

Technical documentation

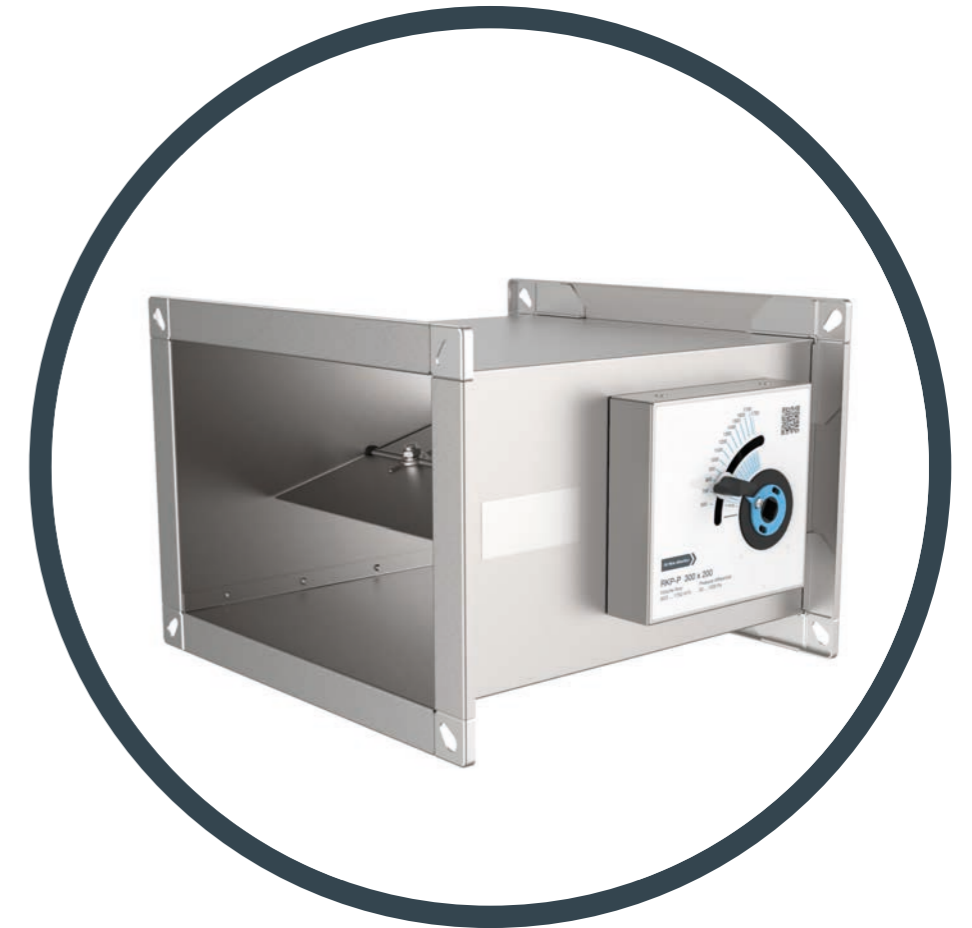


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Constant volume dampers KVO

Angular design
Airflow regulation



Product manual

Constant volume dampers

KVQ

Airflow regulation

Version 1.0.7
Date: 10.06.2025.



KVQ

- For maintaining constant air volume in ventilation systems, without additional power supply
- Made of galvanized steel sheet, damper blade made of anodized aluminium sheet
- Recommended airflow velocity from 3 to 8 m/s, at pressure difference $\Delta p > 50$ Pa
- Adjusting required constant amount is done by turning of working screw on the right side of the cover
- Working temperature $-20...80^{\circ}\text{C}$
- Relative humidity $5...80\%$ rh
- Constant flow $\pm 10\%$ set value
- Casing airtightness Class C
- Casing insulation 32 mm, more information on [link!](#)



