

cool, temperate climate



**CERTIFIED COMPONENT**

Passive House Institute



# BPS PASSIVHAUS

VENTILATION  
SOLUTIONS FOR  
REDUCING CARBON  
EMISSIONS

PASSIVHAUS  
CERTIFIED AHU



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PROUD TO BUILD BRITISH



We've been pioneers in new air technology since 1966. Our heritage is in the design and manufacture of fans and ventilation systems. We put our energy into efficient ventilation so you don't waste yours.



**Pioneering**  
We lead the way in product innovation with a stream of ground-breaking products over decades.



**Trusted**  
We have a reputation for our build quality. We establish long term relationships and are always transparent with our test data.



**Agile**  
We're one of the UK's leading manufacturers, covering both residential and commercial air quality. We offer innovative advice and provide flexible solutions.



**Sustainable**  
We're committed to minimising environmental impact by utilising XCarb® recycled steel, working to reduce our CO<sub>2</sub> emissions by 35%.



**Attentive**  
We're expert listeners, rising to any challenge and going the extra mile for our customers. We add value by solving problems. We sell solutions, not fans.



**Personal**  
We work closely with our customers and can provide bespoke solutions to meet their specific project needs. Many of our product ranges were developed this way.

“Our expertise, experience and innovation are what makes us stand out from the rest of the market.” - Nuaire.



For help with selecting a unit, speak to us on **029 2085 8200** or email: [enquiries@nuaire.co.uk](mailto:enquiries@nuaire.co.uk)

PASSIVHAUS VENTILATION SOLUTIONS FOR REDUCING CARBON EMISSIONS

All commercial buildings consume significant amounts of energy each year. This high consumption contributes heavily to carbon emissions, posing a harmful threat to people and the environment.

Emissions generated from buildings and construction hit an all-new high in 2022, making up 37% of total global CO<sub>2</sub> emissions, contributing significantly to global climate change (Global Status Report Buildings and Construction, 2024).

As demand continues to grow, now more than ever, it is fundamental to integrate sustainable solutions into construction projects. Taking essential steps to address these challenges will reduce environmental impact and create a more sustainable future.

PASSIVHAUS CERTIFIED AIR HANDLING UNIT

Nuaire has been at the forefront of packaged air handling units (AHU) for decades, with Nuaire designing and manufacturing market-leading ranges.

BPS is a range of high specification packaged air handling units, designed and engineered to provide an efficient, high performing, compact solution.

Available in a number of configurations, designed to be a flexible, energy efficient solution that can meet the needs of a multitude of projects and applications.



## WHAT IS PASSIVHAUS?

Passivhaus is a global standard with goals of achieving energy efficiency and, therefore, carbon net-zero buildings.

Supported by over 30 years of international evidence, Passivhaus provides a range of tried and tested solutions that reduce carbon emissions for existing and new buildings. Built on the understanding that we can create spaces that provide a high level of occupant comfort and well-being using minimal energy.

Passivhaus adopts a whole-building approach with clear targets certified through a rigorous quality assurance process, delivering measured targets with a strengthened focus on high-quality construction.

Creating a better future with positive change by conforming to the Passivhaus standard, designers are not only creating greener buildings, but are establishing spaces with fresher air, low energy bills, and a high level of occupant comfort.

## WHERE DOES VENTILATION FIT INTO THIS?

Ventilation is a fundamental part of a Passivhaus building, with the institute putting a massive emphasis on indoor air quality and occupancy health.

Focusing on clean air, high efficiency, heat recovery and noise levels. Passivhaus state that to achieve the UK standard, you are required to have “a mechanical ventilation system with highly efficient heat recovery”. To be considered part of a Passivhaus Standard project, ventilation units are required to be tested to achieve strict energy-efficiency targets.

Our Passivhaus certified ventilation systems work towards achieving both high levels of IAQ and energy-efficiency. Helping to maintain a healthy, well run internal climate.

## 5 PRINCIPLES OF PASSIVHAUS

The UK Passivhaus standard is built around five key principles that ensure comfortable indoor environments with low energy consumption.

- 1 Premium insulation solutions
- 2 High performance windows and openings
- 3 Airtight construction
- 4 ‘Thermal bridge free’ construction
- 5 Continuous mechanical ventilation with heat recovery (MVHR)



## BPS, PASSIVHAUS AND TESTING

### PH ANCILLARY: END PANEL

High quality double lined acoustic end panel has been insulated with Rockwool for reduced noise breakout and low leakage. Ensuring the unit is airtight and certified for a Passivhaus build.



### PH ANCILLARY: CLASS 3 DAMPER

High classification dampers have been installed to ensure the unit remains airtight, mitigating weak points in a Passivhaus build. Ensuring quality is maintained when the unit is not in use.



Nuaire used the TUV Sud laboratories based in Munich, which specialise in large AHU products.

This PHI procedure is applicable to 'large' ventilation units – with air volume flow rates > 600 m<sup>3</sup>/hr. (A similar process exists for smaller units used in residential projects).

