

DK/DN

Ductable Split-System Air Conditioners

Models 125 to 905



12 to 83 kW



12.4 to 83.8 kW



General Specifications (continued)

Refrigerant circuits

The models DN 125 to 405M are supplied with one refrigerant circuit and the models DN 405 to 905 with **two independent refrigerant circuits**.

Each circuit is supplied with :

- Automatic reset low pressure (LP) switch.
- LP & HP tapping points accessible from exterior of the unit.
- Filter-drier.
- Sight glass.
- Suction accumulator.
- 4-way cycle reversal valve (heat pump version).
- Capillary expansion device for models DN 125 to 185.
- Thermostatic expansion valve for models DN 205 to 905.
- Non-return valves.
- Stop valve (models DN 125 to 185).

The models DN 125 to 185 are **charged with refrigerant** and the models DN 205 to 905 with nitrogen to protect the circuits.

The refrigerant connections are of **flare type** (models DN 125 to 185) and **sweat type** (models 205 to 905).

Electrical box

All electrical equipment required for proper unit operation is located in a weatherproof electrical control box including :

- **Main disconnect switch** (wired but not mounted).
- Control circuit transformer.
- **Phase controller** (rotation and missing phase control).
- Outdoor motor automatic reset thermal protection.
- Indoor motor thermal relay or magneto-thermal circuit breaker.
- Indoor motor contactor.
- Outdoor motor contactor(s).
- Compressor contactor(s).
- Manual reset high pressure (HP) switch.
- Low ambient kit (**frequency inverter**) on models 405M, 755 & 905.
- Electronic controls by **CAC controller**.

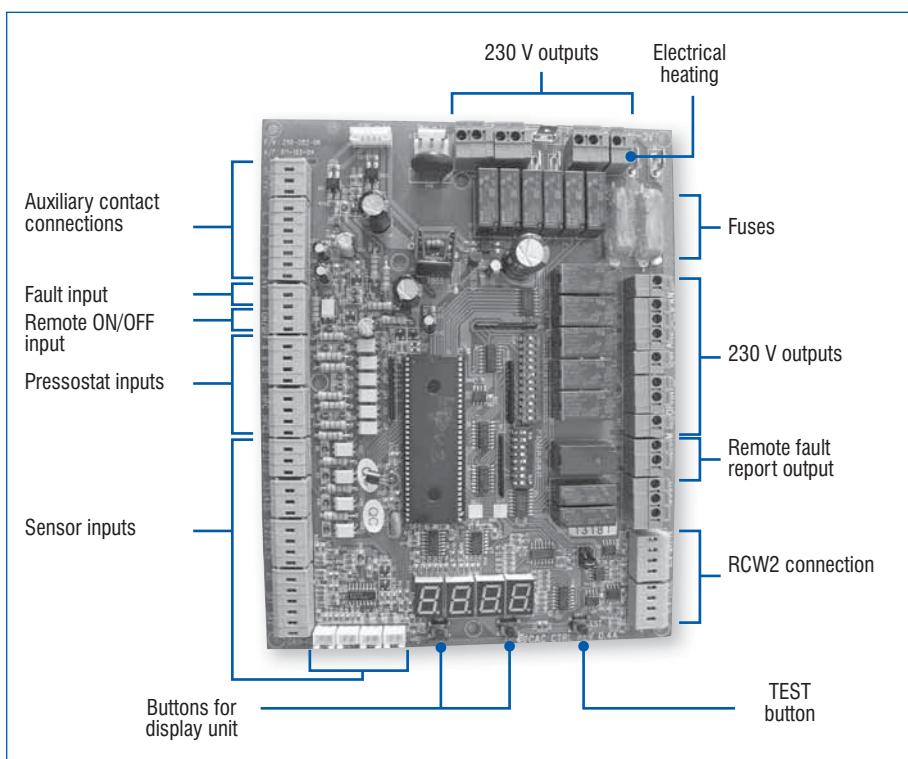
Options and Accessories

- **Electric heater kit** (field installed) for indoor units.
- **High static motor kit** (factory installed) for indoor units, models 305 to 605.

- **Low ambient kit** by fan speed controller (factory installed) for outdoor units (standard on models DN 405M, 755 and 905).
- **RCW2** electronic programmable controller.

Controls

Standard CAC controller

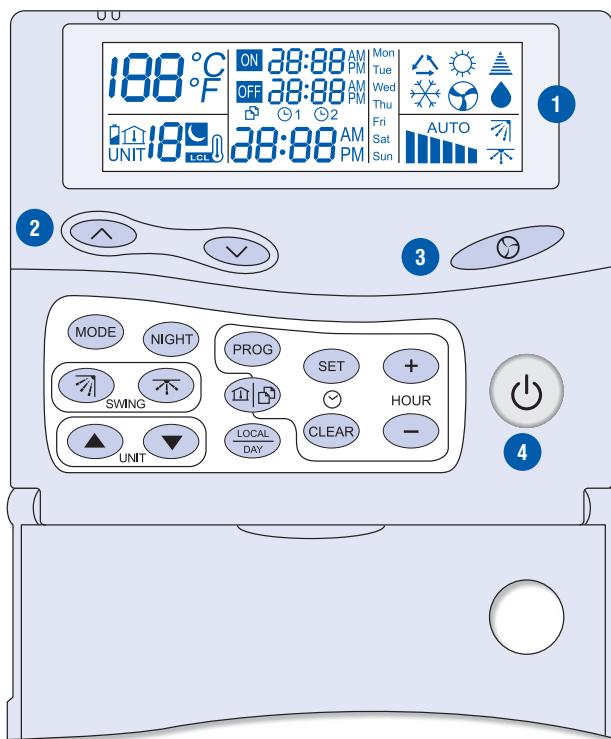


Main features :

- Intelligent microprocessor control.
- 4-digit display - shows all status, alarm and sensor information.
- PI compressor and electric heat control (two stages).
- Anti-short cycle control.
- Intelligent de-ice - automatically and continuously adjusts de-ice time to improve comfort and optimize performance under all conditions.
- Alarm log - stores 10 previous alarms even after power cut to assist diagnostics.
- Random restart after power failure - avoids simultaneous starting.
- Test mode - simple one touch control to test in all operating modes.
- Alarm output - voltage free contact for remote monitoring.
- Can be controlled by voltage free contact or electronic thermostat.

Controls (continued)

Optional RCW2 electronic programmable controller



Main features :

- Can be used to control up to 15 units with independent setpoints and programming.
- Additional «global control» through zone/unit «0» to control all the 15 units with the same parameters at the same time.
- 2 programs available per day (2 «On» Times and 2 «OFF» Times).
- 7 day programming.

Note : RCW2 can be supplied only with CAC controller.

1	Display screen.
2	Keys for raising and lowering the set temperature.
3	Ventilation mode selection (only for DK/DN 125, 155, 185) : ■ Low speed. ■■ Medium speed. ■■■ High speed. AUTO Automatic speed selection.
4	ON/Standy.
	Accessing the time setting mode.
	Advancing the time setting.
	Retarding the time setting.
	Clearing memory of programmed time settings in programming mode.
	Day of the week selection key or sending «I feel» local temperature setting.
	Programming mode key.
	«Copy» key, enabling zone parameters to be duplicated for other zones.
	Operating mode selection.
	Inactive key.
	Current zone setting : zone above.
	Current zone setting : zone below.
	Inactive key.
	Inactive key.

Operating Limits

Cooling mode

Outdoor unit - DN	125 to 305	405M	405 to 605	755 & 905
Min. outdoor temperature standard version	15 °C	-10 °C (*)	15 °C	-10 °C(*)
Min. outdoor temperature with optional low ambient kit	-10 °C	Not applicable	-10 °C	Not applicable
Max. outdoor temperature	+46 °C	+46 °C	+46 °C	+46 °C

Indoor unit - DK	125 to 305	405M	405 to 605	755 & 905
Min. indoor temperature dry bulb/wet bulb	21 °C/15 °C	21 °C/15 °C	21 °C/15 °C	21 °C/15 °C
Max. outdoor temperature dry bulb/wet bulb	32 °C/23 °C	32 °C/23 °C	32 °C/23 °C	32 °C/23 °C

Heating mode

Outdoor unit - DN	125 to 305	405M	405 to 605	755 & 905
Min. outdoor temperature	-10 °C	-10 °C	-10 °C	-10 °C
Max. outdoor temperature dry bulb	19 °C	19 °C	19 °C	19 °C

Indoor unit - DK	125 to 305	405M	405 to 605	755 & 905
Max. indoor temperature dry bulb	27 °C	27 °C	27 °C	27 °C

(*) Low ambient kit is supplied as standard on these units.

The low ambient kit (fan speed controller) modulates the outdoor fan rotational speed in order to allow the unit to operate, in cooling mode, with ambient outdoor temperature down to -10 °C.

Technical Data (continued)

MODELS	125V	125	155V	155	185	205	255	305	405M	405	505	605	755	905
INDOOR FANS														
Number of fans	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Type														
Drive type		Direct					Belt with variable pitch pulley							
Max fan rpm - Standard drive	rpm	1300	1300	1300	1300	1100	1200	1200	800	900	900	750	800	910
Max fan rpm - High static drive	rpm	-	-	-	-	-	-	-	900	950	950	1100	900	-
INDOOR MOTOR														
Nominal power input - Standard drive	kW	0.58	0.58	0.58	0.58	1.1	1.1	1.1	1.5	1.5	1.5	2.2	2.2	4.0
Nominal power input - High static drive	kW	-	-	-	-	-	-	-	1.5	2.2	2.2	3.0	3.0	-
Power supply (V/Ph/Hz)		230/1/50					400/3/50							
Rotational speed - Standard drive	rpm	1380	1350	1380	1350	1200	1410	1410	1420	1420	1420	1425	1425	1435
Rotational speed - High static drive	rpm	-	-	-	-	-	-	-	1420	1390	1390	1430	1430	-
Nominal air flow	m ³ /h	2100	2100	2850	2850	3500	4500	4680	5760	7560	7560	9360	9720	12000
OUTDOOR FANS														
Number of fan	1	1	1	1	1	1	1	1	1	1	2	2	2	2
Type														
Propeller														
Number of blades	5	5	3	3	3	3	3	3	7	3	3	3	7	7
Fan diameter	mm	560	560	610	610	610	610	610	800	610	610	610	800	800
Drive type														
Direct														
Nominal air flow	m ³ /h	5400	5400	9000	9000	9000	9000	9000	16000	2x9000	2x9000	2x9000	2x16000	2x16000
OUTDOOR MOTORS														
Total power input	kW	0.42	0.42	0.88	0.88	0.88	0.88	0.88	1.00	2x0.88	2x0.88	2x0.88	2x1.00	2x1.00
Rotational speed	rpm	900	900	850	850	850	850	850	670	850	850	850	670	670
Power supply (V/Ph/Hz)			230/1/50						400/3/50	230/1/50			400/3/50	

Electrical Data

MODELS	125	155	185	205	255	305	405M	405	505	605	755	905	
Power supply													
COOLING + FAN (OR HEAT PUMP HEATING)													
Max current	A	14	17	18	19	21	25	32	37	43	50	56	67
Total starting current	A	69.5	80	106	107	96	133	121	124	118	159	192	234
Fuse rating aM		16	20	25	25	25	32	40	40	50	63	63	80
Fuse rating ASE/VDE *		16	20	25	25	25	35	35	50	50	63	63	80
Power supply cable *	mm ²	5 G 2.5	5 G 2.5	5 G 2.5	5 G 2.5	5 G 4	5 G 6	5 G 10	5 G 10	5 G 16	5 G 16	5 G 25	5 G 35
DK/DN CONNECTION CABLES													
Max current	A	1.7	2.4	5	2.8	2.8	3.5	4.8	4.8	6.6	6.6	8.4	11.7
Cable section	mm ²	7 G 1.5	7 G 1.5	4 G 2.5									

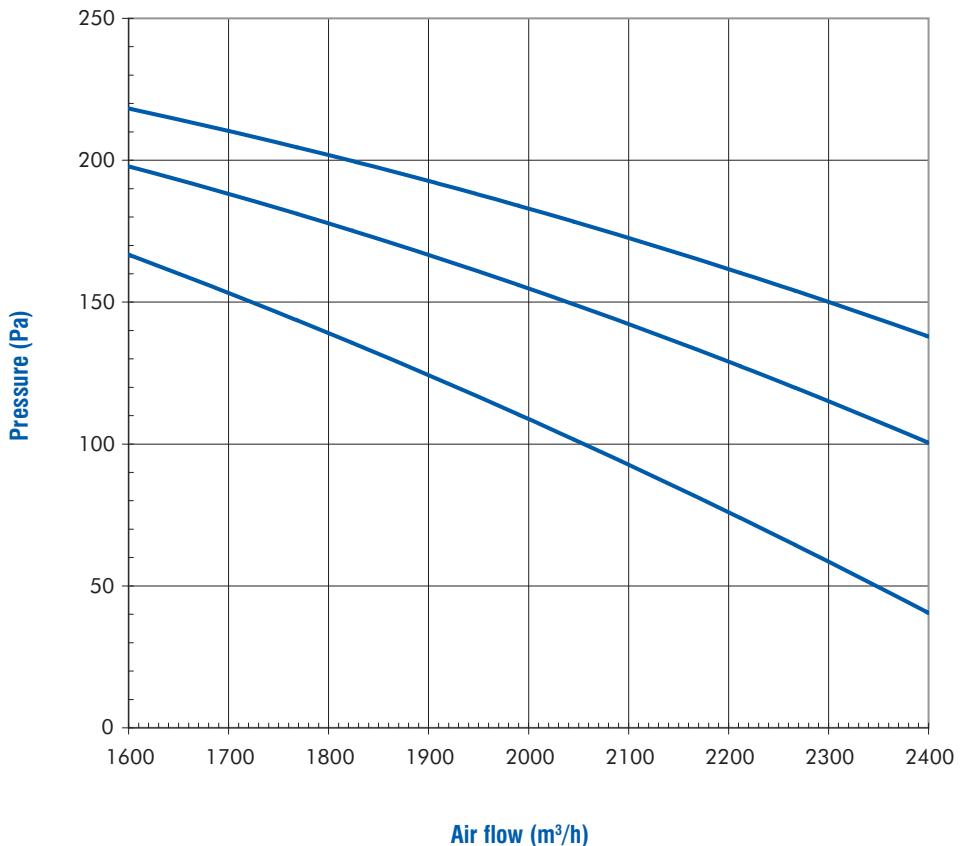
(*) Data given for information only. They must be checked and adjusted according to the applicable standards : they depend on the system installed and the cables used.

