37	45	50	54	56	53	52	48	60
		364	40	49	53	58	59	55	53	50	63
125	200	60	17	22	24	27	30	28	21	16	34
		220	26	34	37	39	39	36	30	24	43
		400	31	40	43	44	42	39	34	27	47
		570	34	44	46	48	45	42	36	29	50
	500	60	20	26	29	35	39	37	32	30	43
		220	30	38	42	46	48	45	41	37	52
		400	35	44	48	52	52	49	45	40	56
		570	38	48	52	55	55	51	48	42	59
	1000	60	23	29	33	41	46	44	40	39	50
		220	34	41	46	52	55	52	49	46	59
		400	39	47	52	57	59	56	54	50	63
		570	42	51	56	61	62	58	56	52	66
160	200	100	20	24	25	28	31	29	23	18	35
		350	30	36	38	40	40	37	32	26	44
		700	34	42	44	46	44	41	36	30	48
		950	37	46	48	49	47	43	38	32	51
	500	100	23	29	30	36	40	39	34	31	44
		350	34	41	43	47	49	46	43	38	53
		700	38	47	50	53	53	50	47	42	57
		950	42	50	54	57	56	52	50	44	60
	1000	100	26	32	34	41	47	46	41	40	51
		350	37	44	47	53	56	53	50	48	60
		700	42	50	54	58	60	57	55	51	64
		950	45	54	58	62	63	59	58	53	67



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC SINGLE CASE VERSION

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
200	200	230	23	19	23	26	32	30	26	20	36
		560	33	38	37	38	42	39	34	28	45
		1000	37	46	44	44	46	43	38	31	50
		1500	40	51	48	47	49	46	40	33	53
	500	230	27	25	29	33	40	40	36	32	45
		560	37	43	43	45	50	49	44	40	54
		1000	41	51	50	51	54	54	48	43	59
		1500	44	57	54	54	57	56	51	46	61
	1000	230	30	29	33	38	46	48	44	42	52
		560	40	47	48	50	56	57	52	49	61
		1000	44	55	54	56	60	61	56	53	66
		1500	47	61	58	59	63	64	58	55	68
250	200	250	23	30	29	30	35	30	22	22	37
		900	35	42	40	42	42	39	34	30	46
		1600	41	48	46	47	46	43	40	34	50
		2300	44	51	49	50	48	46	43	36	53
	500	250	28	36	36	38	44	40	32	33	47
		900	40	48	47	50	52	49	44	41	56
		1600	45	53	53	55	55	53	49	44	59
		2300	49	57	56	58	57	56	53	47	62
	1000	250	31	40	41	44	52	48	40	41	54
		900	43	52	53	55	59	57	51	49	63
		1600	49	58	58	61	62	61	57	52	67
		2300	52	60	59	62	64	64	59	54	69
315	200	400	28	30	27	31	35	33	29	25	39
		1500	39	43	41	43	44	41	38	33	48
		2500	43	49	47	49	48	45	42	36	52
		3600	46	52	51	52	50	47	44	38	55
	500	400	32	35	32	37	42	42	37	36	47
		1500	43	48	46	50	52	50	47	43	56
		2500	48	54	53	55	56	54	51	47	60
		3600	51	56	56	57	57	54	52	51	62
	1000	400	35	39	36	42	49	49	43	45	54
		1500	46	52	51	54	59	57	53	52	63
		2500	51	58	57	60	63	61	58	56	67
		3600	54	62	61	63	66	63	60	58	70
355	200	500	28	29	29	30	36	34	31	26	40
		1800	39	46	41	46	48	40	40	35	51
		3300	43	49	47	49	48	45	42	36	52
		4800	46	52	51	52	50	47	44	38	55
	500	500	32	37	31	39	43	45	36	37	49
		1800	43	48	46	50	52	50	47	43	56
		3300	48	58	52	58	57	58	49	49	63
		4800	51	58	57	59	59	56	54	49	63
	1000	500	34	40	37	43	49	48	44	46	54
		1800	46	53	52	55	58	58	54	54	63
		3300	51	59	58	61	64	60	59	59	68
		4800	55	61	62	64	65	64	59	59	70