The units are categorised by flow-rate range (I (600 – 2000 m<sup>3</sup>/hr), to IV at (15000 m<sup>3</sup>/hr)) within the Non-Residential application area, and the specifications of the unit's principal components are checked and confirmed.

The units are initially tested for airtightness, leakage being a key determinant of overall quality and unit efficiency. In the German DiBt standards applied, internal cross-leakage and the product envelope are considered.

Thermodynamic testing of the product is then carried out. The TUV facilities simultaneously setting/measuring temperature and humidity conditions to all four connections of the unit (Intake, Extract, Supply and Exhaust).

Aerodynamic resistance is set at a level determined by the flow-rate category, and this enables the 'real world' range of PHI compliant heat recovery efficiency and specific fan power to be established.

The units are also assessed for their capability to meet a 'comfort' criterion, delivering a supply temperature of at least 16.5°C under extreme cold temperatures.

Acoustic measurements to DIN EN ISO 3743-1 and DIN EN ISO 5136 are carried out for radiated and ducted sound power emissions respectively.

The units are tested for self-protection against the effects of low intake temperatures on water based integral heat emitters and recuperative heat exchangers.

The test report data is passed to PHI for consideration. The manufacturer's data is also scrutinised before PH certification.

The confidence provided by this process ensures that whether the certified products are used in fully Passivhaus compliant projects or not, our clients may be assured that they will perform to the highest standards.

Name		Air Flow Range From...	Air Flow Range To...	Specific Electric Power	Heat Recovery Rate	Heat Recovery Rate on Cooling	Humidity Recovery (Winter)	Humidity Recovery (Summer)	Performance Number	At External Pressure	Available External Pressure (with filters installed)	Climate Zones	Company HQ
Manufacturer	Component												
Nuaire	BPS T 12	2370 m <sup>3</sup> /h	3960 m <sup>3</sup> /h	0.42 Wh/m <sup>3</sup>	83 %	-	37 %	-	10	308 Pa	255 Pa	Cool, temp.	UK (GB)
Nuaire	BPS T 17	3000 m <sup>3</sup> /h	5040 m <sup>3</sup> /h	0.44 Wh/m <sup>3</sup>	84 %	-	37 %	-	10	322 Pa	261 Pa	Cool, temp.	UK (GB)
Nuaire	BPS T 22	3060 m <sup>3</sup> /h	5500 m <sup>3</sup> /h	0.44 Wh/m <sup>3</sup>	84 %	-	37 %	-	10	328 Pa	275 Pa	Cool, temp.	UK (GB)
Nuaire	BPS T 32	3540 m <sup>3</sup> /h	9140 m <sup>3</sup> /h	0.42 Wh/m <sup>3</sup>	83 %	-	37 %	-	10	359 Pa	305 Pa	Cool, temp.	UK (GB)
Nuaire	BPS T 42	7200 m <sup>3</sup> /h	14400 m <sup>3</sup> /h	0.30 Wh/m <sup>3</sup>	79 %	-	37 %	-	13	328 Pa	275 Pa	Cool, temp.	UK (GB)

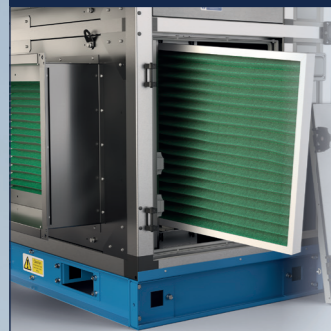
The first step in Passivhaus accreditation of a commercial product is the verification of the product technical specification and performance in accordance with the PH procedural document :-

*Testing procedure for the energy-relevant and acoustic assessment of large Passive House ventilation units for certification as 'components suitable for Passive Houses.'*

PHI mandate that the testing is carried out by an independent test laboratory certified to :- **BS EN ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.**

This is a complex standard requiring a high standard of technical competence and robust control of the testing process and data management.

**FILTERS**



**EXTRACT FILTERS**

eP10 60% (M5). Captures pollutants as small as 1 micron in size.

**SUPPLY FILTERS**

ePM10 50% (M5), ePM1 50% (F7). Large particle filter designed to stop coarse particles.

**CONSTRUCTION FEATURES**



**THERMAL WHEEL**

Features a high-efficiency thermal wheel with efficiencies up to 85%.

**LOW NOISE SOURCE**

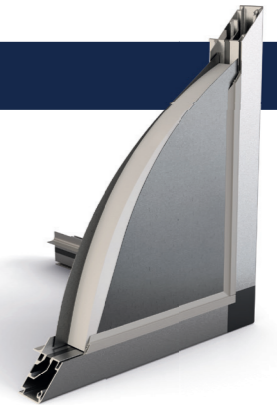
50mm Double skinned panels ensure low noise levels. Optional, additional attenuators are available to provide a continuous acoustic solution.

**END PANELS**

Sealed acoustic end panels.

