Constant air volume control dampers made of steel type RCS

Adjustable self-regulating constant air volume control dampers in galvanised steel. To be used to regulate the air flow at pressures between 50 and 500 Pa and temperatures between 0°C and 50°C.

Application

- For air flow rate regulation in ventilation and air conditioning systems with following air flow rates and duct sizes
  - Ø100: to be set between 57 & 283m³/h
  - Ø125: to be set between 88 & 442m³/h
  - Ø160: to be set between 145 & 723m³/h
  - Ø200: to be set between 226 & 1130m³/h
  - Ø250: to be set between 353 & 1766m³/h
  - Ø315: to be set between 561 & 2804m³/h
  - Ø355: to be set between 713 & 3563m³/h
  - Ø400: to be set between 904 & 4522m³/h
- Accuracy: +/- 10% of the set air volume for air velocity above 3m/s
- Accuracy of the air flow rate setting scale is +/-4%

Material

- Galvanized steel housing
- Galvanized steel regulation blade with control bellows and leaf spring

Composition

- Round housing made out of laser welded galvanised steel in standard duct sizes
- Airthight connection class C with EPDM rubber complies with EN1751
- Autoregulating and balanced blade mounted in brass bearings

Mounting

- To be inserted at both sides into a round duct and to be equipped with a silencer if necessary
- **RCS** 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, after the regulator 1.5 D
- Horizontal or vertical mounting

Accessories

- Stainless steel models or insulation shells available upon request

Text for tender

- CAV regulators are used for autonomous 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 autonomously without any external power supply. Regulation range is from 2 to 10 m/s, operating pressure from 50 to 500 Pa. The casing has an air tightness class C that complies with EN 1751. The housing and the blade of the regulator are made of galvanised steel, whereas the axis of the blade is fastened in brass bearings.

The changes of set values can be made independently by the user. The regulator is delivered with default factory settings, but it is possible to order factory settings by specifying the requested air flow rates. The accuracy of the regulation of volumetric air flow in relation to the set value is +/-10% (for air velocities above 3m/s). The accuracy of the air flow setting scale is +/-4%. Errors in adjustment can increase, when there is interference due to the variable duct cross section, a lack of recommended straight segments before and after the regulator, bends, sharp edges, a narrowing in the duct, etc.

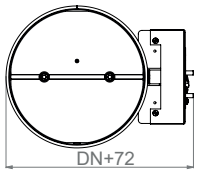
Main Advantages:

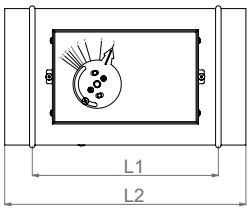
- Operating range 2 – 10 m/s
- Operating pressure 50 – 500 Pa
- Possibility of changing settings by the user
- Possibility of providing the version with an actuator
- Air tightness class C complies with EN 1751
- The device does not require any electric power supply (for the version without an actuator)
- Can be used both in ventilation air supply and air extraction ducts
- Can be mounted both vertically and horizontally
- **Cairox** Type **RCS**

Order example

- **RCS, 125**

Explanation
RCS = Type of constant air valve
125 = Duct diameter





Dimensions			
RCS	ØD [mm]	L1 [mm]	L2 [mm]
100	98	270	350
125	123	270	350
160	158	270	350
200	198	270	350
250	248	270	350
315	313	270	350
355	353	270	350
400	398	270	350

