



Air for life

Technický list

Flair 325

Zariadenie na rekuperáciu tepla



Všeobecné informácie

Zariadenia Flair 325 a Flair 325 Plus sú vetracou jednotkou na rovnomerné odvetrávanie obydľí s rekuperáciou tepla.

Vlastnosti:

- Maximálny výkon 325 m³/h
- Plastový výmenník tepla s vysokou návratnosťou
- Hrubé filtre ISO 60 %
- Modulárny elektrický predhrievač
- Automatický obtokový ventil
- Dotyková obrazovka
- Nastaviteľný objem vzduchu
- Ukazovateľ filtra na zariadení a možnosť ukazovateľa filtra na viacpolohovom prepínači
- Inteligentná ochrana proti zamrznutiu vrátane modulárneho predhrievača
- Nízka úroveň hluku
- Konštantná regulácia prietoku

K dispozícii sú dva typy zariadenia Flair 325:

- **zariadenie „Flair 325“**
- **zariadenie „Flair 325 Plus“**

Zariadenie Flair 325 Plus má na rozdiel od štandardného zariadenia Flair 325 jednu dosku plošných spojov navyše, vďaka čomu poskytuje viac funkcií/možností pripojenia (→).

V tomto návode na inštaláciu je opísané štandardné zariadenie Flair 325, ako aj zariadenie Flair 325 Plus.

Zariadenia Flair 325 a Flair 325 Plus sú k dispozícii v **ľavej** a **pravej** verzii, pričom jednotlivé modely sa nedajú konvertovať na opačný model.

Správne prípojné potrubia a rozmery nájdete v časti (→).

Dodatočne sa však zariadenie dá vybaviť ďalšou doskou plošných spojov.

Zariadenie sa dodáva skonštruované na pripojenie do sieťovej zástrčky 230 V.

