



Air for life

Teknisk Sheet

Flair 225

Varmegenvindingsaggregat



Generelt

Flair 225 og Flair 225 Plus er en ventilationsenhed til afbalanceret ventilation af boliger med varmegenvinding.

Egenskaber:

- Maksimal kapacitet 225 m³/t
- Plastvarmeveksler med høj varmegenvindingsevne
- Filtre ISO Grov 60%
- Modulær elektrisk forvarmer
- Automatisk bypassventil
- Berøringsskærm
- Justerbar luftmængde
- Filterindikation på aggregatet og mulighed for filterindikation på multikontakten
- Intelligent frostbeskyttelse, inklusive modulopvarmning
- Lavt lydniveau
- Konstant flow-styring

Flair 225 fås i to typer:

- **"Flair 225"**
- **"Flair 225 Plus"**

Flair 225 Plus har, sammenlignet med standard Flair 225, en ekstra PCB med flere funktioner/tilslutningsmuligheder.

Denne installationsvejledning beskriver både standard Flair 225 og Flair 225 Plus.

Flair 225 og Flair 225 Plus fås i en **venstrehånds-** og **højrehånds-**versions; det er ikke muligt at konvertere en venstrehåndsmodel til en højrehåndsmodel eller omvendt.

For korrekte tilslutningskanaler og dimensioner (→).

Der foreligger mulighed for evt. senere installation af Plus-PCB, hvis styreoptionerne evt. ønskes udvidet.

Aggregatet leveres klar til tilslutning med et 230 V strømstik.