Optional Electric Heater Data

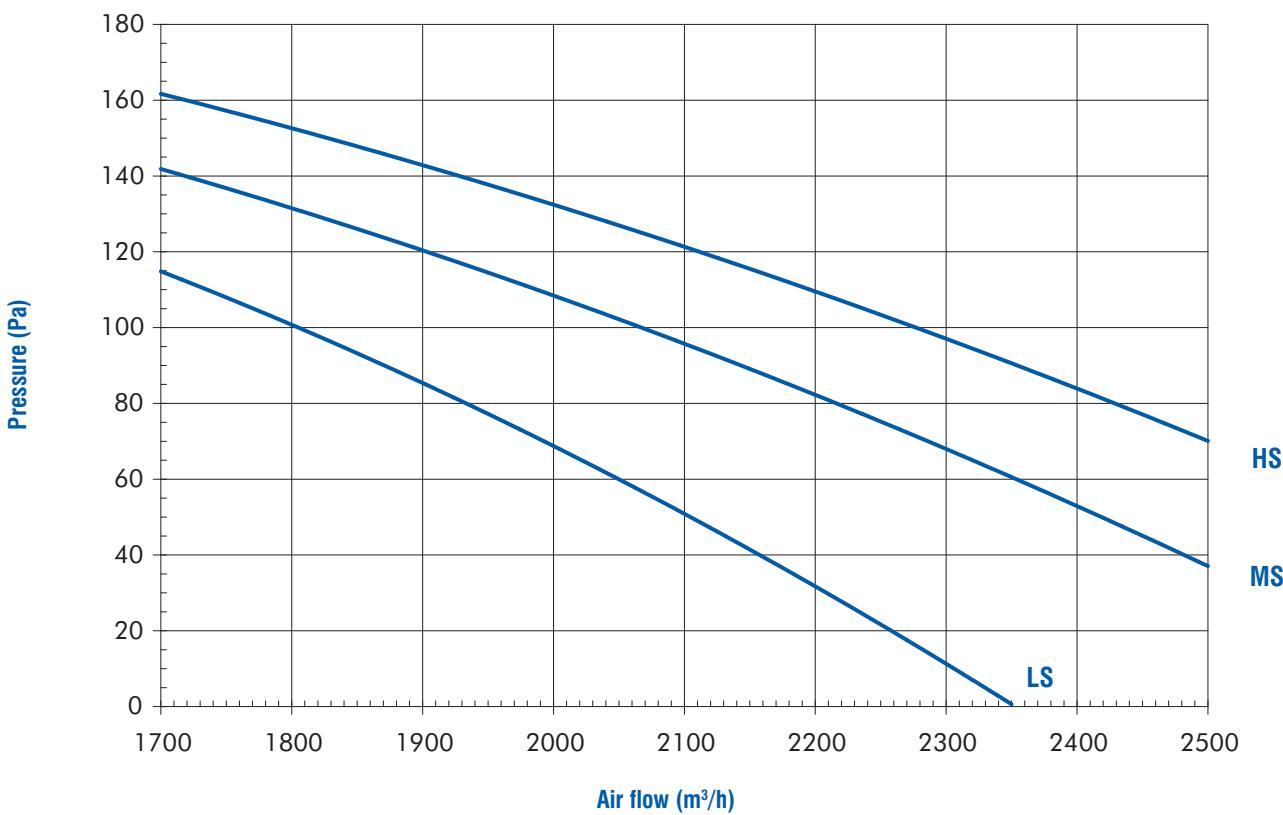
Models	Capacity (kW)	Number of stages	Power supply cable section (400 V/3 Ph/50 Hz+N+Earth)	G9 protection
125V	9	1	1.5 to 2.5 mm ² max.	16 A
125	6	1	1 to 2.5 mm ² max.	10 A
	8.1	1	1.5 to 2.5 mm ² max.	16 A
155V	10.5	1	2.5 to 4 mm ² max.	20 A
155	6	1	1 to 2.5 mm ² max.	10 A
	8.1	1	1.5 to 2.5 mm ² max.	16 A
185	12	1	4 mm ²	20 A
205	12	2 (6 + 6)	4 mm ²	20 A
255	18	2 (9 + 9)	6 mm ²	32 A
305	18	2 (9 + 9)	6 mm ²	32 A
405	21	2 (9 + 12)	10 mm ²	40 A
505	30	2 (12 + 18)	16 mm ²	50 A
605	30	2 (12 + 18)	16 mm ²	50 A
755	30	2 (12 + 18)	16 mm ²	50 A
905	30	2(12 + 18)	16 mm ²	50 A

