

Power Bay Pty Ltd
Electrical Safety Testing
Integrated Heat Pump Water Heater



NATA Report No. 30E-25-0517-TRP-124511-0

Page 1 of 220

Date: 20 November 2025


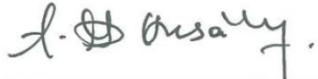


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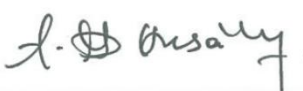

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DOCUMENT CONTROL

Test Item:	Integrated Heat Pump Water Heater		
Report Title:	Electrical Safety Test Report		
Document Reference:	30E-25-0517-TRP-124511-0		
PREPARED FOR:		PREPARED BY:	
Power Bay Pty Ltd 90 Southlink Street, Parkinson, Queensland 4115, Australia CONTACT: Bella Zeng Tel: 1800 95 95 09 Email: bella@powerbay.com.au		Vipac Engineers and Scientists Limited 279 Normanby Road, Port Melbourne, Victoria 3207, Australia Tel: +61 3 9647 9700 Fax: +61 3 9646 4370 Email: melbourne@vipac.com.au	
PREPARED BY:			
Author:		 Khai Ngo Project Engineer, Electrical Safety	
		Date: 19 Nov 2025	
REVIEWED BY:			
Reviewer:		 Mohamed Husain Team Leader, Electrical Safety	
		Date: 20 Nov 2025	
REVISION HISTORY			
Revision No.	Date Issued	Reason/Comments	
0	20 November 2025	Initial Issue	
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TEST REPORT IEC 60335-2-21 and IEC 60335-2-40 Household and similar electrical appliances – Safety – Part 2-21: Particular requirements for storage water heaters & Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers	
Report No.....	30E-25-0517-TRP-124511-0
Tested by	Khai Ngo 
Approved by	Mohamed Husain 
Date of issue	20 November 2025
TESTING LABORATORY Vipac Engineers & Scientists Ltd. Address..... 279 Normanby Road, Port Melbourne, VIC 3207, Australia Testing location..... As Above Address..... As Above	
Applicant's Name..... Power Bay Pty Ltd Address..... 90 Southlink Street, Parkinson, Queensland 4115, Australia	
Standard..... IEC 60335-2-21:2012 + AMD1:2018 and IEC 60335-2-40:2022 in conjunction with IEC 60335-1:2010 + AMD1:2013 + AMD2:2016 AS/NZS 60335.2.21:2013 + A1:2014 + A2:2019 and AS/NZS 60335.2.40:2023 in conjunction with AS/NZS 60335.1:2020 + A1:2021 Test item description..... Integrated Heat Pump Water Heater Trade Mark.....  POWERBAY Manufacturer..... GD TCL Intelligent Heating & Ventilating Equipment Co., Ltd. No. 7 Yuanlin Road, Nantou Town, Zhongshan City, Guangdong, P. R. China Model/Type reference..... PBG2-200RE-HYBRID, PBG2-250RE-HYBRID, PBG2-300RE-HYBRID, PBG2-200CO-HYBRID, PBG2-250CO-HYBRID, PBG2-300CO-HYBRID, AIO300HP-R, AIO250HP-C Ratings..... See in "General Product Information" page	

Summary of test result:

All requirements of below mentioned standards are fulfilled and the appliance complies with these standards,





- ☒ IEC 60335-2-21:2012 + AMD1:2018
- ☒ IEC 60335-2-40:2022
- ☒ IEC 60335-1:2010 + AMD1:2013 + AMD2:2016
- ☒ AS/NZS 60335.2.21:2013 + A1:2014 + A2:2019
- ☒ AS/NZS 60335.2.40:2023
- ☒ AS/NZS 60335.1:2020 + A1:2021





For the purpose of compliance assessing of all these models, full testing was conducted on models **PBG2-300CO-HYBRID** and **PBG2-300RE-HYBRID** chosen as a representative of the entire range.


The equipment incorporates IEC 60335-2-34 compliant motor-compressor from Shanghai Highly Electrical Appliances Co., Ltd, China.





