

# Air Handling Units



## Danvent DV

Copyright: Systemair A/S  
2. edition 2009  
We accept no liability for  
printing errors or alterations  
of products made after final editing.

# Welcome to Systemair Air Handling Units



## Introduction

We are delighted to present a new edition of our catalogue for air handling units in the range 0,4-24 m<sup>3</sup>/s (1.500-86.000 m<sup>3</sup>/h). It is the range Danvent DV, which is marketed under the group's global trade name Systemair.

The air handling unit range Danvent DV has been added many improvements and new developments. The result is an extremely flexible air handling unit, which fulfils our aim to develop products, which are innovative in both construction and function. The Danvent DV range compliments the existing range of air handling units available from Systemair.

Together with Systemair's remaining range for ventilation products the group offers the broadest product range in the market.

## The Systemair Group

Systemair is an international group with its headquarters in Sweden and with sales companies all over the world. We offer a wide range of products to the ventilation industry, manufactured at our factories in Denmark, Norway, Sweden, Germany, Lithuania and Canada.

### Systemair in Denmark

At the Danish Systemair factory we have manufactured air handling units since 1977. Systemair in Denmark houses the group's expertise for major air handling units. We focus on development, manufacturing, sales and consultations.

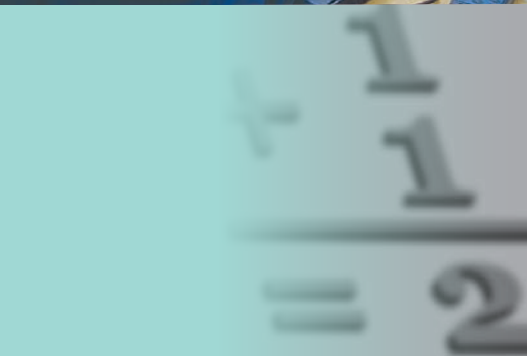
Hasselager, Denmark  
2009







# Contents



Introduction	3 - 5
About the Danvent DV	6 - 7
Product Information	8 - 9
Combination Examples	10 - 13
Functions	14 - 19
Damper	DVA ..... 20 - 21
Damper	DVB ..... 22 - 23
Mixing Damper	DVM..... 24 - 25
Mixing Damper	DVP ..... 26 - 27
Compact Filter	DVG..... 28 - 29
Bag Filter	DVF ..... 30 - 31
Rotary Heat Exchanger	DVC..... 32 - 35
Plate Heat Exchanger	DVQ..... 36 - 39
Run-around Coil Heat Exchangers	DVR ..... 40 - 41
Heating Coil	DVH..... 42 - 43
Cooling Coil	DVK ..... 44 - 45
Cooler	DVU ..... 46 - 47
Plug Fan	DVE ..... 48 - 57
Centrifugal Fan	DVV ..... 58 - 70
Air Distributor	DVL ..... 71
Sound Attenuator	DVD..... 72 - 73
Inspection Section	DVI..... 74
Empty Section	DVO..... 75
Outdoor Air Section	DVY ..... 76
Base Frame	DVZ ..... 77
Dimensions for Ducts	..... 78
Duct Connection Part	DVT ..... 79







# About the Danvent DV



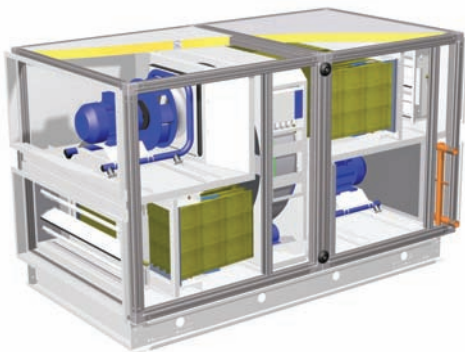
Danvent DV is designed as a modular air handling unit. Each function is placed into an air handling unit casing consisting of one or more modules. The modular functions can be configured for many different applications to make up the heart of any ventilation system.

The modular construction is highly flexible, and the possibilities often only limited by the imagination. The flexibility makes it possible to combine the most optimized functions, e.g. the type of heat exchangers and fans with the highest efficiencies, combined with filters and coils with low pressure drop. Combinations, which can offer the best running- and investment costs.

The flexibility makes it also possible to design the Danvent DV for each project.

### Sizes and air volumes

The Danvent DV comes in a range of 14 different sizes, with air volume capacities from 0,4-24 m<sup>3</sup>/s (1.500-86.000 m<sup>3</sup>/h), making it possible to always find the unit optimized for any given requirement.



### Casing

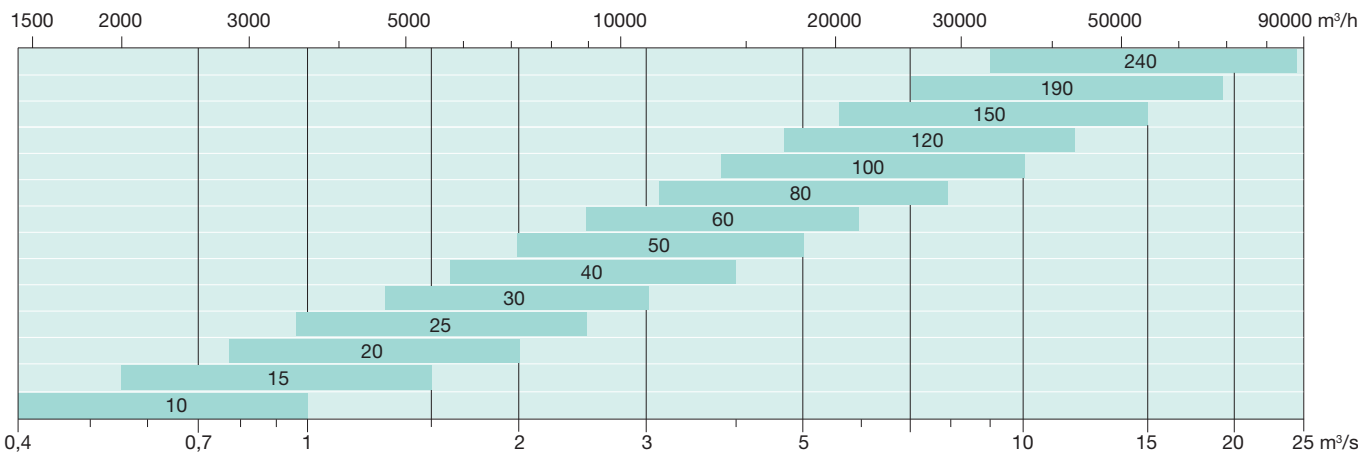
The casing protect the air handling unit functions, and is very effective for thermal and sound insulation. The casing is built to last. To ensure that the quality of the casing lives up to the high standards of its functions, we use frames and panels which are protected against corrosion using alu-zinc of the highest quality AZ 185.

### Functions

The Danvent DV features a number of well-dimensioned functions, presenting a choice between different heat exchanger systems, a range of fans, filters, heating and cooling coils and much more. This means the Danvent DV can be configured for many different applications, from individual fan units to advanced air handling systems.

### SystemairCAD

To ensure correct calculation and design of the functions, the highly advanced design program, SystemairCAD, is developed to calculate many new features. This is a very user-friendly program which makes it possible to quickly and easily combine different AHU functions, perform technical calculations and document the entire process.



# About the Danvent DV



SystemairCAD calculates and optimizes the energy consumption of the air handling unit, and the calculated data are the basis for Eurovent certification and energy classification. SystemairCAD also calculates the Life Cycle Cost (LCC calculation) of the Danvent DV.

To make it even more user-friendly, the program uses a number of combination examples, or basic variants, to which functions can be added or removed quickly and easily, until the ideal air handling unit is completely customised.

Fully-dimensioned drawings, plus logical construction and presentation of technical data provide easy interpretation, and the drawings can be transferred to AutoCad.

## Frame profiles and corners

Danvent DV is constructed using a closed framing profile with cast aluminium corner pieces. The frame profiles are made of steel with alu-zinc corrosion protection. The result is a strong and robust construction able to resist twisting and lateral movement, making them extremely stable and strong.

## Panels

The panels of the Danvent DV are built using a sandwich construction with 50 mm mineral wool for sound and heat insulation. The mineral wool is completely encapsulated between two steel sheets. The panels with alu-zinc surface is not only highly corrosion-resistant, but presents an attractive, uniform appearance that can last for many years. Steel sheets which are protected with alu-zinc AZ185, ensure a corrosion protection in class C4 according to EN ISO 12944-2.

## Disc-Lock

An air handling unit consisting of several sections in size 10-150 can be quickly and efficiently assembled using Disc-Lock, our unique assembly system. The sections can be assembled externally or internally as required.

## Inspection Doors

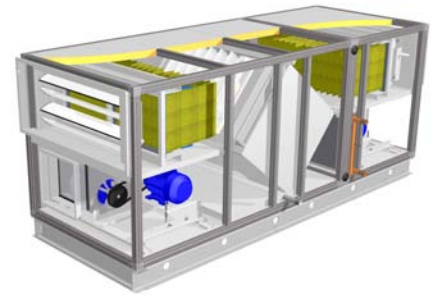
Danvent DV has large inspection doors, making service access easy. The doors are mounted using solid hinges with easily removable stainless steel pins. This means that the doors can be easily removed, if there is no room for normal opening of the doors. The doors are sealed using rubber profiles and locks with heavy-duty handles. They can only be opened using a key, thus fulfilling the specifications of the Machinery Directive (CE Labelling).

## Roof Units

Danvent DV in size 10-150 is available as roof unit, designed for outdoor installation. In this version the unit features a roof construction which together with the double sealing of the panels provides protection against the effects of the weather. The unit is available with components, which protect the air intake and exhaust against rain and snow.

## Control system

Danvent DV is available with pre-installed and fully integrated Systemair E28 control system. E28 is an advanced user-friendly system, with an external remote control panel for all settings. The panel can be placed freely in the building. E28 is a modern control system with a large number of features e.g. alarms, setting of time, airflow and temperature. The system is prepared for communication to a BMS system.







## Air Handling Unit Casing

Rigid frames with sound and thermal insulated panels.

### Materials

#### Frames

Closed 1,3/1,5 mm steel profile.  
Corrosion protection: Alu-zinc AZ 185.

#### Corners

Strong die cast aluminium corner pieces.

#### Panels

Insulation sandwiched between two 0,8 mm steel sheets. The steel sheets are corrosion protected with alu-zinc AZ 185.

#### Corrosion protection

Steel sheets which are protected with alu-zinc AZ 185 ensure a corrosion protection in class C4 according to the standard EN ISO 12944.2.

#### Insulation

Sound and thermal insulating mineral wool, which is completely encapsulated between two steel sheets.  
Thickness: 50 mm  
Density: 60 kg/m<sup>3</sup>.

#### Operating pressure

Difference between surrounding and pressure inside the air handling unit:  
0 - 2000 Pa (DV 10-150)  
0 - 1500 Pa (DV 190-240)

## Operating temperatures

### General temperatures

General temperatures of the air in the air handling unit.  
Standard design: -40/+40 °C  
Special design: -40/+60 °C.

## Classifications

The performance of the air handling unit casing corresponds with the following classifications according to the european standard EN 1886:

### Mechanical strength

Class D2

### Casing air leakage

Negative pressure: - 400 Pa:  
Class L3 (A)  
Positive pressure: + 700 Pa:  
Class L3 (A)

### Filter by-pass leakage

Negative pressure: - 400 Pa:  
Class F9  
Positive pressure: + 400 Pa:  
Class F9

### Thermal transmittance

Class T2

### Thermal bridging factor

Class TB4

### Acoustic insulation of casing

Octave Band Hz	Insulation dB
125	10
250	21
500	26
1000	27
2000	28
4000	29
8000	30

# Product Information

## Standards

The Danvent DV design is based on the demands in following CEN and ISO standards:

### EN 305

Heat exchangers. Definition and test procedures.

### EN 308

Heat exchangers. Test procedures.

### EN 779

Particulate air filters for general ventilation.

### EN 1751

Aerodynamic testing of dampers and valves.

### EN 1886

Air handling units. Mechanical performance.

### EN 13053

Ratings and performance for units and components.

### EN 13779

Ventilation for non-residential buildings. Performance requirements.

### EN 60204.1

Electrical equipment of machines.

### EN ISO 3741

Determination of sound power level in reverberation rooms.

### EN ISO 5136

Determination of sound power level in a duct.

### EN ISO 9001

Quality management systems.

### EN ISO 12100

Safety of machinery.

### EN ISO 12944.2

Corrosion protection.  
Classification of environments.

## Eurovent Certification

Danvent DV air handling units are Eurovent certified. This ensures the conformity between the calculated performance in SystemairCAD design program, and the measured performance at independent test laboratories.

## ISO Certification

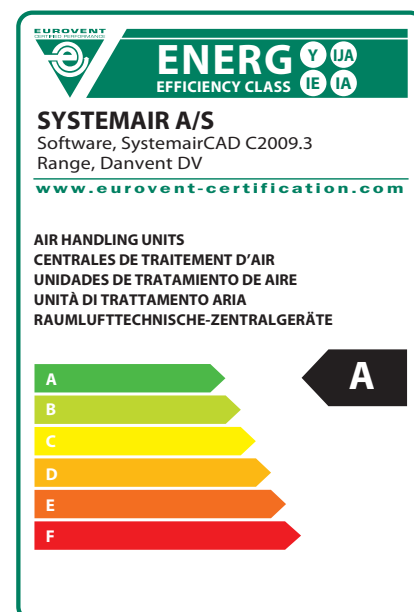
Danvent DV air handling units are developed and manufactured in Denmark. The Quality management system at the factory is certified in according to the standard EN ISO 9001 by Bureau Veritas Certification.

## Machinery Directive

Danvent DV air handling units are manufactured according to the safety demands of the EU Machinery Directive. This is confirmed in the Declaration of Conformity and the CE labeling.

## Eurovent Energy Labeling


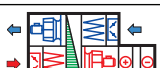




Danvent DV air handling units are Energy labeled in according to Eurovent's guidelines for Energy labeling of air handling units. The energy classification is based on the total energy consumption of the unit. SystemairCAD calculates the energy class from the actual data for the calculated air handling unit.









# Combinations with the DVE plug fan

To ease the process of custom-designing a unit, given the enormous range of options, the following are examples of the most commonly applied combinations. Choose the combination that best suit your needs and add or remove functions.

Extract air  Supply air 

Rotary Heat Exchanger		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
Standard	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
Rotary Heat Exchanger	Width	-	-	-	-	-	-	-	-	2320	2520	2890	3040	3720	4020
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	4340	4940
 C1E	Length	2160	2160	2460	2460	2760	3060	2910	3280	3210	3960	4260	4560	5010	5530
	Weight kg	430	520	660	760	920	1100	1470	1980	2140	2630	3250	3990	6290	7610
 C2E	Length	2910	2910	3210	3210	3510	3810	3660	4030	4030	4930	5230	5530	5980	6430
	Weight kg	500	610	770	870	1080	1270	1690	2250	2470	3050	3890	4690	7220	8600
 C3E	Length	2680	2680	3130	3130	3430	3880	4030	4400	4400	5450	5900	6200	6430	7100
	Weight kg	480	580	730	810	1010	1220	1700	2230	2480	3160	3870	4660	6870	8280
 C4E	Length	3430	3430	3880	3880	4180	4630	4780	5220	5220	6420	7020	7170	7400	8000
	Weight kg	560	660	840	930	1180	1390	1930	2560	2830	3610	4560	5320	7790	9180
 C5E	Length	2680	2680	3130	3130	3430	3880	3730	4100	4100	5080	5380	5680	6430	7100
	Weight kg	480	570	720	800	1010	1220	1630	2120	2330	2970	3620	4390	6860	8280
 C6E	Length	3430	3430	3880	3880	4180	4630	4480	4850	4850	6050	6350	6650	7400	8000
	Weight kg	550	660	840	920	1180	1380	1850	2410	2670	3370	4280	5060	7790	9170

Extract air  Supply air 

Plate Heat Exchanger		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	-	-
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	-	-
 Q1E	Length	3210	3580	4030	4330	4780	5080	5230	5460	5230	5910	6960	7260	-	-
	Weight kg	570	760	940	1130	1370	1640	2300	2550	2610	3210	4200	5130	-	-
 Q2E	Length	3960	4330	4780	5080	5530	5830	5980	6210	5980	6880	7930	8230	-	-
	Weight kg	660	850	1060	1260	1540	1810	2520	2880	2910	3660	4870	5790	-	-
 Q3E	Length	3800	4100	4700	5000	5450	5900	6050	6280	6280	7330	8380	8680	-	-
	Weight kg	650	820	1030	1140	1470	1760	2480	2720	2840	3620	4600	5550	-	-
 Q4E	Length	4550	4850	5450	5750	6200	6650	6800	7030	6800	8000	9050	9350	-	-
	Weight kg	720	900	1140	1310	1630	1930	2720	3030	3130	3980	5150	6130	-	-
 Q5E	Length	3800	4100	4700	5000	5450	5900	6050	6280	6130	7030	8080	8680	-	-
	Weight kg	640	810	1020	1170	1480	1750	2460	2700	2890	3690	4690	5840	-	-
 Q6E	Length	4550	4850	5450	5750	6200	6650	6800	7100	6800	8000	9050	9350	-	-
	Weight kg	720	900	1140	1300	1620	1920	2700	3030	3200	4120	5320	6380	-	-

\* DV 10-150 : Height excl. base frame DVZ. DV 190-240 : Height incl. base frame.



# Combinations with the DVE plug fan



Extract air Supply air

Run-around Coil Heat Exchangers		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
Double height unit	Height*	1040	1190	1340	1490	1640	1790	2090	2240	2540	2840	3140	3440	4340	4940
 R1E	Length	2540	2540	2690	2690	2840	2990	2990	3140	3140	3590	3890	4110	5010	5230
	Weight kg	580	700	840	990	1170	1420	1980	2240	2460	2990	3800	4580	6290	7420
 R2E	Length	3360	3360	3510	3510	3660	3810	3810	3960	3960	4560	4860	5010	5910	6060
	Weight kg	680	820	980	1150	1360	1620	2220	2550	2790	3510	4340	5170	7050	8270

Extract air Supply air

Recirculated air		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	4340	4940
 M1E	Length	2240	2240	2390	2390	2540	2840	2690	2840	2990	3660	3810	3960	4410	5080
	Weight kg	250	280	350	390	470	560	800	900	1000	1300	1560	1900	2320	3040
 M2E	Length	3060	3060	3210	3210	3360	3660	3510	3660	3810	4410	4560	4710	5380	5980
	Weight kg	330	400	480	560	640	780	1050	1180	1320	1660	2140	2460	3250	3940
 M3E	Length	3580	3580	3880	3880	4180	4780	4480	4780	5080	5980	6350	6650	7550	8820
	Weight kg	390	450	560	620	760	940	1270	1470	1630	2060	2660	3150	3930	5100
 M4E	Length	4400	4400	4700	4700	5000	5600	5300	5600	5900	6950	7250	7620	8520	9720
	Weight kg	480	560	690	790	940	1150	1550	1760	1960	2530	3250	3800	4850	6000
 M5E	Length	2610	2610	2910	2910	3210	3660	3360	2990	2990	3590	3810	3960	4710	5080
	Weight kg	360	430	530	580	750	910	1220	1360	1520	1950	2510	2990	4190	5150
 M6E	Length	3430	3430	3730	3730	4030	4480	4180	3810	3880	4630	4780	4860	5680	5980
	Weight kg	460	540	670	730	930	1150	1480	1650	1880	2430	3150	3570	5110	6050

Extract air Supply air

Supply air		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
Double height unit	Height*	1040	1190	1340	1490	1640	1790	2090	2240	2540	2840	3140	3440	4340	4940
 S1E	Length	1940	1940	2090	2090	2240	2390	2240	2390	2390	2690	2990	3140	4040	4260
	Weight kg	220	260	320	370	430	510	700	800	880	1100	1400	1700	2250	2820
 S2E	Length	2690	2690	2840	2840	2990	3140	2990	3140	3140	3590	3960	4110	5010	5160
	Weight kg	310	370	450	520	620	730	960	1110	1230	1490	2020	2320	3170	3720
 S3E	Length	1940	1940	2090	2090	2240	2390	2240	2390	2390	2690	2990	3140	4040	4260
	Weight kg	340	400	500	580	690	830	1140	1320	1440	1790	2350	2800	3690	4560
 S4E	Length	2690	2690	2840	2340	2990	3140	2990	3140	3140	3590	3960	4110	5010	5160
	Weight kg	430	510	630	730	870	1040	1400	1630	1790	2180	2960	3410	4610	5460







\* DV 10-150 : Height excl. base frame DVZ. DV 190-240 : Height incl. base frame.

# Danvent DV

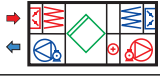





## Combinations with DVV centrifugal fan

To ease the process of custom-designing a unit, given the enormous range of options, the following are examples of the most commonly applied combinations. Choose the combination that best suit your needs and add or remove functions.

Extract air ← Supply air →

Rotary Heat Exchanger		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
Standard	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Rotary Heat Exchanger	Width	-	-	-	-	-	-	-	-	2320	2520	2890	3040	-	-
Single height unit	Height*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	-	-
 C1V	Length	2090	2090	2090	2390	2390	2690	3140	3210	3510	4110	4560	4710	-	-
	Weight kg	450	550	640	780	900	1100	1590	2040	2330	2860	3450	4010	-	-
 C2V	Length	2910	2910	2910	3210	3210	3510	3960	4030	4330	4930	5530	5830	-	-
	Weight kg	580	700	830	970	1120	1350	1920	2350	2650	3300	4020	4670	-	-
 C3V	Length	2610	2610	2760	3060	3060	3510	3960	4030	4330	5230	5680	5830	-	-
	Weight kg	510	600	730	840	990	1230	1760	2180	2530	3210	3820	4400	-	-
 C4V	Length	3430	3430	3580	3880	3880	4330	4780	4850	5150	6050	6500	6950	-	-
	Weight kg	640	760	910	1030	1220	1480	2100	2500	2860	3680	4410	5110	-	-
 C5V	Length	2610	2610	2760	3060	3060	3510	3960	4030	4330	5230	5680	5980	-	-
	Weight kg	500	600	730	850	990	1230	1760	2180	2530	3210	3820	4390	-	-
 C6V	Length	3430	3430	3580	3880	3880	4330	4780	4850	5150	6050	6650	6650	-	-
	Weight kg	630	750	910	1030	1210	1480	2100	2510	2860	3680	4410	5110	-	-

Extract air ← Supply air →

Plate Heat Exchanger		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Single height unit	Height*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	-	-
 Q1V	Length	3210	3510	3660	4260	4410	4410	5010	5460	5460	6060	7260	7560	-	-
	Weight kg	610	780	940	1160	1330	1580	2320	2640	2750	3430	4340	5110	-	-
 Q2V	Length	4030	4330	4480	5080	5230	5230	5830	6280	6280	6880	8080	8230	-	-
	Weight kg	740	940	1120	1340	1550	1790	2630	2950	3070	3830	4820	5580	-	-
 Q3V	Length	3730	4030	4330	4930	5080	5230	5830	6280	6280	7180	8380	8680	-	-
	Weight kg	670	840	1030	1220	1430	1700	2500	2820	2960	3770	4650	5460	-	-
 Q4V	Length	4550	4850	5150	5750	5900	6050	6650	7100	7100	8000	9200	9350	-	-
	Weight kg	790	990	1210	1400	1640	1910	2810	3100	3250	4170	5140	5940	-	-
 Q5V	Length	3730	4030	4330	4930	5080	5680	6350	6800	6280	7180	8380	8680	-	-
	Weight kg	660	840	1030	1220	1420	1770	2680	3000	3050	3920	4890	5730	-	-
 Q6V	Length	4550	4850	5150	5750	5900	6500	7170	7550	7100	8000	9200	9350	-	-
	Weight kg	790	990	1200	1400	1640	1980	2970	3250	3350	4320	5400	6230	-	-

\* DV 10-150 : Height excl. base frame DVZ.

# Combinations with DVV centrifugal fan



Extract air ← Supply air →

Run-around Coil Heat Exchangers		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	-	-
Double height unit	Height*	1040	1190	1340	1490	1640	1790	2090	2240	2540	2840	3140	3440	-	-
 R1V	Length	2690	2690	2690	2840	2840	2990	3140	3140	3290	3740	4040	4190	-	-
	Weight kg	630	770	870	1050	1200	1460	2120	2370	2630	3200	3840	4540	-	-
 R2V	Length	3510	3510	3510	3660	3660	3810	3960	3960	4110	4710	5010	5160	-	-
	Weight kg	720	880	1020	1200	1380	1620	2360	2650	2970	3610	4390	5180	-	-

Extract air ← Supply air →

Recirculated air		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	-	-
Double height unit	Height*	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	-	-
 M1V	Length	2090	2240	2240	2390	2390	2690	2840	2840	3140	3660	3810	4110	-	-
	Weight kg	260	300	360	410	480	590	860	940	1090	1380	1620	1880	-	-
 M2V	Length	3060	3060	3060	3210	3210	3510	3660	3660	3960	4410	4710	4560	-	-
	Weight kg	350	430	490	580	650	800	1110	1230	1400	1750	2140	2510	-	-
 M3V	Length	3430	3580	3580	3880	3880	4480	4780	4780	5380	6350	6800	7100	-	-
	Weight kg	430	490	570	660	780	990	1400	1550	1790	2420	2810	3260	-	-
 M4V	Length	4250	4400	4400	4700	4700	5300	5600	5600	6200	7100	7700	8000	-	-
	Weight kg	520	610	700	820	940	1190	1660	1850	2120	2800	3330	3890	-	-
 M5V	Length	2310	2460	2610	2760	2910	3060	3660	3060	3210	3810	4110	4260	-	-
	Weight kg	380	450	540	620	740	910	1340	1460	1680	2260	2650	3090	-	-
 M6V	Length	3280	3280	3430	3730	3730	4180	4330	3810	3960	4630	5080	5160	-	-
	Weight kg	480	570	680	760	920	1150	1580	1730	2000	2670	3200	3720	-	-

Extract air ← Supply air →

Supply air		Unit size													
		10	15	20	25	30	40	50	60	80	100	120	150	190	240
	Width	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	-	-
Single height unit	Height*	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	-	-
Double height unit	Height*	1040	1190	1340	1490	1640	1790	2090	2240	2540	2840	3140	3440	-	-
 S1V	Length	1940	1940	1940	2090	2090	2240	2390	2390	2540	2840	3290	3440	-	-
	Weight kg	240	280	320	380	440	520	750	840	960	1240	1470	1710	-	-
 S2V	Length	2760	2760	2760	2910	2910	3060	3210	3210	3360	3660	4260	4340	-	-
	Weight kg	330	390	460	540	610	720	1020	1150	1300	1630	1990	2320	-	-
 S3V	Length	1940	1940	1940	2090	2090	2240	2390	2390	2540	2840	3290	3440	-	-
	Weight kg	370	450	500	610	700	870	1240	1400	1590	2070	2480	2890	-	-
 S4V	Length	2610	2760	2760	2910	2910	3060	3210	3210	3360	3660	4260	4340	-	-
	Weight kg	460	560	640	770	880	1060	1510	1710	1930	2460	3000	3500	-	-

\* DV 10-150 : Height excl. base frame DVZ.



## Danvent DV Functions



*Damper DVA*



*Damper DVB*



*Mixing damper DVM*



*Mixing damper DVP*

### Dampers

The dampers used in Danvent DV comply with EN 1751 sealing class 3. They have contra-rotating aerodynamically formed aluminium blades that ensure a low pressure loss when open. The blades are equipped with special rubber sealing strips between the blades themselves and the frame, to prevent air getting in. For very cold areas, the blades can also be insulated.

The dampers ensure a long and trouble-free operation, as the blades are mounted on sturdy square profile shafts and service-free synthetic bearings with large bearing surfaces. A pivoting system placed outside of the airflow and which is fitted with steel rods and maintenance free brass bushes connect the blades. This all-metal solution for the pivoting system makes the dampers ideal for use in very cold areas. The dampers are fitted with a position indicator.

### Damper DVA

DVA is a shutoff damper designed for efficient closing off of the supply and exhaust air. It can be located in both lower or upper part of a double height air handling unit.

### Damper DVB

DVB is a shutoff damper fitted on the top of the unit, and is used where a damper is required for a vertical AHU connection. When combined with the DVM mixing damper, the DVB acts as a total mixing system, also ideal for recirculation.

### Mixing Damper DVM

DVM is a mixing damper with two built-in dampers, that can either be used as a shutoff or recirculation damper. When combined with the DVB damper, the DVM acts as a total mixing system, also ideal for recirculation.

### Mixing Damper DVP

DVP is a complete mixing damper with three built-in dampers, which can either be used as shutoff or recirculation dampers. DVP can be used for combinations in which supply and extract air are combined in two levels with horizontal airflows. Mixing damper DVP is ideal for low-energy operation with recirculation.

By locating DVP after the heat exchanger (supply airflow), the system is only for 0% or 100% recirculation. This is ideal for night-time operation in areas with no outdoor air requirements, such as warehouses.

### Compact Filter DVG

DVG in size 10-150 is a compact basic EN 779 class G4 filter. It has a very short built-in length, however, DVG has a relatively large filter area due to the pleated filter construction. This gives the DVG filter a relatively low pressure loss and long lifetime.

DVG is ideal as a pre-filter, helping to prolong the lifetime and lower running costs of the main filter. The DVG filter can be slotted into the filter frame of the air handling unit.

### Bag Filter DVF

DVF's special shape provides an extremely large filter area, which together with the filter material's unique ability to collect dust particles, ensures the DVF filter has a long lifetime, making it economical. A DVF filter is composed of filter cells that comply with EN 779 classes G3 to F9.

DVF 10-150: The filter cells are held in place using a simple but effective system of lateral locking rails with large handles, making filter changing quick and easy.

DVF 190-240: The filter cells are held in place to the filter bank frames with effective fasteners.

# Functions

This system also ensures that the filter cells form a tight seal with the unit frame to comply with EN 1886. All seals are fixed to the unit and do not need replacement when installing new filters. Filter cells from all major filter manufacturers can be used in the DVF unit.

## Rotary Heat Exchanger DVC

DVC is a rotary heat exchanger with a high level of efficiency that can also be used to transfer moisture from warm and humid extract air. This type of heat exchanger is the most efficient of the various heat exchanger systems and is also the most compact, due to its short length. In its standard form, efficiency is up to 80%, and in its high-efficiency version, up to 87%, depending on operating conditions.

Both versions are also available as enthalpy or temperature heat exchangers. The enthalpy version can transfer heat and moisture from extract to supply air, thus increasing the exchanger's contribution to the systems heat and moisture requirements. The temperature version transfers heat from the extract air. At low outdoor temperatures it can also transfer moisture from the condensing extract air.

The standard version in size 10-150 is available as sorption heat exchanger. This type is ideal for climate with high summer temperature and humidity. It can save much cooling capacity and energy for cooling and dehumidification of the outdoor air.

The DVC consists of a rotor made of corrugated aluminium, built-in to a stable rotor housing with a large inspection door. The rotor is assembled on rails up to size 40, enabling it to be pulled out for inspection and service.

To minimize air leakage, DVC heat exchangers are fitted with highly effi-

cient brush seals between the housing and the rotor. The rotor's drive unit is factory-fitted, and comes in two variants – constant speed motor and variable speed motor. For the latter, the rotor is controlled by a VARIMATIC electronic control unit that allows constantly variable speed, and thus optimal temperature control.

## Plate Heat Exchanger DVQ

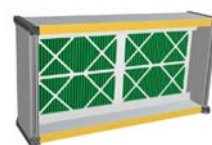
DVQ is a plate heat exchanger with a high efficiency that comes in 2 versions. The standard version with an efficiency up to 65%, and the high-efficiency version with efficiency up to 75%, depending on operating conditions. The exchanger is recuperative and consists of a series of aluminium plates with a double rebate and sealed so that the two airflows are kept entirely separate.

DVQ is thus ideal for situations where the separation of the two airflows is a necessity, to avoid the transfer of unpleasant odours to the supply air for example. Because humidity is not transferred between the airflows, DVQ can also be used for dehumidifying.

There are two versions for use in different environments:

- The aluminium version is used for commercial ventilation where no corrosive elements are present in the air, such as schools, kindergartens, offices, airports and hotels
- Corrosion-resistant heat exchangers with specially-coated aluminium plates are used in environments where the supply air can contain aggressive elements.

The heat transfer capacity can be regulated using the built-in by-pass damper, and the DVQ is always fitted with a drip tray to collect condensed water from the extract air. The drip tray drain outlet must be connected to a water trap with sufficient locking height.



Compact filter DVG



Bag filter DVF

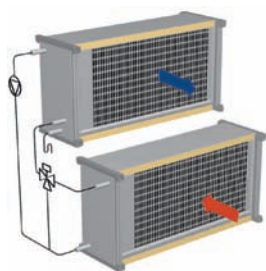


Rotary Heat Exchanger DVC



Plate Heat Exchanger DVQ

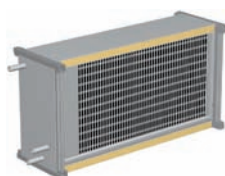
## Danvent DV Functions



Run-around Coil Heat Exchangers DVR



Heating Coil DVH



Cooling Coil DVK

### Run-around Coil Heat Exchangers DVR

DVR is a heat exchanger system where a mixture of water and glycol is circulated between a heating coil positioned in the supply airflow and a cooling coil positioned in the extract airflow. The transfer of heat takes place via a piped circuit that must be fitted after the unit is assembled.