Teknisk information

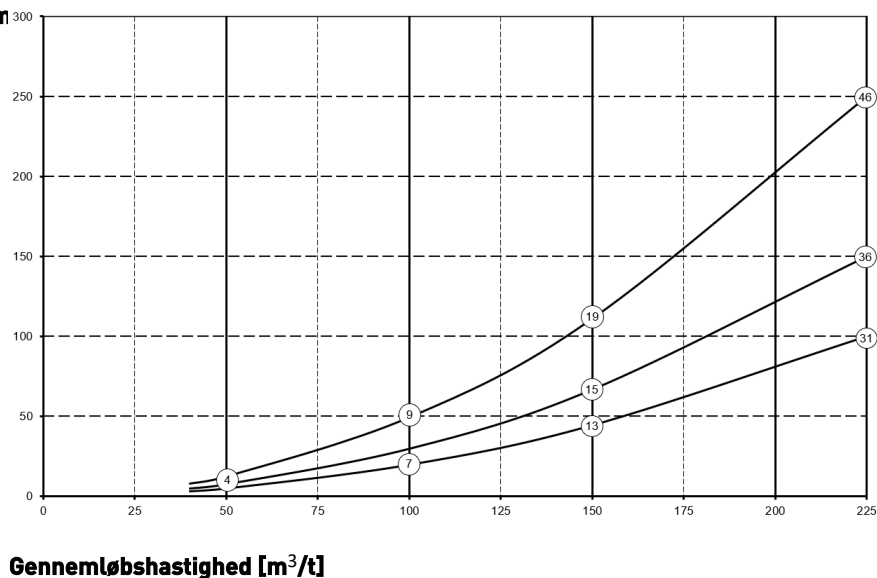
Teknisk information

Flair 225 (Plus)										
Forsyningsspænding [V/Hz]	230V/50Hz									
Dimensioner (b x h x d) [mm]	600 x 650 x 455									
Kanaldiameter [mm]	ø125									
Ekstern diameter for kondensudledning [mm]	ø32									
Vægt [kg]	29									
Filterklasse	ISO grov 60 % (ISO ePM1.0 50 % for den tilvalgte lufttilførsel)									
Vifteindstilling (fabriksindstilling)	0		1		2		3		maks.	
Fabriksindstilling [m³/t]	50		100		150		250		225	
Tilladt modstand i kanalsystem [Pa]	3	8	5	12	20	49	44	111	100	250
Nominel effekt (undtagen forvarmer) [W]	7,9	8,3	8	8,7	13,2	17,3	26,2	37,9	61,5	92,2
Nominel strøm (undtagen forvarmer) [A]	0,10	0,11	0,10	0,10	0,13	0,16	0,22	0,32	0,48	0,70
Maks. nominel strøm (inkl. forvarmer tændt)	3,8									
Cos φ	0,336	0,34	0,357	0,363	0,447	0,460	0,507	0,521	0,522	0,572
Lydintensitet										
Ventilationskapacitet [m³/t]				50	100	100	150	150	225	225
Lydintensitetsniveau Lw (A)	Statisk tryk [Pa]			25	25	50	50	100	100	150
	Lyddudstråling fra kabinet [dB(A)]			28	31	33,5	38,5	40,5	45,5	47
	Udsugning "Fra bolig" [dB(A)]			<30	<34,5	<36,5	44	43	47,5	48,5
	Kanal "Til bolig" [dB(A)]			43,5	48,5	50,5	55	57,5	62,5	64,5

*) Kanalstøj inklusiv ende-korrektion

I praksis kan værdien variere med 1dB(A) gennem måletolerancer.

Modstand i kanalsystem [Pa]



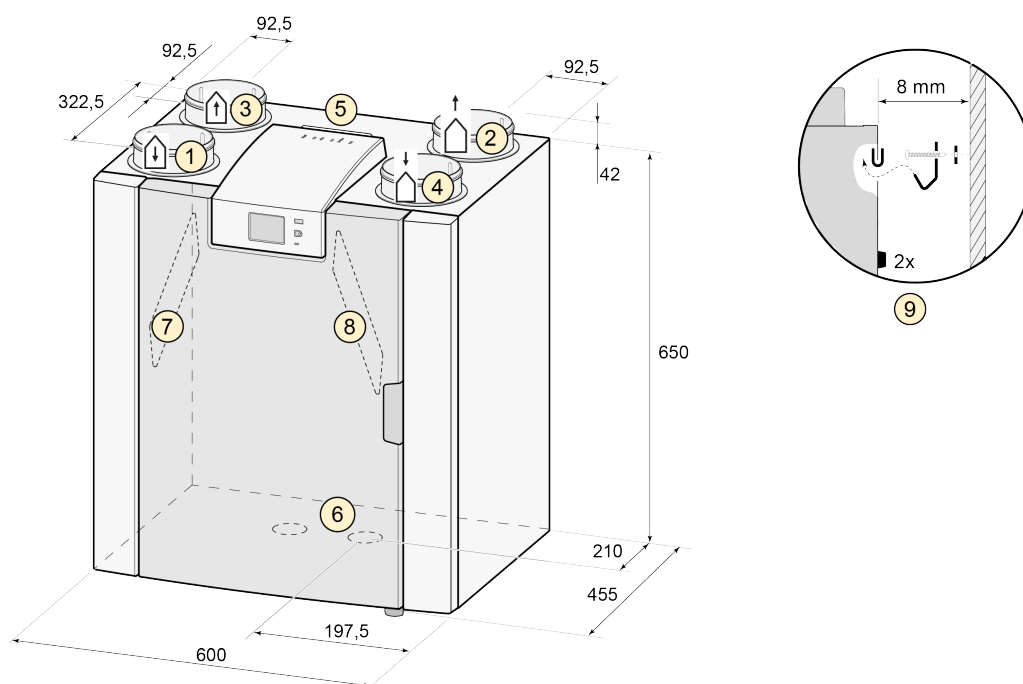
Bemærk:

Den angivne værdi i cirklen er kapaciteten (i Watt) pr. vifte.

Tilslutninger og dimensioner

Flair-aggregatet fås som en venstrehånds- og en højrehåndsversion. Ved en venstrehåndsversion er varmeudsugning og -indblæsning (fra bolig 3 og til bolig 1) på venstre side af aggregatet; kondensudledningen monteres derefter i højrehåndsåbningen under aggregatet. Ved en højrehåndsversion er varmeudsugning og -indblæsning (1 og 3) på aggregatets højre side.