Copy of marking plate/label:

Residential Models

POWERBAY HEAT PUMP WATER HEATER		
Model	PBG2-200RE-HYBRID	
Power supply	220-240V~ 50Hz	
Heating capacity(Heat pump)	2650W	
Rated power input	2160W	
Heat pump + Electrical heater (Optional)	560W+1600W(Optional)	
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184473)	
Max input	2900W	
Heat pump + Electrical heater (Optional)	1300W+1600W(Optional)	
Max input current	12.5A	
Heat pump + Electrical heater (Optional)	5.5A+7.0A(Optional)	
Electrical heating rated input	1600W	
Net weight	100kg	
Noise level	46dB(A)	
Tank volume	200L	
Max outlet water temp	70°C	
Water inlet/outlet pipe	DN20	
Water system pressure	Rated	0.85MPa
	Max operating	1.0MPa
Max refrigerant pressure	High	3.2MPa
	Low	1.3MPa
Outdoor resistance class	IPX4	
Serial Number		
<div></div>		
<div><div></div><div><p>Statement:</p><p>1. Enamel lined steel container</p><p>2. Ensure partial draining does not occur</p></div></div>		
POWER BAY PTY LTD		

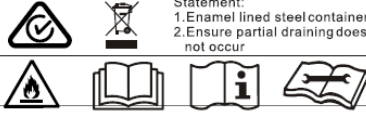
POWERBAY HEAT PUMP WATER HEATER		
Model	PBG2-250RE-HYBRID	
Power supply	220-240V~ 50Hz	
Heating capacity(Heat pump)	2650W	
Rated power input	2660W	
Heat pump + Electrical heater (Optional)	560W+2100W(Optional)	
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184656)	
Max input	3400W	
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)	
Max input current	15A	
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)	
Electrical heating rated input	2100W	
Net weight	108kg	
Noise level	46dB(A)	
Tank volume	250L	
Max outlet water temp	70°C	
Water inlet/outlet pipe	DN20	
Water system pressure	Rated	0.85MPa
	Max operating	1.0MPa
Max refrigerant pressure	High	3.2MPa
	Low	1.3MPa
Outdoor resistance class	IPX4	
Serial Number		
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<div><div></div><div><p>Statement:</p><p>1.Enamel lined steel container</p><p>2.Ensure partial draining does not occur</p></div></div>		
POWER BAY PTY LTD		

POWERBAY HEAT PUMP WATER HEATER		
Model	PBG2-300RE-HYBRID	
Power supply	220-240V~ 50Hz	
Heating capacity(Heat pump)	2350W	
Rated power input	2660W	
Heat pump + Electrical heater (Optional)	560W+2100W(Optional)	
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184706)	
Max input	3400W	
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)	
Max input current	15A	
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)	
Electrical heating rated input	2100W	
Net weight	114kg	
Noise level	46dB(A)	
Tank volume	300L	
Max outlet water temp	70°C	
Water inlet/outlet pipe	DN20	
Water system pressure	Rated	0.85MPa
	Max operating	1.0MPa
Max refrigerant pressure	High	3.2MPa
	Low	1.3MPa
Outdoor resistance class	IPX4	
Serial Number		
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<div><div></div><div><p>Statement: 1.Enamel lined steel container 2.Ensure partial draining does not occur</p></div></div>		
POWER BAY PTY LTD		

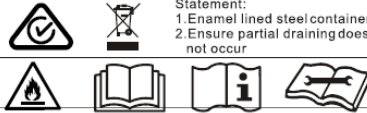
POWERBAY HEAT PUMP WATER HEATER		
Model	AIO300HP-R	
Power supply	220-240V~ 50Hz	
Heating capacity(Heat pump)	2350W	
Rated power input	2660W	
Heat pump + Electrical heater (Optional)	560W+2100W(Optional)	
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184881)	
Max input	3400W	
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)	
Max input current	15A	
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)	
Electrical heating rated input	2100W	
Net weight	114kg	
Noise level	46dB(A)	
Tank volume	300L	
Max outlet water temp	70°C	
Water inlet/outlet pipe	DN20	
Water system pressure	Rated	0.85MPa
	Max operating	1.0MPa
Max refrigerant pressure	High	3.2MPa
	Low	1.3MPa
Outdoor resistance class	IPX4	
Serial Number		
<div></div>		
<div><div></div><div><p>Statement:</p><p>1.Enamel lined steel container</p><p>2.Ensure partial draining does not occur</p></div></div>		
POWER BAY PTY LTD		

