BRINK

Air for life

Tehniline leht

Flair 225
Soojustagastusseade

Üldine

Flair 225 ja Flair 225 Plus on elamute ventilatsioonisüsteemidesse mõeldud soojustagastusseade.

Omadused:

- Maksimaalne vooluhulk 225 m³/h
- Efektiivne plastist soojusvaheti
- Filtrid ISO-jämedusega 60%
- Elektriline eelsoojendusmoodul
- Automaatne möödavooluklapp
- Puuteekraan
- Reguleeritav õhukogus
- Filtrinäidik seadmel endal ja võimalik lisada filtrinäidik pöördlülitile
- Automaatne külmumiskaitse koos eelsoojendusmooduliga
- Vaikne
- Vooluhulga pidevjuhtimine

Flair 225 on saadaval kahe tüübina:

- **„Flair 225“**
- **„Flair 225 Plus“**

Võrreldes tavalise tüübiga Flair 225 on tüübil Flair 225 Plus täiendav PCB (trükkplaat), mis pakub rohkem funktsioone/ühendusvõimalusi (→).
Käesolevas paigaldusjuhendis käsitletakse nii tüüpi Flair 225 kui ka tüüpi Flair 225 Plus.

Flair 225 ja Flair 225 Plus on saadaval **vasakukäelise** ja **paremakäelise** versioonina; vasakukäelisest versioonist ei saa teha paremakäelist ega vastupidi.
Õiged ühendustorud ja mõõtmed leiate siit (jaotisest).

Täiendav PCB seevastu on võimalik seadmele hiljem paigaldada.

Seadmega on ühendatud 230 V toitekaabel.

Technical info

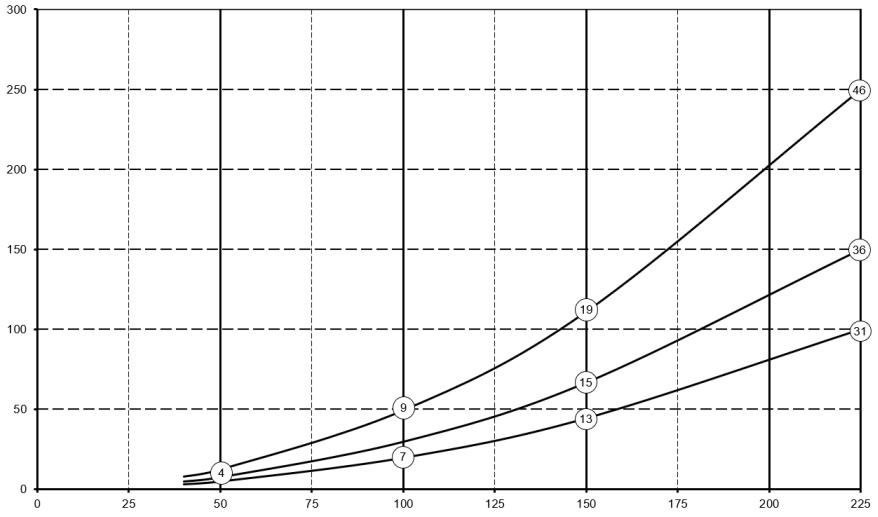
Tehniline teave

Flair 225 (Plus)										
Toitepinge [V/Hz]	230 V / 50 Hz									
Mõõtmed (l × k × s) [mm]	600 x 650 x 455									
Kanali läbimõõt [mm]	ø125									
Kondensaadi äravoolu välisläbimõõt [mm]	ø32									
Mass [kg]	29									
Filtriklass	ISO jämedus 60% (valikuliselt sissepuhkefilter 50% ISO ePM1.0)									
Ventilaatori seaded (tehaseseaded)	0		1		2		3		max	
Tehaseseade [m³/h]	50		100		150		250		225	
Kanalite lubatav vasturõhk [Pa]	3	8	5	12	20	49	44	111	100	250
Nimivõimsus (v.a eelsoojendi) [W]	7,9	8,3	8	8,7	13,2	17,3	26,2	37,9	61,5	92,2
Nimivoolutugevus (v.a eelsoojendi) [A]	0,10	0,11	0,10	0,10	0,13	0,16	0,22	0,32	0,48	0,70
Max nimivool (sisselülitatud eelsoojendiga) [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

