ROSCOMMON COUNTY COUNCIL

PLANNING AND DEVELOPMENT ACT, 2000 (as amended)

SECTION 5 - DECLARATION ON DEVELOPMENT AND EXEMPTED DEVELOPMENT

NOTIFICATION OF DECISION

REGISTERED POST
Barry Tapster,
[redacted]

Reference Number:	**DED 778**
Application Received:	**2nd October 2024**
Name of Applicant:	**Barry Tapster**
Agent:	**N/A**

WHEREAS a question has arisen as to whether the construction of an extension & to renovate an existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains at Lissacarrow, Fuerty, Co. Roscommon., is or is not development and is or is not exempted development.

AND WHEREAS Roscommon County Council, in considering this application, had regard particularly to:

(a) Sections 2, 3, 4 and 5 of the Planning and Development Act, 2000, as amended.
(b) Articles 6, 9 and 10 of the Planning and Development Regulations, 2001, as amended.
(c) Class 1, 2, 6, 7, 41 and 50 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001 (Exempt Development – General), as amended.
(d) The record forwarded to Roscommon County Council in accordance with subsection (6)(c) of Section 5 of the Planning and Development Acts 2000 as amended.
(e) The planning history of the site.

AND WHEREAS Roscommon County Council has concluded that:

(a) The works outlined above are development.
(b) The proposed extension to rear of a dwelling house as described in this case is an exempted development.
(c) The proposed installation of photovoltaic solar panels/inverter to the roof as described in this case are exempted developments provided they are installed a minimum of 50cm from the edge of the roof.
(d) The proposed the install air to water heat pump as described in this case is an exempted development.
(e) The proposed replacing of footpaths and steps around the existing dwelling as described in this case is considered an exempted development provided all footpath and step levels are not altered by more than 1m from the existing levels.

(f) The proposed installation of a new septic tank/ water treatment system as described in this case is considered an exempted development provided that the carrying out of remedial works is in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012).

(g) The proposed replacing of the existing porch as described in this case is an exempted development.

(h) The proposed demolition of the existing area to the rear and front porch of the dwelling as described in this case is an exempted development.

(i) The proposed refurbishment of the derelict house as above fall within the provisions of Section 4(1)(h) of the Planning & Development Act 2000 as amended, which provides as follows:
development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures;

(j) The proposed development individually and in combination with other plans or projects would not be likely to have a significant effect on any European site and that the requirement for AA or EIAR does not apply with respect to the current case.

NOW THEREFORE:

By virtue of the powers vested in me by the Local Government Acts 1925 – 2024 and Section 5(2)(a) of the Planning and Development Act 2000 (as amended) and having considered the various submissions and reports in connection with the application described above, it is hereby declared that the said development to to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains in Lissacarrow, Fuerty, Co. Roscommon, is **an exempted development** as defined within the Planning and Development Act 2000 (as amended) and associated Regulations.

Signed on behalf of the Council:

Alan O'Connell,
Senior Executive Planner,
Planning.

Date: 10th January 2025

ADVICE NOTE

1. Solar Panels are to be installed a minimum of 50cm from the edge of the roof
2. All footpaths and step levels are not altered by more than 1m from the existing levels
3. the installation of a new septic tank/ water treatment system as described is in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012)

ADVICE NOTE

Any person issued with a Declaration under Section 5 of the Planning and Development Act, 2000 (as amended) may, on payment to An Bord Pleanála of the prescribed fee, refer a Declaration for review within 4 weeks of the date of the issuing of the Declaration.

Planner's Report on application under
Section 5 of the Planning and Development Act 2000 (as amended)

Reference Number:	DED 778
Re:	Application for a Declaration under Section 5 of the Planning & Development Act, 2000, as amended, regarding Exempted Development to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains.
Name of Applicant:	Barry Tapster
Location of Development:	Lissacarrow, Fuerty, Co. Roscommon
Site Visit:	06/11/2024

WHEREAS a question has arisen as to whether the following works; to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains **at the above address is or is not development and is or is not exempted development.**

I have considered this question, and I have had regard particularly to –

(a) Sections 2, 3, 4 and 5 of the Planning and Development Act, 2000, as amended

(b) Articles 6, 9 and 10 of the Planning and Development Regulations, 2001, as amended
(c) Class 1, 2, 6, 7, 41 and 50 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001 (Exempt Development – General), as amended
(d) The record forwarded to Roscommon County Council in accordance with subsection (6)(c) of Section 5 of the Planning and Development Acts 2000 as amended.
(e) The planning history of the site

Site Location & Development Description

The property is a single story detached dwelling with what appears to be a flat roof extension to the rear, the property also consists of an external covered area/porch over the front door in Lissacarrow, Fuerty, Co. Roscommon. The property is accessed off the R-366 road and has a large garden area to the front, side and rear of the property with a set of steps and railings to the change in ground levels. The proposed development consists extensive works to the dwelling including the replacing of the roof, windows/doors, removal of chimneys, external plastering, new WWTS, new heating system and solar panels, construction of extension, new paths and paving's around the dwelling and varies internal works.

There are no European designated sites in, adjoining or in close proximity to the subject site. There is no known heritage related sites/structures in very close proximity to the subject site, as per the Roscommon County Council GIS.

Archaeological and Cultural Heritage

No RMP recorded in the likely zone of influence of the proposed development. No Protected structures or structures listed in the National Inventory of Architectural Heritage the likely zone of influence of the proposed development.

Appropriate Assessment

The closest European sites to the site of the proposed development are Suck River Callows NHA/SPA (Site Code 000222/004097) which is located circa 1.7km to the west and Ballinturly Turlough PNHA/SAC (Site Code 000588) which is located circa 2.7km to the south of the subject site.

Having regard to the separation distance between the site and the closest Natura 2000 site and the nature of the proposal, there is no real likelihood of significant effects on the conservation objectives of these or other European sites arising from the proposed development. The need for further Appropriate Assessment, therefore, be excluded.

Planning History
As per the Roscommon County Council's Planning Registry, no recent planning history traced to the site.

Relevant statutory provisions

Planning and Development Acts 2000 (as amended)

Section 2. -(1)
"works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure or proposed protected structure, includes

any act or operation involving the application or removal of plaster, paint, wallpaper, tiles or other material to or from the surfaces of the interior or exterior of a structure.

Section 3. -(1)
In this Act, "development" means, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land.

Section 4(1) of the Act defines certain types of development as being 'exempted development'. Of potential relevance is section 4(1)(h) which provides as follows:

development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures;

Section 4 (2) of the Planning and Development Act provides that the Minister, by regulations, provide for any class of development to be exempted development. The principal regulations made under this provision are the Planning and Development Regulations.

Planning and Development Regulations, 2001 as amended

Article 6 (1)

Subject to article 9, development of a class specified in column 1 of Part 3 of Schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said Part 3 opposite the mention of that class in the said column 1.

Article 9 (1) applies;
Development to which article 6 relates shall not be exempted development for the purposes of the Act

viiB) comprise development in relation to which a planning authority or an Bord Pleanála is the competent authority in relation to appropriate assessment and the development would require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site,

Class 1 of Part 1 of Schedule 2: Exempted development - General

Description of Development	Conditions and Limitations
Development within the curtilage of a house *CLASS 1* The extension of a house, by the construction or erection of an extension (including a conservatory) to the rear of the house or by the conversion for use as part of the house of any garage, store, shed or other similar structure attached to the rear or to the side of the house.	1. (a) Where the house has not been extended previously, the floor area of any such extension shall not exceed 40 square metres. (b) Subject to paragraph (a), where the house is terraced or semi-detached, the floor area of any extension above ground level shall not exceed 12 square metres. (c) Subject to paragraph (a), where the house is detached, the floor area of any extension above ground level shall not exceed 20 square metres. 2. (a) Where the house has been extended previously, the floor area of any such extension, taken together with the floor area of any previous extension or extensions constructed or erected after 1 October 1964, including those for which planning permission has been obtained, shall not exceed 40 square metres. (b) Subject to paragraph (a), where the house is terraced or semi-detached and has been extended previously, the floor area of any extension above ground level taken together with the floor area of any previous extension or extensions above ground level constructed or erected after 1 October 1964,

	including those for which planning permission has been obtained, shall not exceed 12 square metres. (c) Subject to paragraph (a), where the house is detached and has been extended previously, the floor area of any extension above ground level, taken together with the floor area of any previous extension or extensions above ground level constructed or erected after 1 October 1964, including those for which planning permission has been obtained, shall not exceed 20 square metres. 3. Any above ground floor extension shall be a distance of not less than 2 metres from any party boundary. 4. (a) Where the rear wall of the house does not include a gable, the height of the walls of any such extension shall not exceed the height of the rear wall of the house. (b) Where the rear wall of the house includes a gable, the height of the walls of any such extension shall not exceed the height of the side walls of the house. (c) The height of the highest part of the roof of any such extension shall not exceed, in the case of a flat roofed extension, the height of the eaves or parapet, as may be appropriate, or, in any other case, shall not exceed the height of the highest part of the roof of the dwelling. 5. The construction or erection of any such extension to the rear of the house shall not reduce the area of private open space, reserved exclusively for the use of the occupants of the house, to the rear of the house to less than 25 square metres. 6. (a) Any window proposed at ground level in any such extension shall not be less than 1 metre from the boundary it faces. (b) Any window proposed above ground level in any such extension shall not be less than 11 metres from the boundary it faces. 388 (c) Where the house is detached and the floor area of the extension above ground level exceeds 12 square metres, any window proposed at above ground level shall not be less than 11 metres from the boundary it faces. 7. The roof of any extension shall not be used as a balcony or roof garden.

Class 2 of Part 1 of Schedule 2: Exempted development - General

Description of Development	**Conditions and Limitations**
CLASS 2 (c) The placing or erection on a roof of a house, or within the curtilage of a house, or on a roof of any ancillary buildings within the curtilage of a house (this class does not include apartments) of a solar photo-voltaic and/or a solar thermal collector installation.	1. The distance between the plane of the roof and the solar photo-voltaic or solar thermal collector panels shall not exceed 50cm in the case of a flat roof or 15cm in any other case. 2. The solar photo-voltaic or solar thermal collector panels shall be a minimum of 50cm from the edge of a roof on which it is mounted. 3. Any free-standing solar photo-voltaic or solar thermal collector installation shall not be placed or erected forward of the front wall of the house. 4. The total aperture area of any free-standing solar photo-voltaic and solar thermal collector panels taken together with any other such existing free-standing panels shall not exceed 25 square metres.

	5. The placing or erection of any free-standing solar photo-voltaic or solar thermal collector installation shall not reduce the remaining area of private open space, reserved exclusively for the use of the occupants of the house, to the rear or to the side of the house to less than 25 square metres. 6. The height of any free-standing solar photo-voltaic or solar thermal collector installation shall not exceed 2.5 metres at its highest point above ground level. 7. The placing or erection of a solar photo-voltaic or solar thermal collector installation on any wall shall not be exempted development. 8. The placing or erection of any free-standing solar photo-voltaic or solar thermal collector installation within an Architectural Conservation Area shall only be exempted development if those works would not materially affect the character of the area. 9. Development under this Class which causes hazardous glint and/or glare shall not be exempted development and any solar photo-voltaic or solar thermal collector panels which are causing hazardous glint and/or glare shall either be removed or be covered until such time as a mitigation plan to address the hazardous glint and/or glare is agreed and implemented to the satisfaction of the Planning Authority.
(d) The installation on or within the curtilage of a house of a ground heat pump system (horizontal and vertical) or an air source heat pump.	1. The level of the ground shall not be altered by more than 1 metre above or below the level of the adjoining ground. 2. The total area of such a heat pump, taken together with any other such pump previously erected, shall not exceed 2.5 square metres. 3. The heat pump shall be a minimum of 50cm from any edge of the wall or roof on which it is mounted. 4. No such structure shall be erected on, or forward of, the front wall or roof of the house. 5. Noise levels must not exceed 43db(A) during normal operation, or in excess of 5db(A) above the background noise, whichever is greater, as measured from the nearest neighbouring inhabited dwelling.

Class 6 of Part 1 of Schedule 2: Exempted development - General

Description of Development	**Conditions and Limitations**
CLASS 6 a) The construction of any path, drain or pond or the carrying out of any landscaping works within the curtilage of a house.	The level of the ground shall not be altered by more than 1 metre above or below the level of the adjoining ground.

Class 7 of Part 1 of Schedule 2: Exempted development - General

Description of Development	Conditions and Limitations
CLASS 7 The construction or erection of a porch outside any external door of a house.	1. Any such structure shall be situated not less than 2 metres from any road. 2. The floor area of any such structure shall not exceed 2 square metres. 3. The height of any such structure shall not exceed, in the case of a structure with a tiled or slated pitched roof, 4 metres or, in any other case, 3 metres.

Class 41 of Part 1 of Schedule 2: Exempted development - General

Description of Development	Conditions and Limitations
CLASS 41 (g) the carrying out of remedial works in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012).	

Class 50 of Part 1 of Schedule 2: Exempted development - General

Description of Development	Conditions and Limitations
CLASS 50 (a) The demolition of a building, or buildings, within the curtilage of— (i) a house, (ii) an industrial building, (iii) a business premises, or (iv) a farmyard complex. (b) The demolition of part of a habitable house in connection with the provision of an extension or porch in accordance with Class 1 or 7, respectively, of this Part of this Schedule or in accordance with a permission for an extension or porch under the Act.	1. No such building or buildings shall abut on another building in separate ownership. 2. The cumulative floor area of any such building, or buildings, shall not exceed: (a) in the case of a building, or buildings within the curtilage of a house, 40 square metres, and (b) in all other cases, 100 square metres. 3. No such demolition shall be carried out to facilitate development of any class prescribed for the purposes of section 176 of the Act.

Assessment:

In accordance with the Planning and Development Act, 2000 Section 3. (1) development is defined as the following: "In this Act, "development" means, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land". The proposed development is considered to be the carrying out of works. Works are defined in the Act as; "works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure....". It is considered that said works constitute development, as defined in Section 3 of the said Act.

The proposed development of an extension to the rear of a dwelling house which, it is stated as having floor space of 40m^2.

With regard to the compliance with the conditions and limitations of Class 1 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. a. Proposed work is stated as 40m^2.
   b. Proposed extension is on ground floor only, therefore N/A.
   c. Proposed work is only on ground floor level.
2. Possible previous extension to be demolished, therefore N/A.
3. Proposed work is only on ground floor level.
4. a. Rear wall does not exceed this height.
   b. Rear wall does not exceed this height.
   c. Roof height of extension is not higher than the existing house.
5. Extension does not reduce the open space to less than 25m^2
6. a. Windows are greater than 1m from the boundary it faces.
   b. Proposed work is only on ground floor level.
   c. Proposed work is only on ground floor level.
7. Existing house is single story and no access is indicated.

Although the FI response received doesn't clearly answer the question asked 'has the dwelling been previously extended' it is noted that the area in question which may be an extension to the existing house is proposed to be demolished and therefore the area of such would not affect the proposed area of the new extension. Therefore, having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 1 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the extension to rear of a dwelling house as described in this case is considered an exempted development.

The proposed development to install photovoltaic solar panels/inverter to the roof a dwelling house which, with regard to the compliance with the conditions and limitations of Class 2 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. Based on the data sheet provided as part of the FI response the proposed solar panels are less than 15cm from the pitched roof.
2. Solar panels to be installed a minimum of 50cm from the edge of the roof.
3. Proposed solar panels are mounted to the roof, therefore N/A.
4. Proposed solar panels are mounted to the roof, therefore N/A.
5. Proposed solar panels are mounted to the roof, therefore N/A.
6. Proposed solar panels are mounted to the roof, therefore N/A.
7. Proposed solar panels are mounted to the roof, therefore N/A.
8. Proposed solar panels are mounted to the roof and not within an ACA, therefore N/A.
9. Onus on applicant to comply with this.

Having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 2 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the install of photovoltaic solar panels/inverter to the roof of a dwelling house as described in this case is considered an exempted development provided they are installed a minimum of 50cm from the edge of the roof.

The proposed development to install air to water heat pump which, with regard to the compliance with the conditions and limitations of Class 2 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. Proposed air to water heat pump not ground heat pump system, therefore N/A.
2. Based on the data sheet provided as part of the FI response the proposed air to water heat pump is less than 2.5m^2.
3. Onus on applicant to comply with this.
4. Indicated on drawing to be located to the rear of the property.
5. Onus on applicant to comply with this.

Having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 2 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the install air to water heat pump as described in this case is considered an exempted development.

The proposed development to replace footpaths and steps around the existing dwelling, with regard to the compliance with the conditions and limitations of Class 6 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. Following FI response the proposed levels will be the same as existing levels.
2. Following FI response the new footpaths and steps are made of concrete and drainage will be natural drainage through surrounding soil.

Having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 6 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the replacing of footpaths and steps around the existing dwelling as described in this case is considered an exempted development provided all footpath and step levels are not altered by more than 1m from the existing levels.

The proposed development to replace existing porch, with regard to the compliance with the conditions and limitations of Class 7 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. Greater than 2m from the road.
2. Area of new porch is indicated as less than 2m^2.
3. Height of proposed porch is less than 3m.

Having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 7 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the replacing of the existing porch as described in this case is considered an exempted development.

The proposed development install new septic tank/ water treatment system, with regard to the compliance with the conditions and limitations of Class 41 (g) of Part 1 of Schedule 2 (Exempted development - General). Having reviewed the proposed works in the context of the Conditions and Limitations associated with Class 41 (g) of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the installation of a new septic tank/ water treatment system as described in this case is considered an exempted development provided that the carrying out of remedial works is in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012).

The proposed development of the demolition of the existing area to the rear of the dwelling and the front porch, with regard to the compliance with the conditions and limitations of Class 50 of Part 1 of Schedule 2 (Exempted development - General) the following assessment sets out how these apply to the current proposal:

1. This area is not a standalone structure and therefore in ownership of the property.
2. Based on the review of documents provided the combined area for demolition which forms part of the dwelling house is less than $40m^2$.

Having reviewed the existing works in the context of the Conditions and Limitations associated with Class 50 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001, as amended, the demolition of existing area to the rear of the dwelling and front porch as described in this case is considered an exempted development.

The proposal includes the renovation of an existing house. These works have considered in the context of Section 4 (1)(h) of the Act, consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures. The proposed works are deemed an exempt development.

With Regard to Article 9 (1)(a) of the Planning and Development Regulations it is reasonable to conclude, on the basis of the information available, that the proposed development individually and in combination with other plans or projects would not be likely to have a significant effect on any European site and that the need for AA does not apply with respect to the current case.

I am satisfied that an Environmental Impact Statement or Appropriate Assessment are not required. It should be noted that any development for which Environmental Impact Assessment or Appropriate Assessment is required shall not be exempted development unless specifically exempted in regulations where there is provision in other legislation for the carrying out of EIA or AA. In addition, the restrictions on exemption Art 9 (1)(a) (viiB) exclude development which would otherwise be exempted development under these regulations where an AA is required.

Recommendation

WHEREAS a question has arisen as to construct an extension & renovate existing dwelling, works including remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains in Lissacarrow, Fuerty, Co. Roscommon, **is or is not development and is or is not exempted development, I have considered this question, and I have had regard particularly to –**

(a) Sections 2, 3, 4 and 5 of the Planning and Development Act, 2000, as amended
(b) Articles 6, 9 and 10 of the Planning and Development Regulations, 2001, as amended
(c) Class 1, 2, 6, 7, 41 and 50 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001 (Exempt Development – General), as amended
(d) The record forwarded to Roscommon County Council in accordance with subsection (6)(c) of Section 5 of the Planning and Development Acts 2000 as amended.
(e) The planning history of the site

AND WHEREAS I have concluded that

- The works outlined above are development.
- The proposed extension to rear of a dwelling house as described in this case is an exempted development.
- The proposed installation of photovoltaic solar panels/inverter to the roof as described in this case are exempted developments provided they are installed a minimum of 50cm from the edge of the roof.
- The proposed the install air to water heat pump as described in this case is an exempted development.
- The proposed replacing of footpaths and steps around the existing dwelling as described in this case is considered an exempted development provided all footpath and step levels are not altered by more than 1m from the existing levels.
- The proposed installation of a new septic tank/ water treatment system as described in this case is considered an exempted development provided that the carrying out of remedial works is in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012).
- The proposed replacing of the existing porch as described in this case is an exempted development.

- The proposed demolition of the existing area to the rear and front porch of the dwelling as described in this case is an exempted development.
- The proposed refurbishment of the derelict house as above fall within the provisions of Section 4(1)(h) of the Planning & Development Act 2000 as amended, which provides as follows:

development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures;

- The proposed development individually and in combination with other plans or projects would not be likely to have a significant effect on any European site and that the requirement for AA or EIAR does not apply with respect to the current case.

AND WHEREAS I have concluded that the said development to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains in Lissacarrow, Fuerty, Co. Roscommon, is an exempted development provided that the solar panels are installed a minimum of 50cm from the edge of the roof, all footpath and step levels are not altered by more than 1m from the existing levels and the installation of a new septic tank/ water treatment system as described is in compliance with an advisory notice issued under section 70H(5) of the Water Services Act 2007 (as inserted by section 4 of the Water Services (Amendment) Act 2012). I recommend that a declaration to that effect should be issued to the applicant

Signed: Ian Murray **Date**: 10th January 2025

Civil Technician

Signed: **Date**: 10th January 2025

Senior Executive Planner

Carmel Curley

From: barry tapster <[redacted]
Sent: Thursday 9 January 2025 14:40
To: Carmel Curley
Subject: Lissacarrow Fuerty
Attachments: 10.11.2023 Mahon Sweeney Solicitors re barry tapster purchase.docx; Mahon Sweeney letter re Barry Tapster20250109_12343129.pdf

Carmel

Please find attached the requested documents regarding your query regarding extensions at the property attached.

In addition below is the email I received from my solicitor Peter H jones which accompanied the attached documents.

-I attach a copy of my letter to Mahon Sweeney Solicitors for Vendor dated the 10th of November 2023 and you will note query 5 in the said letter.

Thereafter I attach copy of Mahon Sweeney's reply of the 14th of November and again you will note the reply to question number 5.

Reference to the 1963 Act is the Local Government, Planning & Development Act 1963. Prior to the coming into effect of that legislation, no Planning Permission was required in the Republic of Ireland in relation to the construction of housing.

The replies to Requisitions on Title which I raised also confirm that fact and I also have a Declaration from the Vendor to say that since he became the owner of the property there have been no additions or alterations carried out to the original structure.-

Regards
Barry

ROSCOMMON COUNTY COUNCIL
09 JAN 2025
PLANNING SECTION

Mahon Sweeney
SOLICITORS LLP

Market Square
Roscommon
County Roscommon
F42 V382
T. (090) 6627350
F. (090) 6627351
e: mail@mahonsweene
w: www.mahonsweene
DX 90 001 Roscommon

[redacted]

PETER H. JONES
RECEIVED
your ref: phj/bj/b.tapster
15 NOV 2023
Roscommon

14th November 2023

Peter H. Jones & Co
Solicitors
Goff Street
Roscommon
DX 90 005 Roscommon

SUBJECT TO CONTRACT/CONTRACT DENIED

Re: ***Our client:*** [redacted]
Your client: Barry Tapster
Sale of property at Lissacarrow, Fuerty, County Roscommon

Dear Colleague,

Your letter of the 10th of November refers. We would respond utilising the same numbering:

1. We have requested same from the Auctioneer.
2. Same is awaited from Protect Our Water.
3. Declined.
4. We have written to the County Council to enquire whether or not the water supply is public.
5. The property was constructed prior to the coming into effect of the 1963 Act.

In the meantime please note that no binding agreement shall be deemed to exist until such time as Contracts have been executed by both parties, exchanged and the full deposit paid. We have no authority either expressed or implied to bind our client in this matter and nothing in this letter shall constitute a note or memorandum for the purposes of the Statute of Frauds (Ireland), 1695 as amended by Section 51(1) of the Land and Conveyancing Law Reform Act, 2009.