**CLASSIFICATION LEVELS**

- 2018 ERP COMPLIANT
- L1 LEAKAGE
- TB1 THERMAL BRIDGING
- D1 DEFLECTION
- T2 THERMAL TRANSMITTANCE



**CONSTRUCTION FEATURES**

**CONDENSATE**

Units feature a built-in condensate drain.

**PORTHOLE**

Allows for quick viewing of the fans from outside the unit without opening the door.

**OPTIONAL EXTERNAL ANCILLARIES**

Wide range of optional ancillaries including modular support frame, weather terminals, damper, silencers, recirculation modules, heating and cooling.

**INTEGRAL BASEFRAME**

The structural base frame is raised for additional support and includes slots for fork lift arms for easy manoeuvring on site.

**HINGED OR REMOVABLE ACCESS PANELS**

All hinged access panels will be lockable and removable via locked hinges which can be opened for panel removal. All keys are identical and will open any handle or hinge. The hinges do not need to be unlocked in normal operation of opening and closing.

**ISOLATOR AS STANDARD**

An IP66/67 lockable isolator is fitted on all models.

**WEATHERPROOFED AS STANDARD**

BPS unit and ancillary modules are weatherproofed as standard. All sections and modules have a flat roof which has a hydrophobic coating, aiding water run off.

**HEATING AND COOLING OPTIONS**

**DIRECT EXPANSION (DX)**

All DX coils used in BPS are suitable for reverse cycle, capable of providing heating and cooling. Our DX reverse cycle packages within Ecosmart Connect and Adapt options come with a matched Mitsubishi Condenser, supplied loose for integration by others. A coil-only option is available upon request, where a 0-10V demand signal may be utilised by others to control the external refrigerant system (not supplied).

**LPHW HEATER**

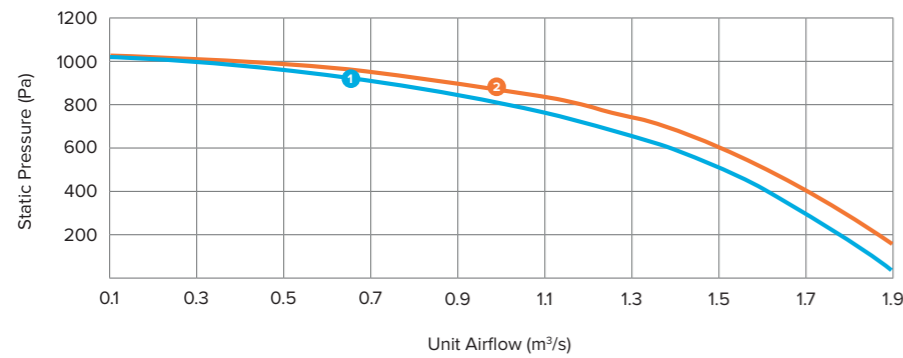
The LPHW coil is housed within the unit and is interchangeable with other 'wet' coil options. LPHW frost protection ancillary is also available.

**ELECTRIC HEATER**

The electric heater module is separate from the main packaged unit. Finned air-heater elements provide the most efficient method with lower surface temperature operation which also prevent 'burnt dust' odours.

# BPS SIZE 12 PERFORMANCE & TECHNICAL

## BPS PERFORMANCE FOR PLATE HEAT EXCHANGER & THERMAL WHEEL UNITS



**KEY LABELS**

- 100% Extract Static
- 100% Supply Static

For operations outside these limits contact Nuair technical

## BPS TECHNICAL INFORMATION

Unit Code	Voltage / Phase / Frequency	FLC (A)	Max Operating Temperature	Fan Speed (rpm)	Unit Weight (kg)	PACKAGED WEIGHT (KG)			
						Intake Exhaust Module	Thermal Wheel Module	Supply Exhaust Module	Electric Heater Module
B12T/LR/**-#	400 / 3 / 50	11.3	40°C	2180	945	258	330	433	-
B12T/LC/**-#	400 / 3 / 50	10.8	40°C	2180	945	258	330	433	-
B12T/LN/**-#	400 / 3 / 50	10.8	40°C	2180	915	258	330	403	-
B12T/ER/**-#	400 / 3 / 50	11.3 + 35*	40°C	2180	1073	258	330	408	169
B12T/EC/**-#	400 / 3 / 50	10.8 + 35*	40°C	2180	1073	258	330	408	169
B12T/EN/**-#	400 / 3 / 50	10.8 + 35*	40°C	2180	1043	258	330	378	169
B12T/NR/**-#	400 / 3 / 50	11.3	40°C	2180	920	258	330	408	-
B12T/NC/**-#	400 / 3 / 50	10.8	40°C	2180	920	258	330	408	-
B12T/NN/**-#	400 / 3 / 50	10.8	40°C	2180	890	258	330	378	-

\*\* Add relevant control option, i.e. AT, CO, ES # Add relevant handing L (Left) R (Right).  
 \* FLC: Includes separate supply for a 24kW heater element.  
 Please note: All weights displayed are estimated weights and are subject to change.  
 Dimensions are case width and do not include handles/terminals and switches.