Commercial Models

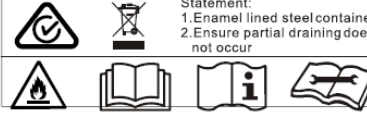
POWERBAY
HEAT PUMP WATER HEATER

Model	PBG2-200CO-HYBRID
Power supply	220-240V~ 50Hz
Heating capacity(Heat pump)	3100W
Rated power input	2350W
Heat pump + Electrical heater (Optional)	750W+1600W(Optional)
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184578)
Max input	2900W
Heat pump + Electrical heater (Optional)	1300W+1600W(Optional)
Max input current	12.5A
Heat pump + Electrical heater (Optional)	5.5A+7.0A(Optional)
Electrical heating rated input	1600W
Net weight	100kg
Noise level	49dB(A)
Tank volume	200L
Max outlet water temp	70°C
Water inlet/outlet pipe	DN20
Water system pressure	Rated 0.85MPa Max operating 1.0MPa
Max refrigerant pressure	High 3.2MPa Low 1.3MPa
Outdoor resistance class	IPX4
Serial Number	
 <p>Statement: 1.Enamel lined steel container 2.Ensure partial draining does not occur</p>	
POWER BAY PTY LTD	

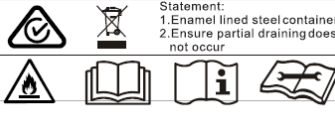
POWERBAY
HEAT PUMP WATER HEATER

Model	PBG2-250CO-HYBRID
Power supply	220-240V~ 50Hz
Heating capacity(Heat pump)	3200W
Rated power input	2880W
Heat pump + Electrical heater (Optional)	780W+2100W(Optional)
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184687)
Max input	3400W
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)
Max input current	15A
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)
Electrical heating rated input	2100W
Net weight	108kg
Noise level	49dB(A)
Tank volume	250L
Max outlet water temp	70°C
Water inlet/outlet pipe	DN20
Water system pressure	Rated 0.85MPa Max operating 1.0MPa
Max refrigerant pressure	High 3.2MPa Low 1.3MPa
Outdoor resistance class	IPX4
Serial Number	
 <p>Statement: 1.Enamel lined steel container 2.Ensure partial draining does not occur</p>	
POWER BAY PTY LTD	

POWERBAY
HEAT PUMP WATER HEATER

Model	PBG2-300CO-HYBRID
Power supply	220-240V~ 50Hz
Heating capacity(Heat pump)	3000W
Rated power input	2880W
Heat pump + Electrical heater (Optional)	780W+2100W(Optional)
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184730)
Max input	3400W
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)
Max input current	15A
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)
Electrical heating rated input	2100W
Net weight	114kg
Noise level	49dB(A)
Tank volume	300L
Max outlet water temp	70°C
Water inlet/outlet pipe	DN20
Water system pressure	Rated 0.85MPa Max operating 1.0MPa
Max refrigerant pressure	High 3.2MPa Low 1.3MPa
Outdoor resistance class	IPX4
Serial Number	
 <p>Statement: 1.Enamel lined steel container 2.Ensure partial draining does not occur</p>	
POWER BAY PTY LTD	

POWERBAY
HEAT PUMP WATER HEATER

Model	AIO250HP-C
Power supply	220-240V~ 50Hz
Heating capacity(Heat pump)	3200W
Rated power input	2880W
Heat pump + Electrical heater (Optional)	780W+2100W(Optional)
Refrigerant (Compliance Cert.)	R290/340g (GDAC-58184897)
Max input	3400W
Heat pump + Electrical heater (Optional)	1300W+2100W(Optional)
Max input current	15A
Heat pump + Electrical heater (Optional)	5.8A+9.2A(Optional)
Electrical heating rated input	2100W
Net weight	108kg
Noise level	49dB(A)
Tank volume	250L
Max outlet water temp	70°C
Water inlet/outlet pipe	DN20
Water system pressure	Rated 0.85MPa Max operating 1.0MPa
Max refrigerant pressure	High 3.2MPa Low 1.3MPa
Outdoor resistance class	IPX4
Serial Number	
 <p>Statement: 1.Enamel lined steel container 2.Ensure partial draining does not occur</p>	
POWER BAY PTY LTD	