DVR heat exchangers have an efficiency of up to 55%. The effectiveness of the system is dependant on its construction and the volume and type of water/glycol mixture circulating between the coils.

Run-around coil heat exchangers are used where the two airflows must be kept completely separate, or where they are at a distance from each other - e.g. on two different storeys of a building.

A drip tray is fitted in the extract air coil section to collect condensation from the extract air. The drain outlet must be connected to a water trap with sufficient locking height. To eliminate the risk of water droplets being carried into the extract air, the DVR can be supplied with a built-in droplet eliminator.

DVR has coils made of copper tubes with aluminium fins. Capacity regulation can be achieved using a shunt system with a motorised valve, or by regulating the circulation pump.

### Heating Coil DVH

The DVH heating coil is used to heat up the supply air, using either hot water, condensation of a cooling medium, steam or electricity. Dimensioning a DVH coil is done using the design program SystemairCAD, so that design of the coil will exactly match the requirements of the application.

DVH heating coils are made from a range of different materials depending on the heating medium and the envi-

ronment the coil is to operate in. Coils with copper tubes and aluminium fins are used for hot water and condensation. The tubes are  $\varnothing 10$  or  $\varnothing 15$  mm, depending on the capacity required. Stainless steel tubes and aluminium fins are used for steam heating coils. Electrical heating coils have heating elements made of stainless steel.

If mildly corrosive elements are to be present in the air, the aluminium fins can be specially-coated with a protective layer. In maritime environments, fins on the coils must be made up of an aluminium-magnesium alloy.

Coils for hot water can be supplied with a connection piece to fit a temperature sensor in the water circuit, making it possible to equip the unit with modulating electronic frost protection.

The coil is fully built-in the unit as standard, but comes also in a MAX version where the coil is wider than the standard unit width. This will reduce the air velocity.

### Cooling Coil DVK

The DVK cooling coil is used to cool the supply air either with cold water, or directly evaporation. Dimensioning a DVK coil is done using the design program SystemairCAD, so that design of the coil will exactly match the requirements of the application.

DVK coils are made with copper tubes and aluminium fins. The tubes are  $\varnothing 10$  or  $\varnothing 15$  mm, depending on the capacity required. If mildly corrosive elements are to be present in the air, the aluminium fins can be specially-coated with a protective layer. In maritime environments, fins on the coils must be made up of an aluminium-magnesium alloy.

Cooling coils for direct evaporation have the liquid distributor located in the unit, whilst the expansion valve can



# Functions

be fitted on the connection pipe on the outside.

A drip tray is fitted in the coil section to collect condensation. The drain outlet must be connected to a water trap with sufficient locking height. To eliminate the risk of water droplets being carried into the airflow, the DVK can be supplied with a built-in droplet eliminator. The coil is fully built-in the unit as standard, but comes also in a MAX version where the coil is wider than the standard unit width. This will reduce the air velocity.

## Cooler DVU

Cooler DVU in size 10-40 is a complete cooling system, with all cooling components and control system placed in a casing, which can be combined to the Danvent DV. This set up of the cooling system need no external condenser for removing of heating energy or separate space for cooling equipment. It is therefore very easy to install cooling in the selected Danvent DV.

The cooling capacity can be controlled stepless from 0 to max. capacity by the advanced cooling control system combined with the speed controlled compressor. The Cooler DVU will deliver the correct cooling capacity up to max. in all situations, and eliminate undesirable start/stop of the compressor. Hereby is durability improved for many years of reliable running.

The cooling system in DVU is complete installed and factory tested. The installation on site is very easy. Install the Cooler DVU between the air handling unit sections and connect power supply, 0-10 V control signal and start signal, drain for condensing water and eventually alarm signal. DVU is now ready for start up.

## Plug fan DVE

The DVE is a plug fan, with the fan impeller fitted directly to the motor

shaft, and enclosed into an acoustically insulated casing. A plug fan is a single inlet fan, with open outlet into the air handling unit. The fan has an efficiency of up to 75% and features very low sound levels in the lower frequencies. In order to optimize the fan efficiency a number of large DVE fans are equipped with parallel working twin fans.

Thanks to its special construction, a plug fan can give a low and even air speed at the outlet of the fan unit. The DVE is ideal for air handling units where other air handling components are to be positioned after the fan.

The DVE comes with a single-speed motor regulated by a frequency converter; necessary to control the fan speed to the actual design air volume. It is ideal for plants with a variable air volume (VAV plants) as the air volume is infinitely variable.

In order to make service and inspection access easy, the DVE is fitted with a large hinged inspection door. Because the DVE has direct drive, it requires much less servicing. In order to ensure trouble-free operation, all fan impellers are statically and dynamically balanced.

Both fan and motor are assembled on a strong and stable frame that is in turn fitted on rubber vibration isolaters to ensure minimum vibrations to the unit casing. The connection between fan and unit casing at the fan inlet is flexible, to further enhance vibration-free operation.

## Centrifugal fan DVV

DVV in size 10-150 is a double inlet, belt-driven centrifugal fan, built into an acoustically insulated casing. Two types of fans are used, each of which has its own properties:

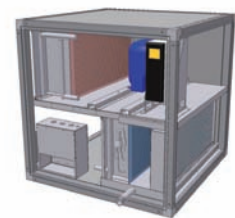
- The BK fan has backward-curved blades with an efficiency of up to 82%, making it very economical to run. It also provides very stable



*Kammerventilator DVE*



*Centrifugalventilator DVV*



*Cooler DVU*

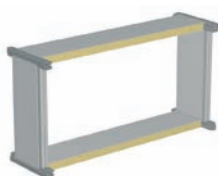
## Danvent DV Functions



Sound attenuator DVD



Inspection section DVI



Empty section DVO

pressure and is best suited for air handling units that require a very stable airflow, such as those in which the gradual build-up of dust on the filter must not be allowed to influence the airflow. If the speed of the BK fan is regulated, it is also well suited to plants with variable airflow.

- The FK fan has forward curved blades with an efficiency of up to 73%. Its construction with multiple blades means it is very quiet in operation, and is best suited to small AHUs in which it can run at relatively low speeds.

The DVV fan comes with a single- or two-speed motor. The speed and airflow can be infinitely variable using the single-speed motor and a frequency converter. Speed can be regulated in steps using the two-speed motor. The standard belt drive is the highly-efficient RE-X V-belt, with a maximum efficiency of up to 98%, and it is also fitted with Taper-Lock bush pulleys to make replacement and gearing simple.

In order to make service and inspection access easy, the DVV is fitted with a large hinged inspection door. In order to ensure trouble-free operation, all fan impellers are statically and dynamically balanced and run on ball bearings. The bearings for smaller fans are sealed and permanently lubricated, assembled in vibration absorbing rubber bushes.

Both fan and motor are assembled on a strong and stable frame that is in turn fitted on rubber vibration isolaters to ensure minimum vibrations to the unit casing. The connection between fan and unit casing at the fan outlet is flexible, to further enhance vibration-free operation.

### Sound Attenuator DVD

The DVD is an absorption sound attenuator, fitted with baffles. It is used to reduce the sound output level from the air handling unit to the ancillary

equipment. It is also ideal for use between the air handling unit and the air inlet/outlet to reduce the noise level.

For environmental reasons, the baffles are special surface treated to protect the sound-absorbing material. This treatment comes in three variants:

1. Standard lining, suitable for all forms of commercial ventilation purposes.
2. Baffles with a hard-wearing lining, resistant to mechanical wear and tear. These are used in situations where the baffles require dry cleaning, such as brushing or vacuum cleaning.
3. Baffles with a synthetic lining, ideal for wet cleaning. Each baffle is enclosed in a stainless steel frame and used where high levels of hygiene require direct washing of the baffles.

In order to make cleaning and inspection access easy, variants 2 and 3 have large, hinged inspection doors and the baffles are designed for easy extraction to be cleaned.

### Inspection Section DVI

The DVI inspection section is an empty section with an inspection door, for use between components that require inspection and servicing. It can also be used if regular measurements are to be taken from a component. To make inspection even simpler, the door can be fitted with an inspection window, and an internal light can be installed.

### Empty Section DVO

The DVO is an empty section with a side panel assembled with screws. It is used to create space between two components or for later inclusion of a new component and can also be used to build in monitoring components, such as a temperature sensor.

# Functions

## Air Distributor DVL

The DVL air distributor is used when even distribution of the airflow across the entire cross-section of the AHU is required, immediately after the DVV fan outlet.

It is ideal for positioning before the DVD sound attenuator if this is located only a short distance from the outlet of the DVV fan.

## Roof Units DV

DV air handling unit in size 10-150 is available as roof unit, designed for outdoor installation. In this version is the unit assembled on a base frame and feature a roof construction which together with the double sealing of the panels provides protection against the effects of the weather.

DV Roof Units can be delivered with 2 different types of roofing:

Bitumen roof:

Manufactured of polyester reinforced bitumen material, fitted to the unit by a heating process. The bitumen roof is a very tight and robust roofing complete factory finished.

Steel profile roof:

Manufactured of alu-zink protected corrugated steel sheets, and profiles for fastening and finishing the roofing. This type of roofing is supplied for local assembling on the DV air handling unit. The steel profile roof is a robust roofing of which the surface matches the DV panels.

The unit is available with components, which protect the air intake and exhaust against rain and snow. Outdoor air section DVY feature outlet of exhaust air behind the DV unit.

## Control system E28

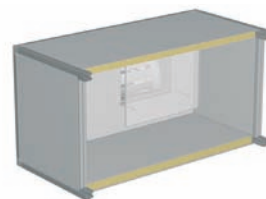
Danvent DV is available with factory installed and fully integrated Systemair E28 control system.

It is an advanced user-friendly system, with an external remote control panel for all settings. The panel also shows the status for a number of actual parameters and alarms. The remote control panel can be placed freely in the building.

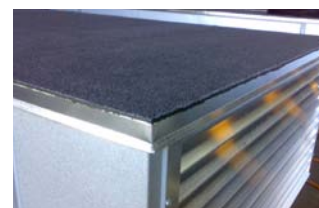
E28 is the perfect control system for all DV air handling units. From the simple solution for supply air; to the advanced control system for heat recovery, cooling, variable air flow with air quality sensors, free night cooling and cooling recovery.

E28 control system is prepared for communication to a BMS system in the building. Communication by Modbus, TCP/IP or LON is standard for E28.

The main board with the E28 controller is installed in- or outside the DV unit. It is connected to the remote control panel together with sensors and actuators mostly placed in the air handling unit. After connection of power supply, and a few external components the E28 control system is ready for starting the unit.



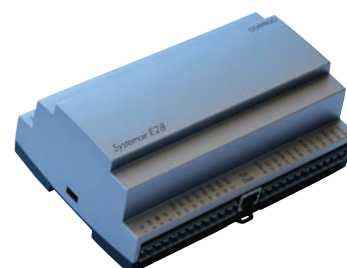
*Air distributor DVL*



*Bitumen roof*



*Steel profile roof*



*Controller E28*

Danvent DV

## Damper DVA

**Function:**

Supply or exhaust damper.

**Air tightness classification:**

Class 3 according to EN 1751.

**Damper blades:**

Aerodynamically formed aluminium profiles. Can be supplied insulated.

**Bearings:**

Synthetic material with large bearing surfaces.

**Sealing:**

Rubber sealing strips between the damper blades. Special sealing between the unit frame and damper blades.

**Shafts:**

□ 14,3 mm.

**Blade pivoting system:**

Steel rods with maintenance free brass bushes.

**Blade position indicator:**

Arrow for indication of the blade positions.

**Motor bracket:**

Bracket for fixing of a damper motor for each damper.

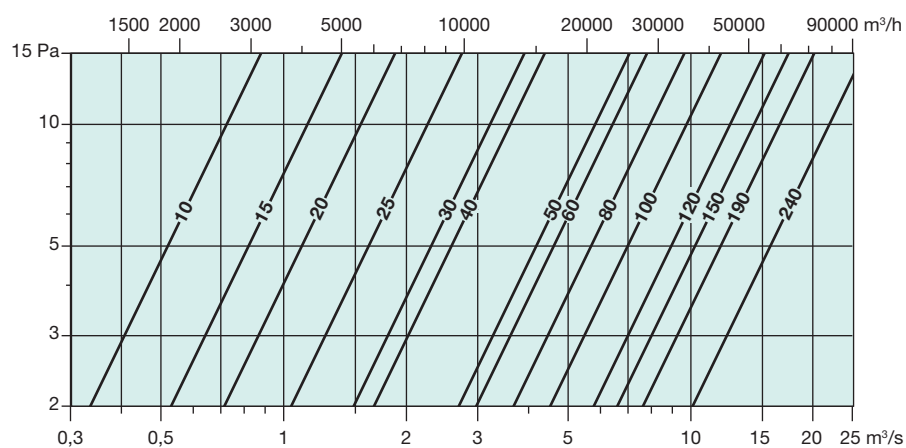
**Damper motor:**

The dampers are activated by a motor for each damper.

DV 10-150: 1 damper motor.

DV 190-240: 2 damper motors.

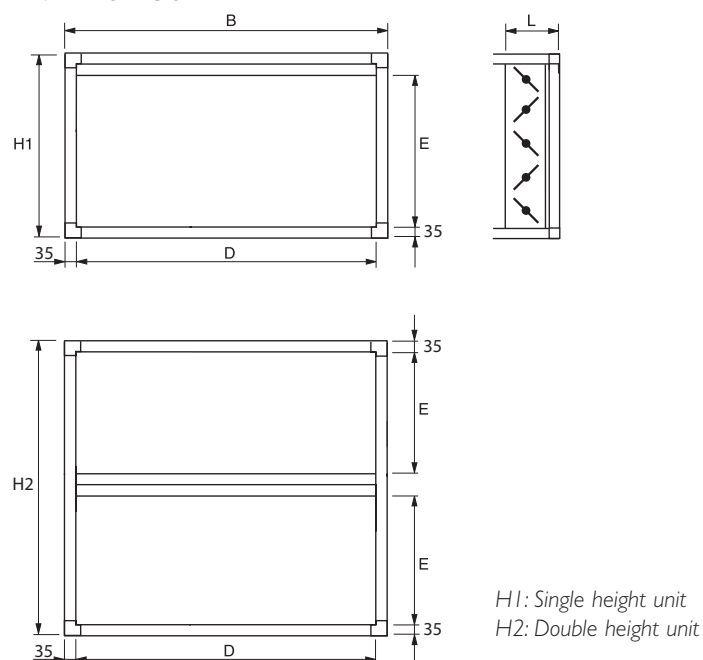
Diagram showing pressure drop



# Damper DVA



## DVA 10-150



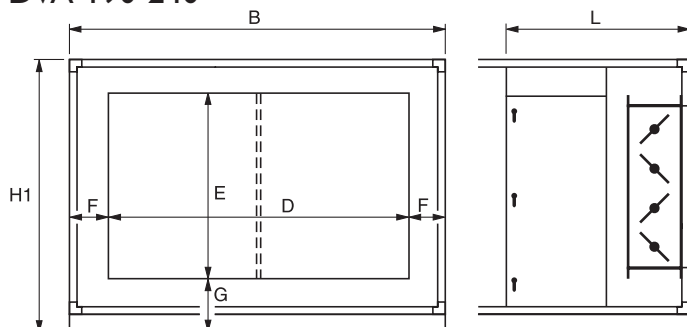
Damper fitted to the upper part of a double height unit.

Damper fitted to a single height unit.



DVA 190-240

## DVA 190-240



## Dimensions

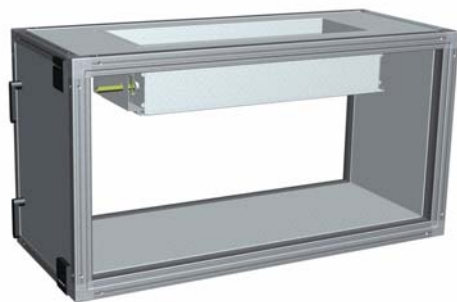
Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L</b>	185	185	185	185	185	185	185	185	185	185	335	335	785	785
<b>D</b>	900	1050	1200	1350	1500	1650	1950	2100	2100	2300	2520	2820	2600	2800
<b>E</b>	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1500	1800
<b>F</b>	-	-	-	-	-	-	-	-	-	-	-	-	295	345
<b>G</b>	-	-	-	-	-	-	-	-	-	-	-	-	410	410

## Torque (Nm) for each damper

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>0 Pa</b>	4	5	6	7	8	9	11	12	14	15	17	18	17	18
<b>500 Pa</b>	7	8	10	11	13	14	16	17	19	21	23	24	23	24
<b>1000 Pa</b>	9	11	13	15	17	19	20	22	24	26	28	29	28	29

Required torque for the damper motor with varying pressure drops.





**Function:**

Exhaust damper.

Class 3 according to EN 1751.

**Damper blades:**

Aerodynamically formed aluminium profiles. Can be supplied insulated.

**Bearings:**

Synthetic material with large bearing surfaces.

**Shafts:**

□ 14,3 mm.

**Sealing:**

Rubber sealing strips between the damper blades. Special sealing between the unit frame and damper blades.

**Blade pivoting system:**

Steel rods with maintenance free brass bushes.

**Blade position indicator:**

Arrow for indication of the blade positions.

**Motor bracket:**

Bracket for fixing of a damper motor.

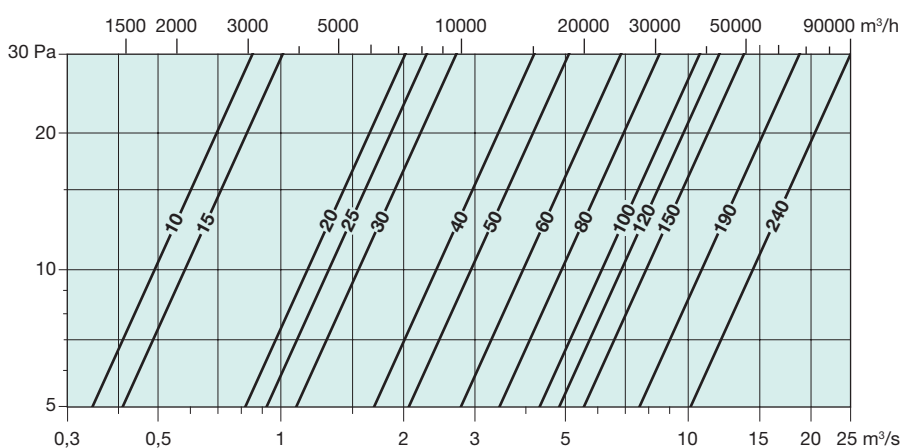
**Damper motor:**

The dampers are activated by a motor for each damper.

DV 10-150: 1 damper motor.

DV 190-240: 2 damper motors.

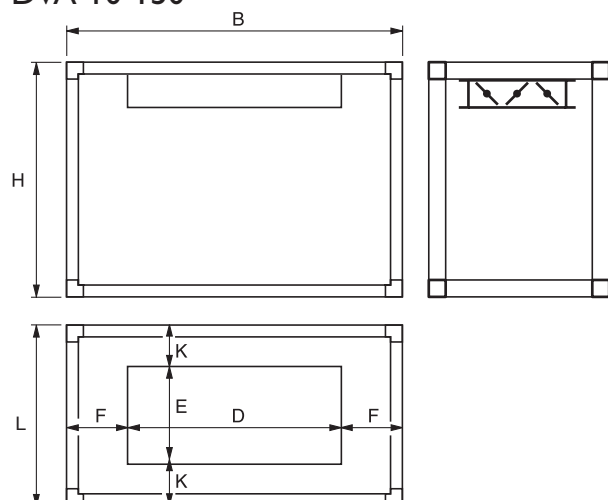
Diagram showing pressure drop



# Damper DVB

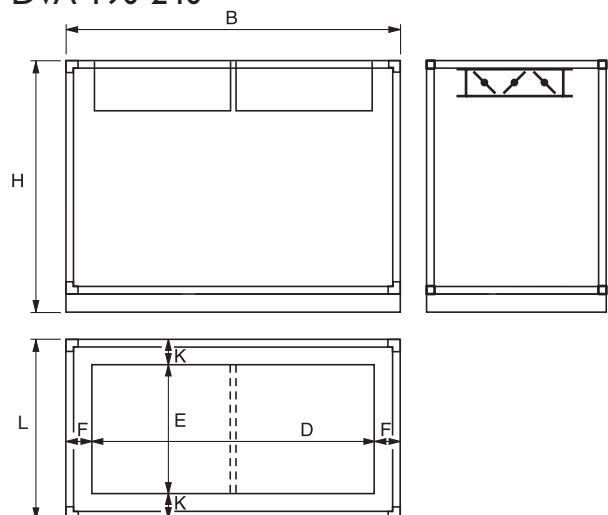


## DVA 10-150



DVB 10-150

## DVA 190-240



DVB 190-240

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>L</b>	520	520	520	520	520	670	670	670	820	970	970	970	1120	1570
<b>D</b>	500	600	800	900	1100	1200	1500	1600	1700	1800	2000	2300	2600	2800
<b>E</b>	200	200	300	300	300	400	400	500	600	700	700	700	1000	1200
<b>F</b>	235	260	235	260	235	260	260	285	235	285	295	295	295	345
<b>K</b>	160	160	110	110	110	135	135	85	110	135	135	135	60	185

## Torque (Nm) for each damper

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>0 Pa</b>	4	4	4	5	6	7	8	9	10	11	13	14	17	18
<b>500 Pa</b>	5	6	7	8	10	11	13	14	15	16	18	19	23	24
<b>1000 Pa</b>	7	8	9	11	13	15	17	19	20	20	23	24	28	29

Required torque for the damper motor with varying pressure drops.

Danvent DV

## Mixing Damper DVM

**Function:**

Supply and mixing dampers.

**Air tightness classification:**

Class 3 according to EN 1751.

**Damper blades:**

Aerodynamically formed aluminium profiles. Can be supplied insulated.

**Bearings:**

Synthetic material with large bearing surfaces.

**Shafts:**

□ 14,3 mm.

**Sealing:**

Rubber sealing strips between the damper blades. Special sealing between the unit frame and damper blades.

**Blade pivoting system:**

Steel rods with maintenance free brass bushes.

**Blade position indicator:**

Arrow for indication of the blade positions.

**Motor bracket:**

Bracket for fixing of a damper motor for each damper.

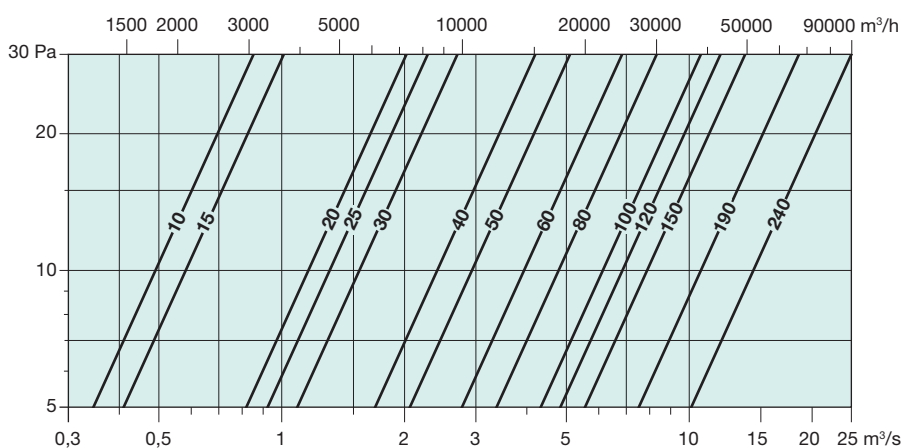
**Damper motor:**

The dampers are activated by a motor for each damper.

DV 10-150: 2 damper motors.

DV 190-240: 4 damper motors.

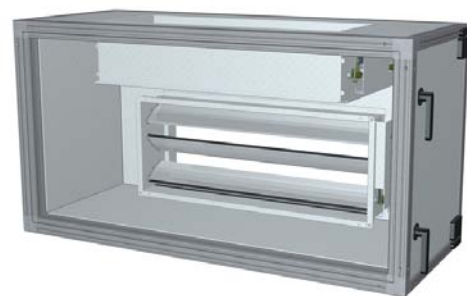
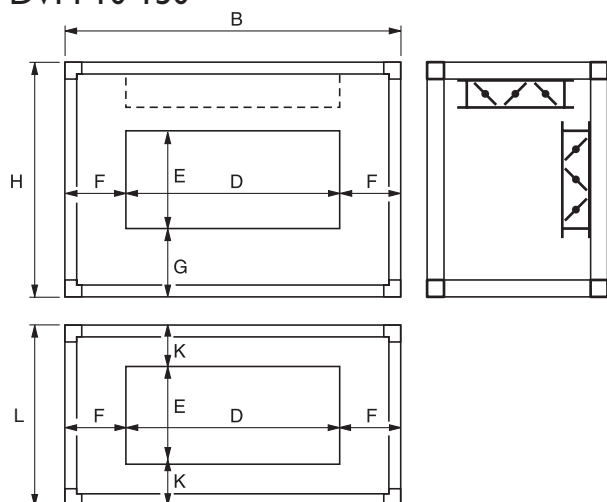
Diagram showing pressure drop



# Mixing Damper DVM

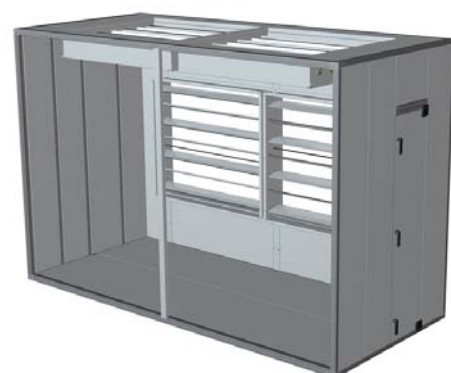
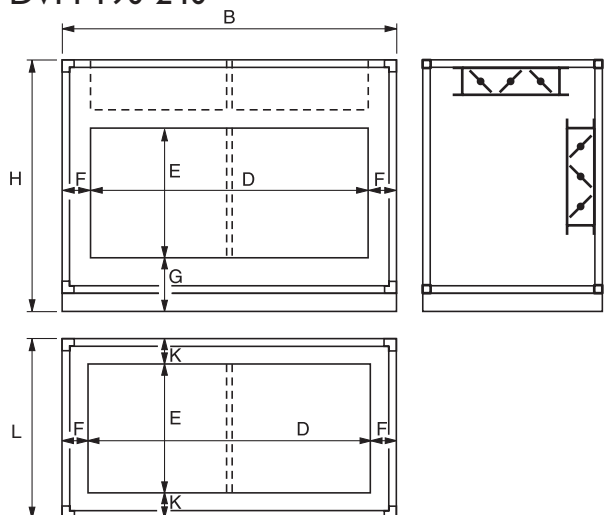


## DVM 10-150



DVM 10-150

## DVM 190-240



DVM 190-240

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>L</b>	520	520	520	520	520	670	670	670	820	970	970	970	1120	1570
<b>D</b>	500	600	800	900	1100	1200	1500	1600	1700	1800	2000	2300	2600	2800
<b>E</b>	200	200	300	300	300	400	400	500	600	700	700	700	1000	1200
<b>F</b>	235	260	235	260	235	260	260	285	235	285	295	295	295	345
<b>G</b>	100	100	100	100	100	100	100	100	100	100	100	100	660	710
<b>K</b>	160	160	110	110	110	135	135	85	110	135	135	135	60	185

## Torque (Nm) for each damper

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>0 Pa</b>	4	4	4	5	6	7	8	9	10	11	13	14	17	18
<b>500 Pa</b>	5	6	7	8	10	11	13	14	15	16	18	19	23	24
<b>1000 Pa</b>	7	8	9	11	13	15	17	19	20	20	23	24	28	29

Required torque for the damper motor with varying pressure drops.

Danvent DV

## Mixing Damper DVP

**Function:**

Supply, exhaust and mixing dampers.

**Air tightness classification:**

Class 3 according to EN 1751.

**Damper blades:**

Aerodynamically formed aluminium profiles. Can be supplied insulated.

**Bearings:**

Synthetic material with large bearing surfaces.

**Shafts:**

□ 14,3 mm.

**Sealing:**

Rubber sealing strips between the damper blades. Special sealing between the unit frame and damper blades.

**Blade pivoting system:**

Steel rods with maintenance free brass bushes.

**Blade position indicator:**

Arrow for indication of the blade positions.

**Motor bracket:**

Bracket for fixing of a damper motor for each damper.

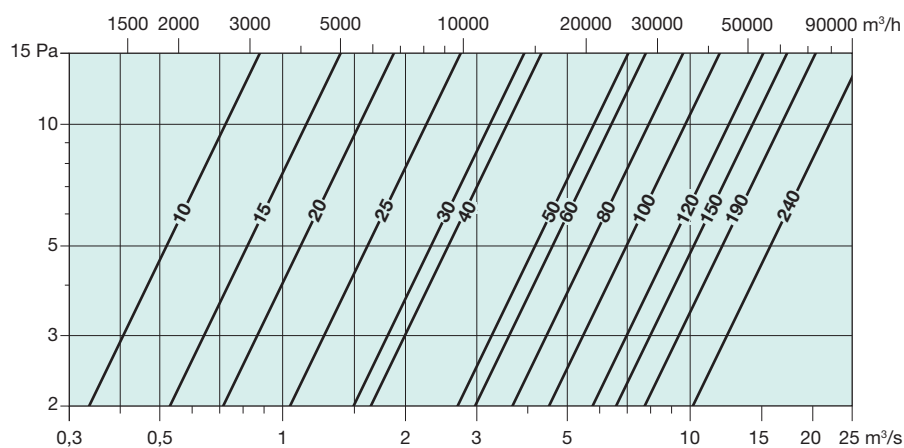
**Damper motor:**

The dampers are activated by a motor for each damper.

DV 10-150: 3 damper motors.

DV 190-240: 6 damper motors.

Diagram showing pressure drop

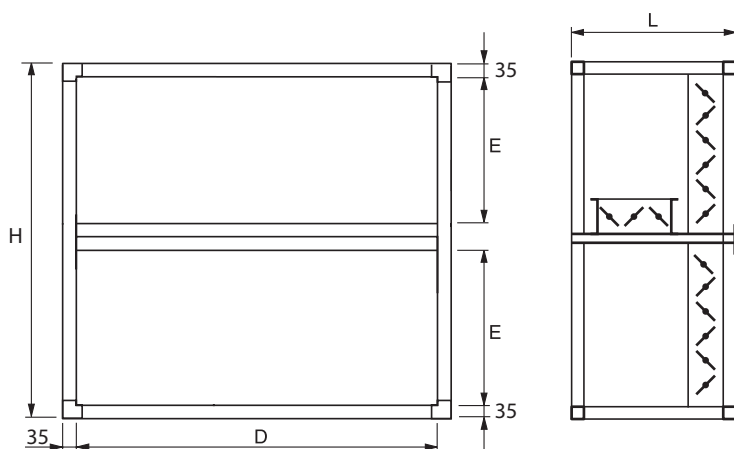




# Mixing Damper DVP

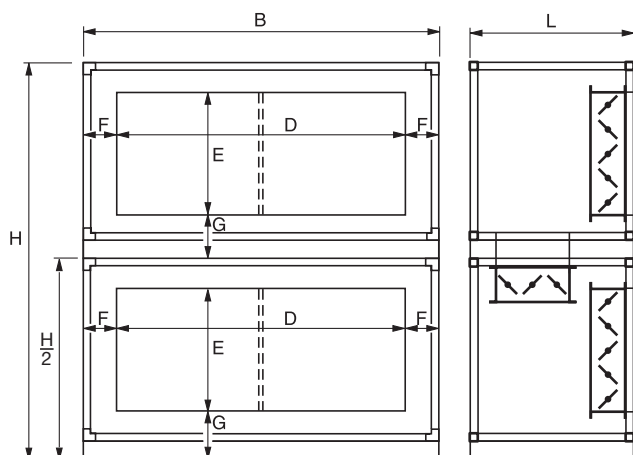


## DVP 10-150

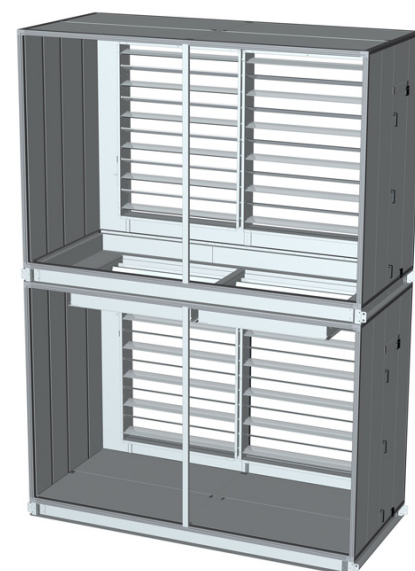


DVP 10-150

## DVP 190-240



DVP 190 and 240 is divided into 2 sections.



DVP 190-240

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H</b>	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	4340	4940
<b>L</b>	520	520	670	670	670	820	820	820	820	1120	1120	1120	1420	1570
<b>D</b>	900	1050	1200	1350	1500	1650	1950	2100	2100	2300	2520	2820	2600	2800
<b>E</b>	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1500	1800
<b>F</b>	-	-	-	-	-	-	-	-	-	-	-	-	295	345
<b>G</b>	-	-	-	-	-	-	-	-	-	-	-	-	410	410

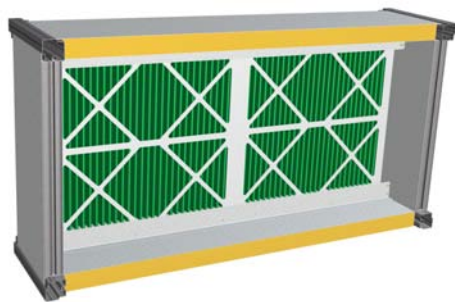
## Torque (Nm) for each damper

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>0 Pa</b>	4	5	6	7	8	9	11	12	14	15	17	18	17	18
<b>500 Pa</b>	7	8	10	11	13	14	16	17	19	21	23	24	23	24
<b>1000 Pa</b>	9	11	13	15	17	19	20	22	24	26	28	29	28	29

Required torque for the damper motor with varying pressure drops.

