MDV Blue

Roof fan

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CONTENT

Mark MDV Blue

SUSTAINABLE AND EFFICIENT AIR EXTRACTION

Mark MDV Blue roof fan is suitable for extracting air from buildings and features the latest developments in the field of fans, including the efficient EC-technology. This enables the MDV Blue to guarantee a very low power consumption combined with excellent performance.

The MDV Blue roof fan is available in various sizes and air capacities ranging from 300 m³/h to 16.600 m³/h. The roof fan is equipped with a centrifugal fan, the casing is made of Sendzimir steel plate.

The MDV Blue is widely applicable, for example in factories, welding and fabrication halls, offices and supermarkets.

Mark gives standard 2 year product warranty.

FEATURES

- Competitive pricing
- EC-technology
- Reliable
- High efficiency
- Meets the EU 1253/2014 regulation
- 300 m³/h to 16.600 m³/h
- AC and EC implementation
- Low maintenance
- Good chemical resistance
- Complete BMS integration possible

OPTIONAL

- Aluminium casing seawater resistant AlMg3
- Controls: e.g. constant pressure, 0-10V, presence control, CO2 control, humidity control and temperature control.

EU 1253/2014

This standard is adopted by the European Parliament in which demands are made regarding the eco-design of ventilation units. Air handling units (supply and exhaust units) with an air flow higher than 1000 m^3/h must be fitted with adjustable heat recovery with a prescribed minimum efficiency. In this configuration, the fans need to be supplied with speed control so that the SFP (specific fan power) limits are not exceeded. With these new requirements, the European Commission aims to significantly reduce the maximum power consumption of ventilation systems in buildings.

Mark's MDV Blue automatically complies with the EU Directive 1253/2014. As well as the standards for 2016, the MDV Blue with EC technology also meets the future strict standards for 2018.

COSTS

The latest technology in the field of fans and the controlling of it makes it that the MDV Blue is very economical. In combination with a long service life, this aspect ensures that the purchasing price will be earned back in a short period of time when compared to other similar products.

FITTING THE MDV

The MDV Blue is easy to install on the current roof curbs and support stands which are used in construction.

MODBUS

The MDV Blue EC features an integrated Modbus communication. The MDV Blue AC can be controlled through a seperate Modbus communication. This enables the connecting of one or more roof fans to the building management system (BMS).

FLEXIBLE AND FAST

Because the roof fans are manufactured by ourselves, we can adequately respond to special requests and urgent orders.

AC or EC?

	AC	EC
Meaning	Alternating current	Electronically commuted (changed)
Efficiency	General lower than EC	Higher, especially at partial load
Variable speed	Additional equipment needed*	Integrated
Control	External additional devices	0-10 V and commonly modbus
Running costs	Higher	Lower
Investment costs	Lower	Higher
EU1253 complying?	Yes, with variable speed drive	Yes

* Speed control with transformer, inverter and step less dimmer.

Examples of MDV Blue applications.

Technical specifications

SPECIFICATIONS

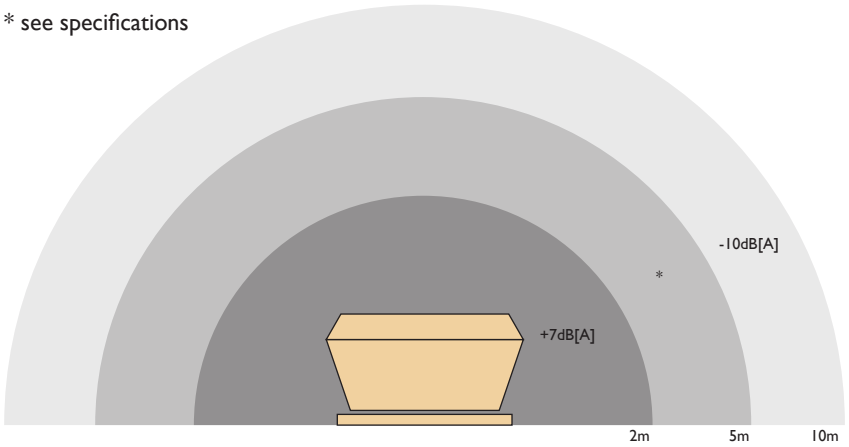
MDV Blue AC		311	355	400	450	500	560	630
Supply voltage (50Hz)	V	230	230	230	230	400	400	400
Nominal air flow	m^3/s	0,56	0,72	0,95	1,69	2,10	3,11	3,88
Nominal power consumption	kW	0,22	0,37	0,58	1,1	1,45	2,5	3,9
SFP nominal	$W/m^3/s$	344	401	611	651	1000	804	1005
Nominal air velocity	m/s	12,04	13,82	13,55	19,70	20,07	23,80	24,03
Nominal pressure	Pa	90	145	162	182	166	226	220
Stat. efficiency fan	%	26,16	36,16	26,53	27,96	16,60	28,11	21,89
Noise level (5m)*	dB(A)	65	66	68	69	69	72	73
Maximum air flow	m^3/h	2200	2800	3900	6500	9000	12500	16000
Current I max	A	1,1	1,85	2,6	5,2	5,0	8,2	11,5
Weight	kg	17	27	30	46	52	55	70
Protection class	IP	54	54	54	54	54	54	54