RCS			Sound data																	
			dP=100Pa																	
			Lw air regenerated noise [dB]									Lw case radiated noise [dB] (without insulation)								
Ø	v [m/s]	Q [m³/h]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]
100	2	57	66	50	43	40	34	28	21	17	44	31	18	12	19	17	16	<10	<10	22
	4	113	69	53	46	43	37	31	24	22	47	34	21	15	22	20	19	12	12	25
	6	170	72	56	50	46	40	34	28	26	50	37	24	19	25	23	22	16	16	28
	8	226	75	59	53	49	42	37	31	30	53	40	27	22	28	25	25	19	20	31
	10	283	79	63	57	53	45	41	35	35	57	44	31	26	32	28	29	23	25	35
125	2	88	53	49	42	42	37	30	23	19	43	27	19	12	18	15	10	<10	<10	20
	4	177	58	52	45	45	40	33	26	24	46	32	22	15	21	18	13	10	12	23
	6	265	62	56	49	48	43	36	30	28	49	36	26	19	24	21	16	14	16	26
	8	353	65	59	52	51	45	39	33	32	52	39	29	22	27	23	19	17	20	29
	10	442	70	63	56	55	48	43	37	37	56	44	33	26	31	26	23	21	25	33
160	2	145	58	53	45	42	39	37	27	25	45	33	30	25	24	29	28	18	21	33
	4	289	61	56	48	45	42	40	30	29	48	36	33	28	27	32	31	21	25	36
	6	434	64	59	52	48	45	43	34	32	51	39	36	32	30	35	34	25	28	39
	8	579	68	63	56	52	48	47	38	37	55	43	40	36	34	38	38	29	33	43
	10	723	71	66	59	55	50	50	41	41	58	46	43	39	37	40	41	32	37	46
200	2	226	55	49	39	38	37	36	33	26	43	34	32	24	23	23	25	24	17	31
	4	452	58	52	42	41	40	39	36	30	46	37	35	27	26	26	28	27	21	34
	6	678	62	56	46	44	43	43	40	35	50	41	39	31	29	29	32	31	26	37
	8	904	66	60	50	48	46	46	43	39	53	45	43	35	33	32	35	34	30	41
	10	1130	69	63	53	51	48	49	46	43	56	48	46	38	36	34	38	37	34	44
250	2	353	45	39	40	41	38	38	33	24	44	26	24	26	27	25	27	24	15	32
	4	707	50	44	43	44	41	41	36	29	47	31	29	29	30	28	30	27	20	35
	6	1060	54	48	47	47	44	45	40	33	51	35	33	33	33	31	34	31	24	39
	8	1413	58	53	51	51	47	48	43	37	54	39	38	37	37	34	37	34	28	42
	10	1766	62	57	54	54	49	51	46	41	57	43	42	40	40	36	40	37	32	45
315	2	561	52	47	41	41	40	39	34	24	45	35	33	28	27	27	28	25	15	33
	4	1122	56	50	44	44	43	42	37	29	48	39	36	31	30	30	31	28	20	36
	6	1682	60	54	48	47	46	45	41	33	51	43	40	35	33	33	34	32	24	40
	8	2243	64	58	52	51	49	49	45	38	55	47	44	39	37	36	38	36	29	43
	10	2804	67	61	55	54	51	52	48	42	58	50	47	42	40	38	41	39	33	46
355	2	712	45	43	44	46	52	53	39	28	57	40	32	30	30	32	28	22	21	35
	4	1425	55	51	49	49	54	55	45	36	59	43	36	35	35	36	34	27	22	40
	6	2137	62	58	55	51	55	57	50	42	61	45	40	39	38	38	37	29	23	43
	8	2849	67	61	57	52	56	58	52	45	62	47	42	41	40	40	40	31	24	45
	10	3561	71	65	57	53	56	59	54	48	63	48	43	43	42	41	42	32	25	47
400	2	904	50	51	45	47	50	50	42	35	54	33	35	36	40	44	46	36	20	49
	4	1809	53	55	48	50	53	53	45	38	57	36	39	39	43	47	49	39	23	52
	6	2713	57	59	51	53	55	56	48	42	60	40	43	42	46	49	52	42	27	55
	8	3617	61	63	55	56	58	59	51	46	63	44	47	46	49	52	55	45	31	58
	10	4522	64	67	58	58	60	61	54	49	65	47	51	49	51	54	57	48	34	60