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
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SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC SINGLE CASE VERSION

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
400	200	700	26	32	28	32	35	35	30	27	40
		2500	41	47	40	47	49	44	42	37	52
		4400	48	50	47	49	49	46	44	40	53
		6300	53	53	51	53	52	48	47	43	56
	500	700	29	37	34	38	43	44	38	37	48
		2500	45	50	47	50	53	51	48	46	57
		4400	52	55	53	55	57	55	53	50	62
		6300	56	59	56	59	60	57	55	53	64
	1000	700	31	42	38	42	49	50	44	45	54
		2500	47	54	51	54	59	58	54	54	64
		4400	54	59	57	60	64	62	59	58	68
		6300	58	63	61	63	66	64	61	60	70
500	200	800	27	34	33	34	39	34	26	26	41
		2900	39	46	44	46	46	43	38	34	50
		5200	45	52	50	51	50	47	44	38	54
		7400	48	55	53	54	52	50	47	40	57
	500	800	32	40	40	42	48	44	36	37	51
		2900	44	52	51	54	56	53	48	45	60
		5200	49	57	57	59	59	57	53	48	63
		7400	53	61	60	62	61	60	57	51	66
	1000	800	35	44	45	48	56	52	44	45	58
		2900	47	56	57	59	63	61	55	53	67
		5200	53	62	62	65	66	65	61	56	71
		7400	56	64	63	66	68	68	63	58	73
630	200	1600	31	33	30	34	38	36	32	28	42
		5600	42	46	44	46	47	44	41	36	51
		10100	46	52	50	52	51	48	45	39	55
		14600	49	55	54	55	53	50	47	41	58
	500	1600	35	38	35	40	45	45	40	39	50
		5600	46	51	49	53	55	53	50	46	59
		10100	51	57	56	58	59	57	54	50	63
		14600	54	59	59	60	60	57	55	54	65
	1000	1600	38	42	39	45	52	52	46	48	57
		5600	49	55	54	57	62	60	56	55	66
		10100	54	61	60	63	66	64	61	59	70
		14600	57	65	64	66	69	66	63	61	73

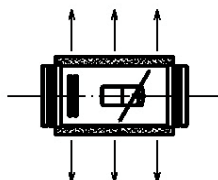


CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

**CL-VRC
SERIES**

SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC DOUBLE CASE VERSION



Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.)								
			frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
100	200	40	13	18	20	19	14	12	6	0	20
		140	22	30	32	31	23	20	14	9	31
		260	27	35	38	35	26	23	18	11	35
		364	30	39	41	39	29	26	20	13	39
	500	40	16	22	25	27	23	21	16	14	29
		140	26	33	37	37	31	29	25	21	38
		260	31	39	43	43	35	32	29	24	43
		364	33	43	47	46	38	34	31	26	46
	1000	40	19	25	29	32	30	28	24	23	35
		140	30	36	41	43	38	35	32	30	44
		260	34	42	47	48	42	39	37	33	49
		364	37	46	51	52	45	41	39	35	52
125	200	60	14	19	21	20	15	13	6	0	21
		220	23	31	34	32	24	21	15	9	32
		400	28	37	40	37	27	24	19	12	37
		570	31	41	43	41	30	27	21	14	40
	500	60	17	23	26	28	24	22	17	15	30
		220	27	35	39	39	33	30	26	22	40
		400	32	41	45	45	37	34	30	25	45
		570	35	45	49	48	40	36	33	27	48
	1000	60	20	26	30	34	31	29	25	24	36
		220	31	38	43	45	40	37	34	31	46
		400	36	44	49	50	44	41	39	35	51
		570	39	48	53	54	47	43	41	37	54
160	200	100	17	21	22	21	16	14	8	0	22
		350	27	33	35	33	25	22	17	11	33
		700	31	39	41	39	29	26	21	15	39
		950	34	43	45	42	32	28	23	17	42
	500	100	20	26	27	29	25	24	19	16	31
		350	31	38	40	40	34	31	28	23	41
		700	35	44	47	46	38	35	32	27	46
		950	39	47	51	50	41	37	35	29	50
	1000	100	23	29	31	34	32	31	26	25	37
		350	34	41	44	46	41	38	35	33	47
		700	39	47	51	51	45	42	40	36	52
		950	42	51	55	55	48	44	43	38	55



