



Air for life

Tehnični list

Flair 225

Naprava za rekuperacijo toplote



Splošno

Flair 225 in Flair 225 Plus sta prezračevalni enoti za uravnoteženo prezračevanje bivališč na podlagi izkoriščanja toplote.

Funkcije:

- Največja zmogljivost 225 m³/h
- Plastični toplotni izmenjevalnik z visokim izkoristkom
- Filtri ISO Coarse 60 %
- Modularni električni predgrelnik
- Loputa za obvod rekuperacije
- Zaslon na dotik
- Prilagodljiva količina zraka
- Podatki o filtru na napravi in možnost navedbe podatkov o filtru na večstopenjskem stikalu
- Inteligentna zaščita pred zmrzaljo, vključno z modularnim predgrelnikom
- Nizka raven hrupa
- Konstantni volumenski pretok

Na voljo sta dve vrsti modela Flair 225:

- **»Flair 225«**
- **»Flair 225 Plus«**

Flair 225 Plus ima v primerjavi s standardnim modelom Flair 225 dodatno opsijsko ploščo, ki omogoča več funkcij/možnosti povezovanja (→).

Ta navodila za namestitev opisujejo tako standardni model Flair 225 kot tudi model Flair 225 Plus.

Flair 225 in Flair 225 Plus sta na voljo v **levi** in **desni** različici; levih in desnih modelov ni mogoče pretvarjati iz ene različice v drugo.

Za pravilne priključne kanale in mere (→).

Pozneje je mogoče napravo opremiti z opsijsko ploščo Plus.

Ta naprava je dostavljena z električnim vtičem za napetost 230 V.