Helivõimsus									
Ventilatsiooni maht [m³/h]		50	100	100	150	150	225	225
Helivõimsuse tase Lw(A)	Staatiline rõhk [Pa]	25	25	50	50	100	100	150
	Korpusest kiirguv [dB(A)]	28	31	33,5	38,5	40,5	45,5	47
	Elamust väljuv kanal [db(A)]	<30	<34,5	<36,5	44	43	47,5	48,5
	Elamusse sisenev kanal [db(A)]	43,5	48,5	50,5	55	57,5	62,5	64,5

*) Kanalimüra koos lõppkorrektsiooniga
Praktikas mõõdetav väärtus võib mõõtmistulemuste tolerantsi tõttu erineda kuni 1 dB(A) võrra.

Kanalite vasturõhk [Pa]



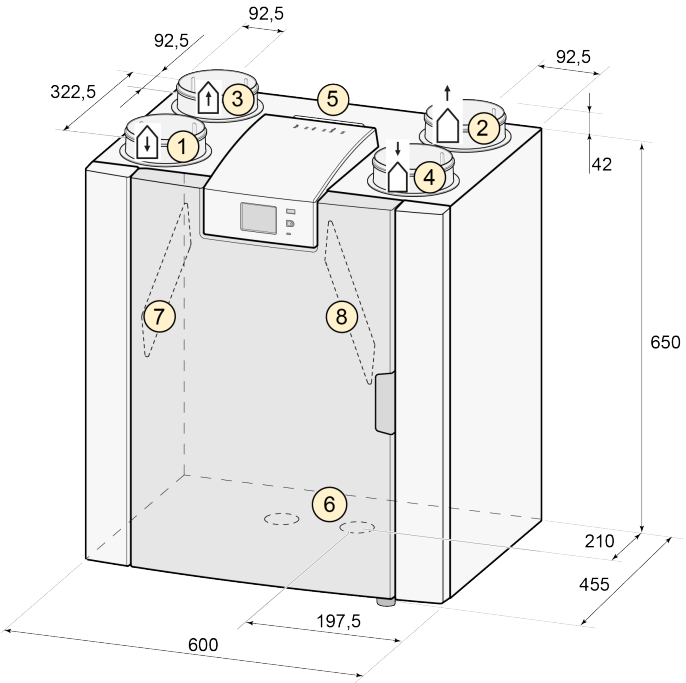
Voolukiirus [m³/h]

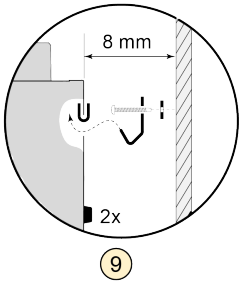
Märkus: ringis toodud väärtus tähistab võimsust (W) ventilaatori kohta.

Ühendused ja mõõtmed

Seade Flair on saadaval vasaku- ja paremakäelises versioonis. Vasakukäelise versiooni puhul on „soojad" ühendused (elamust väljuv 3 ja elamusse suunduv 1) seadme vasakul küljel ning kondensvee toru paigaldatakse seadme all olevale parempoolsele avale. Paremakäelise versiooni puhul on „soojad" ühendused (1 ja 3) seadme paremal küljel.