## BPS B12T NOISE DATA FOR THERMAL WHEEL UNITS

Fan Code	Sound Power Levels (db re 1 pw)	FREQUENCY (Hz)								Spherical dBA@3m
		63	125	250	500	1k	2k	4k	8k	
B12T	Open Discharge	73	71	81	81	83	81	75	71	47
B12T	Open Intake	69	69	82	77	74	75	70	67	
B12T	Open Supply	73	71	81	81	83	81	75	71	
B12T	Open Extract	69	69	82	77	74	75	70	67	
B12T	Breakout	73	61	72	62	55	47	37	26	

## UNIT DIMENSIONS

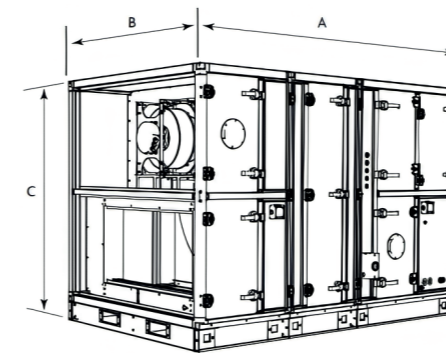


Diagram shown is right handed

THERMAL WHEEL				
Unit	A	A'	B	C
07	2700	3150	1330	1492
12	2700	3150	1530	1695
17	2700	3150	1750	1900
22	2800	3250	2030	2195
32	3100	3650	2330	2498
42	3100	3650	2730	2898

\*Electric Heater Included. Dimension 'A' is for LPHW or No Heating

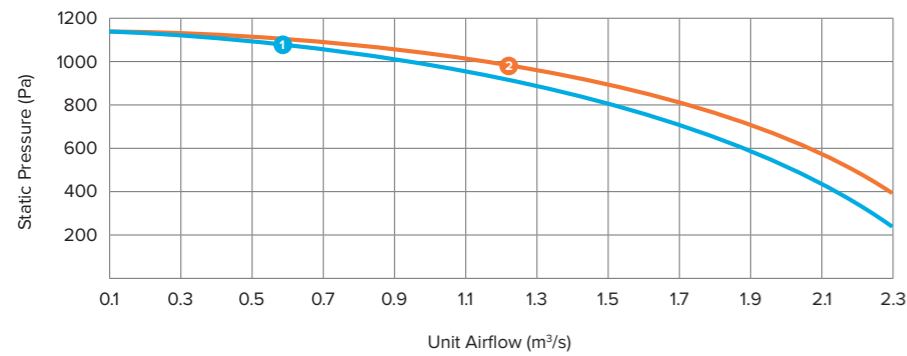


**CERTIFICATES**

Certificates can be found online on the Passivehaus Institute or Nuair website.

# BPS SIZE 17 PERFORMANCE & TECHNICAL

## BPS PERFORMANCE FOR PLATE HEAT EXCHANGER & THERMAL WHEEL UNITS



**KEY LABELS**

- 100% Extract Static
- 100% Supply Static

For operations outside these limits contact Nuair technical

## BPS TECHNICAL INFORMATION

Unit Code	Voltage / Phase / Frequency	FLC (A)	Max Operating Temperature	Fan Speed (rpm)	Unit Weight (kg)	PACKAGED WEIGHT (KG)			
						Intake Exhaust Module	Thermal Wheel Module	Supply Exhaust Module	Electric Heater Module
B17T/LR/**-#	400 / 3 / 50	14	40°C	2040	1105	270	445	480	-
B17T/LC/**-#	400 / 3 / 50	14	40°C	2040	1140	270	445	515	-
B17T/LN/**-#	400 / 3 / 50	14	40°C	2040	1080	270	445	455	-
B17T/ER/**-#	400 / 3 / 50	14 + 53*	40°C	2040	1220	270	445	455	165
B17T/EC/**-#	400 / 3 / 50	14 + 53*	40°C	2040	1255	270	445	490	165
B17T/EN/**-#	400 / 3 / 50	14 + 53*	40°C	2040	1195	270	445	430	165
B17T/NR/**-#	400 / 3 / 50	14	40°C	2040	1080	270	445	455	-
B17T/NC/**-#	400 / 3 / 50	14	40°C	2040	1115	270	445	490	-
B17T/NN/**-#	400 / 3 / 50	14	40°C	2040	1055	270	445	430	-

\*\* Add relevant control option. i.e AT, CO, ES # Add relevant handling L (Left) R (Right).  
 \* FLC: Includes separate supply for a 36kW heater element.  
 Please note: All weights displayed are estimated weights and are subject to change.  
 Dimensions are case width and do not include handles/terminals and switches.