Indoor Fan Curves

DK 125V - Nominal air flow 2100 m³/h

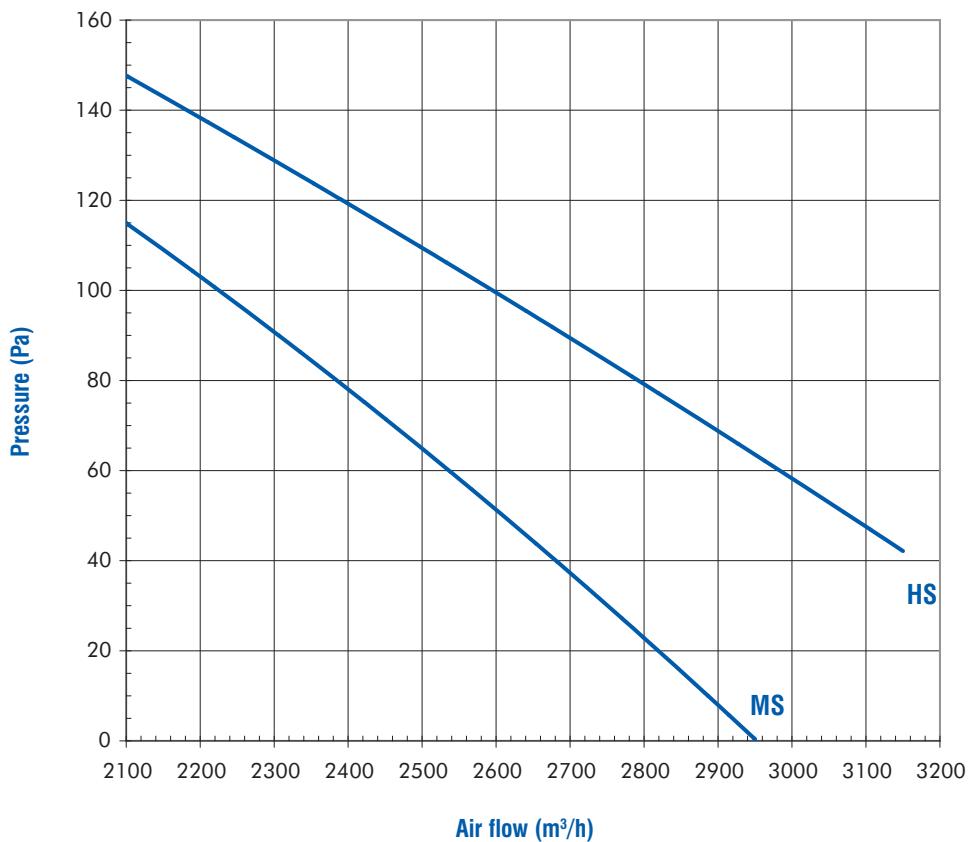


DK 125 - Nominal air flow 2100 m³/h

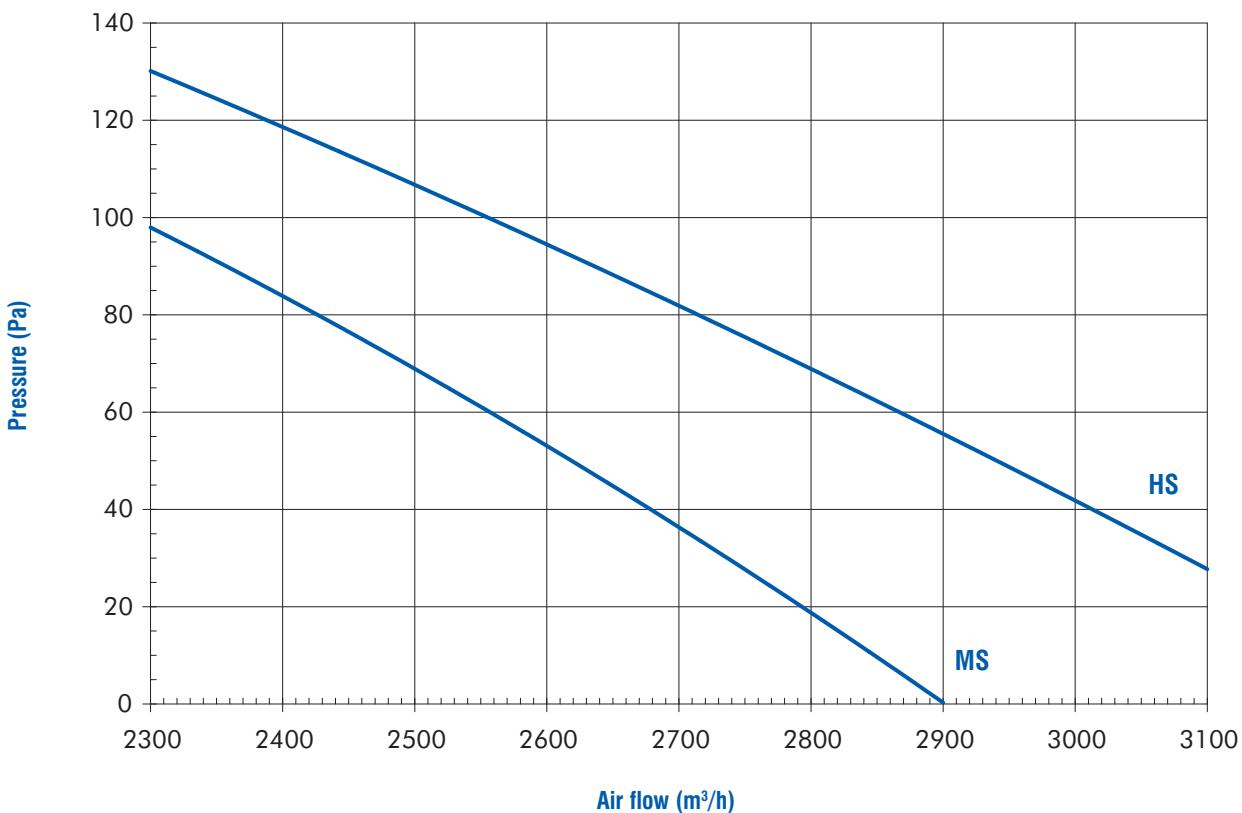


Indoor Fan Curves

DK 155V - Nominal air flow 2850 m³/h

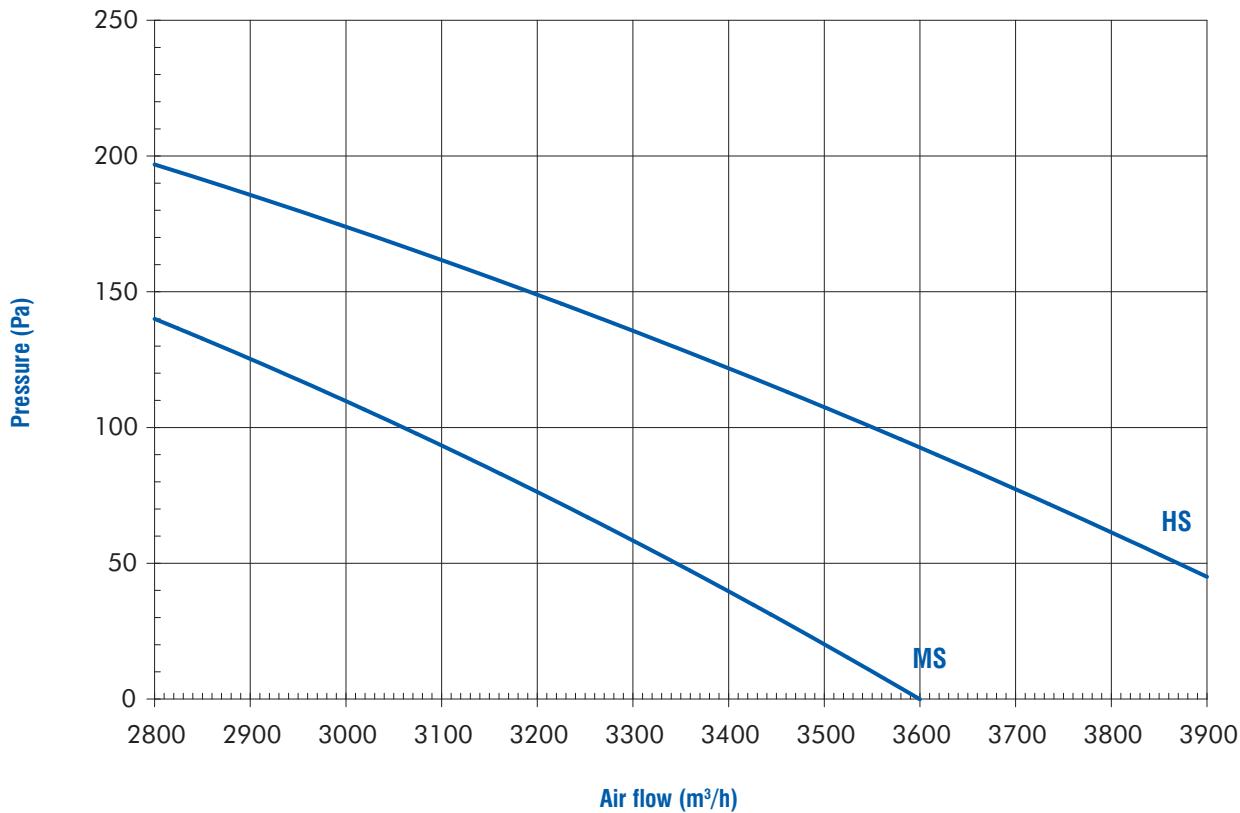


DK 155 - Nominal air flow 2850 m³/h

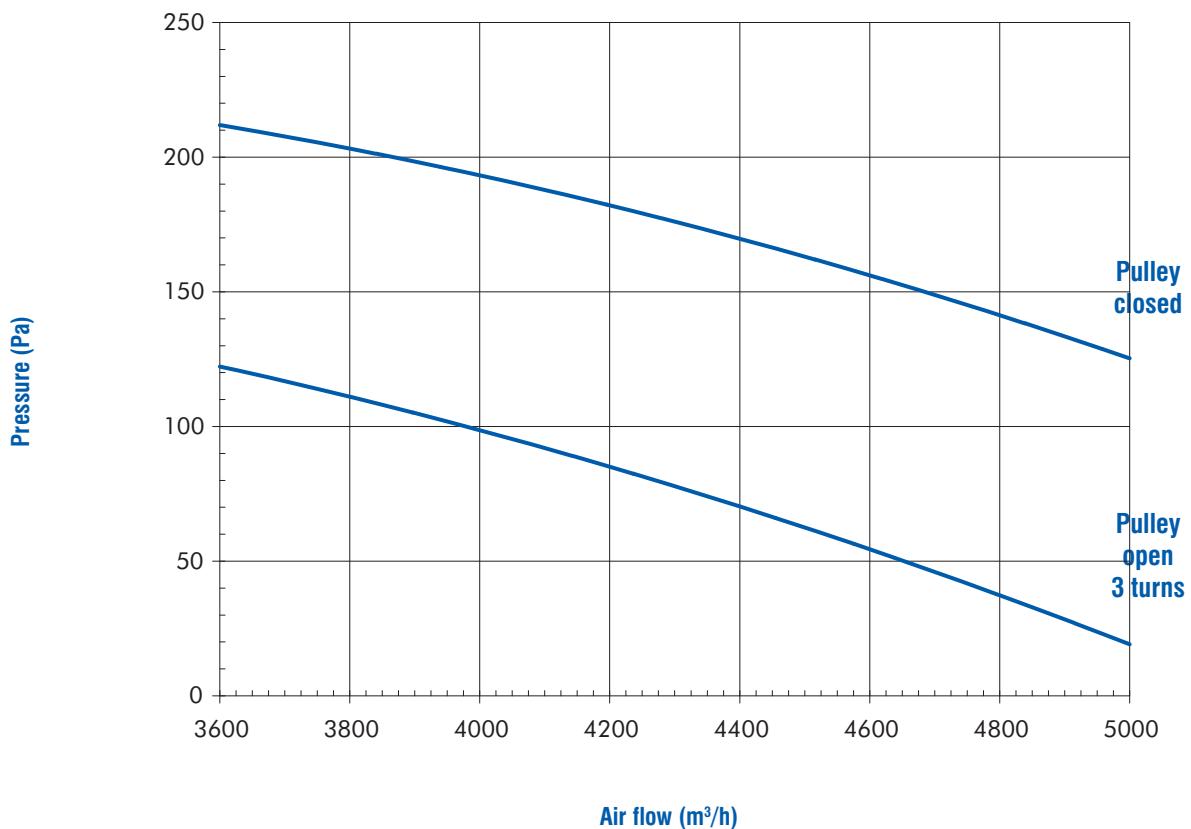


Indoor Fan Curves

DK 185 - Nominal air flow 3500 m³/h

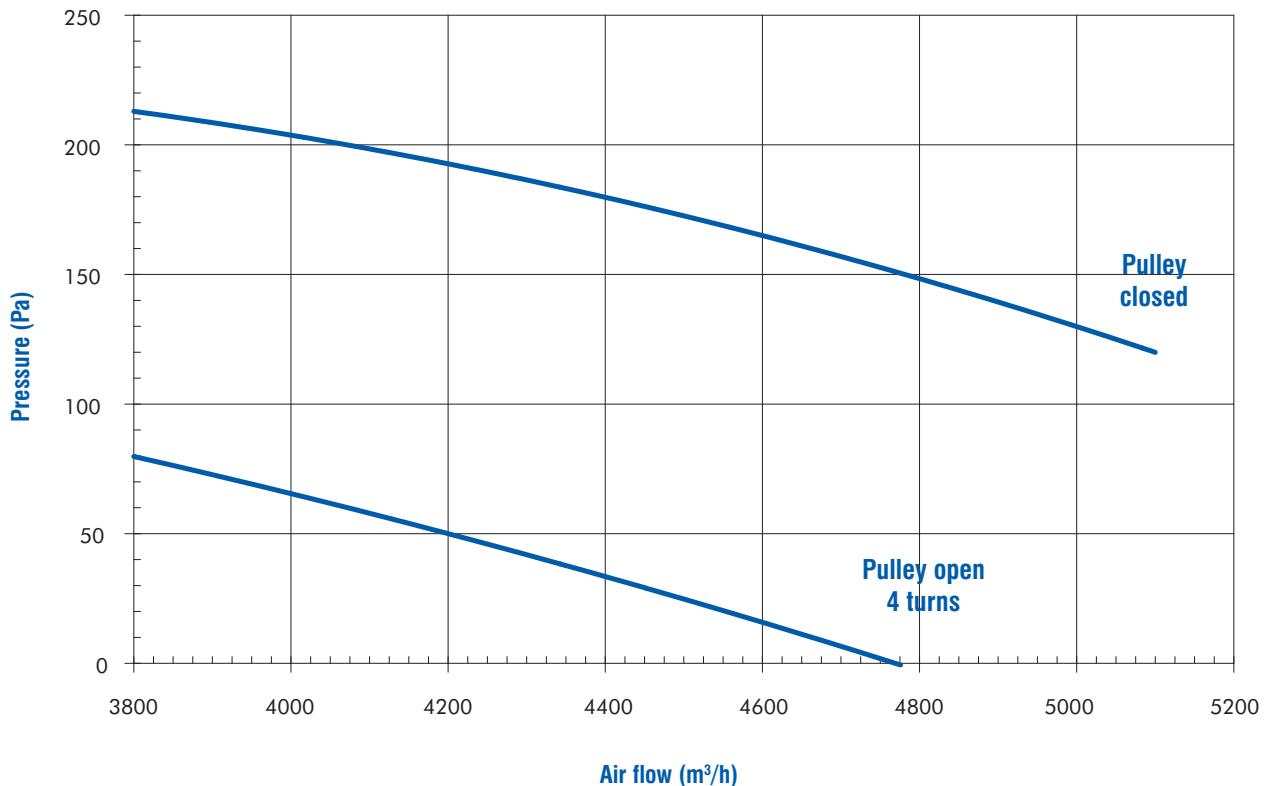


DK 205 - Nominal air flow 4500 m³/h

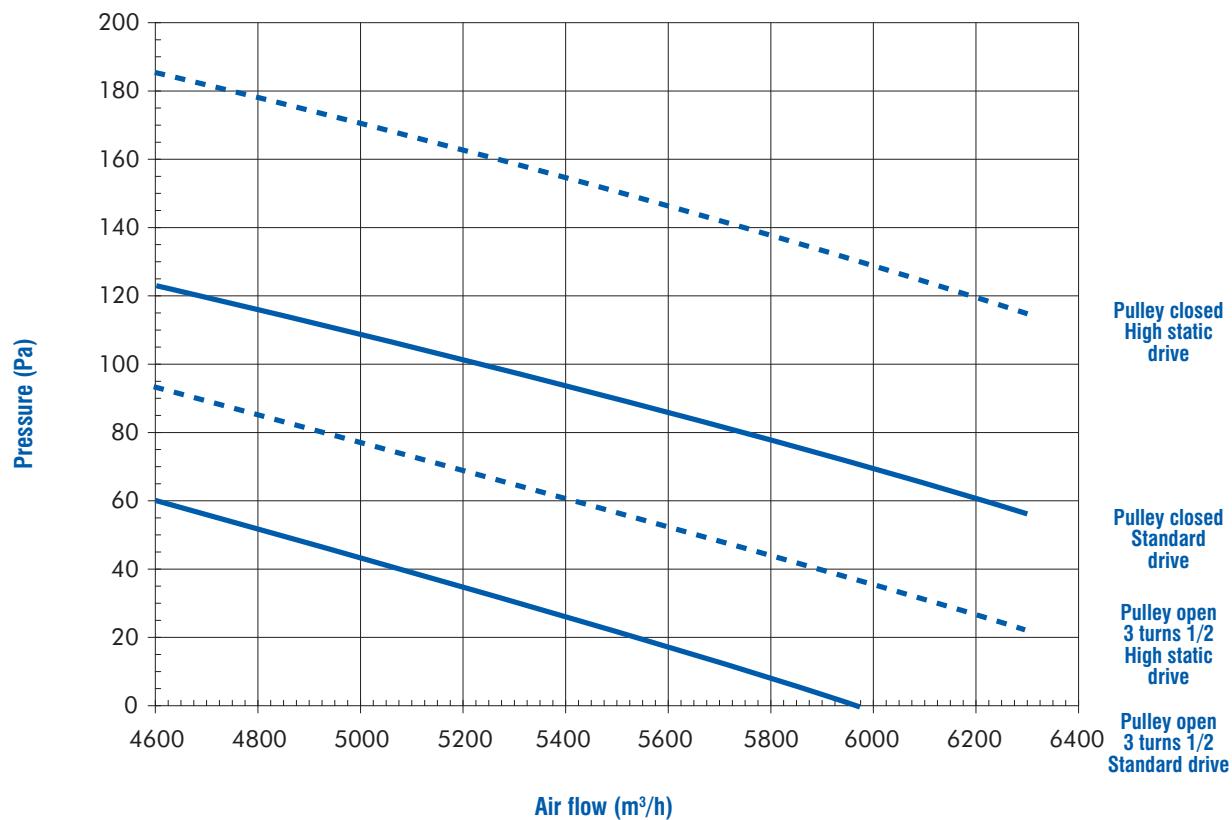


Indoor Fan Curves

DK 255 - Nominal air flow 4680 m³/h

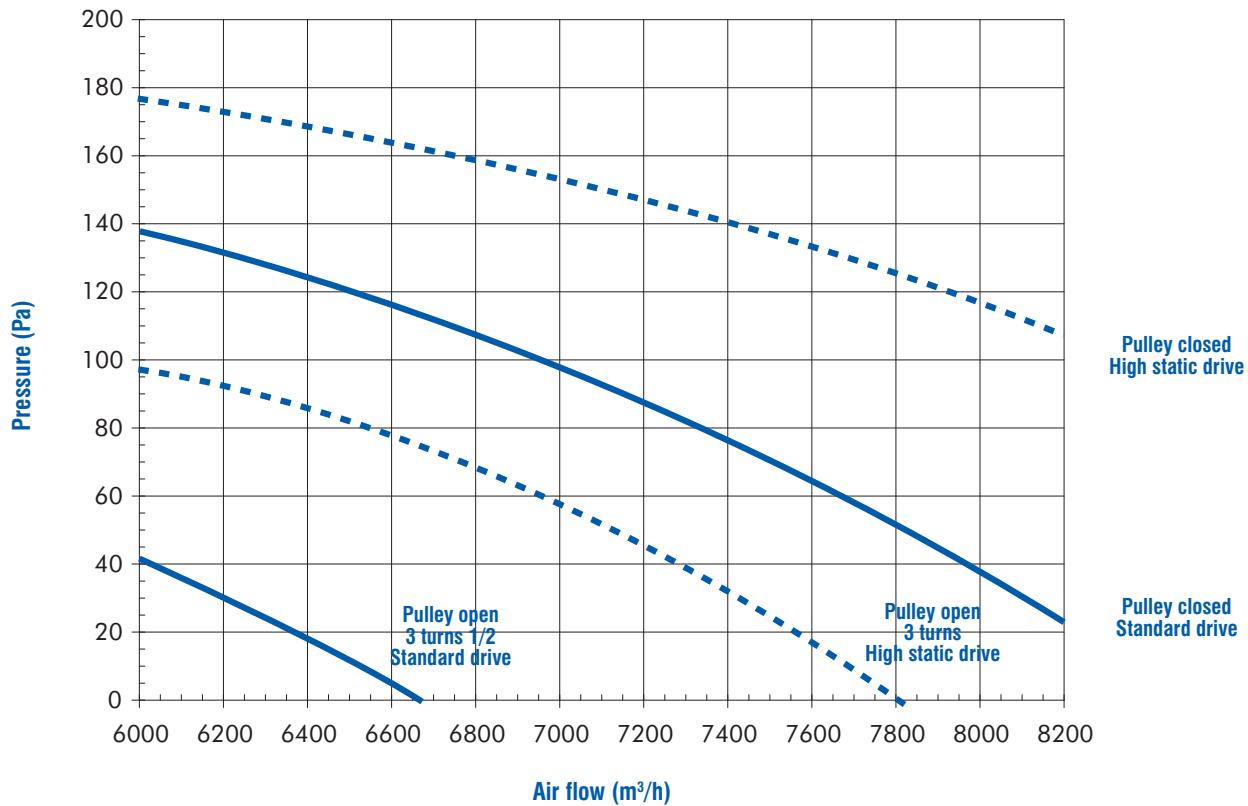


DK 305 - Nominal air flow 5760 m³/h

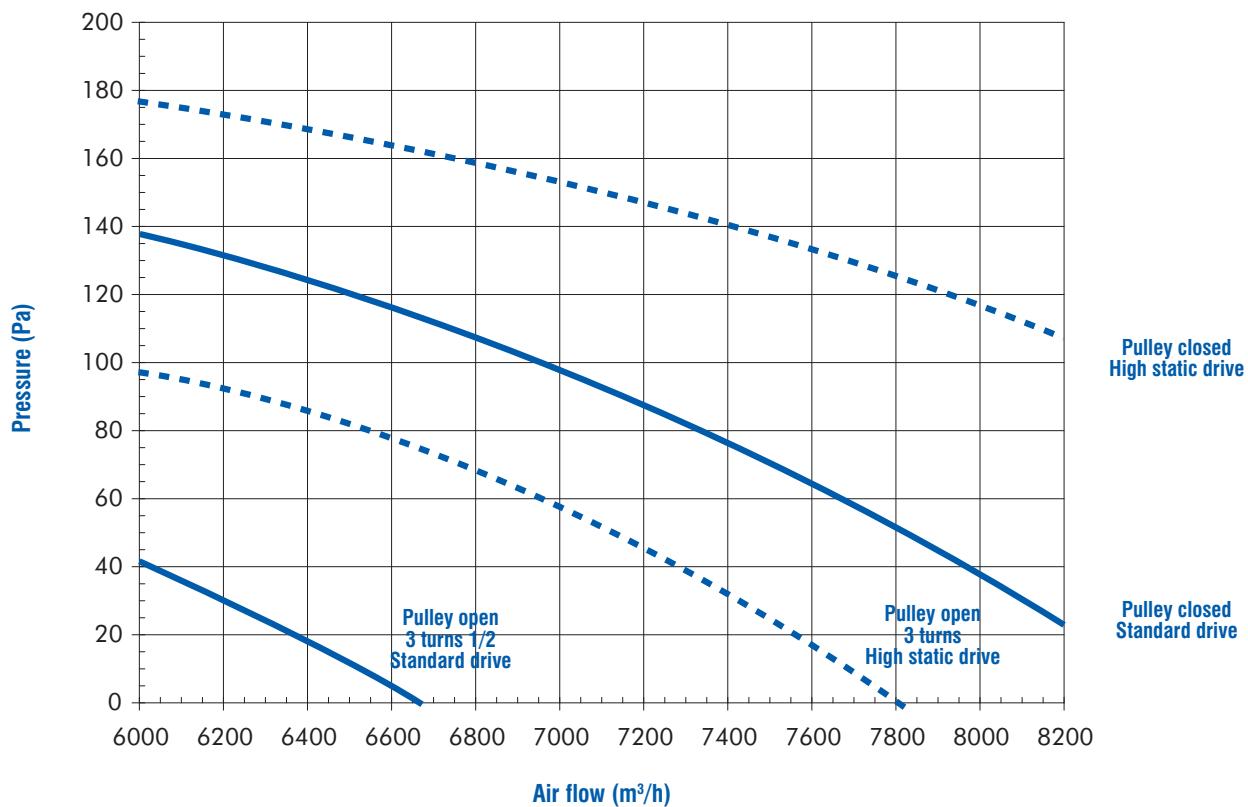


Indoor Fan Curves

