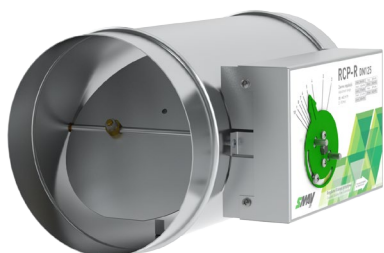


RCP-R

CAV CONSTANT FLOW REGULATOR OF CIRCULAR CROSS-SECTION



Intended use:

Regulator are used for automatic constant air flow control in ventilation installations without any external electrical power supply. It can be used both in ventilation air supply and air extraction ducts.

Overview

RCP-R CAV regulators are used for automatic constant air flow control in ventilation installations. They maintain constant air volumes regardless of the changes of static pressure in the ventilation duct. They operate automatically, without any external power supply. Regulation range is from 2 to 10 m/s, operating pressure from 50 to 500 Pa. Complies with EN 1751 casing air leakage has class C, close blade air leakage has class 0. The changes of set values can be made independently by the user, so the regulator is delivered with default factory settings. It is possible to order factory-made value settings, which should be indicated in the order code.

Advantages

The regulator makes it possible to control the air flow within the pressure range from 50 to 500 Pa, without any external power supply. The standard version of the regulator has the housing and the baffle made of galvanised steel, whereas the baffle axis is fastened in brass bearings. The special version of the regulator made of AISI304L stainless steel can be ordered. In accordance with PN-EN1751, the housing leakage class is C. Due to intuitive adjusting mechanism, any flow rate maintained by the regulator can be set by the user independently. The possibility of making the regulator with a 24 V AC/DC or 230 V AC electric actuator is additional benefit, which makes it possible to maintain two selected flow rates without any problem.

Main Advantages:

- Operating range 2 – 10 m/s
- Operating pressure 50 – 500 Pa
- The possibility of changing settings by the user
- The possibility of making the version with an actuator
- Complies with EN 1751 air leakage has class C0
- The device does not require any electric power supply (for the version without an actuator)
- It can be used both in ventilation air supply and air extraction ducts
- It can be mounted both vertically and horizontally
- It can be made with a seal on the service lines