Yours faithfully,

ROSCOMMON COUNTY COUNCIL
09 JAN 2025
PLANNING SECTION

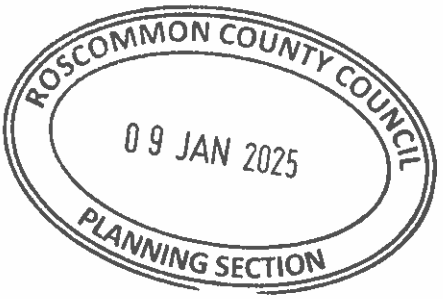
Seán Mahon
Mahon Sweeney

PETER H. JONES & CO.
SOLICITORS

Goff Street,
Roscommon,
Co. Roscommon.
F42 FF95

Tel. 0906626925
Fax. 0906625354
Email: info@peterhjones.ie
DX90 005 ROSCOMMON

Mahon Sweeney Solicitors,
The Square,
Roscommon.
DX 90 001 ROSCOMMON



DATE: 10th November, 2023
OUR REF: [redacted]
YOUR REF:

SUBJECT TO CONTRACT – CONTRACT DENIED

RE: Your client: [redacted]
Our client: Barry Tapster
Sale of property at Lissacarrow, Fuerty, Co. Roscommon, F42 W229

Dear Sirs,

Thank you for your letter of the 8th inst. with enclosures for which we are obliged.

By way of pre-Contract enquiry you might please deal with the following matters and oblige.

1. We look forward to receipt of BER Certificate and Report.
2. We look froward to receipt of Certificate of Registration with Protect Our Water.
3. You might please confirm that a Declaration of Identity will be furnished on completion.
4. Requisition 2b (i) is repeated – please confirm the source of the water supply to the property.
5. Please confirm that the property was constructed prior to the coming into effect of the Local Government & Development & Planning Act 1963 and oblige.

We await to hear and in the meantime we would ask you to note that we have no authority to bind our client in correspondence.

Yours faithfully,

Peter H Jones
PETER H. JONES & CO.
SOLICITORS

Carmel Curley

From: barry tapster [redacted]
Sent: Friday 3 January 2025 15:29
To: Carmel Curley
Subject: L,issacarrow Fuerty.

Carmel

Further to our conversation I can confirm that the exterior guttering and downpipes will be replaced with black PVC pipeware.

I can also confirm that the steps will be finished with poured concrete to match how the existing steps are already finished.

I have been in touch with the solicitor who was employed for the purchase with regard to their knowledge of any extension.

Regards

Barry Tapster

Carmel Curley

From: Carmel Curley
Sent: Tuesday 17 December 2024 15:00
To: [redacted]
Cc: Barry Tapster
Subject: RE: DED 778

Hi Barry,

I refer to your email below, can you please clarify the following:

1. Has the dwelling been extended previously?
2. The 'replacement of the front steps' – will they remain at the same level
3. The 'replacement of exterior drains' will they remain at the same level

Regards,

Carmel

Carmel Curley, Assistant Staff Officer,
Planning Department, Roscommon County Council,
Aras an Chontae, Roscommon, Co. Roscommon, F42 VR98
☎: **(090) 6637100**
✉: planning@roscommoncoco.ie | 🌐 www.roscommoncoco.ie
MAP LOCATION

From: Barry Tapster [redacted]
Sent: Thursday 12 December 2024 17:05
To: Carmel Curley <CCurley@roscommoncoco.ie>
Subject: DED 778

Dear Carmel

Further to our conversation and regarding your request for further information please see the below;

1. A planning search was carried out and no previous extensions were uncovered.
2. The lean to at the rear of the house will be demolished and built over with kitchen/dining area and bathroom as per the submitted plan.
3. This has been provided
4. This has been provided.
5. This will be demolished and replaced as is.
6. These will be replaced as is.

Regards

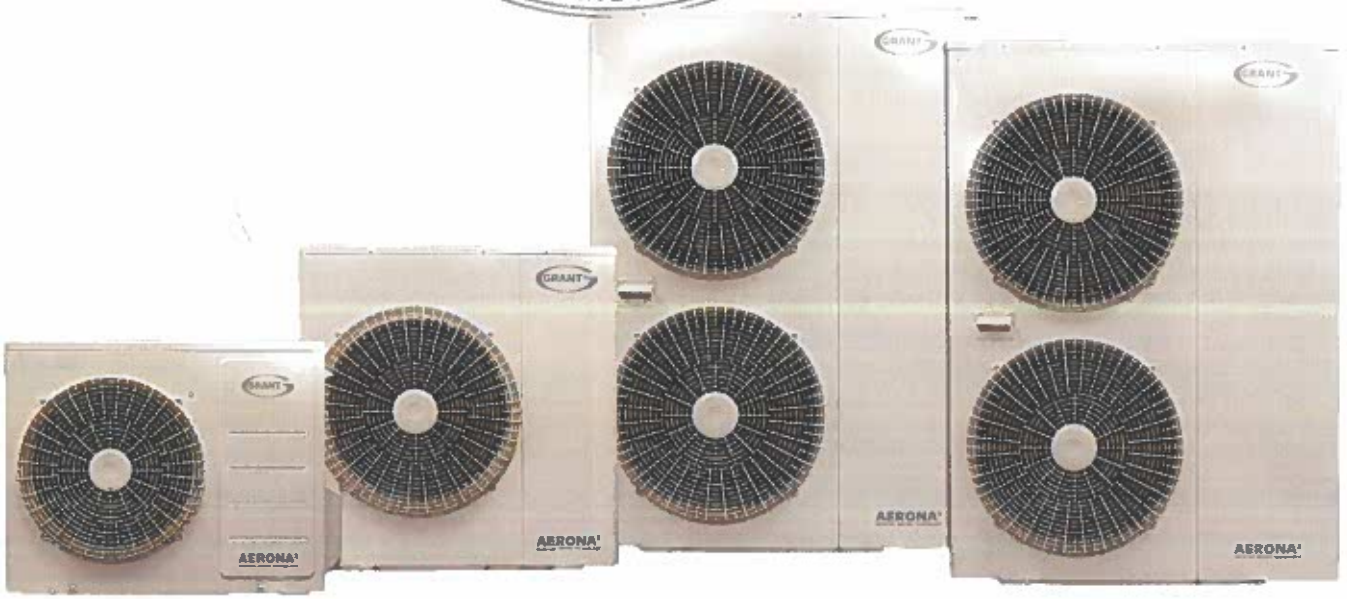
Barry Tapster| Climate Action Officer

Grant Aerona^3

Air to Water High Efficiency Heat Pump Range

Installation and Servicing Instructions

R32



IRL| DOC 0017| REV 00.00| FEBRUARY 2021

GRANT

IMPORTANT NOTE FOR INSTALLERS

These instructions are intended to guide installers on the installation, commissioning and servicing of the Grant Aerona³ heat pump. After installing the heat pump, leave these instructions with the user.

A user handbook is available to guide users in the operation of the heat pump.

SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

WARNING

Warning of possible human injury as a consequence of not following the instructions in the warning.

CAUTION

Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

NOTE

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

AIR TO WATER HEAT PUMP
GRANT AERONA³ HPID10R32

Power Supply	230V
Phase	1ph
Frequency	50Hz
Max Current	17.5A
Refrigerant	R32
Mass of Refrigerant	1.55kg
Weight (dry)	70kg
Heating Capacity*	10.5kW
COP*	3.12
Height	882mm
Length	850mm
Depth	330mm
Max. Pressure Discharge	4.2MPa
Max. Pressure Suction	1.8MPa

*Air 7°C / Water 55°C

SN : 407025 - 8820 - 6000000

Grant Engineering (UK) Ltd
Hopton House, Hopton Ind Est Devizes, SN10 2EU
t: +44 (0)1380 736920
Grant Engineering (Ireland) ULC
Crinkle, Birr, R42 D788 Co. Offaly, Ireland
t: +353 (0)57 912 0089
www.grant.eu

CE 0035

R32 Refrigerant
20886061

IMPORTANT NOTE FOR INSTALLERS

The data label gives you very important information about the installed heat pump. Do not remove this label from the heat pump under any circumstances. The year of manufacture is contained within the serial number (SN). The last two digits of the middle

set of four numbers (eg. 8820) indicates the year of manufacture.

In this example, the year is 2020

PRODUCT CODES COVERED

These instructions cover the following product codes:

Product code
HPID6R32 - 6kW
HPID10R32 - 10kW
HPID13R32- 13kW
HPID17R32- 17kW
Output at 7°C air and 35°C flow temperature

SERVICING

The heat pump should be serviced at least every twelve months and the details entered in the Service Log in the user handbook.

	Power Quality Information
HPID6R32	Complies with the Technical requirements of BS EN/IEC 61000-3-2
	Complies with the Technical requirements of BS EN/IEC 61000-3-3
HPID10R32	Complies with BS EN/IEC 61000-3-11 & BS EN/IEC 61000-3-12
	Complies with the technical requirements of BS EN/IEC 61000-3-2
	Complies with the technical requirements of BS EN/IEC 61000-3-3
HPID13R32	Complies with BS EN/IEC 61000-3-11 & BS EN/IEC 61000-3-12
HPID17R32	Complies with BS EN/IEC 61000-3-11 & BS EN/IEC 61000-3-12

ROSCOMMON COUNTY COUNCIL
11 DEC 2024
PLANNING SECTION

GRANT ENGINEERING (IRELAND) ULC
Crinkle, Birr, Co Offaly
R42 D788, Ireland
www.grantengineering.ie
Email: info@grantengineering.ie
Tel:+353 (0)57 91 20089 Fax: +353 (0)57 91 21060

CONTENTS

1 INTRODUCTION

1.1 General

The Grant Aerona³ range consists of four compact, MCS approved, monobloc, air-to-water, inverter driven, single-phase air source heat pumps working with R32 refrigerant.

It is important that these installation and servicing instructions are followed to ensure correct installation and operation. Failure to do so may result in poor performance.

It is not within the scope of this manual to design the heating system or provide any advice regarding the layout of the system or any of the controls required for any individual heating system.

These instructions do not replace the installation or users manuals for any additional components used in the design of your system e.g. cylinders, motorised valves, programmers, solar thermal devices, buffers, etc.

These instructions must be left with the product for future reference.

1.2 Main Components

Each model incorporates the following main components:

- **DC inverter** - this responds rapidly to changing conditions to provide the necessary output to meet heating demands by varying the speed and output of the compressor, fan and circulating pump. This reduces the on/off times of the compressor, keeping the water temperature constant during operation reducing the electricity consumption.
- **Compressor** - a high-efficiency DC twin-rotary compressor to provide smooth performance and quiet operation.
- **Plate heat exchanger (condenser)** - the high-efficiency plate heat exchanger is used to transfer heat to the heating system primary circuit.
- **Fan** - a high-efficiency DC fan motor is used for smooth and quiet operation. A single fan is fitted to the 6kW (5 blade) and 10kW (3 blade) units. Two fans (3 blade) are fitted to the 13 & 17kW unit.
- **Circulating pump** - high-efficiency DC pump speed controlled from the ASHP control PCB.
- **Base tray heater** - factory fitted electric heater prevents condensate in the base of the heat pump from freezing. When the ambient temperature reaches 2.5°C, the base tray heater turns on and at 5.5°C turns off (ΔT of 3k). This cannot be adjusted or turned off. Refer to Section 2.3.
- **Pressure relief valve** - a 3 bar pressure relief valve is factory fitted.
- **Air purge valve (automatic air vent)** - factory fitted to assist in the removal of air from the heating primary circuit of the heat pump.

1.3 Planning Permission

The installation of a Grant Aerona³ heat pump on domestic premises may be considered to be permitted development, not needing an application for planning permission, provided ALL the limits and conditions listed on the Planning Portal website are met.

For further information contact your local planning department.

1. 4 Important Advice

1. It is essential that the full layout of the system is understood before the installation of any component is undertaken. If you are in any doubt, please stop and seek advice from a qualified heating engineer or from Grant IRL. Please note that Grant IRL will not be able to offer specific advice about your system unless we designed it. In this case, we will always refer you to seek the advice of a qualified system designer.
2. The heat pump must be installed and commissioned in accordance with these installation and servicing instructions. Deviations of any kind will invalidate the guarantee and may cause an unsafe situation to occur. Please seek advice from Grant IRL if any of these user, installation and servicing instructions cannot be followed for whatever reason.
3. The heat pump contains high pressures and high temperatures during normal working conditions. Care must be taken when accessing the internal workings of the heat pump.
4. The heat pump contains an electrically driven fan which rotates at high speed. Disconnect the heat pump from the electrical supply before removing the top cover.

1.5 Product Contents

The Aerona³ comes supplied on a single pallet. The following items are included:

	HPID6R32	HPID10R32	HPID13R32	HPID17R32
Aerona³ heat pump 6kW	1			
Aerona³ heat pump 10kW		1		
Aerona³ heat pump 13kW			1	
Aerona³ heat pump 17kW				1
Condensate drain elbow	1	1	1	1
Anti-vibration shoes	4			
¾" BSP x 22 mm flexible hose c/w washer	2			
1" BSP x 28 mm flexible hose c/w washer		2	2	2
1" nipple			2	2
1" x 1¼" reducing socket	0	0	2	2
22 mm isolating valve	2			
28 mm isolating valve		2	2	2
Remote controller	1	1	1	1
Remote controller cable (length: 8 metres)	1	1	1	1
Installation and servicing instructions	1	1	1	1
User instructions	1	1	1	1

1.6 Installation Accessories

The following are available from Grant IRL:

Product code	Description
HPIDFOOT/KIT2	Anti-vibration mounts (2 x 600mm and fixing kit)
HPIDINSU/KIT	Through wall insulation kit (22 - 28mm flexible hoses)

1.7 Control Parameters

All parameters are listed sequentially in Appendix A.

9.3 Access for Parameter Settings

The parameters are accessed and set using the remote controller.

There are two levels of access for parameter settings.

Access levels:

- U – End user level (accessible to user only)
- I – Installer Level (accessible to user and installer)

Refer to Sections 9.4 and 9.5 for how to access the above levels as there is a different procedure for each level.

9.4 Accessing the Parameter Setting Menu (User level)

The procedure for accessing, checking and setting the parameters is as follows:

1. Press the Menu button l on the remote controller for three seconds to enter the user level.
2. Parameter number "0000" and parameter value "----" will be shown on the display.
3. The first two digits of the 4-digit parameter number (the parameter group number) will blink.
4. Set the parameter group number, as required, using the Up or Down q buttons.
5. Press the – or + buttons o to switch to the parameter code and the second two digits will blink.
6. Set the parameter code number, as required, using the Up or Down q buttons.
7. Press Set p and the parameter value will be displayed.
   For 'read-only' items the number displayed remains on (not blinking) and pressing the Set button p does not affect the display.
8. If an invalid parameter (not accessible to the user) is entered and the Set button p pressed "----" is displayed. Press the Return button n to return to the parameter number.
9. If the parameter value can be adjusted it will blink.
10. Set the parameter to the required value using the Up or Down q buttons.
11. Press the Return n or Set p button. The parameter code number will blink to allow setting of another parameter, if required.
12. To return to normal operation, press and hold the Menu button l for three seconds, or simply leave the remote controller for ten minutes.

9.5 Accessing the Parameter Setting Menu (Installer level)

In the INSTALLER level more parameters can be accessed than in the USER level. The procedure for accessing, checking and setting the parameters is as follows:

1. Press the Menu l and the – and + o buttons on the remote controller simultaneously for three seconds to enter the installer level.
2. "InSt" parameter number "0000" and parameter value "----" will be shown on the display.
3. The first two digits of the 4-digit parameter number (the parameter group number) will blink.
4. Set the parameter group number, as required, using the Up or Down q buttons.
5. Press the – and + o buttons to switch to the parameter code and the second two digits will blink.
6. Set the parameter code number, as required, using the Up or Down q buttons.
7. Press Set p and the parameter value will be displayed and will blink.
8. Set the parameter to the required value using the Up or Down q buttons.
9. Press the Return n or Set p button. The parameter code number will blink to allow setting of another parameter, if required.
10. To return to normal operation, press and hold the Menu l and the – and + o buttons simultaneously for three seconds, or simply leave the remote controller for ten minutes.

Master Reset (resetting all parameters to their defaults)

All parameters can be reset to their original defaults. The procedure is as follows:

1. Press the Menu l and the – and + o buttons on the remote controller simultaneously for three seconds to enter the installer level.
2. Press and hold the low tariff/night mode (key lock) m button for ten seconds. All parameters will now be reset.
3. To return to normal operation, press and hold the Menu l and the – and + o buttons simultaneously for three seconds, or simply leave the remote controller for ten minutes.

9.6 Temperature Control – DHW function

The heat pump is supplied with a factory-set heat pump flow temperature for the DHW function and this is determined by the value of parameter 4130.

This temperature should be set to 55°C. This must be checked (by accessing parameter 4130) during commissioning, using the following procedure:

On the remote controller (refer to Section 9.1), first access the installer level:

1. Press and hold the Menu l, – and + buttons o together for 3 seconds to enter the installer level.
2. "InSt" parameter number "00 00" and parameter value "----" will be shown on the display. The first two digits of the parameter number will be blinking.

Then, access the service level:

1. Use the – or + buttons o to change these first two digits to 99 and then press the + button o.
2. The second two digits will then blink. Use the – or + buttons o to change these two digits to 99 and then press the + button o.
3. The parameter value on the display will now be '0'.
4. Use the – or + buttons o to change the parameter value to "738" and then press the Set p.

Now, check parameter 4130:

1. The first two digits of the 4-digit parameter number (the parameter group number) will blink.
2. Set the parameter group number to 41 using the – or + buttons o.
3. Press the + button o and the second two digits (the parameter code) will blink.
4. Set the parameter code number to 30 using the – or + buttons o.
5. Press Set p and the parameter value (41 30) will be displayed and will blink.
6. Check that the value of parameter 41 30 is 55 (i.e. 55°C).
7. If NOT, set the parameter value to 55 using the – or + buttons o.
8. Return to normal operation: Press and hold the Menu l, – and + buttons o together for 3 seconds or simply leave the remote controller for 10 minutes.

9.7 Parameters Input/Output

The following parameter settings must be checked on commissioning.

Table 9-2: Parameters input/output

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	51	19	Terminal 19-18 : DHW remote contact 0=disable (Remote controller only) 1=enable	1	0	1	-	
I	51	20	Terminal 20-21 : ON/OFF remote contact (CH) Alarm input 0=disable 1=ON/OFF remote contact	1	0	1	-	ON/OFF by Remote controller 0=enable 1=ON/disable OFF/enable 2=enable
I	51	28	Terminal 28-29 : Night mode* 0=disable 1=enable Refer to Section 8.6.	0	0	1	-	Parameter 5128 and Parameter 5130 are synchronised in same value
I	51	30	Terminal 30-31 : Low tariff* 0=disable 1=enable Refer to Section 8.7.	0	0	1	-	
I	51	46	Terminal 46 : DHW Electric heater or Backup heater 0=DHW Electric heater 1=Backup heater	0	0	1	-	

* External timer required

For details of how to access the parameter settings, refer to Section 9.3.

9.8 Remote Controller Back Light Display Parameters

The following parameters can be changed to adjust the back light display.

Table 9-3: Back light display parameters

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
U	02	03	Back light display at door open 0=OFF 1=ON	1	0	1	-	
U	02	04	Time to turn off the back light display	60	10	300	10 sec	
U	02	05	Time to back to normal display screen	120	10	300	10 sec	

For details of how to access the parameter settings, refer to Section 9.3.

9.9 Weather Compensation

g commissioning, the four climatic curve parameters MUST be checked and the default values adjusted to suit the design parameters for the system in question. Refer to Section 8.2.2 for details.

Warm Weather Operation

If, during commissioning, the ambient air temperature is higher than the air temperature setting (Te2) - parameter 2105 for the climatic curve, the weather compensation function will NOT allow the heat pump to operate to provide space heating.

To override this and force operation of the heat pump (e.g. to check operation or commission the heat pump), parameter 2100 must be set to 0. The weather compensation will be switched off and the heat pump will operate at a fixed set point of 45°C irrespective of the outdoor air temperature.

If weather compensation is required, e.g. if the installation is to meet RHI requirements, parameter 2100 MUST be reset to 1 once the heat pump has been commissioned or the operation checked.

Alternatively, to operate the heat pump without touching the weather compensation settings, set the system controls to provide a hot water demand so that the heat pump operates to provide hot water heating. Reset the hot water controls to the normal setting once the heat pump has been commissioned or the operation checked.

9.10 Frost Protection Function Setting

Refer to Section 3.10.2 for details.

9.11 Pump Operation and Air Bleeding from Heating System

The circulating pump can be operated to aid removal of the air from the heating system.

To operate this function access the Terminal PCB.

- Check DIP SW4 is set to 'OFF'.

NOTE

Dip switch positions:	
Up:	**ON**
Down:	**OFF**

- Press the Pump SW. Refer to Figure 9-4.
- Wait for a few seconds. The pump will start and each of the six outer digital segments on the right-hand digit of the display on the terminal PCB will light up sequentially during pump operation.
- The pump stops automatically after 10 minutes of operation. If all the air could not be released from the water circuit, press Pump SW again (after the pump has stopped) to operate the pump for another 10 minutes.

If you want to stop the pump before it stops automatically, press Pump SW again.

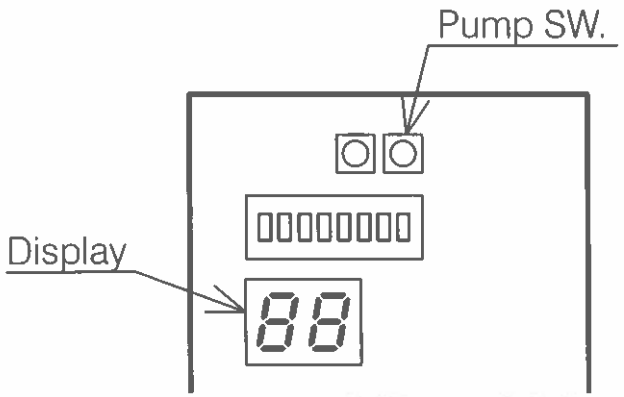


Figure 9-4: Water loading and air bleeding in the hydraulic circuit

9.12 Pump Output Setting

The water pump is supplied factory set to maximum output (level 3), i.e. with both DIP SW5 and DIP SW6 in the OFF position (down position). Refer to Figure 8-9.

As this pump performance may be too high for many systems, the water pump should be re-set to minimum (level 1) when commissioning the heat pump.

To do this, set DIP SW6 to ON (up position). Refer to Figure 8-9.

During commissioning, check that the required flow rate is produced in the heating system.

This will usually be indicated by achieving a temperature difference between the heat pump flow and return of approximately 8°C when the heating system is operating and up to temperature.

To determine the temperature difference, check the flow and return temperatures using the 'Monitor Display Function' on either the remote controller or Terminal PCB. Refer to Section 10.7 of these installation Instructions for details of how to check the flow and return water temperatures.

If necessary, the water pump output can be adjusted to achieve the required temperature difference between flow and return when the heat pump is operating.

The water pump can be set to the required output (e.g. level 1 or level 2) by resetting the position of either DIP SW5 or DIP SW6, as follows:

- For pump output level 2: Set DIP SW5 to ON (up position)
- For pump output level 1: Set DIP SW6 to ON (up position)

9.13 Coastal Installations

Alternatively if the Aerona³ heat pump is installed the evaporator must be sprayed with AFC50 and this repeated on each annual service. A blygold option is available for applications close to the coast, Blygold PoluAl is a metallic impregnated polyurethane coating specifically designed for application to aluminium finned-copper tube coils. It is a thin, flexible, UV and impact resistant coating that exhibits excellent adherence to aluminium surfaces.

10 SERVICING

10.1 General

Grant Aerona³ Heat Pumps require only the minimum of routine servicing and maintenance.

This should be carried out by a trained and compentent person, who should have complete the service log each time fully.