DK 405M - Nominal air flow 7560 m³/h

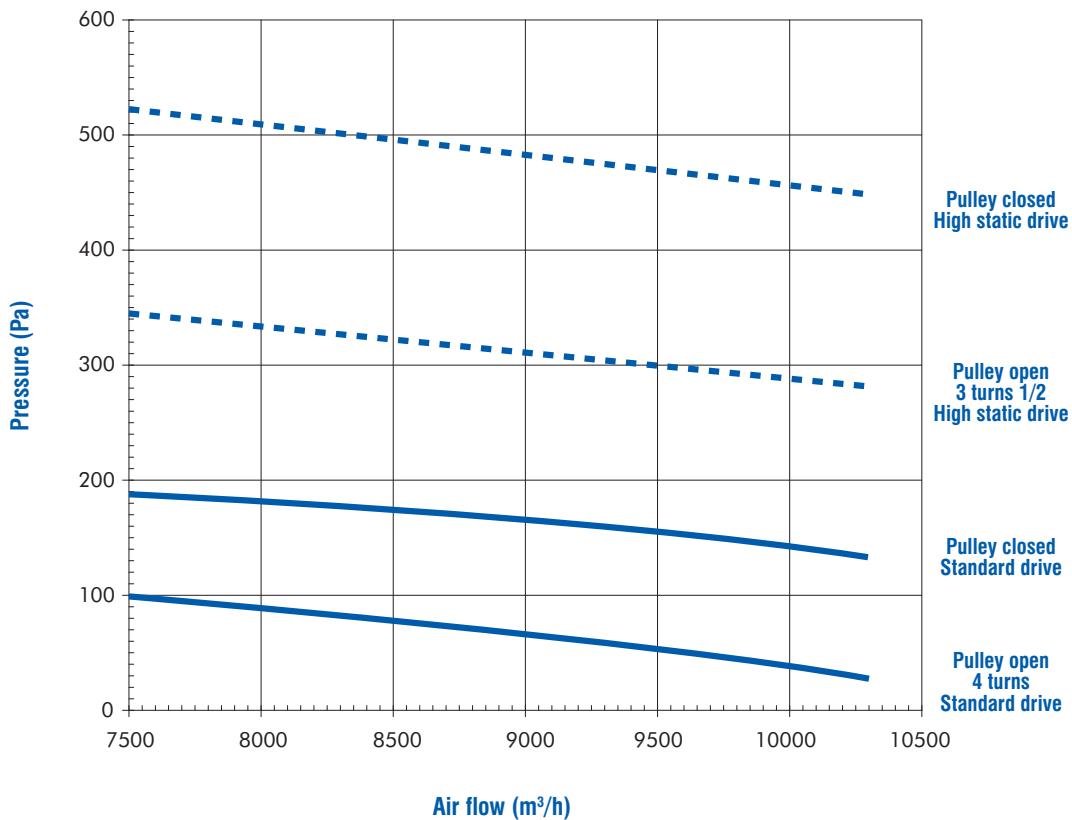


DK 405 - Nominal air flow 7560 m³/h

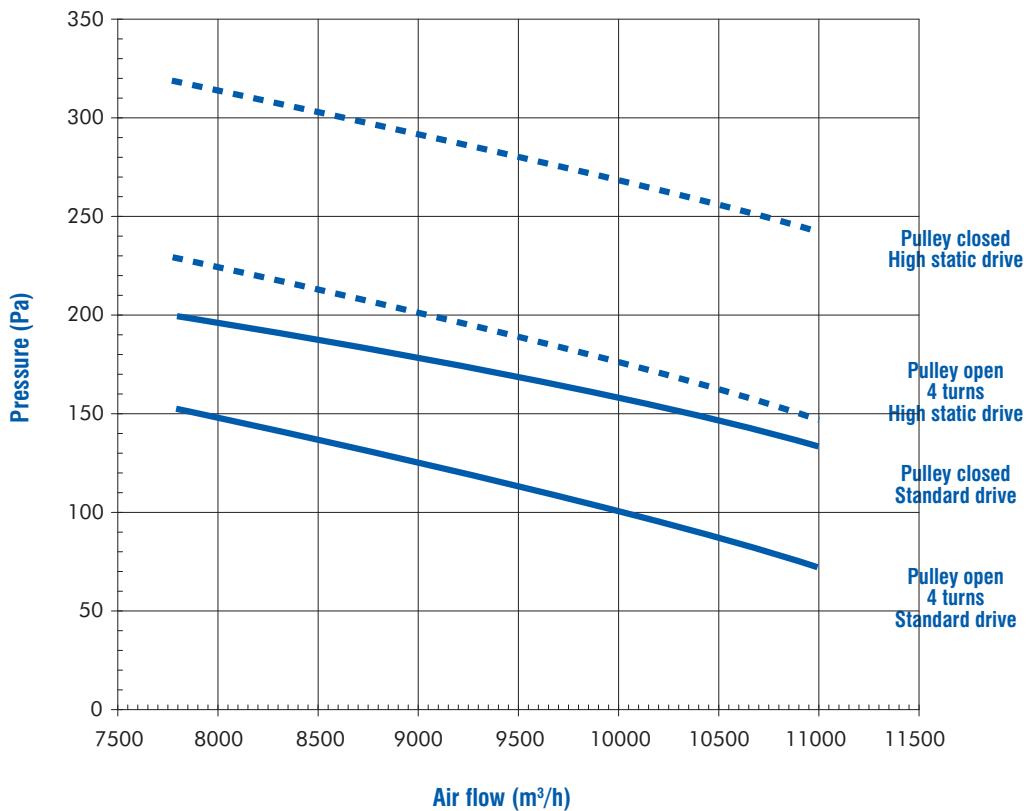


Indoor Fan Curves

DK 505 - Nominal air flow 9360 m³/h

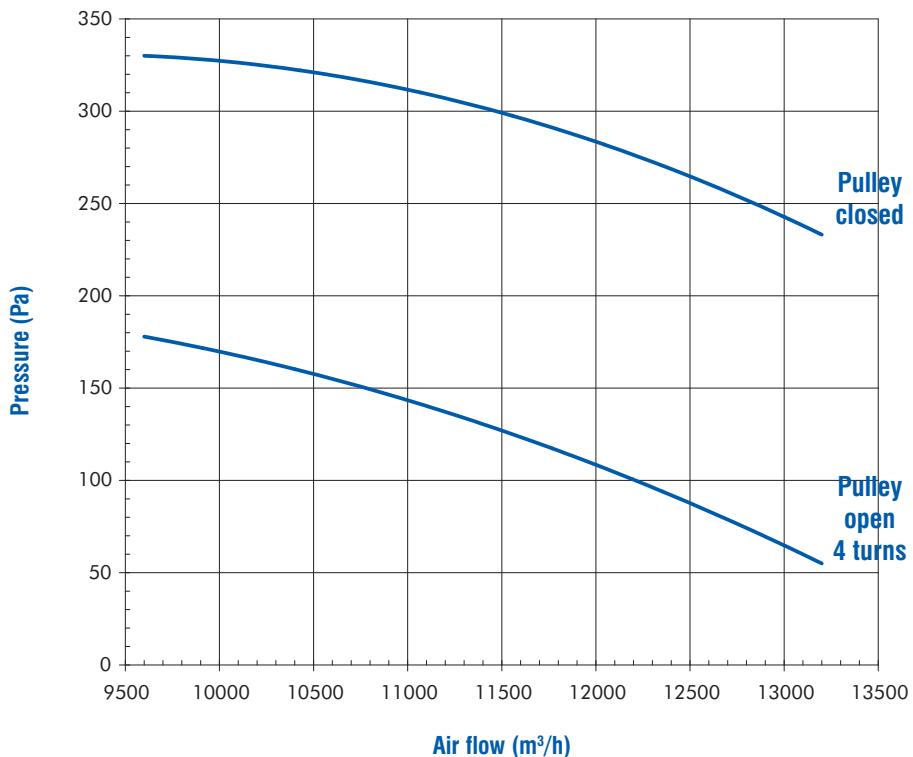


DK 605 - Nominal air flow 9720 m³/h

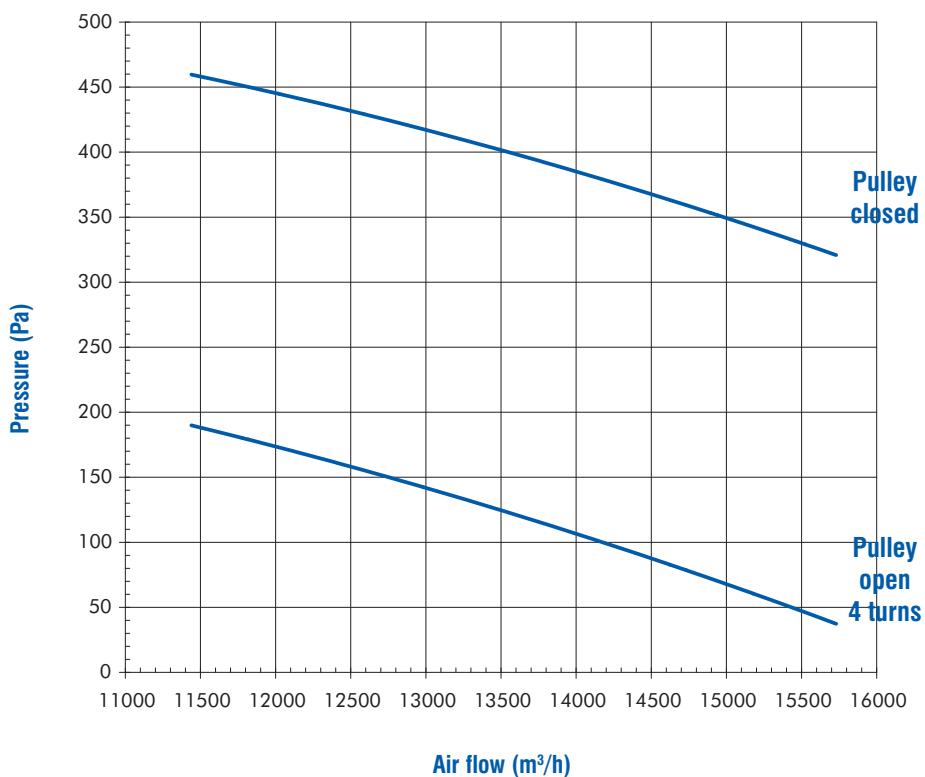


Indoor Fan Curves

DK 755 - Nominal air flow 12000 m³/h

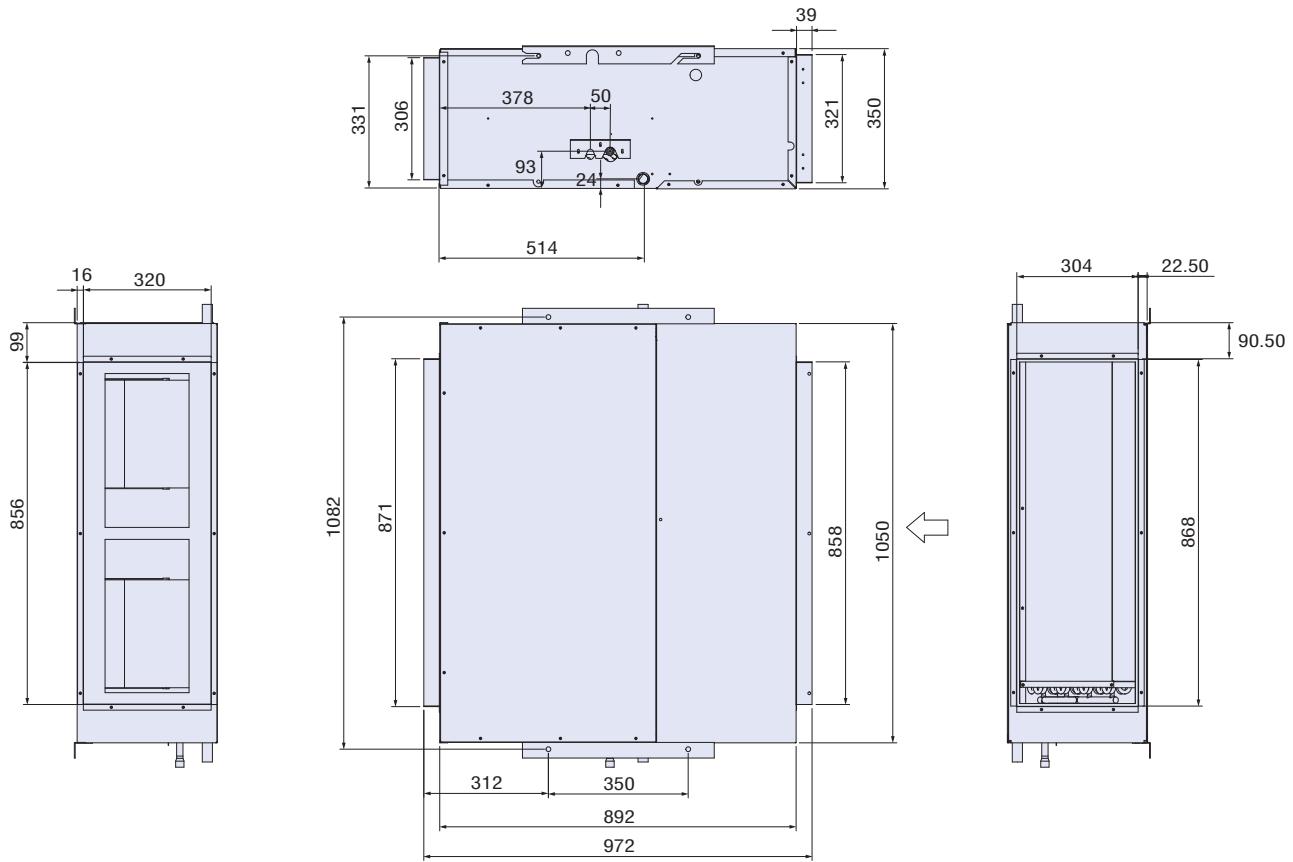


DK 905 - Nominal air flow 14300 m³/h

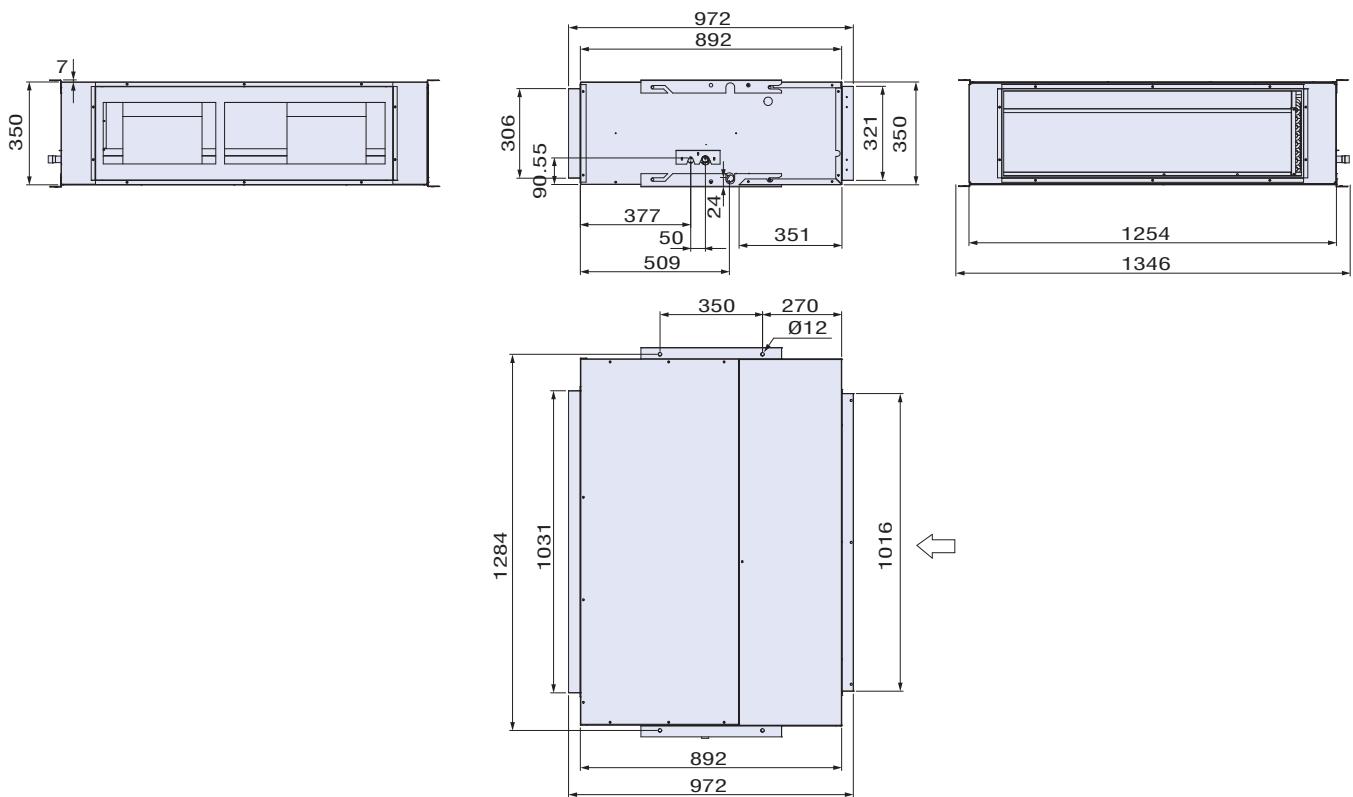


Dimensions (mm) - DK 125V & 155V

DK 125V



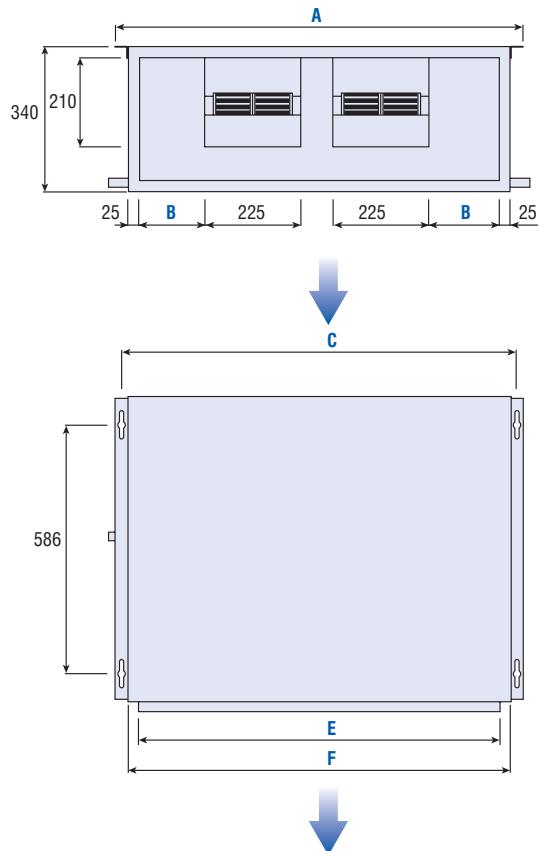
DK 155V



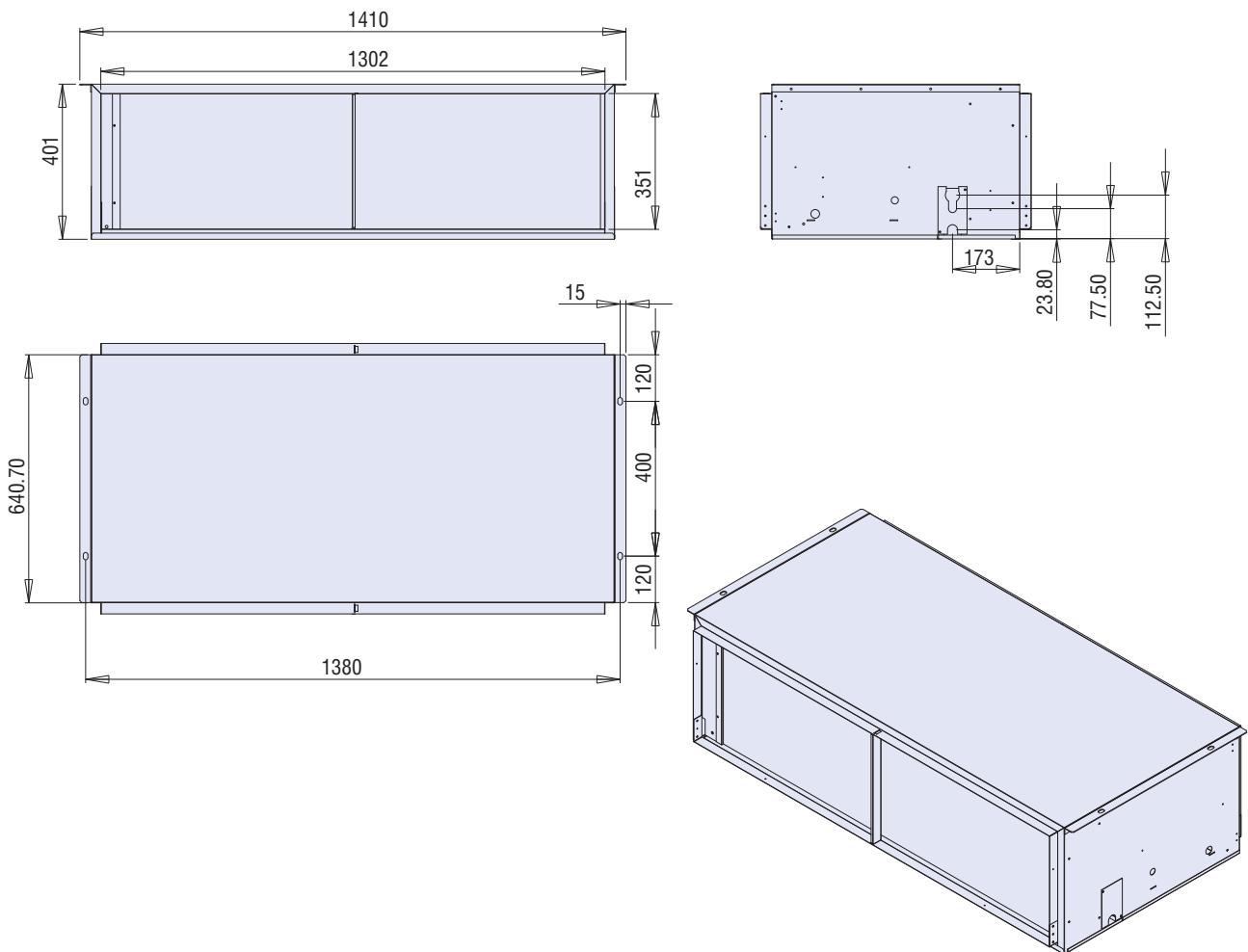
Dimensions (mm) - DK 125, 155, 185

DK 125, 155

DK	125	155
A	1210	1410
B	190	290