Design

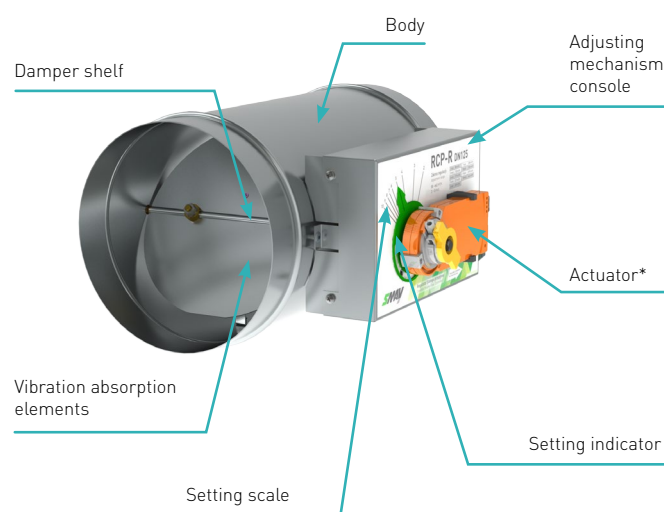


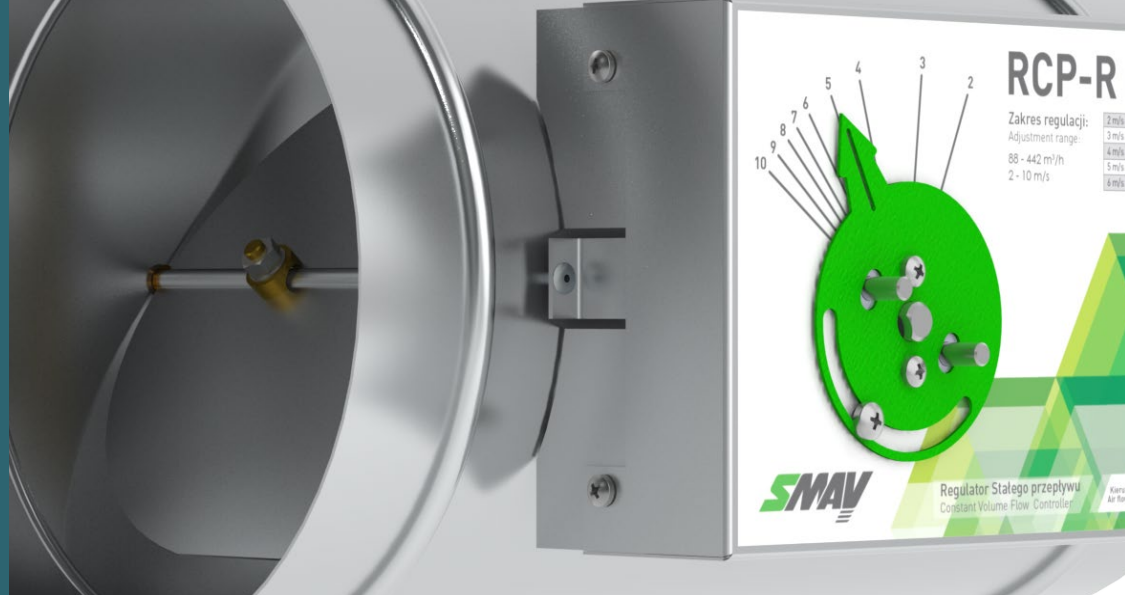
Figure 1. RCP-R regulator design.

* RCP-R - ... - S... – version with an actuator

Operating Range

Table 1. RCP-R regulator application field

RCP-R regulator application field.		
DN	Vmin [m³/h]	Vmax [m³/h]
100	57	283
125	88	442
160	145	723
200	226	1130
250	353	1766
315	561	2804
400	904	4522



Regulation Accuracy Tolerance

The accuracy of the regulation of volumetric air flow in relation to the set value is +/-10% [see details in Table 3]. The accuracy of the flow setting scale is +/-4%. The adjustment error can increase, when there is interference in the form of the duct variable cross-section, the lack of recommended straight segments before and after the regulator, arches, sharp edges, duct narrowing etc.

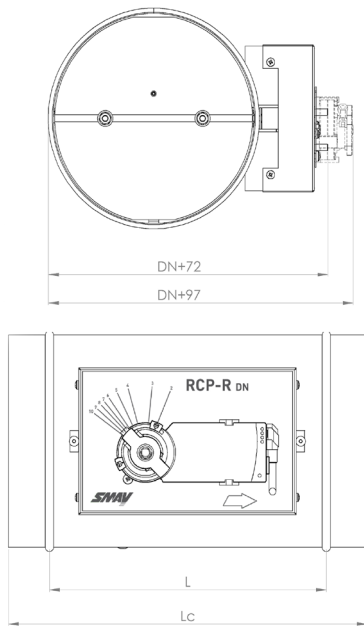


Figure 2. The size of RCP-R CAV constant flow regulator.

Table 2. Specific data of RCP-R regulator.

Characteristic dimensions RCP-R				
DN	Ø d [mm]	L [mm]	Lc [mm]	Weight [kg]
100	98	270	350	1,97
125	123	270	350	2,23
160	158	270	350	2,61
200	198	270	350	3,06