Tehnični podatki

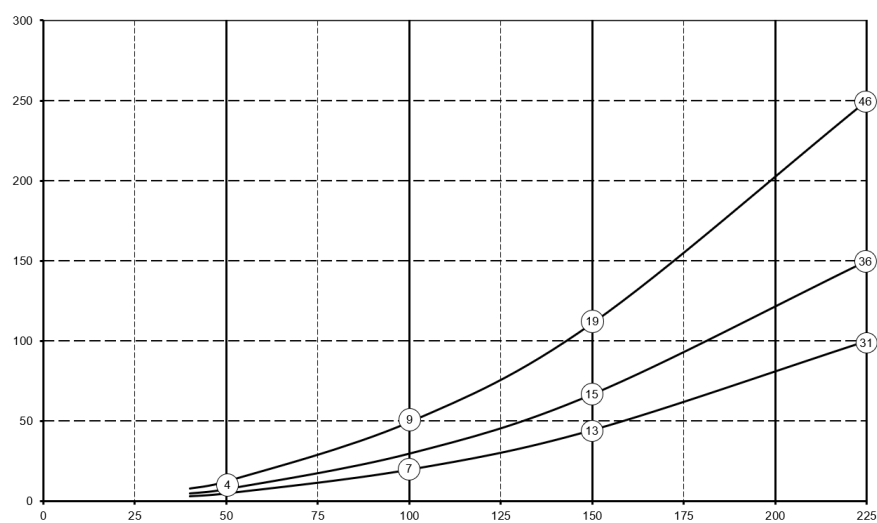
Tehnični podatki

Flair 225 (Plus)									
Napajalna napetost [V/Hz]	230 V/50 Hz								
Mere (š x v x g) [mm]	600 x 650 x 455								
Premer kanala [mm]	ø 125								
Zunanji premer odvajanja kondenzata [mm]	ø32								
Teža [kg]	29								
Razred filtra	ISO grobo 60 % (ISO ePM1,0 50 % za dovod zraka neobvezno)								
Nastavitev ventilatorja (tovarniška nastavitev)	0		1		2		3		najv.
Tovarniška nastavitev [m³/u]	50		100		150		250		225
Dovoljena odpornost kanalskega sistema [Pa]	3	8	5	12	20	49	44	111	100 250
Nazivna moč (brez predgrelnika) [W]	7,9	8,3	8	8,7	13,2	17,3	26,2	37,9	61,5 92,2
Nazivni tok (brez predgrelnika) [A]	0,10	0,11	0,10	0,10	0,13	0,16	0,22	0,32	0,48 0,70
Največ. nazivni tok (z vključenim predgrelnikom) [A]	3,8								
Cos φ	0,336	0,34	0,357	0,363	0,447	0,460	0,507	0,521	0,522 0,572
Zvočna moč									
Zmogljivost prezračevanja [m³/u]	50		100		150		225		225
Raven zvočne moči Lw(A)	Statični tlak [Pa]		25		50		100		150
	Sevanje ohišja [dB (A)]		28		31		33,5		38,5
	Kanal »Iz bivališča« [dB(A)]		<30		<34,5		<36,5		44
	Kanal »V bivališče« [dB(A)]		43,5		48,5		50,5		55

*) Hrup kanala, vključno s končno korekcijo

V praksi se lahko vrednost toleranc razlikuje za 1 dB (A).

Odpornost kanalskega sistema [Pa]



Pretok [m³/h]

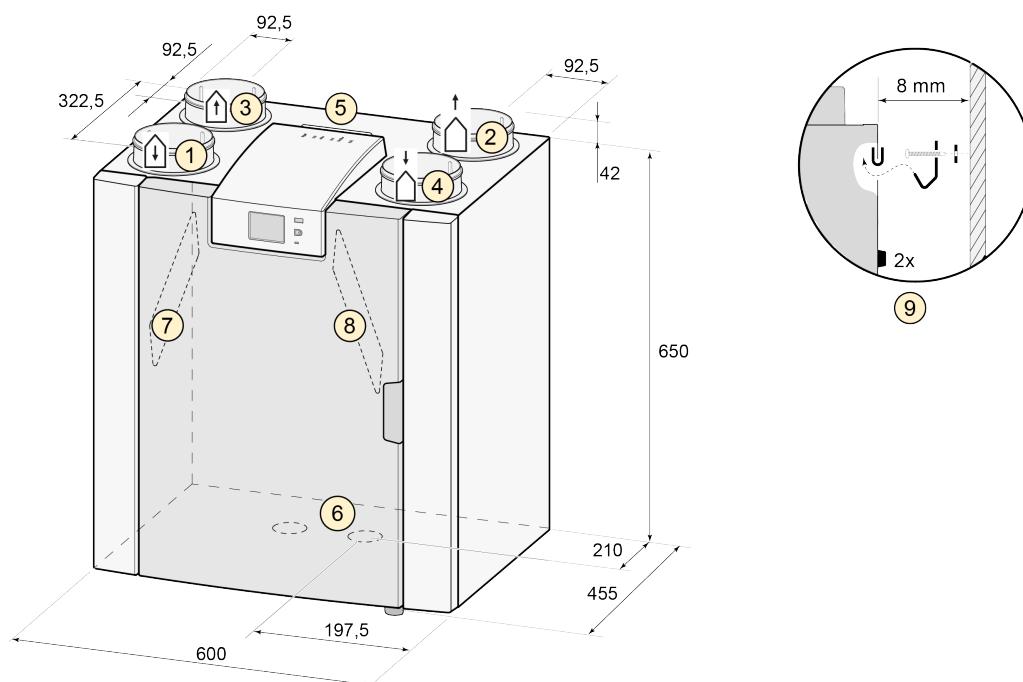
Opomba:

Navedena vrednost v krogu je zmogljivost (v vatih) na ventilator.

Priključki in mere

Naprava Flair je na voljo v levi in desni različici. Pri levi različici so »tople« povezave (iz bivališča 3 in v bivališče 1) na levi strani naprave; odtok kondenzata je nato nameščen na desni odprtini pod napravo. Pri desni različici so »tople« povezave (1 in 3) na desni strani naprave.