C	1180	1380
D	290	290
E	1100	1300
F	1150	1350

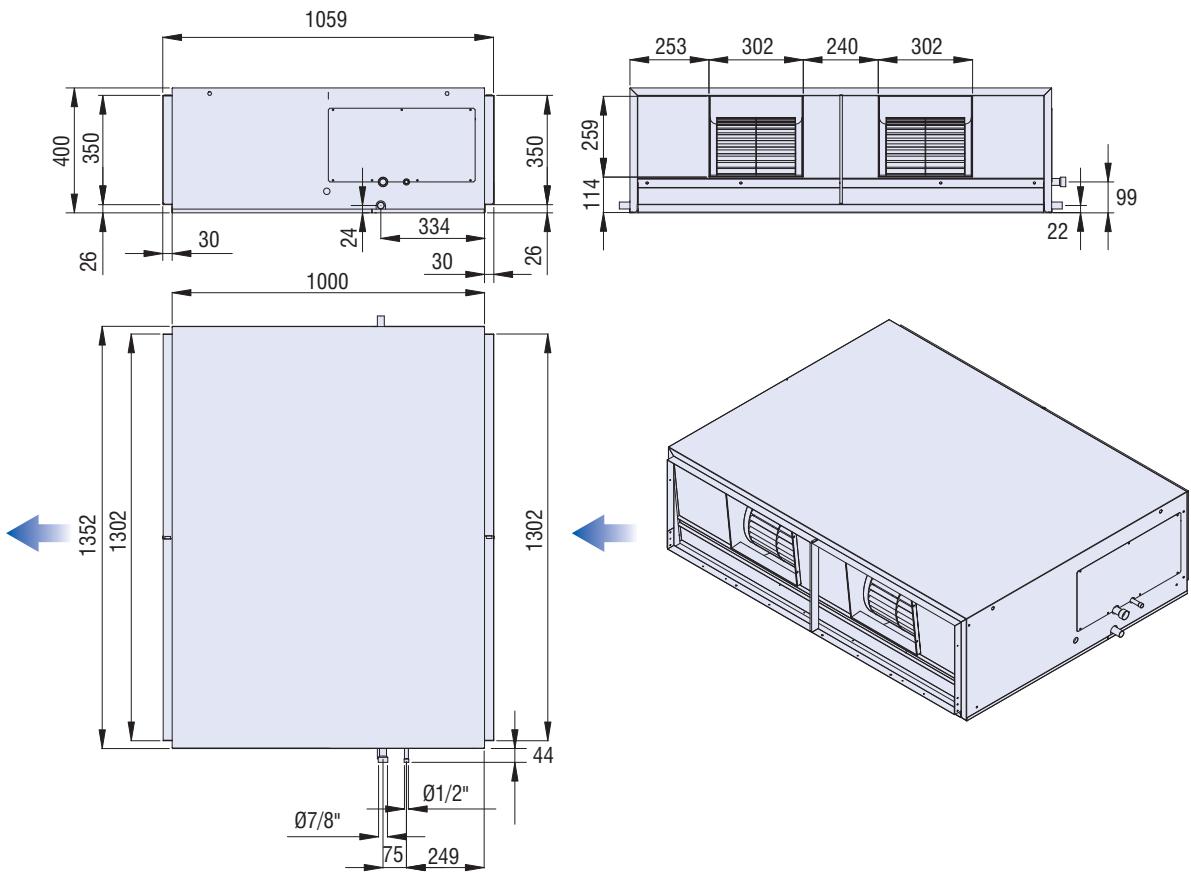


DK 185

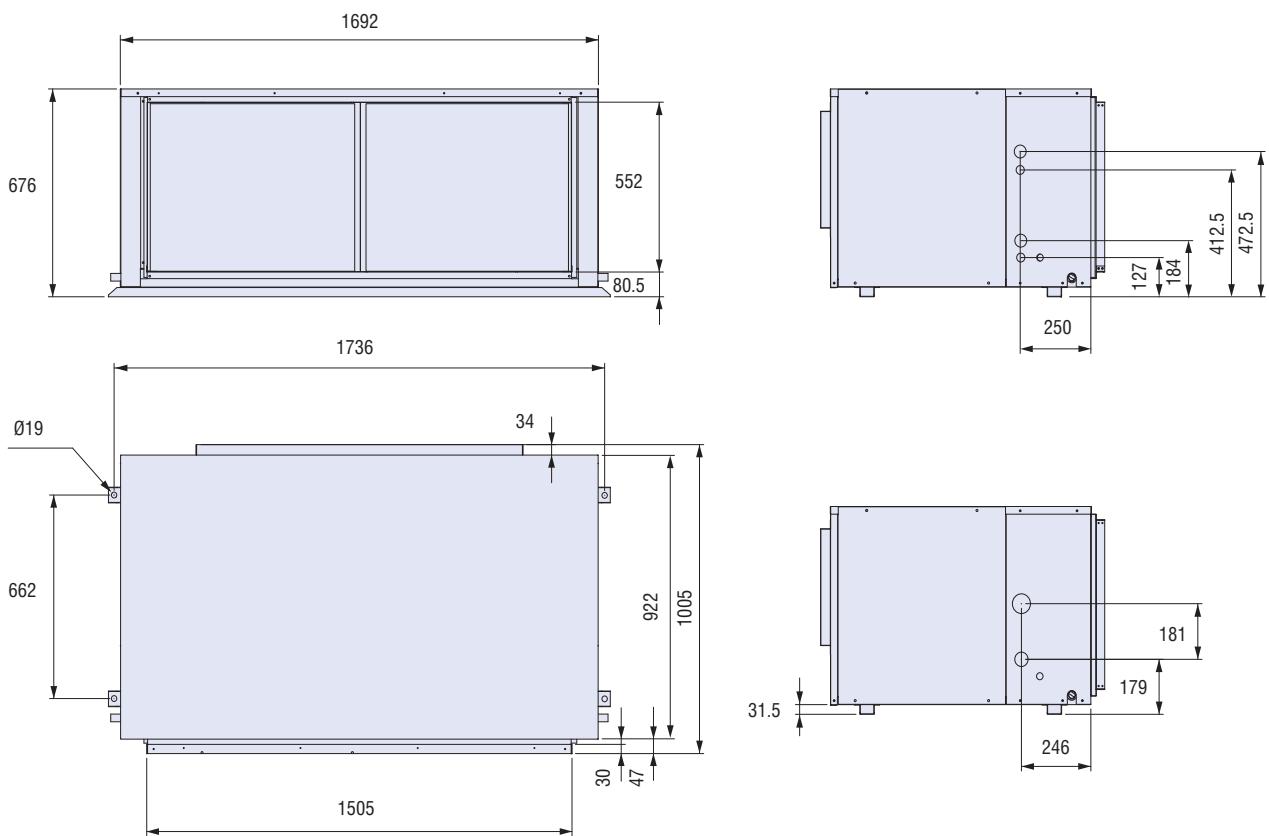


Dimensions (mm) - DK 205, 255, 305, 405M, 405

DK 205, 255

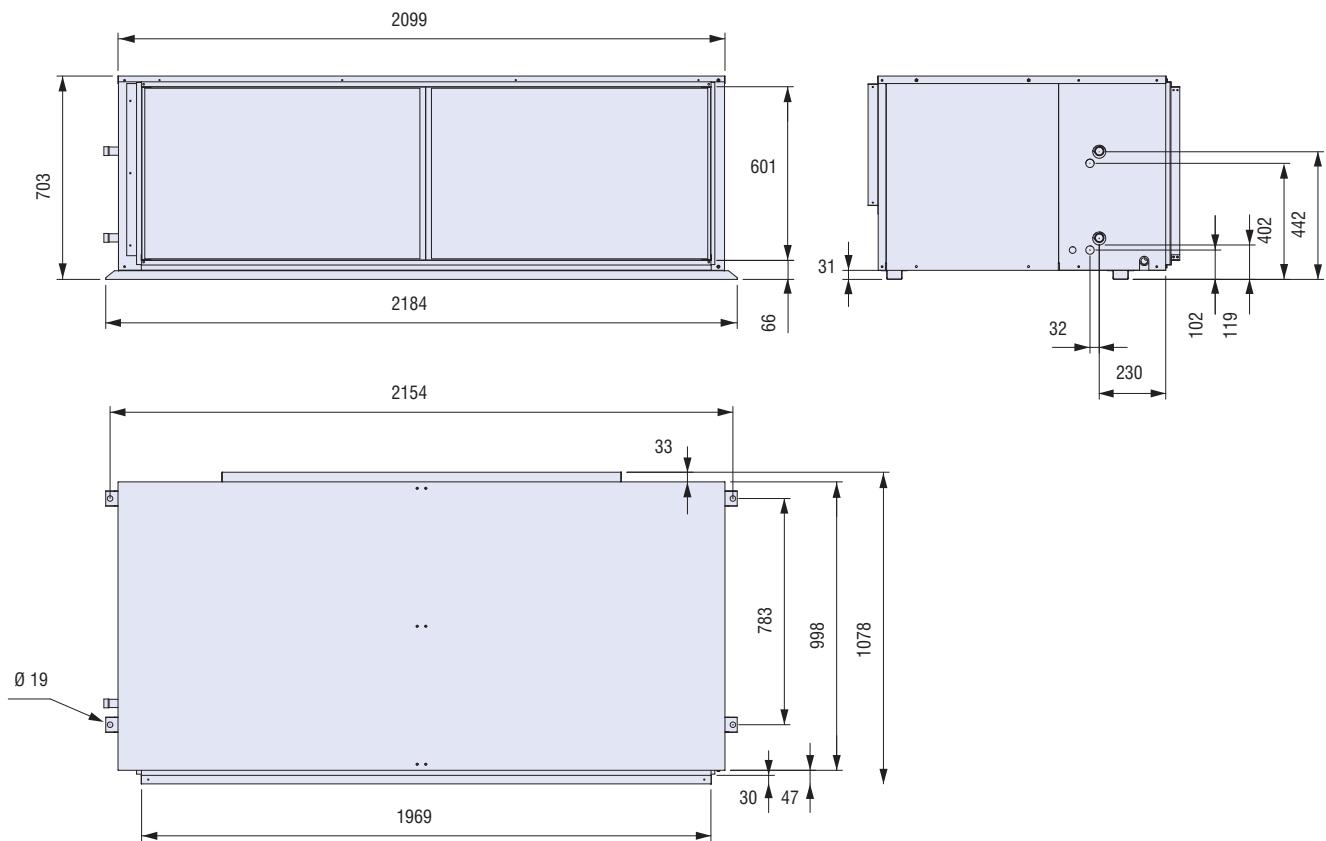


DK 305, 405M, 405

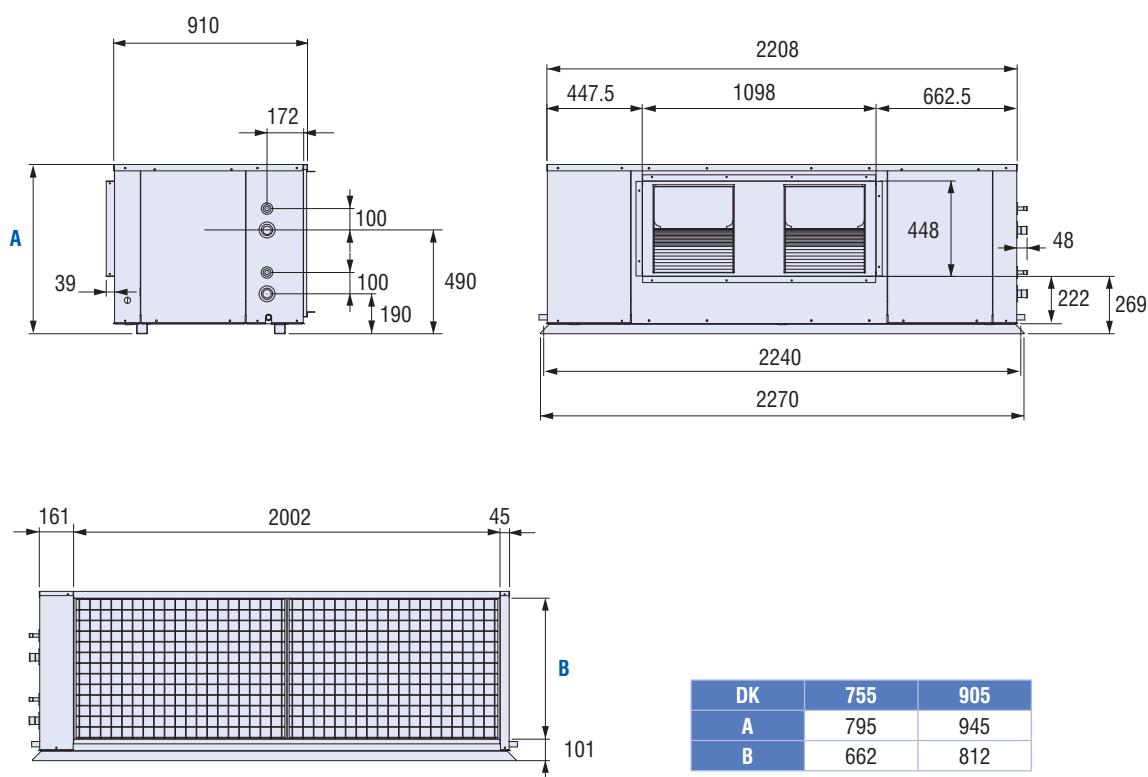


Dimensions (mm) - DK 505, 605, 755, 905

DK 505, 605

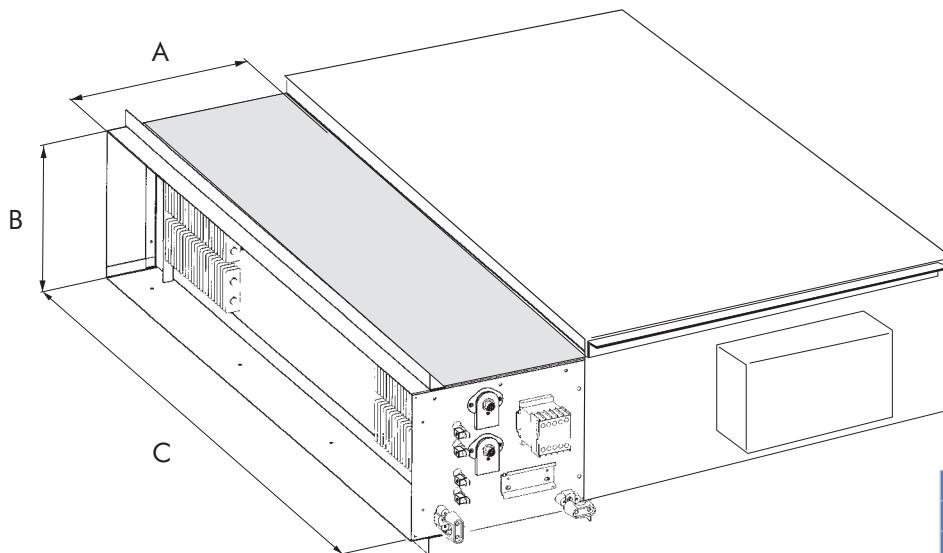


DK 755, 905

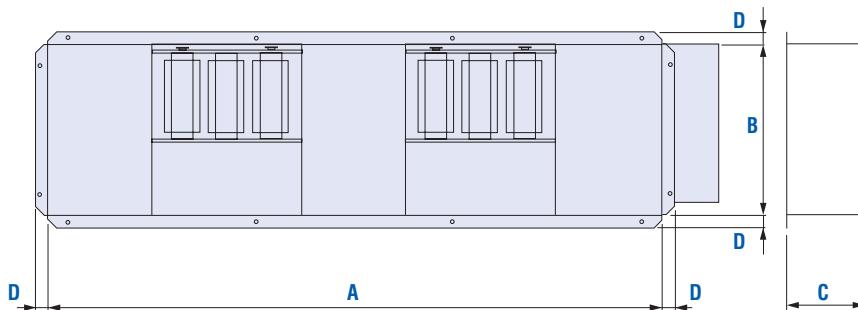


Dimensions (mm) - Optional Electric Heater Kit

DK 125, 155 & 185



DK 125V & 155V and 205 to 905



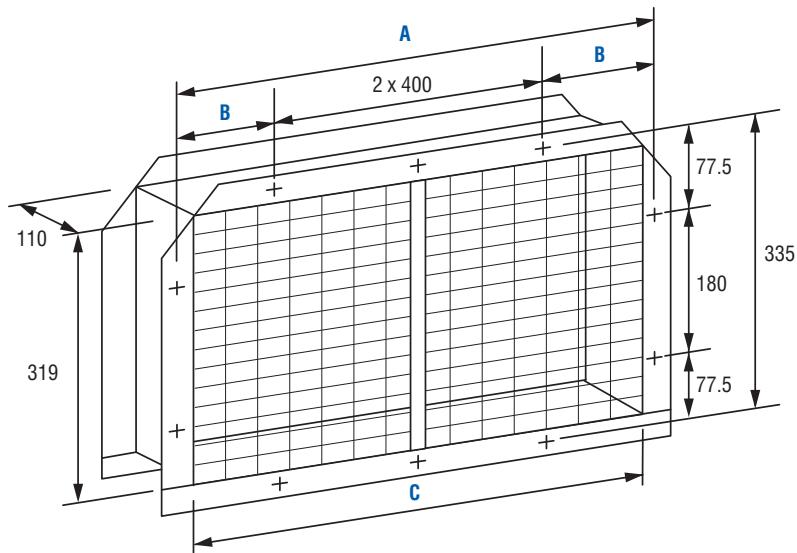
	A	B	C	D
DK 125V	855	290	115	25
DK 155V	1015	290	115	25
DK 205	1308	378	170	25
DK 255	1308	378	170	25
DK 305	1157	378	170	25
DK 405/405M	1157	378	170	25