250	248	270	350	3,65
315	313	270	350	4,47
400	398	270	350	5,58

Table 3. The accuracy of the regulation and minimum operating pressure.

RCP-R regulator application field.						RCP-R regulator application field.					
DN	V air flow			Apmin [Pa]	ΔV [±%]	DN	V air flow			Apmin [Pa]	ΔV [±%]
	m/s	m³/h	l/s				m/s	m³/h	l/s		
100	2	57	16	50	20	250	2	353	98	50	20
	4	113	31	50	10		4	707	196	50	10
	6	170	47	50	10		6	1060	294	50	10
	8	226	63	70	10		8	1413	393	50	10
	10	283	79	90	10		10	1766	491	70	10
125	2	88	25	30	20	315	2	561	156	50	20
	4	177	49	30	10		4	1122	312	50	10
	6	265	74	50	10		6	1682	467	50	10
	8	353	98	50	10		8	2243	623	50	10
	10	442	123	70	10		10	2804	779	70	10
160	2	145	40	30	20	400	2	904	251	50	20
	4	289	80	30	10		4	1809	502	50	10
	6	434	121	50	10		6	2713	754	50	10
	8	579	161	50	10		8	3617	1005	50	10
	10	723	201	70	10		10	4522	1256	70	10
200	2	226	63	30	20						
	4	452	126	30	10						
	6	678	188	50	10						
	8	904	251	50	10						
	10	1130	314	70	10						

Installation Recommendations

RCP-R should be installed in accordance with the air flow direction which is marked with an arrow on the device's housing.