			dP=300Pa																	
			Lw air regenerated noise [dB]									Lw case radiated noise [dB] (without insulation)								
Ø	v [m/s]	Q [m³/h]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]
100	2	57	72	56	51	46	42	38	33	30	51	37	24	20	25	25	26	21	20	31
	4	113	75	59	54	49	45	41	36	35	54	40	27	23	28	28	29	24	25	34
	6	170	78	62	58	52	48	44	40	39	57	43	30	27	31	31	32	28	29	37
	8	226	81	65	61	55	50	47	43	43	60	46	33	30	34	33	35	31	33	40
	10	283	85	69	65	59	53	51	47	48	64	50	37	34	38	36	39	35	38	44
125	2	88	59	55	50	48	45	40	35	32	50	33	25	20	24	23	20	19	20	28
	4	177	64	58	53	51	48	43	38	37	53	38	28	23	27	26	23	22	25	31
	6	265	68	62	57	54	51	46	42	41	57	42	32	27	30	29	26	26	29	35
	8	353	71	65	60	57	53	49	45	45	59	45	35	30	33	31	29	29	33	38
	10	442	76	69	64	61	56	53	49	50	63	50	39	34	37	34	33	33	38	42
160	2	145	63	59	53	48	47	47	39	35	47	38	36	33	30	37	38	30	31	33
	4	289	66	62	56	51	50	50	42	39	56	41	39	36	33	40	41	33	35	45
	6	434	69	65	60	54	53	53	46	42	59	44	42	40	36	43	44	37	38	48
	8	579	73	69	64	58	56	57	50	47	63	48	46	44	40	46	48	41	43	52
	10	723	76	72	67	61	58	60	53	50	66	51	49	47	43	48	51	44	46	55
200	2	226	60	55	47	45	45	47	45	36	52	39	38	32	30	31	36	36	27	41
	4	452	63	58	50	48	48	50	48	40	55	42	41	35	33	34	39	39	31	44
	6	678	67	62	54	51	51	54	52	45	59	46	45	39	36	37	43	43	36	48
	8	904	71	66	58	55	54	57	55	49	62	50	49	43	40	40	46	46	40	51
	10	1130	74	69	61	58	56	60	58	52	65	53	52	46	43	42	49	49	43	54
250	2	353	59	48	48	48	46	48	44	34	53	40	33	34	34	33	37	35	25	42
	4	707	64	53	51	51	49	51	47	39	56	45	38	37	37	36	40	38	30	45
	6	1060	68	57	55	54	52	55	51	43	60	49	42	41	40	39	44	42	34	48
	8	1413	72	62	59	58	55	58	54	47	63	53	47	45	44	42	47	45	38	52
	10	1766	75	66	62	61	57	61	57	50	51	56	51	48	47	44	50	48	41	41
315	2	561	58	53	49	47	48	49	46	37	54	41	39	36	33	35	38	37	28	43
	4	1122	62	56	52	50	51	52	49	42	57	45	42	39	36	38	41	40	33	46
	6	1682	66	60	56	53	54	55	53	46	60	49	46	43	39	41	44	44	37	49
	8	2243	70	64	60	57	57	59	57	51	64	53	50	47	43	44	48	48	42	53
	10	2804	73	67	63	60	59	62	60	55	67	56	53	50	46	46	51	51	46	56
355	2	712	51	52	53	54	58	59	55	45	63	43	37	38	40	40	42	33	26	46
	4	1425	60	60	57	56	59	60	58	50	65	50	37	41	43	43	44	38	29	49
	6	2137	69	66	64	58	60	60	60	52	66	54	50	44	45	45	46	40	30	51
	8	2849	73	70	65	59	60	61	61	54	67	57	48	47	46	46	47	42	32	52
	10	3561	78	73	65	60	61	62	61	56	68	59	51	49	47	47	48	44	32	53
400	2	904	60	58	53	53	57	59	52	43	63	43	42	44	46	51	55	46	28	58
	4	1809	63	62	56	56	60	62	55	46	66	46	46	47	49	54	58	49	31	61
	6	2713	67	66	59	59	62	65	58	50	68	50	50	50	52	56	61	52	35	64
	8	3617	71	70	63	62	65	68	61	54	72	54	54	54	55	59	64	55	39	67
	10	4522	74	74	66	64	67	70	64	57	74	57	58	57	57	61	66	58	42	69