## BPS B17T NOISE DATA FOR THERMAL WHEEL UNITS

Fan Code	Sound Power Levels (db re 1 pw)	FREQUENCY (Hz)								Spherical dBA@3m
		63	125	250	500	1k	2k	4k	8k	
B17T	Open Discharge	73	72	82	86	85	81	77	75	49
B17T	Open Intake	69	70	81	80	76	74	73	75	
B17T	Open Supply	73	72	82	86	85	81	77	75	
B17T	Open Extract	69	70	81	80	76	74	73	74	
B17T	Breakout	72	62	71	66	57	46	40	30	

## UNIT DIMENSIONS

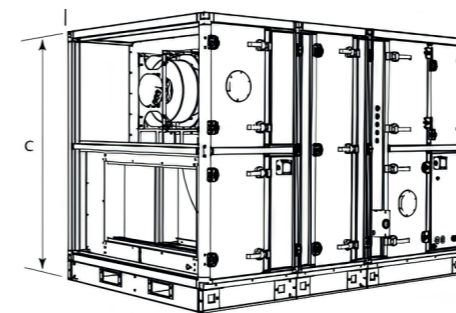


Diagram shown is right handed

THERMAL WHEEL				
Unit	A	A*	B	C
07	2700	3150	1330	1492
12	2700	3150	1530	1695
17	2700	3150	1750	1900
22	2800	3250	2030	2195
32	3100	3650	2330	2498
42	3100	3650	2730	2898

\*Electric Heater Included. Dimension 'A' is for LPHW or No Heating

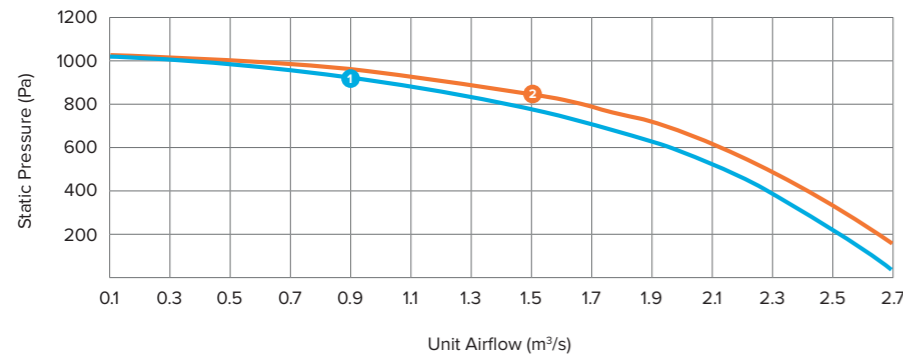


**CERTIFICATES**

Certificates can be found online on the Passivhaus Institute or Nuair website.

# BPS SIZE 22 PERFORMANCE & TECHNICAL

## BPS PERFORMANCE FOR PLATE HEAT EXCHANGER & THERMAL WHEEL UNITS



**KEY LABELS**

- 100% Extract Static
- 100% Supply Static

For operations outside these limits contact Nuair technical

## BPS TECHNICAL INFORMATION

Unit Code	Voltage / Phase / Frequency	FLC (A)	Max Operating Temperature	Fan Speed (rpm)	Unit Weight (kg)	PACKAGED WEIGHT (KG)			
						Intake Exhaust Module	Thermal Wheel Module	Supply Exhaust Module	Electric Heater Module
B22T/LR/**-#	400 / 3 / 50	14.5	40°C	1780	1363	318	533	598	-
B22T/LC/**-#	400 / 3 / 50	14	40°C	1780	1366	318	533	601	-
B22T/LN/**-#	400 / 3 / 50	14	40°C	1780	1298	318	533	533	-
B22T/ER/**-#	400 / 3 / 50	14.5 + 52.5*	40°C	1780	1510	318	533	550	222
B22T/EC/**-#	400 / 3 / 50	14 + 52.5*	40°C	1780	1513	318	533	553	222
B22T/EN/**-#	400 / 3 / 50	14 + 52.5*	40°C	1780	1445	318	533	485	222
B22T/NR/**-#	400 / 3 / 50	14.5	40°C	1780	1315	318	533	550	-
B22T/NC/**-#	400 / 3 / 50	14	40°C	1780	1318	318	533	553	-
B22T/NN/**-#	400 / 3 / 50	14	40°C	1780	1250	318	533	485	-

\*\* Add relevant control option. i.e AT, CO, ES # Add relevant handing L (Left) R (Right)  
 \* FLC: Includes separate supply for a 24kW Heater element.  
 Please note: All weights displayed are estimated weights and are subject to change.