To ensure the proper operation of the device, please observe the following rules during the installation:

- straight section length before the regulator 3 D
- straight section length after the regulator 1.5 D

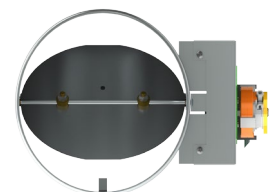


FIGURE 3. Recommended way of installation of RCP-R regulator.

The regulator can operate in any position, both in the air supply and air extraction systems. However, it is recommended to install the regulator with the setting console front surface directed to the side, which makes it possible to minimize the adjustment error.

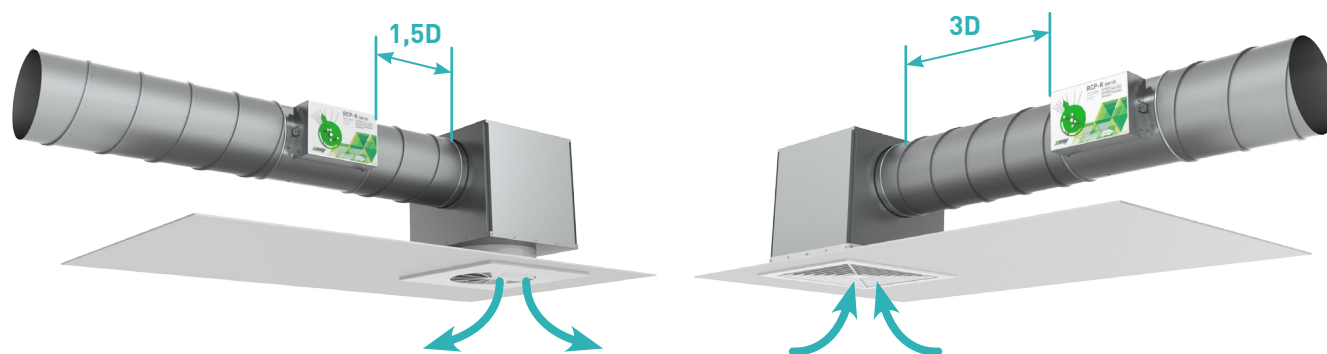


Figure 4. Required straight segments before and after the regulator.

Technical Data

Table 4. Sound power level for 100 Pa.