MDV Blue EC		225	311	355	400	450	500	560	630
Supply voltage (50Hz)	V	230	230	230	230	230	400	400	400
Nominal air flow	m^3/s	0,25	0,56	0,84	1,16	1,61	2,50	3,05	3,89
Nominal power consumption	kW	0,07	0,15	0,31	0,26	0,32	0,82	1,50	1,40
SFP nominal	$W/m^3/s$	277	275	375	228	199	330	494	362
Nominal air velocity	m/s	6,69	13,37	15,95	16,73	18,73	23,77	23,38	24,03
Nominal pressure	Pa	72	105	230	120	120	142	284	178
Stat. efficiency fan	%	26,0	38,2	61,3	52,7	60,4	43,1	57,4	49,2
Noise level (5m)*	dB(A)	63	65	65	63	67	72	70	72
Maximum air flow	m^3/h	1200	3150	3500	4300	5300	10750	11500	15000
Current I max	A	1,4	2,2	2,2	3,0	2,2	4,0	3,7	4,2
Weight	kg	13	17	27	30	46	52	55	70
Protection class	IP	54	54	54	54	54	54	54	54

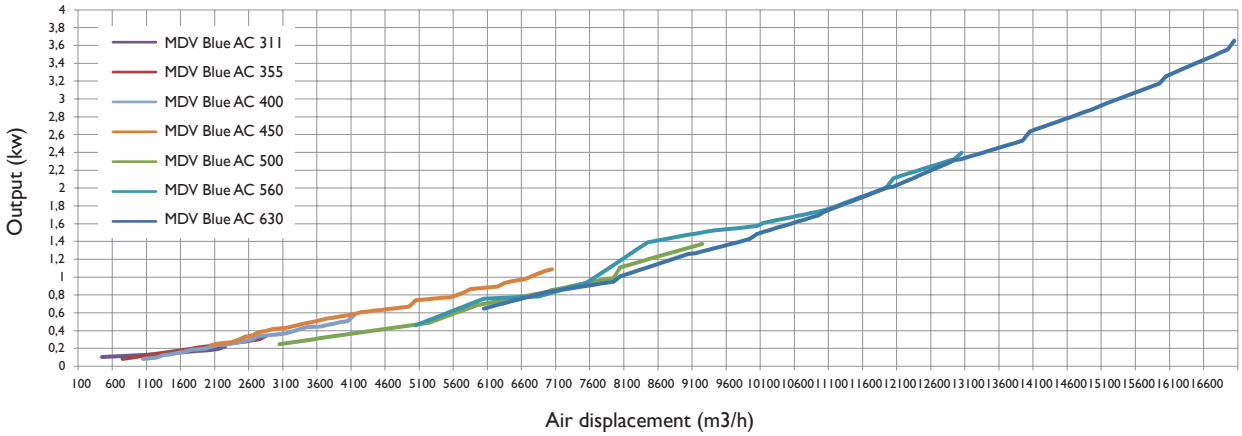
Thermal efficiency: N.A.
HRS: None
Category: NRVE
Working temperature: -20 / +60 °C