Test item particulars	: Integrated Heat Pump Water Heater
Classification of installation and use.....:	Class I, Stationary appliance
Supply Connection	Residential models – Type Y, fitted with non-detachable supply cord and plug Commercial models – Permanently connected to fixed wiring
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A (Not applicable)
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing:	
Date of receipt of test item.....:	23 October 2025
Date (s) of performance of tests.....:	24 October 2025 – 12 November 2025
General remarks:	
<ol style="list-style-type: none"> 1. The test results presented in this report relate only to the object tested. 2. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. 3. Reporting of results herein is in accordance with NATA recommendations taking into account U of M. <ol style="list-style-type: none"> a) For minimum limits - Where measurement is on the limit or above the limit it is deemed to comply. Where measurement is below the limit it is deemed not to comply. b) For maximum limits - Where measurement is on the limit or below the limit it is deemed to comply. Where measurement is above the limit it is deemed not to comply. 4. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%. This probability corresponds to a coverage factor of k=2 for a normal distribution. 5. This test report is based on assessment and tests applied to the specific test item(s) as submitted by the client. Vipac Engineers & Scientists disclaims any and all responsibility or obligation for any other item. 6. Variations of requirement for Australia and New Zealand to IEC 60335-1:2010 + A1:2013 + A2:2016 i.e., AS/NZS 602335.1:2020 + A1:2021 were applied. 7. Variations of requirement for Australia and New Zealand to IEC 60335-2-21:2012 + A1:2018 i.e., AS/NZS 60335.2.21:2013 + A1:2014 + A2:2019 were applied. 8. Variations of requirement for Australia and New Zealand to IEC 60335-2-40:2022 i.e., AS/NZS 60335.2.40:2023 were applied. 9. "(See appended table)" refers to a table appended to the report. 10. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator. 	

General Product Information:

The tested appliance is a Power Bay Electric Storage Heat Pump Water Heater. It incorporates a main pressure storage water vessel (available in 300L, 250L, or 200L capacities) with an electric heat pump mounted externally on top of the tank, forming an integrated heat pump system.

The appliance includes a heating element (either 2100W or 1600W) located at the bottom of the tank to provide water heating when ambient temperatures fall outside the operational range of the heat pump or when additional heating is required.

The steel tank is insulated with polyurethane foam and enclosed within a steel outer casing with plastic top and bottom lids. A sacrificial anode is located at the top of the tank for maintenance access.

The appliance uses refrigerant R290 and is fitted with IEC-certified motor compressors manufactured by Shanghai Highly Electrical Appliances Co., Ltd.

The product is available in two variants:

1. Residential models:

Fitted with a supply cord and 10 A plug, and available only in the RE or R models.

2. Commercial models:

Permanently connected to fixed wiring (non-plug-in), and available only in the CO or C models.

In residential models, only the **ECO** and **STANDARD** modes are available, meaning only the heat pump will operate. The **HYBRID** mode is factory-locked and cannot be changed by the user. HYBRID mode can only be unlocked if the plug is removed and the unit is hard-wired by a qualified electrician. Once this is completed, an unlock code will be provided to the electrician upon contacting the Powerbay Support team.

In ECO and STANDARD modes, the electric heating element will not operate. The element is disabled on the hot water system prior to factory dispatch. It can only be activated if the plug is removed and the unit is hard-wired by a qualified electrician. Once this is done, Powerbay Support team can provide unlock codes to the technician to enable HYBRID or STANDARD mode with the electric heating element.

Electrical Rating:

Sl. No.	Model No.	Electrical Rating
1	PBG2-200RE-HYBRID	220-240V~, 50Hz, 560W, IPX4, Class I
2	PBG2-250RE-HYBRID	220-240V~, 50Hz, 560W, IPX4, Class I
3	PBG2-300RE-HYBRID	220-240V~, 50Hz, 560W, IPX4, Class I
4	AIO300HP-R	220-240V~, 50Hz, 560W, IPX4, Class I
5	PBG2-200CO-HYBRID	220-240V~, 50Hz, 2350W, IPX4, Class I
6	PBG2-250CO-HYBRID	220-240V~, 50Hz, 2880W, IPX4, Class I
7	PBG2-300CO-HYBRID	220-240V~, 50Hz, 2880W, IPX4, Class I
8	AIO250HP-C	220-240V~, 50Hz, 2880W, IPX4, Class I