DN		V air flow		RCP-R regulator application field																																
				dP=100Pa																																
				Lw air regenerated noise								Lw case radiated noise (without insulation)								Lw case radiated noise (with insulation)																
m/s	m ³ /h	l/s	dB								Lw (dB) A	dB								Lw (dB) A	dB								Lw (dB) A							
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz								
100	2	57	16	66	50	43	40	34	28	21	17	44	31	18	12	19	16	<10	<10	22	24	13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
	4	113	31	69	53	46	43	37	31	24	22	47	34	21	15	22	20	19	12	12	25	27	16	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
	6	170	47	72	56	50	46	40	34	28	26	50	37	24	19	25	23	22	16	16	28	30	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	8	226	63	75	59	53	49	42	37	31	30	53	40	27	22	28	25	25	19	20	31	33	22	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	10
	10	283	79	79	63	57	53	45	41	35	35	57	44	31	26	32	28	29	23	25	35	37	26	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	
125	2	88	25	53	49	42	42	37	30	23	19	43	27	19	12	18	15	10	<10	<10	20	20	14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
	4	177	49	58	52	45	45	40	33	26	24	46	32	22	15	21	18	13	10	12	23	25	17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	6	265	74	62	56	49	48	43	36	30	28	49	36	26	19	24	21	16	14	16	26	29	21	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
	8	353	98	65	59	52	51	45	39	33	32	52	39	29	22	27	23	19	17	20	29	32	24	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11
	10	442	123	70	63	56	55	48	43	37	37	56	44	33	26	31	26	23	21	25	33	37	28	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	15
160	2	145	40	58	53	45	42	39	37	27	25	45	33	30	25	24	29	28	18	21	33	26	25	11	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11	
	4	289	80	61	56	48	45	42	40	30	29	48	36	33	28	27	32	31	21	25	36	29	28	14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	
	6	434	121	64	59	52	48	45	43	34	32	51	39	36	32	30	35	34	25	28	39	32	31	18	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	17	
	8	579	161	68	63	56	52	48	47	38	37	55	43	40	36	34	38	38	29	33	43	36	35	22	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	21	
	10	723	201	71	66	59	55	50	50	41	41	58	46	43	39	37	40	41	32	37	46	39	38	25	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	24	
200	2	226	63	55	49	39	38	37	36	33	26	43	34	32	24	23	23	25	24	17	31	27	27	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	12	
	4	452	126	58	52	42	41	40	39	36	30	46	37	35	27	26	26	28	27	21	34	30	30	13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	15	
	6	678	188	62	56	46	44	43	43	40	35	50	41	39	31	29	29	32	31	26	37	34	34	17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	19	
	8	904	251	66	60	50	48	46	46	43	39	53	45	43	35	33	32	35	34	30	41	38	38	21	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	23	
	10	1130	314	69	63	53	51	48	49	46	43	56	48	46	38	36	34	38	37	34	44	41	41	24	11	<10	<10	<10	<10	<10	<10	<10	<10	<10	26	
250	2	353	98	45	39	40	41	38	38	33	24	44	26	24	26	27	25	27	24	15	32	19	19	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	4	707	196	50	44	43	44	41	41	36	29	47	31	29	29	30	28	30	27	20	35	24	24	15	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11	
	6	1060	294	54	48	47	47	44	45	40	33	51	35	33	33	33	31	34	31	24	39	28	28	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	15	
	8	1413	393	58	53	51	51	47	48	43	37	54	39	38	37	37	34	37	34	28	42	32	33	23	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	20	
	10	1766	491	62	57	54	54	49	51	46	41	57	43	42	40	40	36	40	37	32	45	36	37	26	15	<10	<10	<10	<10	<10	<10	<10	<10	<10	23	
315	2	561	156	52	47	41	41	40	39	34	24	45	35	33	28	27	27	28	25	15	33	28	28	14	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	13	
	4	1122	312	56	50	44	44	43	42	37	29	48	39	36	31	30	30	31	28	20	36	32	31	17	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	16	
	6	1682	467	60	54	48	47	46	45	41	33	51	43	40	35	33	33	34	32	24	40	36	35	21	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	20	
	8	2243	623	64	58	52	51	49	49	45	38	55	47	44	39	37	36	38	36	29	43	40	39	25	12	<10	<10	<10	<10	<10	<10	<10	<10	<10	24	
	10	2804	779	67	61	55	54	51	52	48	42	58	50	47	42	40	38	41	39	33	46	43	42	28	15	<10	<10	<10	<10	<10	<10	<10	<10	<10	27	

RCP-R regulator application field

DN	V air flow			dP=100Pa																										
				Lw air regenerated noise								Lw case radiated noise (without insulation)								Lw case radiated noise (with insulation)										
	m/s	m³/h	l/s	dB								Lw (dB) A	dB								Lw (dB) A	dB								Lw (dB) A
63Hz				125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	63Hz		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	63Hz		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
400	2	904	251	50	51	45	47	50	50	42	35	54	33	35	36	40	44	46	36	20	49	27	34	19	10	<10	<10	<10	20	
	4	1809	502	53	55	48	50	53	53	45	38	57	36	39	39	43	47	49	39	23	52	30	38	22	13	12	<10	<10	<10	23
	6	2713	754	57	59	51	53	55	56	48	42	60	40	43	42	46	49	52	42	27	55	34	42	25	16	14	<10	<10	<10	27
	8	3617	1005	61	63	55	56	58	59	51	46	63	44	47	46	49	52	55	45	31	58	38	46	29	19	17	10	<10	<10	31
	10	4522	1256	64	67	58	58	60	61	54	49	65	47	51	49	51	54	57	48	34	60	41	50	32	21	19	12	<10	<10	35

Table 5. Sound power level for 300 Pa.

RCP-R regulator application field.