Heat pump - check:

- Visual condition of the heat pump
- Any debris/obstructions for the evaporator fins – remove if found
  - Remove by comb or foam based cleaner - do not attempt to do this manually
- The fan outlet is not obstructed - remove if found
- Condensate drain opening is clear
- Flexible hose condition
- Pipe insulation condition
- Remote controller settings
- That no refrigerant is leaking
- All electrical connections and PCB for scorching or dry cables
- If the Aerona³ heat pump is installed within 10km of the coast, the evaporator must be sprayed with AFC50 and this repeated on each annual service.

Heating system - check:

- Expansion vessel pressure
- Operation of pressure relief valve
- Heating system pressure – top up if necessary
- Correct concentration of corrosion/antifreeze protection
- Heating and hot water controls settings
- Any leaks on system
- For any sign of leakage from the refrigerant circuit - refer to Section 10.6.
- Magnetic filter is cleaned

Master Reset (resetting all parameters to their defaults)

All parameters can be reset to their original defaults. The procedure is as follows:

1. Press the Menu l and the – and + o buttons on the remote controller simultaneously for three seconds to enter the installer level.
2. Press and hold the low tariff/night mode (key lock) m button for ten seconds. All parameters will now be reset.
3. To return to normal operation, press and hold the Menu l and the – and + o buttons simultaneously for three seconds, or simply leave the remote controller for ten minutes. Please note that after the master reset has been used, any parameter that were adjusted durning commissioning would be lost.

10.2 Air Inlet and Outlet

The air inlet grille and evaporator must be checked and leaves or any other debris removed from the space between the grille and the evaporator fins.

CAUTION

Take care not to damage or distort the Aluminium fins of the evaporator when removing any debris.

Ensure that both the air inlet to the evaporator and the dischorge from the fan outlet are unobstructed. Any foliage, plants, etc. near the heat pump must not be allowed to grow over the heat pump.

Under no circumstances should anything be stacked on or against the heat pump.

Refer to Section 3.5.2 for the required clearances around the heat pump.

10.3 Condensate Disposal

Check that the condensate drain hole in the bottom of the heat pump is not blocked.

10.4 Heating System Connections

Check the condition of the flexible hoses. Replace if damaged or leaking.

10.5 Heat Pump Controls

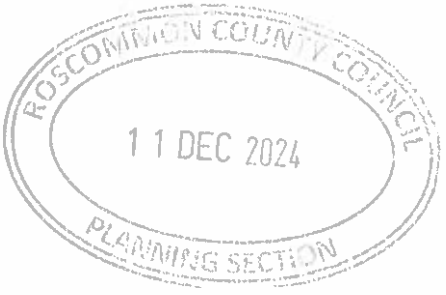
Check that settings on the remote controller are as set when commissioned. Refer to settings given in the relevant sections of these instructions. Reset to commissioned settings if necessary.

10.6 Refrigerant

Under no circumstances should the refrigerant be vented from the charging points on the refrigerant circuit of the heat pump.

If any work is required to be carried out on the refrigerant circuit, it MUST be undertaken by an F-gas registered refrigeration engineer

On no account should any such work be carried out by unqualified personnel.



10.7 Monitor Display Function

The heat pump operating conditions, as listed in Table 10-3, can be displayed & checked on either the remote controller or Terminal PCB.

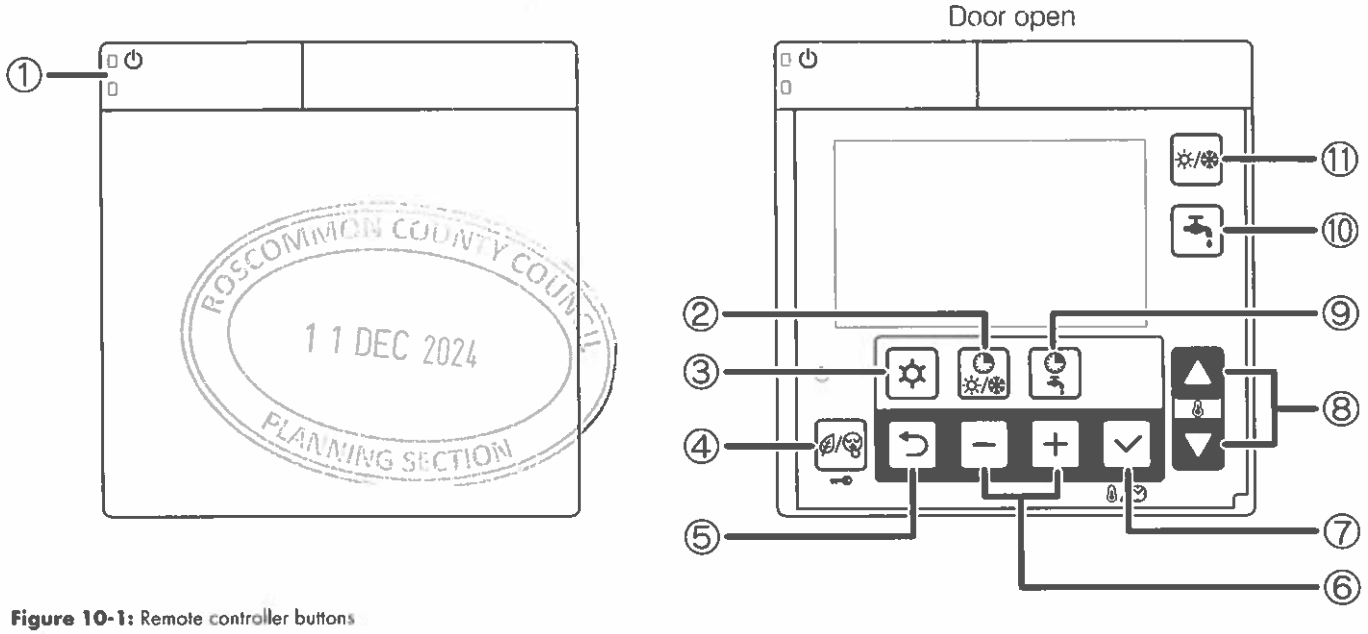


Figure 10-1: Remote controller buttons

Display on Remote controller

1. Press Return button for three seconds to enter monitor mode and display the user level value of parameter group 01. A 2 digit code number of parameter group 01 (default value is 00) will be displayed on the left of remote controller screen. The corresponding parameter value will displayed on the right of the screen (default value is ----.)
2. Press the Up or Down q buttons to change the code number and then press the Set p button to display the parameter value. Only code numbers from 00 to 09 can be displayed.
3. To return to normal display, press and hold the Menu l button for three seconds or simply do nothing and leave it for about ten minutes.

Display on Terminal PCB display

1. Set the DIP SW4 on the Terminal PCB to 'ON' (up) to display the monitor number and monitor data alternately.
2. Push the Pump SW. of the Terminal PCB to switch the display number alternately.
3. To return to normal display, set the DIP SW4 to 'OFF' (down).

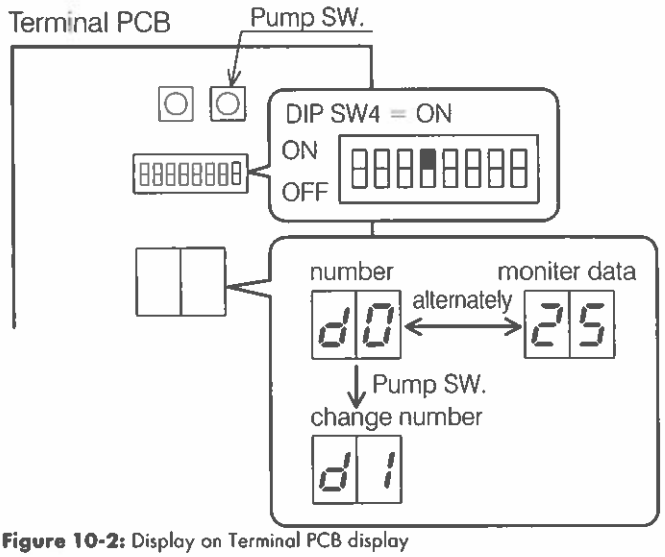


Figure 10-2: Display on Terminal PCB display

Table 10-3: Monitor display

Terminal PCB	Remote controller			Function description	Display and input value			
Number	Level	Parameter			Default	Minimum	Maximum	Unit
		Group	Code					
d0	U	01	00	Circulating water return temperature	-	-20	100	1°C
d1	U	01	01	Compressor operating frequency	-	0	200	1Hz
d2	U	01	02	Discharge temperature	-	-20	150	1°C
d3	U	01	03	Power consumption value	-	0	9900	100W
d4	U	01	04	Fan control number of rotation	-	0	1000	10rpm
d5	U	01	05	Defrost temperature	-	-20	100	1°C
d6	U	01	06	Outdoor air temperature	-	-20	100	1°C
d7	U	01	07	Water pump control number of rotation	-	0	9900	100rpm
d8	U	01	08	Suction temperature	-	-20	100	1°C
d9	U	01	09	Circulating water flow temperature	-	-20	100	1°C

11 FAULT FINDING

11.1 Error Code Display

In the event that a fault is detected, a red LED on the ON/OFF switch of the remote controller will flash and a warning icon and error code will be displayed on LCD screen and also on the Terminal PCB display.

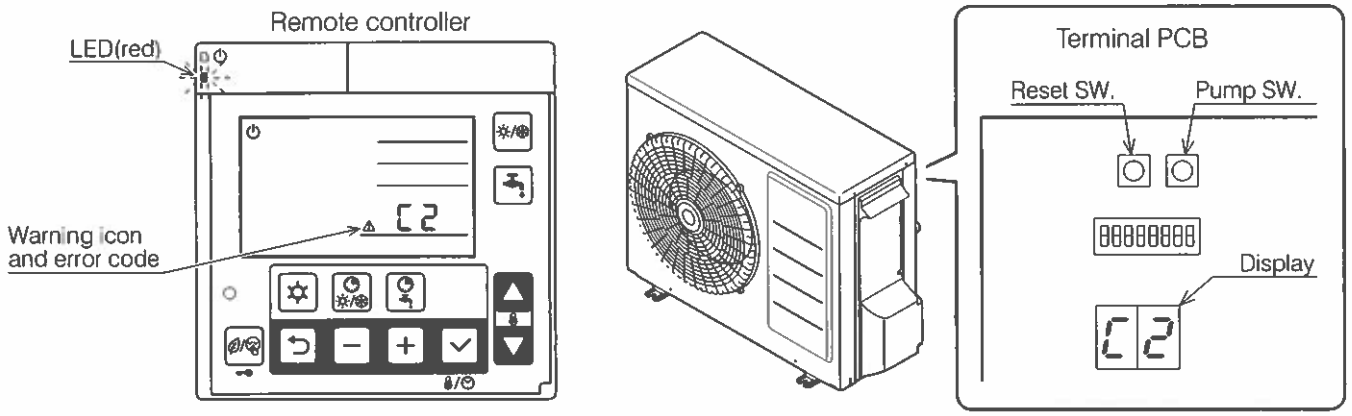


Figure 11-1: Error code display

11.2 Error History Display

The previous 10 error codes can be displayed on Terminal PCB display.

Procedure to display on Terminal PCB display:

1. Press Pump SW and Reset SW on Terminal PCB at the same time for five seconds and the error history order and error code will be displayed alternately. The first one is the latest error code.
2. Press Pump SW to go through the history order up to the 10th error code and then go back to the latest error code.
3. When there is no error history, '--' will be displayed.

If no operation is carried out for five minutes or both the Pump SW and Reset SW are pressed together for five seconds, the display returns to normal display.

Deletion of the error history:

During error code display, press Reset SW and Pump SW for ten seconds to delete the error history.

11.3 Reset Error Code Display

Auto

Once it returns to normal condition, the error will automatically be reset.

When the heat pump stops, it may not possible to reset automatically. In this case, reset manually.

Manual

To reset, press – and + O buttons on the Remote Controller at the same time for three seconds, or press Reset SW on the Terminal PCB.

Refer to Figure 11-2.

It is possible to reset by turning the mains power supply switch OFF ON, although this is not recommended.

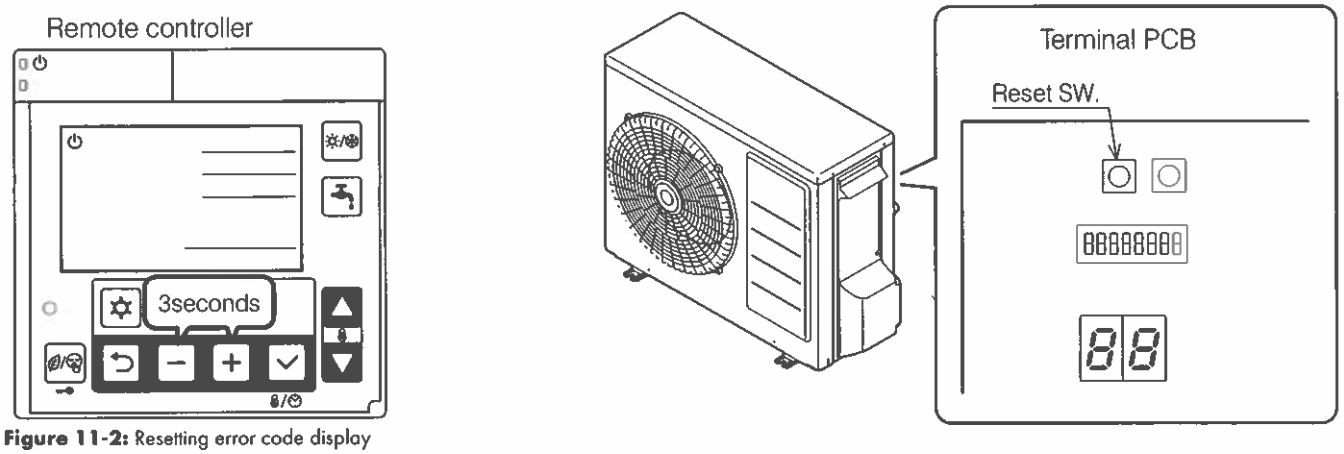


Figure 11-2: Resetting error code display

11.4 Error Codes

Error code	Error		Method of check	Troubleshooting	Figure/ table	Error reset
-	-	Power supply	Check the power supply	Confirm the power supply	-	-
		Fuse CF1 HPID6: 250V 15A HPID10: 250V 25A HPID16: 250V 30A	Check the electric continuity of Fuse CF1 by tester	If CF1 is blown, Main PCB should be replaced	Figure 11-3	
		Fuse CF3 (250V 3A)	Check the electric continuity of Fuse CF3 by tester	If CF3 is blown, Main PCB should be replaced		
		Fuse CF4 HPID6: 250V 3A HPID10: 250V 3A	Check the electric continuity of Fuse CF4 by tester	If CF4 is blown, Main PCB should be replaced		
		Main PCB	Other than described above	Main PCB should be replaced	-	
A0	DC voltage error	Fan motor	Operate without lead wire for Fan motor Check the electric continuity of Fuse by tester	If the same error code appears again, Main PCB or Pump should be replaced If other error codes appear, Fan motor should be replaced	-	Power OFF
		Fuse CF6 HPID16: 250V 3A		If CF6 is blown,it should be replaced	Figure 11-4	
		Fuse CF7 HPID10: 250V 3A HPID16: 250V 3A		If CF7 is blown,it should be replaced		
		Pump	Operate without lead wire for Pump	If the same error code appears again, Main PCB or Fan motor should be replaced If other error codes appear, Pump should be replaced	-	
		Reactor	Check the resistance by tester (0.1Ω at 20°C)	If the reactor is faulty, is should be replaced.	-	
		Main PCB	Check the voltage of Fan motor by tester Check the voltage of Pump by tester	If the voltage is abnormal, PCB (Main should be replaced	Figure 11-4, 11-6	
		Power supply	Check the power supply	Confirm the power supply	-	
A1	Discharge temperature error	Sensor, Temp. Discharge	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-13	Auto
		Gas leakage	Check the service valve and refrigerant circuit (pipe)	Collect refrigerant once, then recharge with prescribed mass	-	
A2	Protective action against excess Current DC current detection	Unreasonable operation under/ overload	Check the place of installation (blockage of air inlet & outlet) Check the excess gas	Ensure the installation position to avoid blockage of air inlet & outlet	-	Manual
				If excess gas is observed, collect all refrigerant once, then recharge with prescribed mass		
		Drop of power voltage	Check the power voltage (230V)	Confirm the power supply voltage (230V)		
		Main PCB	Operate without the junction connector of Compressor lead wire	If the same error code appears again, Main PCB should be replaced		
		Momentary stop of power (In case of lightning)	-	Restart operation		
		Compressor	Other than described above	Compressor should be replaced		
A3	CT disconnection	Main PCB	-	Main PCB should be replaced	-	Manual
A4	Protective action against excess Current AC current detection	Unreasonable operation under/ overload	Check the place of installation (blockage of air inlet & outlet) Check the excess gas	Ensure the installation position to avoid blockage of air inlet & outlet	-	
				If excess gas is observed, collect all refrigerant once, then recharge with prescribed mass		
		Drop of power voltage	Check the power voltage (230V)	Confirm the power supply voltage (230V)		
		Momentary stop of power (In case of lightning)	-	Restart operation		

Error code	Error		Method of check	Troubleshooting	Figure/ table	Error res
A5	Abnormal revolution of compressor	Unreasonable operation under/ overload	Check the place of installation (blockage of air inlet & outlet) Check the excess gas	Ensure the installation position to avoid blockage of air inlet & outlet	-	Manual
				If excess gas is observed, collect all refrigerant once, then recharge with prescribed mass		
		Drop of power voltage	Check the power voltage (230V)	Confirm the power supply voltage (230V)		
		Fuse CF6 HPID6: 250V 15A HPID10 : 250V 25A	Check the electric continuity Fuse CF6 by tester	If CF6 is blown, Main PCB should be replaced	Figure 11-5	
		Clogged the water Pump and/or water circuit	Check the Pump and water circuit	Remove the blockage, then restart operation		
		Drop of power voltage	Check the power voltage (230V) during operation	Confirm the power supply voltage (230V)		
		Momentary stop of power (In case of lightning)	-	Restart operation		
		Compressor or Main PCB	Other than described above	Compressor should be replaced		
A6	Suction temperature sensor error	Sensor, Temp. Suction	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-14	Auto
A7	Defrost tem sensor error	Sensor, Temp. Defrost	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-14	
A8	Discharge temp. sensor error	Sensor, Temp. Discharge	Check the resistance by tester (*1)	If the sensor is faulty, it should be replaced	Figure 11-13	
C1	Upper fan motor error (HPID13R32 & HPID17R32)	Fuse CF7 (250V T3.15A)	Check the electric continuity Fuse CF7 by tester	If CF7 is blown, Fan motor and CF7 should be replaced If CF7 is not blown, check the voltage of Fan motor If the voltage is normal, Fan motor should be replaced If the voltage is abnormal, Main PCB should be replaced	Figure 11-4	Auto
		Fan motor (*2)				
		Main PCB				
C2	Outdoor temp. sensor error	Sensor, Temp. Outdoor	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-12	Auto
C3	Lower Fan motor error (HPID13R32 & HPID17R32) Fan motor error (HPID6R32 & HPID10R32)	Fuse CF6 (HPID16: 250V T3.15A)	Check the electric continuity of Fuse CF6 by tester	If CF6 is blown, it should be replaced	Figure 11-4	Manual
		Fuse CF7 (HPID10: 250V T3.15A)	Check the electric continuity of Fuse CF7 by tester	If CF7 is blown, it should be replaced		
		Fan motor	Check the voltage of Fan motor by tester	If the voltage is normal, Fan motor should be replaced If the voltage is normal, Main PCB should be replaced		
		Main PCB				
C4	Rise of temperature (above 110°C) of Main PCB	Mis-installation	Check the place of installation (blockage of air inlet & outlet)	Ensure the installation position to avoid blockage of air inlet & outlet	-	
		Sensor, Temp. Main PCB	-	Main PCB should be replaced		
C5	Main PCB sensor error	Sensor, Temp. Main PCB	-	Main PCB should be replaced	-	Auto
C6	Main PCB error	Main PCB	-	Main PCB should be replaced	-	Power OFF
C7	Controller PCB serial error	Mis wiring or rare contact [Main PCB - Controller PCB connecting cable]	Check the wiring connection and rare contact	After correcting mis wiring, restart operation	-	Auto
		Controller PCB	Other than described above	Controller PCB should be replaced		
		Main PCB	Other than described above	Main PCB should be replaced		
		Earth wire	-	Check if earth wire is properly installed		

(*1) In case of detecting open circuit of the discharge temperature sensor, error display appears 10 minutes after start operating.
In case of detecting short circuit of the discharge temperature sensor, error display appears immediately.
(*2) When checking fan motor and/or pump, turn OFF the power supply completely and check at their terminal or connector.

Error code	Error		Method of check	Troubleshooting	Figure/ table	Error reset
C8	Main PCB error	Main PCB	Turn off the power supply, wait for about 3 minutes, then power up again Check loose cable connections and contacts of reactor	If the same error code appears, Main PCB should be replaced	-	Power OFF
E4	Outgoing water temp. sensor error	Sensor, Temp. Outgoing water	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-15	Auto
E5	Return water temp. sensor error	Sensor, Temp. Return water	Check the resistance by tester	If the sensor is faulty, it should be replaced		
FU	High pressure switch is operating (HPID13R32 & HPID17R32)	Outside air recirculation Clogged water circuit	Check temperature difference of Outgoing/ Return water (see Monitor display function) Large difference means flow rate is too low	Make sure the position doesn't block the air inlet and outlet Remove the blockage, then restart operation	-	Manual
P1	Pump error	Pump (*2) Main PCB	Check the voltage of Pump	If the voltage is normal, Pump should be replaced If the voltage is abnormal, Main PCB should be replaced	Figure 11-6	
		The pump is blocked/air-locked or water circuit restricted.	Check the pump and water circuit	Remove the blockage, then restart operation	-	
P3	High pressure switch error (HPID13R32 & HPID17R32)	High pressure switch	Check loose cable connections and contacts	If the same error code appears, high pressure switch should be replaced	-	Power OFF
U1	Compressor overheat protection relay operation (HPID13R32 & HPID17R32)	Compressor overheat protection relay	Check the resistance by tester	If the compressor overheat protection relay is blown, it should be replaced	Figure 11-10	Manual
		Gas leakage	Check the service valve and refrigerant circuit (pipe)	Correct refrigerant once, then recharge with prescribed mass	-	
Water not getting warm		Fuse CF2 0639U : 250V T3.15A 1039U : 250V T3.15A 1639U : 250V T5A	Check the electric continuity of Fuse CF1 by tester	If CF2 is blown,it should be replaced and check the resistance of 4way valve and the resistance of Defrost heater by tester	Figure 11-9	
		4way valve	Check the resistance of 4way valve by tester	If 4way valve is blown,it should be replaced	Figure 11-7	
		Defrost heater	Check the resistance of Defrost heater by tester	If Defrost heater is blown,it should be replaced	Figure 11-8	
		Short cycle (insufficient air circulation)	Check the blockage of air inlet & outlet	Ensure the installation position to avoid blockage of air inlet & outlet	-	
		Sensor,Temp. Outgoing water and Return water	Check the resistance by tester	If any of these sensors is faulty, it should be replaced	Figure 11-15	
		Gas leakage	Check the service valve and refrigerant circuit (pipe)	After fixing the leakage point,collect the refrigerant once,then recharge with prescribed mass	-	
		Clogged water circuit	Check temperature difference of Outgoing/ Return water (see Monitor display function) Large difference means flow rate is too low	Remove the blockage,then restart operation	-	

11.5 Table of Controller PCB and Terminal PCB Alarms

Error code	Error		Method of check	Troubleshooting	Figure/ table	Error reset
L0	EEPROM error	PCB(Controller) and PCB(EEPROM)	-	PCB(Controller) and PCB(EEPROM) should be replaced	-	Power OFF
L1	DHW temperature sensor error	Sensor, temperature DHW tank	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-14	Auto
L2	Outdoor temperature sensor error	Sensor, temperature outdoor	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-16	
L3	Thermal store temperature sensor error	Sensor, temperature thermal store	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-14	
L4	Mix water temperature sensor error	Sensor, temperature Mix water	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-14	
L5	Humidity sensor error	Sensor, Humidity	Check the resistance by tester	If the sensor is faulty, it should be replaced	Figure 11-11	
740	Remote controller communication error	Incorrect remote controller wiring or DIP SW setting	Check loose cable connections and contacts Check DIP SW setting	After having corrected the wiring and DIP SW setting, restart operation	-	
		Loose interface connection cable or contacts	Rear side of remote controller			
		Remote controller	Other than described above	Remote controller should be replaced		
		Controller PCB	Other than described above	Controller PCB should be replaced		
E8	Remote controller communication error	Incorrect remote controller wiring Loose interface connection cable or contacts	Check loose cable connections and contacts	After having corrected the wiring, restart operation	-	
		Controller PCB	Other than described above	Controller PCB should be replaced		
F5	Main PCB communication error	Incorrect main PCB wiring Loose interface connection coble or contacts	Check loose coble connections and contacts	After having corrected the wiring, restart operation	-	
		Main PCB	Other than described above	Main PCB should be replaced		
		Controller PCB	Other than described above	Controller PCB should be replaced		
Terminal PCB cannot be operated Terminal PCB does not display anything		Lead wire of Terminal PCB	Check lead wires are connected to the connectors properly	Connect the connectors to both Terminal PCB and Controller PCB steadily	-	-
			Ensure that there is no disconnection for the lead wires	Lead wires should be replaced		
		Terminal PCB	Other than described above	Terminal PCB should be replaced		
		Controller PCB	Other than described above	Controller PCB should be replaced		

11.6 Error Codes and PCB Alarm Figures and Tables

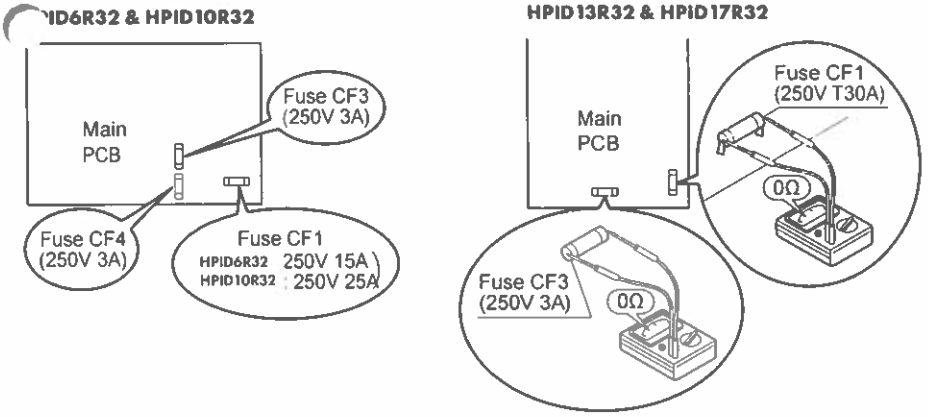


Figure 11-3: Continuity of current Fuse on the Main PCB

Fan motor HPID6R32 & HPID10R32
Measure voltage between the connector pins of connector 18.
Connector 18 shall be checked during heating operation.
Measure voltage as follows without taking off the connector 18.