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC DOUBLE CASE VERSION

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
200	200	230	20	16	20	19	17	15	11	0	22
		560	30	35	34	31	27	24	19	13	33
		1000	34	43	41	37	31	28	23	16	38
		1500	37	48	45	40	34	31	25	18	42
	500	230	24	22	26	26	25	25	21	17	31
		560	34	40	40	38	35	34	29	25	41
		1000	38	48	47	44	39	39	33	28	46
		1500	41	54	51	47	42	41	36	31	49
	1000	230	27	26	30	31	31	33	29	27	38
		560	37	44	45	43	41	42	37	34	48
		1000	41	52	51	49	45	46	41	38	52
		1500	44	58	55	52	48	49	43	40	55
250	200	250	20	27	26	23	20	15	7	7	25
		900	32	39	37	35	27	24	19	15	35
		1600	38	45	43	40	31	28	25	19	40
		2300	41	48	46	43	33	31	28	21	43
	500	250	25	33	33	31	29	25	17	18	34
		900	37	45	44	43	37	34	29	26	44
		1600	42	50	50	48	40	38	34	29	48
		2300	46	54	53	51	42	41	38	32	51
	1000	250	28	37	38	37	37	33	25	26	41
		900	40	49	50	48	44	42	36	34	50
		1600	46	55	55	54	47	46	42	37	55
		2300	49	57	56	55	49	49	44	39	56
315	200	400	25	27	24	24	20	18	14	10	26
		1500	36	40	38	36	29	26	23	18	37
		2500	40	46	44	42	33	30	27	21	42
		3600	43	49	48	45	35	32	29	23	45
	500	400	29	32	29	30	27	27	22	21	33
		1500	40	45	43	43	37	35	32	28	44
		2500	45	51	50	48	41	39	36	32	49
		3600	48	53	53	50	42	39	37	36	51
	1000	400	32	36	33	35	34	34	28	30	40
		1500	43	49	48	47	44	42	38	37	50
		2500	48	55	54	53	48	46	43	41	55
		3600	51	59	58	56	51	48	45	43	57
355	200	500	25	26	26	23	21	19	16	11	27
		1800	36	43	38	39	33	25	25	20	39
		3300	40	46	44	42	33	30	27	21	42
		4800	43	49	48	45	35	32	29	23	45
	500	500	29	34	28	32	28	30	21	22	35
		1800	40	45	43	43	37	35	32	28	44
		3300	45	55	49	51	42	43	34	34	51
		4800	48	55	54	52	44	41	39	34	52
	1000	500	31	37	34	36	34	33	29	31	40
		1800	43	50	49	48	43	43	39	39	50
		3300	48	56	55	54	49	45	44	44	55
		4800	52	58	59	57	50	49	44	44	58