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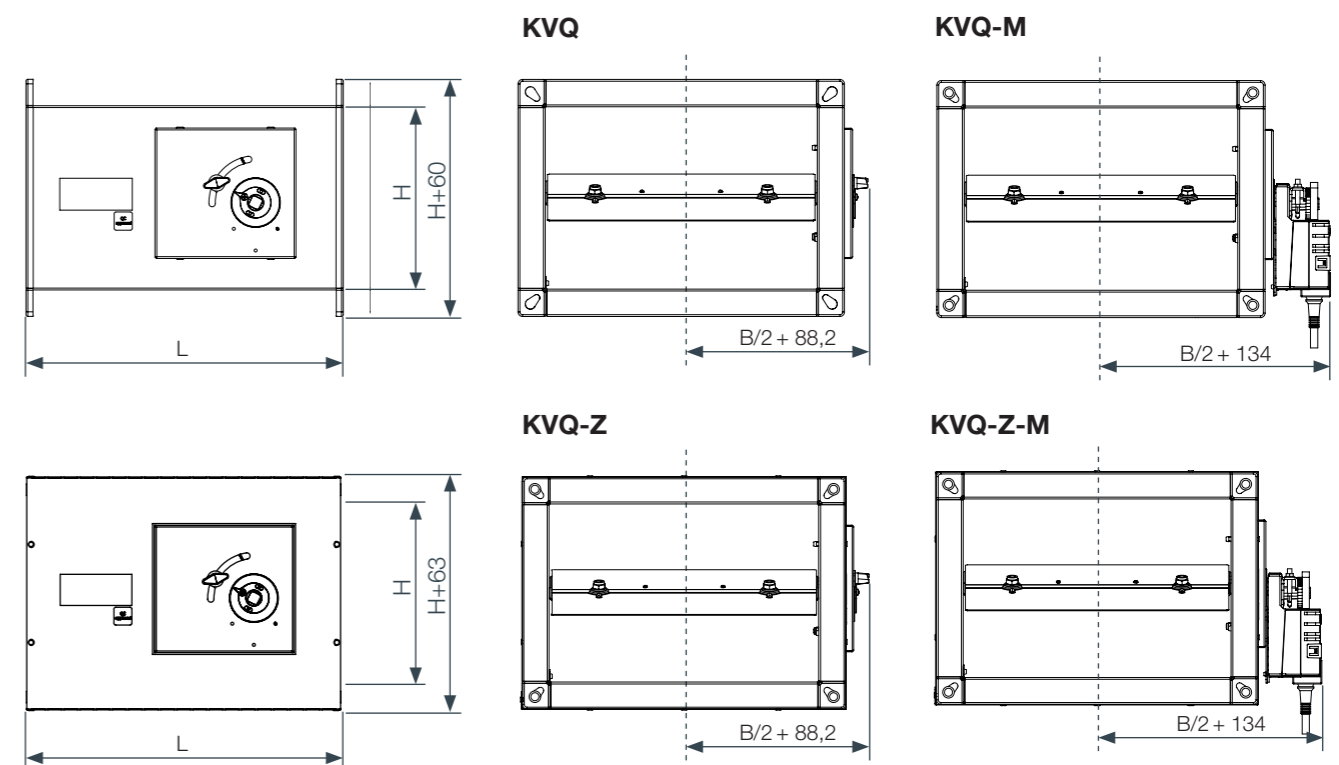


PRODUCT OVERVIEW

AIRFLOW REGULATION

DIMENSIONS

Size BxH [mm]	200x100	200x150	200x200	300x100	300x150	300x200	300x250	300x300	400x200	400x250	400x300	500x200	500x250	500x300	600x200	600x250	600x300
L [mm]	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
Pressure drop [Pa]	732,8	844,5	956,2	694,3	794,5	758,5	780,8	803,1	825,3	833	766,5	933,1	797	863,8	542,9	663,5	835,6
Vmin [m³/h]	300	300	400	350	450	600	700	800	800	950	1000	1100	1300	1400	1300	1500	1900
Vmax [m³/h]	700	950	1250	900	1300	1750	2450	3000	2600	3000	3500	3600	4100	4800	5100	5700	6000
mass KVQ [kg]	3,5	4,4	5,3	5,4	5,9	6,4	6,9	7,4	7,5	8,0	8,7	8,7	9,2	9,8	9,7	10,4	11
mass KVQ-Z [kg]	5,8	6,55	7,3	7,4	8,1	8,8	9,5	10,2	10,5	11,2	12	12	12,8	13,6	13,6	14,4	15,3