Technické informácie

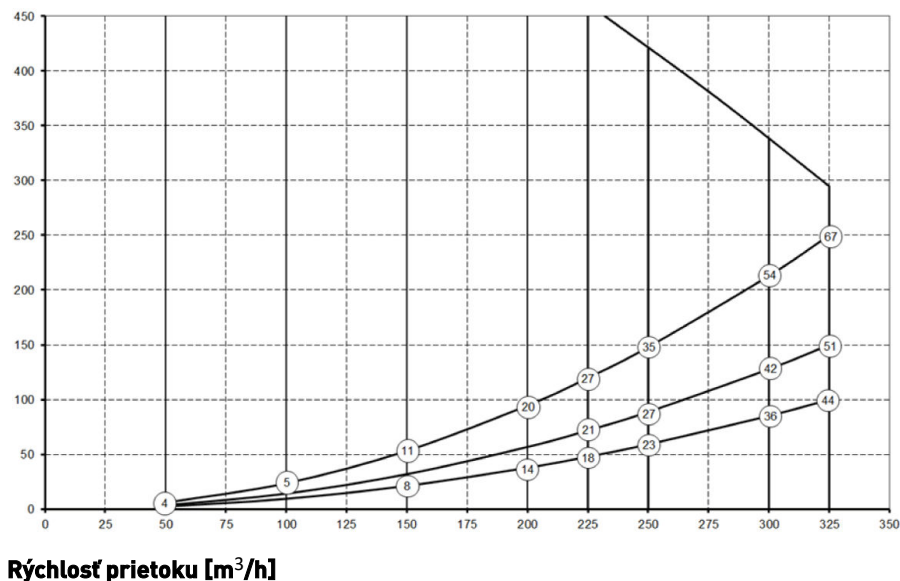
Technické informácie

Flair 325 (Plus)													
Napájacie napätie [V/Hz]				230V/50Hz									
Rozmery (š x v x h) [mm]				4-0 spojení				2-2 spojení					
				750 x 650 x 560				750 x710 x 560					
Priemer vedenia [mm]				ø160									
Vonkajší priemer odvodu kondenzátu [mm]				ø32									
Hmotnosť [kg]				37									
Trieda filtra				Hrubý filter ISO 60 % (ISO ePM1.0 na prívod vzduchu je voliteľný)									
Nastavenie ventilátora (výrobné nastavenie)				0		1		2		3		max	
Výrobné nastavenie [m³/h]				50		100		150		250		325	
Povolený odpor systému vedení [Pa]				2	6	9	24	21	53	59	148	100	250
Menovitý výkon (bez predhrievača) [W]				6.1	6.6	7.9	10.3	15.1	21.0	46.6	69.1	87.5	133.4
Menovitý prúd (bez predhrievača) [A]				0.08	0.08	0.09	0.11	0.15	0.21	0.41	0.59	0.73	1.07
Max. menovitý prúd (vrát. zapnutého predhrievača) [A]				6									
Cos φ				0.341	0.343	0.389	0.394	0.430	0.439	0.492	0.507	0.521	0.542
Akustický výkon													
Odvetrávací výkon [m3/h]							100	150	150	200	200	250	325
Hladina akustického výkonu Lw(A)		Statický tlak [Pa]					25	25	50	50	100	150	150
		Vyžarovanie cez kryt [dB(A)]					27	34	35	40	41	46	51
		Potrubie „Z domu“ [db(A)]					32	40	38	46	44	49	55
		Potrubie „Do domu“ [db(A)]					44	49	51	55	57	62	69

*) Hluk potrubia vrátane koncovej korekcie

V praxi sa môže hodnota líšiť o 1dB(A) v dôsledku tolerancií merania.

Odpor systému potrubí [Pa]



Poznámka:

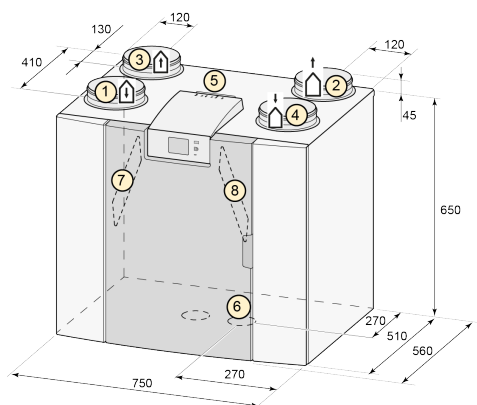
Hodnota uvedená v krúžku označuje výkon (vo wattoch) každého ventilátora.

Prípojky a rozmery

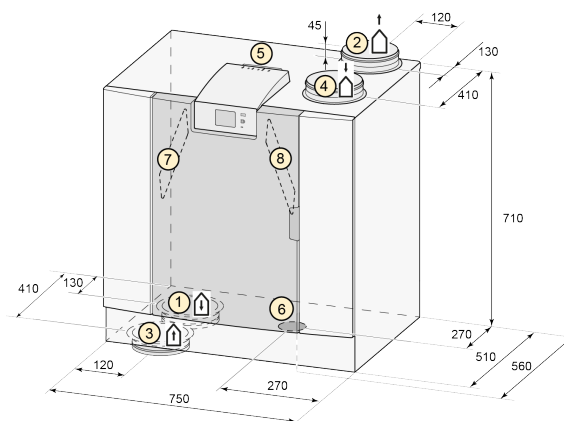
Zariadenie Flair je k dispozícii v ľavej a pravej verzii. V prípade ľavej verzie sú prípojky „tepla“ (z domu 3 a do domu 1) na ľavej strane zariadenia; odvod kondenzátu je namontovaný na pravom otvore pod zariadením. V prípade pravej verzie sú prípojky „tepla“ (1 a 3) na pravej strane zariadenia.