LOWER Fan motor HPID13R32 & HPID17R32
Measure voltage between the connector pins of connector 11.
Connector 11 shall be checked during heating operation.
Measure voltage as follows without taking off the connector 11.

UPPER Fan motor HPID13R32 & HPID17R32
Measure voltage between the connector pins of connector 14.
Connector 14 shall be checked during heating operation.
Measure voltage as follows without taking off the connector 14.

Between red ⊕ and black ⊖, approx. DC200~370V
Between yellow ⊕ and black ⊖, approx. DC3~7V
Between white ⊕ and black ⊖, approx. DC15V
} Main PCB is normal

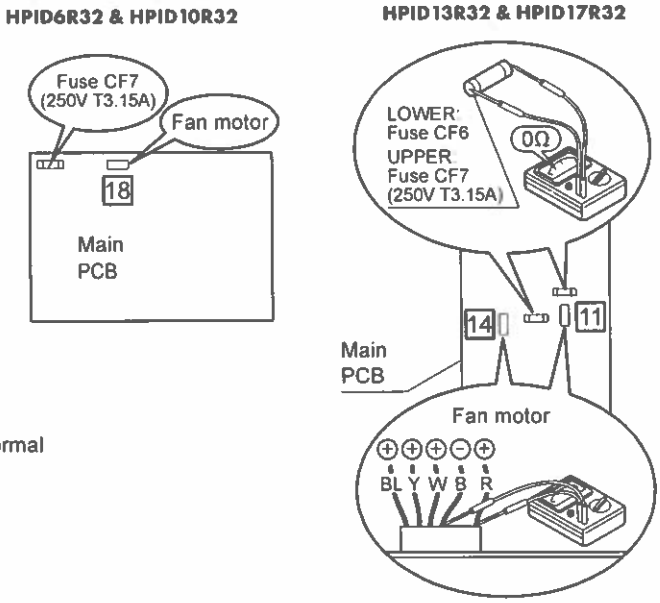


Figure 11-4: Voltage of Fan motor on the Main PCB

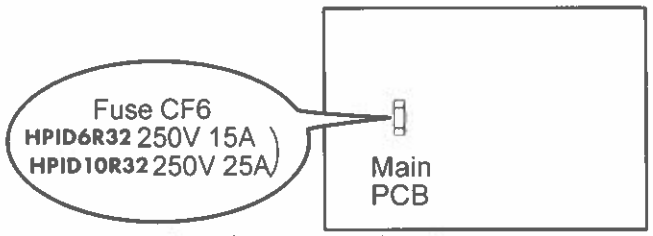


Figure 11-5: Continuity of current Fuse on the Main PCB

HPID6R32 & HPID10R32
Measure voltage between the connector pins of connector 17.
Connector 17 shall be checked during heating operation.
Measure voltage as follows without taking off the connector 17.

HPID13R32 & HPID17R32
Measure voltage between the connector pins of connector 13.
Connector 13 shall be checked during heating operation.
Measure voltage as follows without taking off the connector 13.

Between white ⊕ and black ⊖, approx. AC200~370V
Between brown ⊕ and black ⊖, approx. DC3~7V
Between red ⊕ and black ⊖, approx. DC15V
} Main PCB is normal

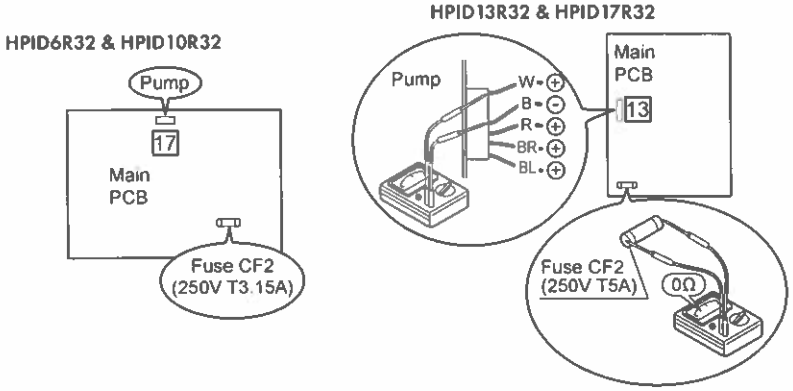


Figure 11-6: Voltage of pump on the Main PCB

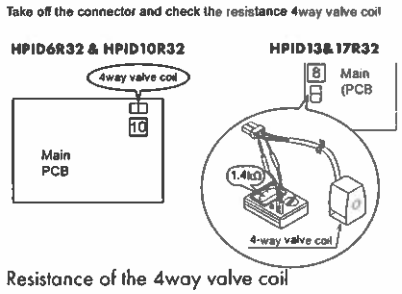


Figure 11-7: Resistance of the 4way valve coil

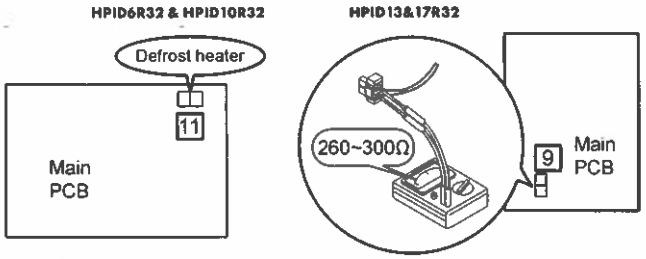


Figure 11-8: Resistance of the defrost heater

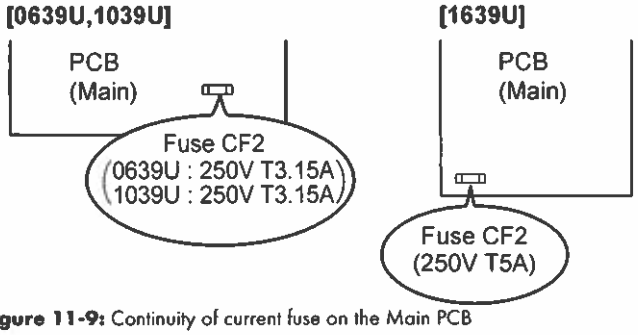


Figure 11-9: Continuity of current fuse on the Main PCB

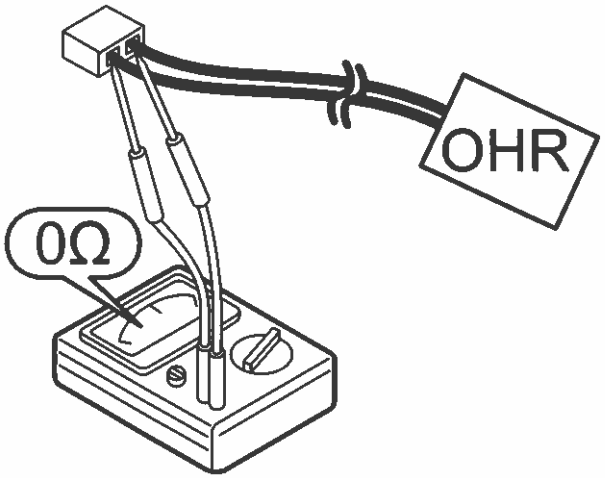


Figure 11-10: Resistance of the compressor overheat protection relay

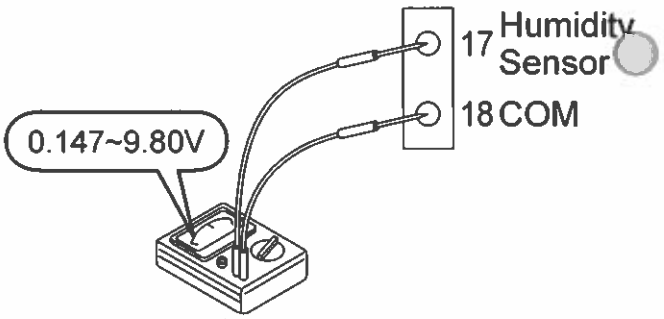


Figure 11-11: Voltage of humidity sensor

Table 11-12: Sensor, temperature outdoor (heat pump)

Temperature (°C)	Resistance (kΩ)
0	31
5	24
10	19
15	15
20	12
25	10
30	8.2
35	6.7
40	5.5
45	4.6
50	3.8
55	3.2

Table 11-13: Sensor, temperature discharge (heat pump)

Temperature (°C)	Resistance (kΩ)
10	100
20	64
35	33
40	27
50	18
80	6.4

Table 11-14: Sensor, temperature defrost/suction (heat pump)
Sensor temperature DHW tank/thermal store/mix water (Terminal PCB)

Temperature (°C)	Resistance (kΩ)
0	29
5	23
10	19
15	15
20	12
25	10
30	8.3
35	6.9
40	5.7
45	4.8
50	4.1
55	3.4

Table 11-15: Sensor, temperature flow and return circulating water (heat pump)

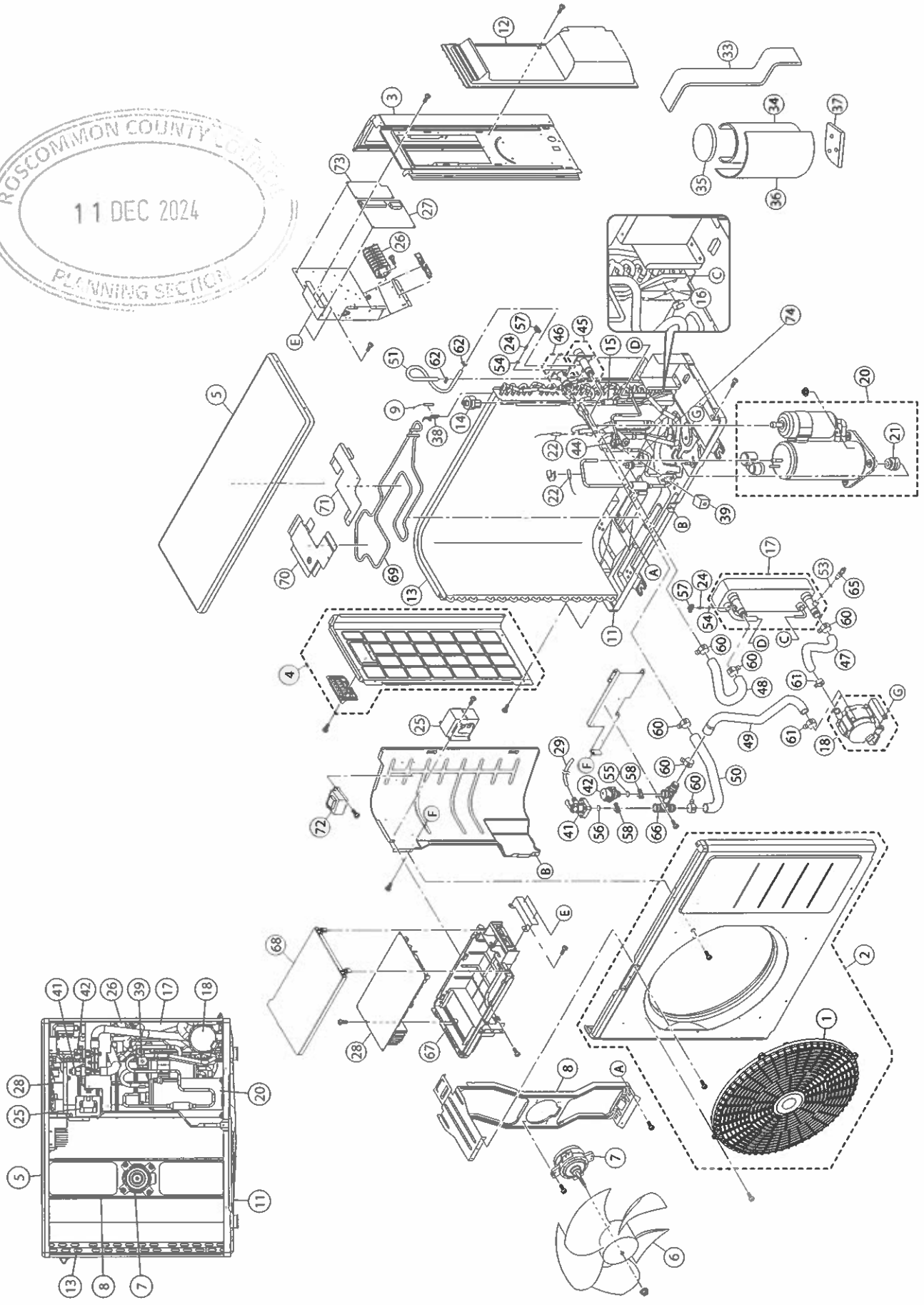
Temperature (°C)	Resistance (kΩ)
0	25
10	16
20	10
30	7.0
40	4.9
50	3.5
60	2.5

Table 11-16: Sensor, temperature outdoor (Terminal PCB)

Temperature (°C)	Resistance (kΩ)
-20	107
-15	79
-10	59
-5	44
0	34
5	26
10	20
15	16
20	13
25	10
30	8.0
35	6.5
40	5.3
45	4.3
50	3.6

12 SPARE PARTS

HPID6R32

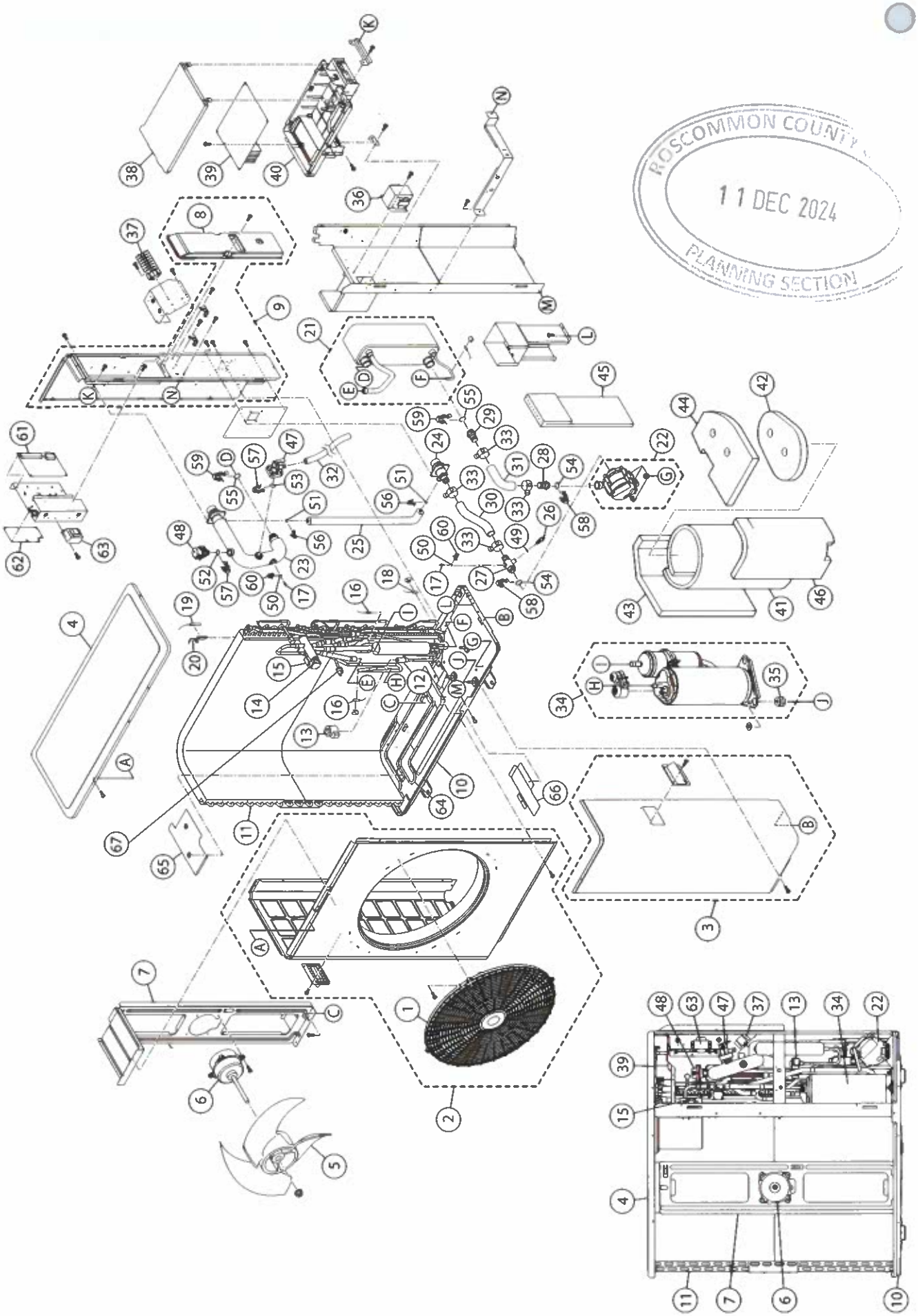


12.2 Spare Parts List - HPID6R32

Item	Description	Product code
1	Outlet grille	HPID887480
2	Front panel assembly	HPID887520
3	Right side panel	HPID885286
4	Left side panel assembly	HPID883741
5	Top panel	HPID884558
6	Propeller fan	HPID922330
7	Motor	HPID944204
8	Bracket (motor)	HPID937023
9	Sensor (temperature outdoor)	HPID883780
11	Bottom panel assembly (without heater)	HPID887482
12	Wiring lid assembly	HPID937262
13	Condenser assembly	HPID883743
14	Coil (expansion valve)	HPID937196
15	Expansion valve	HPID922928
16	Sensor (temperature defrost)	HPID937014
17	Heat exchanger assembly	HPID887485
18	Pump assembly	HPID885394
20	Compressor	HPID887483
21	Vibration proof rubber	HPID887484
22	Sensor (temperature discharge/suction)	HPID937013
24	Sensor (temperature water)	HPID937193
25	Reactor	HPID927200
26	Terminal block	HPID885263
27	Terminal PCB	HPID887187
28	Main PCB	HPID887479
29	Rubber hose (for relief valve)	HPID883784
33	Sound proof material 1	HPID883791
34	Sound proof material 2	HPID887486
35	Sound proof material 3	HPID883793
36	Sound proof material 4	HPID883794
37	Sound proof material 5	HPID887487
38	Outdoor themistor holder	HPID937016
39	Coil - 4-way valve	HPID883796
41	Relief valve	HPID883798
42	Air purge valve	HPID885266
44	4-way valve	HPID927359
45	Circulating water flow port assembly	HPID884560
46	Circulating water return port assembly	HPID883778
47	Rubber hose 1	HPID883786
48	Rubber hose 8	HPID884561
49	Rubber hose 3	HPID885396
50	Rubber hose 4	HPID885397
51	Rubber hose 6	HPID883790
53	O-ring (P3)	HPID807209
54	O-ring (P4)	HPID807207
55	O-ring (P12.5)	HPID808972
56	O-ring (P14)	HPID910164

Item	Description	Product code
57	Quick fastener (for sensor temperature water)	HPID883848
58	Quick fastener (12.7)	HPID790706
60	Hose band A	HPID937221
61	Hose band B	HPID927535
62	Hose band C	HPID934914
65	Drain plug	HPID885519
66	Circulating water connection coupling	HPID885395
67	Case of PCB	HPID883847
68	Case of PCB (cover)	HPID885393
69	Defrost heater	HPID884211
70	Defrost heater holder 1	HPID884212
71	Defrost heater holder 2	HPID884213
72	Power transformer	HPID885264
73	Controller PCB	HPID885765
74	High pressure switch	HPID884120
	Back grille	HPID885782
	Lead wire for pump	HPID886681