Danvent DV

## Compact Filter DVG

**Function:**

Pre and main filter:  
DVG 10-150.

**Filter classification:**

G4 according to EN 779.

**Filter material:**

Synthetic polyester fibres.

**Filter surface area:**

Large surface area due to the pleated filter form.

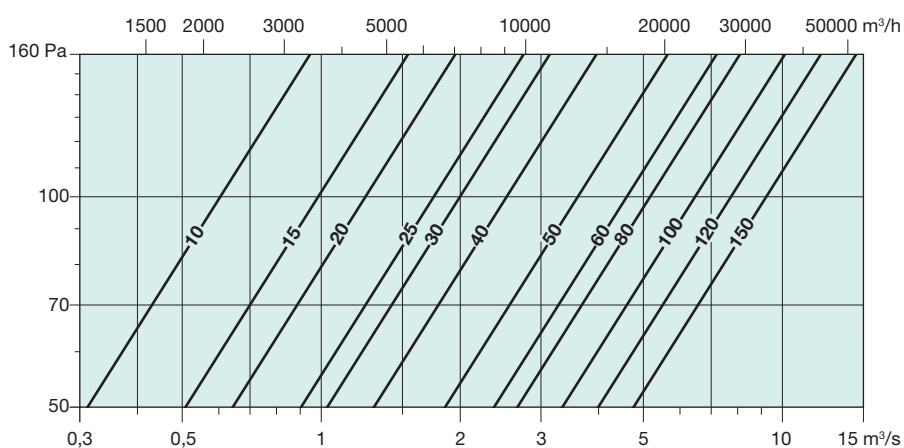
**Filter frame:**

Framework encasing the filter with U-profiles.

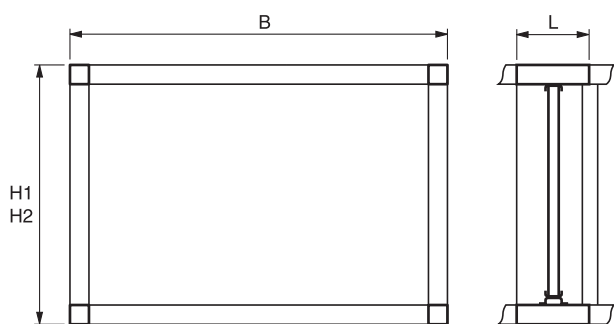
**Accessories:**

U-tube manometer.

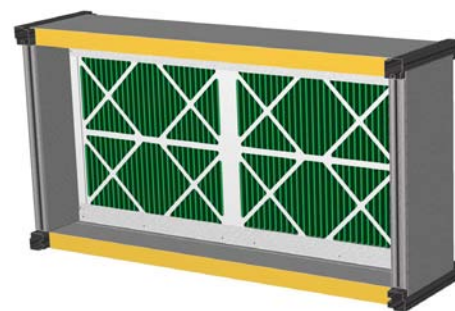
Diagram showing the medium pressure drop



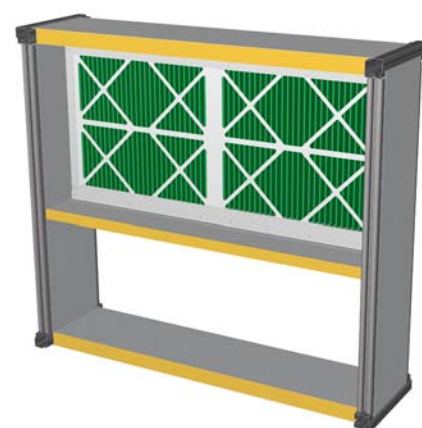
# Compact Filter DVG



H1: Single height unit  
H2: Double height unit



*Filter fitted to a single height unit.*

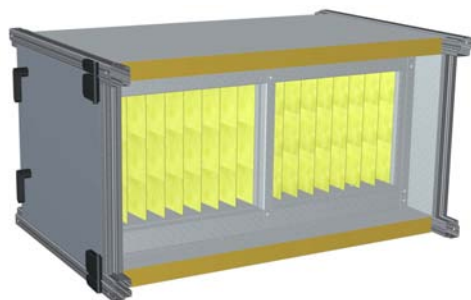


*Filter fitted to the upper part of a double height unit.*

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-
<b>L</b>	150	150	150	150	150	150	150	150	150	150	150	150

# Bag Filter DVF



## Function:

Main filter.

## Filter classification:

G3, F5, F6, F7, F9 according to EN 779.

## Filter material:

G3: Synthetic material.

F5, F6, F7, F9: Glass fibre material.

## Filter surface area:

Bag form with a large surface area.

## Length of filter bags:

G3 – 360 mm.

F5, F6, F7, F9 – 535 mm.

## Filter frame:

25 mm standard frame for the filter cells.

## Sealing:

Rubber sealing strips are fixed to the filter cabinet. Air tightness according to EN 1886.

## Fitting the filter cells:

DVF 10-150: The filter cells are pressed against the sealing strips and locked into place using a sliding bar system. This system is easy to operate by using a large handle.

DVF 190-240: The filter cells are pressed against the sealing strips in the filter bank frames with effective fasteners.

## Positioning of an F9 filter:

The class F9 filter should always be positioned on the positive pressure side of the supply air unit (EN 1886).

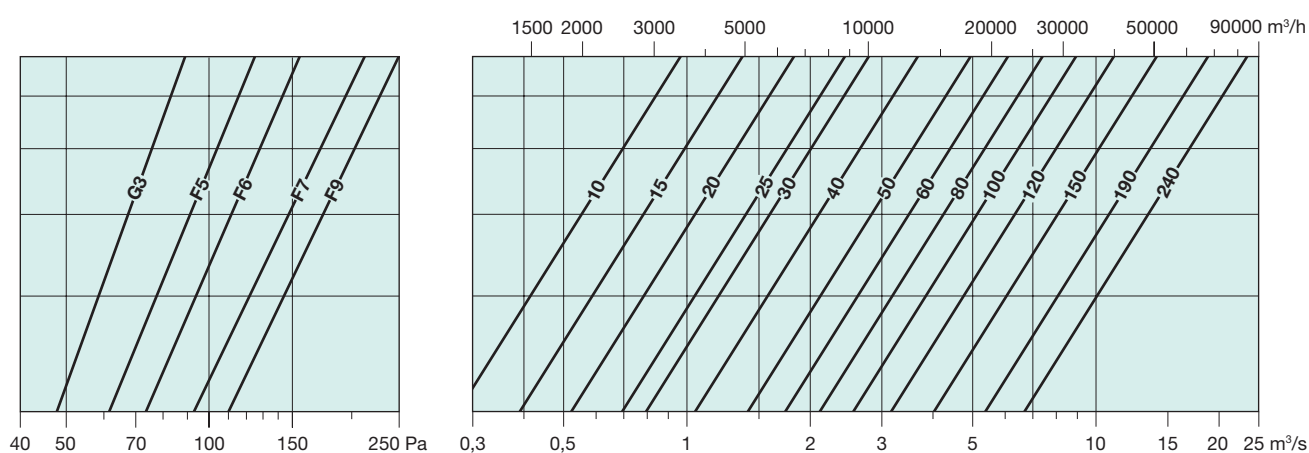
## DVF 190-240, pre-filters:

DVF can be supplied with pleated formed pre-filters. The filters are placed together with the bag filters into the filter bank frames.

## Accessories:

U-tube and inclined tube manometers. Stainless steel sheet below filter.

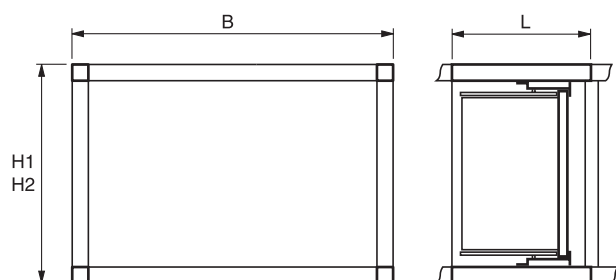
Diagram showing the medium pressure drop



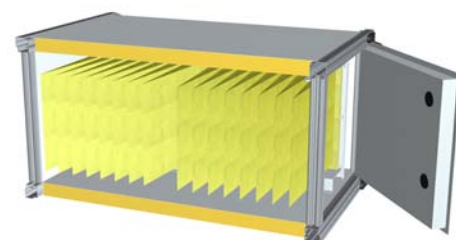
# Bag Filter DVF



## DVF 10-150

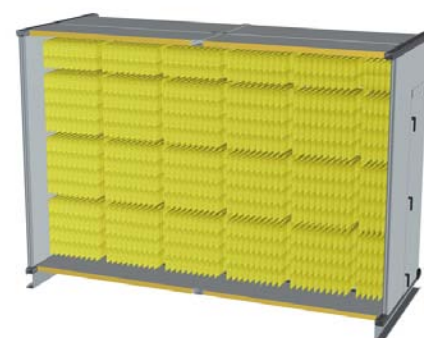
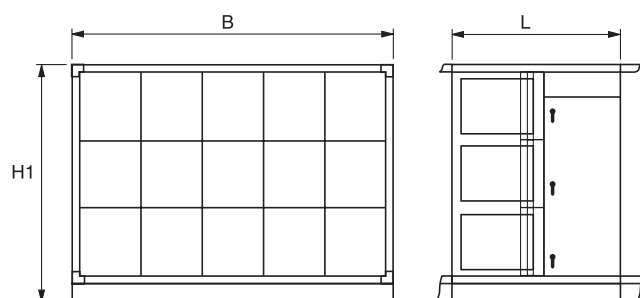


H1: Single height unit  
H2: Double height unit



Filter fitted to a single height unit.

## DVF 190-240



DVF 190-240

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L</b>	600	600	600	600	600	600	600	600	600	600	600	600	1350	1350



# Rotary Heat Exchanger DVC



## Function:

Regenerative heat exchanger with high efficiency.

## Types:

S – Standard heat exchanger:

Efficiency up to 80%.

H – High efficiency heat exchanger:

Efficiency up to 87%.

## Variants:

DVC is available in 3 variants:

A – Temperature heat exchanger:

Winter: For the transfer of heat energy from the extract air. At low outdoor temperatures the exchanger will also transfer moisture from the condensing extract air.

Summer: For the transfer of cooling energy from the extract air.

B – Hygroscopic heat exchanger:

Winter: For the transfer of heat energy and moisture from the extract air. High extract enthalpy content can contribute to the heating and humidification of the supply air.

Summer: For the transfer of cooling energy from the extract air.

C – Sorption heat exchanger:

DVC 10-150.

This variant is ideal for outdoor climate with high summer temperature and humidity.

Summer: For the transfer of cooling energy from the extract air and dehumidification of the intake of outdoor air. Large energy savings can hereby be achieved by cooling and dehumidification of the outdoor air.

Winter: For the transfer of heat energy and moisture from the extract air. High extract enthalpy content can contribute to the heating and humidification of the supply air.

## Rotor:

Made up of corrugated aluminium in an extremely sturdy construction.

## Sealing:

In order to safeguard against leakage between the airflows the heat exchanger is fitted with highly effective brush type seals against the rotor.

## Service friendly:

The heat exchanger is equipped with a large inspection door. The exchangers in sizes DVC 10-40 are assembled on guide rails enabling the rotor to be easily removed for inspection.

## Division of large heat exchangers:

On account of transport the DVC 60 - 150, variant A and B, can be supplied divided. DVC 190- 240 is always supplied divided. The lower half of the exchanger and the hub of the rotor are assembled into the lower half of the AHU casing. All other parts of the heat exchanger are supplied for local assembling.

## Purging sector:

The exchanger is available with a purging sector that minimises the transfer of exhaust air to supply air. This function is dependent on a higher pressure on the supply air side than on the exhaust air side, both before and after the exchanger.

## Drive system:

A – Constant speed

A gear motor that is connected to three-phase mains voltage drives the exchanger. This drive system gives full recovery when the exchanger is running.

B – Variable speed

An electronic VARIMATIC control unit and a slow rotating motor drive the exchanger. This gives an accurate continuous variable control over the rotor speed.

# Rotary Heat Exchanger DVC



## Constant speed

### Function:

A gear motor that is connected to three-phase mains voltage drives the exchanger. This drive system gives full recovery when the exchanger is running. When connecting the motor it must be ensured that the electrical installation is fitted with an overcurrent protection.

### Accessories:

Rotary alarm switch.

### Constant speed – motor data

DVC Size	Motor power W	Voltage V	Current A
10-20	90	3 × 230 3 × 400	0,7 0,4
25-100	180	3 × 230 3 × 400	1,2 0,7
120-240	550	3 × 230 3 × 400	2,8 1,6

## Variable speed

### Function:

The exchanger is fitted with an electronic VARIMATIC control unit and a slow rotating motor. Together this gives an accurate continuous variable control over the rotor speed. The system is supplied with factory fitted cable connections between the control unit and the motor.

### Mains electrical connection:

1 × 220/240 V, 50/60 Hz

### Operation indicator:

The VARIMATIC unit has 2 LED displays that indicate the actual operating situation.

### Control signal:

VARIMATIC can be connected to the following external DC control signals: 0 - 10 V, 2 - 10 V, 0 - 20 mA, 4 - 20 mA.

### Alarm connections:

Built-in relay which can be connected to an alarm system.

### Electrical safeguard:

Built-in safeguard against unstable voltage supplies from the mains. Built-in overcurrent protection, which safeguards the motor against overloading.

### Rotary alarm switch:

Built-in system for monitoring the rotors operation position. Gives a signal by way of an alarm connection, if the rotors operation is interrupted unintentionally.

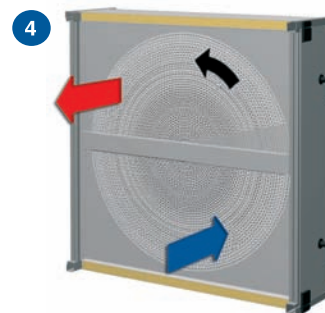
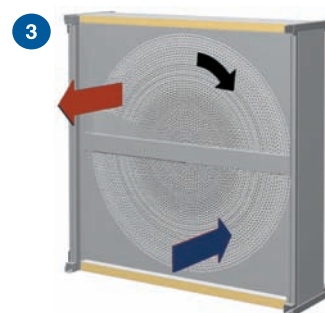
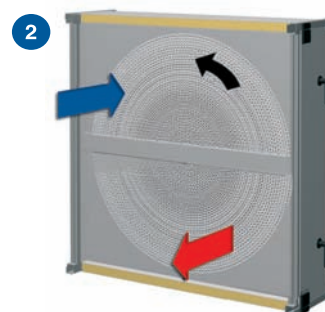
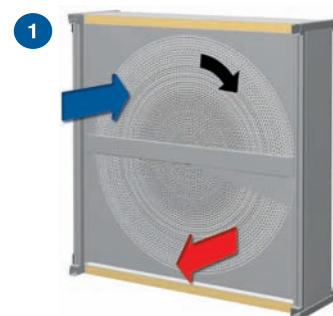
### Purging:

Outside of the normal operation period the rotor is turned 30° every 10 minutes in order to purge the rotor with clean air.

### Cooling recovery:

Via a signal from a differential thermostat the rotor can also function as an exchanger for cooling energy.

Air directions



Supply air    Extract air

## Variable speed – data for the VARIMATIC system

System DVC Size	Motor		Styreenhed			
	Type	Power, W	Type	Voltage, V	Current, A	Max. fuse
10-30	M-115/VVX-15	40	E-115/VVX-15	1 × 230	0,7	10 A
40-100	M-125/VVX-25	100	E-125/VVX-25	1 × 230	1,3	10 A
120-240	M-135/VVX-35	160	E-135/VVX-35	1 × 230	1,7	10 A

Mains electrical connection must not be cut-off outside of the normal operating period, as this will terminate the purging function.

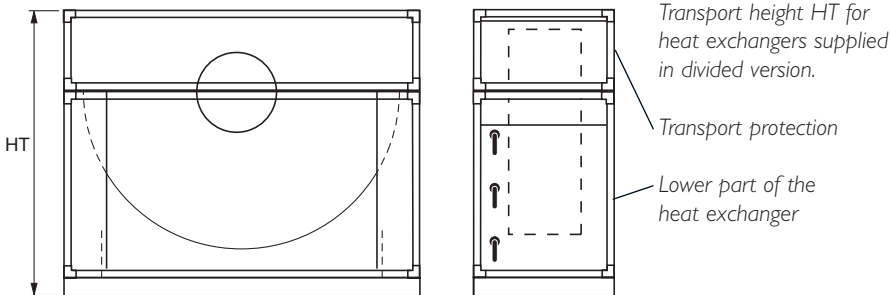


Danvent DV

# Rotary Heat Exchanger DVC

DVC 60-240 Variant A and B

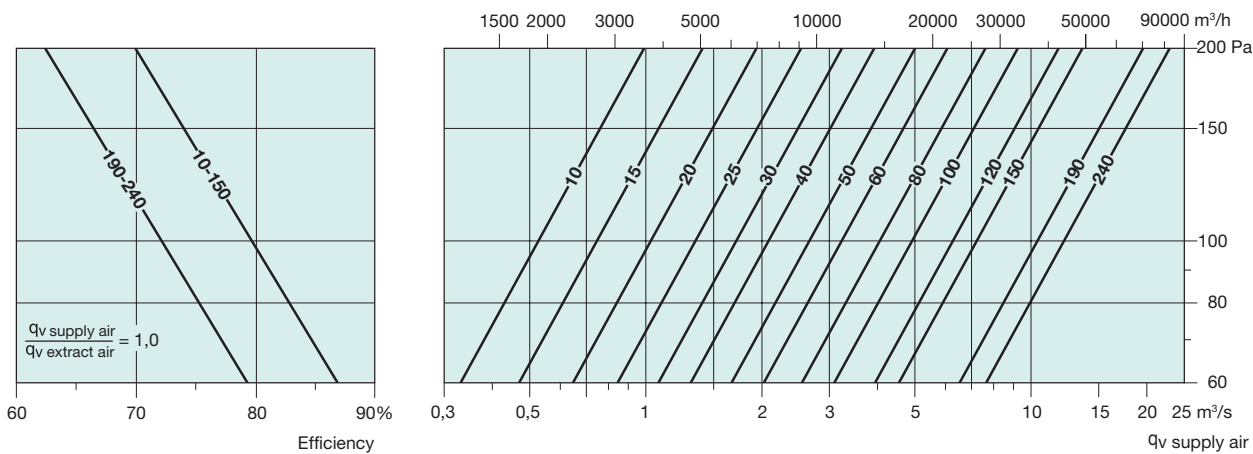
Heat exchanger supplied in divided version



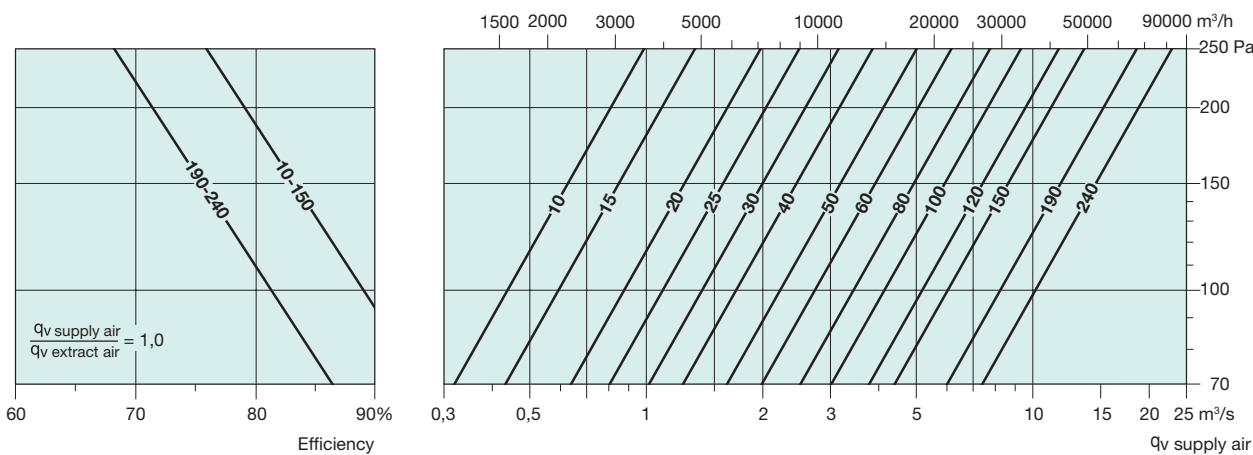
## Transport height HT

Size	60	80	100	120	150	190	240
HT	1640	1790	1940	2090	2240	2765	3065

## Pressure drop and efficiency – type S



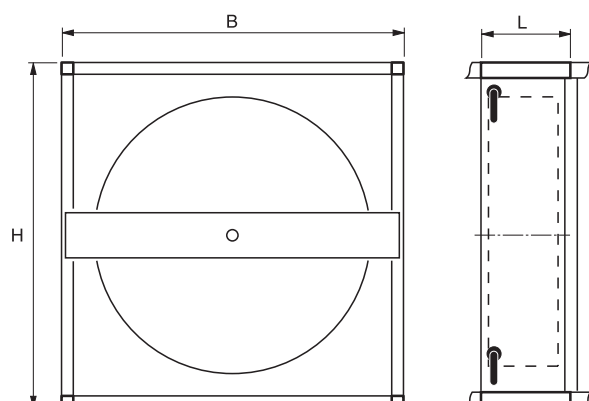
## Pressure drop and efficiency – type H



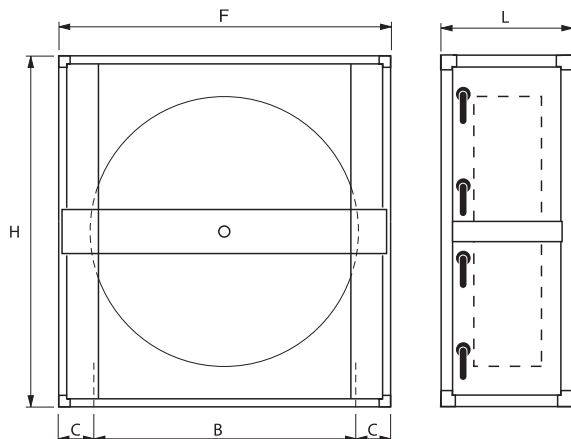
# Rotary Heat Exchanger DVC



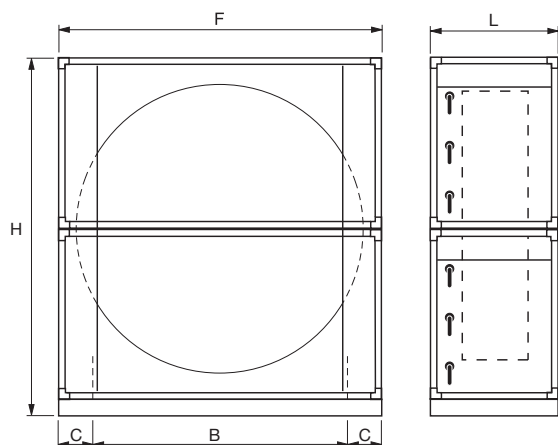
DVC 10-50



DVC 60-150



DVC 190-240



## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H</b>	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440	4340	4940
<b>L</b>	300	300	300	300	300	300	450	520	520	520	520	520	670	670
<b>F</b>	-	-	-	-	-	-	-	2170	2320	2520	2890	3040	3720	4020
<b>C</b>	-	-	-	-	-	-	-	0	75	75	150	75	265	265



## Function:

Recuperative plate heat exchanger with high efficiency. DVQ 10-150.

## Application:

The plate heat exchanger is used where it is a requirement that the supply and exhaust air are kept separated, e.g. in order to ensure that unwanted odours in the exhaust air are not transferred to the supply air.

## Types:

S – Standard heat exchanger.  
Efficiency up to 65%.

H – High efficiency heat exchanger.  
Efficiency up to 75%.

## Variants:

The plate heat exchanger is available in 2 variants:

A – Aluminium heat exchanger:  
Is used in ventilation plant where the air does not contain corrosive elements, e.g. ventilation plant for commercial purposes. Aluminium is, however, resistant to many chemical elements. This exchanger variant can therefore be applied in ventilation plant where such elements are present. These conditions should be evaluated for each plant.

K – Corrosion-resistant heat exchanger:  
The heat exchanger plates are coated with corrosion resistant synthetic material. This exchanger variant can be applied in ventilation plant where the air contains elements which are corrosive to aluminium.

## By-pass:

The heat exchanger is supplied with a built-in by-pass that enables the heat recuperation to be regulated from 0 - 100%. The by-pass function is comprised of a damper for the exchanger and a damper for a by-pass airway. The by-pass function is located in the middle of models DVQ 100-150. The heat exchanger is therefore in 2 sections.

## Service friendly:

The heat exchanger is equipped with large inspection doors that give access for inspection and service. As the heat exchanger has no rotating parts, it requires very little service.

## De-icing:

In situations where the outdoor air is extremely cold there is a risk of the exchanger icing up. De-icing can take place either by regulating the by-pass damper or by reducing the supply air flow.

## Drip tray:

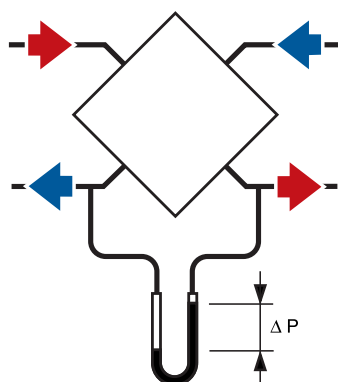
A drip tray is fitted beneath the heat exchanger for collection of the water that can condense in the extract air. The drip tray drain outlet must be fitted with a water trap that is designed for the actual pressure difference. Refer to the assembly instructions.



# Plate Heat Exchanger DVQ

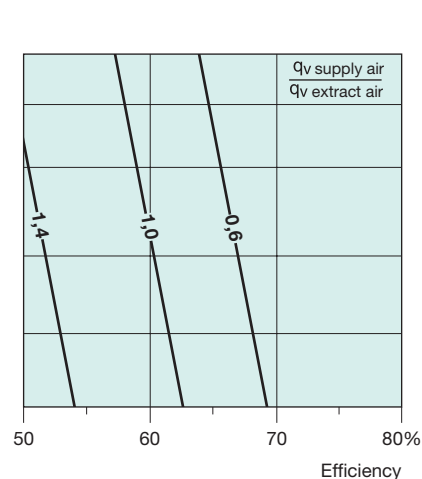


Pressure difference between  
the exchanger air flows

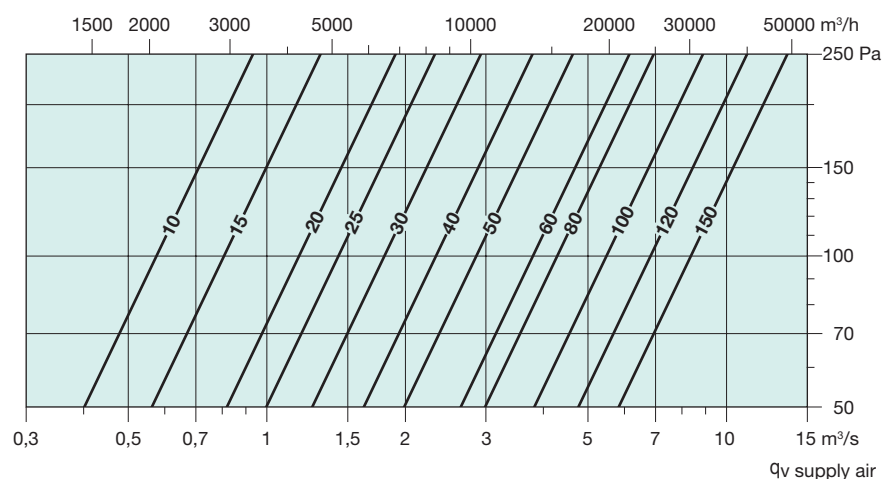


Max.  $\Delta P = 1500 \text{ Pa}$

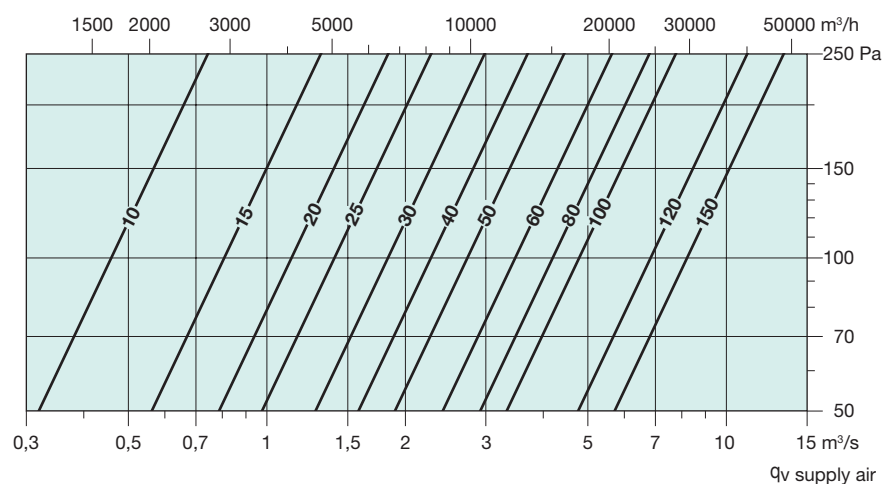
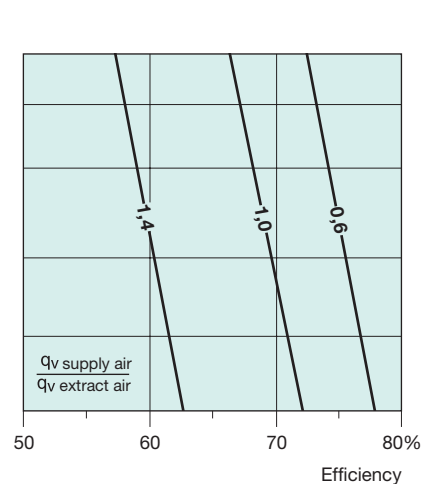
## Pressure drop and efficiency – type S



Conditions: outdoor air:  $-15^\circ\text{C}$ ,  
extract air:  $+22^\circ\text{C}$  40% RH



## Pressure drop and efficiency – type H



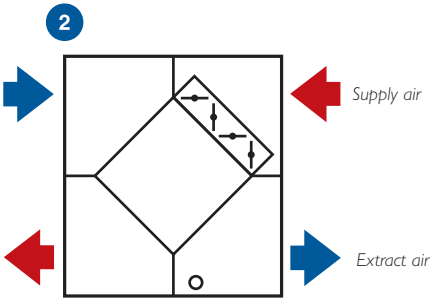
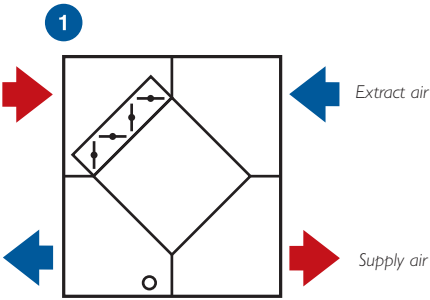


Danvent DV

# Plate Heat Exchanger DVQ

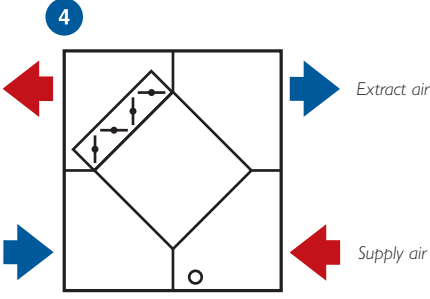
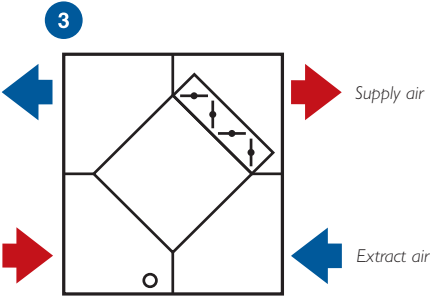
Air directions

Extract air, diagonal down-flow

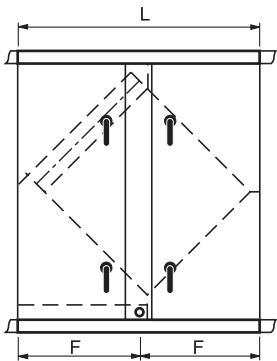
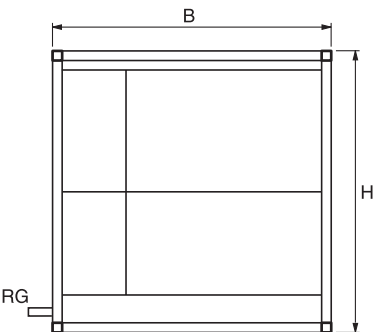