Ľavá verzia

4-0 spojení

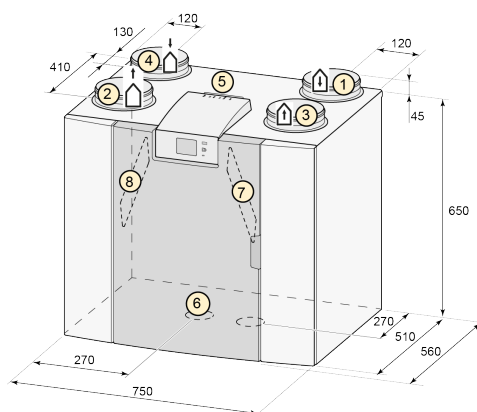


2-2 spojení

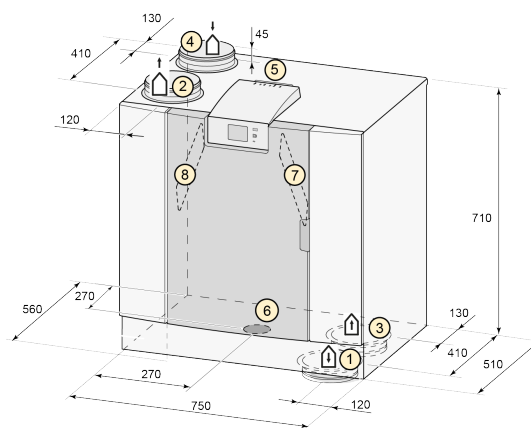


Pravá verzia

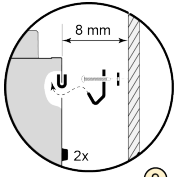
4-0 spojení



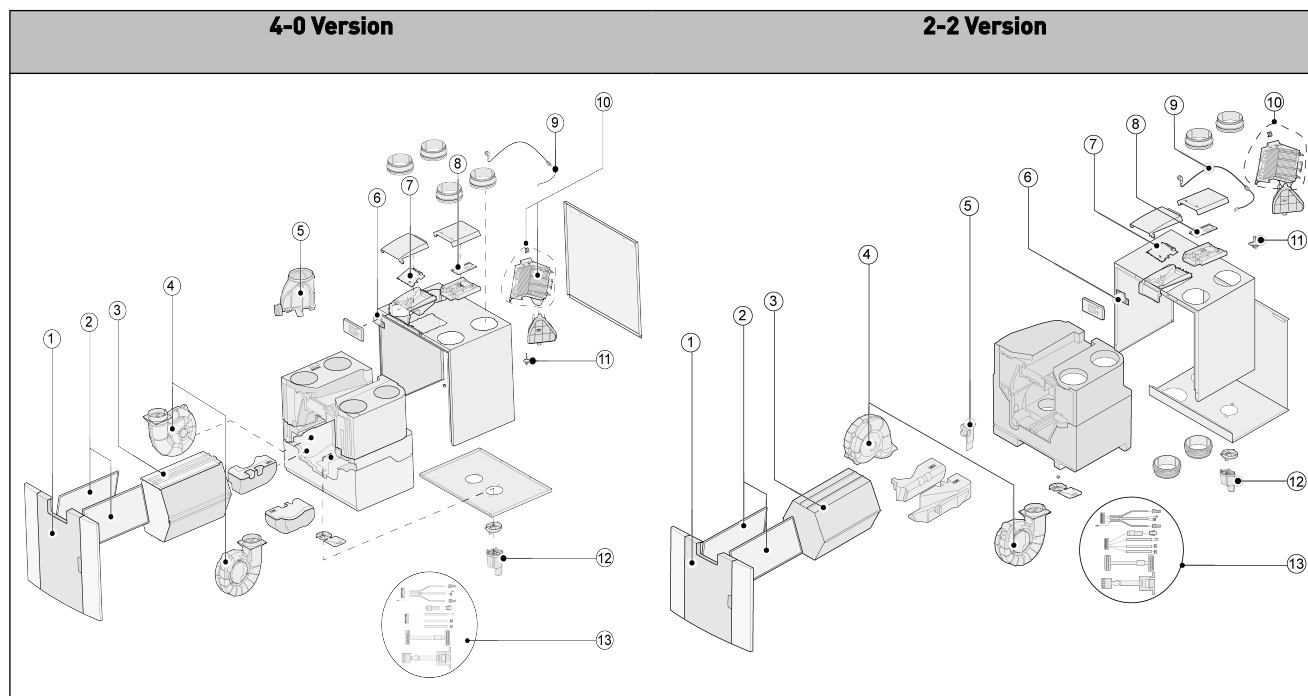
2-2 spojení



Všetky rozmery sú v milimetroch. Priemer všetkých objímok je 160 mm.