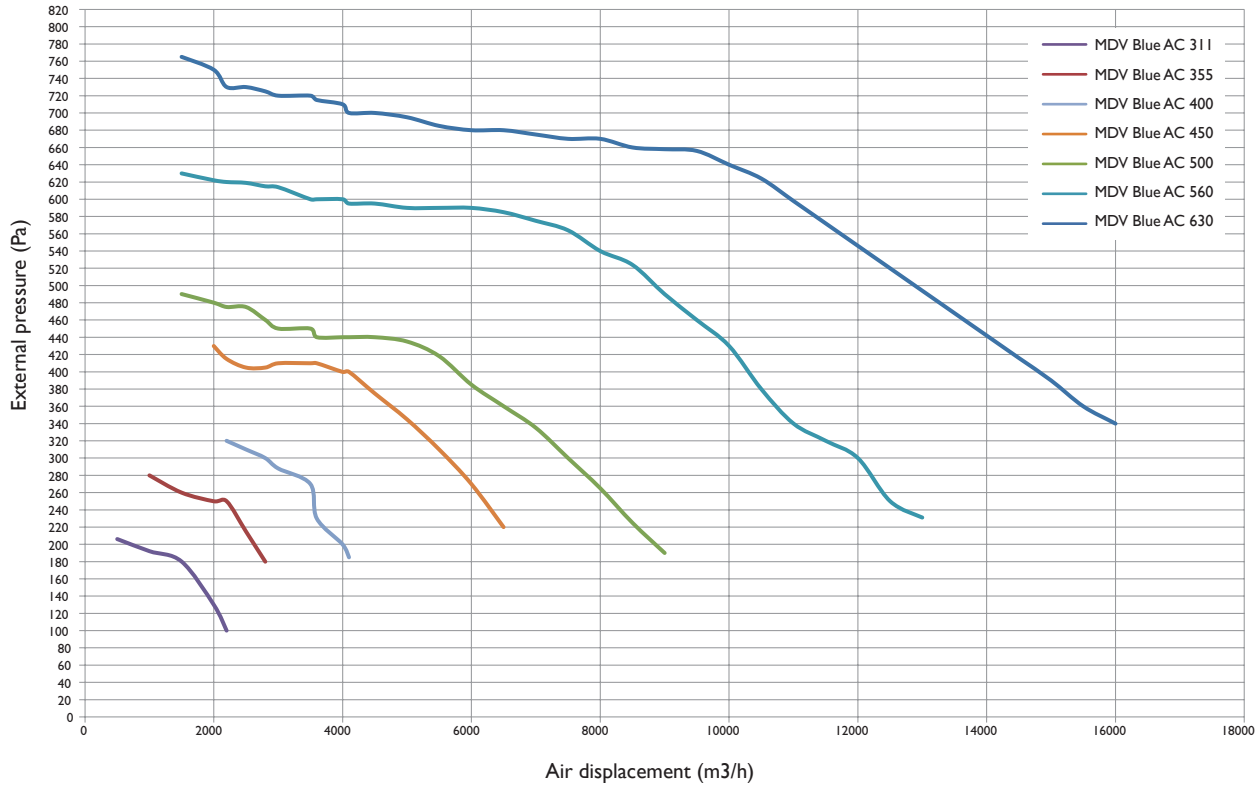
SOUND LEVEL

* see specifications

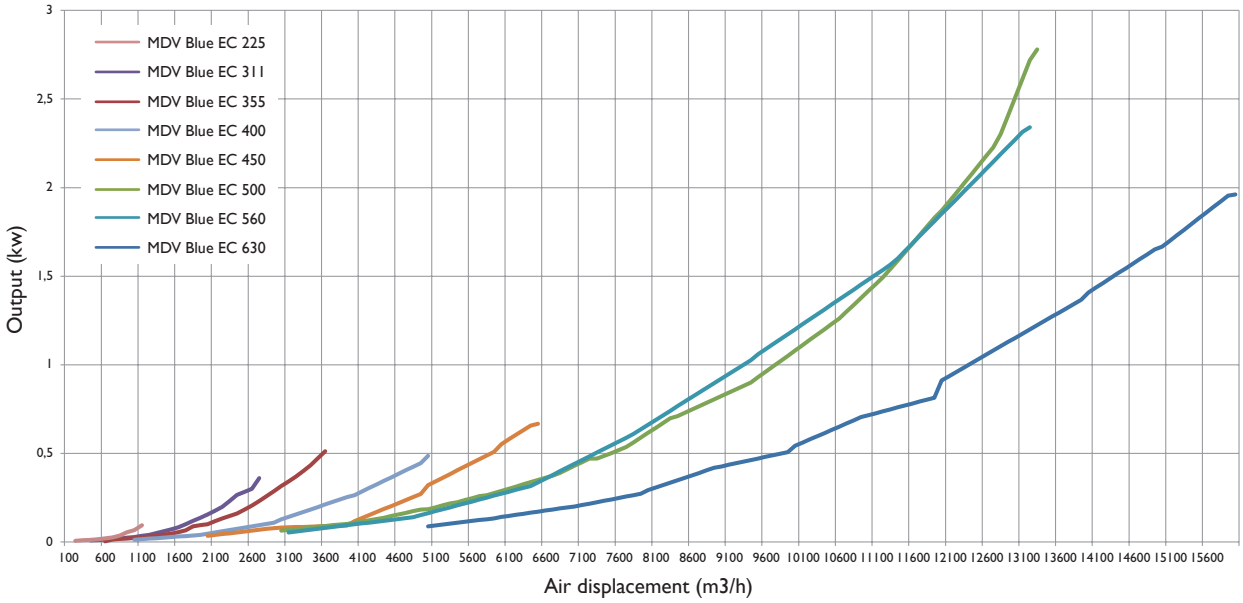


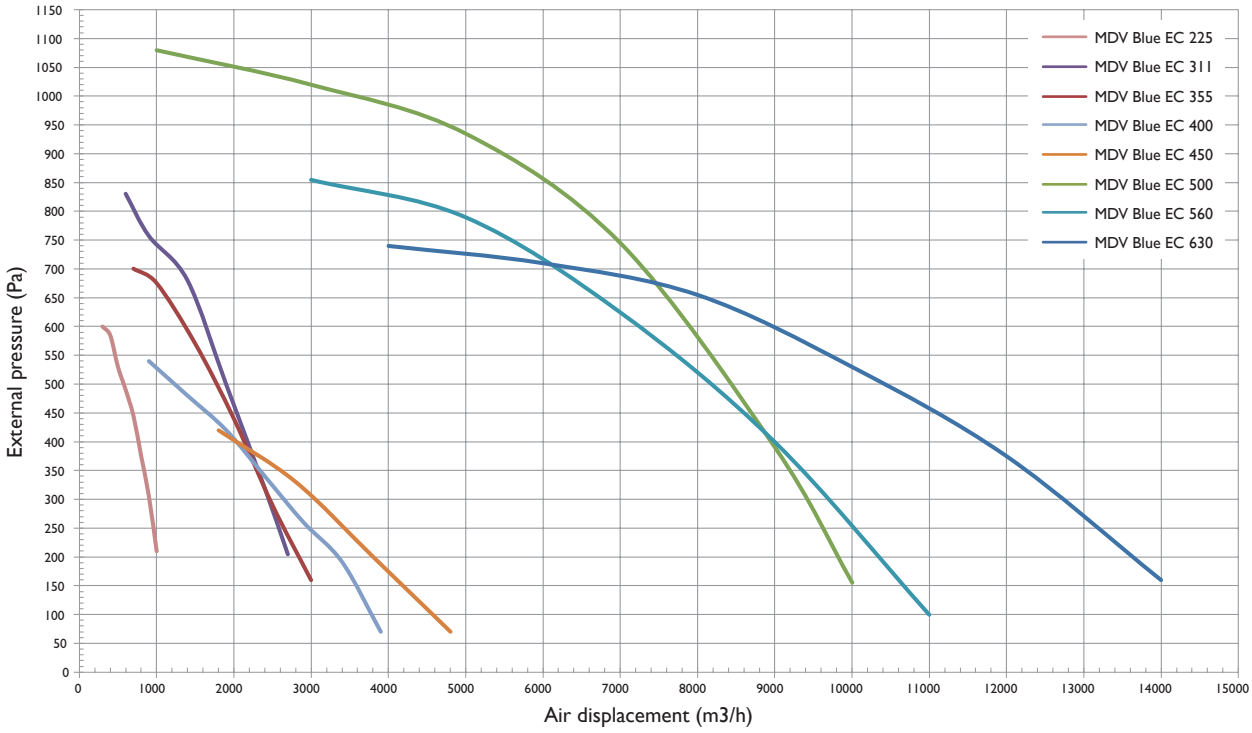
MDV BLUE AC


Output (kw)
MDV Blue AC 311
MDV Blue AC 355
MDV Blue AC 400
MDV Blue AC 450
MDV Blue AC 500
MDV Blue AC 560
MDV Blue AC 630
Air displacement (m3/h)

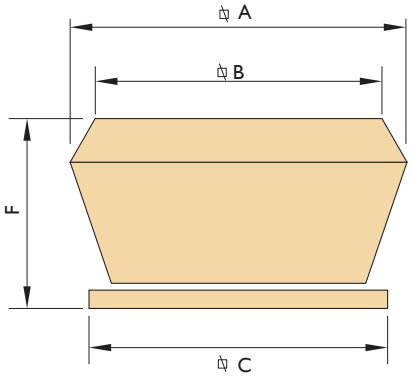

External pressure (Pa)
MDV Blue AC 311
MDV Blue AC 355
MDV Blue AC 400
MDV Blue AC 450
MDV Blue AC 500
MDV Blue AC 560