Air directions

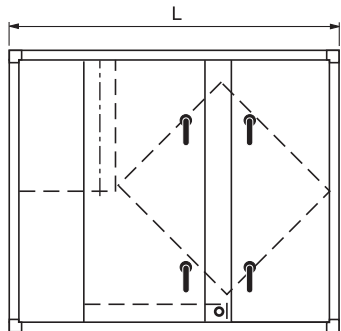
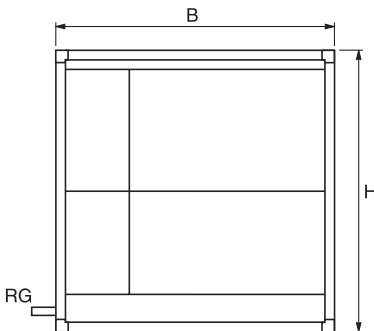
Extract air, diagonal up-flow \*



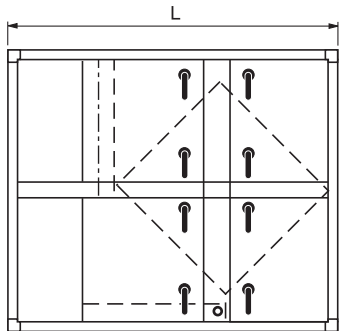
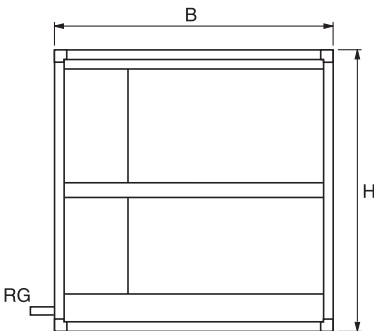
## DVQ-S 10-50



## DVQ-H 10-50



## DVQ-H 60



\* Air directions with diagonal up-flow extract air (3 and 4) should only be used when the moisture content of

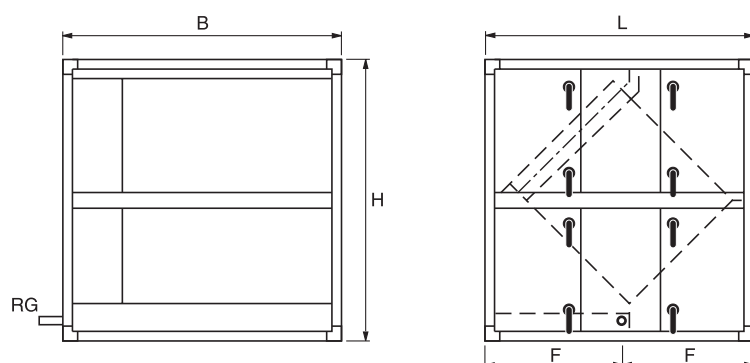
the extract air, before the heat exchanger, is less than the following values:

Supply air before heat exchanger °C	0	-10	-20	-30
Extract air before heat exchanger				
Max. g moisture / kg air	10	8	6	4

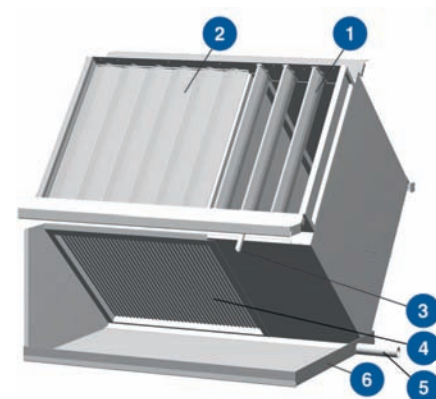
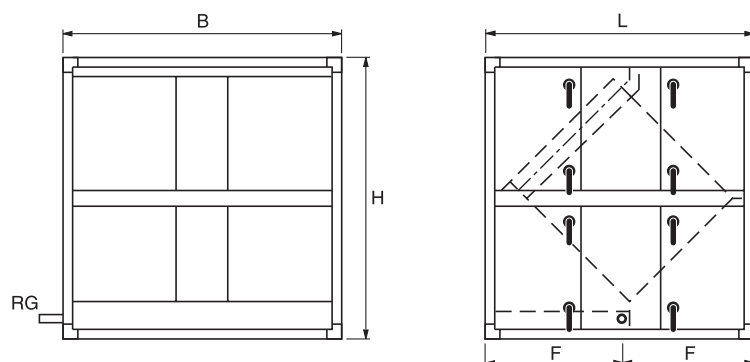
# Plate Heat Exchanger DVQ



DVQ-S 60-80      DVQ-H 80



DVQ-S 100-150      DVQ-H 100-150



1. By-pass damper
2. Heat exchanger damper
3. Shaft for damper motor
4. Plate heat exchanger
5. Drip tray drain outlet
6. Drip tray

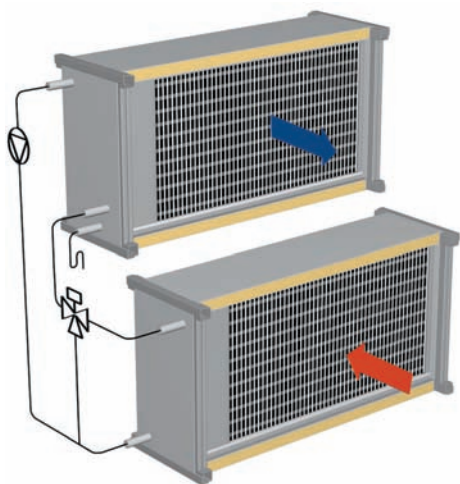
## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890
<b>H</b>	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440
<b>L type S</b>	1050	1200	1200	1500	1500	1650	1650	2020	2020	2320	2620	3070
<b>L type H</b>	1420	1720	1820	2170	2320	2320	2840	3290	2470	2470	3220	3220
<b>RG</b>	1"	1"	1"	1"	1"	1½"	1½"	1½"	1½"	1½"	1½"	1½"

## Torque (Nm) for each damper

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>No.</b>	1	1	1	1	1	1	1	1	1	3	3	3
<b>Nm</b>	8	10	12	14	16	18	20	22	24	20	20	20

Required torque for the damper motor: Shaft for damper motor: □ 14,3 mm.



## Function:

Heat exchanger system with a heating coil built into the supply airside and a cooling coil built into the extract air-side. The coils must be connected with a piped circuit in which a water/glycol mixture is circulated.

## Application:

The run-around coil heat exchangers are used where it is a requirement that the two airflows must be kept completely separated, or where they are at a distance from each other, e.g. on two different storeys of a building.

## Variants:

- Standard – Coil which has the same width as the unit.
- MAX – Coil which is wider than the unit. DVR 10-150.

## Construction:

The heat exchanger coils consists of copper tubes with aluminium fins.

## Copper tubes:

- Z – Copper tubes  $\varnothing 10$  mm.  
Used for lower capacity heat exchangers.
- Y – Copper tubes  $\varnothing 15$  mm.  
Used for higher capacity heat exchangers.

## Fins:

- Al – Standard aluminium.
- Alup – Aluminium with a synthetic coating. Used where the air is mildly corrosive.
- AlMg3 – Aluminium magnesium alloy. Used where the air can come into contact with sea-water.

## Drip tray:

The extract air section is fitted with a drip tray for collection of condensed water. The drip tray drain outlet must be fitted with a water trap that is designed for the actual pressure difference. Refer to the assembly instructions.

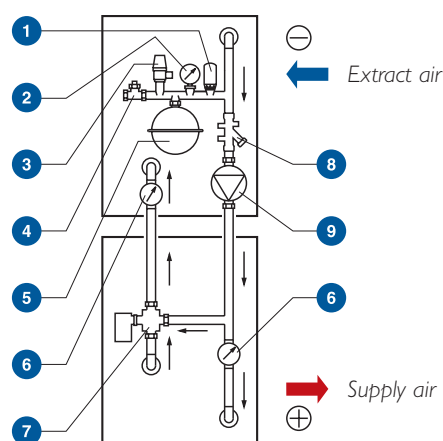
## Droplet eliminator:

DVR is available with a droplet eliminator in the extract air section.

## Regulation:

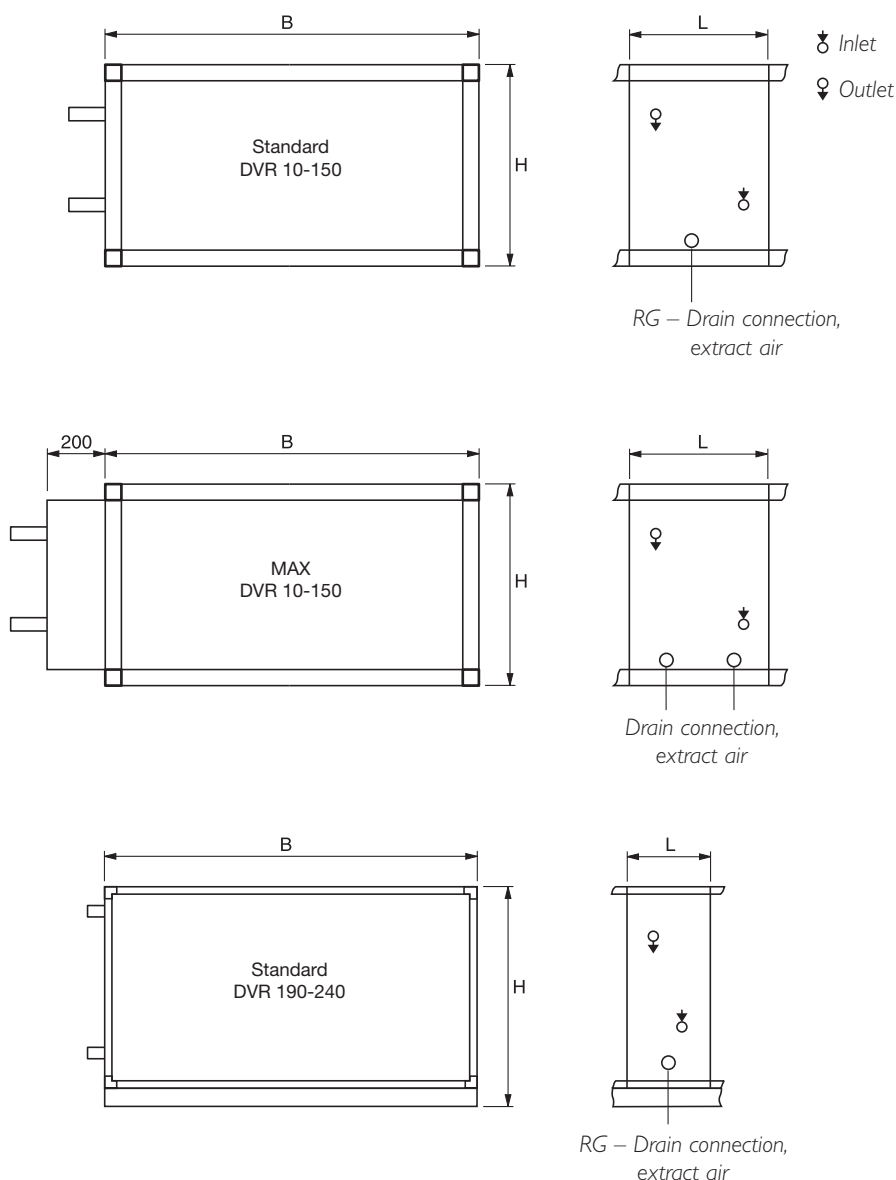
A motorised valve built into the pipe circuit regulates the heat exchanger capacity.

## Piped circuit example



1. Air vent
2. Manometer
3. Safety valve
4. Feed valve
5. Pressure expansion
6. Thermometer
7. Motorised valve
8. Flow measuring valve
9. Pump

# Run-around Coil Heat Exchanger DVR

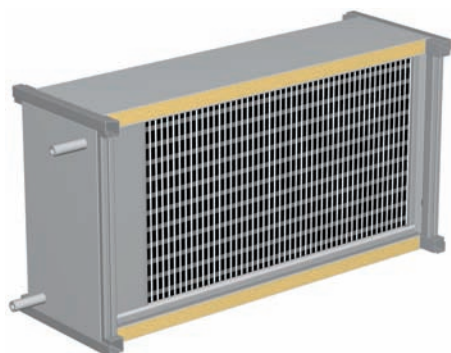


## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>Supply L*</b>	300	300	300	300	300	300	300	300	300	300	300	300	300	300
	450	450	450	450	450	450	450	450	450	450	450	450	450	450
	600	600	600	600	600	600	600	600	600	600	600	600	600	600
<b>Extract L*</b>	450	450	450	450	450	450	450	450	450	450	450	450	600	600
	600	600	600	600	600	600	600	600	600	600	600	600	750	750
	750	750	750	750	750	750	750	750	750	750	750	750	900	900
<b>RG</b>	1"	1"	1"	1"	1"	1½"	1½"	1½"	1½"	1½"	1½"	1½"	1½"	1½"

\* L is dependent on the capacity.





## Function:

Air heater.

## Heating mediums:

W – Hot water.

Max. temperature 100 °C,  
max. working pressure 10 Bar.  
Also available for temperatures  
up to 130 °C.

C – Condensation

Max. working pressure depending  
on the type of refrigerant.

S – Steam.

Max. temperature 170 °C.  
Max. working pressure 7 Bar.

E – Electrical heating.

DVH 10-150.

## Variants:

Standard – Coil which has the same  
width as the unit.

MAX – Coil which is wider than  
the unit. Hot water and  
condensation coils only.  
DVH 10-150.

## Construction:

Finned coils for hot water and conden-  
sation consists of copper tubes with  
aluminium fins. Finned coils for steam  
consists of stainless steel tubes with  
aluminium fins. Coils for electrical heat-  
ing consists of stainless steel tube heat-  
ing elements.

## Copper tubes:

Z – Copper tubes ø10 mm.

Used for lower capacity heating  
coils.

Y – Copper tubes ø15 mm.

Used for higher capacity heating  
coils.

## Fins:

Al – Standard aluminium.

Alup – Aluminium with a synthetic  
coating. Used where the air  
is mildly corrosive.

AlMg3 – Aluminium magnesium alloy.  
Used where the air can  
come into contact with  
seawater.

## Assembly:

The heating coil is assembled on guide  
rails, which enables easy removal for  
inspection purposes.

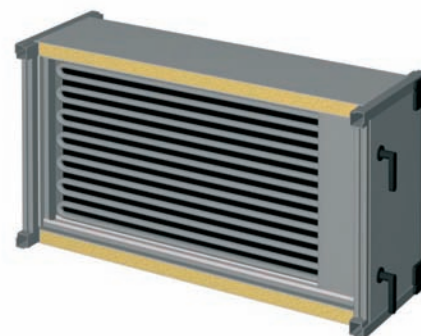
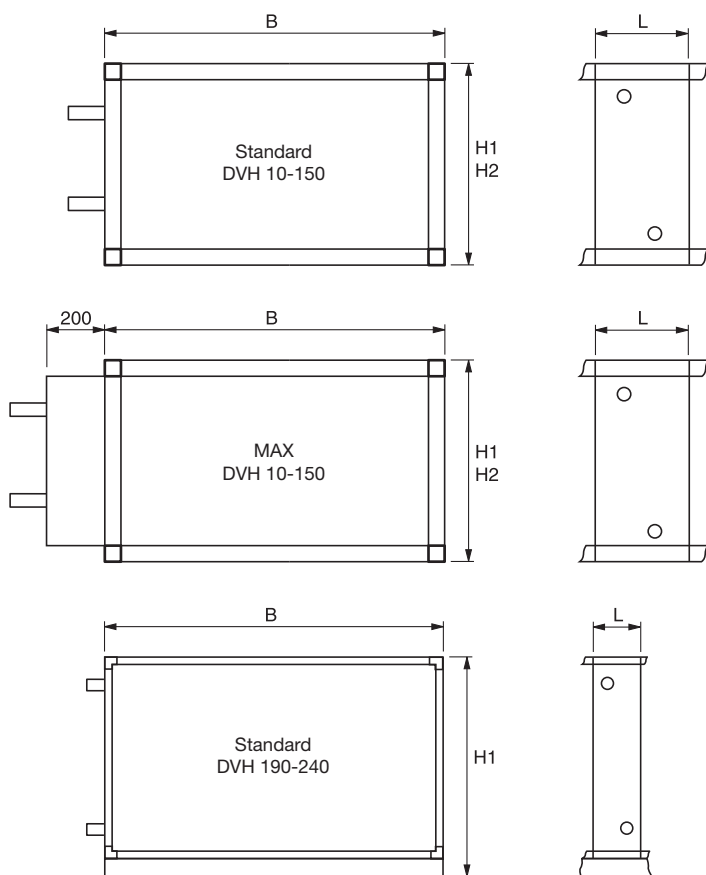
## Frost protection:

Heating coils for hot water are available  
with a connection piece for the fitting  
of a temperature sensor in the water  
circuit.

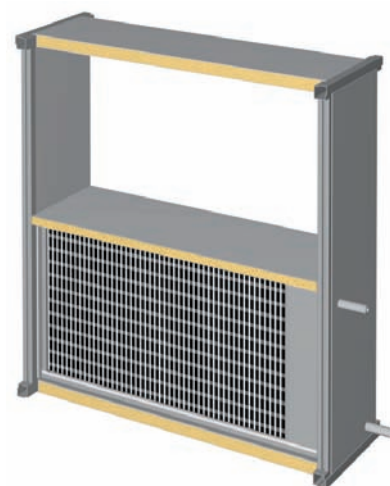
## Electrical heating:

The inspection door, which can be  
opened only by using a key, gives access  
to a terminal box for the electrical con-  
nections. The coil has a built-in safety  
thermostat with an automatic reset  
function and an overheating thermostat  
with manually resetting.

# Heating Coil DVH



Electrical heating coil fitted into a single height unit

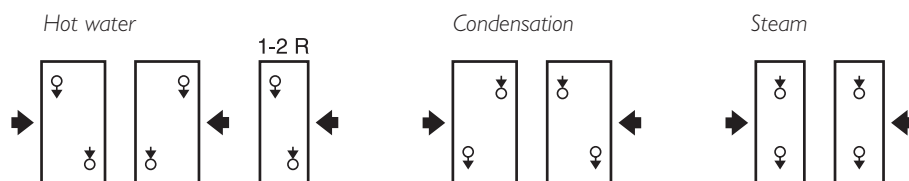


Hot water heating coil fitted into a double height unit

## Pipe connections

♂ Inlet

♀ Outlet



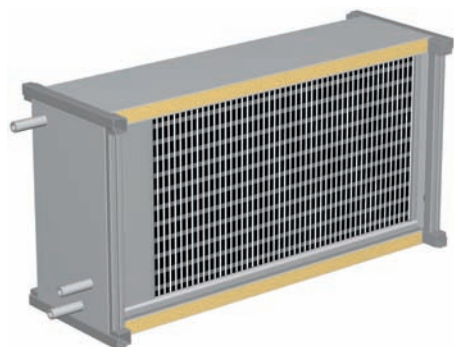
## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L*</b>	150	150	150	150	150	150	150	150	150	-	-	-	-	-
-	300	300	300	300	300	300	300	300	300	300	300	300	300	300
-	450	450	450	450	450	450	450	450	450	450	450	450	450	450
-	600	600	600	600	600	600	600	600	600	600	600	600	600	600
<b>L**</b>	300	300	300	300	300	300	300	300	300	300	300	300	300	300

H1: Single height unit. H2: Double height unit.

\* Heating coils for hot water (W) or condensation (C). L is dependent on the capacity.

\*\* Heating coils for steam (S) or electrical heating (E).



## Function:

Air cooler.

## Cooling mediums:

W – Cold water.

Max. working pressure 10 Bar.

D – Evaporation.

Max. working pressure depending on the type of refrigerant.

## Variants:

Standard – Coil which has the same width as the unit.

MAX – Coil which is wider than the unit. DVK 10-150.

## Construction:

Finned coils consists of copper tubes with aluminium fins.

## Copper tubes:

Z – Copper tubes  $\varnothing 10$  mm.

Used for lower capacity cooling coils.

Y – Copper tubes  $\varnothing 15$  mm.

Used for higher capacity cooling coils.

## Fins:

Al – Standard aluminium.

Alup – Aluminium with a synthetic coating. Used where the air is mildly corrosive.

AlMg3 – Aluminium magnesium alloy. Used where the air can come into contact with seawater.

## Pipe connections:

The connection pipes for the cooling coil are placed outside of the air handling unit section. The cooling coil for evaporation has the liquid distributor placed inside the air handling unit section. The expansion valve can be fitted to the connection piece outside of the air handling unit.

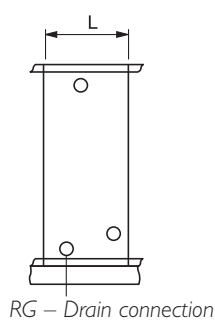
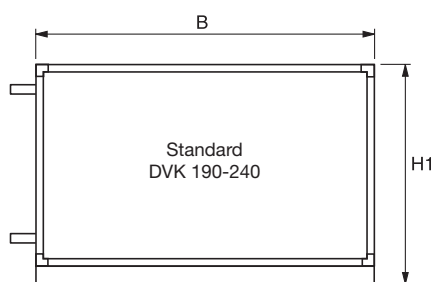
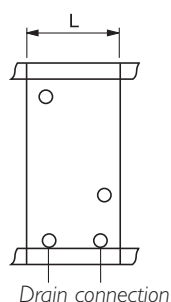
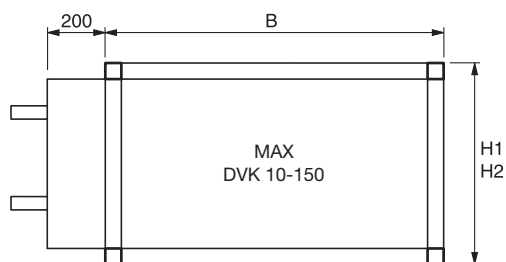
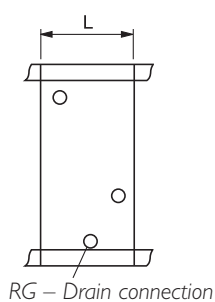
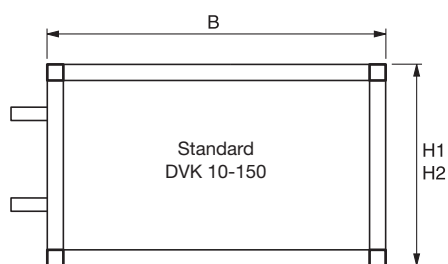
## Drip tray:

The cooling coil section is fitted with a drip tray for collection of condensed water. The drip tray drain outlet must be fitted with a water trap that is designed for the actual pressure difference. Refer to the assembly instructions.

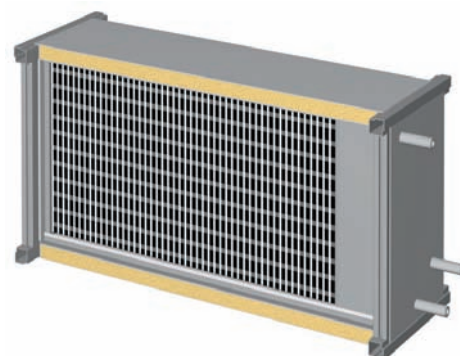
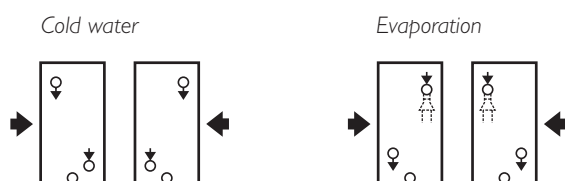
## Droplet eliminator:

DVK is available with a droplet eliminator that prevents condensed water droplets from being carried into the airflow.

# Cooling Coil DVK



**Pipe connections** ♂ Inlet  
♀ Outlet



Cooling coil fitted into a single height unit



Cooling coil fitted into a double height unit

## Dimensions

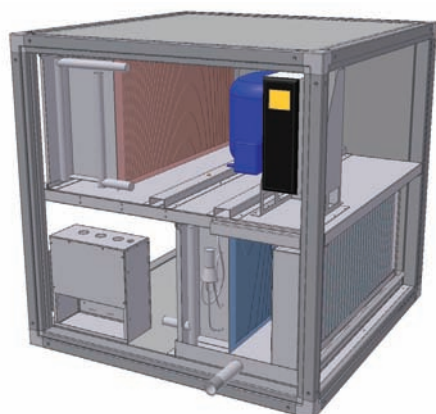
Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L*</b>	450	450	450	450	450	450	450	450	450	450	450	450	600	600
-	600	600	600	600	600	600	600	600	600	600	600	600	750	750
-	750	750	750	750	750	750	750	750	750	750	750	750	900	900
<b>RG</b>	1"	1"	1"	1"	1"	1½"	1½"	1½"	1½"	1½"	1½"	1½"	1½"	1½"

H1: Single height unit. H2: Double height unit.

\* L is dependent on the capacity.

# Danvent DV

## Cooler DVU



### Function:

Cooler DVU in size 10-40 is a complete cooling system, with all cooling components and control system placed in a DV casing, which can be combined to the DV air handling unit. This set up of the cooling system need no external condenser for removing of heating energy or separate space for cooling equipment. It is therefore very easy to install cooling in the selected DV unit.

### Ready for operation upon delivery:

Cooler DVU is configured and tested from the factory, and will be delivered complete finished and ready for start up after installation, which is very easy. Install the Cooler DVU between the air handling unit sections and connect power supply, control signals and drain for condensing water. DVU can be connected to almost all types of control systems for air handling units.

### Construction:

DVU is designed with an evaporative cooling coil for cooling the supply air in the lower part of the unit, and a condensing coil in the extract air in the upper part of unit. Both coils consist of copper tubes and aluminium fins.

### Regulation of the capacity:

The cooling capacity can be controlled stepless from 0 to max. capacity by the advanced cooling control system combined with the speed controlled compressor. The system will deliver the correct cooling capacity up to max. in all situations.

### Compressor:

Stepless speed controlled compressor combined with a frequency converter, which is designed special for this application. The construction ensure the lowest energy consumption, because the cooling capacity is always adapted the current need. This eliminates also undesirable start/stop of the compressor. Hereby is durability improved for many years of reliable running.

### Refrigerant:

Type R 407 C.

### Electrical connection:

3 x 400 V + N + PE.

0-10 V DC for control of capacity.

Start/stop signal.

Possibility for alarm at operating error.

### Service friendly:

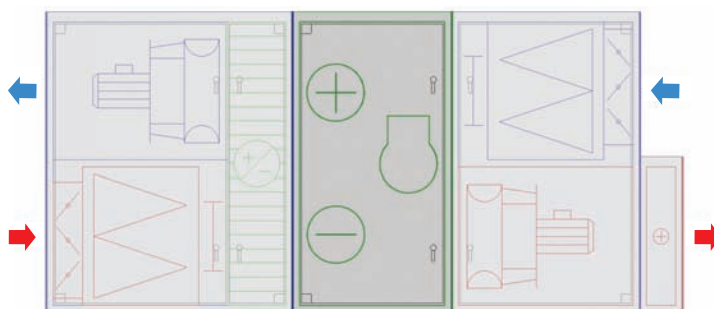
Cooler DVU is equipped very service friendly and has a large inspection door that gives easy access for inspection and service of the cooling components.

### Drip tray:

The cooling coil is fitted with a drip tray for collection of condensed water. The drip tray outlet must be fitted with a water trap that is designed for the actual pressure difference. Refer to the assembly instructions.

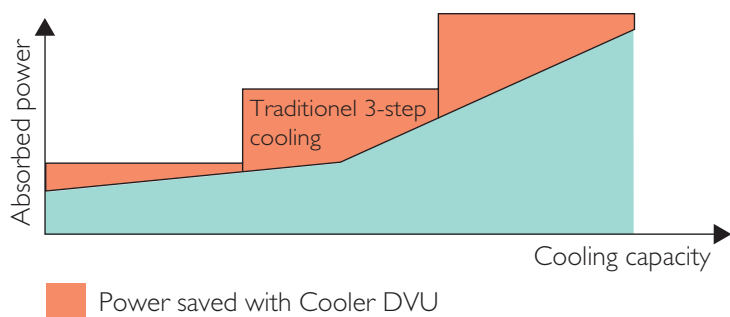
### Droplet eliminator:

DVU is available with a droplet eliminator that prevents condensed water droplets from being carried into the airflow.

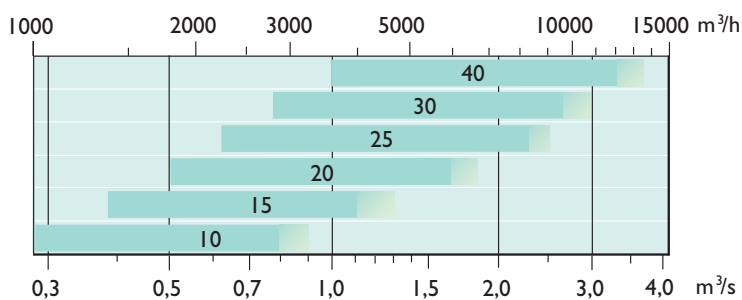


# Cooler DVU

## Energy saving with stepless capacity regulation



## Airflow – Capacity

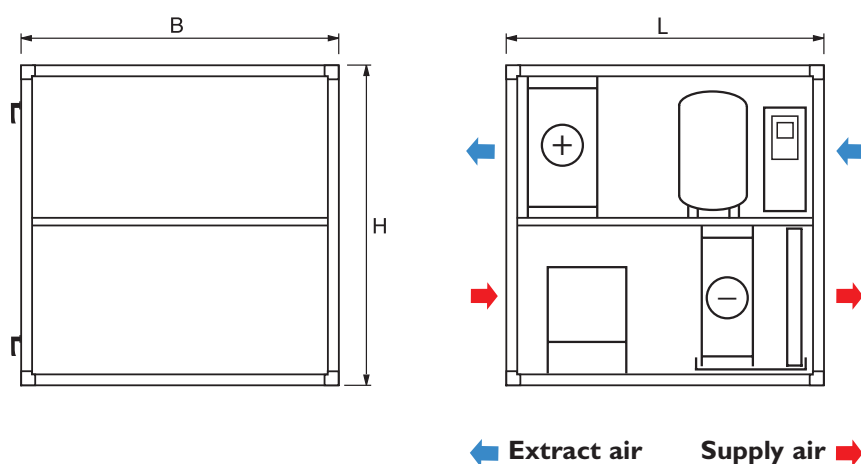


Temperature reduction of outdoor air is 10 °C

Temperature reduction of outdoor air is less than 10 °C

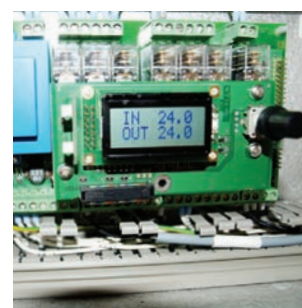
The capacity is based on following conditions:

Outdoor air: 28 °C, 50% RH Extract air: 25 °C, 50% RH



## Dimensions

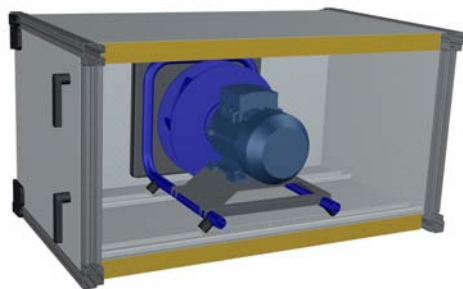
Size	10	15	20	25	30	40
B	970	1120	1270	1420	1570	1720
H	970	1120	1270	1420	1570	1720
L	970	1120	1120	1270	1270	1270





## Danvent DV

# Plug Fan DVE



### Function:

Plug fan built into an acoustically insulated air handling unit.

### Construction:

Single inlet plug fan with open outlet into the air handling unit.

The fan impeller is fitted directly to the motor shaft.

This fan type has low sound power levels in the lower frequencies.

Efficiency up to 75%.

Fan and motor are assembled on vibration isolators.

S – Standard plug fan  
DVE 10-240

H – High efficiency plug fan  
DVE 10-150

### Positioning in the air handling unit:

A plug fan supplies air at the fan section outlet with a low and even air speed. In certain situations it can, therefore, be an advantage to position air handling components on the outlet side of the fan.

### Motor:

DVE is supplied with a 1-speed motor. In order to regulate the fan speed to its actual operating point the motor must be fitted with a frequency converter.

### Twin fans:

For optimizing the fan efficiency in the operating point, are following types equipped with Twin fans:

DVE-S 190-240

DVE-H 50-150

Twin fans are 2 separate plug fans, each powered by a motor. The parallel operation of the Twin fans is optimized by a common frequency converter.

### Regulation of air flow:

The frequency converter can continuously control the fan speed and airflow. Power consumption can be greatly reduced by operating the fan at lower speed.

### Operating temperatures:

Standard design: -10/+40 °C

Special design: -30/+60 °C.

### Service friendly:

The DVE fan section is equipped with a large inspection door giving easy access for service. The DVE in sizes 10-30 has the fan and motor assembled on guide rails allowing easy extraction from the unit.

### Balancing:

All fans are fully balanced both statically and dynamically.

### Vibration isolators:

The fan and motor are built on a stable base frame that is connected to the unit casing with rubber vibration isolators. These are designed for high levels of vibration absorption.

### Flexible coupling:

The fan inlet is flexible connected to the unit casing. This ensures a good vibration absorption.

### Sound data:

The design program SystemairCAD calculates the fan sound power level  $L_w$  (ref. 1 pW). The calculations are based on measurements carried out according to the following standards:

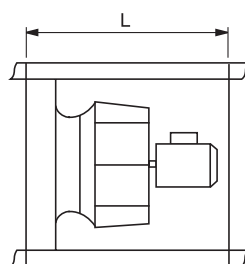
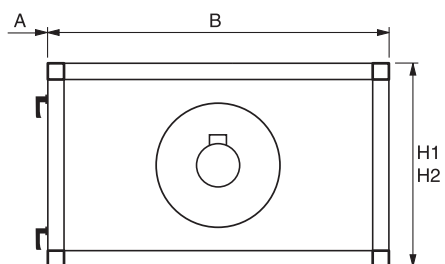
- EN ISO 5136, determination of sound power level in a duct.
- EN ISO 3741, determination of sound power level in reverberation rooms.