DK 505	1382	421	170	25
DK 605	1382	421	170	25
DK 755	1066	416	170	40
DK 905	1066	416	170	40

Dimensions (mm) - Optional Air Filter Kit

Air filter data

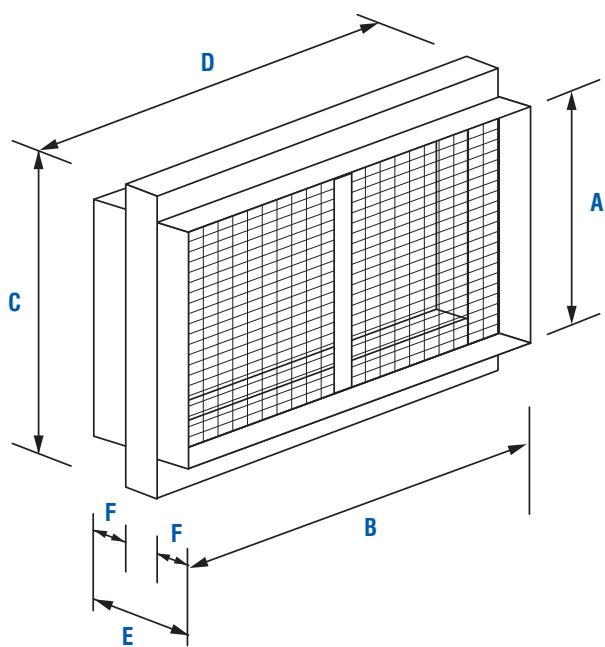
DK	Dimensions	Number of filters
125V	415 x 315 x 20	2
125	1145 x 326 x 7	1
155V	495 x 315 x 20	2
155	1344 x 326 x 7	1
185	1344 x 387 x 7	1
205-255	1344 x 387 x 7	1
305-405M-405	766 x 586 x 15	2
505-605	1000 x 630 x 15	2
755	1000 x 690 x 15	2
905	1000 x 840 x 15	2

Filter box - DK 125V & 155V



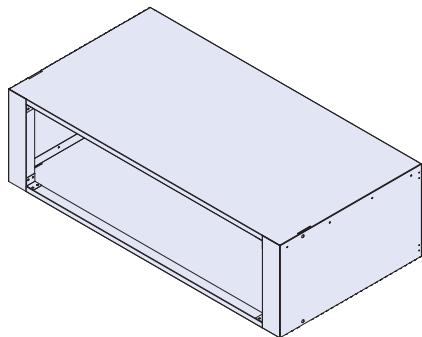
DK	125V	155V
A	871	1031
B	35.5	115.5
C	855	1015

Filter box - DK 205 to 605

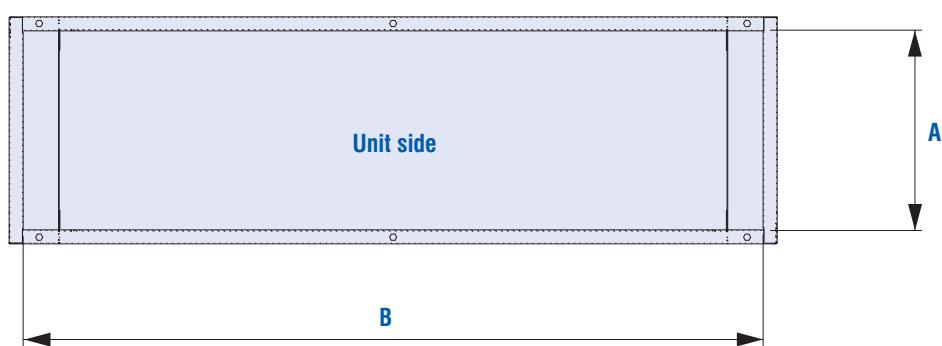
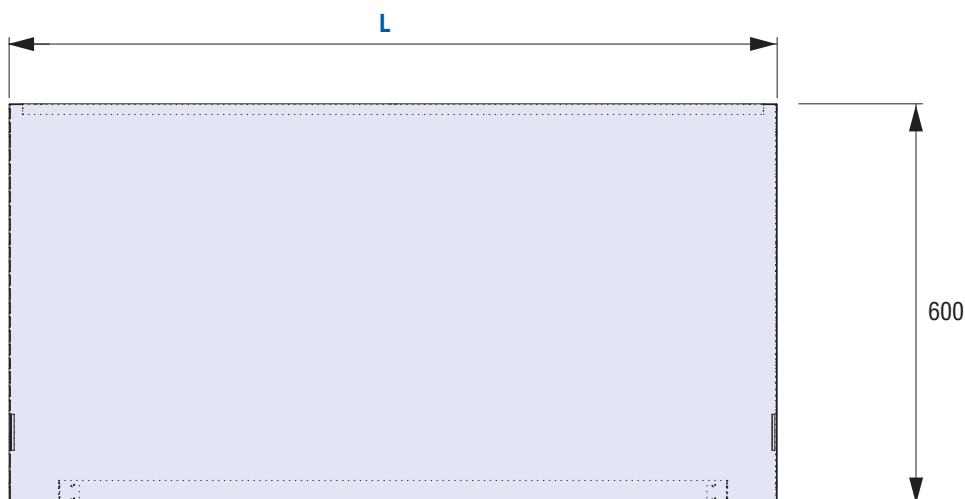
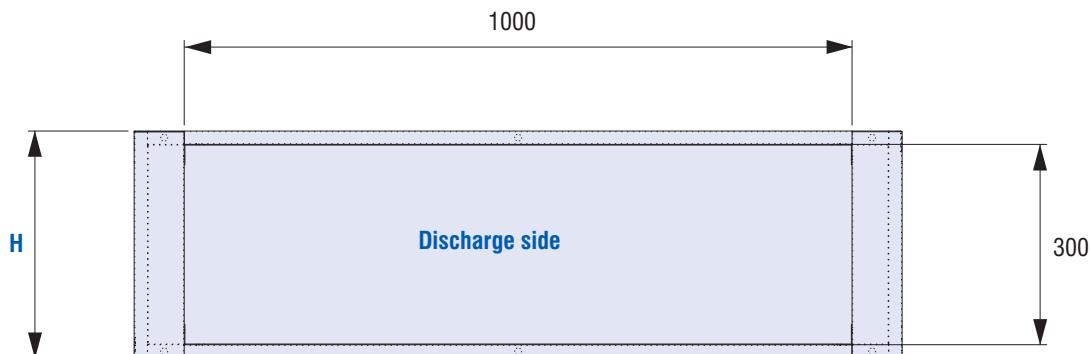