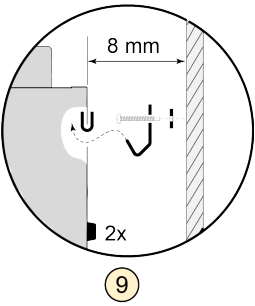
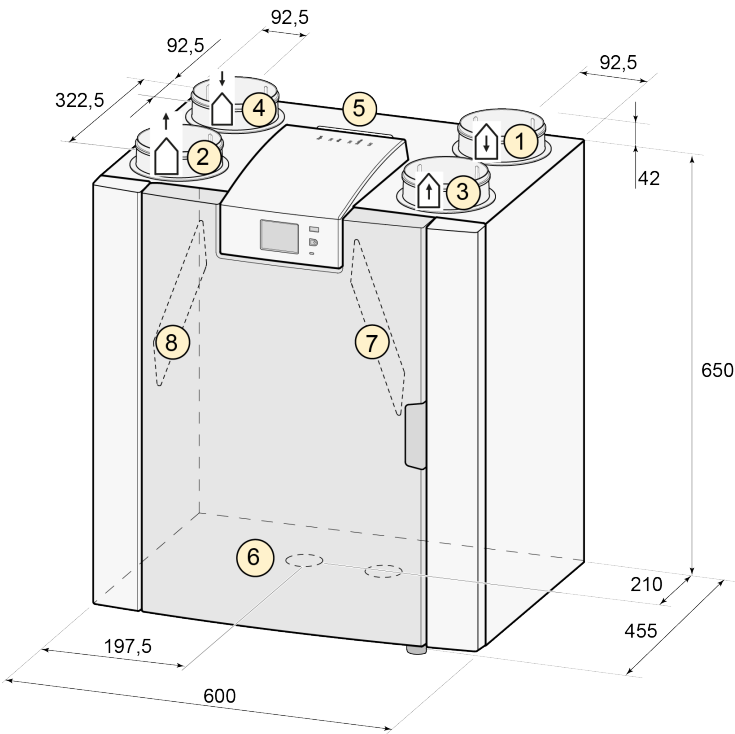
Venstrehåndsversion



Alle dimensioner er i millimeter. Diameter for alle kraver er 125 mm

1	Indblæsning	
2	Afkast	
3	Udsugning	
4	Indtag	
5	Elektriske tilslutninger	
6	Siphon connection	
7	Udledningsfilter	
8	Lufttilførselsfilter	
9	Montering	