The SystemairCAD also calculates the sound power levels for all duct connections on the unit.

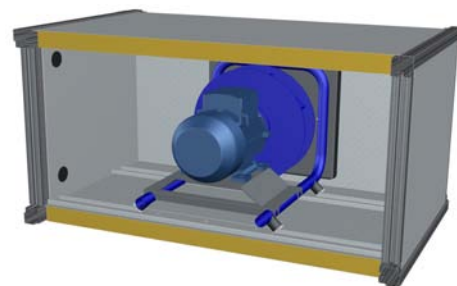
# Plug Fan DVE



## DVE 10-150

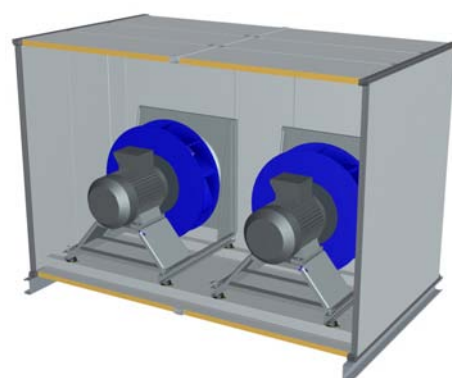
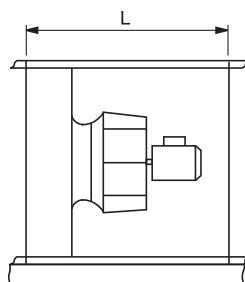
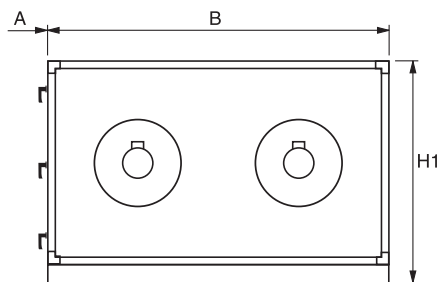


H1: Single height unit  
H2: Double height unit



Fan fitted to a single height unit.

## DVE 190-240

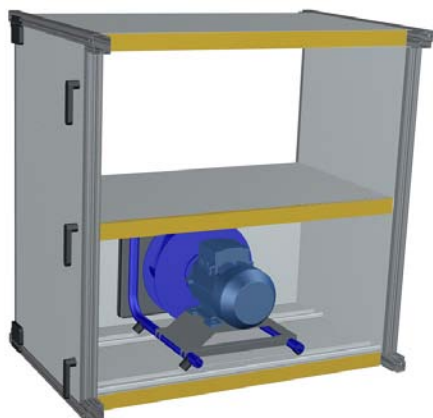


DVE 190-240

## Dimensions

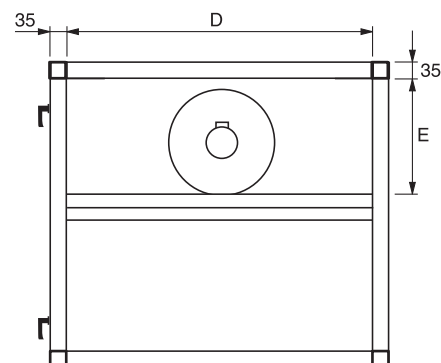
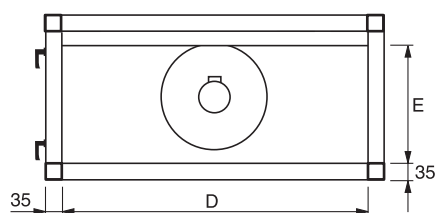
Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2770	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L, DVE-S</b>	750	750	750	900	900	1050	1200	1200	1350	1650	1800	1950	1950	2100
<b>L, DVE-H</b>	750	750	900	900	1050	1200	1050	1200	1200	1500	1650	1800	-	-
<b>A*</b>	750	750	750	900	900	900	1000	1000	1100	1200	1300	1400	1300	1400

\* Space needed for extracting the fan from the unit housing.

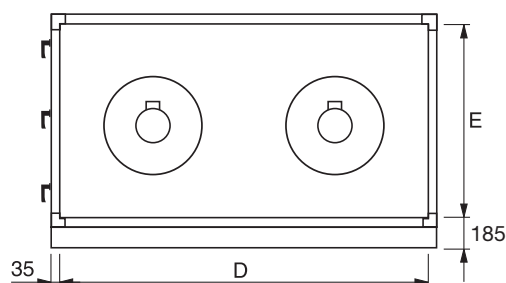


Fan fitted to the lower part of a double height unit

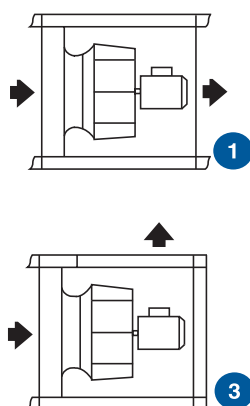
## DVE 10-150 duct connections



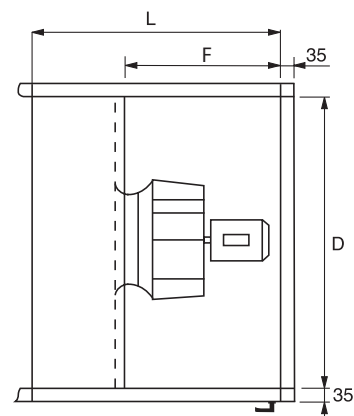
## DVE 190-240 duct connections



## Connection variants



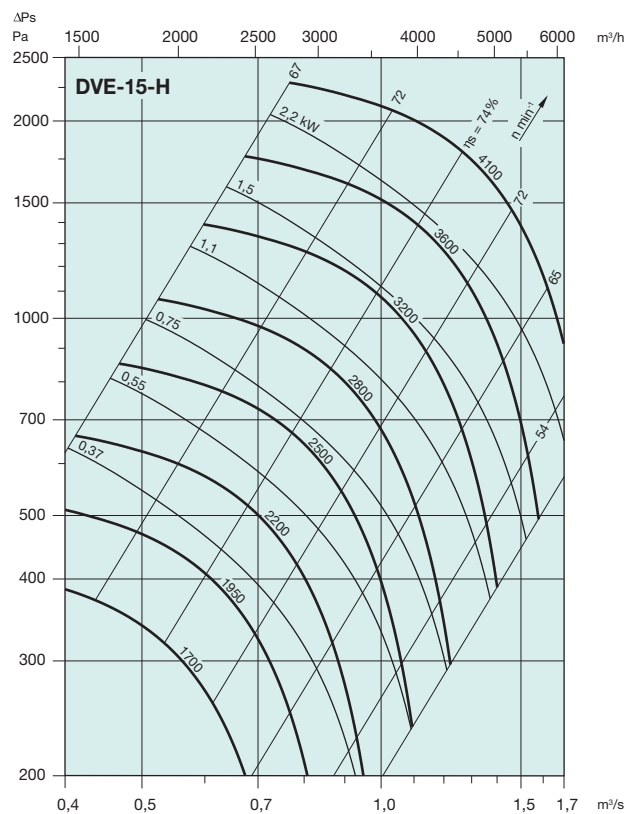
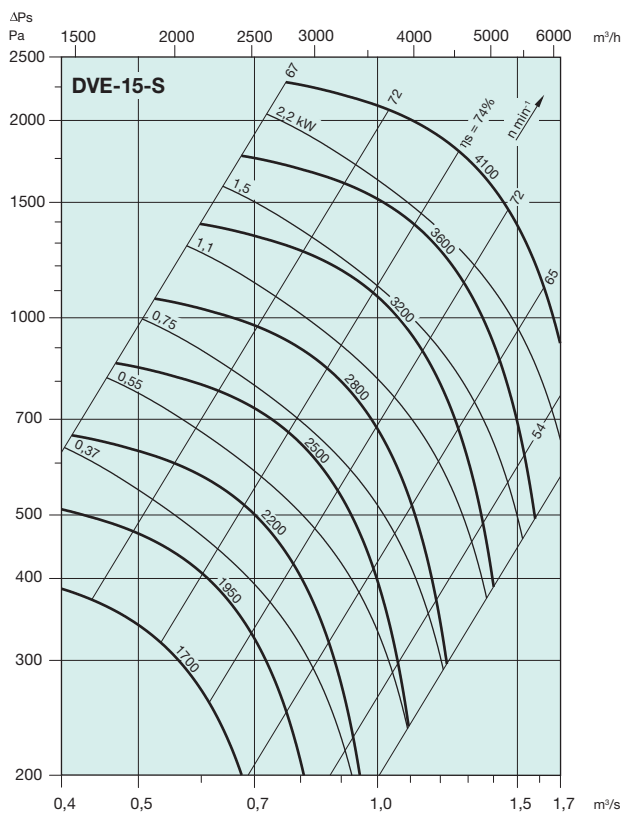
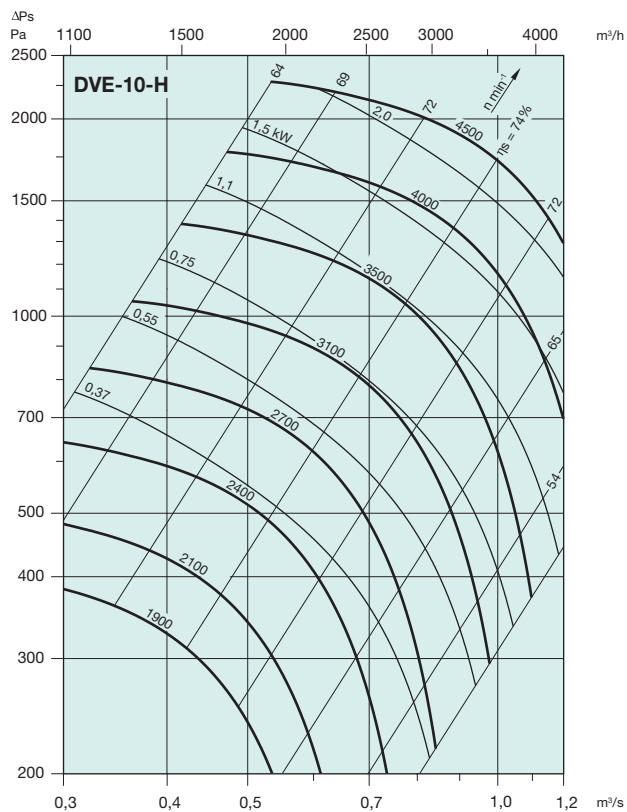
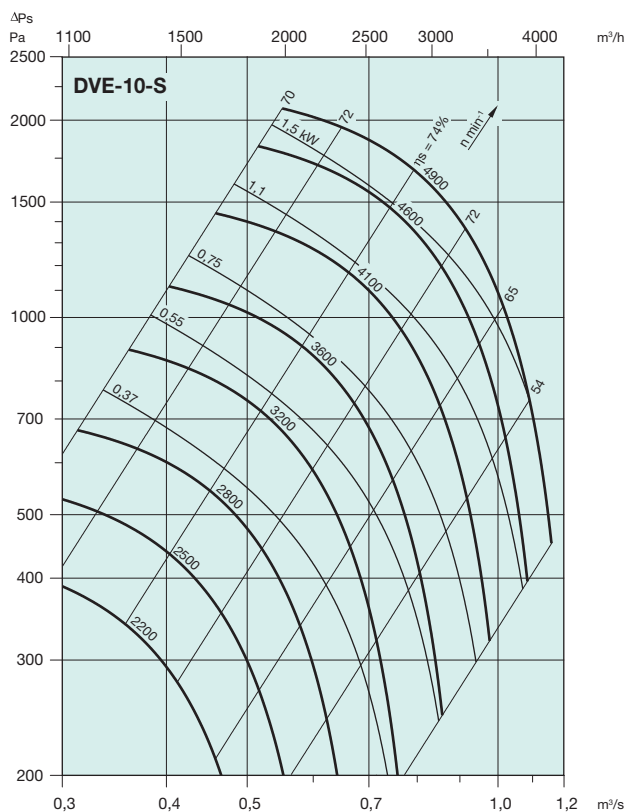
## Duct connection on top of the unit



## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>D</b>	900	1050	1200	1350	1500	1650	1950	2100	2100	2300	2520	2820	3120	3420
<b>E</b>	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1950	2250
<b>F</b>	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1500	1500

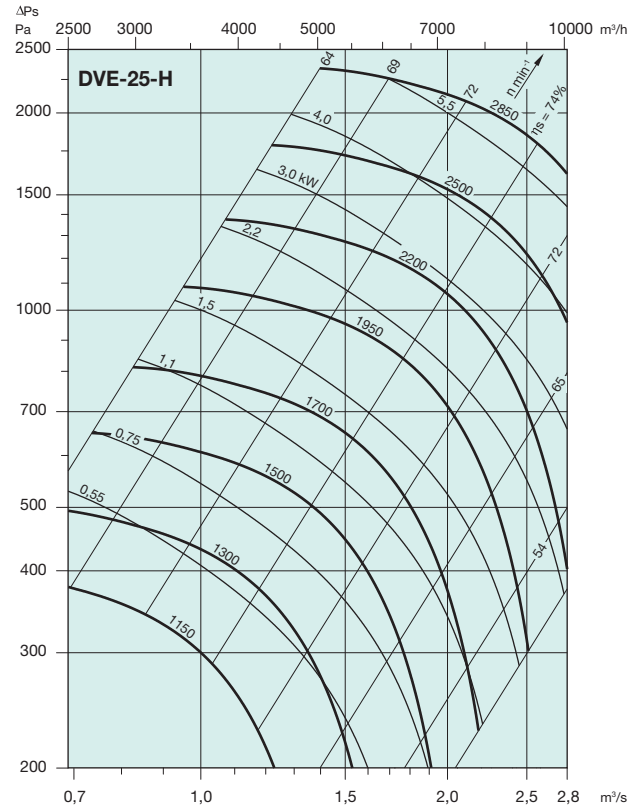
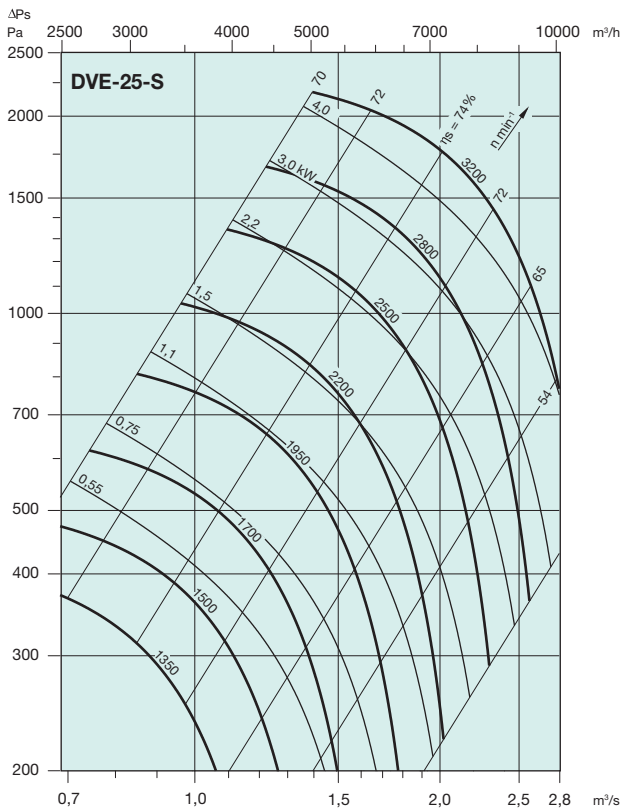
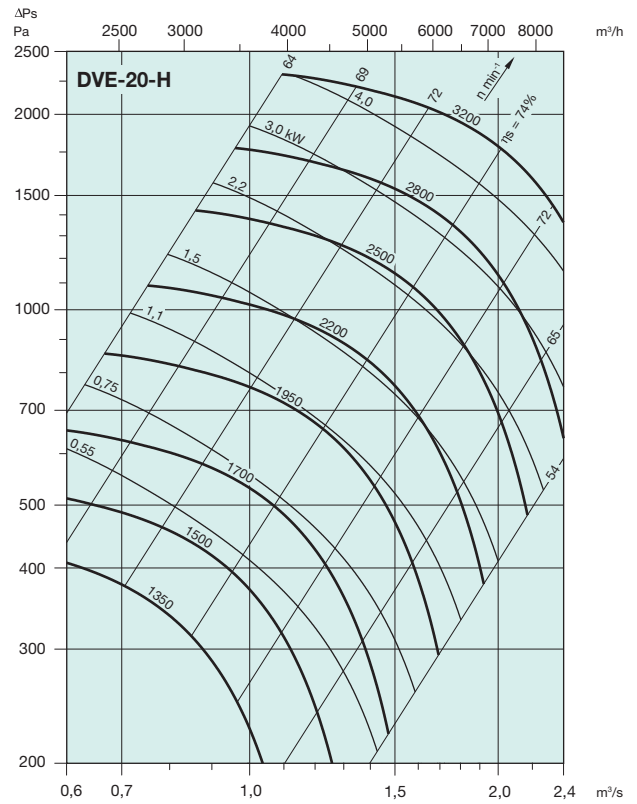
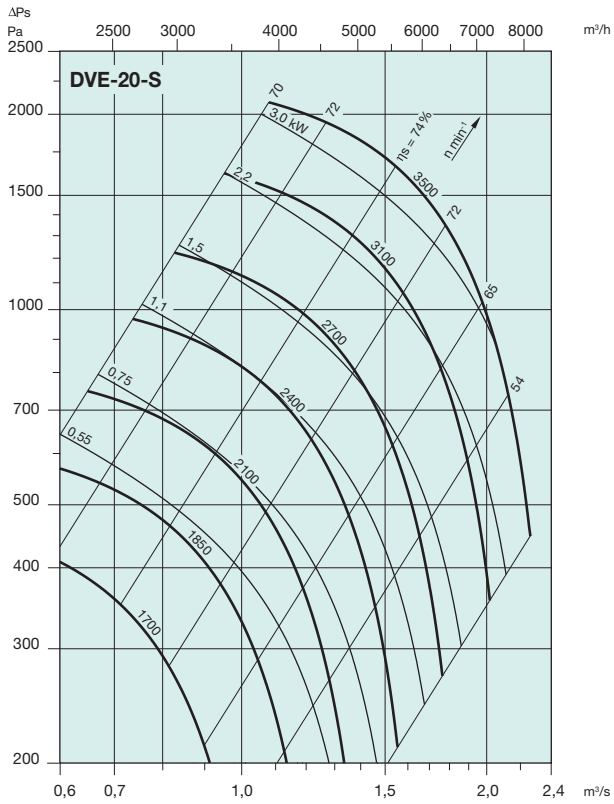
# Plug Fan DVE 10-15



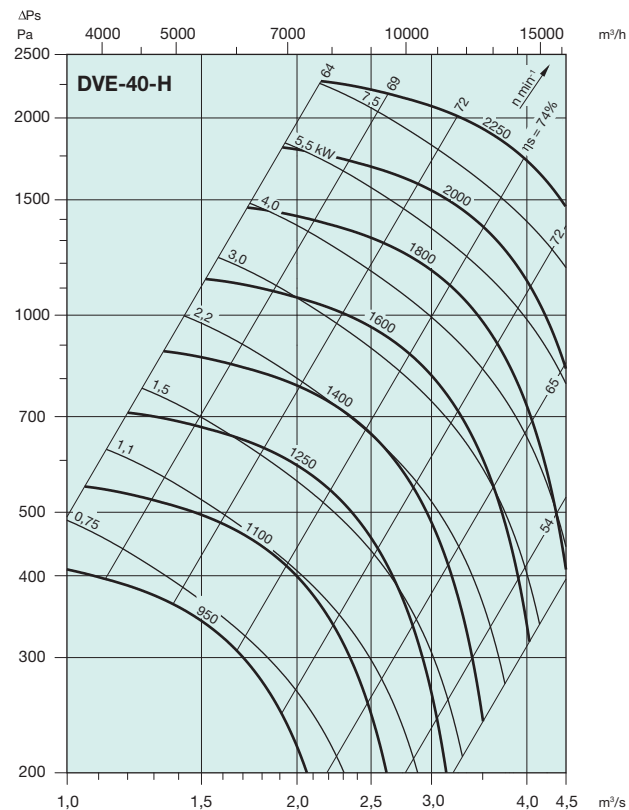
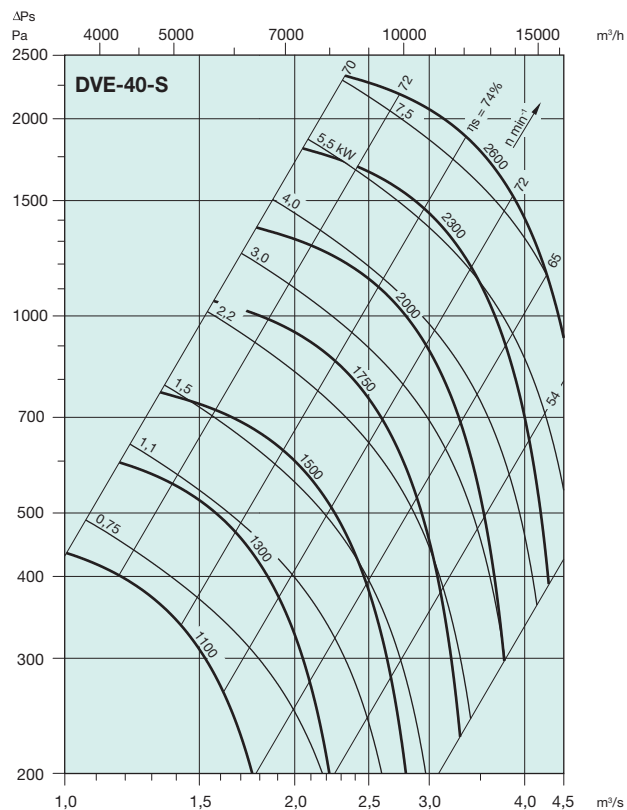
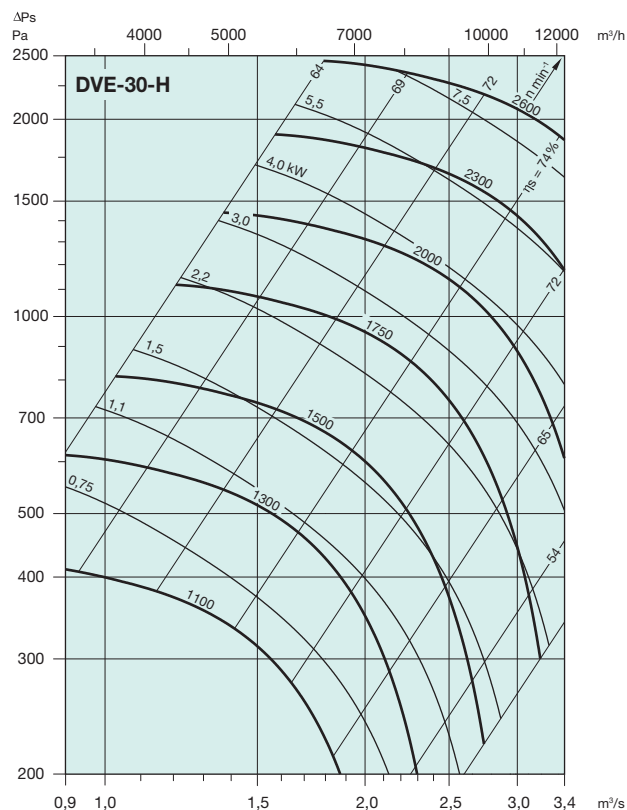
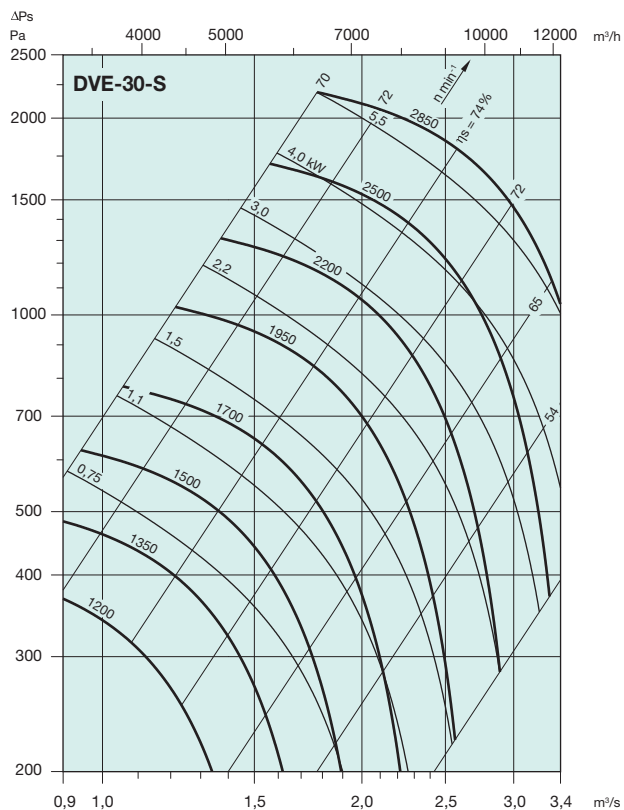


Danvent DV

# Plug Fan DVE 20-25



# Plug Fan DVE 30-40

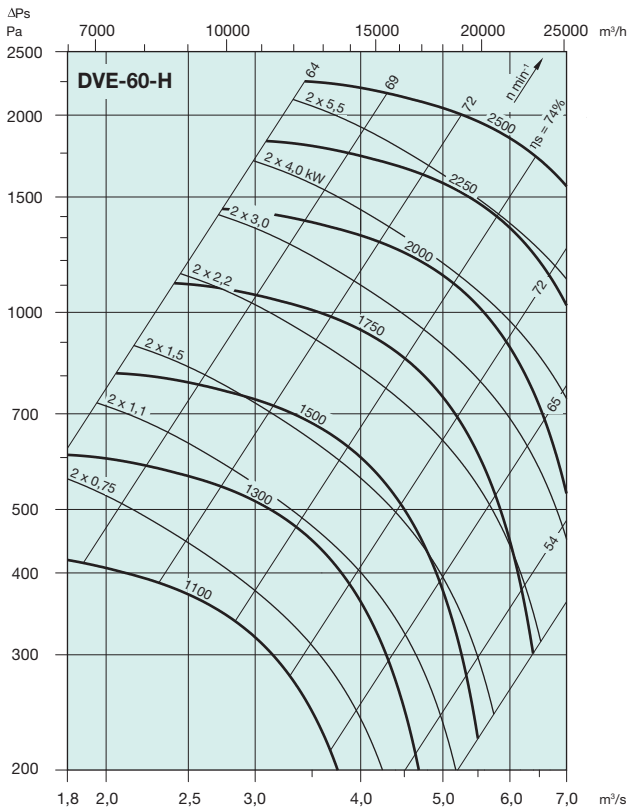
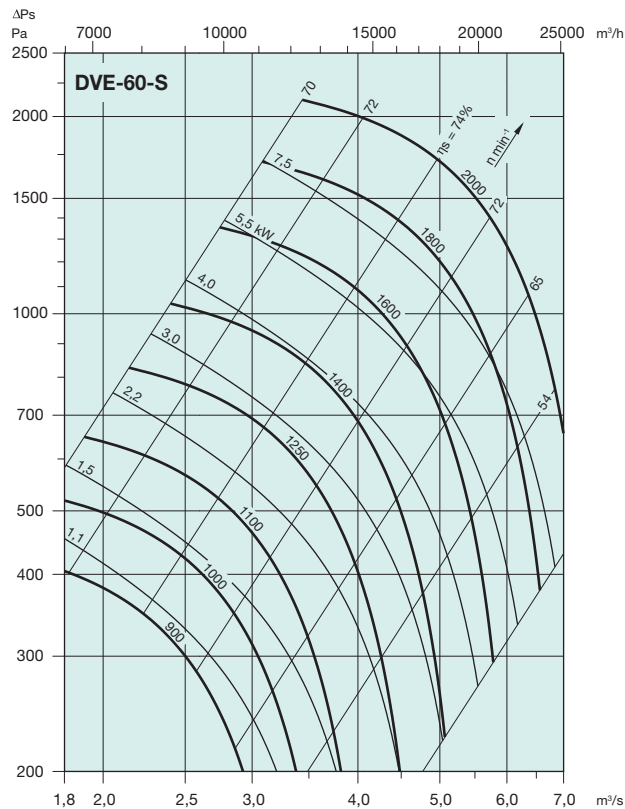
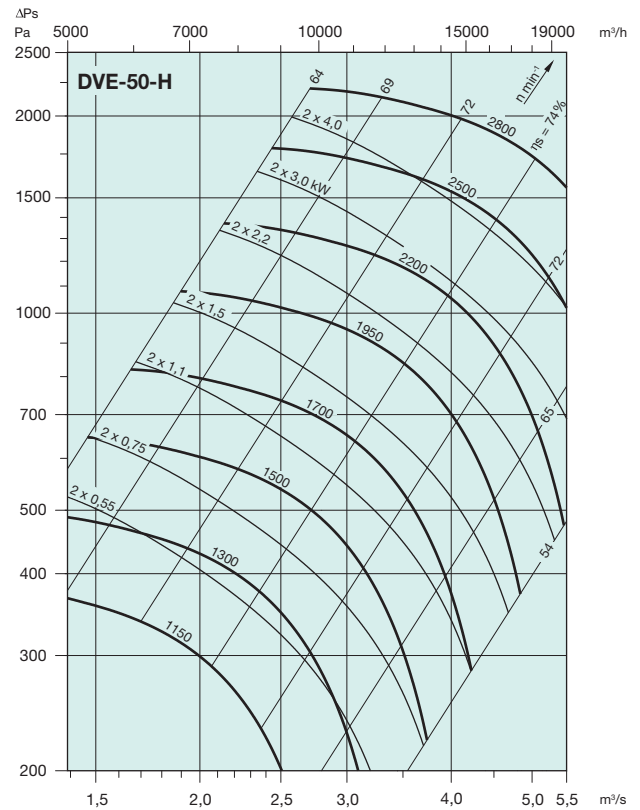
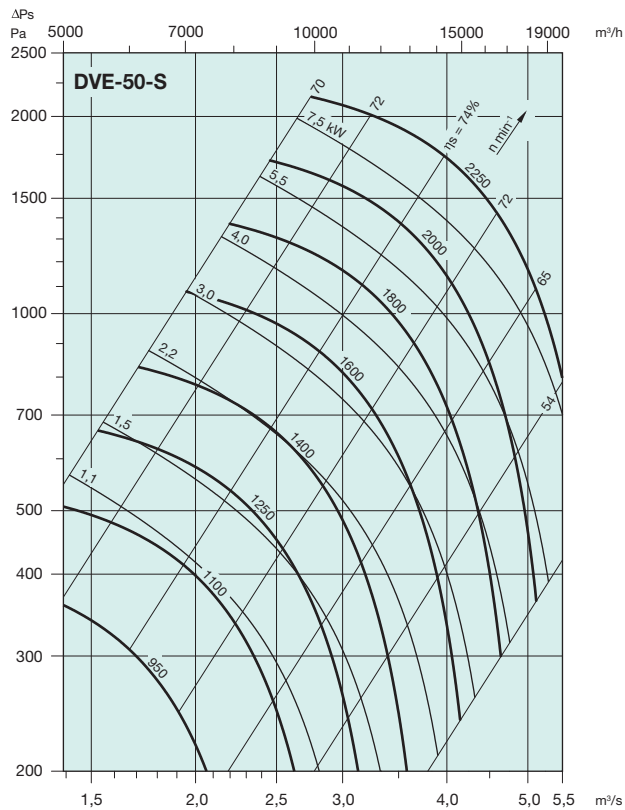