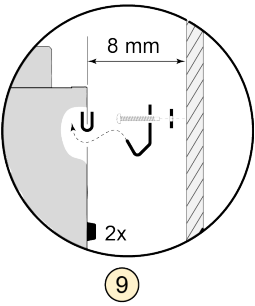
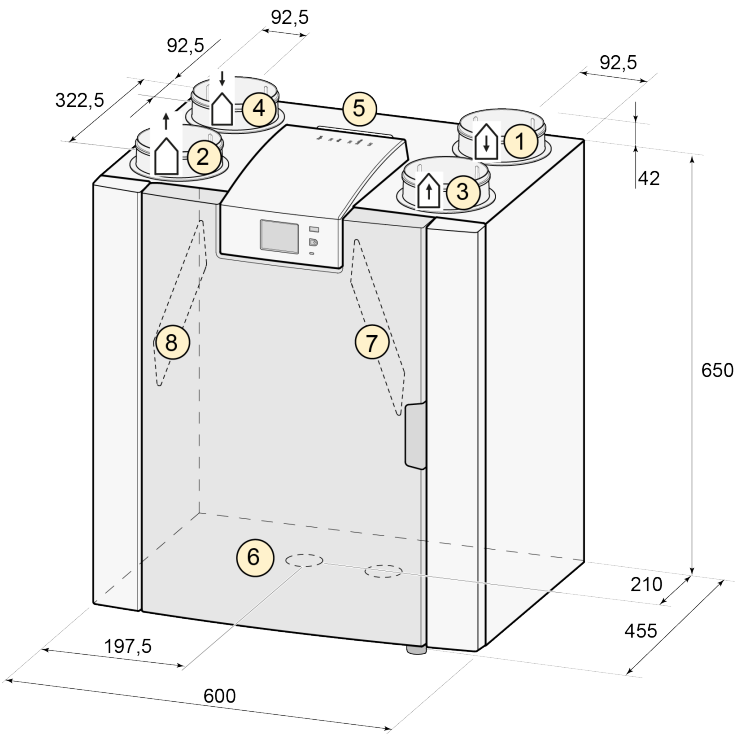
Leva različica



Vse mere so v milimetrih. Premer vseh objemk je 125 mm

1	V bivališče	
2	V zunanost	
3	Iz bivališča	
4	Iz zunanosti	
5	Električni priključki	
6	Siphon connection	
7	Filter izpušnega zraka	
8	Filter za dovodni zrak	
9	Namestitev	