DN	V air flow			dP=300Pa																											
				Lw air regenerated noise								Lw case radiated noise (without insulation)								Lw case radiated noise (with insulation)											
	m/s	m³/h	l/s	dB								Lw (dB) A	dB								Lw (dB) A	dB								Lw (dB) A	
63Hz				125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	63Hz		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	63Hz		125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz			
100	2	57	16	72	56	51	46	42	38	33	30	51	37	24	20	25	25	26	21	20	31	30	19	<10	<10	<10	<10	<10	<10	<10	<10
	4	113	31	75	59	54	49	45	41	36	35	54	40	27	23	28	28	29	24	25	34	33	22	<10	<10	<10	<10	<10	<10	<10	11
	6	170	47	78	62	58	52	48	44	40	39	57	43	30	27	31	31	32	28	29	37	36	25	13	<10	<10	<10	<10	<10	<10	14
	8	226	63	81	65	61	55	50	47	43	43	60	46	33	30	34	33	35	31	33	40	39	28	16	<10	<10	<10	<10	<10	<10	17
	10	283	79	85	69	65	59	53	51	47	48	64	50	37	34	38	36	39	35	38	44	43	32	20	13	<10	<10	<10	<10	<10	21
125	2	88	25	59	55	50	48	45	40	35	32	50	33	25	20	24	23	20	19	20	28	26	20	<10	<10	<10	<10	<10	<10	<10	
	4	177	49	64	58	53	51	48	43	38	37	53	38	28	23	27	26	23	22	25	31	31	23	<10	<10	<10	<10	<10	<10	10	
	6	265	74	68	62	57	54	51	46	42	41	57	42	32	27	30	29	26	26	29	35	35	27	13	<10	<10	<10	<10	<10	<10	14
	8	353	98	71	65	60	57	53	49	45	45	59	45	35	30	33	31	29	29	33	38	38	30	16	<10	<10	<10	<10	<10	<10	17
	10	442	123	76	69	64	61	56	53	49	50	63	50	39	34	37	34	33	33	38	42	43	34	20	12	<10	<10	<10	<10	<10	21
160	2	145	40	63	59	53	48	47	47	39	35	47	38	36	33	30	37	38	30	31	33	31	31	19	<15	<15	<15	<15	<15	14	
	4	289	80	66	62	56	51	50	50	42	39	56	41	39	36	33	40	41	33	35	45	34	34	22	<10	<10	<10	<10	<10	20	
	6	434	121	69	65	60	54	53	53	46	42	59	44	42	40	36	43	44	37	38	48	37	37	26	11	12	<10	<10	<10	23	
	8	579	161	73	69	64	58	56	57	50	47	63	48	46	44	40	46	48	41	43	52	41	41	30	15	15	<10	<10	<10	27	
	10	723	201	76	72	67	61	58	60	53	50	66	51	49	47	43	48	51	44	46	55	44	44	33	18	17	10	<10	11	30	
200	2	226	63	60	55	47	45	45	47	45	36	52	39	38	32	30	31	36	36	27	41	32	33	18	<10	<10	<10	<10	<10	18	
	4	452	126	63	58	50	48	48	50	48	40	55	42	41	35	33	34	39	39	31	44	35	36	21	<10	<10	<10	<10	<10	21	
	6	678	188	67	62	54	51	51	54	52	45	59	46	45	39	36	37	43	43	36	48	39	40	25	11	<10	<10	<10	<10	25	
	8	904	251	71	66	58	55	54	57	55	49	62	50	49	43	40	40	46	46	40	51	43	44	29	15	<10	<10	<10	<10	29	
	10	1130	314	74	69	61	58	56	60	58	52	65	53	52	46	43	42	49	49	43	54	46	47	32	18	11	<10	<10	<10	32	
250	2	353	98	59	48	48	48	46	48	44	34	53	40	33	34	34	33	37	35	25	42	33	28	20	<10	<10	<10	<10	<10	16	
	4	707	196	64	53	51	51	49	51	47	39	56	45	38	37	37	36	40	38	30	45	38	33	23	12	<10	<10	<10	<10	20	
	6	1060	294	68	57	55	54	52	55	51	43	60	49	42	41	40	39	44	42	34	48	42	37	27	15	<10	<10	<10	<10	24	
	8	1413	393	72	62	59	58	55	58	54	47	63	53	47	45	44	42	47	45	38	52	46	42	31	19	11	<10	<10	<10	29	
	10	1766	491	75	66	62	61	57	61	57	50	51	56	51	48	47	44	50	48	41	41	49	46	34	22	<15	<15	<15	<15	22	
315	2	561	156	58	53	49	47	48	49	46	37	54	41	39	36	33	35	38	37	28	43	34	34	22	<10	<10	<10	<10	<10	20	
	4	1122	312	62	56	52	50	51	52	49	42	57	45	42	39	36	38	41	40	33	46	38	37	25	11	<10	<10	<10	<10	23	
	6	1682	467	66	60	56	53	54	55	53	46	60	49	46	43	39	41	44	44	37	49	42	41	29	14	10	<10	<10	<10	27	
	8	2243	623	70	64	60	57	57	59	57	51	64	53	50	47	43	44	48	48	42	53	46	45	33	18	13	<10	<10	<10	31	
	10	2804	779	73	67	63	60	59	62	60	55	67	56	53	50	46	46	51	51	46	56	50	48	36	21	15	10	<10	10	34	
400	2	904	251	60	58	53	53	57	59	52	43	63	43	42	44	46	51	55	46	28	58	37	41	27	16	16	10	<10	<10	27	
	4	1809	502	63	62	56	56	60	62	55	46	66	46	46	47	49	54	58	49	31	61	40	45	30	19	19	13	<10	<10	30	
	6	2713	754	67	66	59	59	62	65	58	50	68	50	50	50	52	56	61	52	35	64	44	49	33	22	21	16	<10	<10	34	
	8	3617	1005	71	70	63	62	65	68	61	54	72	54	54	54	55	59	64	55	39	67	48	53	37	25	24	19	<10	13	38	
	10	4522	1256	74	74	66	64	67	70	64	57	74	57	58	57	57	61	66	58	42	69	51	57	40	27	26	21	12	16	42	