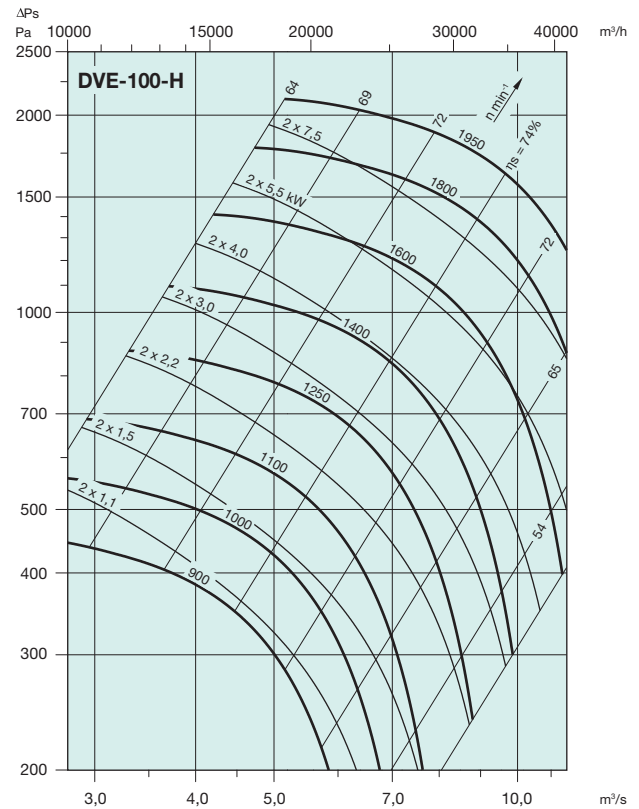
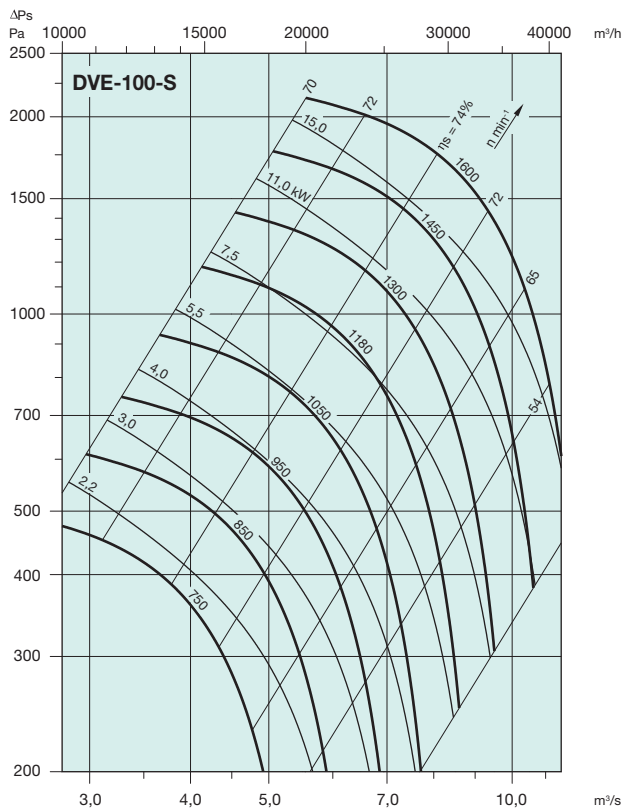
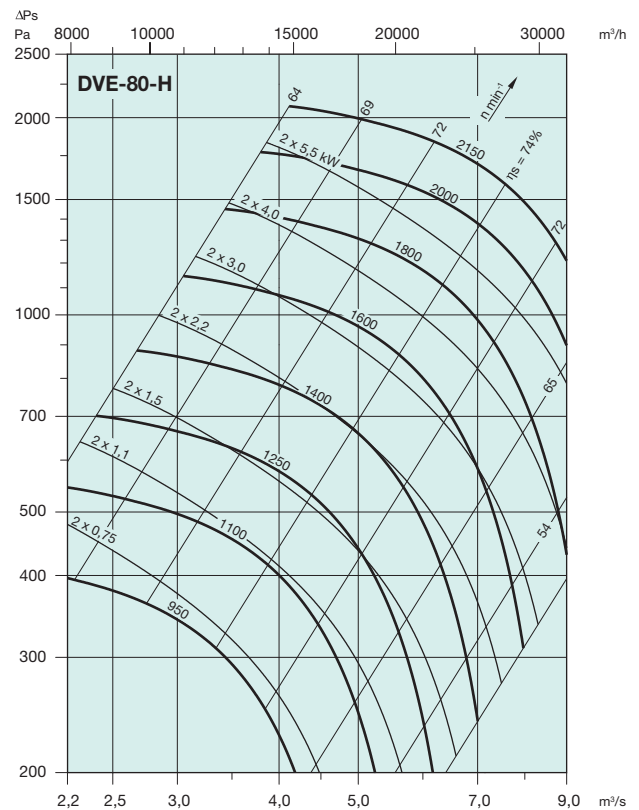
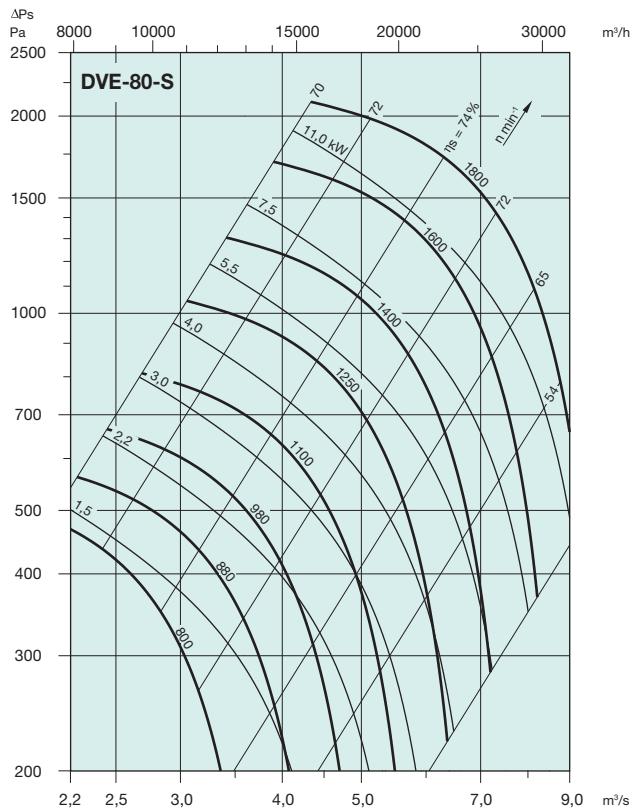


Danvent DV

# Plug Fan DVE 50-60



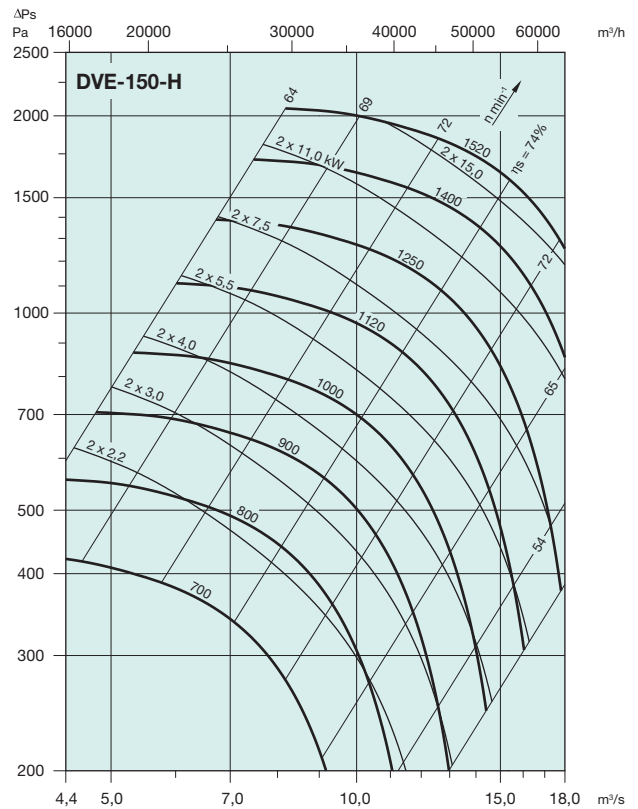
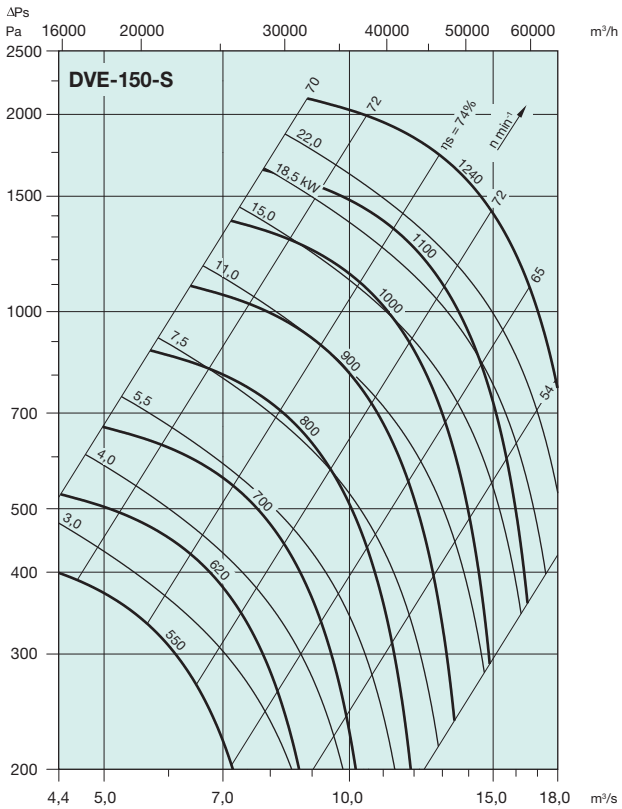
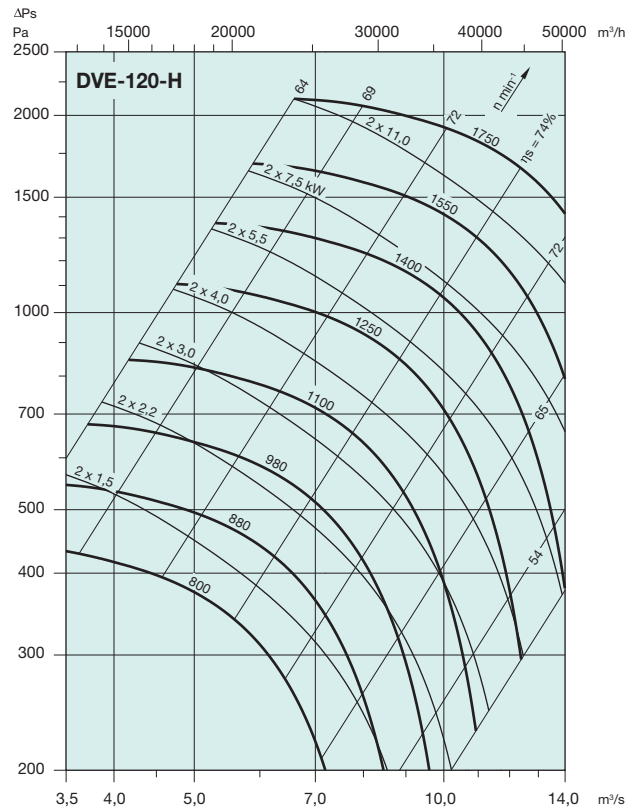
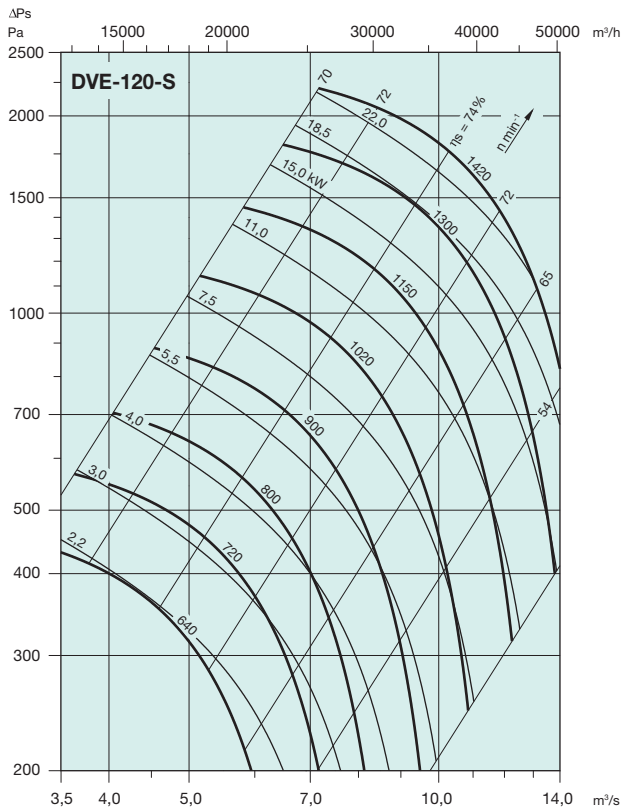
# Plug Fan DVE 80-100



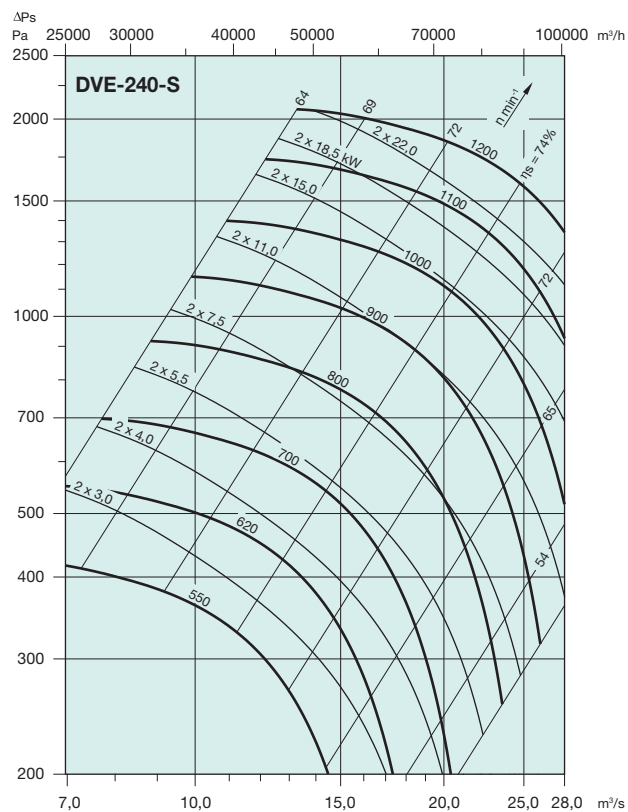
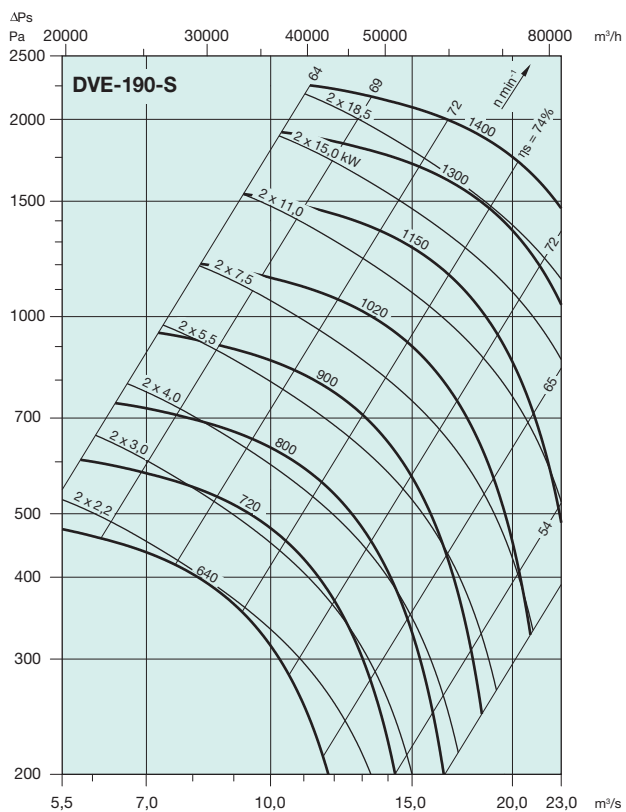


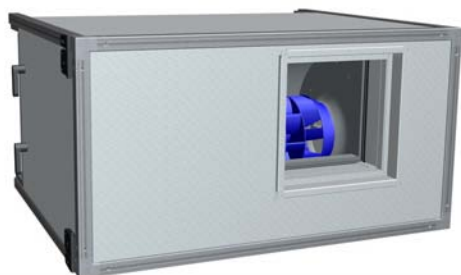
Danvent DV

# Plug Fan DVE 120-150



# Plug Fan DVE I90-240





## Function:

Centrifugal fan built into an acoustically insulated air handling unit. DVV 10-150.

## Construction:

Double inlet centrifugal fan with belt drive.

Fan, motor and base frame is assembled on vibration isolators.

BK – Centrifugal fan with backward curved blades.

This fan type has efficiency up to 82%, and is therefore extremely cost-effective to run.

The BK fan can deliver high pressure, and is suitable for plants that operate with pressure variations.

FK – Centrifugal fan with forward curved blades.

This fan type operates at a low speed and with low sound levels. Efficiency up to 73%.

## Belt drive:

RE-X V-belt with high efficiency and long life expectancy.

Taper-lock V-belt pulleys which are easy to remove and fit.

## Motor:

DVV is available with 1-speed or 2-speed motors.

## Regulation of airflow:

The fan speed and airflow can be continuously controlled if driven by a 1-speed motor and frequency converter. Air flow can be regulated in steps via a 2-speed motor.

Power consumption can be greatly reduced by operating fans at lower speed.

## Operating temperature:

Standard design: -20/+40 °C

Special design: -30/+60 °C

## Service friendly:

The DVV is equipped with a large inspection door giving easy access for service. The sizes 10-30 have the fan and motor assembled on guide rails allowing easy extraction from the unit.

## Bearings:

Smaller fans are fitted with fully encased bearings, that are lubricated during manufacture. The bearings are assembled in vibration absorbing rubber bushes.

Larger fans are fitted with bearings provided with lubricating nipples. These bearings must be lubricated at regular intervals according to the operating conditions.

## Balancing:

All fans are fully balanced both statically and dynamically.

## Vibration isolators:

The fan and motor are built on a stable base frame that is fitted to the unit casing with rubber vibration isolators. These are designed for high levels of vibration absorption.

## Flexible coupling:

The fan outlet is flexible connected to the unit casing.

## Sound data:

The design program SystemairCAD calculates the fan sound power level  $L_w$  (ref. 1 pW). The calculations are based on measurements carried out according to the following standards:

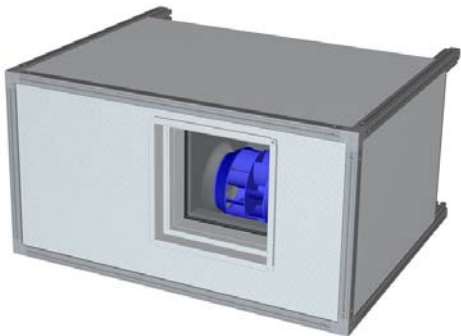
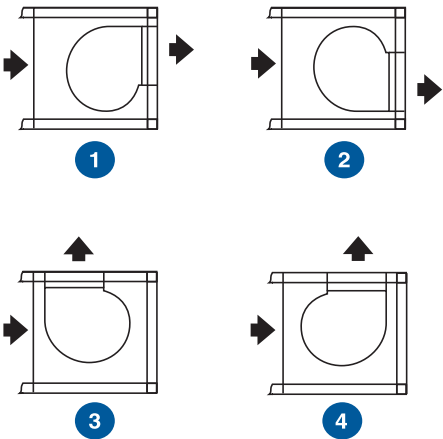
- EN ISO 5136, determination of sound power level in a duct.
- EN ISO 3741, determination of sound power level in reverberation rooms.

The SystemairCAD also calculates the sound power levels for all duct connections on the unit.

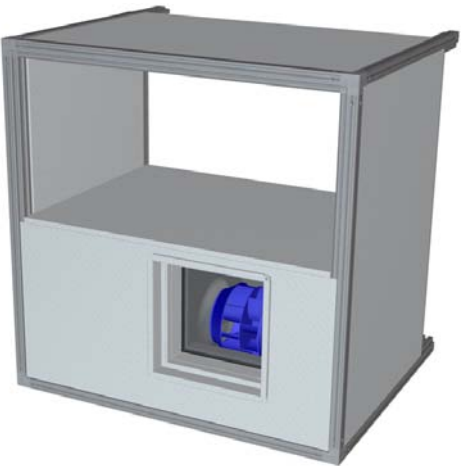
# Centrifugal Fan DVV



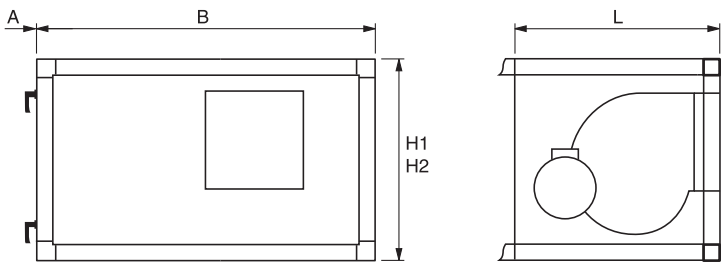
## Connection variants



Fan fitted to a single height unit.



Fan fitted to the lower part of a double height unit

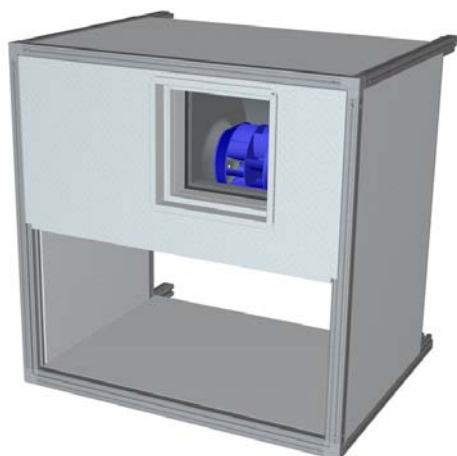


## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-
<b>L</b>	785	785	785	935	935	1085	1235	1235	1385	1685	1835	1985
<b>A*</b>	750	750	750	900	900	900	900	900	1100	1200	1400	1500

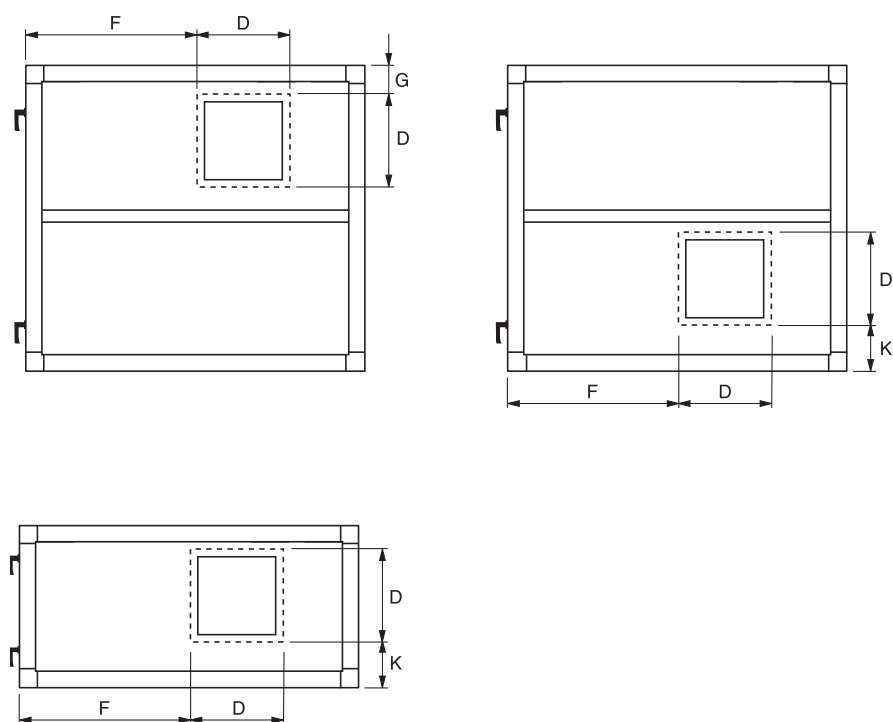
\* Space needed for extracting the fan from the unit housing.



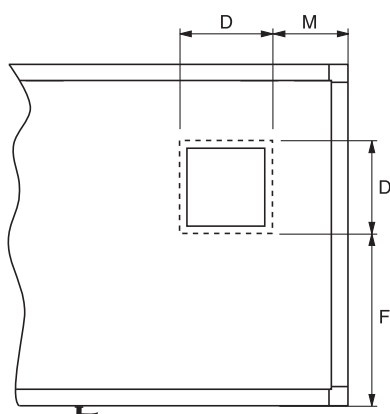


Fan fitted to the upper part of a double height unit

## Duct connections



## Duct connection on top of the unit

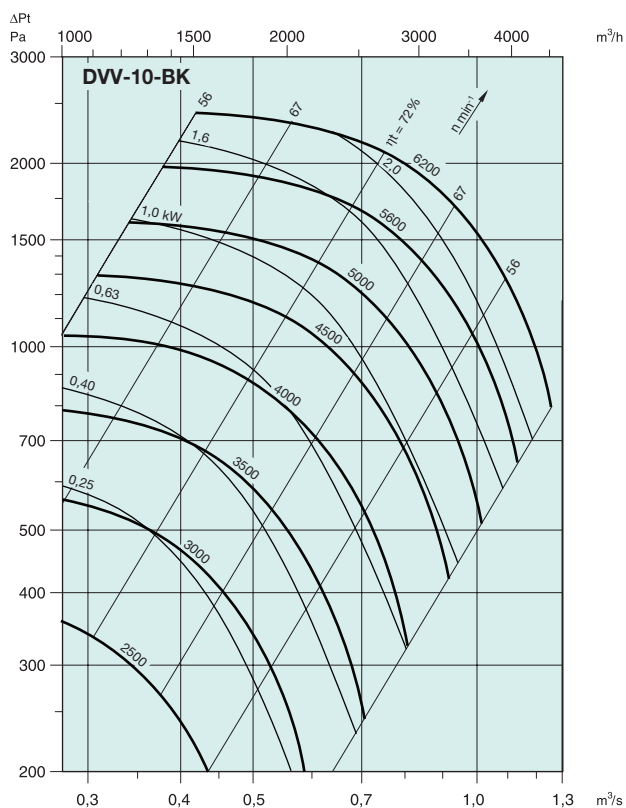


## Dimensions

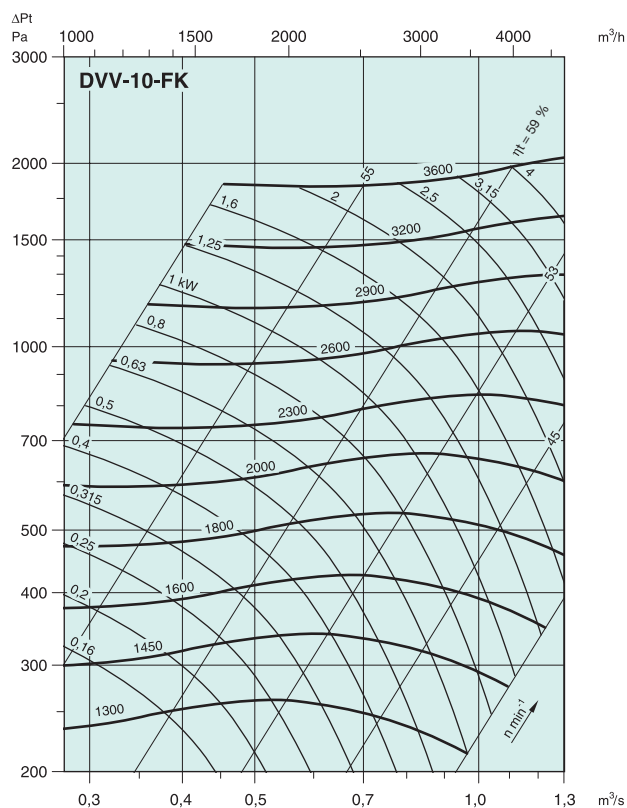
Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>D*</b>	300	350	450	500	600	650	700	800	900	1000	1100	1200
<b>F</b>	530	530	600	600	700	850	900	950	850	950	1000	1050
<b>G 1</b>	75	75	75	75	75	75	75	75	75	75	75	75
<b>G 2</b>	145	170	145	170	145	170	270	230	280	330	380	430
<b>K 1</b>	145	170	145	170	145	170	270	245	295	345	395	445
<b>K 2</b>	75	75	75	75	75	75	75	90	90	90	90	90
<b>M 3</b>	145	170	145	170	145	170	270	245	295	315	350	460
<b>M 4</b>	75	75	145	170	145	170	75	90	90	80	80	80

\* Dimensions of the duct connection part DVT – A, see page 79.

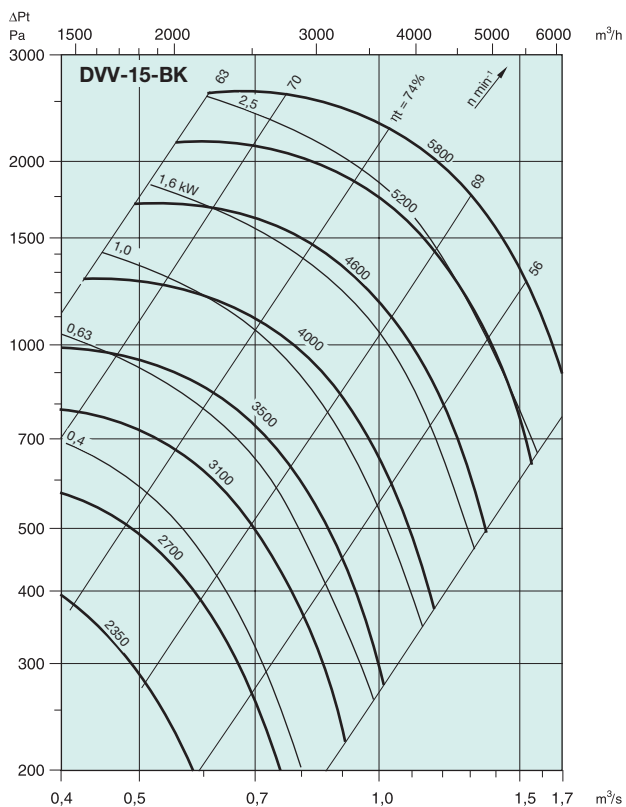
# Centrifugal Fan DVV 10-15



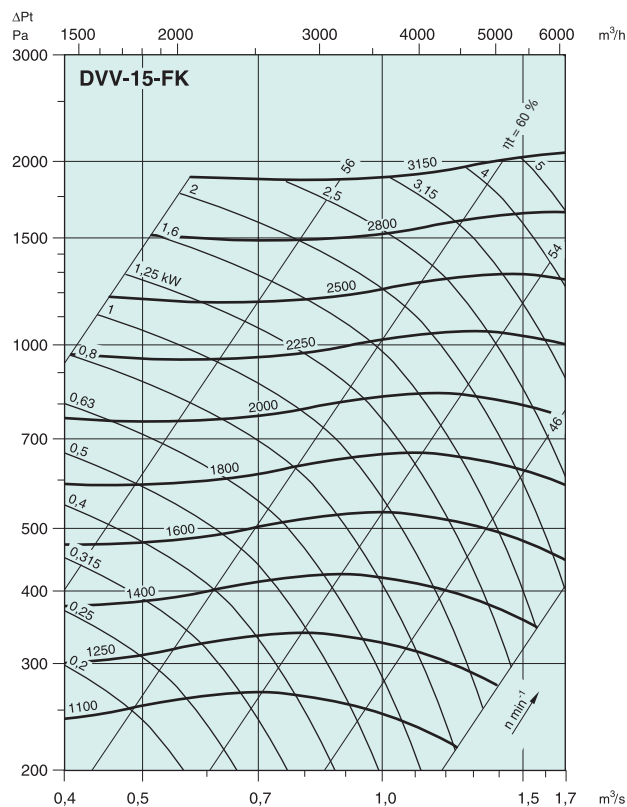
DVV-10-BK: Max. motor: IEC 112 M,  $J = 0,010 \text{ kgm}^2$