Desna različica

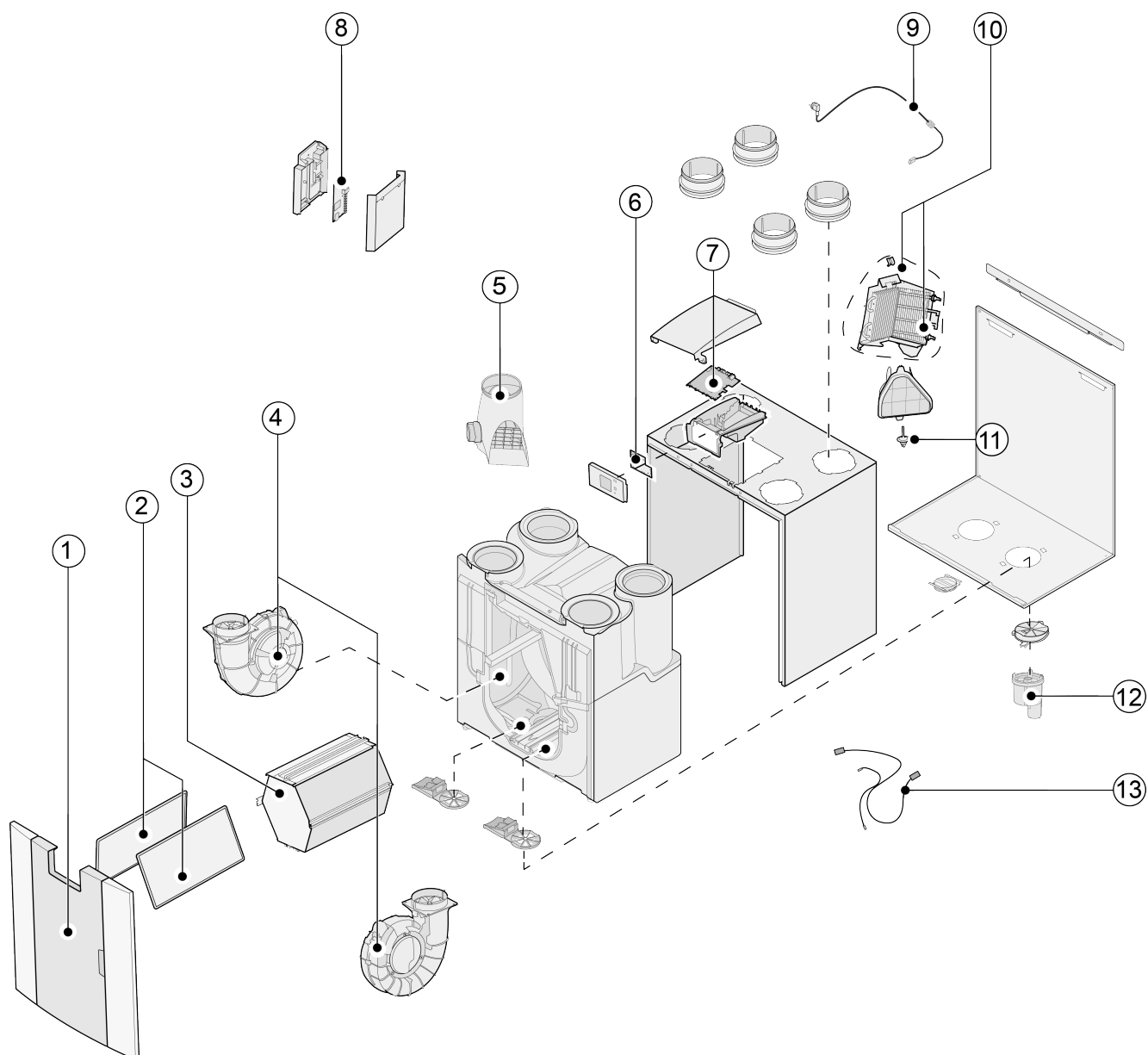


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Servisni artikli

Servisni artikli



Št.	Opis artikla	Koda artikla
1	Sprednja plošča zaključena	532799
2	Filtri (2 postavki) ISO grobo 60 %	532811
3	Izmenjevalnik toplote	532795
4	Ventilator (1 kos)	532759
5	Obvodni ventil z motorjem v kompletu	532797
6	Prikazovalnik s PCB UBP-2	522753
7	PCB Basic UWA2-B	532750
8	Plus pcb UWA2-E (velja samo za različico Plus)	532751
9	Omrežni vtič in kabel 230 V *	532756
10	Notranji predgrelnik vklj. največja varnost	532798
11	Temperaturni senzor NTC 10K	531775
12	Odtok kondenzata	532762
13	Komplet kablov	532767

* Napajalni kabel je opremljen s priključkom tiskane plošče. Pri zamenjavi vedno naročite nadomestni omrežni kabel pri Brink.

Da bi preprečili nevarne situacije, lahko poškodovan omrežni priključek zamenja samo usposobljen strokovnjak.

EN 13141-7:2010 Potrdila

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 Wohnungslüftungsgeräte (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.

Potrdilo o pasivni hiši

CERTIFICATE

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	$\leq 3\%$
Comfort	Supply air temperature $\geq 16.5^\circ\text{C}$ at outdoor air temperature of -10°C

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

Airflow range
62–173 m³/h

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

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

CERTIFIED COMPONENT
Passive House Institute

www.passivehouse.com

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

☎ +31 (0)522 46 96 13 | ✉ info@brinkclimatesystems.nl | 🌐 http://www.brinkclimatesystems.nl

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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Brink Flair 225 EU

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Poglej tudi: [Dokončano Potrdilo o pasivni hiši](#)

1 Izjava o skladnosti

Za to izjavo o skladnosti je odgovoren izključno proizvajalec.