## BPS B22T NOISE DATA FOR THERMAL WHEEL UNITS

Fan Code	Sound Power Levels (db re 1 pw)	FREQUENCY (Hz)								Spherical dBA@3m
		63	125	250	500	1k	2k	4k	8k	
B22T	Open Discharge	73	76	81	83	84	81	77	74	48
B22T	Open Intake	69	72	82	77	75	75	72	70	
B22T	Open Supply	73	76	81	83	84	81	77	74	
B22T	Open Extract	69	72	82	77	75	75	72	70	
B22T	Breakout	73	66	72	63	57	48	40	29	

## UNIT DIMENSIONS

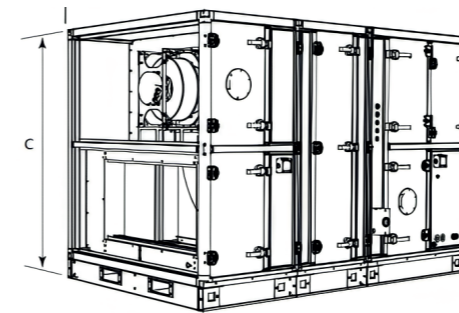


Diagram shown is right handed

Unit	THERMAL WHEEL			
	A	A'	B	C
07	2700	3150	1330	1492
12	2700	3150	1530	1695
17	2700	3150	1750	1900
22	2800	3250	2030	2195
32	3100	3650	2330	2498
42	3100	3650	2730	2898

\*Electric Heater Included. Dimension 'A' is for LPHW or No Heating



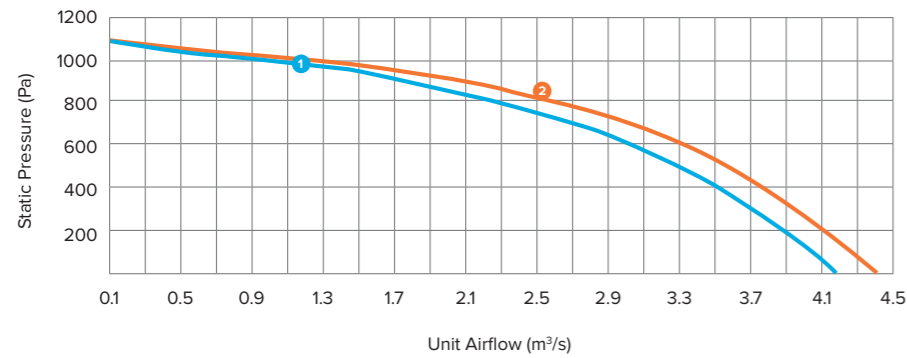
**CERTIFICATES**

Certificates can be found online on the Passivhaus Institute or Nuair website.



# BPS SIZE 32 PERFORMANCE & TECHNICAL

## BPS PERFORMANCE FOR PLATE HEAT EXCHANGER & THERMAL WHEEL UNITS



**KEY LABELS**

- 100% Extract Static
- 100% Supply Static

For operations outside these limits contact Nuair technical

## BPS B32T NOISE DATA FOR THERMAL WHEEL UNITS

Fan Code	Sound Power Levels (db re 1 pw)	FREQUENCY (Hz)								Spherical dBA@3m
		63	125	250	500	1k	2k	4k	8k	
B32T	Open Discharge	75	78	89	86	90	86	82	80	52
B32T	Open Intake	72	73	83	78	79	80	78	78	
B32T	Open Supply	75	78	89	86	90	86	82	80	
B32T	Open Extract	72	73	83	78	79	80	78	78	
B812T	Breakout	75	67	77	66	63	52	45	36	

## BPS TECHNICAL INFORMATION

Unit Code	Voltage / Phase / Frequency	FLC (A)	Max Operating Temperature	Fan Speed (rpm)	Unit Weight (kg)	PACKAGED WEIGHT (KG)			
						Intake Exhaust Module	Thermal Wheel Module	Supply Exhaust Module	Electric Heater Module
B32T/LR/**-#	400 / 3 / 50	19.5	40°C	1750	1908	519	690	792	-
B32T/LC/**-#	400 / 3 / 50	19	40°C	1750	1899	519	690	783	-
B32T/LN/**-#	400 / 3 / 50	19	40°C	1750	1826	519	690	710	-
B32T/ER/**-#	400 / 3 / 50	19.5 + 35 + 52.5*	40°C	1750	2234	519	690	750	392
B32T/EC/**-#	400 / 3 / 50	19 + 35 + 52.5*	40°C	1750	2225	519	690	741	392
B32T/EN/**-#	400 / 3 / 50	19 + 35 + 52.5*	40°C	1750	2152	519	690	668	392
B32T/NR/**-#	400 / 3 / 50	19.5	40°C	1750	1866	519	690	750	-
B32T/NC/**-#	400 / 3 / 50	19	40°C	1750	1857	519	690	741	-
B32T/NN/**-#	400 / 3 / 50	19	40°C	1750	1784	519	690	668	-

\*\* Add relevant control option. i.e AT, CO, ES # Add relevant handing L (Left) R (Right).  
 \* FLC: Includes separate supply for a 24kW and 36kW heater elements.  
 Please note: All weights displayed are estimated weights and are subject to change.  
 Dimensions are case width and do not include handles/terminals and switches.