DVV-10-FK: Max. motor: IEC 112 M,  $J = 0,018 \text{ kgm}^2$



DVV-15-BK: Max. motor: IEC 112 M,  $J = 0,014 \text{ kgm}^2$

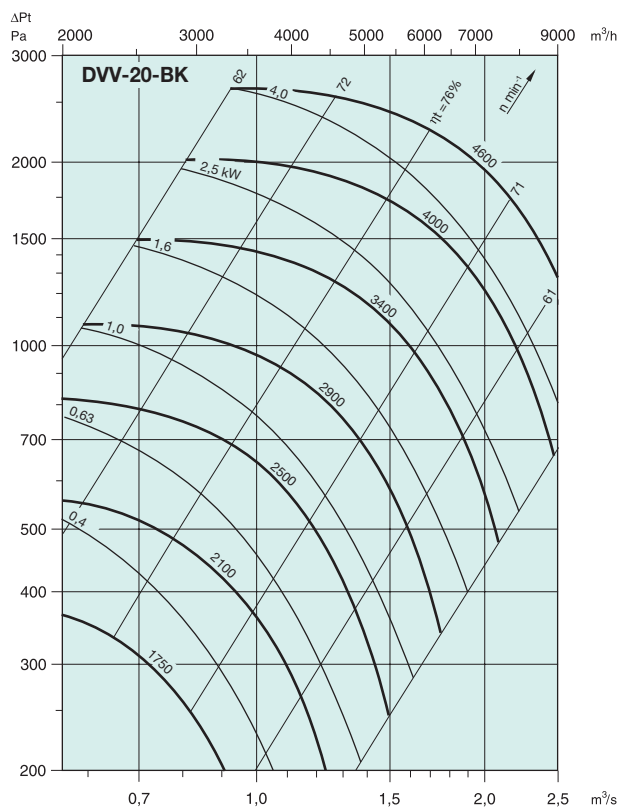


DVV-15-FK: Max. motor: IEC 112 M,  $J = 0,028 \text{ kgm}^2$

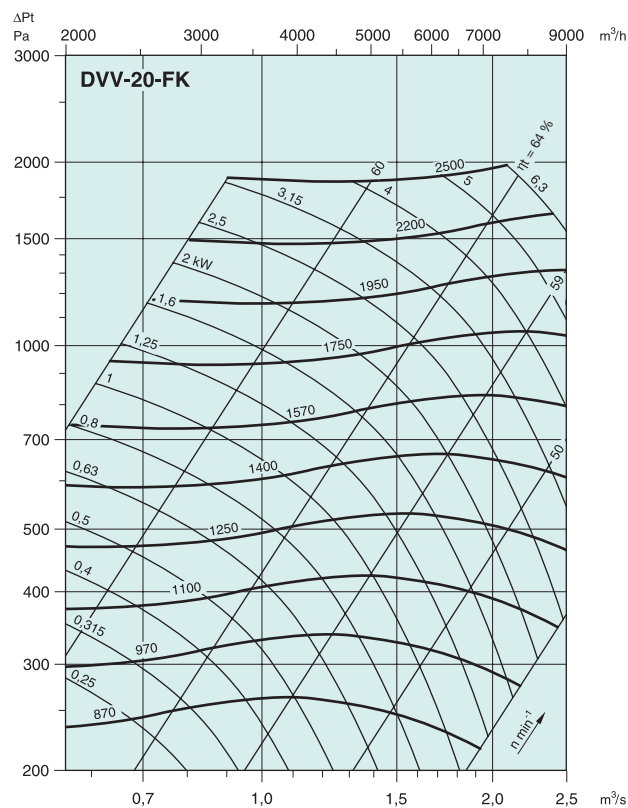


# Danvent DV

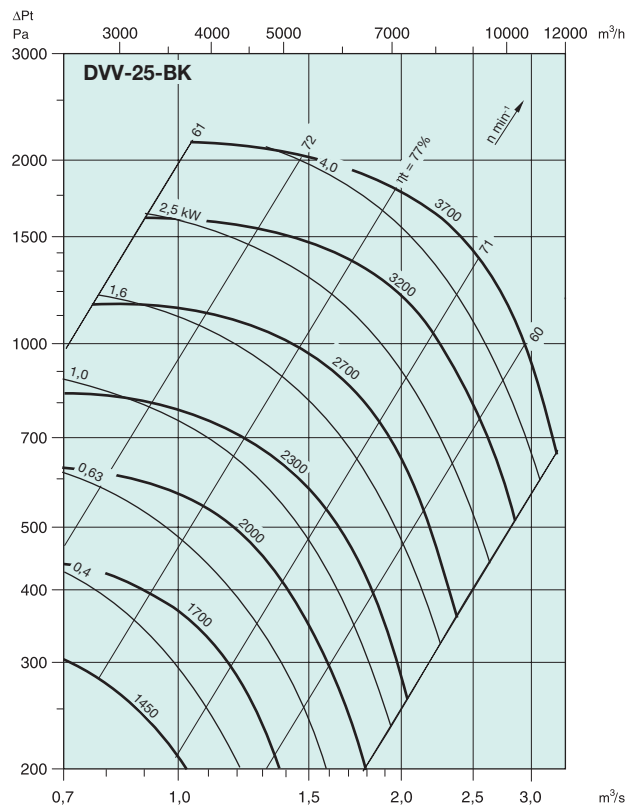
## Centrifugal Fan DVV 20-25



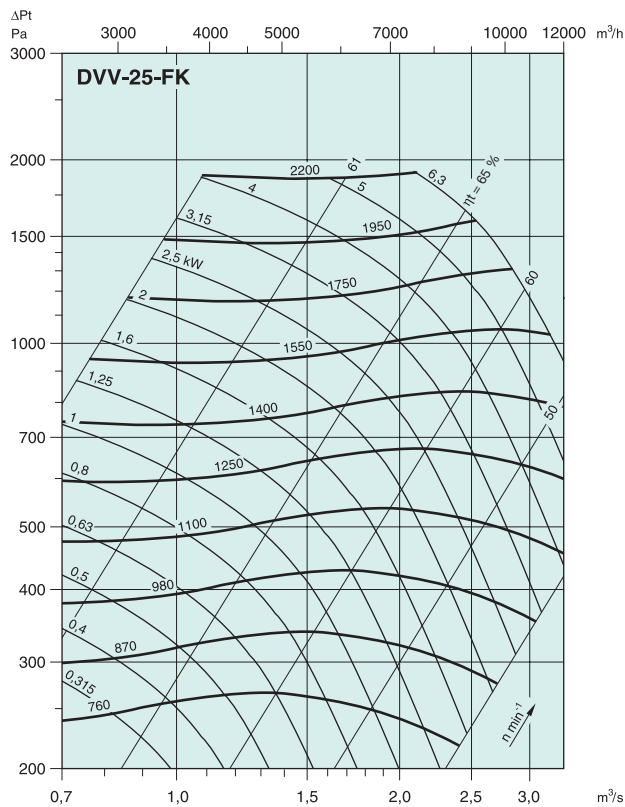
DVV-20-BK: Max. motor: IEC 132 M, J = 0,034 kgm<sup>2</sup>



DVV-20-FK: Max. motor: IEC 132 M, J = 0,06 kgm<sup>2</sup>

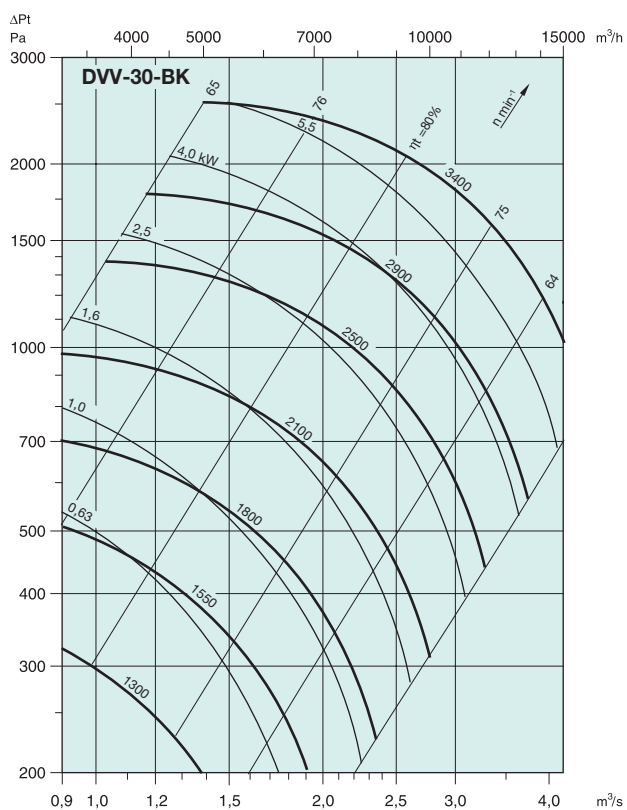


DVV-25-BK: Max. motor: IEC 132 M, J = 0,05 kgm<sup>2</sup>

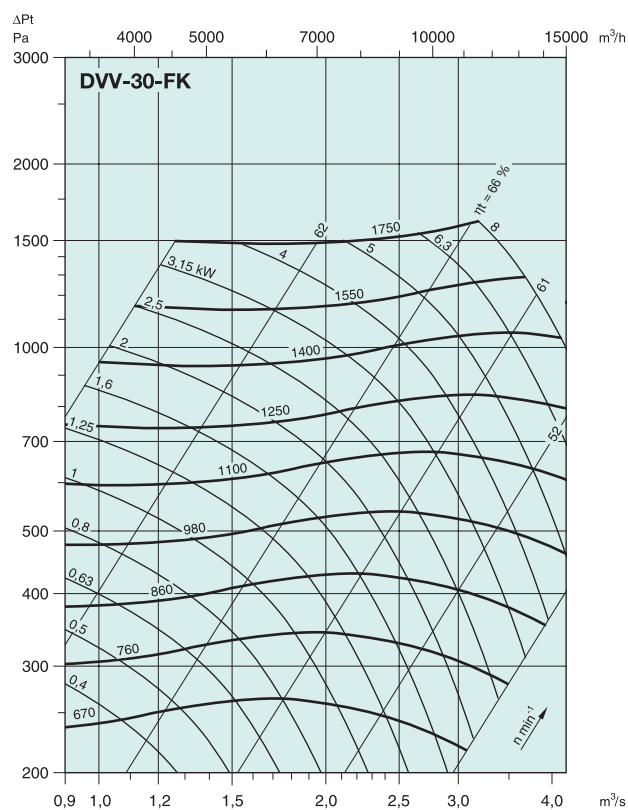


DVV-25-FK: Max. motor: IEC 132 M, J = 0,11 kgm<sup>2</sup>

# Centrifugal Fan DVV 30



DVV-30-BK: Max. motor: IEC 132 M, J = 0,10 kgm<sup>2</sup>

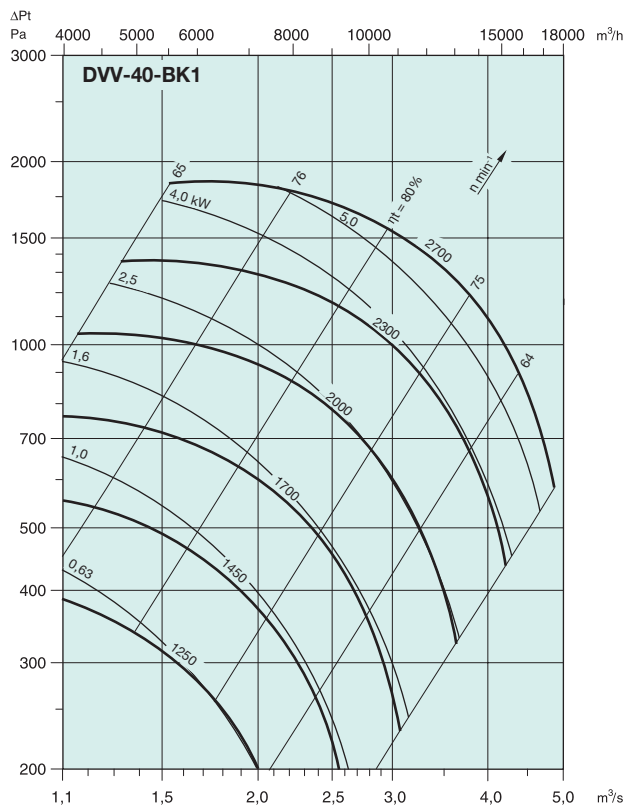


DVV-30-FK: Max. motor: IEC 132 M, J = 0,15 kgm<sup>2</sup>

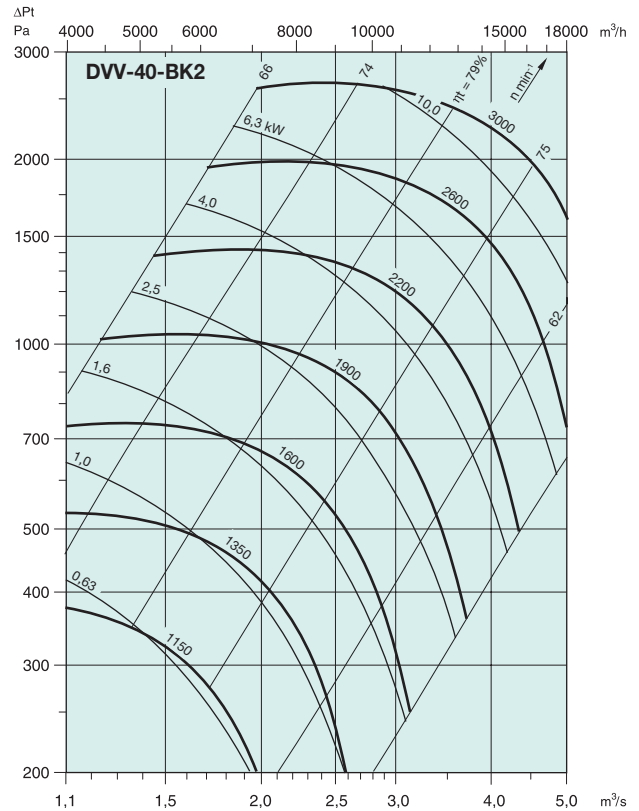


Danvent DV

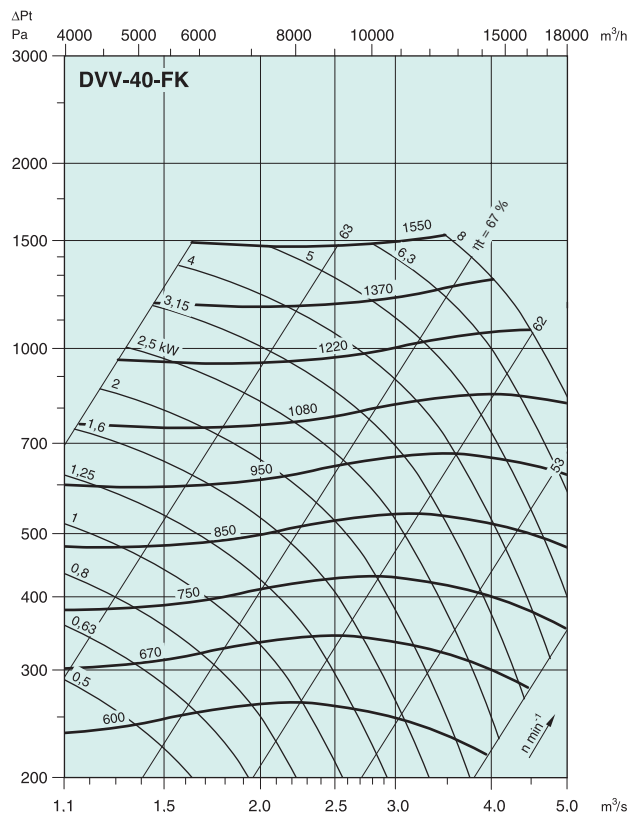
# Centrifugal Fan DVV 40



DVV-40-BK1: Max. motor: IEC 160 L, J = 0,15 kgm<sup>2</sup>

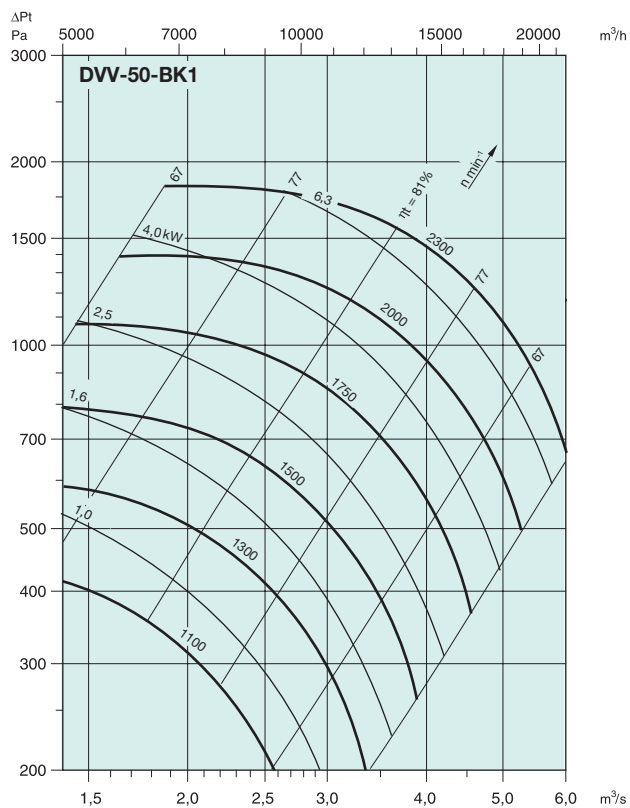


DVV-40-BK2: Max. motor: IEC 160 L, J = 0,53 kgm<sup>2</sup>

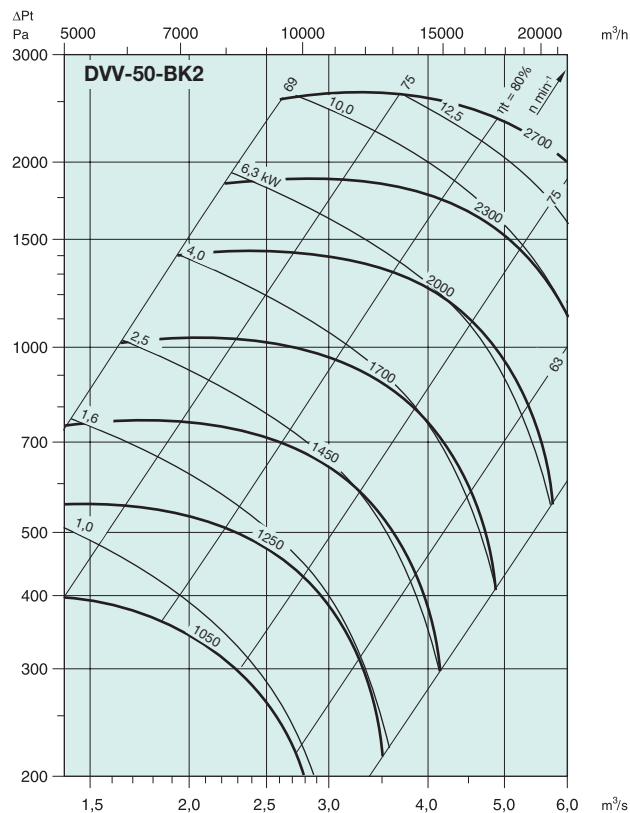


DVV-40-FK: Max. motor: IEC 160 L, J = 0,30 kgm<sup>2</sup>

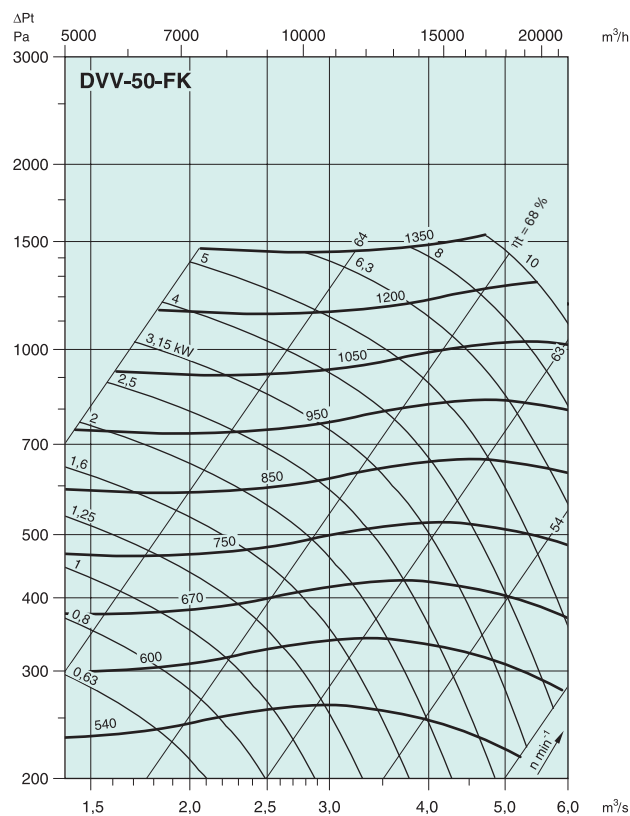
# Centrifugal Fan DVV 50



DVV-50-BK1: Max. motor: IEC 160 L, J = 0,33 kgm<sup>2</sup>



DVV-50-BK2: Max. motor: IEC 160 L, J = 0,83 kgm<sup>2</sup>



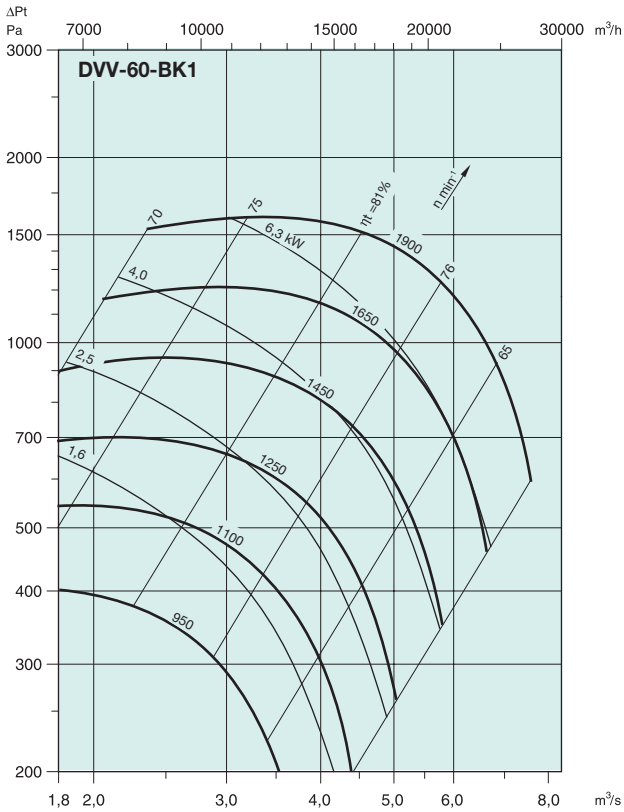
DVV-50-FK: Max. motor: IEC 160 L, J = 0,44 kgm<sup>2</sup>



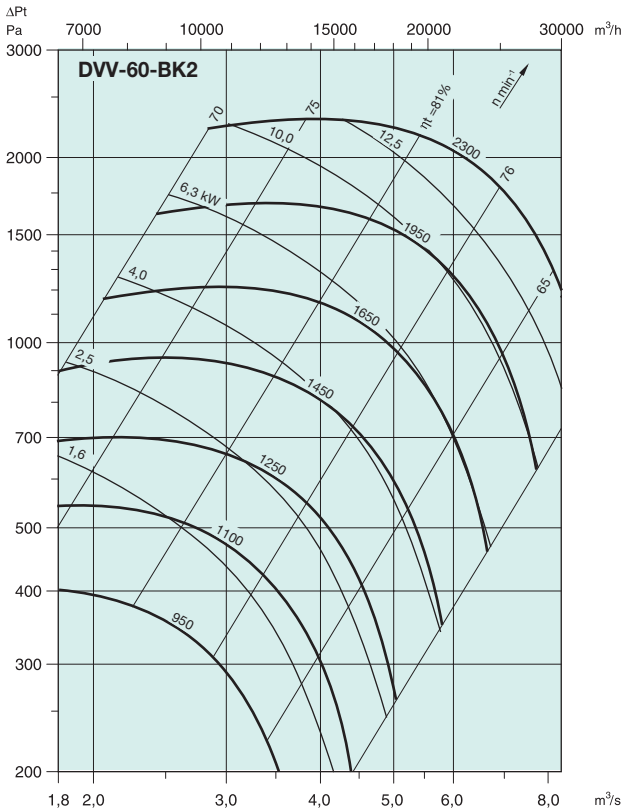


Danvent DV

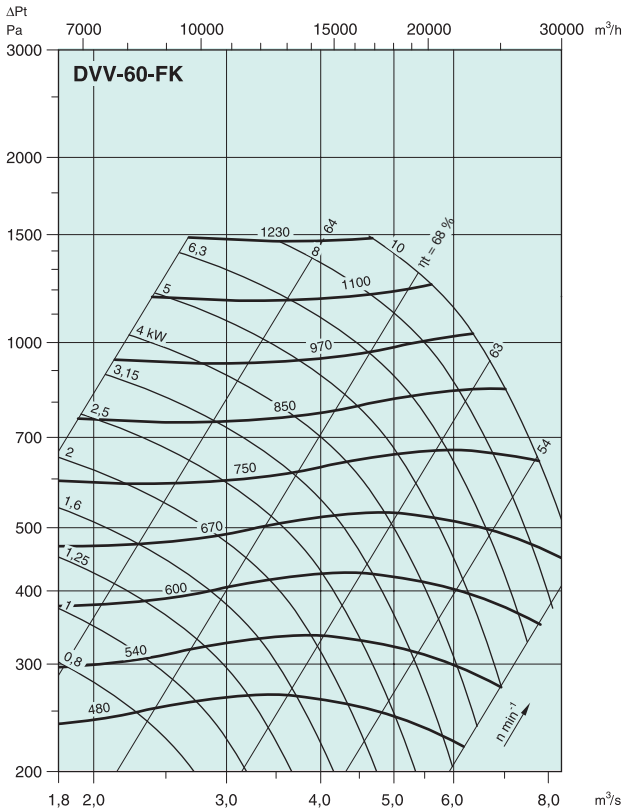
# Centrifugal Fan DVV 60



DVV-60-BK1: Max. motor: IEC 180 L, J = 0,90 kgm<sup>2</sup>

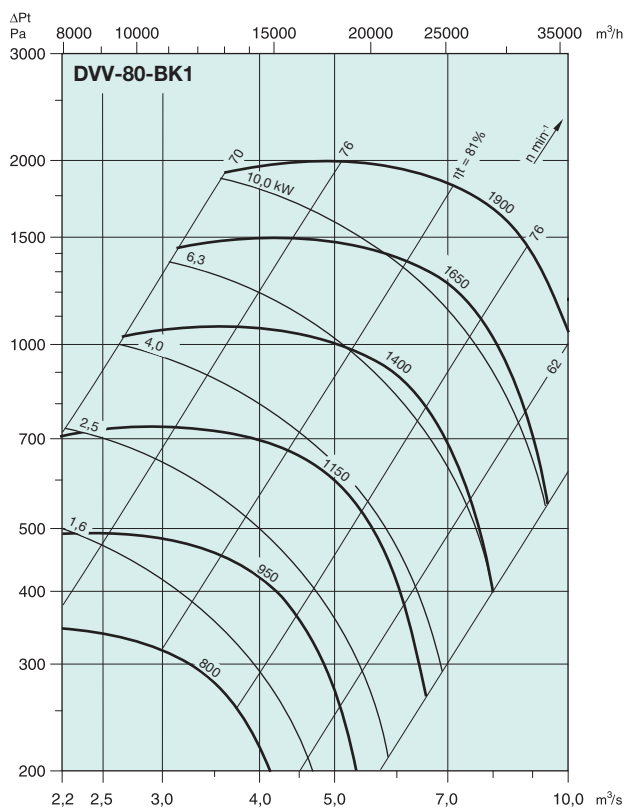


DVV-60-BK2: Max. motor: IEC 180 L, J = 1,23 kgm<sup>2</sup>

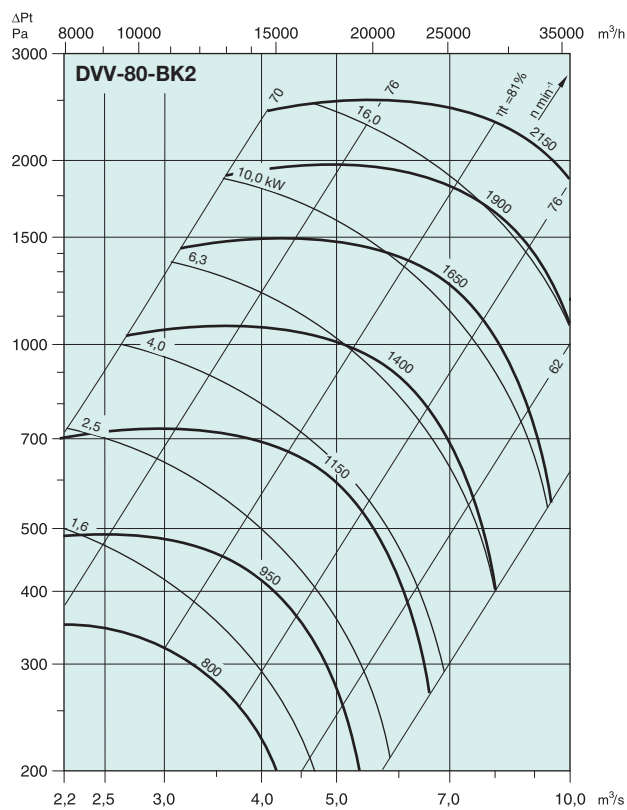


DVV-60-FK: Max. motor: IEC 180 L, J = 0,85 kgm<sup>2</sup>

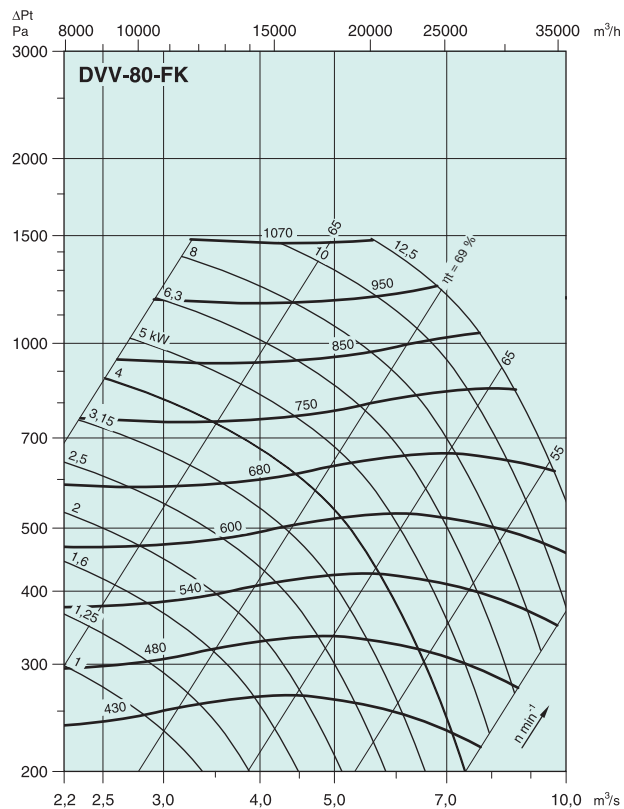
# Centrifugal Fan DVV 80



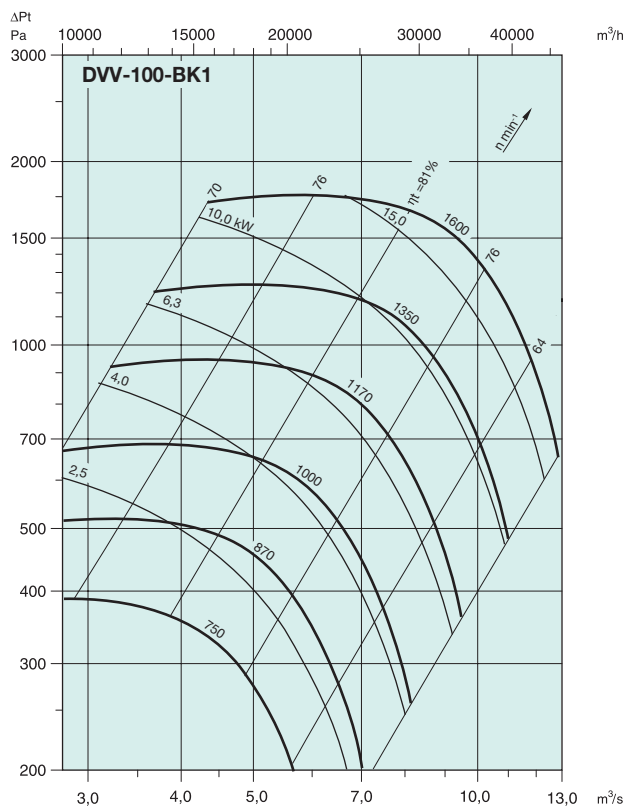
DVV-80-BK1: Max. motor: IEC 180 L, J = 1,55 kgm<sup>2</sup>



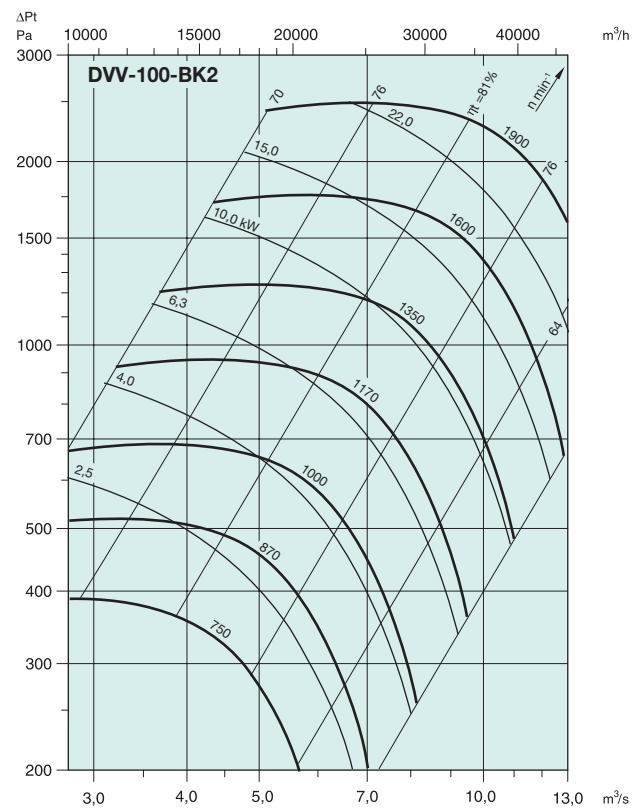
DVV-80-BK2: Max. motor: IEC 180 L, J = 2,29 kgm<sup>2</sup>



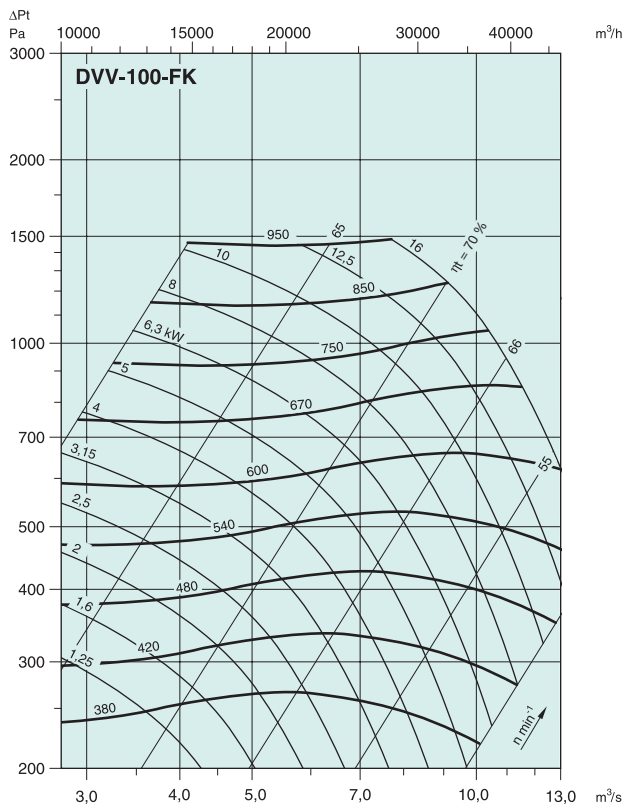
DVV-80-FK: Max. motor: IEC 180 L, J = 1,34 kgm<sup>2</sup>