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE IRRADIATED NOISE: CL-VRC DOUBLE CASE VERSION

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
400	200	700	23	29	25	25	20	20	15	12	27
		2500	38	44	37	40	34	29	27	22	40
		4400	45	47	44	42	34	31	29	25	42
		6300	50	50	48	46	37	33	32	28	46
	500	700	26	34	31	31	28	29	23	22	35
		2500	42	47	44	43	38	36	33	31	45
		4400	49	52	50	48	42	40	38	35	49
		6300	53	56	53	52	45	42	40	38	53
	1000	700	28	39	35	35	34	35	29	30	40
		2500	44	51	48	47	44	43	39	39	50
		4400	51	56	54	53	49	47	44	43	55
		6300	55	60	58	56	51	49	46	45	58
500	200	800	24	31	30	27	24	19	11	11	29
		2900	36	43	41	39	31	28	23	19	39
		5200	42	49	47	44	35	32	29	23	44
		7400	45	52	50	47	37	35	32	25	47
	500	800	29	37	37	35	33	29	21	22	38
		2900	41	49	48	47	41	38	33	30	48
		5200	46	54	54	52	44	42	38	33	52
		7400	50	58	57	55	46	45	42	36	55
	1000	800	32	41	42	41	41	37	29	30	45
		2900	44	53	54	52	48	46	40	38	54
		5200	50	59	59	58	51	50	46	41	59
		7400	53	61	60	59	53	53	48	43	60
630	200	1600	28	30	27	27	23	21	17	13	29
		5600	39	43	41	39	32	29	26	21	40
		10100	43	49	47	45	36	33	30	24	45
		14600	46	52	51	48	38	35	32	26	48
	500	1600	32	35	32	33	30	30	25	24	36
		5600	43	48	46	46	40	38	35	31	47
		10100	48	54	53	51	44	42	39	35	52
		14600	51	56	56	53	45	42	40	39	54
	1000	1600	35	39	36	38	37	37	31	33	43
		5600	46	52	51	50	47	45	41	40	53
		10100	51	58	57	56	51	49	46	44	58
		14600	54	62	61	59	54	51	48	46	60

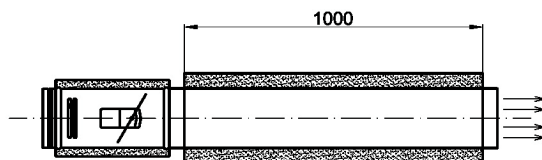


CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L=1000



Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-dB/ott.)								
			frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	39	30	24	8	0	0	0	1	19
		220	48	42	37	20	0	0	0	9	31
		400	53	48	43	25	1	0	4	12	37
		570	56	52	46	29	4	0	6	14	40
	500	60	42	34	29	16	0	0	2	15	24
		220	52	46	42	27	7	3	11	22	36
		400	57	52	48	33	11	7	15	25	42
		570	60	56	52	36	14	9	18	27	46
	1000	60	45	37	33	22	5	2	10	24	29
		220	56	49	46	33	14	10	19	31	40
		400	61	55	52	38	18	14	24	35	46
		570	64	59	56	42	21	16	26	37	50
160	200	100	43	35	27	14	0	0	5	5	23
		350	53	47	40	26	0	3	14	13	35
		700	57	53	46	32	4	7	18	17	41
		950	60	57	50	35	7	9	20	19	45
	500	100	46	40	32	22	0	5	16	18	29
		350	57	52	45	33	9	12	25	25	40
		700	61	58	52	39	13	16	29	29	47
		950	65	61	56	43	16	18	32	31	50
	1000	100	49	43	36	27	7	12	23	27	33
		350	60	55	49	39	16	19	32	35	45
		700	65	61	56	44	20	23	37	38	51
		950	68	65	60	48	23	25	40	40	55
200	200	230	46	32	27	17	0	1	14	9	24
		560	56	51	41	29	10	10	22	17	38
		1000	60	59	48	35	14	14	26	20	45
		1500	63	64	52	38	17	17	28	22	50
	500	230	50	38	33	24	8	11	24	21	31
		560	60	56	47	36	18	20	32	29	44
		1000	64	64	54	42	22	25	36	32	51
		1500	67	70	58	45	25	27	39	35	56
	1000	230	53	42	37	29	14	19	32	31	37
		560	63	60	52	41	24	28	40	38	49
		1000	67	68	58	47	28	32	44	42	55
		1500	70	74	62	50	31	35	46	44	60