Højrehåndsversion

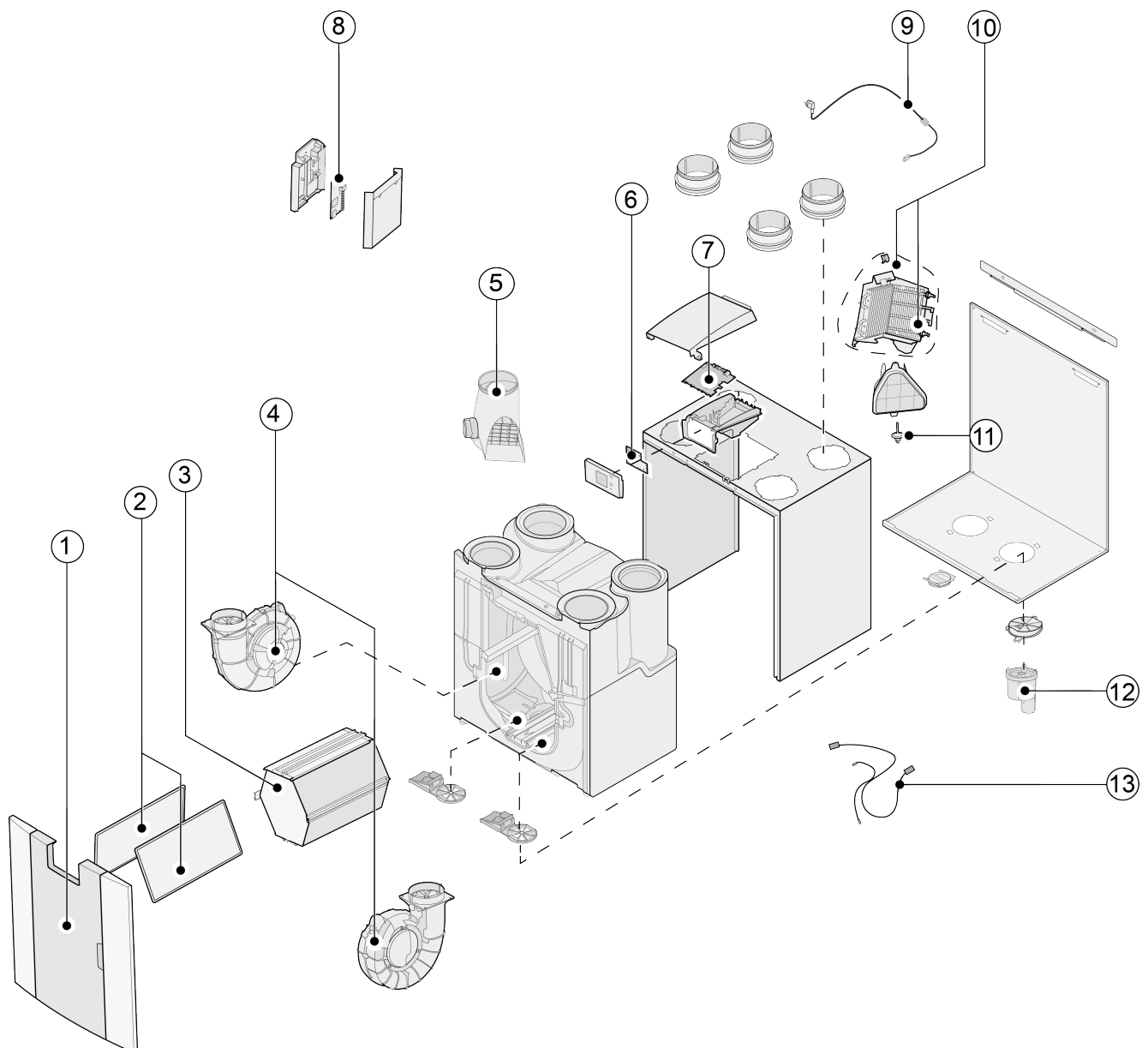


Alle dimensioner er i millimeter. Diameter for alle kraver er 125 mm

1	Indblæsning	
2	Afkast	
3	Udsugning	
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7	Udledningsfilter	
8	Lufttilførselsfilter	
9	Montering	

Serviceartikler

Serviceartikler



Nr.	Artikelbeskrivelse	Artikelkode
1	Frontpanel komplet	532799
2	Filtre (2) ISO grov 60 %	532811
3	Varmeveksler	532795
4	Ventilator (1 styk)	532759
5	Bypassventil med motor komplet	532797
6	Skærm PCB UBP-2	522753
7	Basis PCB UWA2-B	532750
8	Plus-PCB UWA2-E (kan kun bruges med Plus-version)	532751
9	Strømkab og kabel 230 V *	532756
10	Intern forvarmer inkl. maks. sikkerhed	532798
11	Temperatursensor NTC 10K	531775
12	Kondensafløb	532762
13	Kabelsæt	532767

* Strømkablet er udstyret med et printkortstik. Når det udskiftes, skal du altid bestille et reservedel-strømkabel fra Brink.
For at forhindre farlige situationer må beskadigede strømforbindelser kun udskiftes af en kvalificeret ekspert.

Certifikater

EN13141-7:2010 erklæring

EN 13141-7:2010 Certificate

KF.80.05.326.AD.01
24.08.20



Declaration of conformity regarding the determination of energetic efficiency according to EN 13141-7:2011-01

On behalf of Brink Climate Systems B.V. the determination of energetic efficiency was conducted by Europäisches Testzentrum für Wohnlüftungsgeräte (TZWL) e. V. in Dortmund, Germany.

