

KCRK

CIRCULAR CONSTANT FLOW REGULATOR CAV INSTALLED INSIDE THE DUCT



Product characteristics:

Circular constant air flow regulator CAV, with mechanical adjustment without external power supply, installed inside circular ventilation duct.

Key parameters	
Function	CAV
Operating range	1-4 m/s (see Table 2) step change of the setting
Material	Plastic
Pressure range	50-250Pa
Air leakage class	CX
Regulation accuracy	10%
Operating temperature range	0-60°C

Intended use

KCRK constant air flow regulator (with the possibility of settings change) is a control element that operates independently of the duct pressure and without external power supply.

It can be used in both intake and exhaust ventilation ducts. It is made of M1 plastic. Operating range up to 60°C.

Dimensions

Table 1. KCRK dimensions.

Size	Diameter ØD [mm]	L [mm]	Weight [kg]
80	78	94	0,07
100	98	113	0,12
125	122	145	0,18
160	156	171	0,3
200	196	201	0,49
250	246	242	0,8

Setting change

Change of the factory air flow setting can be done by the user. It has to be performed before inserting the controller into the duct (an inspection opening can be done as an option for the setting change).

Special attention has to be paid to the installation of the regulator in the direction of the air flow. The correct mounting direction is marked next to the setting scale.

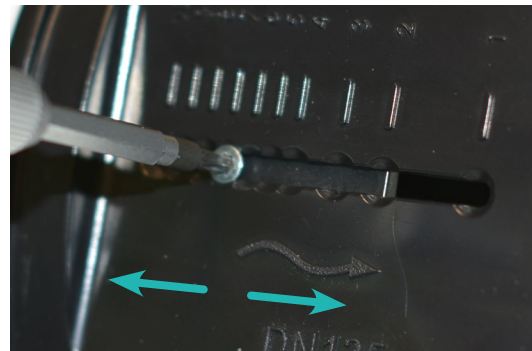


Figure 1. KCRK setting change.

For the -ZN version (change of setting outside the duct), KCRK regulator is delivered with a plug for the inspection opening in the duct, used to change the setting.

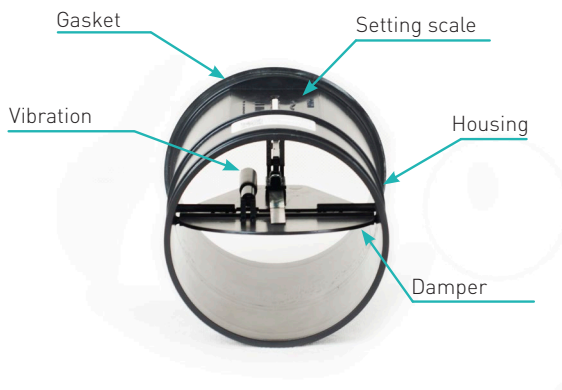


Figure 2. KCRK design.



Figure 3. KCRK dimensions.



Operating range

Table 2. KCRK operating range.

KCRK	Pos	Air flow	
		[m³/h]	[l/s]
Ø 80	1	22	6
	2	30	8
	3	37	10
	4	45	13
	5	55	15
	6	70	19
	7	85	24
Ø 100	1	36	10
	2	40	11
	3	45	13
	4	58	16
	5	70	19
	6	80	22
	7	105	29
	8	128	36
Ø 125	1	50	14
	2	55	15
	3	63	18
	4	75	21
	5	86	24
	6	96	27
	7	115	32
	8	132	37
	9	155	43
	10	185	51
Ø 160	1	90	25
	2	103	29
	3	118	33
	4	140	39
	5	172	48
	6	192	53
	7	218	61
	8	250	69
	9	280	78
	10	315	88
	11	360	100

KCRK	Pos	Air flow	
		[m³/h]	[l/s]
Ø 200	1	115	32
	2	130	36
	3	148	41
	4	175	49
	5	220	61
	6	275	76
	7	315	88
	8	355	99
	9	395	110
	10	450	125
	11	495	138
	12	550	153
Ø 250	1	185	51
	2	205	57
	3	250	69
	4	289	80
	5	336	93
	6	392	109
	7	423	118
	8	466	129
	9	500	139
	10	559	155
	11	600	167
	12	665	185



Intermediate positions not listed in Table 2 cannot be set.

Installation

The KCRK air flow regulator is designed for installation inside the duct, both in vertical and horizontal installations. The gasket on the perimeter of the body ensures tightness and secure assembly, preventing unwanted spontaneous shift of the regulator.

The KCRK regulator should be mounted in accordance with the flow direction marked on the housing, near the setting scale. In the case of horizontal installation, it is recommended to mount it with the scale down (parallel to the floor).

To ensure correct operation of the regulator follow these rules during installation:

- Straight section length before KCRK 3D.
- In case of installation before/after the terminal unit of the ventilation system, maintain the following straight sections:
 - 3 D in intake ducts,
 - 1 D in exhaust ducts.



Figure 4. Recommended position of KCRK regulator.