MDV Blue AC 630
Air displacement (m3/h)

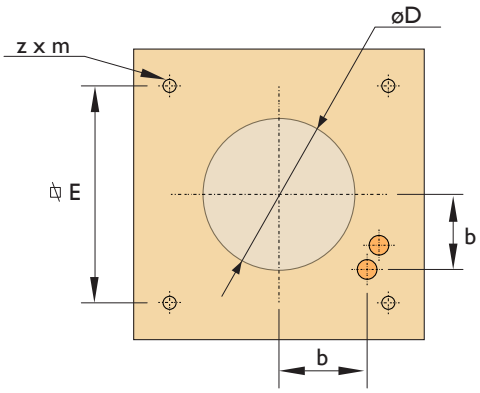
MDV BLUE EC

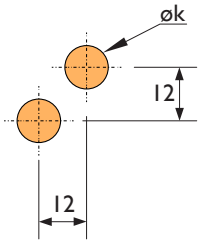

MDV Blue EC 225
MDV Blue EC 311
MDV Blue EC 355
MDV Blue EC 400
MDV Blue EC 450
MDV Blue EC 500
MDV Blue EC 560
MDV Blue EC 630
Output (kw)
Air displacement (m3/h)


MDV Blue EC 225
MDV Blue EC 311
MDV Blue EC 355
MDV Blue EC 400
MDV Blue EC 450
MDV Blue EC 500
MDV Blue EC 560
MDV Blue EC 630
External pressure (Pa)
Air displacement (m3/h)