Tests were carried out according to:

- EN 13141-7:2010; Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 7: Performance testing of a mechanical supply and exhaust ventilation units (including heat recovery) for mechanical ventilation systems intended for single family dwellings

Technical data of the tested unit:

Manufacturer:	Brink Climate Systems B.V.
Type:	Flair 225 4/0 L EU
Serial Number:	428000203202
Year of construction:	2020
Power supply:	230 V ~ 50 Hz
CE-Label:	Yes
Maximum volume flow:	225 m³/h

Results, energetic efficiency 7°C:

Air flow [m³/h]	Temperature ratio, supply air $\eta_{h,su}$ [%]	Total electric power consumption P_E [W]	Specific electric power consumption [W/m³/h]
40	96,9	11,6	0,29
156	92,3	27,0	0,17
225	89,2	59,5	0,26

Results, energetic efficiency 2°C:

Air flow [m³/h]	Temperature ratio, supply air $\eta_{h,su}$ [%]	Total electric power consumption P_E [W]	Specific electric power consumption [W/m³/h]
40	98,3	11,6	0,29
155	93,3	29,7	0,19
223	92,2	63,5	0,28

Results of performance tests of aerodynamic characteristics, of heat recovery characteristics and of the effective power consumption are taken from tests with number M.80.05.326.AD.

Passivhus-certifikat

CERTIFICATE

Certified Passive House Component
 Component-ID 1647vs03 valid until 31st December 2021

Passive House Institute
 Dr. Wolfgang Feist
 64283 Darmstadt
 Germany

Category: Air handling unit with heat recovery
Manufacturer: Brink Climate Systems B.V.
Netherlands
Product name: Brink Flair 225 EU

Specification: Airflow rate < 600 m³/h
Heat exchanger: Recuperative

This certificate was awarded based on the product meeting the following main criteria

Heat recovery rate	$\eta_{HR} \geq 75\%$
Specific electric power	$P_{EL,SPEC} \leq 0.45 \text{ Wh/m}^3$
Leakage	$< 3\%$
Comfort	Supply air temperature $\geq 16.5^\circ\text{C}$ at outdoor air temperature of -10°C

Airflow range	62–173 m³/h
Heat recovery rate	$\eta_{HR} = 89\%$
Specific electric power	$P_{EL,SPEC} = 0.25 \text{ Wh/m}^3$

*) At an airflow of 71 m³/h, a heat recovery of $\eta_{HR} = 82\%$ is reached.

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Leakage

The leakage airflow must not exceed 3% of the average airflow of the unit's operating range.

Internal leakage	External leakage
1.19%	1.67%

Settings and airflow balance

It must be possible to adjust the balance of airflows at the unit itself (either between the exhaust and the outdoor airflows or between the supply and the extract airflows, if the unit is respectively placed inside or outside of the insulated thermal envelope of the building).

- This unit is certified for airflow rates of 62–173 m³/h.
- Balancing the airflow rates of the unit is possible.
- The user should have at least all the following setting options:
 - ✓ Switching the system on and off.
 - ✓ Synchronized adjustment of the supply and extract airflows to basic ventilation (70–80%), standard ventilation (100%) and increased ventilation (130%) with a clear indication of the current setting.
- The device has a standby power consumption of 4.20 W. The target value of 1 W was exceeded. The device should be equipped with an additional external switch so that it can be disconnected from the mains, if required.
- After a power failure, the device will automatically resume operation.

Acoustical testing

The required limit for the sound power level of the device is 35 dB(A) in order to limit the sound pressure level in the installation room. The sound level target value of less than 25 dB(A) in living spaces and less than 30 dB(A) in functional spaces must be ensured by installing commercial silencers. The following sound power levels are met at an airflow rate of 173 m³/h:

Device	Outdoor	Supply air	Extract air	Exhaust air
42.5 dB(A)	44.0 dB(A)	59.0 dB(A)	46.0 dB(A)	58.0 dB(A)

- The unit does not fulfil the requirements for the sound power level. The unit must therefore be installed acoustically separated from living areas.
- One example of suitable silencers for supply and extract air ducts is mentioned in the detailed test report or can be obtained from the manufacturer. It is recommended to identify suitable silencers for each individual project.