Figure 5. Change of KCRK setting.

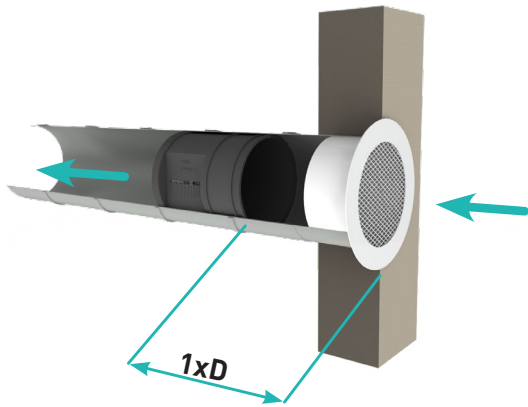


Figure 6. Recommended straight section before KCRK to the exhaust grille.

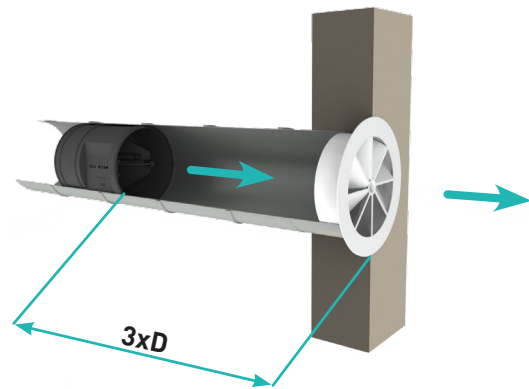


Figure 7. Recommended straight section after KCRK to the supply diffuser.



If installed correctly the regulation accuracy is +/- 10% of the set value.



Do not touch, pull nor press internal movable parts during installation of the regulator in the duct as they may get damaged. Remember to mark the mounting area and set air flow values after installation, placing the sticker attached to the product.

Table 3. Sound pressure level for 50Pa differential pressure.

KCRK	Air flow		L_{pa} [dB(A)]
	[m ³ /h]	[l/s]	
Ø 80	22	6	28
	30	8	29
	45	13	29
	70	19	30
	85	24	30
Ø 100	36	10	28
	45	13	28
	70	19	30
	105	29	31
	128	36	32
Ø 125	50	14	28
	75	21	29
	115	32	30
	155	43	31
	185	51	32
Ø 160	90	25	28
	118	33	29
	172	48	29
	250	69	30
	360	100	31
Ø 200	115	32	27
	148	41	27
	275	76	29
	395	110	29
	550	153	30
Ø 250	185	51	26
	289	80	26
	423	118	27
	559	155	28
	665	185	28

Table 4. Sound power level of the flow noise.

KCRK	Sound power level of the flow noise														p = 50 Pa								p = 100 Pa							
	Q [m ³ /h]	Q [l/s]	L _{wa} [dB(A)]																											
			63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz												
Ø 80	22	6	30	30	31	38	34	27	21	23	38	36	36	37	44	39	33	27	28	44										
	30	8	31	31	31	38	34	28	22	23	39	36	37	37	44	40	33	28	29	44										
	45	13	31	31	32	39	35	28	22	24	39	37	37	38	45	40	34	28	29	45										
	70	19	32	32	32	40	35	29	23	24	40	38	38	38	45	41	35	29	30	46										
	85	24	32	32	33	40	36	29	23	25	40	38	38	38	46	41	35	29	30	46										
Ø 100	36	10	30	30	30	37	33	27	21	22	38	36	36	37	44	40	33	28	29	44										
	45	13	31	31	31	38	34	27	22	23	38	37	37	38	45	40	34	28	29	45										
	70	19	32	32	32	40	35	29	23	24	40	39	39	39	46	42	35	30	31	46										
	105	29	33	33	34	41	37	30	24	26	41	40	40	40	48	43	37	31	32	48										
	128	36	34	34	34	42	37	31	25	26	42	41	41	41	48	44	37	32	33	48										
Ø 125	50	14	30	30	30	37	33	27	21	22	38	37	37	38	45	41	34	28	30	45										
	75	21	31	31	31	39	34	28	22	23	39	39	39	39	46	42	35	30	31	46										
	115	32	32	32	33	40	36	29	23	25	40	40	40	40	48	43	37	31	32	48										
	155	43	33	33	34	41	37	30	24	26	41	41	41	41	48	44	38	32	33	49										
	185	51	34	34	34	42	37	31	25	26	42	41	41	42	49	45	38	32	34	49										
Ø 160	90	25	36	34	37	34	34	28	23	24	38	44	42	45	42	42	36	31	32	46										
	118	33	37	35	38	35	35	29	23	25	39	45	43	46	43	43	37	31	32	46										
	172	48	38	36	39	36	36	30	24	25	39	46	44	47	44	44	38	32	33	47										
	250	69	39	37	39	37	37	31	25	26	40	46	44	47	45	44	38	33	34	48										
	360	100	39	37	40	37	37	31	26	27	41	47	45	48	45	45	39	34	35	49										
Ø 200	115	32	35	33	36	33	33	27	21	22	36	43	41	44	41	41	35	30	31	45										
	148	41	36	33	36	34	33	28	22	23	37	44	42	45	42	42	36	30	32	46										
	275	76	37	35	38	35	35	29	23	25	39	45	43	46	44	43	38	32	33	47										
	395	110	38	36	39	36	36	30	24	25	39	46	44	47	44	44	38	33	34	48										
	550	153	39	37	40	37	37	31	25	26	40	47	45	48	45	45	39	34	35	49										
Ø 250	185	51	34	32	35	32	32	26	20	21	35	42	40	43	40	40	34	28	30	44										
	289	80	35	33	36	33	33	27	21	22	36	43	41	44	41	41	35	29	30	44										
	423	118	36	33	36	34	33	28	22	23	37	44	42	44	42	42	36	30	31	45										
	559	155	36	34	37	34	34	28	22	24	38	44	42	45	42	42	36	31	32	46										
	665	185	36	34	37	34	34	28	23	24	38	44	42	45	42	42	36	31	32	46										