DK	205-255	305-405M-405	505-605
A	359.4	562	605
B	1308.4	1507	1976
C	393	592	636
D	1348	1541	2008
E	70	99	97
F	24	40	39

Dimensions (mm) - Optional Discharge Acoustical Plenum

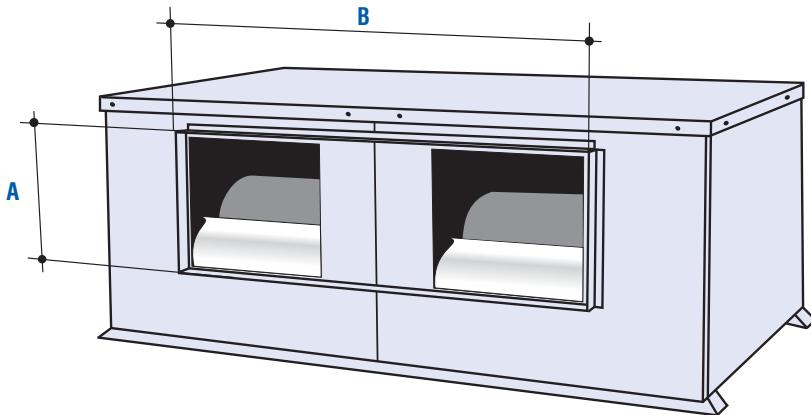


DK	H	L	A	B
125	340	1150	298	1108
155	340	1350	298	1308
185	400	1350	358	1308



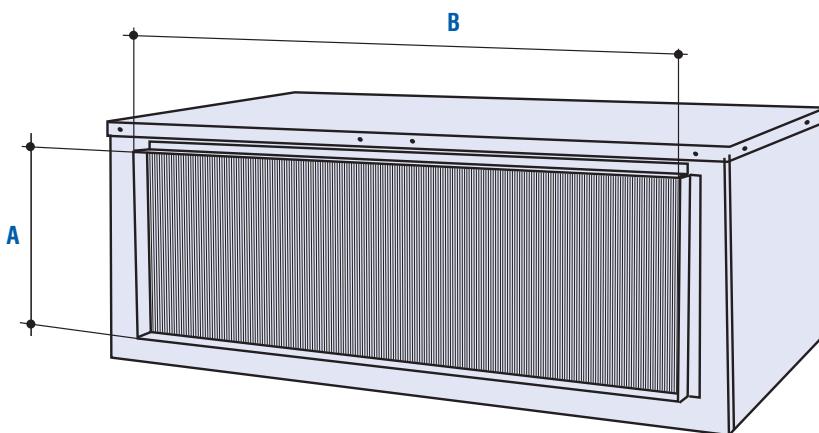
Duct Connections (mm)

Discharge side



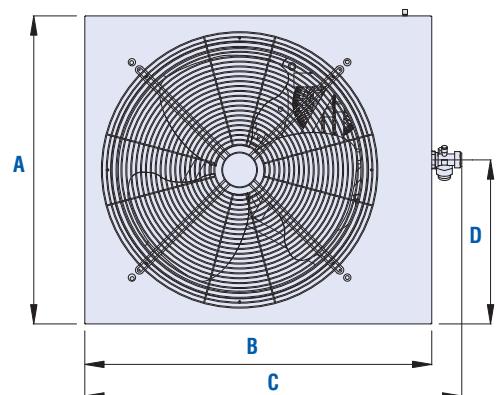
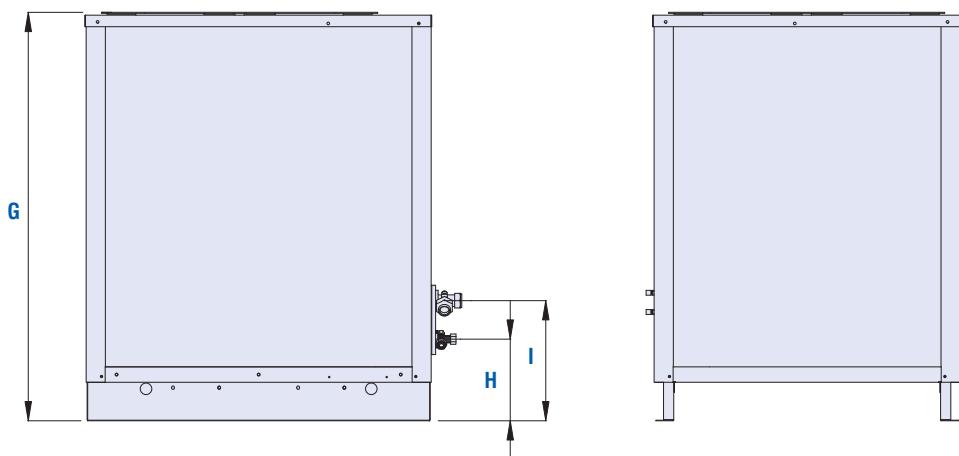
DK	A	B
125V	306	871
125	290	1100
155V	306	1031
155	290	1300
185	350	1300
205-255	350	1302
305-405	382	1159
505-605	421	1382
755	448	1098
905	448	1098

Suction side



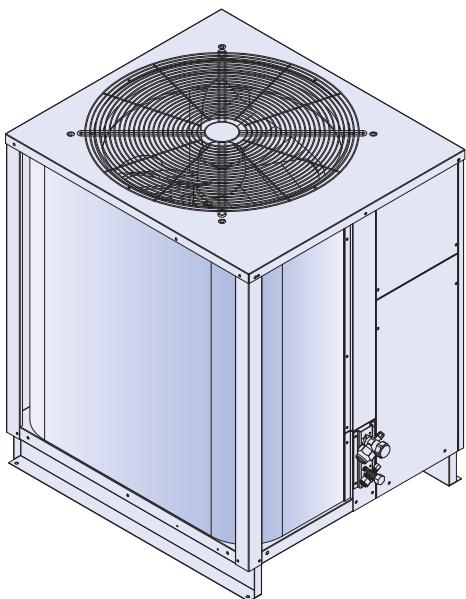
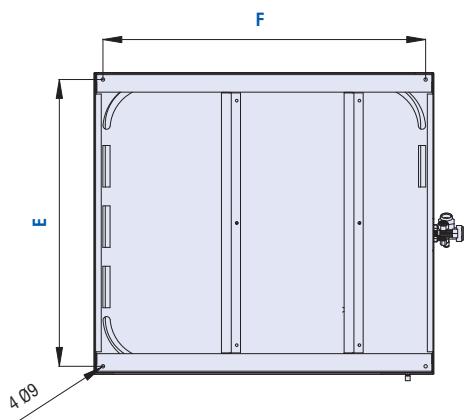
DK	A	B
125V	321	858
125	340	1150
155V	321	1016
155	340	1350
185	350	1300
205-255	350	1302
305-405	559	1505
505-605	601	1969
755	662	2002
905	812	2002

Dimensions (mm) - DN 125, 155

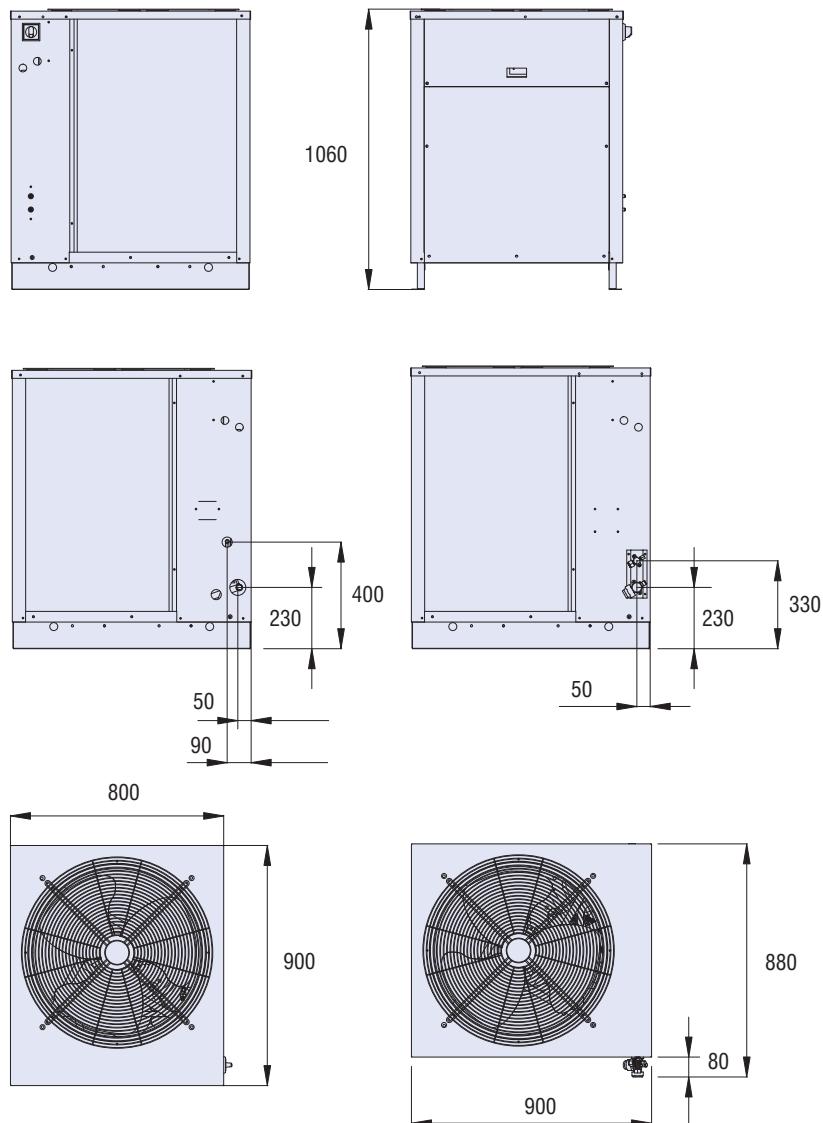


DN	125	155
A	746	800
B	746	900
C	823	980
D	440	426
E	707	760
F	699	855
G	909	1060
H	212	212
I	313	312

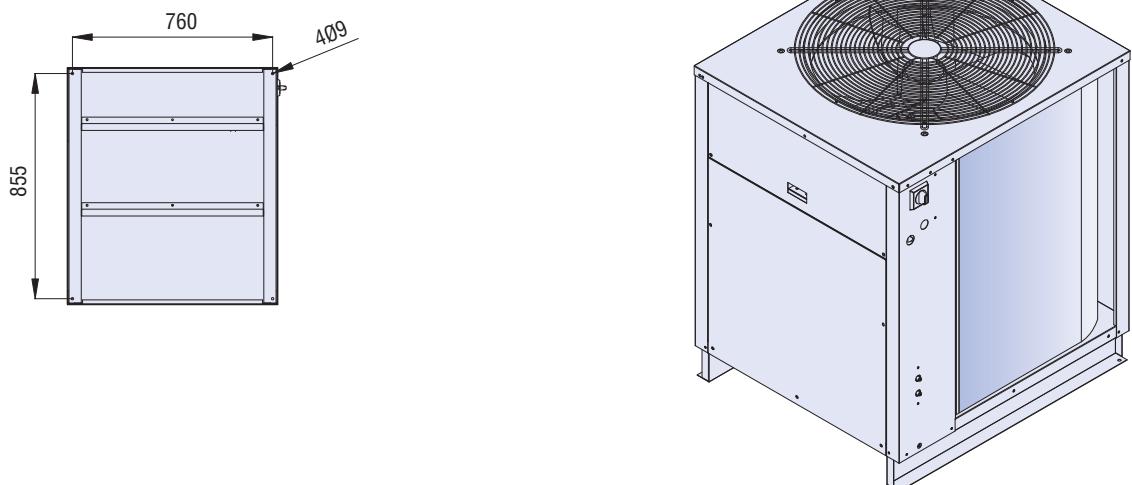
Vibration isolator fixing points
Bottom view



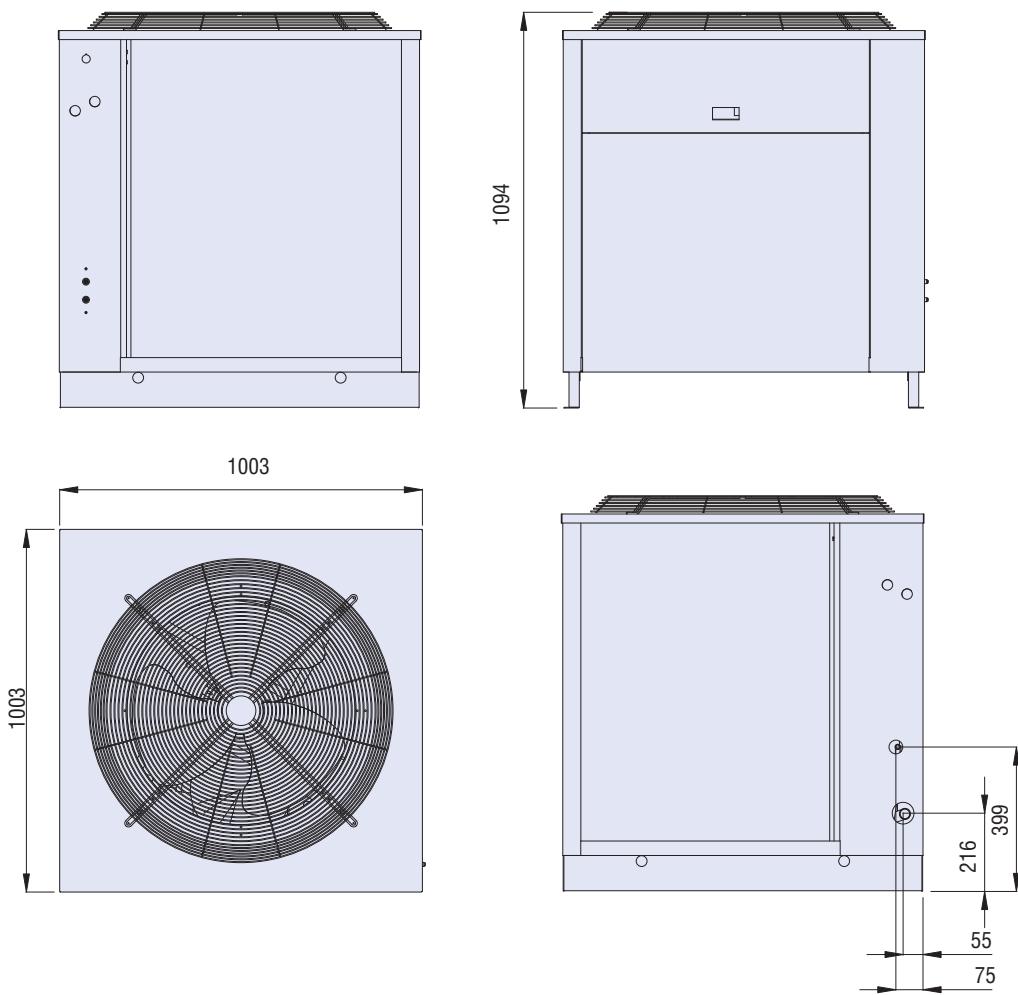
Dimensions (mm) - DN 185, 205, 255



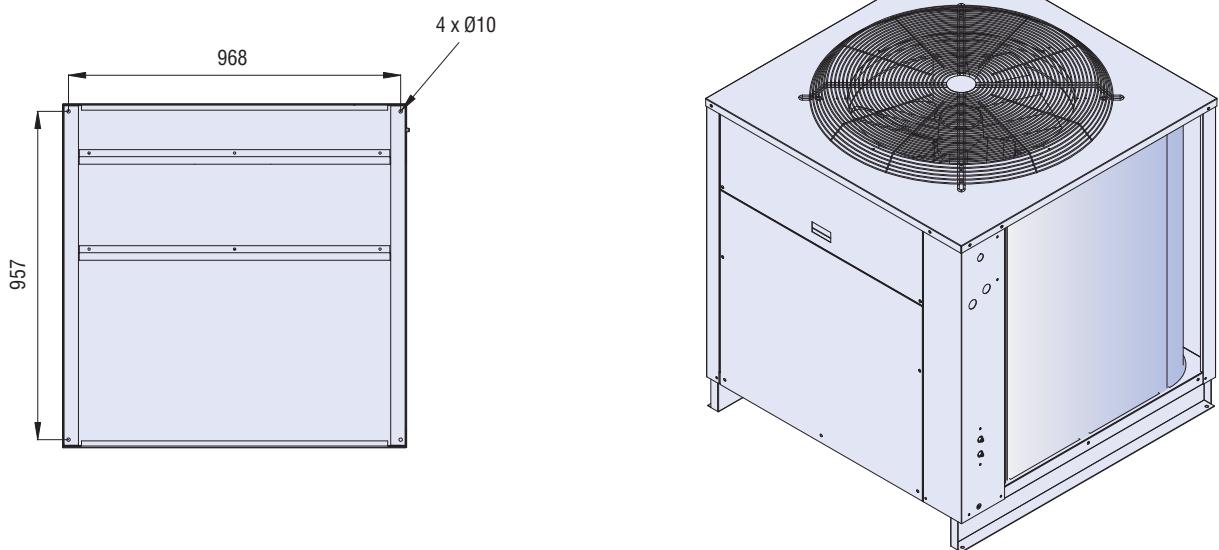
Vibration isolator fixing points
Bottom view