1	Do domu		2	Von		3	Z domu		4	Z vonku	
5	Elektrické prípojky										
6	Siphon connection										
7	Filter výfukového vzduchu										
8	Filter privádzaného vzduchu										
9	Upevnenie										

Servisné diely



Č.	Opis položky	Kód položky
1	Predný panel je kompletný	532763
2	Hrubé filtre (2 položky) ISO 60 %	532716
3	Výmenník tepla	532754
4	Ventilátor (1 položka)	532759
5	Súprava obtokového ventila s motorom (4-0 spojení)	532760
	Súprava obtokového motorom (2-2 spojení)	531778
6	Displej dosky plošných spojov UBP-2	532752
7	Základná doska plošných spojov UWA2-B	532750
8	Doska plošných spojov Plus UWA2-E (relevantné len pre verziu Plus)	532751
9	Sieťová zástrčka a kábel 230 V *	532756
10	Vnútrotný predhrievač vrát. maximálneho zabezpečenia	532761
11	Snímač teploty NTC 10K	531775
12	Odvod kondenzátu	532762
13	Súprava káblov	532767

* Napájací kábel je vybavený konektorom pre dosku plošných spojov. Pri jeho výmene si vždy objednajete náhradný sieťový kábel od spoločnosti Brink.

Na zabránenie nebezpečným situáciám smie vymieňať poškodené pripojenie siete len kvalifikovaný odborník.

Certifikát

EN 13141-7:2010 certifikát

KF.82.01.257.AD.01
18.05.18



Declaration of conformity regarding the determination of energetic efficiency according to EN 13141-7:2010

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 325 4/0 L EU
Serial Number:	430000180301
Year of construction:	2018
Power supply:	230 V ~ 50 Hz
CE-Label:	Yes
Maximum volume flow:	325 m³/h

Results, energetic efficiency 7°C:

Air flow [m³/h]	Temperature ratio, supply air $\eta_{t,su}$ [%]	Total electric power consumption P_E [W]	Specific electric power consumption [W/m³/h]
51	98,4	11,7	0,23
224	90,8	34,7	0,15
325	90,5	79,2	0,24

Results, energetic efficiency 2°C:

Air flow [m³/h]	Temperature ratio, supply air $\eta_{t,su}$ [%]	Total electric power consumption P_E [W]	Specific electric power consumption [W/m³/h]
50	97,7	11,5	0,23
225	94,0	37,0	0,16
327	93,2	86,8	0,27

Results of performance tests of aerodynamic characteristics, of heat recovery characteristics and of the effective power consumption are taken from tests with number M.82.01.257.AD.

CERTIFICATE

Certified Passive House Component
Component-ID 1288vs03 valid until 31st December 2019

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 325**

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	$\eta_{\text{heat}} \geq 75\%$
Specific electric power	$P_{\text{el,spec}} < 0.45 \text{ Wh/m}^3$
Leakage	$< 3\%$
Comfort	Supply air temperature $> 16.5^\circ\text{C}$ at outdoor air temperature -10°C

Airflow range
69–251 m³/h
Heat recovery rate
$\eta_{\text{heat}} = 91\%$
Specific electric power
$P_{\text{el,spec}} = 0.21 \text{ Wh/m}^3$

CERTIFIED COMPONENT
Passive House Institute

At an airflow of 202 m³/h, the specific electric power $P_{\text{el,spec}} = 0.19 \text{ Wh/m}^3$.

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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
2.49%	0.88%

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 69–251 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 3.90 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 248 m³/h:

Device	Outdoor	Supply	Duct	Extract air	Exhaust air
44.5 dB(A)	48.5 dB(A)	60.5 dB(A)	49.0 dB(A)	59.0 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 equipped with following filter qualities by default:

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

On the outdoor air supply air side the filter quality class F7 is recommended. If not standard configuration, the F7 filter is available as accessory part.

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Brink Climate Systems B.V.
Wethouder Wasseballestraat 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 $-10\text{ }^{\circ}\text{C}$ a supply air temperature higher than $16.5\text{ }^{\circ}\text{C}$ 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.

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

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
 $\eta_{\text{HR}} = 91\%$

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
 $P_{\text{el,spec}} = 0.21 \text{ Wh/m}^3$

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
 $\rho_{\text{eff}} = 0.76$

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Brink Flair 325

Leakage

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

Internal leakage	External leakage
2.49%	0.88%

Settings and airflow balance

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Indoor air quality

This unit is equipped with following filter qualities by default:

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

On the outdoor air/ supply air side the filter quality class F7 is recommended. If not standard configuration, the F7 filter is available as 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 1000 W. In order to ensure the frost protection even at low outdoor 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 by the outdoor temperature. In the case of the laboratory measurement, the preheating of this frost protection at an upper airflow rate and an outdoor air temperature of -15°C is sufficient. By the laboratory testing, the preheaters were first activated by an outdoor air temperature of -5.6°C .
- **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 5°C .