Acoustic data for other pressures and rates are available in SMAY Design Department.

Table 6. Sound power level for 500 Pa.

RCP-R regulator application field.

DN	V air flow			dP=500Pa																										
				Lw air regenerated noise									Lw case radiated noise (without insulation)									Lw case radiated noise (with insulation)								
	m/s	m³/h	l/s	dB								Lw (dB) A	dB								Lw (dB) A	dB						Lw (dB) A		
				63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		63Hz	125Hz	250Hz	500Hz	1kHz	2kHz		4kHz	8kHz
100	2	57	16	78	62	58	52	50	48	45	43	58	43	30	27	31	33	36	33	33	41	36	25	13	<10	<10	<10	<10	<10	14
	4	113	31	81	65	61	55	53	51	48	48	61	46	33	30	34	36	39	36	38	44	39	28	16	<10	<10	<10	<10	<10	17
	6	170	47	84	68	65	58	56	54	52	52	64	49	36	34	37	39	42	40	42	47	42	31	20	12	<10	<10	<10	<10	20
	8	226	63	87	71	68	61	58	57	55	56	67	52	39	37	40	41	45	43	46	51	45	34	23	15	10	<10	<10	10	23
	10	283	79	91	75	72	65	61	61	59	61	71	56	43	41	44	44	49	47	51	55	49	38	27	19	13	<10	<10	15	27
125	2	88	25	65	61	57	54	53	50	47	45	58	39	31	27	30	31	30	31	33	38	32	26	13	<10	<10	<10	<10	<10	13
	4	177	49	70	64	60	57	56	53	50	50	61	44	34	30	33	34	33	34	38	42	37	29	16	<10	<10	<10	<10	<10	16
	6	265	74	74	68	64	60	59	56	54	54	65	48	38	34	36	37	36	38	42	45	41	33	20	11	<10	<10	<10	<10	20
	8	353	98	77	71	67	63	61	59	57	58	67	51	41	37	39	39	39	41	46	48	44	36	23	14	<10	<10	<10	10	23
	10	442	123	82	75	71	67	64	63	61	63	71	56	45	41	43	42	43	45	51	53	49	40	27	18	11	<10	<10	15	28
160	2	145	40	68	65	60	54	55	57	51	45	62	43	42	40	36	45	48	42	41	52	36	37	26	11	14	<10	<10	<10	24
	4	289	80	71	68	63	57	58	60	54	49	65	46	45	43	39	48	51	45	45	55	39	40	29	14	17	10	<10	<10	27
	6	434	121	74	71	67	60	61	63	58	52	68	49	48	47	42	51	54	49	48	58	42	43	33	17	20	13	<10	12	30
	8	579	161	78	75	71	64	64	67	62	57	72	53	52	51	46	54	58	53	53	62	46	47	37	21	23	17	<10	17	34
	10	723	201	81	78	74	67	66	70	65	61	75	56	55	54	49	56	61	56	57	65	49	50	40	24	25	20	10	21	37
200	2	226	63	65	61	54	52	53	58	57	46	63	44	44	39	37	39	47	48	37	52	37	39	25	12	<10	<10	<10	<10	24
	4	452	126	68	64	57	55	56	61	60	50	66	47	47	42	40	42	50	51	41	55	40	42	28	15	11	<10	<10	<10	27
	6	678	188	72	68	61	58	59	65	64	55	69	51	51	46	43	45	54	55	46	59	44	46	32	18	14	13	<10	10	31
	8	904	251	76	72	65	62	62	68	67	59	73	55	55	50	47	48	57	58	50	62	48	50	36	22	17	16	12	14	35
	10	1130	314	79	75	68	65	64	71	70	63	76	58	58	53	50	50	60	61	54	65	51	53	39	25	19	19	15	18	38
250	2	353	98	73	56	55	55	54	58	55	44	62	54	41	41	41	41	47	46	35	51	47	36	27	16	10	<10	<10	<10	25
	4	707	196	78	61	58	58	57	61	58	49	65	59	46	44	44	44	50	49	40	54	52	41	30	19	13	<10	<10	<10	30
	6	1060	294	82	65	62	61	60	65	62	53	69	63	50	48	47	47	54	53	44	58	56	45	34	22	16	13	<10	<10	34
	8	1413	393	86	70	66	65	63	68	65	57	72	67	55	52	51	50	57	56	48	61	60	50	38	26	19	16	10	12	38
	10	1766	491	90	74	69	68	65	71	68	61	75	71	59	55	54	52	60	59	52	64	64	54	41	29	21	19	13	16	42
315	2	561	156	64	59	56	53	56	59	58	50	64	47	45	43	39	43	48	49	41	53	40	40	29	14	12	<10	<10	<10	26
	4	1122	312	68	62	59	56	59	62	61	55	67	51	48	46	42	46	51	52	46	56	44	43	32	17	15	10	<10	10	29
	6	1682	467	72	66	63	59	62	65	65	59	70	55	52	50	45	49	54	56	50	60	48	47	36	20	18	13	10	14	33
	8	2243	623	76	70	67	63	65	69	69	64	74	59	56	54	49	52	58	60	55	64	52	51	40	24	21	17	14	19	37
	10	2804	779	79	73	70	66	67	72	72	68	77	62	59	57	52	54	61	63	59	67	56	54	43	27	23	20	17	23	40
400	2	904	251	70	65	60	59	64	68	62	51	71	53	49	51	52	58	64	56	36	66	47	48	34	22	23	19	10	10	34
	4	1809	502	73	69	63	62	67	71	65	54	74	56	53	54	55	61	67	59	39	69	50	52	37	25	26	22	13	13	38
	6	2713	754	77	73	66	65	69	74	68	58	77	60	57	57	58	63	70	62	43	72	54	56	40	28	28	25	16	17	41
	8	3617	1005	81	77	70	68	72	77	71	62	80	64	61	61	66	73	65	47	75	58	60	44	31	31	28	19	21	45	
	10	4522	1256	84	81	73	70	74	79	74	65	82	67	65	64	63	68	75	68	50	77	61	64	47	33	33	30	22	24	49

Acoustic data for other pressures and rates are available in SMAY Design Department.

Sound power values given in Tables 4 – 6 for 63-8 kHz frequency bands are given in decibels without any correction. Expressing the measurement values with the use of A frequency correction consists in adding proper corrections to the vales given in the table. The value of the total sound power (sound level) is calculated by means of logarithmic adding values for individual bands corrected with A filter; this value, in the tables above, is expressed in dB(A). Below there are given the correction values for A filter (scale) along with the example of calculations.