Vasakukäeline versioon

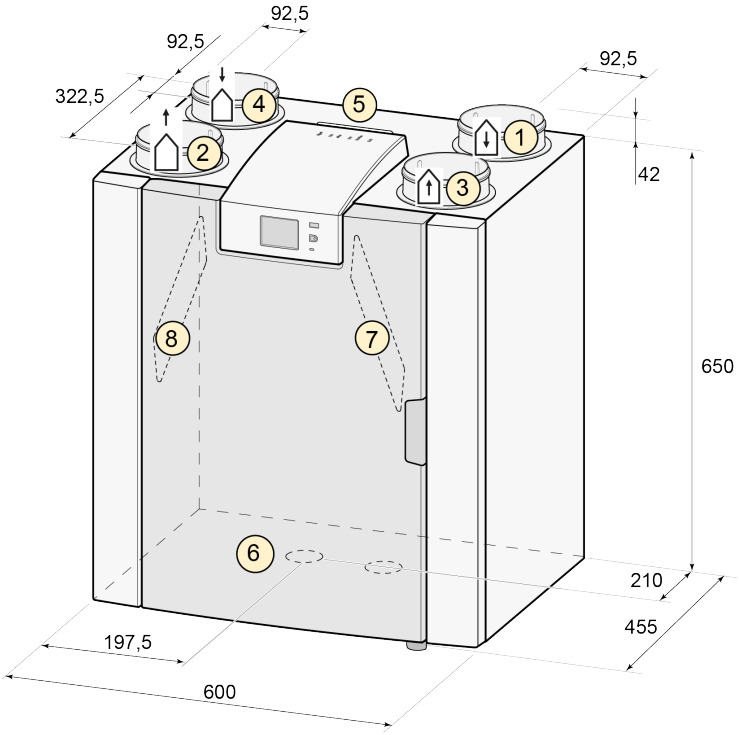


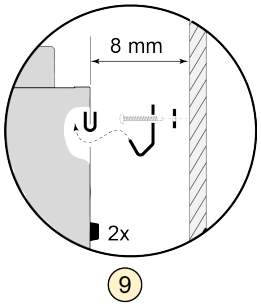


Kõik mõõtmed on millimeetrites. Kõigi äärikute läbimõõt on 125 mm

1	Elamusse	↓
2	Õue	↑
3	Elamust	↑
4	Õuest	↓
5	Elektriühendused	
6	Siphon connection	
7	Väljapuhkefilter	
8	Sissepuhkefilter	
9	Kinnitus	

Paremakäeline versioon





Kõik mõõtmed on millimeetrites. Kõigi äärikute läbimõõt on 125 mm

1	Elamusse	↓
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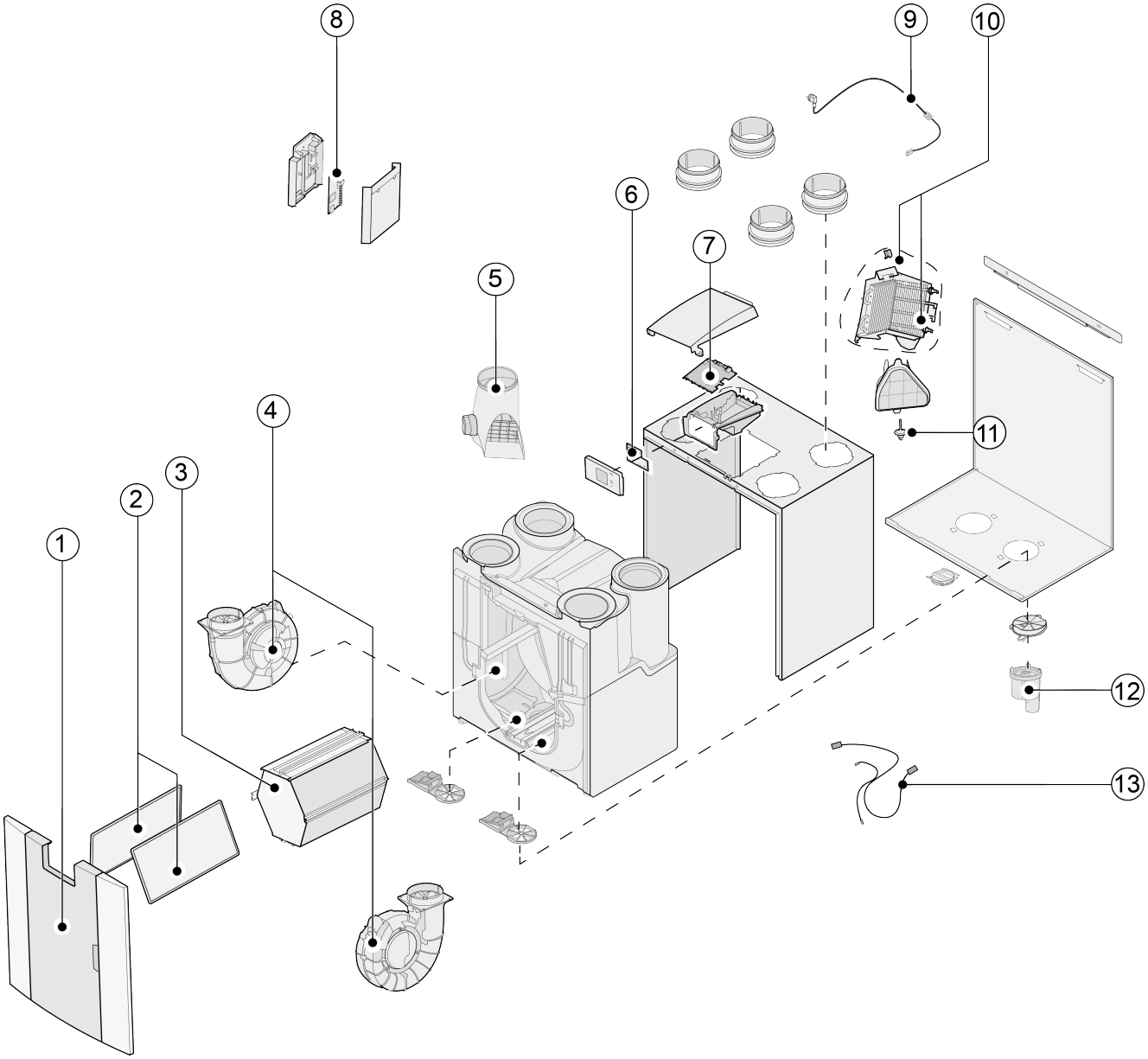
Service esemed