12.3 Exploded Diagram - HPID10R32

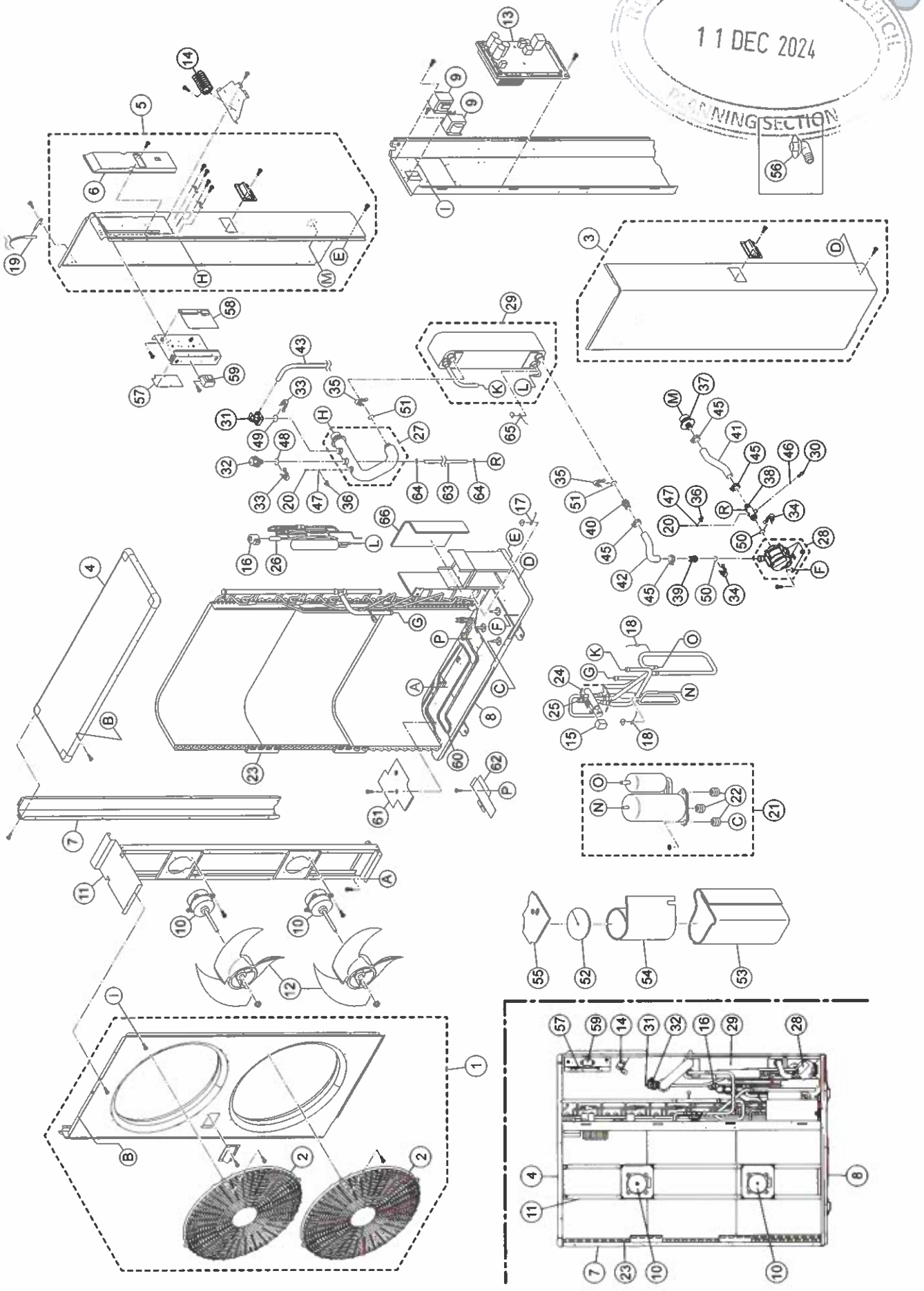


12.4 Spare Parts List - HPID10R32

Item	Description	Product code
1	Outlet grille	HPID938106
2	Front panel assembly (left)	HPID885767
3	Front panel assembly (right)	HPID887521
4	Top panel assembly	HPID885504
5	Propeller fan	HPID934945
6	Motor	HPID885510
7	Bracket (motor)	HPID934947
8	Wiring lid	HPID885507
9	Back panel assembly	HPID885769
10	Bottom panel assembly (without heater)	HPID887492
11	Condenser assembly	HPID883634
12	Expansion valve	HPID922928
13	Coil (expansion valve)	HPID937196
14	4-way valve	HPID938113
15	Coil (4-way valve)	HPID883796
16	Sensor (temperature discharge and suction)	HPID937013
17	Sensor (temperature circulating water)	HPID885265
18	Sensor (temperature defrost)	HPID937014
19	Sensor (temperature outdoor)	HPID883780
20	Outdoor thermistor holder	HPID937016
21	Heat exchanger assembly	HPID887494
22	Pump assembly	HPID885512
23	Circulating water pipe assembly	HPID885513
24	Circulating water return port	HPID885514
25	Bypass pipe assembly	HPID885515
26	Drain plug	HPID885519
27	Hose coupling 1 assembly (pump inlet)	HPID885516
28	Hose coupling 2 assembly (pump outlet)	HPID885271
29	Hose coupling 3 (heat exchanger)	HPID885272
30	Rubber hose (pump inlet water)	HPID885273
31	Rubber hose (pump outlet water)	HPID885517
32	Rubber hose (for relief valve)	HPID885520
33	Hose band	HPID937221
34	Compressor	HPID887493
35	Vibration proof rubber	HPID885798
36	Reactor	HPID885259
37	Terminal block	HPID885263
38	Case of PCB (cover)	HPID885393
39	Main PCB	HPID887489
40	Case of PCB	HPID883847
41	Sound proof material 1	HPID887495
42	Sound proof material 2	HPID883883
43	Sound proof material 3	HPID883884
44	Sound proof material 4	HPID883885
45	Sound proof material 5	HPID884582
46	Sound proof material 6	HPID885518
47	Relief valve	HPID883798

Item	Description	Product code
48	Air purge valve	HPID885266
49	O-ring (P3)	HPID807209
50	O-ring (P4)	HPID807207
51	O-ring (P6)	HPID807205
52	O-ring (P12.5)	HPID808972
53	O-ring (P14)	HPID910164
54	O-ring (P16)	HPID807213
55	O-ring (P22)	HPID886473
56	Quick fastener	HPID761569
57	Quick fastener (12.7)	HPID790706
58	Quick fastener (16A)	HPID963516
59	Quick fastener (16B)	HPID884148
60	Quick fastener (sensor temperature water)	HPID883848
61	Terminal PCB	HPID887187
62	Controller PCB	HPID885765
63	Power transformer	HPID885264
64	Defrost heater	HPID885508
65	Defrost heater holder 1	HPID884163
66	Defrost heater holder 2	HPID884132
70	Fin guard	HPID885781

12.5 Exploded Diagram - HPID13R32

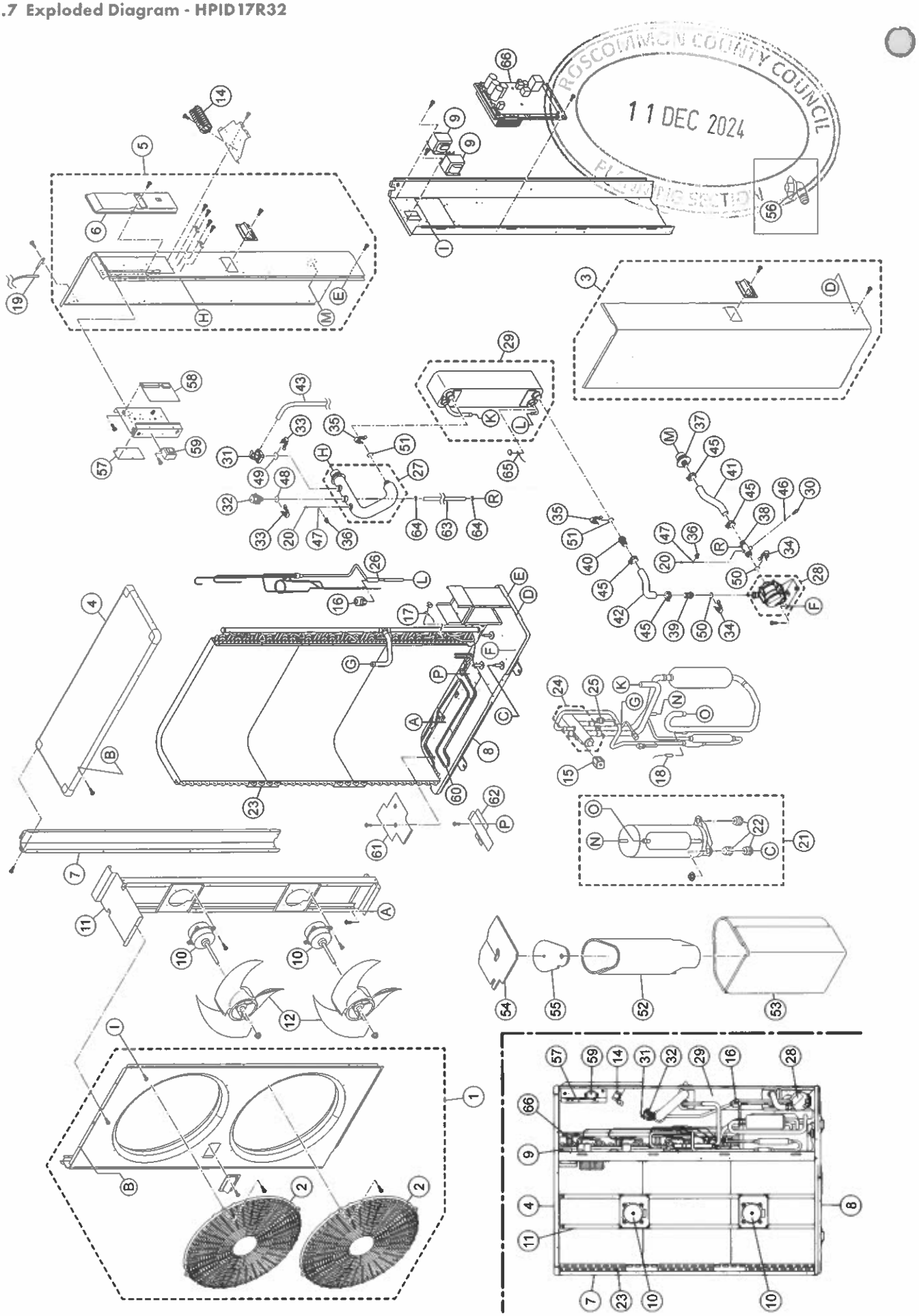


12.6 Spare Parts List - HPID13R32

Item	Description	Product code
1	Front panel assembly (left)	HPID887237
2	Outlet grille	HPID938106
3	Front panel assembly (right)	HPID885770
4	Top panel assembly	HPID884552
5	Back panel assembly (right)	HPID887226
6	Wiring lid	HPID884129
7	Back panel (left)	HPID884126
8	Bottom panel assembly (without heater)	HPID887227
9	Reactor	HPID885259
10	Motor	HPID885260
11	Bracket (motor)	HPID885261
12	Propeller fan	HPID938112
13	Main PCB assembly	HPID887228
14	Terminal block	HPID885263
15	Coil (4-way valve)	HPID883796
16	Coil (expansion valve)	HPID884119
17	Sensor (temperature defrost)	HPID887229
18	Sensor (temperature discharge and suction)	HPID884139
19	Sensor (temperature outdoor)	HPID884140
20	Sensor (temperature water)	HPID885265
21	Compressor	HPID887230
22	Vibration proof rubber	HPID887231
23	Condenser assembly	HPID887232
24	4-way valve	HPID884117
25	High pressure switch	HPID884120
26	Expansion valve	HPID884118
27	Circulating water pipe assembly	HPID885267
28	Pump assembly	HPID885268
29	Heat exchanger assembly	HPID887291
30	Drain plug	HPID885519
31	Relief valve	HPID883798
32	Air purge valve	HPID885266
33	Quick fastener (12.7)	HPID790706
34	Quick fastener (16A)	HPID963516
35	Quick fastener (16B)	HPID884148
36	Quick fastener (sensor temperature water)	HPID883848
38	Circulating water return port	HPID885269
38	Hose coupling 1 assembly (pump input)	HPID885270
39	Hose coupling 2 (pump outlet)	HPID885271
40	Hose coupling 3 (heat exchanger)	HPID885272
41	Rubber hose (pump input)	HPID885273
42	Rubber hose (pump outlet)	HPID885274
43	Rubber hose (relief valve)	HPID934970
45	Hose band	HPID937221
46	O-ring (P3)	HPID807209
47	O-ring (P4)	HPID807207
48	O-ring (P12.5)	HPID808972

Item	Description	Product code
49	O-ring (P14)	HPID910164
50	O-ring (P16)	HPID807213
51	O-ring (P22)	HPID886473
52	Sound proof material 1	HPID887233
53	Sound proof material 2	HPID887234
54	Sound proof material 3	HPID887235
55	Sound proof material 4	HPID887236
56	Drain elbow	HPID881618
57	Controller PCB	HPID885765
58	Terminal PCB	HPID887187
59	Power transformer	HPID885264
60	Defrost heater	HPID884130
61	Defrost heater holder 1	HPID884131
62	Defrost heater holder 2	HPID884132
63	Rubber hose	HPID885275
64	Hose band	HPID934914
65	Plate heat exchanger sensor (COOLING MODE ONLY)	HPID887193
68	Sound Proof Material 5	HPID887296
70	Fin guard - back	HPID885780
71	Fin guard - side	HPID885779
	CORNER COVER SET (TOP PANEL)	HPID885783
	Lead wire for pump	HPID886679

12.7 Exploded Diagram - HPID17R32



12.8 Spare Parts List - HPID17R32

Item	Description	Product code
1	Front panel assembly (left)	HPID887237
2	Outlet grille	HPID938106
3	Front panel assembly (right)	HPID887522
4	Top panel assembly	HPID884552
5	Back panel assembly (right)	HPID887226
6	Wiring lid	HPID884129
7	Back panel (left)	HPID884126
8	Bottom panel assembly (without heater)	HPID887192
9	Reactor	HPID885259
10	Motor	HPID885260
11	Bracket (motor)	HPID885261
12	Propeller fan	HPID938112
13	Main PCB assembly	HPID887496
14	Terminal block	HPID885263
15	Coil (4-way valve)	HPID883796
16	Coil (expansion valve)	HPID884119
17	Sensor (temperature defrost)	HPID937014
18	Sensor (temperature discharge and suction)	HPID884139
19	Sensor (temperature outdoor)	HPID884140
20	Sensor (temperature water)	HPID885265
21	Compressor	HPID887498
22	Vibration proof rubber	HPID884135
23	Condenser assembly	HPID887195
24	4-way valve	HPID884117
25	High pressure switch	HPID884120
26	Expansion valve	HPID884118
27	Circulating water pipe assembly	HPID885267
28	Pump assembly	HPID885268
29	Heat exchanger assembly	HPID885262
30	Drain plug	HPID885519
31	Relief valve	HPID883798
32	Air purge valve	HPID885266
33	Quick fastener (12.7)	HPID790706
34	Quick fastener (16A)	HPID963516
35	Quick fastener (16B)	HPID884148
36	Quick fastener (sensor temperature water)	HPID883848
38	Circulating water return port	HPID885269
38	Hose coupling 1 assembly (pump input)	HPID885270
39	Hose coupling 2 (pump outlet)	HPID885271
40	Hose coupling 3 (heat exchanger)	HPID885272
41	Rubber hose (pump input)	HPID885273
42	Rubber hose (pump outlet)	HPID885274
43	Rubber hose (relief valve)	HPID934970
44	Hose band (relief valve)	HPID934918
45	Hose band	HPID937221
46	O-ring (P3)	HPID807209
47	O-ring (P4)	HPID807207

Item	Description	Product code
48	O-ring (P12.5)	HPID808972
49	O-ring (P14)	HPID910164
50	O-ring (P16)	HPID807213
51	O-ring (P22)	HPID866473
52	Sound proof material 1	HPID887196
53	Sound proof material 2	HPID887197
54	Sound proof material 3	HPID887198
55	Sound proof material 4	HPID887199
56	Drain elbow	HPID881618
57	Controller PCB	HPID885765
58	Terminal PCB	HPID887187
59	Power transformer	HPID885264
60	Defrost heater	HPID884130
61	Defrost heater holder 1	HPID884131
62	Defrost heater holder 2	HPID884132
63	Rubber hose	HPID885275
64	Hose band	HPID934914
	Corner cover set (top panel)	HPID885783
	Side grille	HPID885600
	Back grille	HPID885599
	Lead wire for pump	HPID886679

13 EC DECLARATION OF CONFORMITY

This declaration is made under the sole responsibility of the following Manufacturer.

The Manufacturer declares that the following Products conform to the requirements of EU Directives, Regulations and Harmonized Standards as below stated.

The Technical Construction Files are retained at the following Manufacturer's location.

Product:	Air to Water Heat Pump
Model:	Grant Aerona³ HPID6R32 Grant Aerona³ HPID10R32 Grant Aerona³ HPID13R32 Grant Aerona³ HPID17R32
Low Voltage Directive:	2014/35/EU
Machinery Directive:	2006/42/EC
EN 60335-2-40:	2003, +A11: 2004, +A12: 2005, +A1: 2006, +A2: 2009, +A13: 2012
EN 60335-1:	2012, +A11: 2014
EN 62233:	2008
EMC Directive:	2014/30/EU
EN 61000-6-1:	2007
EN 61000-6-3:	2007, +A1: 2001
Ecodesign Directive:	2009/125/EC [Space heaters and combination heaters: 811/2013, 813/2013]
EN 14511-3:	2013
EN 14825:	2013
EN 12102:	2013
EN 16147:	2011
BS EN ISO 3743-1:	2010
RoHS Directive:	2011/65/EU
EN 50581:	2012

Place of issue: Ireland

Date of issue: 6th of June 2018

Authorised Signatory:
Peter Darcy - R&D Manager

14 HEALTH AND SAFETY INFORMATION

14.1 General

Under the Consumer Protection Act 1987 and Section 6 of the Health and Safety at Work Act 1974, we are required to provide information on substances hazardous to health (COSHH Regulations 1988).

Adhesives, sealants and paints used in the manufacture of the product are cured and present no known hazards when used in the manner for which they are intended.

Isolate the heat pump from the electricity supply before removing any covers.

14.2 Refrigerant (R32)

The refrigerant is hermetically sealed within the heat pump.

Work involving the refrigerant must only be performed by a qualified F-Gas Engineer or an authorised dealer with a refrigerant handling certificate.

Under no circumstances should the refrigerant be vented or otherwise released to the atmosphere.

14.2.1 First Aid Measures

Inhalation

In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination.

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation.

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Seek urgent medical advice.

Apply artificial respiration if breathing stopped.

Skin/eye contact

In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing.

Immediately flush eyes thoroughly with water for at least 15 minutes.

Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

Obtain medical assistance

Ingestion

Ingestion is not considered a potential route of exposure.

15 DISPOSAL AND RECYCLING

General

Grant IRL air source heat pumps incorporate components manufactured from a variety of different materials. However, most of these materials cannot be recycled as they are contaminated by the refrigerant and oil used in the heat pump.

Disassembly

This product may only be disassembled by a suitably qualified (F-gas) refrigeration engineer.

Under no circumstances should the refrigerant be released into the atmosphere.

Recycling

In order for the heat pump to be recycled or disposed of it must be taken to a suitably licensed waste facility. You will need to contact a qualified refrigeration engineer to do this for you.

Disposal

The refrigerant will be removed and returned to the refrigerant manufacturer for recycling or disposal.

The complete heat pump unit, including the compressor and the oil contained within it, must be disposed of at a licensed waste facility, as it still remains contaminated by the refrigerant.

16 PRODUCT FICHE

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID6R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Medium Temperature Applications (55°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.5	kW	Seasonal space heating energy efficiency	ηs	132	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	*Pdh*	5.03	kW	Tj = -7°C	*COPd*	2.11	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	3.21	kW	Tj = +2°C	*COPd*	4.03	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	2.20	kW	Tj = +7°C	*COPd*	5.10	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	1.78	kW	Tj = +12°C	*COPd*	6.15	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	4.50	kW	Tj = bivalent temperature	*COPd*	1.90	-
Tj = operation limit temperature	*Pdh*	4.50	kW	Tj = operation limit temperature	*COPd*	1.90	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h
Sound power level indoors/outdoors	L_{WA}	44/65	dBA				
Annual Energy consumption	Q_{HE}	2755	kWh				

For heat pump combination heater				Water heating energy efficiency	*ηwh*	114	%
Declared load profile		L		Reference Hot Water Temperature	*θ'ww*	49.04	°C
Daily electricity consumption	*Qelec*	4.23	kWh	Actual Volume of cylinder under test		206.8	Litres
Annual electricity consumption	*AEC*	897.77	kWh/a	Standby Cylinder Heat Loss		1.76	kWh

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID6R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Low Temperature Applications (35°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.5	kW	Seasonal space heating energy efficiency	ηs	185	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	Pdh	4.68	kW	Tj = -7°C	COPd	3.13	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	3.24	kW	Tj = +2°C	COPd	6.02	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	2.10	kW	Tj = +7°C	COPd	7.40	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	2.00	kW	Tj = +12°C	COPd	9.20	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	4.20	kW	Tj = bivalent temperature	COPd	2.75	-
Tj = operation limit temperature	Pdh	4.20	kW	Tj = operation limit temperature	COPd	2.75	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0.00	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h
Sound power level indoors/outdoors	L_{WA}	44/65	dBA				
Annual Energy consumption	Q_{HE}	1981	kWh				

For heat pump combination heater				Water heating energy efficiency	η_{wh}		%
Declared load profile		NA					
Daily electricity consumption	Qelec		kW/h				
Annual electricity consumption	AEC		kW/h				

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID10R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Medium Temperature Applications (55°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	8.7	kW	Seasonal space heating energy efficiency	ηs	139	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	*Pdh*	8.16	kW	Tj = -7°C	*COPd*	2.29	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	5.07	kW	Tj = +2°C	*COPd*	3.53	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	3.40	kW	Tj = +7°C	*COPd*	5.41	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	3.95	kW	Tj = +12°C	*COPd*	8.45	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	8.70	kW	Tj = bivalent temperature	*COPd*	2.19	-
Tj = operation limit temperature	*Pdh*	8.01	kW	Tj = operation limit temperature	*COPd*	2.01	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-9	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level indoors/outdoors	L_{WA}	43/64	dBA				
Annual Energy consumption	Q_{HE}	5064	kWh				

For heat pump combination heater				Water heating energy efficiency	η_{wh}	99.6	%
Declared load profile		L		Reference Hot Water Temperature	θ'_{HW}	51.60	°C
Daily electricity consumption	*Qelec*	4.85	kWh	Actual Volume of cylinder under test		206.8	Litres
Annual electricity consumption	*AEC*	1770	kWh/a	Standby Cylinder Heat Loss		1.76	kWh

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU) No 811/2013 of 18 February 2013
(EU) No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID10R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Low Temperature Applications (35°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	9.2	kW	Seasonal space heating energy efficiency	ηs	209	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	*Pdh*	9.03	kW	Tj = -7°C	*COPd*	3.30	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	5.29	kW	Tj = +2°C	*COPd*	5.96	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	3.40	kW	Tj = +7°C	*COPd*	7.80	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	3.70	kW	Tj = +12°C	*COPd*	9.20	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	8.86	kW	Tj = bivalent temperature	*COPd*	3.10	-
Tj = operation limit temperature	*Pdh*	8.86	kW	Tj = operation limit temperature	*COPd*	3.10	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0.00	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level indoors/outdoors	L_{WA}	43/64	dBA				
Annual Energy consumption	Q_{HE}	3592	kWh				

For heat pump combination heater				Water heating energy efficiency	η_{wh}		%
Declared load profile		NA					
Daily electricity consumption	*Qelec*		kW/h				
Annual electricity consumption	*AEC*		kW/h				

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID13R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Medium Temperature Applications (55°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	ηs	149	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -10°C	*Pdh*	10.0	kW	Tj = -10°C	*COPd*	2.05	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = -7°C	*Pdh*	9.70	kW	Tj = -7°C	*COPd*	2.16	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	6.10	kW	Tj = +2°C	*COPd*	3.92	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	4.10	kW	Tj = +7°C	*COPd*	5.83	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	4.10	kW	Tj = +12°C	*COPd*	8.62	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	10.0	kW	Tj = bivalent temperature	*COPd*	2.05	-
Tj = operation limit temperature	*Pdh*	10.0	kW	Tj = operation limit temperature	*COPd*	2.05	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L_{WA}	39/61	dBA				
Annual Energy consumption	Q_{HE}	5109	kWh				

For heat pump combination heater				Water heating energy efficiency	*ηwh*	113.4	%
Declared load profile		L		Reference Hot Water Temperature	*θ'wu*	49.99	°C
Daily electricity consumption	*Qelec*	4.26	kWh	Actual Volume of cylinder under test		206.8	Litres
Annual electricity consumption	*AEC*	903	kWh/a	Standby Cylinder Heat Loss		1.76	kWh

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID13R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Low Temperature Applications (35°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	ηs	216	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -10°C	*Pdh*	10.0	kW	Tj = -10°C	*COPd*	2.90	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = -7°C	*Pdh*	9.60	kW	Tj = -7°C	*COPd*	3.03	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	6.10	kW	Tj = +2°C	*COPd*	6.20	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	4.30	kW	Tj = +7°C	*COPd*	8.50	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	4.10	kW	Tj = +12°C	*COPd*	10.30	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	10.0	kW	Tj = bivalent temperature	*COPd*	2.90	-
Tj = operation limit temperature	*Pdh*	10.0	kW	Tj = operation limit temperature	*COPd*	2.90	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0.00	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L_{WA}	39/61	dBA				
Annual Energy consumption	Q_{HE}	3439	kWh				