Table 7. Correction of the sound power level by means of A filter.

		m/s	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw dB (A)
RCP-R 200	dB input data		58	52	42	41	40	39	36	30	
	A correction scale	4	-26	-16	-9	-3	0	1	1		46
	corrected value dB(A)		32	36	33	38	40	40	37	29	

RCP-R regulator can be made in a version with an electric actuator, which makes it possible to change the flow rate settings value automatically, e.g. in the case of the night reduction in ventilation efficiency. The regulator cannot be closed. Available actuators can be supplied with 24 V AC/DC or 230 V AC.

Table 8. Data for the actuator with 24 V AC/DC power supply.

CM24 actuator data		
Power supply		24V AC/DC
Power consumption	Duty	0,5 [W]
	Quiescent power	0,2 [W]
	Rated power	1 [VA]
Movement time		75 s/90o
Sound power level		35 dB(A)
Protection class		III (safe voltage - low)
Enclosure protection rating		IP54
Operating temperature		0...50°C
Storage temperature		(-40)...70°C
Weight		0,28 kg

Table 9. Data for the actuator with 230 V AC power supply.

CM230 actuator data		
Power supply		230V AC
Power consumption	Duty	1,5 [W]
	Quiescent power	1 [W]
	Rated power	3 [VA]
Movement time		75 s/90o
Sound power level		35 dB(A)
Protection class		II (protective insulation)
Enclosure protection rating		IP54
Operating temperature		0...50°C
Storage temperature		(-40)...70°C
Weight		0,28 kg

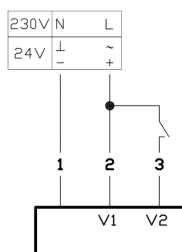


Diagram 1. Connection and control of RCP-R regulator actuator.

Table 10. Control of RCP-R regulator actuator.

Power supply		Wire number			function
		1	2	3	
230V	colour	Blue	Brown	White	
	function	N	L		V1
24V	colour	Black	Red	White	
	function	-	+		V1
		-	+	+	V2

V1 - lower flow value
V2 - higher flow value

Regulator settings change

In order to change the regulator settings you should observe the following steps:

Version without an actuator:

1. Loose the locking bolt by means of a screwdriver.
2. Turn the knob disc into its target position by means of appropriate pins, so as the arrow indicates the target setting value.
3. Tighten the locking bolt.



Version with an actuator:

1. Disengage the regulator by means of a magnet attached to the set (the magnet is placed in the actuator position marker). In order to perform this task, apply the magnet in the place marked with the symbol.
2. Remove the limiting switches by prising their bottom part by means a screwdriver.
3. Turn the knob disc into its target position by means of turning the regulator axis, so as the arrow indicates the target setting value.
4. Install the actuator limiting switch without any clearance. For V1 value the limiting switch shall be installed on the right, and for V2 value – on the left.
5. Repeat the operation for the second position.
6. Unlock the actuator clutch and attach the magnet in the target position on the actuator axis.



Table 11. Available standard factory settings.

Dn	V [m³/h]								
	2 m/s	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s
100	57	85	113	141	170	198	226	254	283
125	88	132	177	221	265	309	353	397	442
160	145	217	289	362	434	506	579	651	723
200	226	339	452	565	678	791	904	1017	1130
250	353	530	707	883	1060	1236	1413	1590	1766
315	561	841	1122	1402	1682	1963	2243	2524	2804
400	904	1356	1809	2261	2713	3165	3617	4069	4522

RCP-R – CAV Constant Flow Regulator of Circular Cross-Section

When ordering, please provide information in accordance with the following pattern:

RCP-R <I> - <D> - <V1> - <V2> - <S> - <P> - <G>

Where:

I	Insulation**
	none - no insulation
	t - acoustic insulation
D	Diameter
V1	Rate (settings made in the factory)*
V2	Rate for the version with an actuator (settings made in the factory)*
S	Model**
	none - version without an actuator
	S24 - version with a 24 V AC/DC actuator
	S230 - version with a 230 V AC actuator
P	Material**
	none - galvanised steel
	SN - stainless steel
G	Service line sealing**
	none - no seal on the service lines
	UP - seal on the service lines

* The non-standard factory-made settings of the values entail additional costs, available standard factory-made settings are shown in Table 11

** Default value – if there is no information for the given parameter, default values are applied.

Order example:

RCP-Rt-125-132/309-S230

(125 mm diameter, acoustic insulated regulator with a 230 V actuator with factory-made flow settings).

RCP-R-250

(A standard regulator, available in the storehouse, flow settings to be made by the customer in his/her facility).