Varuosad



Nr	Osa kirjeldus	**Osa kood**
1	Terviklik esipaneel	532799
2	Filtrid (2 tk) ISO-jämedusega 60%	532811
3	Soojusvaheti	532795
4	Ventilaator (1 tk)	532759
5	Möödavoolusulguri komplekt koos mootoriga	532797
6	Ekraani PCB UBP-2	522753
7	Standard-PCB UWA2-B	532750
8	Plus PCB UWA2-E (ainult Plus-versiooni puhul)	532751
9	Toitepistik ja -kaabel, 230 V*	532756
10	Sisemine eelsoojendi maksimumkaitsega	532798
11	Temperatuuriandur NTC 10K	531775
12	Kondensvee toru	532762
13	Kaablikomplekt	532767

* Toitekaablil on eriline pistik. Kui toitekaabel on vaja välja vahetada, tellige kindlasti uus ettevõttelt Brink Climate Systems B.V..
Ohtlike olukordade vältimiseks tohib kahjustatud toiteühendust parandada ainult kvalifitseeritud spetsialist.

Sertifikaate

EN 13141-7:2010 sertifikaate

EN 13141-7:2010 Certificate

KF.80.05.326.AD.01
24.08.20

Declaration of confirmity
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 $\eta_{\theta,su}$ [%]	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 $\eta_{\theta,su}$ [%]	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.

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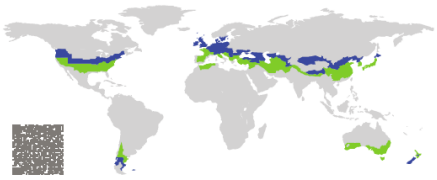
Passive House Certifikát

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	η_{HR}	≥	75 %
Specific electric power	$P_{el,spec}$	≤	0.45 Wh/m³
Leakage		<	3 %
Comfort	Supply air temperature ≥ 16.5 °C at outdoor air temperature of –10 °C		

Airflow range
62–173 m³/h
Heat recovery rate
η_{HR} = 89 % [1]
Specific electric power
$P_{el,spec}$ = 0.25 Wh/m³

[1] At an airflow of 71 m³/h, a heat recovery of η_{HR} = 92 % is reached.

cool, temperate climate

CERTIFIED COMPONENT
Passive House Institute

www.passivehouse.com

Brink Climate Systems B.V.
Wethouder Wassebaliestraat 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 temperatur 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.