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

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

Izdelek: **Flair 225**
Flair 225 Plus

Zgoraj opisani izdelek je skladen z naslednjimi direktivami:

- | | |
|-------------------|-----------------------------|
| ◆ 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) |

Zgoraj opisani izdelek je bil preizkušen v skladu z naslednjimi standardi:

- | | |
|---------------------|---|
| ◆ 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 Vrednosti ERP

List s tehničnimi podatki Flair 225 (Plus) v skladu z Direktivo o okoljsko primerni zasnovi (ErP) št. 1254/2014 (Priloga IV)					
Proizvajalec:		Brink Climate Systems B.V.			
Model:		Flair 225 (Plus)			
Klimatsko območje	Vrsta nadzora	Vrednost SEC v kWh/m ² /a	Razred SEC	Letna poraba električne energije (AEC) v kWh	Letni prihranek pri ogrevanju (AHS) v kWh
Povprečno	ročni	-40,78	A	258	4655
	krmiljenje z uro	-41,42	A	237	4667
	1x senzor (RV/CO ₂ /VOC)	-42,62	A+	199	4692
	2 ali več senzorja (RV/CO ₂ /VOC)	-44,71	A+	135	4741
Mrzlo	ročni	-79,92	A+	795	9107
	krmiljenje z uro	-80,68	A+	774	9131
	1x senzor (RV/CO ₂ /VOC)	-82,12	A+	736	9179
	2 ali več senzorja (RV/CO ₂ /VOC)	-84,68	A+	672	9275
Vroče	ročni	-15,73	E	213	2105
	krmiljenje z uro	-16,30	E	192	2111
	1x senzor (RV/CO ₂ /VOC)	-17,37	E	154	2122
	2 ali več senzorja (RV/CO ₂ /VOC)	-19,19	E	90	2144
Tip prezračevalne enote:		naprava za uravnoteženo prezračevanje bivališč z izmenjavo toplote			
Ventilator:		EC – ventilator z neskončno spremenljivim krmiljenjem			
Tip toplotnega izmenjevalca:		Rekuperativni plastični toplotni izmenjalnik z navzkrižnim protokom			
Toplotna učinkovitost		92 %			
Največji pretok:		225 m ³ /u			
Največja nazivna moč:		165 W			
Raven zvočne moči Lwa:		39 dB(A)			
Referenčni pretok:		158 m ³ /h			
Referenčni tlak:		50 Pa			
Specifični dovod energije (SEL):		0,17 Wh/m ³			
Krmilni dejavnik:		1,0 v kombinaciji z večstopenjskim stikalom			
		0,95 v kombinaciji s krmiljenjem z uro			
		0,85 v kombinaciji z 1 senzorjem			
		0,65 v kombinaciji z 2 senzorjema ali več			
Uhajanje*	Notranje	0,70 %			
	Zunanje	1,80 %			
Položaj podatkov o umazanem filtru:		Na zaslonu naprave / na več stikalu (LED) / na Brink Air Control. Pozor! Za optimalno energetske učinkovitost in pravilno delovanje je potrebno izvajanje rednih pregledov, čiščenj ali zamenjav filtra.			
Internetni naslov za navodila za sestavljanje:		https://www.brinkclimatesystems.nl/international/home/docsearch			
Obvod:		Da, 100-% obvod			

* Merjenja so izvedena s strani TZWL v skladu s standardom EN 13141-7

Klasifikacija z dne 1. januarja 2016	
Razred SEC («povprečno podnebno območje»)	SEC v kWh/m²/a
A+ (največja učinkovitost)	SEC < -42
A	-42 ≤ SEC < -34
B	-34 ≤ SEC < -26
C	-26 ≤ SEC < -23
D	-23 ≤ SEC < -20
G (najmanjša učinkovitost)	-20 ≤ SEC < -10