Indoor air quality

This unit is to be equipped with the following filter qualities:

Outdoor air filter	Extract air filter
ISO ePM1 50%	ISO Coarse 60%

Component-ID: 1647vs03

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Brink Climate Systems B.V.

Wolthouder Wasselbaestraat 8, 7951 SN Staphorst, Netherlands

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Passive House comfort criterion

At an outdoor air temperature of -10°C a supply air temperature higher than 16.5°C is achieved by use of an internal and additional external electric preheater. The criterion is therefore met.

Efficiency criterion (heat recovery rate)

The effective heat recovery rate is measured at a test facility using balanced mass flows of the outdoor and exhaust air. The boundary conditions for the measurement are documented in the testing procedure.

$$\eta_{HR} = \frac{(\theta_{ETA} - \theta_{EHA}) + \frac{P_d}{\dot{m} \cdot c_p}}{(\theta_{ETA} - \theta_{ODA})}$$

With

η_{HR} Heat recovery rate in %
 θ_{ETA} Extract air temperature in $^\circ\text{C}$
 θ_{EHA} Exhaust air temperature in $^\circ\text{C}$
 θ_{ODA} Outdoor air temperature in $^\circ\text{C}$
 P_d Electric power in W
 $\dot{m}$ Mass flow in kg/h
 c_p Specific heat capacity in Wh/(kg K)

Heat recovery rate
$\eta_{HR} = 89\%$

Efficiency criterion (electric power)

The overall electrical power consumption of the device is measured at the test facility at an external pressure of 100 Pa (50 Pa, respectively, for the intake and outlet). This includes the general electrical power consumption for operation and control but not for frost protection.

Specific electric power
$P_{EL,SPEC} = 0.25 \text{ Wh/m}^3$

Efficiency ratio

The efficiency ratio provides information about the overall energy performance of the respective ventilation unit. It specifies the achieved reduction in ventilation heat losses by using a ventilation unit with heat recovery rather than without.

Efficiency ratio
$\epsilon_L = 0.72$

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Brink Flair 225 EU

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On the outdoor air side, the filter efficiency of ISO ePM1 50% (F7 according to EN 779) or better is recommended. For the extract air side, a filter efficiency of at least ISO Coarse 60% (G4 according to EN 779) is recommended. If not in standard configuration, the recommended filter is available as an accessory part.

Frost protection

Appropriate measures should be taken to prevent the heat exchanger and optional downstream hydraulic heater coil from getting damaged by frost during extreme winter temperatures (-15°C). It must be ensured that the unit's ventilation performance is not affected during frost protection cycles.

- Frost protection of the heat exchanger:
 - ✓ In order to protect the heat exchanger from freezing, the unit is equipped with an internal electric preheater with a power of 700 W. In order to ensure the frost protection even at low outdoor air temperature, the unit can be optionally equipped with an additional external electric preheater with a power of 1000 W. The operation of this frost protection is controlled depending on the outdoor air temperature. The laboratory measurement has proved, that this frost protection at an upper airflow rate and an outdoor air temperature of -15°C is sufficient.
- Frost protection of downstream hydraulic heater coils:
 - ✓ In order to protect a downstream hydraulic heater coil, both fans are switched off in case the supply air temperature drops down to 4.1°C .

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Se også: Komplet Passivhus-certifikat

1 Overensstemmelseserklæring

Denne overensstemmelseserklæring udstedes på producentens eget ansvar.

Fabrikant: **Brink Climate Systems B.V.**

Adresse: **Postbus 11**
NL-7950 AA, Staphorst, The Netherlands

Produkt: **Flair 225**
Flair 225 Plus

Ovennævnte produkt opfylder bestemmelserne i følgende direktiver:

- | | |
|-------------------|-----------------------------|
| ♦ 2014/35/EU | (OJEU L 96/357; 29-03-2014) |
| ♦ 2014/30/EU | (OJEU L 96/79; 29-03-2014) |
| ♦ 2009/125/EU | (OJEU L 285/10; 31-10-2009) |
| ♦ 2017/1369/EU | (OJEU L 198/1; 28-07-2017) |
| ♦ RoHS 2011/65/EU | (OJEU L 174/88; 01-07-2011) |