Dimensions

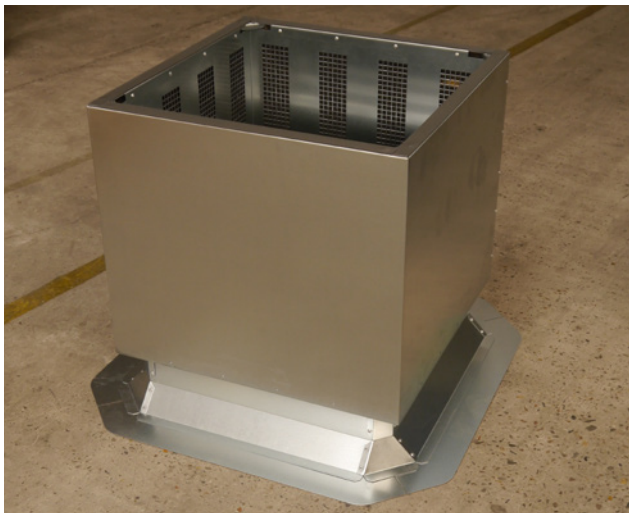


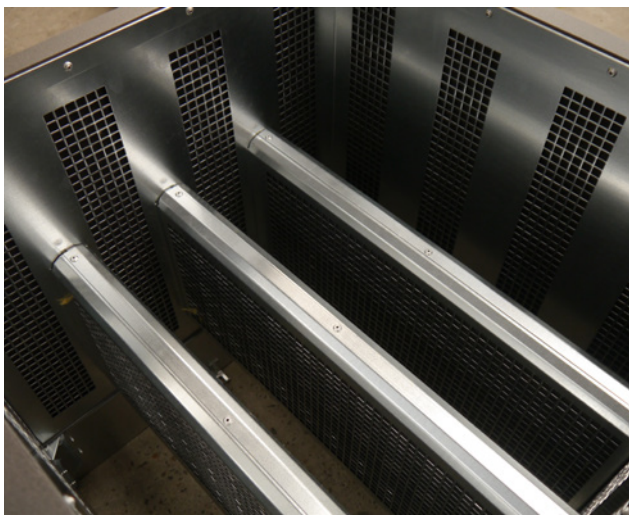




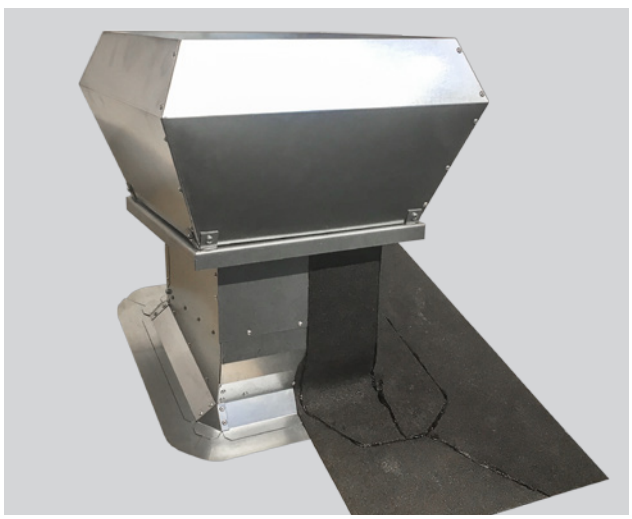
Type	A	B	C	D	E	F	b	z x m	øk
MDV Blue 225	514	430	435	200	330	277	115	4 x ø9	20
MDV Blue 311	562	430	435	290	330	345	115	4 x ø9	20
MDV Blue 355	715	590	595	320	450	365	160	4 x ø12	20
MDV Blue 400	715	590	595	365	450	365	160	4 x ø12	20
MDV Blue 450	880	660	665	410	535	480	220	4 x ø12	20
MDV Blue 500	870	720	723	450	590	480	245	4 x ø12	20
MDV Blue 560	1135	935	939	510	750	570	250	4 x ø12	20
MDV Blue 630	1135	935	939	550	750	570	260	4 x ø12	20

These dimensions are for both the MDV Blue AC and MDV Blue EC.