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L=1000

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	46	43	35	23	6	16	18	19	31
		900	58	55	46	35	13	25	30	27	43
		1600	64	61	52	40	17	29	36	31	48
		2300	67	64	55	43	19	32	39	33	51
	500	250	51	49	42	31	15	26	28	30	39
		900	63	61	53	43	23	35	40	38	50
		1600	68	66	59	48	26	39	45	41	55
		2300	72	70	62	51	28	42	49	44	58
	1000	250	54	53	47	37	23	34	36	38	45
		900	66	65	59	48	30	43	47	46	55
		1600	72	71	64	54	33	47	53	49	61
		2300	75	73	65	55	35	50	55	51	63
315	200	400	51	43	35	26	19	23	27	25	34
		1500	62	56	49	38	28	31	36	33	46
		2500	66	62	55	44	32	35	40	36	51
		3600	69	65	59	47	34	37	42	38	54
	500	400	55	48	40	32	26	32	35	36	41
		1500	66	61	54	45	36	40	45	43	52
		2500	71	67	61	50	40	44	49	47	57
		3600	74	69	64	52	41	44	50	51	60
	1000	400	58	52	44	37	33	39	41	45	48
		1500	69	65	59	49	43	47	51	52	58
		2500	74	71	65	55	47	51	56	56	63
		3600	77	75	69	58	50	53	58	58	66
355	200	500	51	43	38	28	21	29	31	27	37
		1800	62	60	50	44	33	35	40	36	49
		3300	66	63	56	47	33	40	42	37	52
		4800	69	66	60	50	35	42	44	39	56
	500	500	55	51	40	37	28	40	36	38	45
		1800	66	62	55	48	37	45	47	44	54
		3300	71	72	61	56	42	53	49	50	61
		4800	74	72	66	57	44	51	54	50	63
	1000	500	57	54	46	41	34	43	44	47	51
		1800	69	67	61	53	43	53	54	55	61
		3300	74	73	67	59	49	55	59	60	66
		4800	78	75	71	62	50	59	59	60	68
400	200	700	49	46	39	33	22	33	31	28	39
		2500	64	61	51	48	36	42	43	38	51
		4400	71	64	58	50	36	44	45	41	55
		6300	76	67	62	54	39	46	48	44	59
	500	700	52	51	45	39	30	42	39	38	47
		2500	68	64	58	51	40	49	49	47	57
		4400	75	69	64	56	44	53	54	51	62
		6300	79	73	67	60	47	55	56	54	65
	1000	700	54	56	49	43	36	48	45	46	53
		2500	70	68	62	55	46	56	55	55	62
		4400	77	73	68	61	51	60	60	59	67
		6300	81	77	72	64	53	62	62	61	70



CIRCULAR REGULATORS
WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L=1000

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
500	200	800	50	48	46	39	36	36	29	29	43
		2900	62	60	57	51	43	45	41	37	54
		5200	68	66	63	56	47	49	47	41	59
		7400	71	69	66	59	49	52	50	43	62
	500	800	55	54	53	47	45	46	39	40	52
		2900	67	66	64	59	53	55	51	48	62
		5200	72	71	70	64	56	59	56	51	67
		7400	76	75	73	67	58	62	60	54	70
	1000	800	58	58	58	53	53	54	47	48	59
		2900	70	70	70	64	60	63	58	56	69
		5200	76	76	75	70	63	67	64	59	74
		7400	79	78	76	71	65	70	66	61	76
630	200	1600	54	47	43	41	38	39	36	31	45
		5600	65	60	57	53	47	47	45	39	56
		10100	69	66	63	59	51	51	49	42	61
		14600	72	69	67	62	53	53	51	44	64
	500	1600	58	52	48	47	45	48	44	42	53
		5600	69	65	62	60	55	56	54	49	63
		10100	74	71	69	65	59	60	58	53	68
		14600	77	73	72	67	60	60	59	57	69
	1000	1600	61	56	52	52	52	55	50	51	60
		5600	72	69	67	64	62	63	60	58	69
		10100	77	75	73	70	66	67	65	62	74
		14600	80	79	77	73	69	69	67	64	77