## UNIT DIMENSIONS

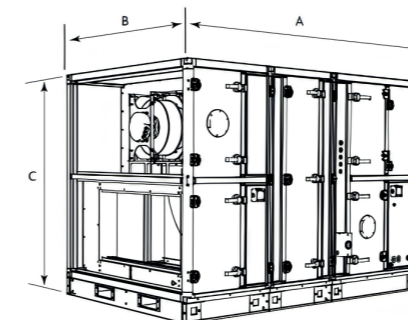


Diagram shown is right handed

THERMAL WHEEL				
Unit	A	A*	B	C
07	2700	3150	1330	1492
12	2700	3150	1530	1695
17	2700	3150	1750	1900
22	2800	3250	2030	2195
32	3100	3650	2330	2498
42	3100	3650	2730	2898

\*Electric Heater Included. Dimension 'A' is for LPHW or No Heating

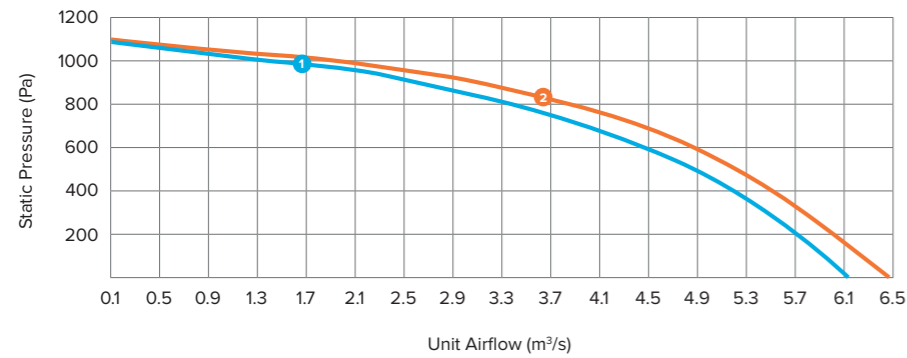


**CERTIFICATES**

Certificates can be found online on the Passivhaus Institute or Nuair website.

# BPS SIZE 42 PERFORMANCE & TECHNICAL

## BPS PERFORMANCE FOR PLATE HEAT EXCHANGER & THERMAL WHEEL UNITS



**KEY LABELS**

- 100% Extract Static
- 100% Supply Static

For operations outside these limits contact Nuair technical

## BPS TECHNICAL INFORMATION

Unit Code	Voltage / Phase / Frequency	FLC (A)	Max Operating Temperature	Fan Speed (rpm)	Unit Weight (kg)	PACKAGED WEIGHT (KG)			
						Intake Exhaust Module	Thermal Wheel Module	Supply Exhaust Module	Electric Heater Module
B42T/LR/**-#	400 / 3 / 50	27	40°C	1780	2385	652	853	973	-
B42T/LC/**-#	400 / 3 / 50	22.5	40°C	1780	2395	652	853	983	-
B42T/LN/**-#	400 / 3 / 50	22.5	40°C	1780	2295	652	853	883	-
B42T/ER/**-#	400 / 3 / 50	27 + 52.5 + 52.5*	40°C	1780	2731	652	853	913	430
B42T/EC/**-#	400 / 3 / 50	22.5 + 52.5 + 52.5*	40°C	1780	2741	652	853	923	430
B42T/EN/**-#	400 / 3 / 50	22.5 + 52.5 + 52.5*	40°C	1780	2641	652	853	823	430
B42T/NR/**-#	400 / 3 / 50	27	40°C	1780	2325	652	853	913	-
B42T/NC/**-#	400 / 3 / 50	22.5	40°C	1780	2335	652	853	923	-
B42T/NN/**-#	400 / 3 / 50	22.5	40°C	1780	2235	652	853	823	-

\*\* Add relevant control option. i.e AT, CO, ES # Add relevant handing L (Left) R (Right).  
\* FLC: Includes separate supply for two 36kW heater elements.  
Please note: All weights displayed are estimated weights and are subject to change.

## BPS B42T NOISE DATA FOR THERMAL WHEEL UNITS

Fan Code	Sound Power Levels (db re 1 pw)	FREQUENCY (Hz)								Spherical dBA@3m
		63	125	250	500	1k	2k	4k	8k	
B42T	Open Discharge	76	79	84	86	87	84	80	77	51
B42T	Open Intake	72	75	85	80	78	78	75	73	
B42T	Open Supply	76	79	84	86	87	84	80	77	
B42T	Open Extract	72	75	85	80	78	78	75	73	
B42T	Breakout	76	69	75	66	60	51	43	32	

## UNIT DIMENSIONS

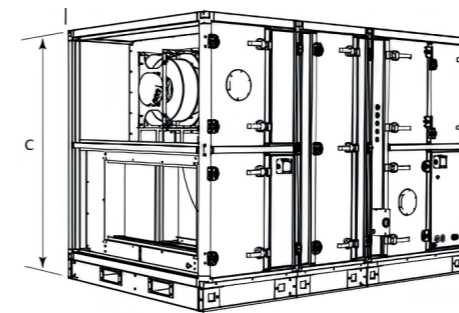


Diagram shown is right handed

THERMAL WHEEL				
Unit	A	A'	B	C
07	2700	3150	1330	1492
12	2700	3150	1530	1695
17	2700	3150	1750	1900
22	2800	3250	2030	2195
32	3100	3650	2330	2498
42	3100	3650	2730	2898

\*Electric Heater Included. Dimension 'A' is for LPHW or No Heating



**CERTIFICATES**

Certificates can be found online on the Passivhaus Institute or Nuair website.