Ø	v [m/s]	Q [m³/h]	dP=500Pa																	
			Lw air regenerated noise [dB]									Lw case radiated noise [dB] (without insulation)								
			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Lw [dB(A)]
100	2	57	78	62	58	52	50	48	45	43	58	43	30	27	31	33	36	33	33	41
	4	113	81	65	61	55	53	51	48	48	61	46	33	30	34	36	39	36	38	44
	6	170	84	68	65	58	56	54	52	52	64	49	36	34	37	39	42	40	42	47
	8	226	87	71	68	61	58	57	55	56	67	52	39	37	40	41	45	43	46	51
	10	283	91	75	72	65	61	61	59	61	71	56	43	41	44	44	49	47	51	55
125	2	88	65	61	57	54	53	50	47	45	58	39	31	27	30	31	30	31	33	38
	4	177	70	64	60	57	56	53	50	50	61	44	34	30	33	34	33	34	38	42
	6	265	74	68	64	60	59	56	54	54	65	48	38	34	36	37	36	38	42	45
	8	353	77	71	67	63	61	59	57	58	67	51	41	37	39	39	39	41	46	48
	10	442	82	75	71	67	64	63	61	63	71	56	45	41	43	42	43	45	51	53
160	2	145	68	65	60	54	55	57	51	45	62	43	42	40	36	45	48	42	41	52
	4	289	71	68	63	57	58	60	54	49	65	46	45	43	39	48	51	45	45	55
	6	434	74	71	67	60	61	63	58	52	68	49	48	47	42	51	54	49	48	58
	8	579	78	75	71	64	64	67	62	57	72	53	52	51	46	54	58	53	53	62
	10	723	81	78	74	67	66	70	65	61	75	56	55	54	49	56	61	56	57	65
200	2	226	65	61	54	52	53	58	57	46	63	44	44	39	37	39	47	48	37	52
	4	452	68	64	57	55	56	61	60	50	66	47	47	42	40	42	50	51	41	55
	6	678	72	68	61	58	59	65	64	55	69	51	51	46	43	45	54	55	46	59
	8	904	76	72	65	62	62	68	67	59	73	55	55	50	47	48	57	58	50	62
	10	1130	79	75	68	65	64	71	70	63	76	58	58	53	50	50	60	61	54	65
250	2	353	73	56	55	55	54	58	55	44	62	54	41	41	41	41	47	46	35	51
	4	707	78	61	58	58	57	61	58	49	65	59	46	44	44	44	50	49	40	54
	6	1060	82	65	62	61	60	65	62	53	69	63	50	48	47	47	54	53	44	58
	8	1413	86	70	66	65	63	68	65	57	72	67	55	52	51	50	57	56	48	61
	10	1766	90	74	69	68	65	71	68	61	75	71	59	55	54	52	60	59	52	64
315	2	561	64	59	56	53	56	59	58	50	64	47	45	43	39	43	48	49	41	53
	4	1122	68	62	59	56	59	62	61	55	67	51	48	46	42	46	51	52	46	56
	6	1682	72	66	63	59	62	65	65	59	70	55	52	50	45	49	54	56	50	60
	8	2243	76	70	67	63	65	69	69	64	74	59	56	54	49	52	58	60	55	64
	10	2804	79	73	70	66	67	72	72	68	77	62	59	57	52	54	61	63	59	67
355	2	712	54	57	58	58	60	61	63	53	68	45	39	43	44	44	48	39	29	51
	4	1425	63	64	61	60	61	62	65	56	69	53	38	44	47	46	49	43	31	53
	6	2137	72	70	68	61	62	62	64	57	70	58	55	47	48	48	50	46	34	55
	8	2849	76	74	69	62	62	63	64	58	70	61	51	49	48	49	51	48	35	56
	10	3561	81	77	69	63	63	64	65	59	71	64	54	52	49	49	51	49	36	56
400	2	904	70	65	60	59	64	68	62	51	71	53	49	51	52	58	64	56	36	66
	4	1809	73	69	63	62	67	71	65	54	74	56	53	54	55	61	67	59	39	69
	6	2713	77	73	66	65	69	74	68	58	77	60	57	57	58	63	70	62	43	72
	8	3617	81	77	70	68	72	77	71	62	80	64	61	61	61	66	73	65	47	75
	10	4522	84	81	73	70	74	79	74	65	82	67	65	64	63	68	75	68	50	77

Symbols and specifications

- Ø = Duct diameter in mm
- v = Effective air verlocity in m/s
- Q [m³/h] = Air volume in m³/h
- 100Pa, 300Pa or 500Pa = Static pressure in Pa