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Belimo motor drive

- motor drives - Belimo (open/close, continuous)
- power supply - AC 230V
- DC 24V
- IP54 degree of protection

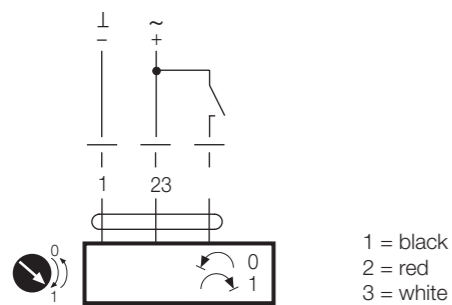
Voltage AC/DC	Type	Control	Torque	Energy consumption	Wire sizing	Weight [kg] approx.	Dimension (F x E)
DC24V	LM24A	3-point	5 Nm	1 W	1.5 VA	0.46	160 x 90
	LM24A-SR	continuous	5 Nm	1 W	2VA	0.40	160 x 90
AC 230V	LM230A	3-point	5 Nm	1,5 W	3,5 VA	0.46	160 x 90
	LM230A-SR	continuous	5 Nm	2 W	4 VA	0.50	180 x 90



Wiring diagram

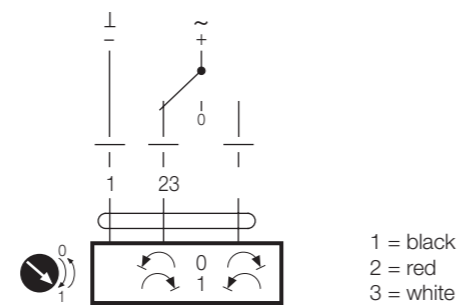
OZ -open/close

AC/DC 24 V, open/close

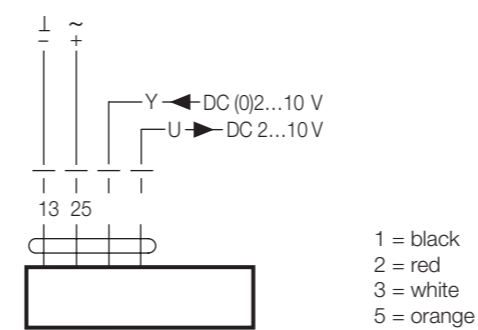


K -continuous

AC/DC 24 V, 3-point



AC/DC 24 V, modulating





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ORDERING KEY

AIRFLOW REGULATION

ORDERING KEY KVQ

(1) Constant volume damper (2) Dimensions (3) Drive (4) Insulation

KVQ - BxH - R - Z

- (1) **KVQ**
- (2) Dimensions **BxH**
- (3) **R** - manual drive
M24-K - motor drive - continuous regulation
M24-OZ - motor drive - two-position regulation
M230-K - motor drive - continuous regulation
M230-OZ - motor drive - two-position regulation
- (4) **Z** - insulation

ORDERING KEY ACCESSORIES

(1) Accessories (2) Type (3) Length

FD-A - CF60 - 200

- (1) **FD-A**
- (2) Type
CF60 - Connecting frame 60 mm
- (3) Connecting frame length
200 ... 600 [mm]