Ovenstående produkt overholder følgende direktiver:

- | | |
|---------------------|---|
| ♦ EN 55014-1: | 2017 + A11: 2020 |
| ♦ EN 55014-2: | 2021 |
| ♦ EN IEC 61000-3-2: | 2019 + A1:2021 |
| ♦ EN 61000-3-3: | 2013 + A1:2019 |
| ♦ EC 61000-3-3: | 2013/AMD2:2021 |
| ♦ EN 60335-1: | 2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019 |
| ♦ EN 60335-2-40: | 2003 + A11 + A12 + A1 + C + A13 + AC:2013 |
| ♦ EN 62233: | 2008 + AC:2008 |

Staphorst, 15-10-2021



A. Hans
Technical Director

2 ERP-værdier

Teknisk informationsblad Flair 225 (Plus) i henhold til Ecodesign (ErP), nr. 1254/2014 (Bilag IV)					
Fabrikant:		Brink Climate Systems B.V.			
Model:		Flair 225 (Plus)			
Klimazone	Kontroltype	SEC-værdi i kWh/m ² /a	SEC-klasse	Årligt elforbrug (AEC) i kWh	Varme sparet årligt (AHS - Annual heating saved) i kWh
Gennemsnit	Manuel	-40,78	A	258	4655
	tidskontrol	-41,42	A	237	4667
	1x sensor (RV/CO ₂ /VOC)	-42,62	A+	199	4692
	2 eller flere sensorer (RV/CO ₂ /VOC)	-44,71	A+	135	4741
Kold	Manuel	-79,92	A+	795	9107
	tidskontrol	-80,68	A+	774	9131
	1x sensor (RV/CO ₂ /VOC)	-82,12	A+	736	9179
	2 eller flere sensorer (RV/CO ₂ /VOC)	-84,68	A+	672	9275
Varm	Manuel	-15,73	E	213	2105
	tidskontrol	-16,30	E	192	2111
	1x sensor (RV/CO ₂ /VOC)	-17,37	E	154	2122
	2 eller flere sensorer (RV/CO ₂ /VOC)	-19,19	E	90	2144
Type af ventilationsenhed:		Balanceret boligventilationsaggregat med varmegenvinding			
Ventilator:		EC-ventilator med uendelig variabel kontrol			
Type af varmeveksler:		Genvindende plast-varmeveksler med kryds-modstrøm			
Termisk effektivitet		92 %			
Maksimal strømningshastighed:		225 m ³ /t			
Maksimal nominel effekt:		165 W			
Lydintensitetsniveau Lwa:		39 dB(A)			
Reference-strømningshastighed:		158 m ³ /t			
Referencetryk:		50 Pa			
Specifik strømindgang (SEL):		0,17 Wh/m ³			
Kontrolfaktor:		1,0 i kombination med multikontakt			
		0,95 i kombination med tidskontrol			
		0,85 i kombination med 1 sensor			
		0,65 i kombination med 2 eller flere sensorer			
Lækage*	Intern	0,70 %			
	Ekstern	1,80 %			
Position snavset filterindikation:		På aggregatets skærm/på multikontakten (LED)/på Brink Air Control. Pas på! For optimal energieffektivitet og korrekt drift er det nødvendigt med regelmæssig filterinspektion, rengøring eller udskiftning.			
Internetadresse for montagevejledning:		https://www.brinkclimatesystems.nl/international/home/docsearch			
Bypass:		Ja, 100% bypass			

* Målinger udført af TZWL i henhold til EN 13141-7 standarden

Klassifikation fra 1. januar 2016	
SEC-klasse ("Gennemsnitlig klimazone")	SEC i kWh/m ² /a
A+ (mest effektiv)	SEC < -42
A	-42 ≤ SEC < -34
B	-34 ≤ SEC < -26
C	-26 ≤ SEC < -23
D	-23 ≤ SEC < -20
G (mindst effektiv)	-20 ≤ SEC < -10