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Brink Flair 325

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1 Vyhlásenie o zhode

Toto vyhlásenie o zhode je vydané na výhradnú zodpovednosť výrobcu.

Výrobca: **Brink Climate Systems B.V.**
Adresa: **Postbus 11**
NL-7950 AA, Staphorst, The Netherlands
Výrobok: **Flair 325**
Flair 325 Plus

Uvedeny výrobok spĺňa nasledujúce smernice:

- | | |
|-------------------|-----------------------------|
| ♦ 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) |

Vyššie popísaný produkt bol testovaný podľa nasledujúcich noriem:

- | | |
|---------------------|--|
| ♦ 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
Technický riaditeľ

2 Hodnoty ERP

Hárak technických údajov Flair 325 (Plus) v súlade s nariadením Ecodesign (ErP) č. 1254/2014 (príloha IV)					
Výrobca:		Brink Climate Systems B.V.			
Model:		Flair 325 (Plus)			
Klimatické podmienky	Typ ovládania	Hodnota SEC v kWh/m ² /a	Trieda SEC	Ročná spotreba elektriny (AEC) v kWh	Ročná úspora vykurovania (AHS) v kWh
Priemerné	Manuálne	-40,99	A	233	4614
	ovládanie podľa hodín	-41,59	A	215	4628
	1x snímač (RV/CO ₂ /VOC)	-42,72	A+	181	4657
	2 alebo viac snímačov (RV/CO ₂ /VOC)	-44,71	A+	124	4714
Chladné	manuálne	-79,74	A+	770	9026
	ovládanie podľa hodín	-80,48	A+	752	9054
	1x snímač (RV/CO ₂ /VOC)	-81,88	A+	718	9110
	2 alebo viac snímačov (RV/CO ₂ /VOC)	-84,42	A+	661	9222
Horúce	manuálne	-16,17	E	188	2086
	ovládanie podľa hodín	-16,69	E	170	2093
	1x snímač (RV/CO ₂ /VOC)	-17,66	E	136	2106
	2 alebo viac snímačov (RV/CO ₂ /VOC)	-19,33	E	79	2132
Typ odvetrávacej jednotky:		Zariadenie na rovnomerné odvetrávanie obydľí s rekuperáciou tepla			
Ventilátor:		EC – ventilátor s plynule meniteľným ovládaním			
Typ výmenníka tepla:		Rekuperatívny plastový protiprúdový výmenník tepla s priečnym prúdom			
Tepelná účinnosť		91 %			
Maximálna rýchlosť prietoku:		325 m ³ /h			
Maximálny menovitý výkon:		145 W			
Hladina akustického výkonu Lwa:		41 dB(A)			
Referenčná rýchlosť prietoku:		228 m ³ /h			
Referenčný tlak:		50 Pa			
Príkon (SEL):		0,15 Wh/m ³			
Kontrolný faktor:		1,0 v kombinácii s viacpolohovým prepínačom			
		0,95 v kombinácii s časovým ovládaním			
		0,85 v kombinácii s 1 snímačom			
		0,65 v kombinácii s 2 alebo viacerými snímačmi			
Netesnosť*	vnútorná	2,85 %			
	vonkajšia	2,85 %			
Umiestnenie upozornenia na znečistený filter:		Na displeji na zariadení/na viacpolohovom prepínači (LED)/na ovládači Air Control od spol. Brink. Pozor! Pre optimálnu energetickú účinnosť a riadnu prevádzku je nutné pravidelne kontrolovať, čistiť a vymieňať filtre.			
Internetová adresa s pokynmi na montáž:		https://www.brinkclimatesystems.nl/international/home/docsearch			
Obtok:		áno, 100 % obtok			

* Merania vykonalo TZWL podľa normy EN 13141-7

Klasifikácia z 1. januára 2016	
Trieda SEC („priemerné klimatické podmienky“)	SEC v kWh/m²/a
A+ (najefektívnejšia)	SEC < -42
A	-42 ≤ SEC < -34
B	-34 ≤ SEC < -26
C	-26 ≤ SEC < -23
D	-23 ≤ SEC < -20
E (najmenej efektívna)	-20 ≤ SEC < -10