Table 5. Sound power level of the flow noise.

KCRK	Sound power level of the sound noise		p = 150 Pa										p = 200 Pa							
	Q [m³/h]	Q [l/s]	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _{wa} [dB(A)]	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L _{wa} [dB(A)]
Ø 80	22	6	39	39	40	47	43	36	30	32	47	42	42	42	49	45	39	33	34	50
	30	8	40	40	40	47	43	37	31	32	48	42	42	43	50	45	39	33	34	50
	45	13	40	40	41	48	44	37	31	33	48	43	43	43	50	46	40	34	35	51
	70	19	41	41	42	49	44	38	32	33	49	43	43	44	51	47	40	34	36	51
	85	24	41	41	42	49	45	38	32	34	49	44	44	44	51	47	41	35	36	51
Ø 100	36	10	40	40	41	48	44	37	31	33	48	43	43	44	51	46	40	34	35	51
	45	13	41	41	42	49	44	38	32	33	49	44	44	44	52	47	41	35	36	52
	70	19	43	43	43	50	46	39	34	35	50	45	45	46	53	49	42	36	38	53
	105	29	44	44	44	52	47	41	35	36	52	47	47	47	54	50	43	38	39	54
	128	36	45	45	45	52	48	41	36	37	52	47	47	48	55	51	44	38	40	55
Ø 125	50	14	42	42	42	49	45	39	33	34	49	45	45	45	52	48	42	36	37	53
	75	21	43	43	43	51	46	40	34	35	51	46	46	47	54	49	43	37	38	54
	115	32	44	44	45	52	48	41	35	37	52	47	47	48	55	51	44	38	40	55
	155	43	45	45	46	53	48	42	36	38	53	48	48	49	56	52	45	39	41	56
	185	51	46	46	46	53	49	43	37	38	54	49	49	49	57	52	46	40	41	57
Ø 160	90	25	49	47	50	47	41	35	36	50	52	50	53	50	50	44	39	40	54	
	118	33	49	47	50	48	47	41	36	37	51	53	51	54	51	51	45	39	40	54
	172	48	50	48	51	48	48	42	37	38	52	53	51	54	52	51	46	40	41	55
	250	69	51	49	52	49	49	43	37	39	53	54	52	55	52	52	46	41	42	56
	360	100	52	50	53	50	50	44	38	39	53	55	53	56	53	53	47	42	43	57
Ø 200	115	32	48	46	49	46	46	40	35	36	50	52	50	53	50	50	44	38	39	53
	148	41	49	47	50	47	47	41	35	36	51	53	50	53	51	50	45	39	40	54
	275	76	50	48	51	49	48	42	37	38	52	54	52	55	52	52	46	40	41	56
	395	110	51	49	52	49	49	43	38	39	53	55	53	56	53	53	47	41	42	56
	550	153	52	50	53	50	50	44	39	40	54	56	54	56	54	54	48	42	43	57
Ø 250	185	51	47	45	48	45	45	39	33	34	48	50	48	51	48	48	42	37	38	52
	289	80	48	46	48	46	46	40	34	35	49	51	49	52	49	49	43	37	38	52
	423	118	48	46	49	46	46	40	35	36	50	52	50	53	50	50	44	38	39	53
	559	155	49	47	50	47	47	41	35	36	50	52	50	53	50	50	44	39	40	54
	665	185	49	47	50	47	47	41	36	37	51	52	50	53	51	50	45	39	40	54

KCRK - Circular constant flow regulator CAV installed inside the duct

When ordering, please provide information according to the following pattern:

KCRK - <D> - <V_{nom}> - <R>

Where:

D	diameter [mm]
V_{nom}	flow setting value
	none - no factory settings (default value – first range)
	1 - setting done in the factory (please provide the value in m3/h)* – additional costs apply
R	Setting change from the outside of the duct
	none - change of the setting before installation
	ZN - change of the setting from the outside of the

* optional values – if blank, default values will be used

Exemplary product marking: **KCRK-125 40m³/h**