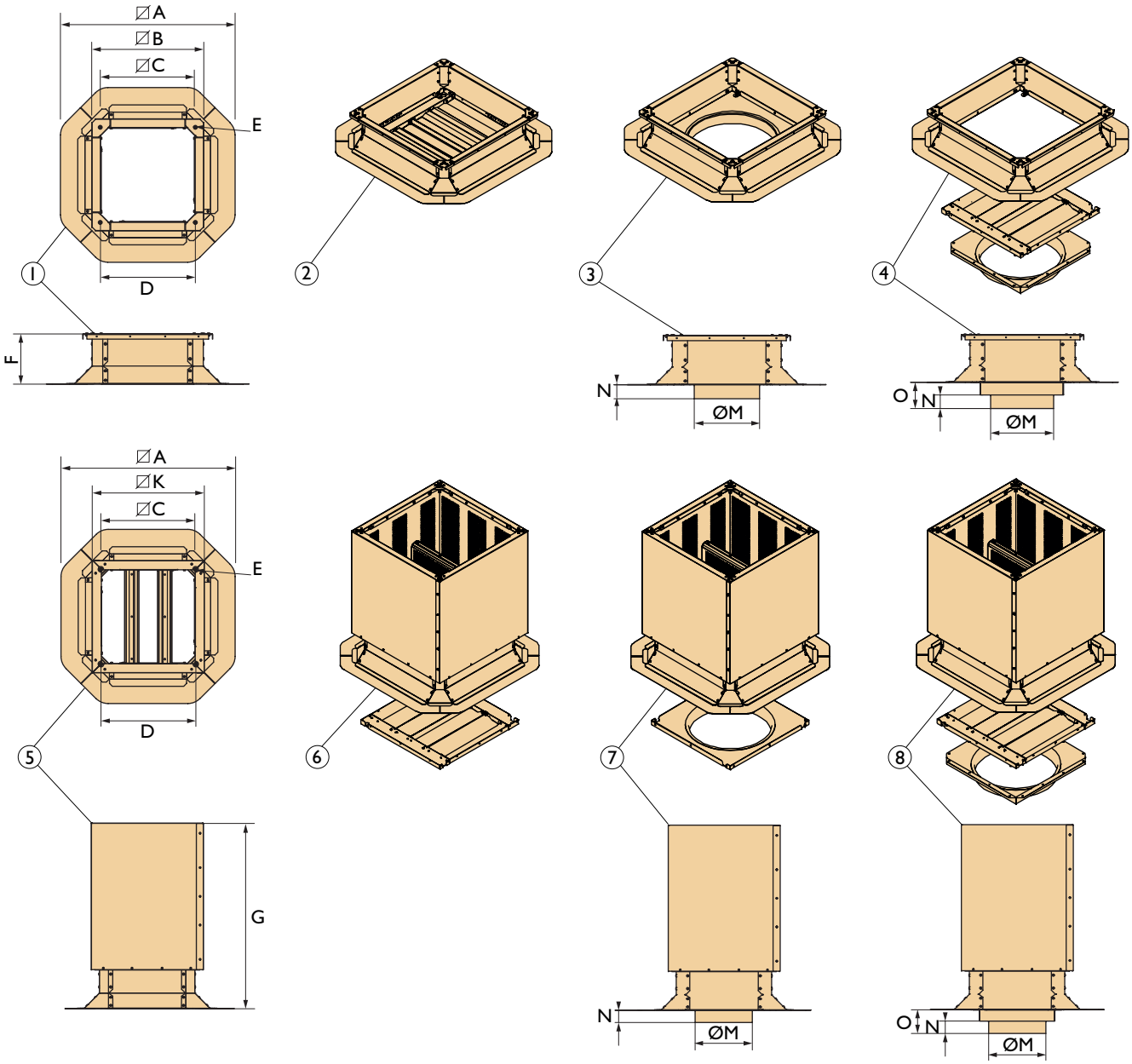


Roof curb including silencer



Adjustable (0-30°) roof curb available on request for types 311 - 500.

Accessories & additional sections



1 Roof curb
2 Roof curb with self-closing valve
3 Roof curb with round fitting
4 Roof curb with self-closing valve and round fitting
5 Roof curb with silencer*
6 Roof curb with silencer and self-closing valve
7 Roof curb with silencer and round fitting
8 Roof curb with silencer, self-closing valve and round fitting
9 0-30° adjustable roof curb

* silencer is also available seperately, price on request.

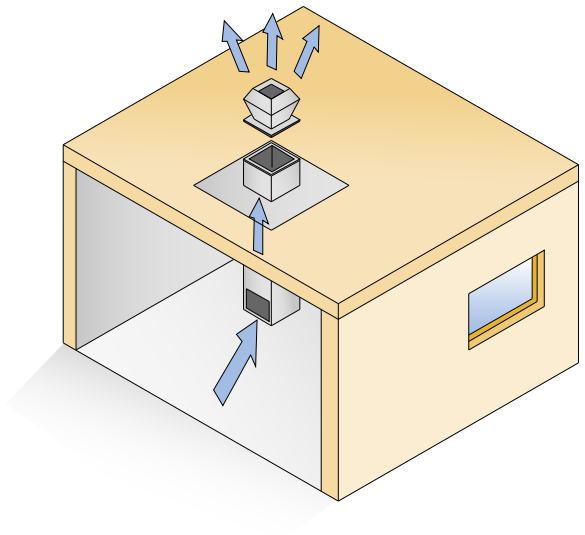
Dimensions (mm) belonging to page 8

Type	A	B	C	D	E	F	G	K	M	N	O	R	S	V
225/311	610	390	328	320	M8	150	648	392	200	43	83	515	372	255
355/400	728	510	448	450	M10	150	733	514	355	53	93	635	490	316
450	815	600	533	530	M10	150	733	598	400	53	93	720	575	372
500	870	650	588	585	M10	150	698	656	450	53	93	775	630	372
560/630	1030	810	748	745	M10	150	698	816	600	63	103	934	790	341

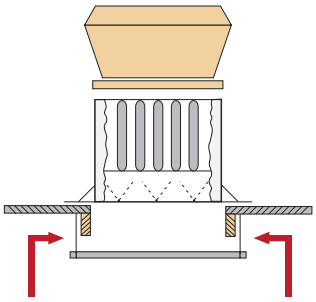
Weights (kg)

Type	225/311	355/400	450	500	560/630
Roof curb	6,3	8,4	9,9	10,9	13,7
Roof curb with self-closing valve	7,6	10,4	12,5	13,8	18,2
Roof curb with round fitting	7,8	10,4	12,7	14,0	18,1
Roof curb with self-closing valve and round fitting	8,4	11,0	14,2	15,8	21,1
Roof curb with silencer	19,6	29,2	33,1	37,4	46,6
Roof curb with silencer and self-closing valve	20,8	31,1	35,7	40,3	51,2
Roof curb with silencer and round fitting	21,1	31,2	35,8	40,6	51
Roof curb with silencer, self-closing valve and round fitting	21,7	32,3	37,4	42,3	54,1
0-30° adjustable roof curb	6,6	10	13,5	15	18