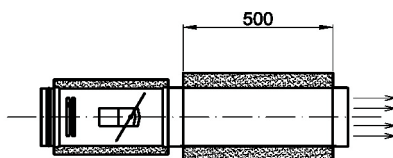


CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L-500



Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-dB/ott.)								
			frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
125	200	60	40	30	28	16	5	2	0	5	22
		220	49	42	41	28	14	10	9	13	34
		400	54	48	47	33	17	13	13	16	40
		570	57	52	50	37	20	16	15	18	43
	500	60	43	34	33	24	14	11	11	19	28
		220	53	46	46	35	23	19	20	26	40
		400	58	52	52	41	27	23	24	29	45
		570	61	56	56	44	30	25	27	31	49
	1000	60	46	37	37	30	21	18	19	28	33
		220	57	49	50	41	30	26	28	35	44
		400	62	55	56	46	34	30	33	39	50
		570	65	59	60	50	37	32	35	41	54
160	200	100	43	36	30	22	8	8	13	12	26
		350	53	48	43	34	17	16	22	20	38
		700	57	54	49	40	21	20	26	24	44
		950	60	58	53	43	24	22	28	26	48
	500	100	46	41	35	30	17	18	24	25	33
		350	57	53	48	41	26	25	33	32	44
		700	61	59	55	47	30	29	37	36	50
		950	65	62	59	51	33	31	40	38	54
	1000	100	49	44	39	35	24	25	31	34	39
		350	60	56	52	47	33	32	40	42	49
		700	65	62	59	52	37	36	45	45	55
		950	68	66	63	56	40	38	48	47	59
200	200	230	46	32	28	24	13	13	21	14	28
		560	56	51	42	36	23	22	29	22	40
		1000	60	59	49	42	27	26	33	25	46
		1500	63	64	53	45	30	29	35	27	51
	500	230	50	38	34	31	21	23	31	26	36
		560	60	56	48	43	31	32	39	34	47
		1000	64	64	55	49	35	37	43	37	53
		1500	67	70	59	52	38	39	46	40	57
	1000	230	53	42	38	36	27	31	39	36	43
		560	63	60	53	48	37	40	47	43	53
		1000	67	68	59	54	41	44	51	47	58
		1500	70	74	63	57	44	47	53	49	62



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L=500

Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								
			63	125	250	500	1000	2000	4000	8000	dBa
250	200	250	46	44	36	29	20	27	24	22	35
		900	58	56	47	41	27	36	36	30	46
		1600	64	62	53	46	31	40	42	34	51
		2300	67	65	56	49	33	43	45	36	54
	500	250	51	50	43	37	29	37	34	33	43
		900	63	62	54	49	37	46	46	41	54
		1600	68	67	60	54	40	50	51	44	59
		2300	72	71	63	57	42	53	55	47	62
	1000	250	54	54	48	43	37	45	42	41	50
		900	66	66	60	54	44	54	53	49	60
		1600	72	72	65	60	47	58	59	52	65
		2300	75	74	66	61	49	61	61	54	67
315	200	400	51	44	36	32	31	32	32	27	39
		1500	62	57	50	44	40	40	41	35	49
		2500	66	63	56	50	44	44	45	38	54
		3600	69	66	60	53	46	46	47	40	57
	500	400	55	49	41	38	38	41	40	38	47
		1500	66	62	55	51	48	49	50	45	57
		2500	71	68	62	56	52	53	54	49	61
		3600	74	70	65	58	53	53	55	53	63
	1000	400	58	53	45	43	45	48	46	47	54
		1500	69	66	60	55	55	56	56	54	63
		2500	74	72	66	61	59	60	61	58	68
		3600	77	76	70	64	62	62	63	60	70
355	200	500	51	43	38	35	34	36	36	29	42
		1800	62	60	50	51	46	42	45	38	53
		3300	66	63	56	54	46	47	47	39	56
		4800	69	66	60	57	48	49	49	41	59
	500	500	55	51	40	44	41	47	41	40	51
		1800	66	62	55	55	50	52	52	46	59
		3300	71	72	61	63	55	60	54	52	66
		4800	74	72	66	64	57	58	59	52	67
	1000	500	57	54	46	48	47	50	49	49	56
		1800	69	67	61	60	56	60	59	57	66
		3300	74	73	67	66	62	62	64	62	70
		4800	78	75	71	69	63	66	64	62	73
400	200	700	49	46	39	39	34	39	35	32	44
		2500	64	61	51	54	48	48	47	42	56
		4400	71	64	58	56	48	50	49	45	58
		6300	76	67	62	60	51	52	52	48	62
	500	700	52	51	45	45	42	48	43	42	52
		2500	68	64	58	57	52	55	53	51	61
		4400	75	69	64	62	56	59	58	55	66
		6300	79	73	67	66	59	61	60	58	69
	1000	700	54	56	49	49	48	54	49	50	58
		2500	70	68	62	61	58	62	59	59	67
		4400	77	73	68	67	63	66	64	63	72
		6300	81	77	72	70	65	68	66	65	74