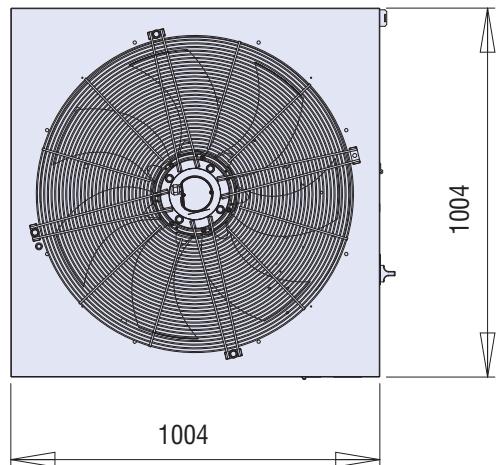
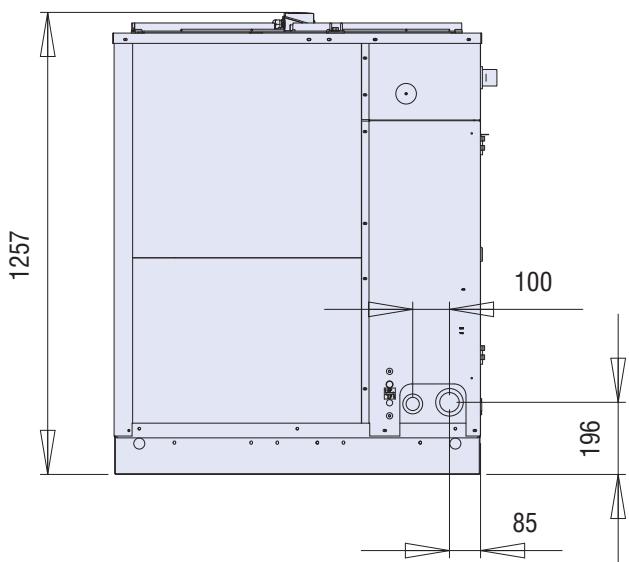
Dimensions (mm) - DN 305



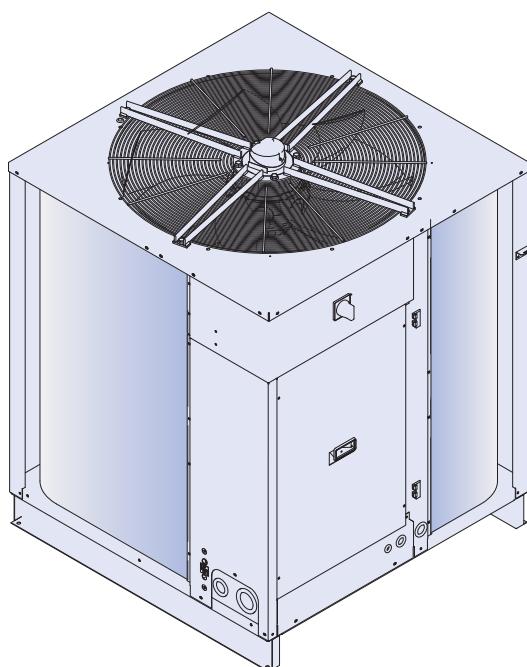
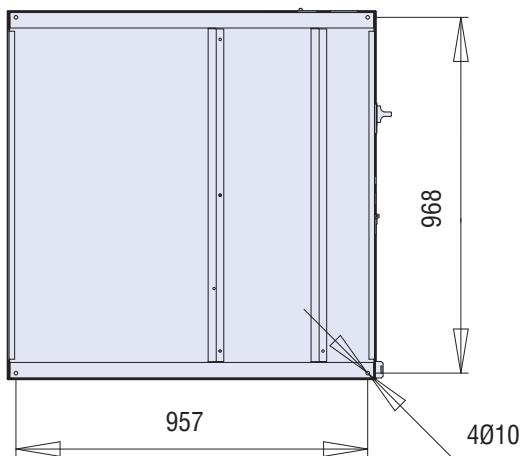
**Vibration isolator fixing points
Bottom view**



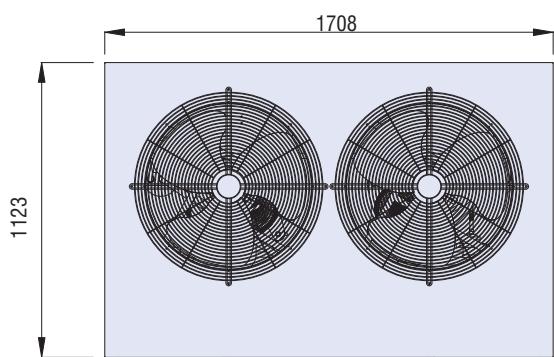
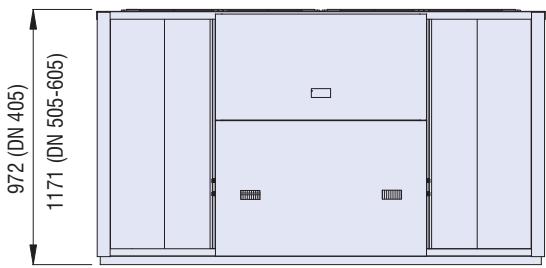
Dimensions (mm) - DN 405M



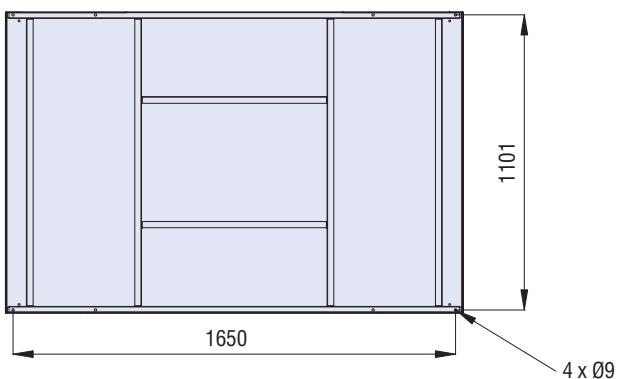
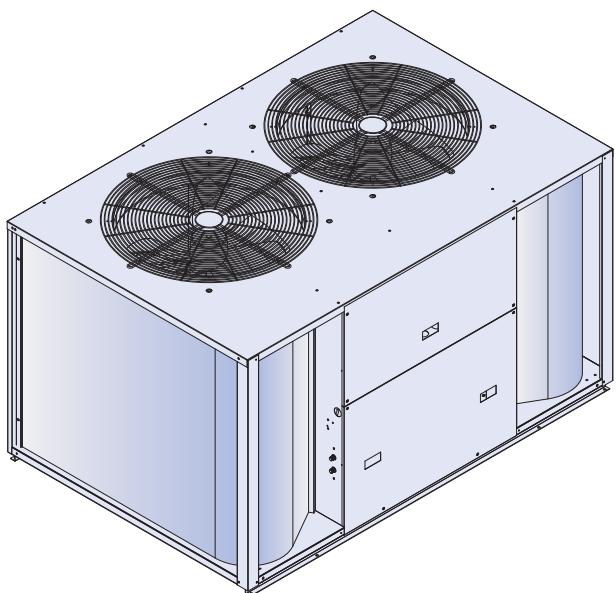
Vibration isolator fixing points
Bottom view



Dimensions (mm) - DN 405, 505, 605

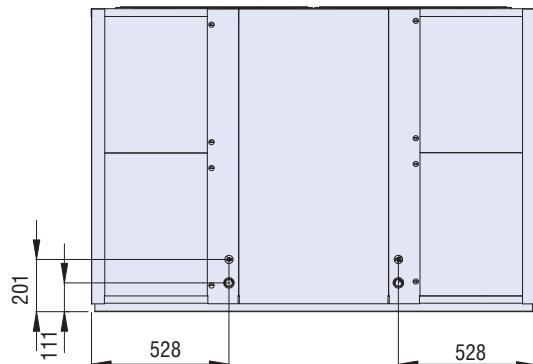
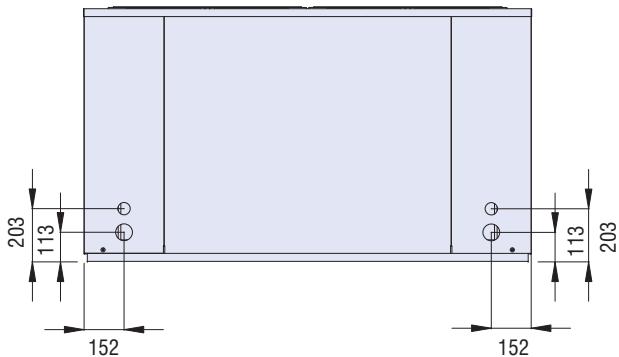


**Vibration isolator fixing points
Bottom view**

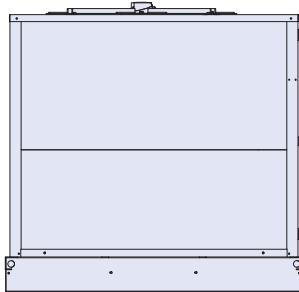
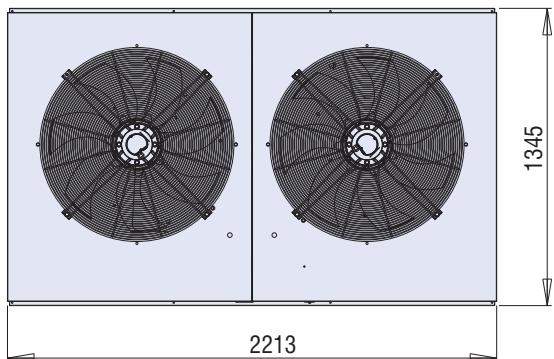
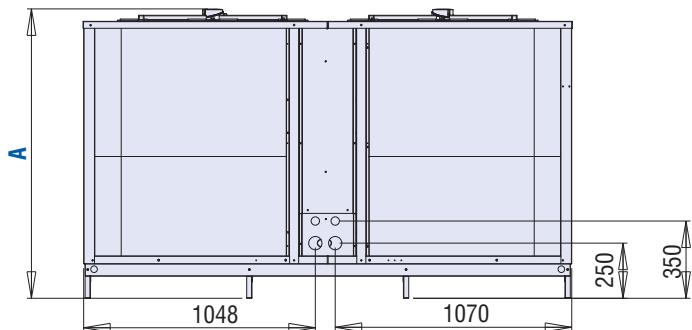
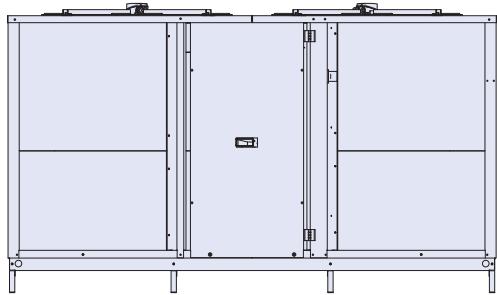


DN 405

DN 505, 605

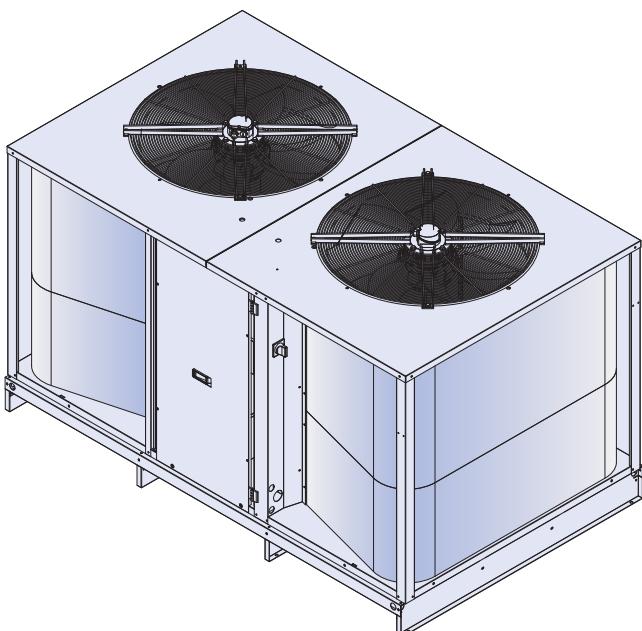
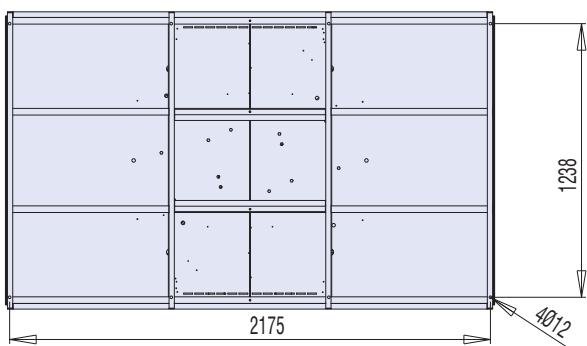


Dimensions (mm) - DN 755, 905



Vibration isolator fixing points
Bottom view

DN	755	905
A	1309	1459



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Ref. : EDM DKDN-A.3GB/09.10 - Supersedes : EDM DKDN-A.2GB/06.05

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