For heat pump combination heater				Water heating energy efficiency	η_{wh}		%
Declared load profile		NA					
Daily electricity consumption	*Qelec*		kW/h				
Annual electricity consumption	*AEC*		kW/h				

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
(EU)No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID17R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Medium Temperature Applications (55°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	12.2	kW	Seasonal space heating energy efficiency	ηs	143	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	*Pdh*	12.80	kW	Tj = -7°C	*COPd*	2.34	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	7.40	kW	Tj = +2°C	*COPd*	3.61	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	9.10	kW	Tj = +7°C	*COPd*	5.21	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	6.11	kW	Tj = +12°C	*COPd*	8.12	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	11.40	kW	Tj = bivalent temperature	*COPd*	2.05	-
Tj = operation limit temperature	*Pdh*	11.40	kW	Tj = operation limit temperature	*COPd*	2.05	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.01	kW	Rate heat output	P_{sup}	0	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L_{WA}	41/61	dBA				
Annual Energy consumption	Q_{HE}	6598	kWh				

For heat pump combination heater				Water heating energy efficiency	*ηwh*	99	%
Declared load profile		L		Reference Hot Water Temperature	θ'_{HW}	49.42	°C
Daily electricity consumption	*Qelec*	4.86	kWh	Actual Volume of cylinder under test		206.8	Litres
Annual electricity consumption	*AEC*	1033.86	kWh/a	Standby Cylinder Heat Loss		1.76	kWh

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Product fiche concerning the Commission Delegated Regulations
'No 811/2013 of 18 February 2013
(EU)No 813/2013 of 2 August 2013

Model	Outdoor unit:	Aerona³ HPID17R32
	Indoor unit:	None
Air to Water Heat Pump	Yes	
Brine to Water Heat Pump	No	
Low Temperature Heat Pump	No	
Equipped with Supplementary Heater	No	
Heat Pump Combination Heater	Yes	
Parameters shall be declared for	Low Temperature Applications (35°C)	
Parameters shall be declared for	Average Climate Conditions	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	12.8	kW	Seasonal space heating energy efficiency	ηs	182	%
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj			
Tj = -7°C	*Pdh*	12.0	kW	Tj = -7°C	*COPd*	3.06	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +2°C	*Pdh*	7.70	kW	Tj = +2°C	*COPd*	4.61	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = +7°C	*Pdh*	9.20	kW	Tj = +7°C	*COPd*	6.75	-
Degradation co-efficient (**)	*Cdh*	0.98	-				
Tj = +12°C	*Pdh*	6.20	kW	Tj = +12°C	*COPd*	9.64	-
Degradation co-efficient (**)	*Cdh*	0.99	-				
Tj = bivalent temperature	*Pdh*	12.5	kW	Tj = bivalent temperature	*COPd*	2.81	-
Tj = operation limit temperature	*Pdh*	12.5	kW	Tj = operation limit temperature	*COPd*	2.81	-
Tj = -15°C (if TOL < -20°C)	*Pdh*	-	kW	Tj = -15°C (if TOL < -20°C)	*COPd*	-	
Bivalent temperature	*Tbiv*	-10	°C	Operation limit temperature	*TOL*	-10	°C
				Heating water operating limit temperature	*WTOL*	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.10	kW	Rate heat output	P_{sup}	0.00	kW
Thermostat-off mode	P_{TO}	0.04	kW				
Standby mode	P_{SB}	0.10	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.00	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L_{WA}	41/61	dBA				
Annual Energy consumption	Q_{HE}	5401	kWh				

For heat pump combination heater				Water heating energy efficiency	η_{wh}		%
Declared load profile		NA					
Daily electricity consumption	*Qelec*		kW/h				
Annual electricity consumption	*AEC*		kW/h				

Contact Details:

Grant Engineering (Ireland) ULC, Barrack Street, Crinkle, Birr, Co. Offaly, R42 D788, Ireland.

(*) For heat pumps space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

17 GUARANTEE

You are now the proud owner of an Air Source Heat Pump from Grant Engineering (IRL) ULC which has been designed to give years of reliable, trouble free, operation.

Grant Engineering (IRL) ULC guarantees the manufacture of the heat pump including all electrical and mechanical components for a period of **twelve months from the date of installation**[1], provided that the air source heat pump has been installed in full accordance with the installation and servicing instructions issued.

This will be extended to a total period of **five years** if the air source heat pump is registered with Grant Engineering (IRL) ULC **within thirty days of installation** and it is serviced at twelve monthly intervals[3]. See main Terms and Conditions below.

If the heat pump is installed as part of a VortexAir (hybrid) installation, the guarantee for the heat pump will start from its original date of installation and NOT from the date of installation of the oil boiler (if installed on different dates). If the installation date of the heat pump is more than three months from the date of installation of the oil boiler, the guarantee period will commence three months from the date of installation of the oil boiler.

Registering the product with Grant Engineering (IRL) ULC

By commissioning the air source heat pump unit and sending back the commissioning form to Grant Engineering IRL UCL, or by visiting www.grantengineering.eu

If a fault or defect occurs within the manufacturer's guarantee period

If your air source heat pump should fail within the guarantee period, you must contact Grant Engineering (IRL) ULC, who will arrange for the repair under the terms of the guarantee, providing that the heat pump has been correctly installed, commissioned and serviced (if the appliance has been installed for more than twelve months) by a competent person and the fault is not due to tampering, system water contamination, misuse, trapped air or the failure of any external components not supplied by Grant Engineering (IRL) ULC, e.g. pipework, etc.

This five year guarantee only applies if the air source heat pump is registered with Grant Engineering (IRL) ULC within thirty days of installation[4] and is serviced after twelve month intervals[3].

In the first instance

Contact your installer or commissioning engineer to ensure that the fault does not lie with the system components or any incorrect setting of the system controls that falls outside of the manufacturer's guarantee otherwise a service charge could result. Grant Engineering (IRL) ULC will not be liable for any charges arising from this process.

If a fault covered by the manufacturer's guarantee is found

Ask your installer to contact Grant Engineering (IRL) ULC Service Department on 057 912 0089 who will arrange for a competent service engineer to attend to the fault.

Remember - before you contact Grant Engineering (IRL) ULC

- Ensure the air source heat pump has been installed, commissioned and serviced by a competent person in accordance with the installation and servicing instructions.
- Ensure the problem is not being caused by the heating system or its controls.

Free of charge repairs

During the **five year** guarantee period no charge for parts or labour will be made, provided that the air source heat pump has been installed and commissioned correctly in accordance with the manufacturer's installation and servicing instructions, it was registered with Grant Engineering (IRL) ULC within thirty days of installation[3] and, for air source heat pumps over twelve months old, details of annual service is available[3].

The following documents must be made available to Grant Engineering (IRL) ULC on request:

- Proof of purchase
- Commissioning Report Form
- Service documents
- System Design Criteria

Chargeable repairs

A charge may be made (if necessary following testing of parts) if the cause of the breakdown is due to any fault(s) caused by the plumbing or heating system, e.g. contamination of parts due to system contamination, sludge, scale, debris or trapped air. See 'Extent of manufacturer's guarantee' below.

Extent of manufacturer's guarantee:

The manufacturer's guarantee does not cover the following:

- If the air source heat pump has been installed for over **five years**.
- If the air source heat pump has not been installed, commissioned, or serviced by a competent person in accordance with the installation and servicing instructions.
- The serial number has been removed or made illegible.
- Fault(s) due to accidental damage, tampering, unauthorised adjustment, neglect, misuse or operating the air source heat pump contrary to the manufacturer's installation and servicing instructions.
- Damage due to external causes such as bad weather conditions (flood, storms, lightning), fire, explosion, accident or theft.
- Fault(s) due to incorrectly sized expansion vessel(s), incorrect vessel charge pressure or inadequate expansion on the system.
- Fault(s) caused by external electrics and external components not supplied by Grant Engineering (IRL) ULC.
- Air source heat pump servicing, de-scaling or flushing.
- Checking and replenishing system pressure.
- Electrical cables and plugs, external controls not supplied by Grant Engineering (IRL) ULC.
- Heating system components, such as radiators, pipes, fittings, pumps and valves not supplied by Grant Engineering (IRL) ULC.
- Instances where the heat pump has been un-installed and re-installed in another location.
- Use of spare parts not authorised by Grant Engineering (IRL) ULC.
- Consumable items including antifreeze and biocide inhibitor.

Terms of manufacturer's guarantee

- The Company shall mean Grant Engineering (IRL) ULC.
- The heat pump must be **installed and commissioned** by a competent installer and in full accordance with the relevant Codes of Practice, Regulations and Legislation in force at the time of installation.
- The heat pump is guaranteed for **five years** from the date of installation[3], providing that after twelve monthly intervals the annual service has been completed[3] and the heat pump registered with the Company within thirty days of the installation date[3]. Any work undertaken must be authorised by the Company and carried out by a competent service engineer.
- The internal heat exchanger of the heat pump is also covered by a **five**

year parts and labour guarantee from the date of installation[3]. This is subject to the following:

- The heat pump is operated correctly, in accordance with the installation and servicing instructions.
- Proof is provided that the system has been flushed or chemically cleaned where appropriate (refer to BS 7593) and that the required quantity of a suitable corrosion inhibitor added.
- Proof of annual servicing (including the checking of any expansion vessels and pressure relief valves) must be provided if and when requested by the Company.

IMPORTANT

It is mandatory for a Grant Mag-One in-line magnetic filter/s (or equivalent) is fitted in the heating system pipework. This should be installed and regularly serviced in accordance with the filter manufacturer's instructions.

- This guarantee does not cover breakdowns caused by incorrect installation, neglect, misuse, accident or failure to operate the heat pump in accordance with the manufacturer's installation and servicing instructions.
- The heat pump is registered with the Company within thirty days of installation. Failure to do so does not affect your statutory rights[1].
- The balance of the guarantee is transferable providing the installation is serviced prior to the dwelling's new owners taking up residence. Grant Engineering (IRL) ULC must be informed of the new owner's details.
- The Company will endeavour to provide prompt service in the unlikely event of a problem occurring, but cannot be held responsible for any consequences of delay however caused.
- This guarantee applies to air source heat pumps purchased and installed in Ireland and Northern Ireland. Provision of in-guarantee cover elsewhere is subject to agreement with the Company.
- All claims under this guarantee must be made to the Company prior to any work being undertaken. Invoices for call out/repair work by any third party will not be accepted unless previously authorised by the Company.
- Proof of purchase and date of installation, commissioning and service documents must be provided on request.
- If a replacement heat pump is supplied under the guarantee (due to a manufacturing fault) the product guarantee continues from the installation date of the original heat pump, and not from the installation date of the replacement[3].
- The replacement of a heat pump under this guarantee does not include any consequential costs.

Foot notes

1. Your statutory rights entitle you to a one year guarantee period only.
2. We recommend that your air source heat pump is serviced every twelve months (even when the guarantee has expired) to prolong the lifespan and ensure it is operating safely and efficiently.
3. The guarantee period will commence from the date of installation, unless the installation date is more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase.
4. As measured by gauss. The Mag-One magnetic filter has a Gauss measurement of 12000.

Version 1.0 - June 2019

APPENDIX A PARAMETERS LIST

Backlight display paramters

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
U	02	03	Back light display at door open 0=OFF 1=ON	1	0	1	-	
U	02	04	Time to turn off the back light display	60	10	300	10 sec	
U	02	05	Time to back to normal display screen	120	10	300	10 sec	

Water temperature set points

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	21	00	Enable outgoing water set point 0=fixed set point 1=climatic curve	1	0	1	-	
I	21	01	Fixed outgoing water set point	45.0	23.0	60.0	0.5°C	
I	21	02	Maximum outgoing water temperature in Heating mode (Tm1)	45.0	23.0	60.0	0.5°C	
I	21	03	Minimum outgoing water temperature in Heating mode (Tm2)	30.0	23.0	60.0	0.5°C	
I	21	04	Minimum outdoor air temperature corresponding to maximum outgoing water temperature (Te1)	-4	-20.0	50.0	0.5°C	
I	21	05	Maximum outdoor air temperature corresponding to maximum outgoing water temperature (Te2)	20.0	0.0	40.0	0.5°C	
I	21	41	Hysteresis of water set point in heating	8.0	0.5	10.0	0.5°C	
I	21	51	Low tariff deferential water set point for Heating	5.0	0.0	60.0	0.5°C	

DHW (Domestic Hot Water)

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	31	01	DHW production priority setting 0=DHW is unavailable 1= DHW is available, and priority DHW over space heating 2= DHW is available, and priority space Heating over DHW	1	0	2	-	
I	31	21	Maximum time for DHW request	60	0	900	1 min	
I	31	22	Minimum time for space heating	15	0	900	1 min	

Heat pump unit

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	41	00	The heat pump turns ON/OFF based on 1=water set point	1	0	1	-	
I	41	11	Maximum frequency of Night mode	80	50	100	5%	
S	41	30	Maximum outgoing water set point in CH and DHW	55.0	23.0	60.0	0.5°c	

Water pump

Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	42	00	Type of configuration of main water pump 0=always ON 1=ON/OFF based on buffer tank temperature 2=ON/OFF based on detect cycles	0	0	2	-	To be set to the following combinations parameter 5111=0 Parameter 4200=0 or 2 parameter 5111=1 Parameter 4200=0 or1 or 2
I	42	01	Time ON main water pump for detect cycle	3	1	15	1min	
I	42	02	Time OFF main water pump	5	5	30	1min	
I	42	03	Delay time OFF main water pump from OFF compressor	3	1	15	1min	
I	42	11	OFF time for unblock pump function start	48	0	240	1hr	
I	42	12	Time ON main water pump for unblock pump function	5	0	10	1sec	

I	42	20	Type of operation of additional water pump 0=disable 1=depending on main water pump setting 2=depending on main water pump setting but always OFF when the DHW mode is activated 3=always ON, apart from if any alarms are activated or if the heat pump is in OFF mode	0	0	3	-	

Frost protection

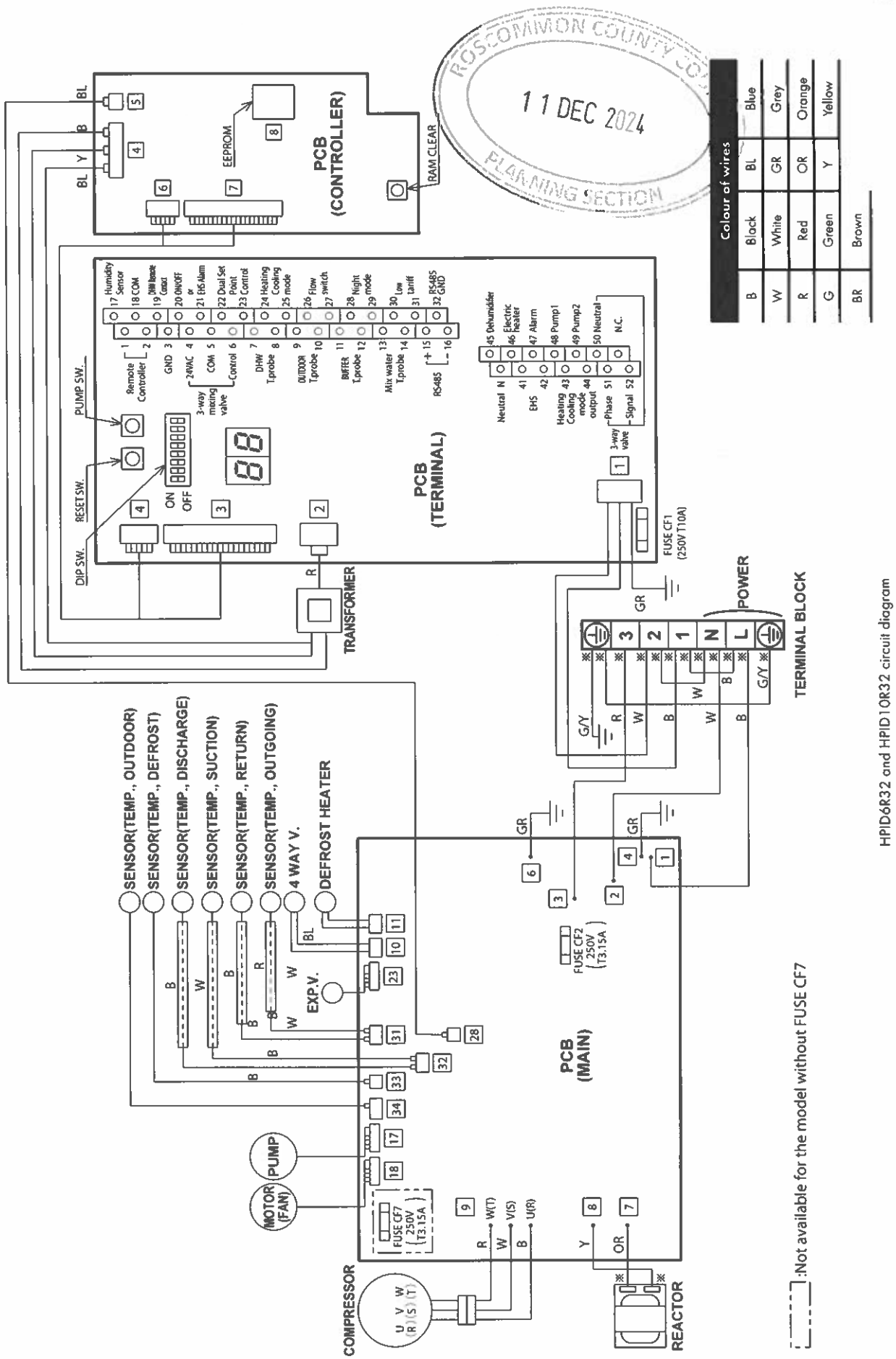
Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
S	43	00	Frost protection on room temperature 0=disable 1=enable	1	0	1	-	
I	43	01	Start temperature of frost protection on room air temperature	14.0	0.0	5.0	0.5°C	
I	43	02	Hysteresis of room air temperature of frost protection	1.0	0.5	5.0	0.5°C	
S	43	10	Frost protection by outside temperature 0=disable 1=enable	1	0	1	-	
I	43	11	Start temperature of frost protection on outdoor air temperature	4.0	0.0	10.0	0.5°C	
I	43	12	Hysteresis of outdoor air temperature	3.0	0.5	5.0	0.5°C	
I	43	14	Hysteresis of flow water temperature	3.0	0.5	5.0	0.5°C	
S	43	20	Frost protection based on outgoing water temperature 0=disable 1=enable	1	0	1	-	
I	43	21	Start temperature of frost protection on flow water temperature	4.0	0.0	10.0	0.5°C	
I	43	22	Hysteresis of flow water temperature	3.0	0.5	5.0	0.5°C	
S	43	30	DHW storage frost protection 0=disable 1=enable	1	0	1	-	

Input/output

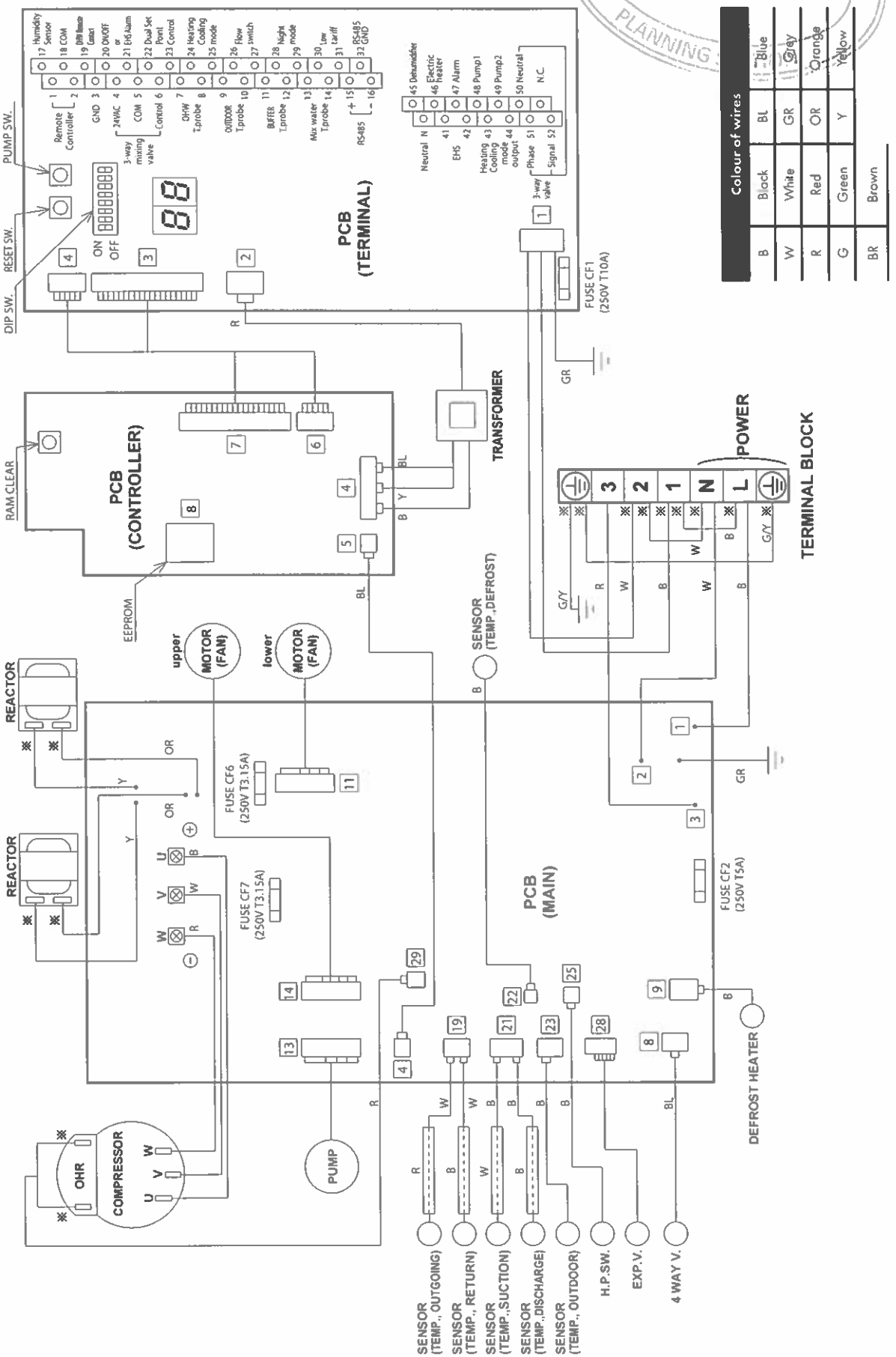
Level	Parameter		Function description	Display and input value				Remarks
	Group	Code		Default	Min.	Max.	Unit	
I	51	11	Terminal 11-12: thermal store temperature probe 0=disable 1=enable	0	0	1	-	To be set to the following combinations parameter 5111=0 Parameter 4200=0 or 2 parameter 5111=1 Parameter 4200=0 or1 or 2
I	51	19	Terminal 19-18 : DHW remote contact 0=disable (Remote controller only) 1=enable	1	0	1	-	
I	51	20	Terminal 20-21 : ON/OFF remote contact (CH) Alarm input 0=disable 1=ON/OFF remote contact	1	0	1	-	ON/OFF by Remote controller 0=enable 1=ON/disable OFF/enable 2=enable
I	51	28	Terminal 28-29 : Night mode* 0=disable 1=enable Refer to Section 8.6.	0	0	1	-	Parameter 5128 and Parameter 5130 are synchronised in same value
I	51	30	Terminal 30-31 : Low tariff* 0=disable 1=enable Refer to Section 8.7.	0	0	1	-	
I	51	46	Terminal 46 : DHW Electric heater or Backup heater 0=DHW Electric heater 1=Backup heater	0	0	1	-	
I	51	48	Terminal 48 0=disable 1=additional water pump	0	0	1	-	

* External timer required

APPENDIX B WIRING DIAGRAMS



HPID6R32 and HPID10R32 circuit diagram



HPID13R32 & HPID17R32 circuit diagram

APPENDIX C COMMISSIONING-PARAMETERS RECORD

This section enables the installer/commissioning engineer to record details of any parameters that may have changed during commissioning.
Refer to Appendix A for full details of parameter settings.