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

**CL-VRC
SERIES**

SOUND POWER

SOUND POWER OF THE GENERATED NOISE: CL-VRC DOUBLE CASE VERSION + SILENCER L-500

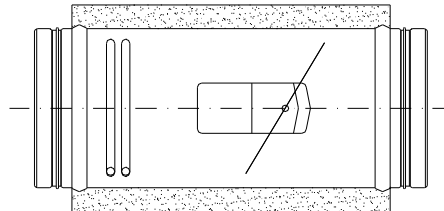
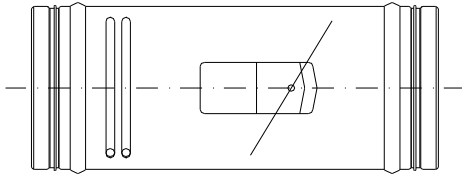
Ø mm	ΔP Pa	Q m³/h	Sound power (Lw-db/ott.) frequency(Hz)								dBa
			63	125	250	500	1000	2000	4000	8000	
500	200	800	50	49	46	42	46	41	33	32	49
		2900	62	61	57	54	53	50	45	40	58
		5200	68	67	63	59	57	54	51	44	63
		7400	71	70	66	62	59	57	54	46	65
	500	800	55	55	53	50	55	51	43	43	58
		2900	67	67	64	62	63	60	55	51	67
		5200	72	72	70	67	66	64	60	54	71
		7400	76	76	73	70	68	67	64	57	74
	1000	800	58	59	58	56	63	59	51	51	66
		2900	70	71	70	67	70	68	62	59	74
		5200	76	77	75	73	73	72	68	62	78
		7400	79	79	76	74	75	75	70	64	80
630	200	1600	54	48	43	42	45	43	39	34	49
		5600	65	61	57	54	54	51	48	42	59
		10100	69	67	63	60	58	55	52	45	63
		14600	72	70	67	63	60	57	54	47	66
	500	1600	58	53	48	48	52	52	47	45	57
		5600	69	66	62	61	62	60	57	52	67
		10100	74	72	69	66	66	64	61	56	71
		14600	77	74	72	68	67	64	62	60	72
	1000	1600	61	57	52	53	59	59	53	54	64
		5600	72	70	67	65	69	67	63	61	73
		10100	77	76	73	71	73	71	68	65	78
		14600	80	80	77	74	76	73	70	67	80



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

STANDARD SIZES



STANDARD SIZES REGULATORS SINGLE CASING	
SERIE	Ø mm
CL-VRC	100
CL-VRC	125
CL-VRC	160
CL-VRC	200
CL-VRC	250
CL-VRC	315
CL-VRC	355
CL-VRC	400
CL-VRC	500
CL-VRC	630