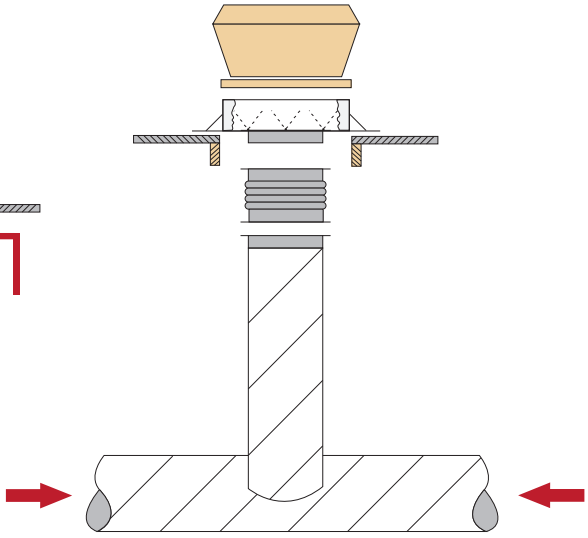
Assembly & location suggestions



MDV with sound absorbing plate



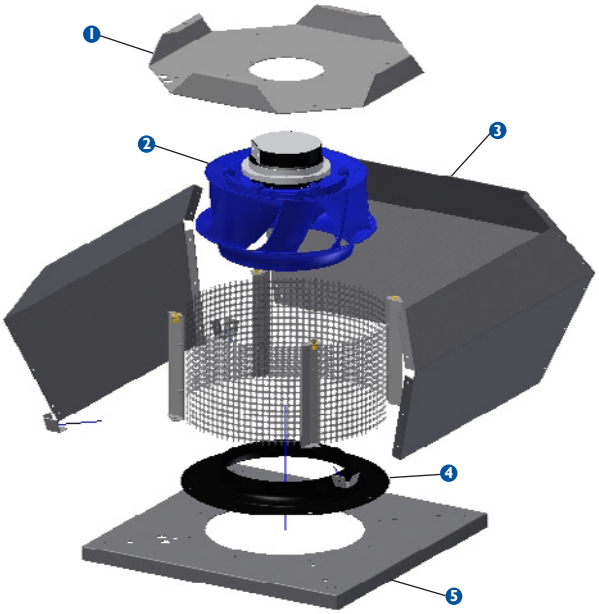
MDV with duct connection



Installation

The robust and simple design of the roof fan ensures that it is quick and easy to install.
Because of the modular design, both during installation and during maintenance components are easily accessible and user friendly. A complete maintenance operation can be performed with just a few tools.