# BPS PASSIVHAUS CODING

The BPS Passivhaus coding is similar to the classic BPS coding. This ensures there are no complications when selecting components unique to your specific project requirements. The code is broken down into sections below.

**USE OUR BPS CODE TO REDUCE TIME AND ERROR WHEN PLACING AN ORDER**

**CODING BPS**

<p><b>SECTION 1: UNIT AND CASE</b> The first section of the code dictates what unit is required, including sizing and orientation.</p>	<p><b>SECTION 2: HEATING, COOLING AND CONTROL OPTIONS</b> Now you choose your heating and cooling options, along with unit controls. Again we denote the end of this section with another dash (-).</p>	<p><b>SECTION 3: HANDING</b> Finally, choose a handing option that matched the specification of your project.</p>
<p>1. BOXER Package Solution Range Vertical Unit Size 12, 17, 22, 32 or 42</p>	<p>2. Heat Exchanger T = Thermal Wheel (Vertical Units)</p> <p>3. Heater L = LPHW E = Electric N = No Electric or LPHW</p> <p>4. Cooling R = Reverse Cycle X = DX C = Chilled Water N = No Cooling</p> <p>5. Control type AT = Ecosmart Adapt (Trend) CO = Ecosmart Connect ES = Ecosmart Classic BC = Basic Control</p>	<p>6. Handing L = Left, R = Right</p>

This range is offered with XCarb® panelling as standard which provides an industrial finish, enabling enhanced corrosion resistance. Paint finishes are available for aesthetically critical applications.

This means that if something is missing from the code, our estimating team will be able to quickly spot it and double check with you; rather than potentially missing something from the unit or supplying something that isn't needed.

# BPS PASSIVHAUS CONSULTANT SPECIFICATION

**BPS**

The unit shall be independently third party tested and certified as a Passivhaus compliant component. The packaged supply and extract unit shall be manufactured from XCarb® corrosion resistant steel, with 50mm double skinned panels and anodised aluminium frame. All external fittings and fixings shall be stainless steel, aluminium or non-metallic. All panels and frames will be of a totally thermally broken design, complying with the following specification in accordance with BS EN 1886: Mechanical strength, D1; Leakage class, L1; Thermal transmittance, T2; Thermal bridging, TB1. Panels and frames will be sealed without the use of silicon, mastic or other liquid gasket.

A reverse cycle DX coil shall be fitted (on DX-R units), with 5 psi oxygen free nitrogen (OFN) holding charge. The coil is sized to suit the accompanying structural baseframes shall be fitted, powder coated with covered forklift slots and 50mm square lifting bar holes for site manoeuvrability. Three axis alignment clamps shall be fitted externally.

All modules and ancillaries shall be individually weatherproofed with nanotech hydrophobic roofing, providing unparalleled corrosion resistance and aesthetic longevity.

An IP66/67 lockable isolator shall be present for power connection on main and electric heater modules. Sealing grommets will be present for control cable access to the unit internals without the need for drilling on site. Module electrical interconnection shall be made using pre-fitted plug and socket arrangements.

Modules shall be provided with identification labelling to aid assembly and QR coded badges to simplify document retrieval via portable devices. Autodesk REVIT files shall be provided for Building Information Modelling and all units shall be based on performance testing carried out within an AMCA certified test laboratory.

The unit shall include the following items:

Thermal Wheel HX: A high efficiency, ERP, Eurovent and Passivhaus compliant heat exchanger with automatic bypass, complete with a condensate tray and pump (where cooling is fitted) offering 20m of head pressure. ISO 16890 ePM1 50% main supply filters shall be fitted with a single ISO 16890 Coarse 60% bank present on the extract side. Slides for alternative panel and bag options shall be present and pressure drop monitoring for maintenance notification will be included.

Performance optimised backward curved impellers and IP54 EC motors shall be used to provide low specific fan powers and stepless speed control without tonal noise generation. Fan pressure transducers shall be fitted (ES Connect & Adapt only) for constant pressure/flow control and energy monitoring. Internal lighting and inspection portholes shall be present on all fan modules.

All hinged access panels shall be lockable and removable (with a common key for all) allowing full maintenance access from the side. The unit has left (and right option) hand arrangement in direction of supply air flow.

- ◆ A LPHW heater battery shall be fitted (on LPHW units).
- ◆ An electric heater module shall be present (on electric heater units), complete with power controller to allow output modulation from the unit control.
- ◆ A fail-safe auto-reset safety device shall be present.
- ◆ A chilled water cooling coil shall be fitted (on chilled water units).



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