DWV-100-BK1: Max. motor: IEC 200 L, J = 2,56 kgm<sup>2</sup>

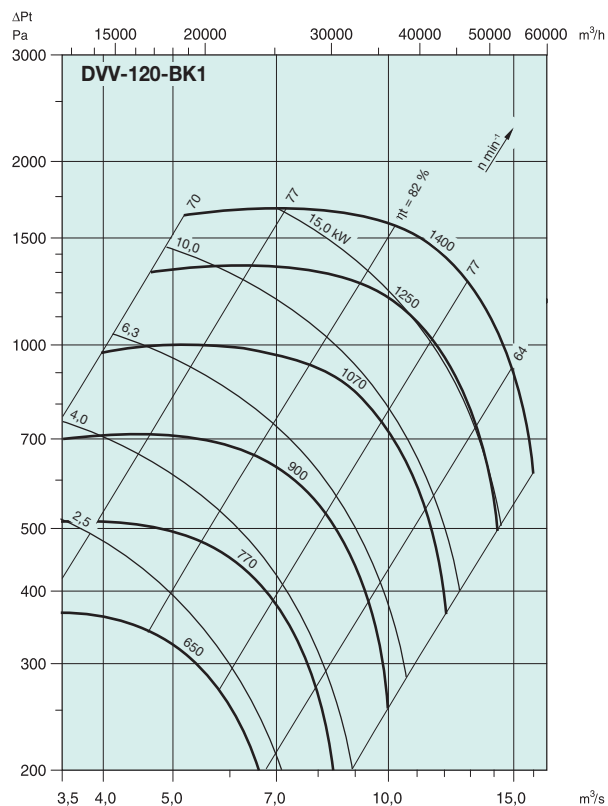


DW-100-BK2: Max. motor: IEC 200 L, J = 3,61 kgm<sup>2</sup>

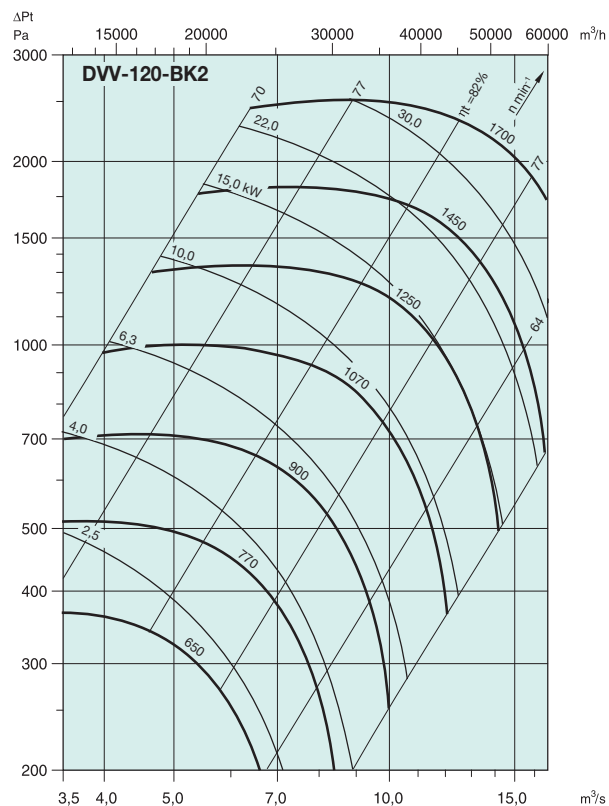


DVW-100-FK: Max. motor: IEC 200 L, J = 2,20 kgm<sup>2</sup>

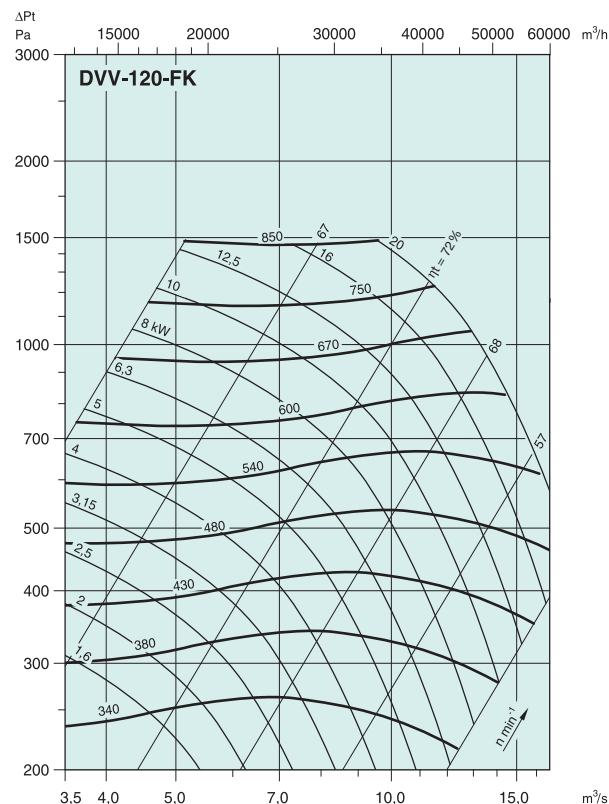
# Centrifugal Fan DVV I20



DVV-120-BK1: Max. motor: IEC 200 L, J = 4,61 kgm<sup>2</sup>



DVV-120-BK2 Max. motor: IEC 200 L, J = 6,37 kgm<sup>2</sup>

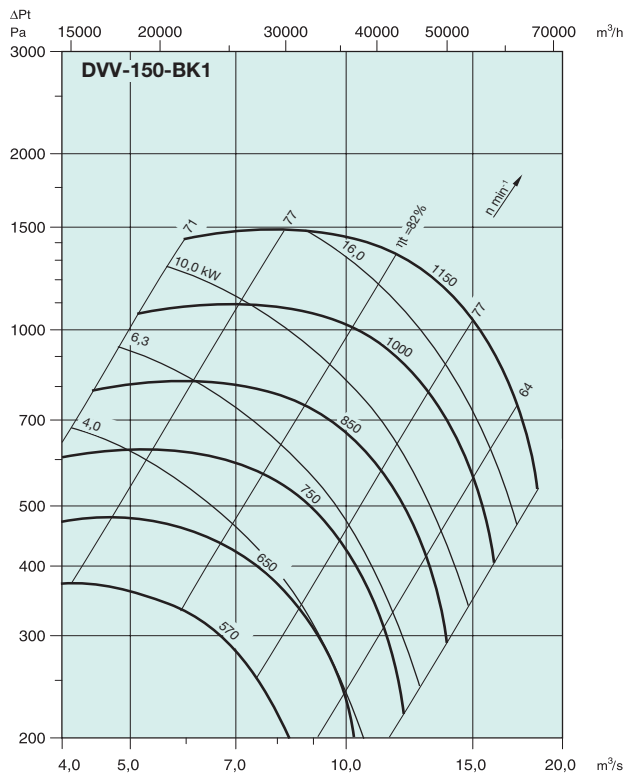


DVV-120-FK: Max. motor: IEC 200 L, J = 3,40 kgm<sup>2</sup>

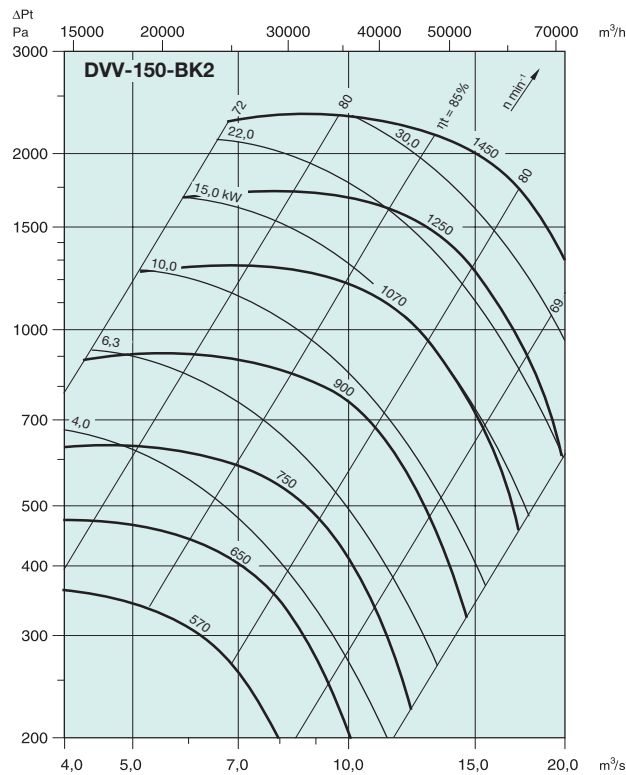


Danvent DV

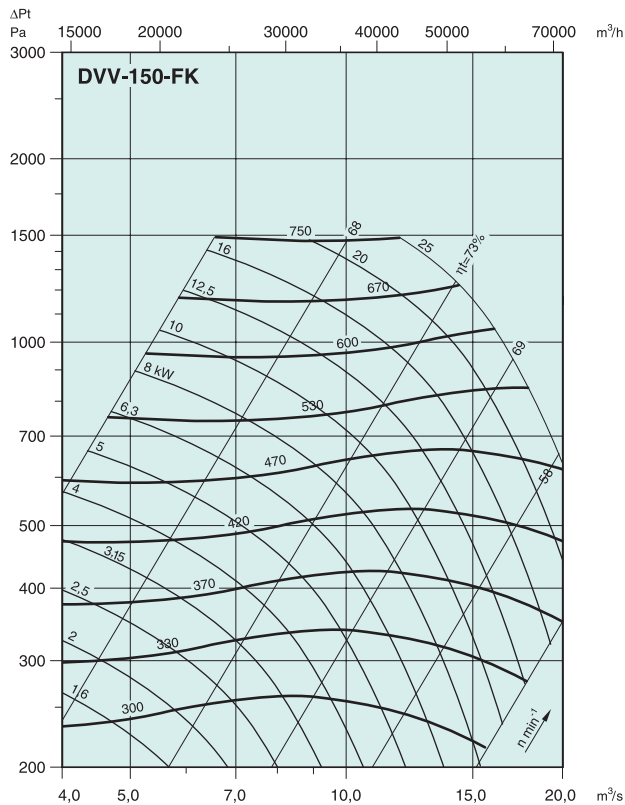
# Centrifugal Fan DVV 150



DVV-150-BK1: Max. motor: IEC 225 L, J = 7,72 kgm<sup>2</sup>



DVV-150-BK2: Max. motor: IEC 225 L, J = 9,20 kgm<sup>2</sup>



DVV-150-FK: Max. motor: IEC 225 L, J = 5,80 kgm<sup>2</sup>

# Air Distributor DVL



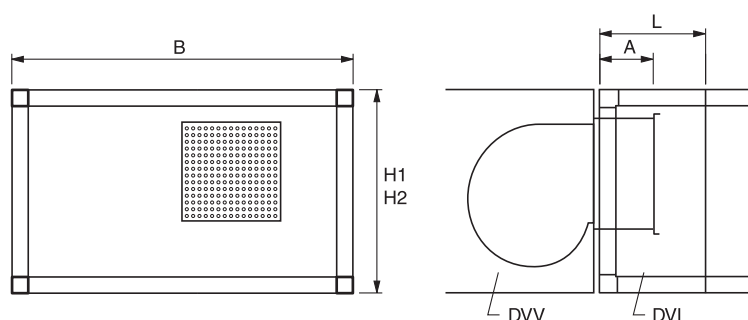
## Function:

DVL 10-150.

Used where an even distribution of the airflow is required after the DVV fan outlet. Can be necessary in cases where an air handling component such as a sound attenuator is fitted after the DVV fan.

## Construction:

DVL consists of a distributor plate fitted to the fans air outlet. The air distributor is built into the air handling unit.



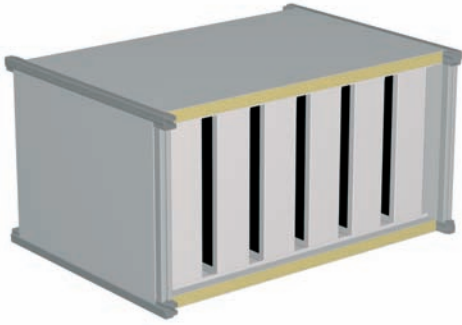
H1: Single height unit

H2: Double height unit

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-
<b>L</b>	335	335	335	335	335	335	335	335	335	335	485	485
<b>A</b>	120	120	130	160	160	180	180	220	220	220	320	320





## Function:

Sound attenuator DVD is used to reduce the sound output levels from the air handling unit to its inlets and outlets.

## Construction:

The sound attenuator is an absorption attenuator with baffles. The baffles are surface treated in order to prevent the absorption material fibres from being carried into the airflow.

## Variants:

- 1 – Baffles with standard lining. Can be used in all types of commercial ventilation plant.
- 2 – Baffles with a hard-wearing lining which is resistant to abrasions from dry cleaning. The DVD has large inspection doors enabling the baffles to be easily extracted for cleaning.
- 3 – Baffles with a synthetic lining which is suitable for wet cleaning. Each baffle is encased in a stainless steel frame. The DVD has large inspection doors enabling the baffles to be easily extracted for cleaning.

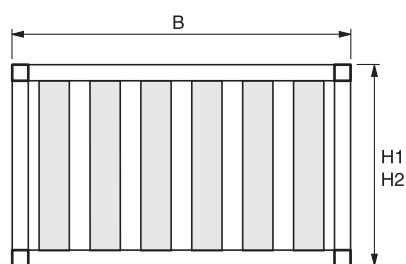
## Sound attenuation

Attenuation dB	Mid-Frequency Hz							
	63	125	250	500	1000	2000	4000	8000
<b>DVD - 900</b>	5	11	17	25	36	39	36	28
<b>DVD - 1200</b>	7	15	23	32	43	46	43	36

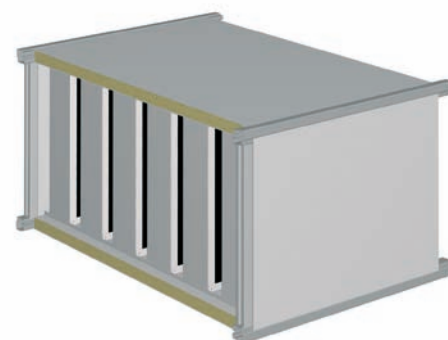
# Sound Attenuator DVD



## DVD 10-150

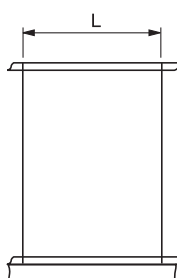
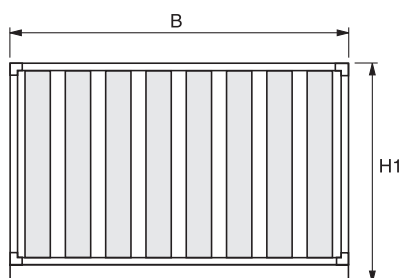


H1: Single height unit  
H2: Double height unit



Sound attenuator fitted to a single height unit.

## DVD 190-240



Sound attenuator fitted to a double height unit.

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3170	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L</b>	900	900	900	900	900	900	900	900	900	900	900	900	900	900
<b>L</b>	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

# Inspection Section DVI



## Function:

DVI is used where the possibility of service, inspection or measuring is required, before or after an air handling function.

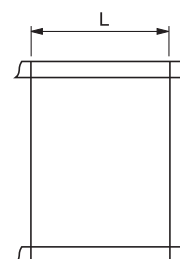
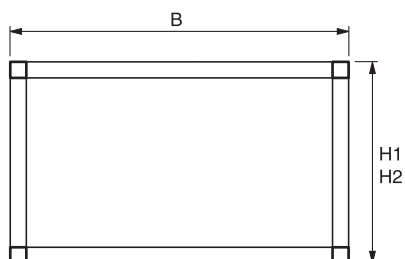
## Construction:

Inspection section DVI consists of an empty unit casing with an inspection door.

## Accessories:

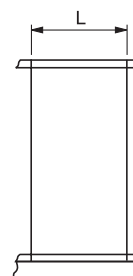
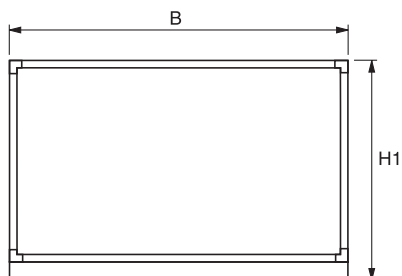
Inspection window fitted into the access door.

## DVI 10-150



H1: Single height unit  
H2: Double height unit

## DVI 190-240



## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L</b>	<b>DVI 10-150:</b> 300 - 450 - 600 - 750 - 900 - 1050 - 1200 - 1350 - 1500													
<b>L</b>	<b>DVI 190-240:</b> 300 - 450 - 600 - 750													

# Empty Section DVO



## Function:

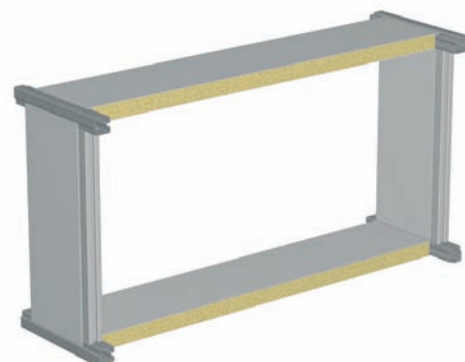
Used in units where space is required to fit a component, such as a temperature sensor; or if it is required to have the possibility of applying an extra air handling function at a later date.

## Construction:

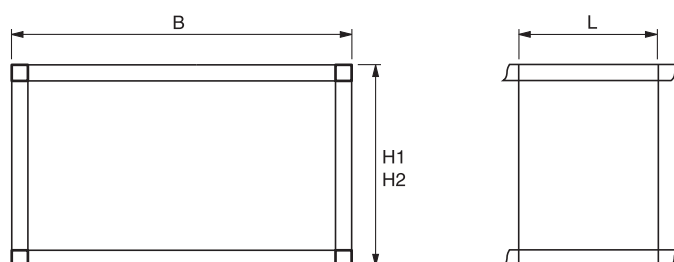
Empty section DVO consists of an empty unit casing, where the side panels are assembled with screws.

## Accessories:

Inspection window fitted into the side panel.

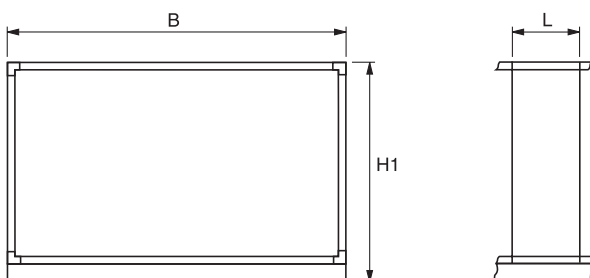


## DVO 10-150



H1: Single height unit  
H2: Double height unit

## DVO 190-240



## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890	3190	3490
<b>H1</b>	520	595	670	745	820	895	1045	1120	1270	1420	1570	1720	2170	2470
<b>H2</b>	970	1120	1270	1420	1570	1720	2020	-	-	-	-	-	-	-
<b>L</b>	150 - 300 - 450 - 600 - 750 - 900 - 1050 - 1200 - 1350 - 1500													

Inspection window cannot be fitted to the DVO when L = 150.



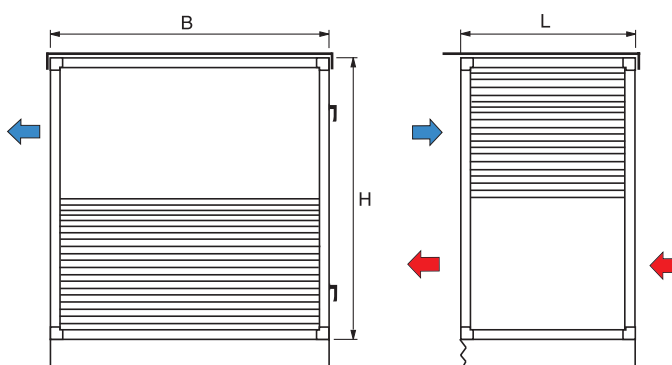
## Function:

Outdoor air section DVY is used for air intake and outlet in roof units for combinations of Danvent DV 10-50. DVY has air intake through the end of the unit, and outlet of exhaust air behind the unit, opposite the inspection side.

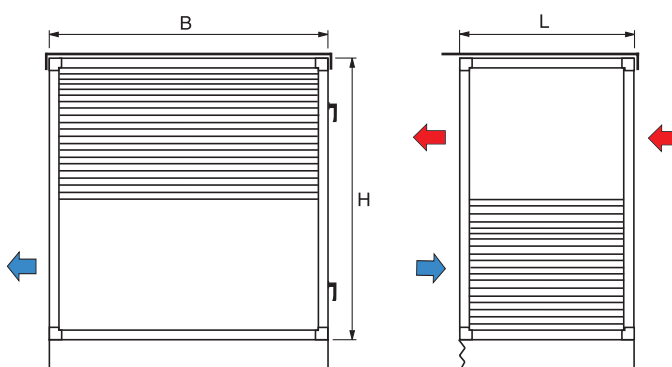
## Construction:

Outdoor air section DVY consists of an air handling unit casing with inspection door. The openings for air intake and outlet has louvers for effective protection against rain and snow.

### Type 1



### Type 2



➡ Exhaust air      Supply air ←

## Dimensions

Size	10	15	20	25	30	40	50	60	80	100	120	150
<b>B</b>	970	1120	1270	1420	1570	1720	2020	2170	2170	2370	2590	2890
<b>H</b>	970	1120	1270	1420	1570	1720	2020	2240	2540	2840	3140	3440
<b>L</b>	520	670	820	820	970	1120	1120	1420	1420	1570	1720	1720

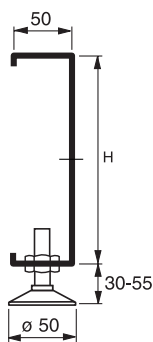
# Base Frame DVZ

## Function:

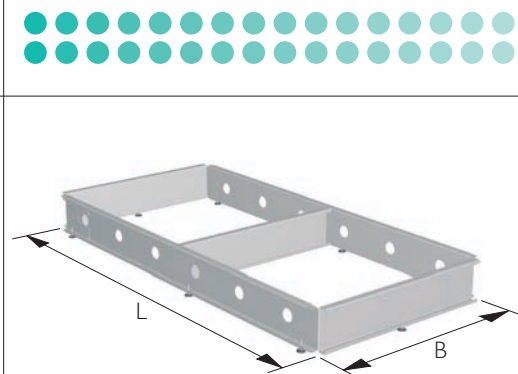
To ensure that the Danvent DV is assembled on an even and stable support, the base frame DVZ is used.

## Construction:

The base frame consists of strong, rigid galvanised steel profiles. Equipped with adjustable supporting feet for indoor units.



B	L
Unit width	Unit length
H	
Indoor unit	150 og 250
Roof unit	250



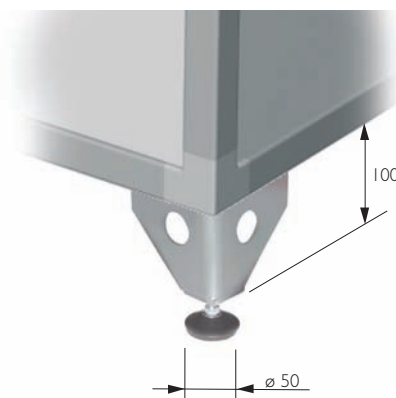
# Supporting Legs

## Function:

Danvent DV in sizes 10-40 will be supplied with supporting legs. Therefore it is possible to assemble the air handling unit on an even and stable base without an additional base frame. The air handling unit can also be supplied with base frame DVZ if necessary.

## Construction:

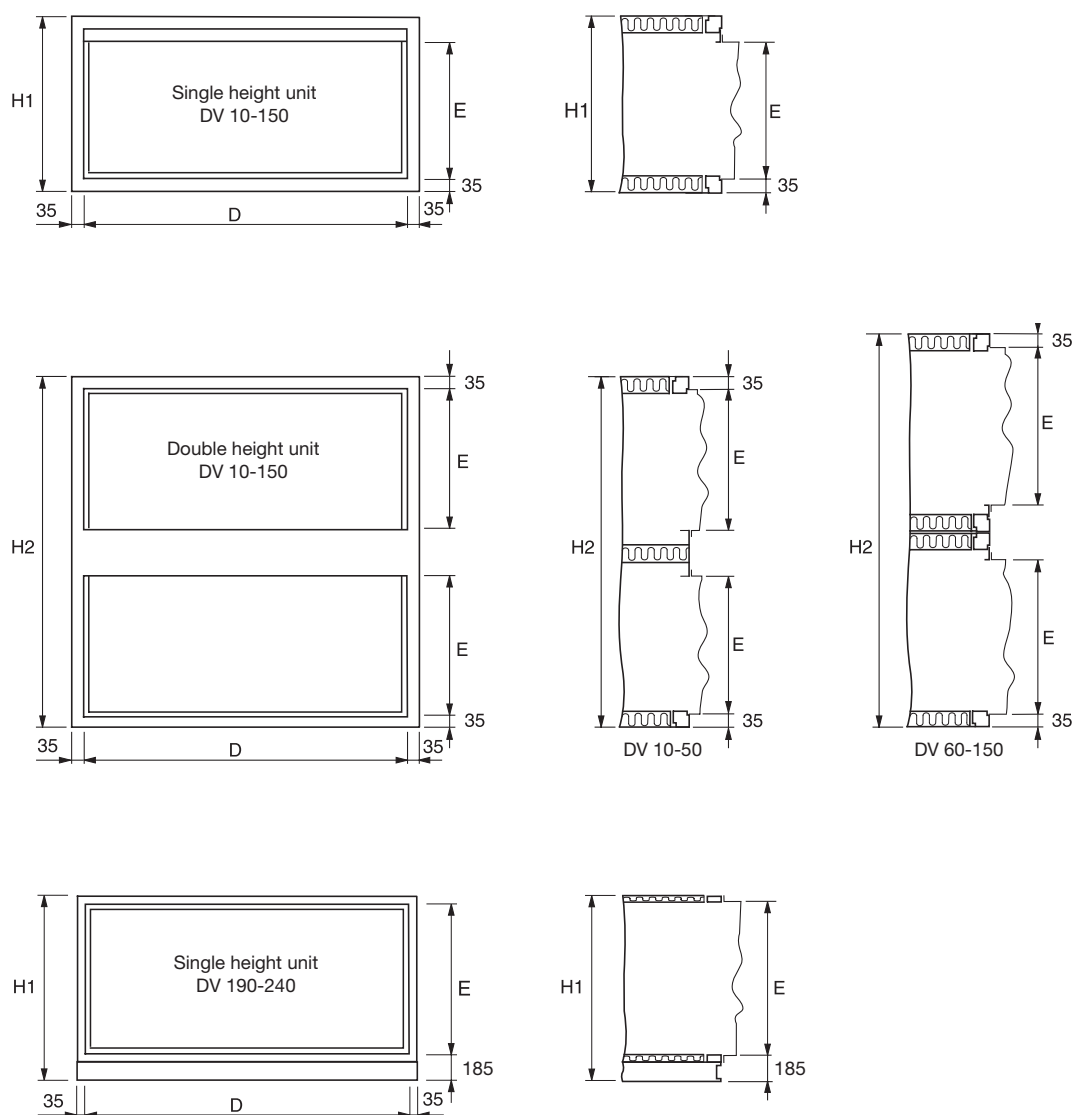
The supporting legs are made of sturdy galvanized steel, and have adjustable supporting feet.



Dimensions on the **following** unit functions

Damper DVA 190-240	See page 21	Mixing damper DVP 190-240	See page 27
Damper DVB	- - 23	Fan DVE, outlet on top, 190-240	- - 50
Mixing damper DVM	- - 25	Fan DVV, outlet	- - 60

Dimensions for ducts on all **other** unit functions:



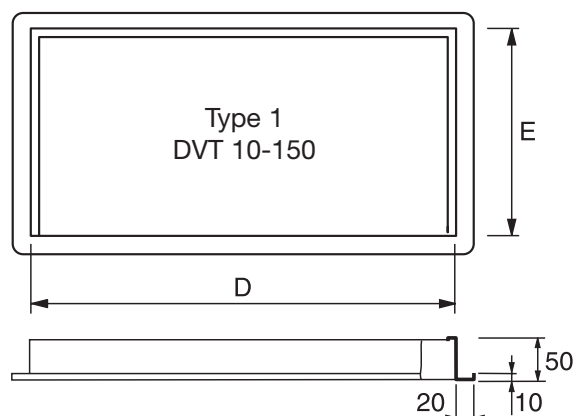
## Dimensions for ducts on other unit functions

Size	10	15	20	25	30	40	50	60	80	100	120	150	190	240
D	900	1050	1200	1350	1500	1650	1950	2100	2100	2300	2520	2820	3120	3420
E	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1950	2250

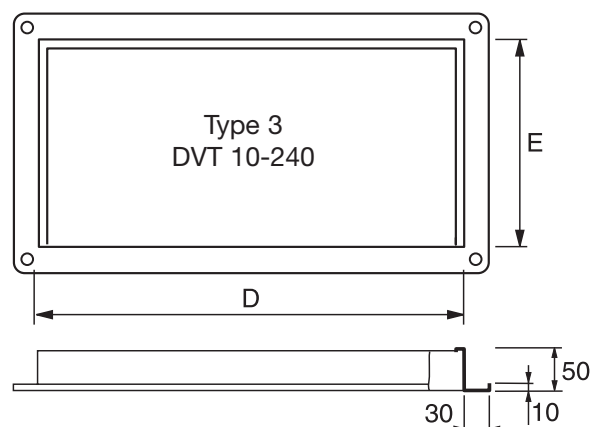
The Danvent DV can be supplied with rigid or flexible duct connection part DVT. See page 79.



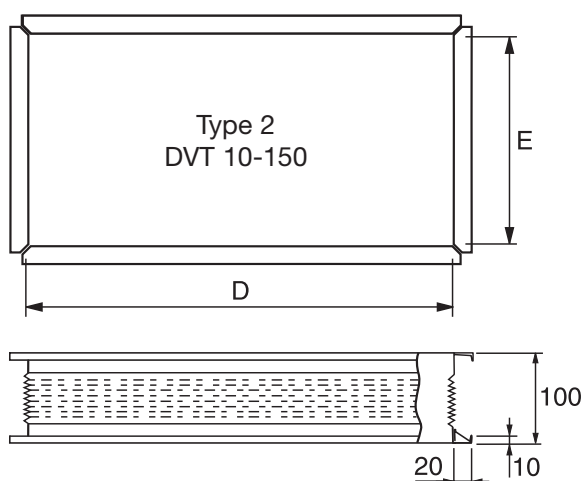
# Duct Connection Part DVT



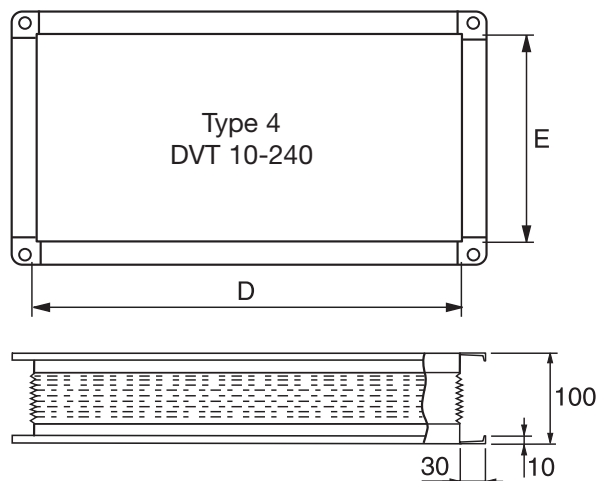
Rigid DVT for connecting to 20 mm LS profile for C-connection rail.



Rigid DVT for connecting to 30 mm EP/LSM profile with connection-holes in each corner.



Flexible DVT for connecting to 20 mm LS profile for C-connection rail.



Flexible DVT for connecting to 30 mm EP/LSM profile with connection-holes in each corner.

## Function:

Duct Connection Part DVT is used when connecting ductwork to the DV air handling unit.

## Variant:

- A – Fan DVV, outlet
- B – Damper DVA, mixing damper DVP
- C – Damper DVB, mixing damper DVM
- D – Others

## Dimensions

Size		10	15	20	25	30	40	50	60	80	100	120	150	190	240
Variant A	D	300	350	450	500	600	650	700	800	900	1000	1100	1200	-	-
	E	300	350	450	500	600	650	700	800	900	1000	1100	1200	-	-
Variant B	D	-	-	-	-	-	-	-	-	-	-	-	-	2600	2800
	E	-	-	-	-	-	-	-	-	-	-	-	-	1500	1800
Variant C	D	500	600	800	900	1100	1200	1500	1600	1700	1800	2000	2300	2600	2800
	E	200	200	300	300	300	400	400	500	600	700	700	700	1000	1200
Variant D	D	900	1050	1200	1350	1500	1650	1950	2100	2100	2300	2520	2820	3120	3420
	E	350	450	500	600	650	750	900	1000	1150	1300	1450	1600	1950	2250







Systemair A/S • Ved Milepælen 7, DK-8361 Hasselager  
Systemair A/S • Avedøreholmen 50, DK-2650 Hvidovre  
Tel. +45 87 38 75 00 • Fax +45 87 38 75 01

[www.systemair.dk](http://www.systemair.dk) • [mail@systemair.dk](mailto:mail@systemair.dk)