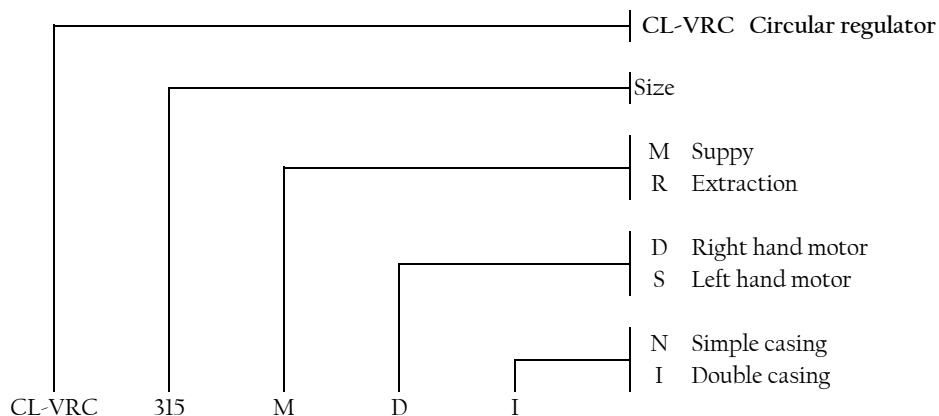
STANDARD SIZES REGULATORS DOUBLE CASING	
SERIE	Ø mm
CL-VRC	100
CL-VRC	125
CL-VRC	160
CL-VRC	200
CL-VRC	250
CL-VRC	315
CL-VRC	355
CL-VRC	400
CL-VRC	500
CL-VRC	630



CIRCULAR REGULATORS WITH VARIABLE AIR FLOW

CL-VRC
SERIES

HOW TO ORDER

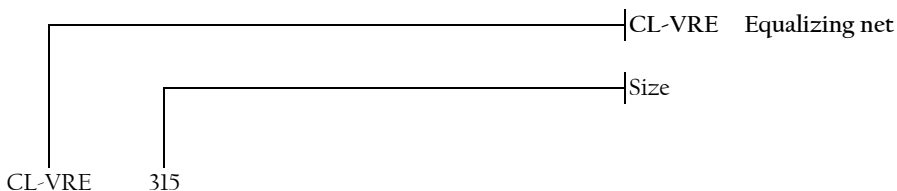
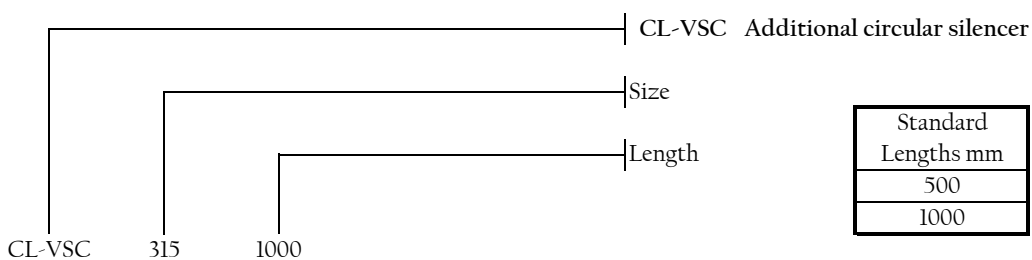


ACCESSORI

WARNING

There is no set standard motor, the required motor must always be specified.

For guidance in the choice of the motor, contact our Sales Department



CL-VML Sensore di pressione differenziale Belimo VFP 300

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

CL-VMF motore Belimo LMQ24A-SRV-ST per sistemi in ripresa

L'uso di CL-VML + CL-VMG + CL-VMF in apparecchiature in ripresa consente la gestione di ambienti in sovrappressione o depressione con ΔP fino a 300Pa