Level	Parameter		Function description	Default	Value set on commissioning
	Group	Code			
I	21	00	Enable outgoing water set point 0=fixed set point 1=climatic curve	1	
I	21	01	Fixed outgoing water set point	45.00	
I	21	02	Maximum outgoing water temperature in Heating mode (Tm1)	45.00	
I	21	03	Minimum outgoing water temperature in Heating mode (Tm2)	30.00	
I	21	04	Minimum outdoor air temperature corresponding to maximum outgoing water temperature (Te1)	-4	
I	21	05	Maximum outdoor air temperature corresponding to maximum outgoing water temperature (Te2)	20.0	
I	31	01	DHW production priority setting 0=DHW is unavailable 1= DHW is available, and priority DHW over space heating 2= DHW is available, and priority space heating over DHW	1	
I	31	21	Maximum time for DHW request	60	
I	31	22	Minimum time for space heating	15	
I	41	00	The heat pump turns ON/OFF based on 1=water set point	1	
I	41	11	Maximum frequency of night mode	80	
S	41	30	Maximum outgoing water set point in CH and DHW	55°C	
I	42	00	Type of configuration of main water pump 0=always ON 1=ON/OFF based on buffer tank temperature 2=ON/OFF based on detect cycles	0	
I	42	01	Time ON main water pump for detect cycle	3	
I	42	02	Time OFF main water pump	5	
I	42	03	Delay time OFF main water pump from OFF compressor	3	
I	42	11	OFF time for unblock pump function start	48	
I	42	12	Time ON main water pump for unblock pump function	5	
I	42	20	Type of operation of additional water pump 0=disable 1=depending on main water pump setting 2=depending on main water pump setting but always OFF when the DHW mode is activated 3=always ON, apart from if any alarms are activated or if the heat pump is in OFF mode	0	
S	43	00	Frost protection on room air temperature 0=disable 1=enable	1	
I	43	01	Start temperature of frost protection on room air temperature	14.0	
I	43	02	Hysteresis of room air temperature of frost protection	1.0	
S	43	10	Frost protection on outdoor air temperature 0=disable 1=enable	1	
I	43	11	Start temperature of frost protection on outdoor air temperature	4.0	
I	43	12	Hysteresis of outdoor air temperature	3.0	
I	43	14	Hysteresis of flow water temperature	3.0	
S	43	20	Frost protection on outgoing water temperature 0=disable 1=enable	1	
I	43	21	Start temperature of frost protection on flow water temperature	4.0	
I	43	22	Hysteresis of flow water temperature	3.0	
S	43	30	DHW storage frost protection 0=disable 1=enable	1	

I	51	11	Terminal 11-12: thermal store temperature probe 0=disable 1=enable	0	
I	51	19	Terminal 19-18 : DHW remote contact 0=disable (Remote controller only) 1=enable	1	
I	51	20	Terminal 20-21 : ON/OFF remote contact (CH) Alarm input 0=disable 1=ON/OFF remote contact	1	
I	51	28	Terminal 28-29 : Night mode 0=disable 1=enable	0	
I	51	30	Terminal 30-31 : Low tariff 0=disable 1=enable	0	
I	51	48	Terminal 48 0=disable 1=additional water pump	0	
Pump output setting			DIP SW5 - OFF DIP SW6 OFF Level 1 (maximum) DIP SW5 - ON DIP SW6 - OFF Level 2 (medium) DIP SW5 - OFF DIP SW6 - ON Level 3 (minimum)	Level 1	

GRANT ENGINEERING (IRELAND) ULC

Crinkle, Birr, Co. Offaly, R42 D788, Ireland

Tel: +353 (0)57 91 20089 Fax: +353 (0)57 91 21060

Email: info@grantengineering.ie www.grant.eu

Vertex S+

PRODUCT: TSM-NEG9RC.27

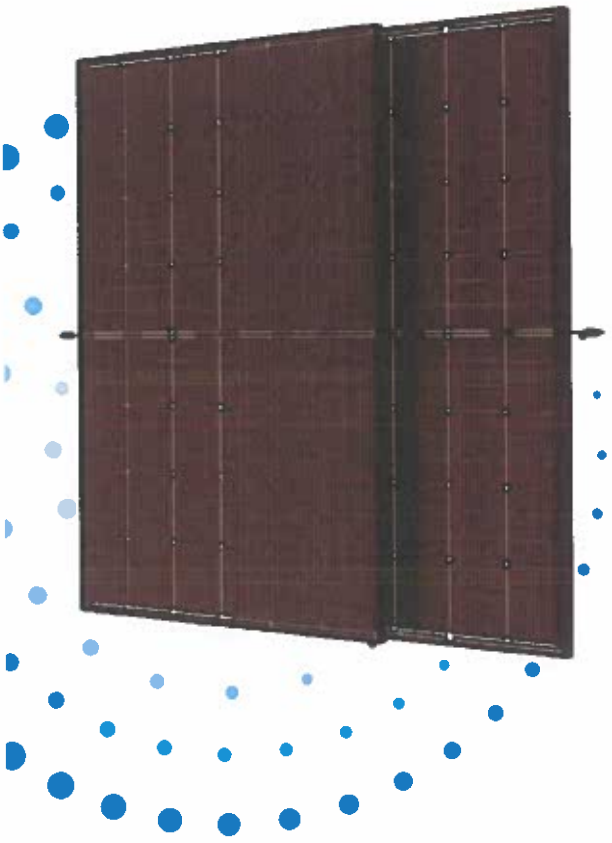
BIFACIAL DUAL GLASS N type i-TOPCon MODULE

POWER RANGE: 410-440 W

440 W
MAXIMUM POWER OUTPUT

0/+5 W
POSITIVE POWER TOLERANCE

22.0 %
MAXIMUM EFFICIENCY



Small in size, bigger on power

- Generates up to 440 W, 22.0 % module efficiency with high density interconnect technology
- Boost performance at high temperature environments with better thermal behavior

Transparent Dual-glass Design

- Designed with aesthetics in mind
- Excellent fire rating and resistance to harsh environmental conditions
- 5,400 Pa snow load and 4,000 Pa wind load (test loads)

Maximize Energy Harvest

- Higher bifaciality up to 85 %
- Up to 25 years product warranty and 30 years power warranty
- 1 % first-year degradation and 0.4 % annual degradation enabled by N-type technology

Universal solution for residential and C&I rooftops

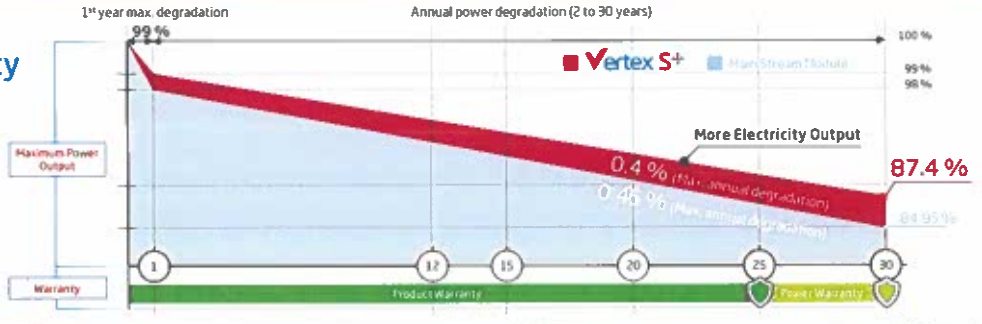
- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling

Extended Vertex S+ Warranty

1 %
1st year max. degradation

0.4 %
Max. annual degradation from year 2 to 30

25 Years
Product Workmanship Warranty



Comprehensive Products and System Certificates

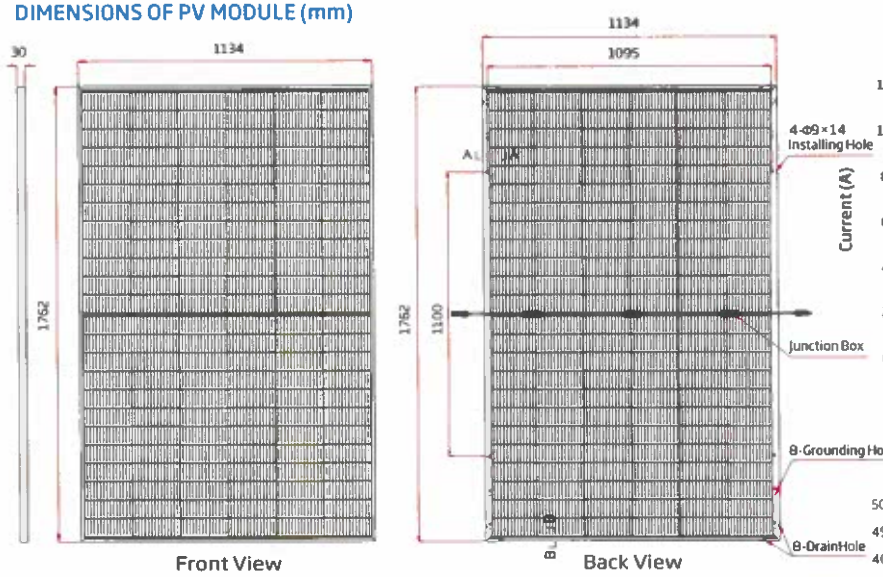
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

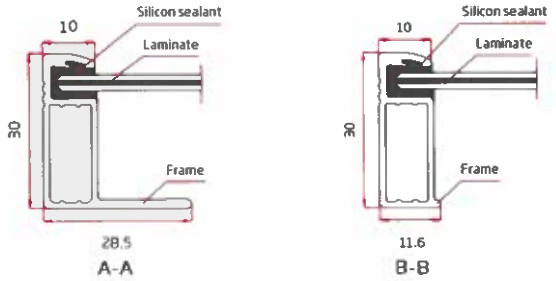
Trinasolar

Vertex S+

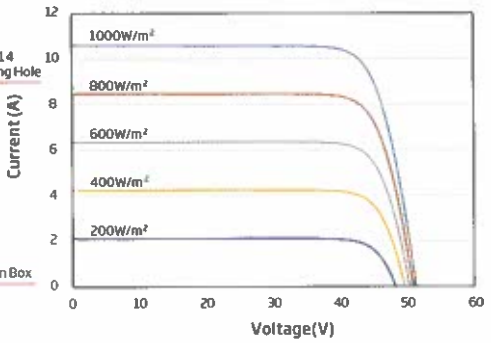
BIFACIAL DUAL GLASS N type i-TOPCon MODULE

DIMENSIONS OF PV MODULE (mm)

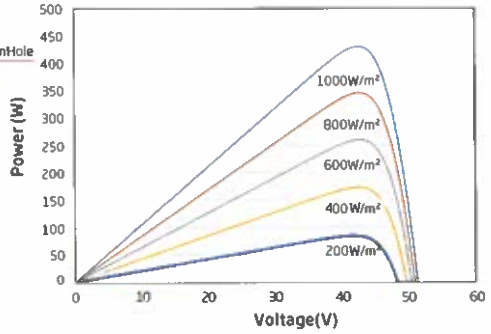




I-V CURVES OF PV MODULE (430 W)



P-V CURVES OF PV MODULE (430 W)



ELECTRICAL DATA (STC)	TSM-415 NEG9RC.27	TSM-420 NEG9RC.27	TSM-425 NEG9RC.27	TSM-430 NEG9RC.27	TSM-435 NEG9RC.27	TSM-440 NEG9RC.27
Peak Power Watts-PMAX (Wp)*	415	420	425	430	435	440
Power Tolerance-PMAX (W)	0/+5					
Maximum Power Voltage-VMPP (V)	42.1	42.5	42.9	43.2	43.6	44.0
Maximum Power Current-IMPP (A)	9.86	9.89	9.92	9.96	9.99	10.01
Open Circuit Voltage-VOC (V)	50.1	50.5	50.9	51.4	51.8	52.2
Short Circuit Current-ISC (A)	10.50	10.53	10.56	10.59	10.64	10.67
Module Efficiency ηm (%)	20.8	21.0	21.3	21.5	21.8	22.0

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM1.5. *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 10% irradiance ratio)

Total Equivalent power-PMAX (Wp)	448	454	459	464	470	475
Maximum Power Voltage-VMPP (V)	42.1	42.5	42.9	43.2	43.6	44.0
Maximum Power Current-IMPP (A)	10.65	10.68	10.71	10.76	10.79	10.81
Open Circuit Voltage-VOC (V)	50.1	50.5	50.9	51.4	51.8	52.2
Short Circuit Current-ISC (A)	11.34	11.37	11.40	11.44	11.49	11.52
Irradiance ratio (rear/front)	10%					

Power Bifaciality: 80 ±5%

ELECTRICAL DATA (NOCT)	TSM-415 NEG9RC.27	TSM-420 NEG9RC.27	TSM-425 NEG9RC.27	TSM-430 NEG9RC.27	TSM-435 NEG9RC.27	TSM-440 NEG9RC.27
Maximum Power-PMAX (Wp)	316	320	324	328	332	335
Maximum Power Voltage-VMPP (V)	39.3	39.7	40.0	40.4	40.7	41.0
Maximum Power Current-IMPP (A)	8.03	8.07	8.09	8.11	8.15	8.17
Open Circuit Voltage-VOC (V)	47.5	47.8	48.2	48.7	49.1	49.4
Short Circuit Current-ISC (A)	8.46	8.49	8.51	8.53	8.57	8.60

NOCT: Irradiance at 800 W/m², Ambient Temperature 20 °C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	144 cells
Module Dimensions	1762×1134×30 mm
Weight	21.0 kg
Front Glass	1.6 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	1.6 mm, High Transmission, Heat Strengthened Glass
Frame	30 mm Anodized Aluminium Alloy, Black
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm² Landscape: 1100/1100 mm Portrait: 280/350 mm*
Connector	TS4 / MC4 EVO2*

*Special order only

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43 °C (±2 K)
Temperature Coefficient of PMAX	-0.30 %/ K
Temperature Coefficient of VOC	-0.24 %/ K
Temperature Coefficient of ISC	0.04 %/ K

MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Max Series Fuse Rating	25 A

WARRANTY

25 year Product Workmanship Warranty

30 year Power Warranty

1 % first year degradation

0.4 % Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box:	36 pieces
Modules per 40' container:	936 pieces

Trinasolar

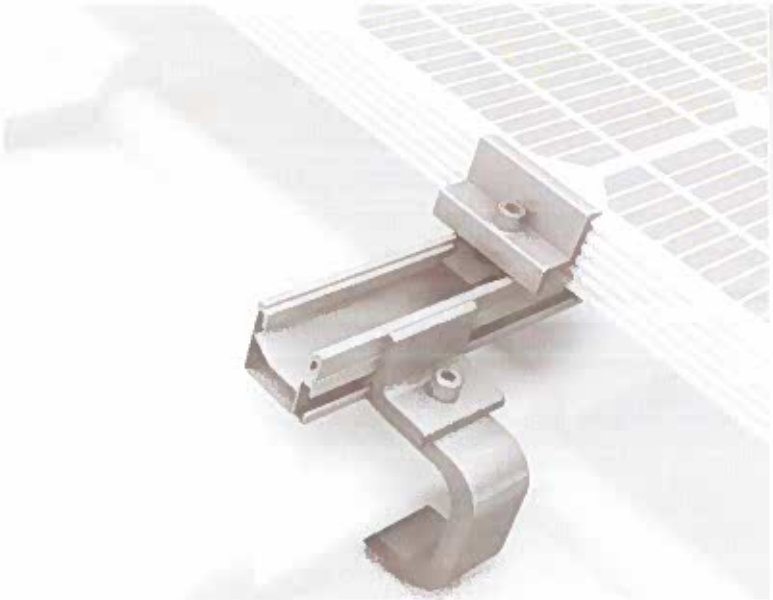
CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

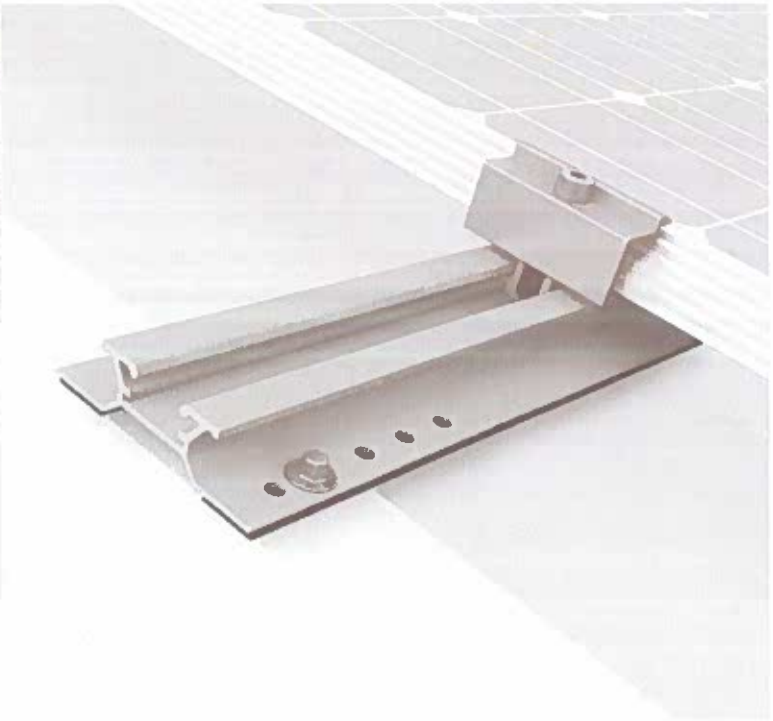
Version number: TSM_EN_2023_B

www.trinasolar.com

Mounting systems for solar technology

PITCHED ROOF SYSTEMS





Content

• Suitable ○ Unsuitable

WARRANTY

We offer a 12-year warranty on all K2 system components.
k2-systems.com/en/guarantee

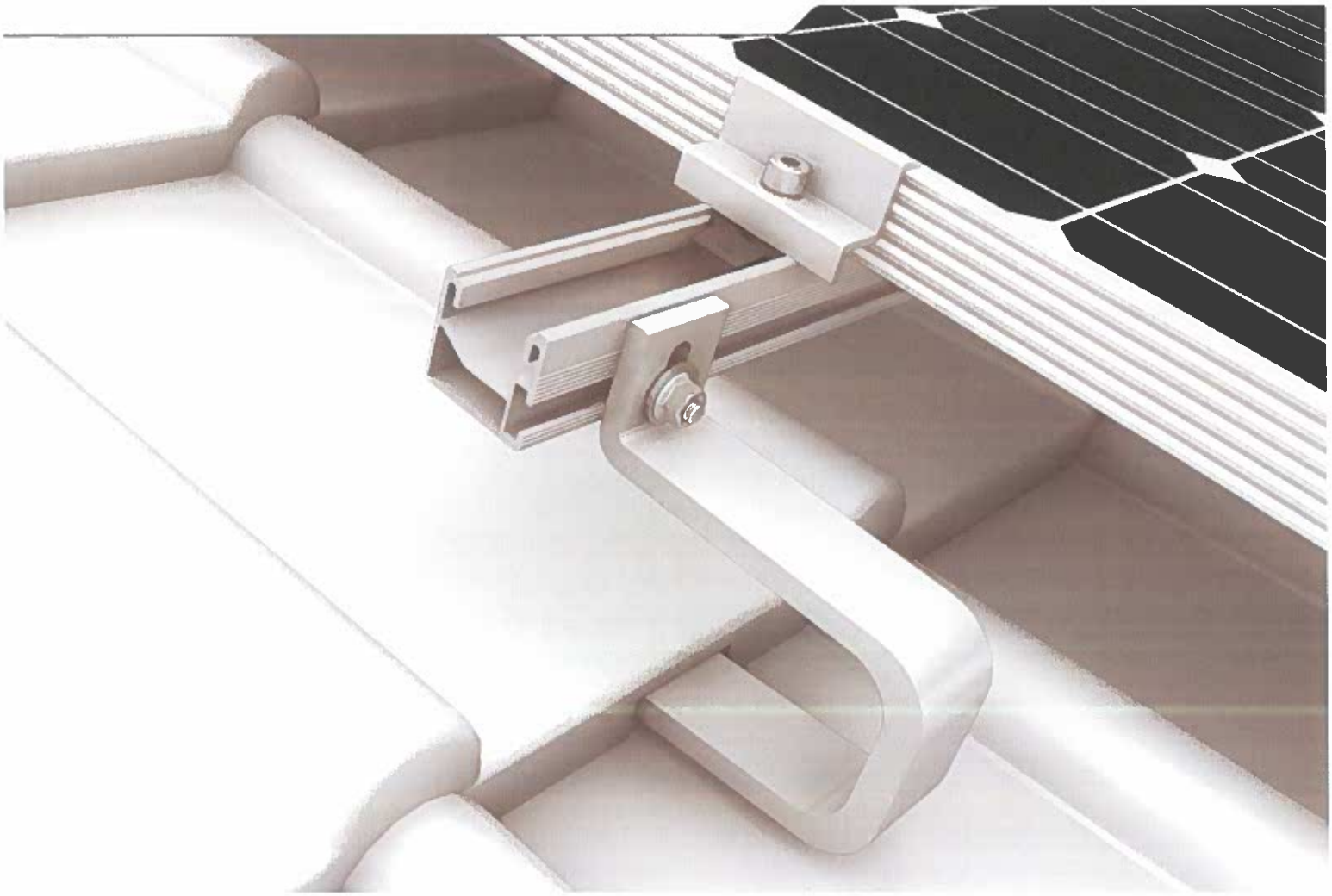
STATICS AND DESIGN LOADS

K2 mounting systems fulfil the calculation principles in accordance with Eurocode 1 and 9.

PALLET DELIVERY

Many mounting systems are delivered in pallets to save space and costs.