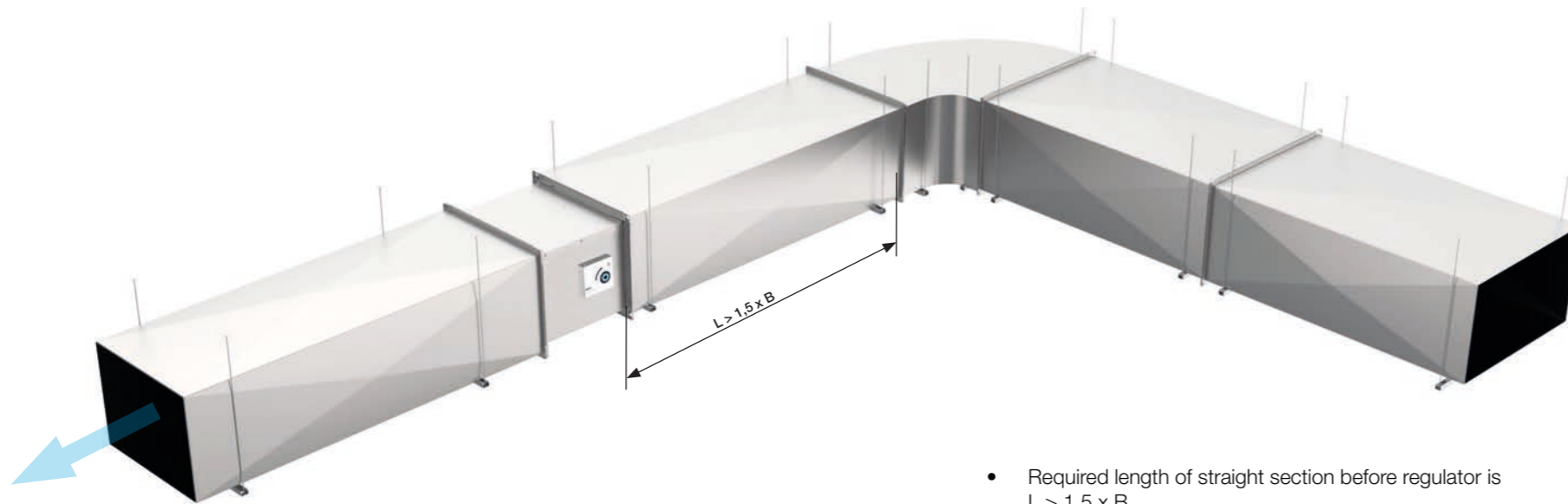
ORDERING KEY MANUAL TO ELECTRIC DRIVE

(1) Upgrade Kit

KVQ-A-M-KIT

- (1) **KVQ-A-M-KIT**
Kit upgrade from manual to electric drive

Installation process



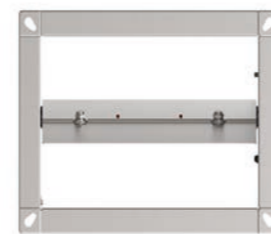
- Required length of straight section before regulator is $L > 1,5 \times B$.
- If $L < 1,5 \times B$, a 10% error in regulation occurs so that kind of installation is not advisable
- Pay attention to airflow direction marking on the regulator. If not correctly installed, regulator will not work
- Maintenance is not required

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INSTALLATION



Installation in horizontal, angled or vertical duct so that rotation axis is always in horizontal position.





KVQ Battery assembly installation 1x2



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PRODUCT OVERVIEW

AIRFLOW REGULATION

1. Fix the dampers to the duct.
2. Place the installation kit (CF 60) to the dampers.
3. Attach the installation kit to the dampers using the selftapping screws every 100 mm.



Upgrade from manual to electric drive



1. Install KVQ on the duct



2. Unscrew the handle and set the indicator on the black horizontal mark



3. Pierce the product sticker on the X marks and install motor mount with three self-tapping screws; 3,9x13 DIN 7981.



4. Install the motor shaft with two self-taping screws 3,9x13 DIN 7981. (1,5 Nm)



5. Lock lower part of the actuator on the motor mount and upper part on the motor shaft. The lateral side of actuator should be parallel with the lateral side of mechanism cover



6. Press and hold the black button on the actuator



7. While holding the button, rotate the jaw counter clockwise to the limiter



8. Check that the indicator is in horizontal position, release the button and tighten the screws simultaneously



9. Unscrew the handle, press and hold the black button and set the indicator on the wanted minimal air flow value. In this case we will set it to the 1200 m³/h. Release the button and tighten the handle again