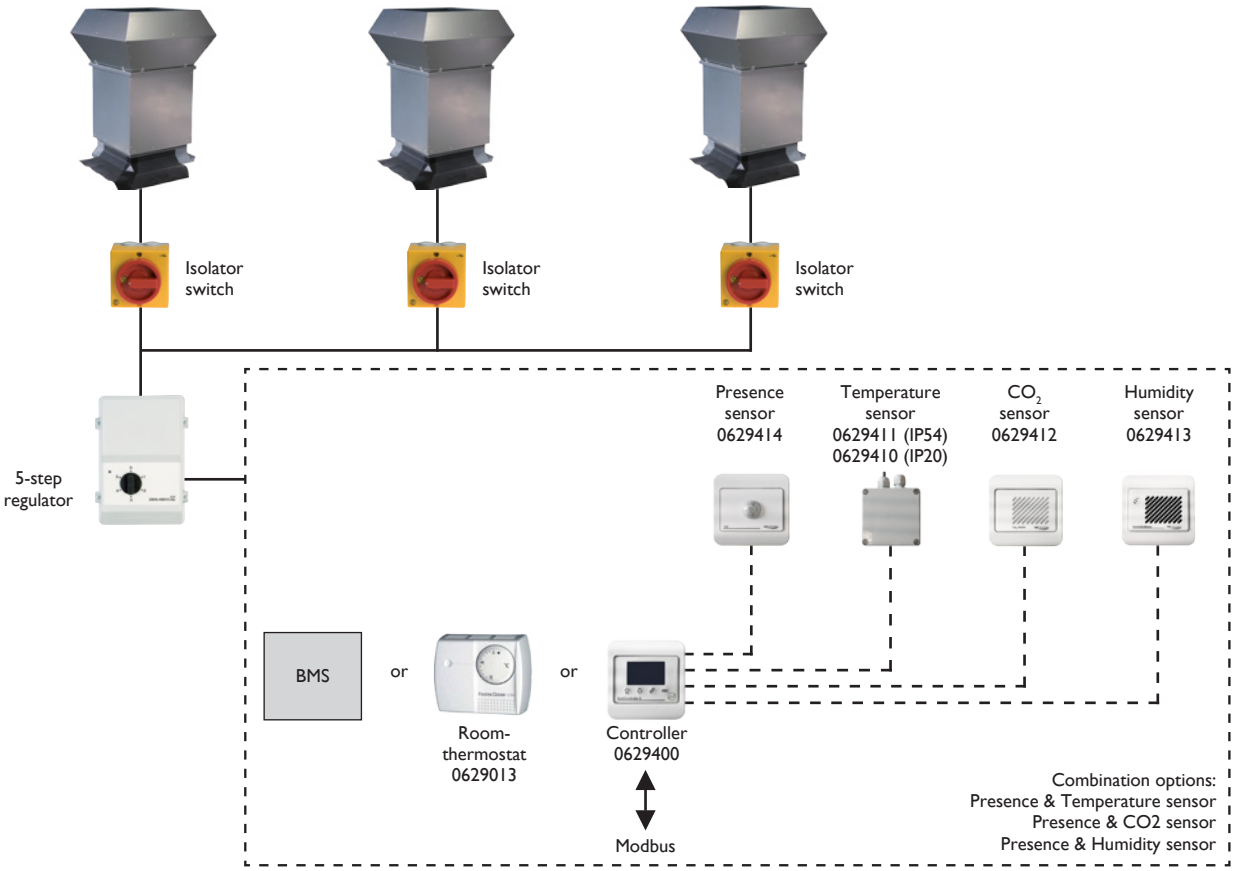
EXPLODED VIEW



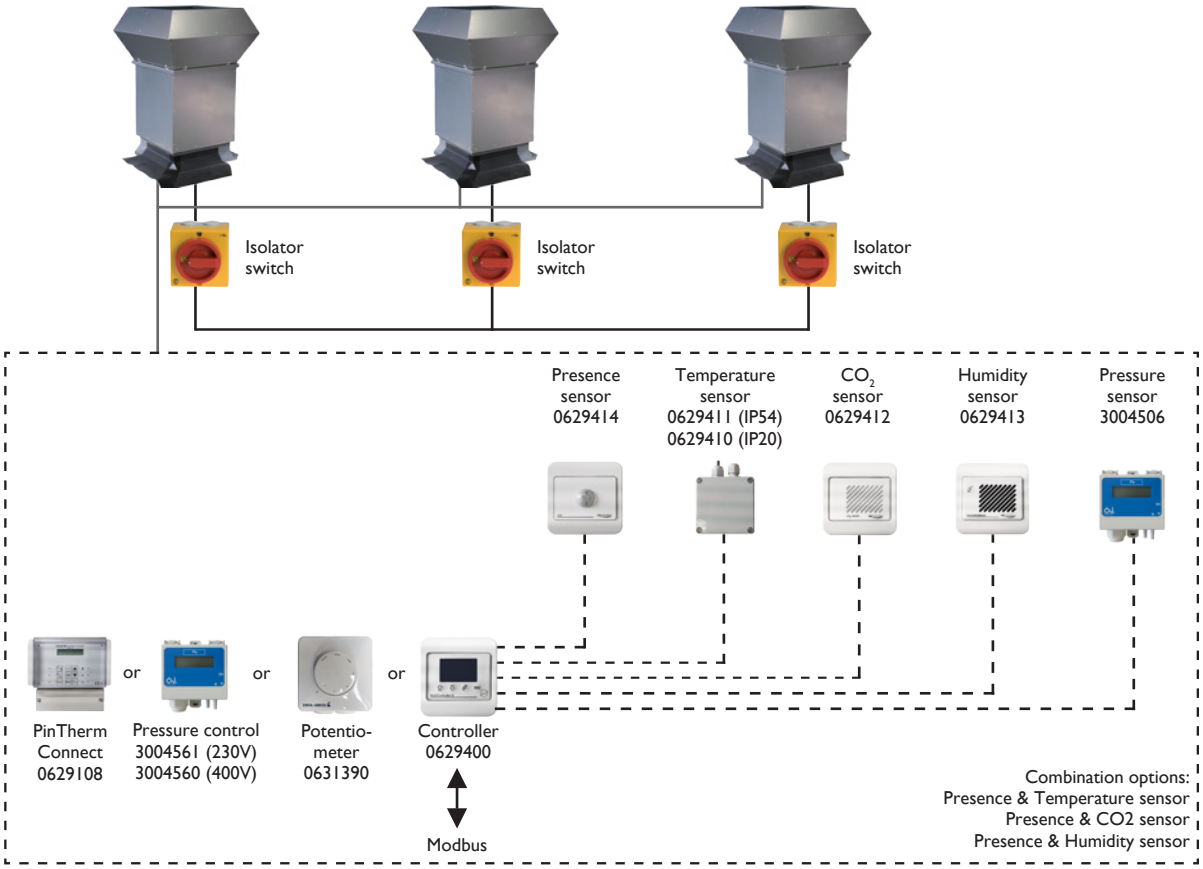
1. Anti-vibration motor plate
2. Energy-saving fan
3. Robust housing
4. Noise-reducing inlet cone
5. Base plate

Controls

MDV BLUE AC



MDV BLUE EC



MODBUS

The built-in Modbus communication in the MDV Blue EC enables the easy controlling and remote reading via the building management system. Information such as faults and history are easy to read.
The MDV Blue AC can be controlled through a seperate Modbus communication.

POTENTIOMETER CONTROL

In combination with the MDV Blue EC, it is possible to issue a 0-10V signal by means of a potentiometer to control the fan in a variable manner.

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