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

With

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

Heat recovery rate
η_{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 Wh/m³

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
ϵ_L = 0.72

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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	Duct			
	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%

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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 optionaly equipped with an additional extrnal 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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Vaata ka: Täielik passiivmaja sertifikaat

1 Vastavusdeklaratsioon

See vastavusdeklaratsioon antakse välja ainuisikuliselt tootja vastutusel.

Tootja:	**Brink Climate Systems B.V.**
Aadress:	**Postbus 11** **NL-7950 AA, Staphorst, The Netherlands**
Toode:	**Flair 225** **Flair 225 Plus**

Ülalkirjeldatud toode vastab järgmistes dokumentides esitatud nõuetele:

- 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)

Ülalkirjeldatud toodet on testitud vastavalt järgmistele standarditele:

- 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 Energiamõju iseloomustavad väärtused

Toote Flair 225 (Plus) tehniliste andmete leht kooskõlas ökodisaini määrusega (energiamõjuga tooted) 1254/2014 (IV lisa)					
Tootja:		**Brink Climate Systems B.V.**			
Mudel:		**Flair 225 (Plus)**			
Kliimatüüp	**Juhtimistüüp**	**Erienergiatarve (SEC), kWh/m²/a**	**SEC klass**	**Aastane elektritarve (AEC), kWh**	**Aastas säästetud soojusenergia (AHS), kWh**
Keskmine	käsitsi	-40,78	A	258	4655
	kellaajapõhine juhtimine	-41,42	A	237	4667
	1x andur (RV/CO_2/VOC)	-42,62	A+	199	4692
	2 või rohkem andurit (RV/CO_2/VOC)	-44,71	A+	135	4741
Külm	käsitsi	-79,92	A+	795	9107
	kellaajapõhine juhtimine	-80,68	A+	774	9131
	1x andur (RV/CO_2/VOC)	-82,12	A+	736	9179
	2 või rohkem andurit (RV/CO_2/VOC)	-84,68	A+	672	9275
Palav	käsitsi	-15,73	E	213	2105
	kellaajapõhine juhtimine	-16,30	E	192	2111
	1x andur (RV/CO_2/VOC)	-17,37	E	154	2122
	2 või rohkem andurit (RV/CO_2/VOC)	-19,19	E	90	2144
Ventilatsiooniseadme tüüp:		Soojustagastusega tasakaalustatud elamuventilatsiooniseade			
Ventilaator:		EC – pidevalt juhitava kiirusega ventilaator			
Soojusvaheti tüüp:		Rekuperatiivne plastist rist-vastuvoolu soojusvaheti			
Soojuslik efektiivsus		92%			
Max voolumaht:		225 m³/h			
Max võimsus:		165 W			
Helivõimsuse tase Lwa:		39 dB(A)			
Etalonvoolumaht:		158 m³/h			
Nimirõhk:		50 Pa			
Erivõimsus (SEL):		0,17 Wh/m³			
Juhtimistegur:		1,0, kui kasutusel on pöördlüliti			
		0,95, kui juhtimine toimub kellaajapõhiselt			
		0,85, kui kasutusel on üks andur			
		0,65, kui kasutusel on vähemalt kaks andurit			
Leke*	Sisemine	0,70%			
	Välimine	1,80%			
Filtri puhastamise/asendamise näidu asukoht:		Seadme ekraanil / pöördlülitil (LED) / seadmel Brink Air Control. **Tähelepanu!** Optimaalse energiatõhususe ja töökindluse tagamiseks tuleb filtreid korrapäraselt kontrollida ning puhastada või asendada.			
Paigaldusjuhendi internetiaadress:		https://www.brinkclimatesystems.nl/international/home/docsearch			
Möödavool:		Jah, 100% möödavool			

* Mõõtmised on teinud TZWL kooskõlas standardiga EN 13141-7

Liigitus alates 1. jaanuarist 2016	
SEC klass (keskmine kliimatüüp)	SEC, kWh/m²/a
A+ (suurim energiatõhusus)	SEC < –42
A	–42 ≤ SEC < –34
B	-34 ≤ SEC < -26
C	-26 ≤ SEC < -23
D	-23 ≤ SEC < -20
G (kõige väiksem energiatõhusus)	-20 ≤ SEC < -10