10. Unscrew the screw on the left limiter; push and tighten it under the jaw



11. Unscrew the handle, press and hold the black button and set the indicator on the wanted maximum air flow value. In this case we will set it to the 2600 m³/h. Release the button and tighten the handle again



12. Unscrew the screw on the right limiter; push and tighten it under the jaw



13. Unscrew the handle, press and hold the button, rotate the jaw together with shaft to the previously minimum set value and remove the handle at the end

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INSTALLATION



[Video instructions](#)



Installation process

Air flow/ Voltage

Control signal voltages for KVQ with continuous motor regulation

V[m³/h]	200 x 100	200 x 150	200 x 200	300 x 100	300 x 150	300 x 200	300 x 250	300 x 300	400 x 200	400 x 250	400 x 300	500 x 200	500 x 250	500 x 300	600 x 200	600 x 250	600 x 300
300	3,1	2,3															
400	4,5	3,7	3,0	3,5													
500	5,9	4,9	3,9	4,7	3,3												
600	7,3	5,9	4,6	5,8	4,2	2,9											
700	8,7	6,7	5,4	6,9	5,0	3,6											
800		7,5	6,1	7,7	5,8	4,3	2,9		2,8								
1000			7,3		7,1	5,4	4,1	3,1	3,7	3,1							
1200			8,2		8,1	6,5	5,0	4,0	4,6	4,0	3,0	2,9					
1400						7,4	5,8	4,8	5,3	4,7	3,8	3,5	3,2	3,3	3,1		
1600						8,2	6,4	5,5	6,0	5,3	4,5	4,2	3,9	3,9	3,6	3,2	
1800							7,0	6,1	6,7	5,9	5,1	4,8	4,4	4,3	4,1	3,7	
2000							7,5	6,7	7,2	6,4	5,6	5,3	4,9	4,8	4,6	4,2	4,0
2500							8,7	7,8	8,4	7,6	6,7	6,4	6,0	5,7	5,5	5,2	5,0
3000								8,8		8,8	7,7	7,4	7,0	6,5	6,3	5,9	5,8
3500										8,8	8,5	7,9	7,1	7,1	6,7	6,6	
4000												8,8	7,7	7,5	7,1	7,0	
4500													8,3	8,2	7,5	7,6	
5000														8,7	8,2	8,0	
5500															8,7	8,6	
6000																	9,0

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TRANSPORT

After arrival, check the damper for transport damage and shortcomings. In case of any damage or shortcomings, immediately contact your supplier.

STORAGE

If the damper is not installed immediately:

- Remove any wrapping.
- Protect damper from dust and contamination.
- Do not expose the damper to the effects of weather - store the damper in a dry place.
- Do not store the unit below -20 °C or above 50 °C.

Please properly dispose of packaging material!

MAINTENANCE AND OPERATION

Constant volume dampers are designed with fully enclosed drive mechanism outside of the duct and as such do not require cleaning and regular maintenance.

However, activation mechanism should be inspected for proper operation on regular basis.

- Provide at least one annual check of the damper
- After each intervention, provide a systematic cleaning of dust
- Cleaning instruction: clean with a sponge, with water or a mild detergent
- Disinfection instruction: spray disinfectant (disinfectant may contain alcohol which is flammable, take precaution to avoid ignition)

It is not permitted to alter the dampers in any way nor perform any changes to their structure (except for the service procedures described in this manual) without the manufacturer's consent.
Provide at least one annual check of the damper.

The functional test must be carried out in compliance with the basic maintenance principles of the European norms EN 13306, EN 15423 and EN15650.

COMMISSIONING

- Carefully unpack RKP-P - be careful of sharp edges and do not use excessive force for unpacking
- Inspect the product - check the volume flow damper for damage
- Installation of the volume flow damper - according to the installation instructions ([page 4.](#))
- Before commissioning - check the product functions



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AIRFLOW REGULATION

Von Profis für Profis