SingleRail System



- Quick and low-cost with direct lateral connections to the rail without additional components including customised height adjustment
- Secure snap-in assembly – without needing to be screwed into the base plate
- The SingleRail in combination with CrossHook roof hooks is very durable and versatile

ROOF FASTENINGS: HANGER BOLTS AND ROOF HOOKS

SingleHook 1.1
- For pantiles
- Easy height adjustment with slotted bore hole
- Also suitable for narrow rafters
- Connects directly to SingleRail

SingleHook FT
- For flat tiles and pantiles
- Applicable on small rafters and independent from rafters
- Connects directly to SingleRail

CrossHook 3S
- For pantiles
- 3 height adjustments in the base plate
- Also suitable for narrow rafters

CrossHook 4S
- For pantiles
- 3 height adjustments in the base plate
- Further height adjustment at the bracket itself.
- Also suitable for narrow rafters

SingleHook Vario
- For flat tiles and pantiles
- Height-adjustable at rail connection and battens
- Connects directly to SingleRail

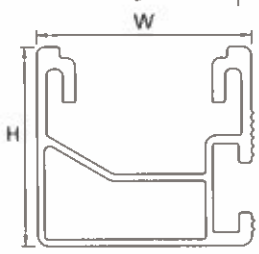
L-Adapter SR
- Adapter for special applications
- Compatible with SingleRail

CrossBoard
- The easy solution for nogging, skylights etc.
- Complements CrossHook 3S and 4S

Hanger bolts SR
- For corrugated fibre cement roofing with wooden substructures
- With building approval

TECHNICAL DATA

	SingleRail 36	SingleRail 50	SingleRail 63
Figure			
Material	Aluminium (EN AW-6063 T66)		
W = width [mm]	39.4	39	47
H = height [mm]	36	50	63
Lengths [m]	2.10/3.15/4.15/ 6.10	6.10	6.10
Weight [kg/m]	0.76	1.0	1.51
Cross-bracing with	SingleRail or SolidRail		

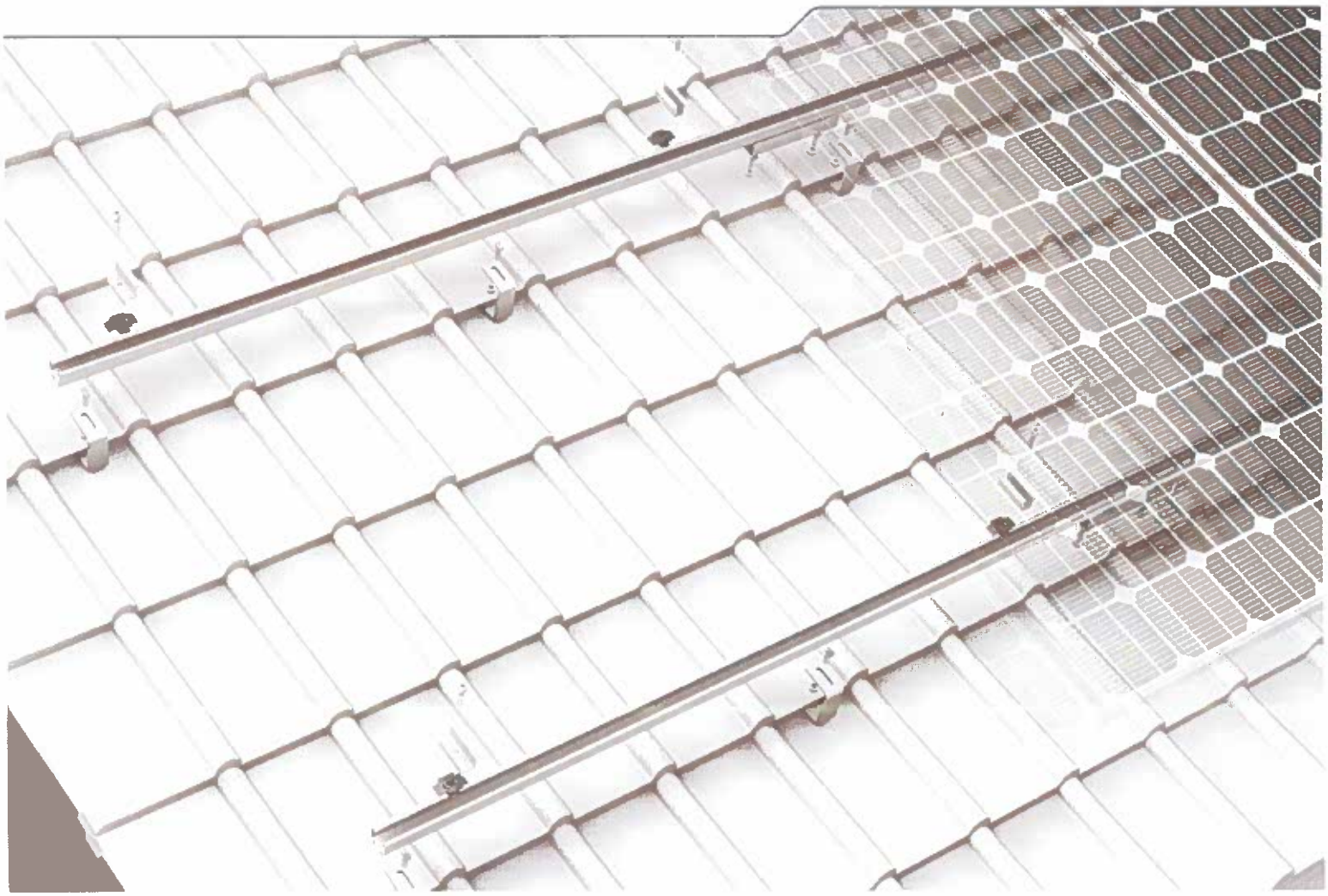


For heavy loads and large spans!

Roof fastenings

You will find detailed technical data on our roof fastenings starting on page 16.

SolidRail System



- Comprehensive range of mounting rails for varying load profiles
- Robust and structurally proven
- High flexibility for a diverse range of widths

ROOF FASTENINGS

Roof hook for pantiles
- Various sizes
- Solid stainless steel design

Vario 1 and 2 roof hooks
- For pantiles
- Height-adjustable under bracket and at battens

Roof hook for plain tile roofing

Also for double roofing

Roof hook for slate roofing

Three boreholes for a secure fit

Roof hook for Coppo roofing
- Height-adjustable under bracket
- Flexible placement on rafters

Hanger bolts
- For corrugated fibre cement or corrugated sheet roofing with wooden substructure
- Custom height adjustment

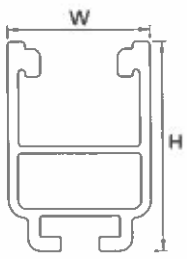
Solar fastener
- For trapezoidal sheet metal, corrugated sheet metal, or corrugated fibre cement roofing
- For steel, timber or concrete

Standing seam clamps

Seam metal clamps for popular standing seam roofs such as Kalzip or Rib-Roof

TECHNICAL DATA

	UltraLight 32	Light 37	Medium 42	Alpine 60
Figure				
Material	Aluminium (EN AW-6063 T66)			
W = width [mm]	39	39	41	41
H = height [mm]	32	37	42	60
Lengths [m]	2.10/3.15/4.15/6.10			
Weight [kg/m]	0.7	0.85	1.3	1.7
Cross-bracing with	SingleRail			



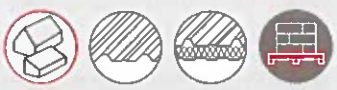
SolidRail LS85 and XL140: For heavy loads across large widths!

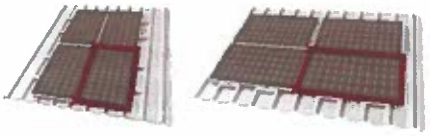
Roof fastenings

You will find detailed technical data on our roof fastenings starting on page 16.

MiniRail System

- Innovative and statically optimised short rail system that is quick and easy to mount
- Universal module clamps and suitable for portrait and landscape orientation
- 5° elevation with MiniFive: significantly more output thanks to improved ventilation and optimised module angle
- Optimised for storage and transport





The MiniRail System allows portrait and landscape mounting in the form of grid mounting thanks to the universal module clamps, which are rotatable by 90°.

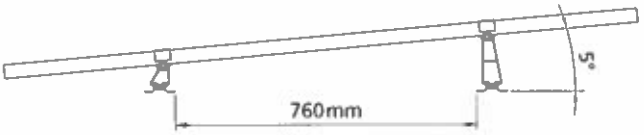
MINIRAIL SYSTEM COMPONENTS

MiniRail
Landscape and portrait mounting with MiniClamp MC/EC

MiniClamp MC/EC 30 - 50 mm
- Universal module clamp
- Clamp is rotatable

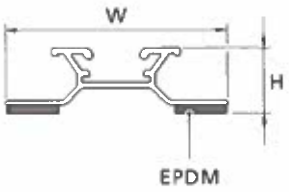
Self-tapping screws
- Included in MiniRail MC/EC set
- With sealing washers

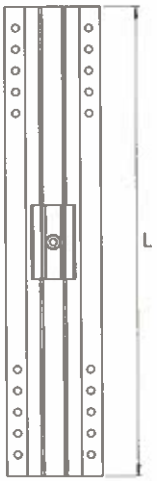
MiniFive front and end
- Single-sided easy elevation with insertable supporting element
- Improved ventilation and higher yield
- Optimised module angle



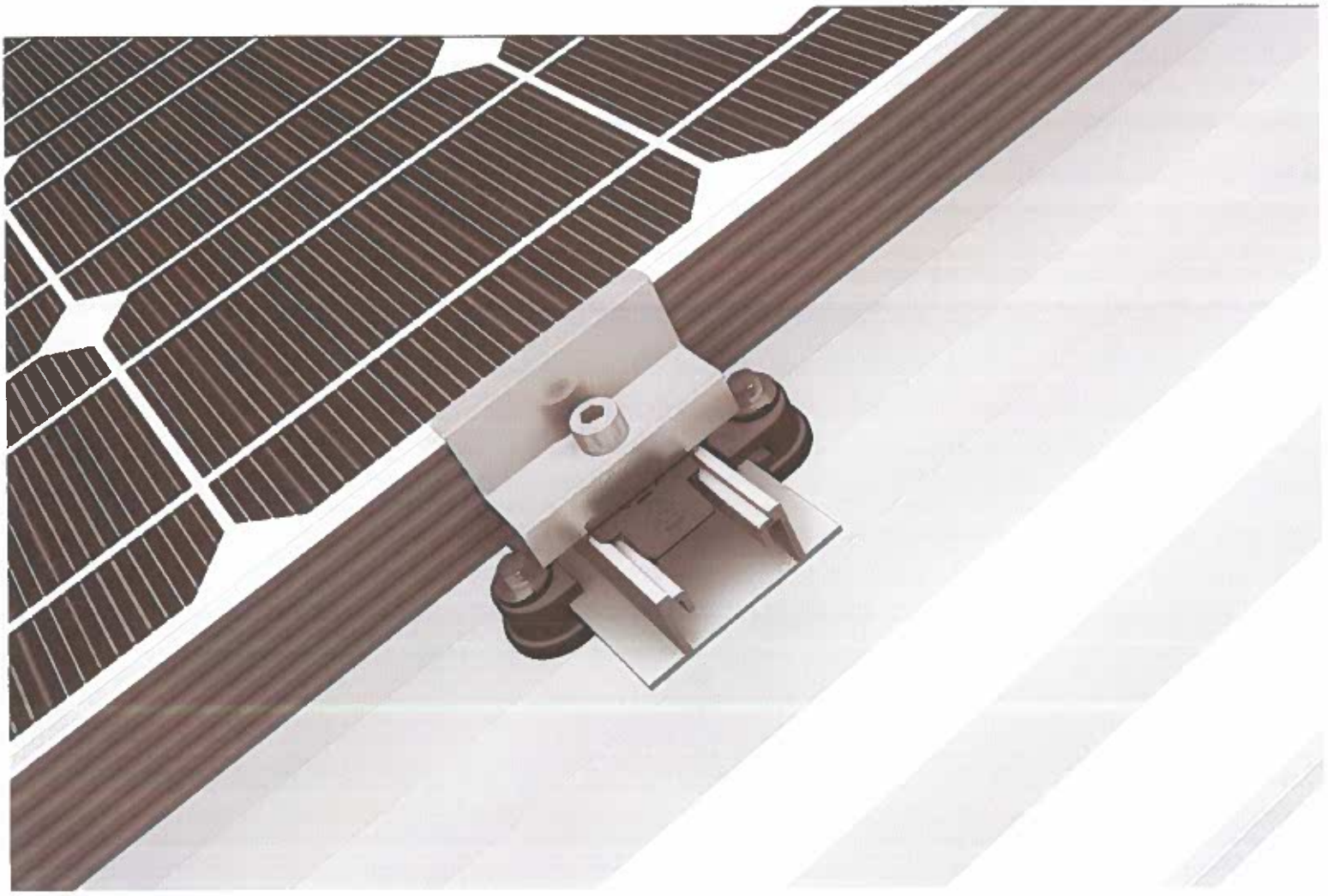
TECHNICAL DATA

	MiniRail System
Scope of application	Pitched roofs with trapezoidal sheet metal or sandwich panels Roof inclination: 5 - 75°
Fastening type / roof fixture	Screws in roofing with self-tapping thin sheet screws
Requirements	‣ Sheet thickness: ≥ 0.5 mm (steel and aluminium) ‣ Sandwich panel: Approval from manufacturer required ‣ Crest width: At least 22 mm ‣ Crest spacing: 101 - 350 mm depending on crest width ‣ Flush area surrounding the bore hole: Ø ≥ 20 mm ‣ Module frame height: 30 - 50 mm
Module orientation	Vertical or horizontal
Material	Aluminium (EN AW-6063 T66/ EN AW 6082 T6); EPDM
Dimensions MiniRail W × H × L [mm]	78.2 × 23 × 385
Elevation with MiniFive	approx. 5°





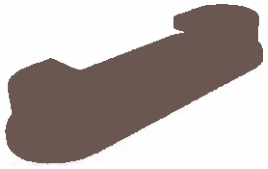
SpeedRail System



- The proven long rail system for trapezoidal sheet applications as well as floating suspension with controlled thermal linear expansion
- Our most popular system – over 1 GW installed worldwide
- All-rounder with only 4 installation steps – also suitable for high loads

SPEEDRAIL SYSTEM COMPONENTS

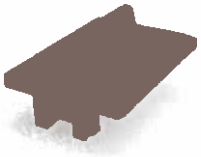
SpeedRail
- Mounting rail with easy insertion mounting into SpeedClips
- Various lengths available



SpeedClip
- Mounting brackets for SpeedRail
- Simple insertion feature
- Glass fibre reinforced polyamide with EPDM seals
- Fastened with self-drilling screws for trapezoidal sheet metal

SpeedLock
- Mounting lock for SpeedRail in case of thermal expansion
- In a set with MK2 slot nut and stainless steel screw

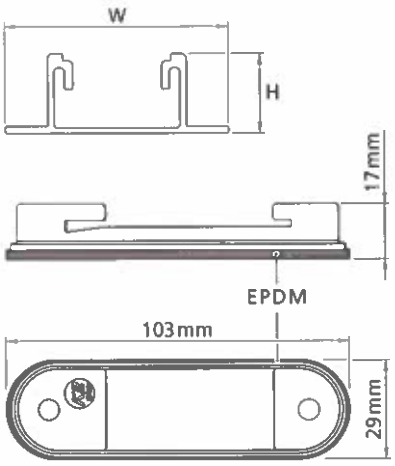
SpeedConnector
- Rail connector for SpeedRail
- Three boreholes for flexible mounting
- In a set with countersunk screws



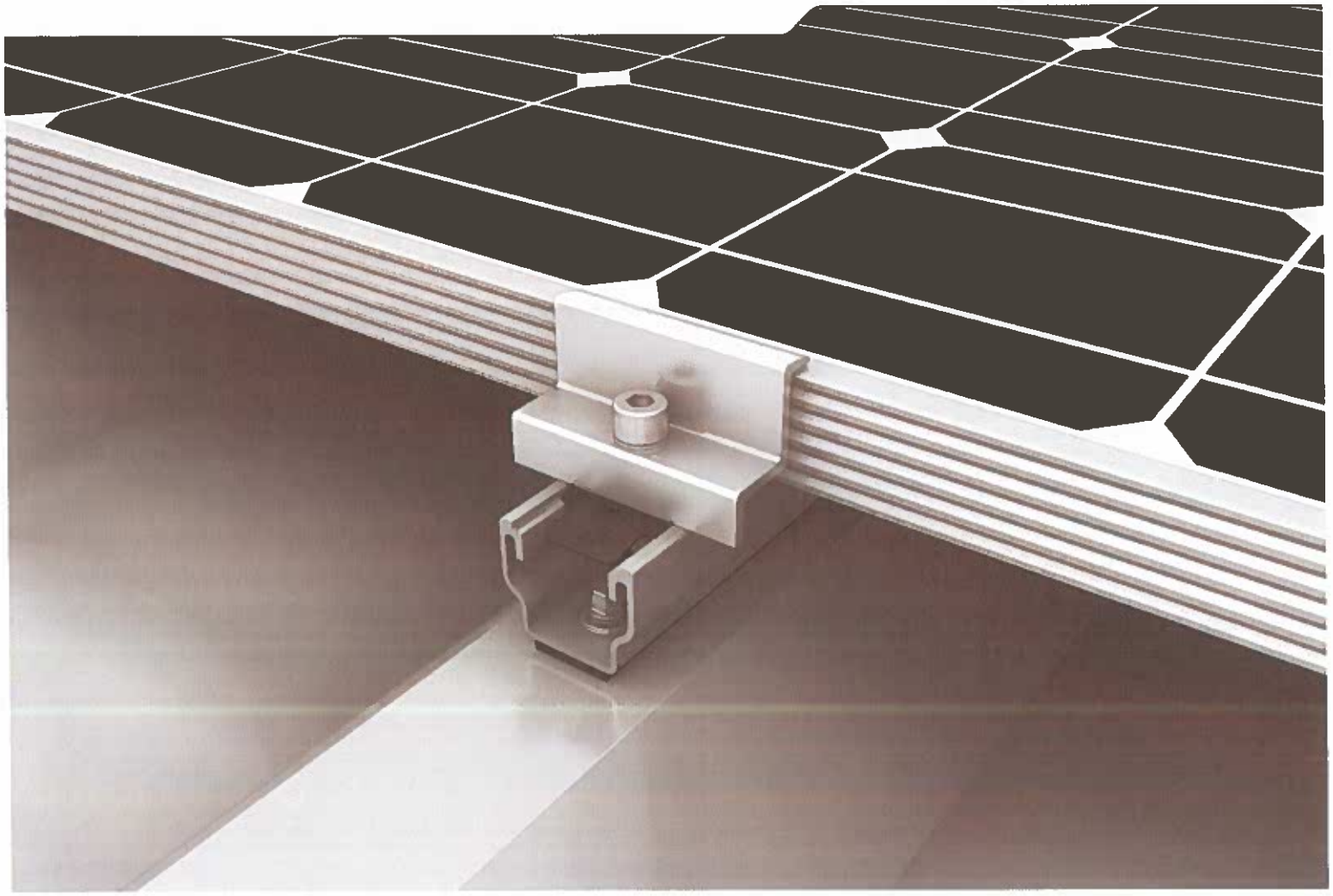
AddOn
- For grid mounting and ensures easy shared-rail mounting
- Glass fibre reinforced polyamide

TECHNICAL DATA

	SpeedRail / SpeedClip
Scope of application	Trapezoidal sheet roof
Fastening type / roof fixture	Insertion mounting into SpeedClips and screws in the roofing
Material	▸ SpeedRail: Aluminium (EN AW-6063 T66; 0.64 kg/m) ▸ SpeedClip: Glass fibre reinforced polyamide with EPDM
SpeedRail dimensions W = width [mm] H = height [mm] L = lengths [m]	 63 22.5, 2.1 / 3.15 / 4.15 / 6.1
SpeedClip dimensions	See drawing
Cross-bracing with	SingleRail or SolidRail



MultiRail System



- Easy and proven – as a short rail or a flexible component in various lengths
- Quick planning with less material and greater effectiveness
- Solid base rail for S-Dome Small trapezoidal elevation

MULTIRAIL VERSIONS

MultiRail 10
- Length 100 mm
- Landscape mounting

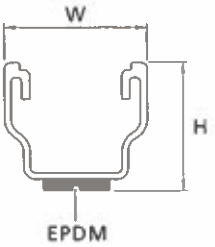
MultiRail 25
- Length 250 mm
- Roof connector for S-Dome Small elevation

MultiRail 25/3
- Length 250 mm
- Roof connector for S-Dome Small
- With three boreholes for roofs with 15° inclination

MultiRail 4.20
- Length 4 200 mm
- Long rail for cutting to customised sizes
- Without EPDM seal, to be fastened manually with adhesive

TECHNICAL DATA

	MultiRail 10, 25, 25/3, 4.20
Scope of application	Pitched roofs, 5-75°, with trapezoidal sheet metal or sandwich panel
Fastening type / roof fixture	Fastened with self-tapping sheet screws
Requirements	▸ Sheet thickness: ≥0.5 mm (steel and aluminium) ▸ Sandwich panel: approval from manufacturer required ▸ Crest width: at least 22 mm ▸ Maximum crest width: independent of crest distance
Material	Aluminium (EN AW-6063 T66); EPDM
W = width [mm]	39
H = height [mm]	35
L = rail length [mm]	▸ MultiRail 10: 100 ▸ MultiRail 25: 250 ▸ MultiRail 4.20: 4200
Cross-bracing with	SingleRail



S-Dome Small System

- For a roof inclination of up to 15° on trapezoidal sheet metal
- Economical in terms of materials and transportation; clever connections and strong holding power
- The perfect combination of the all-round MultiRail component and load-optimised, slim elevations

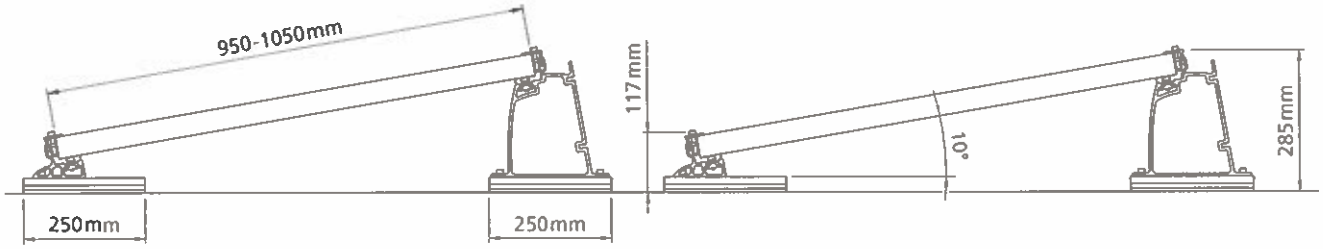
S-DOME SMALL COMPONENTS

Dome S1000 Small
Narrow elevation module support element

Dome SD Small
Narrow module support element

MultiRail 25 or 25/3
- Length 250 mm
- 25: For roofs with an inclination < 15°
- 25/3: With three bore-holes for roofs with 15° inclination

FlexClamp Small
- For clamping on the long side of module
- Height adjustable



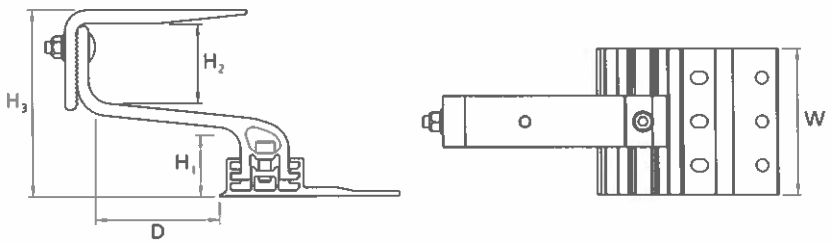
TECHNICAL DATA

	S-Dome Small
Scope of application	Flat or pitched roofs ≤15° with trapezoidal sheet metal roofing
Fastening type / roof fixture	Attached with drilling screws in trapezoidal sheets, parallel to raised crests
Requirements	‣ Sheet thickness for aluminium/steel: min. 0.5 mm ‣ Tensile strength for aluminium: 165 N/mm² ‣ Tensile strength for steel: acc. to approval min. S235 in acc. with DIN EN 10025-1 ‣ Crest width: min. 22 mm ‣ Crest spacing: independent of crest distance
Technical specifications	Thermal separation after a max. of 13.5 m: min. 30 mm to max. 150 mm
Inclination angle	10°
Material	‣ Mounting rails, Dome SD Small, Dome S1000 Small, FlexClamp Small: Aluminium (EN AW-6063 T66/ EN AW-6082 T6); EPDM ‣ Small parts: Stainless steel (1.4301) A2

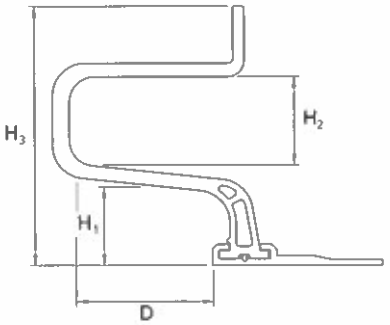
CROSSHOOKS AND SINGLEHOOKS FOR CROSSRAIL AND SINGLERAIL

Type / image	Base plate width [W]	Height under bracket [H_1] Bracket height [H_2] Total height [H_3]	Bracket depth [D]	Item no.
CrossHook 3S 	100 mm	▸ 40/47/54 mm ▸ 56 mm ▸ approx. 123/130/137 mm	83 mm	2000133
CrossHook 4S 	100 mm	▸ 40/47/54 mm ▸ 55 - 85 mm ▸ 120.5 - 165 mm	83 mm	2000466
SingleHook 1.1 * 	100 mm	▸ 47.1 mm ▸ 56 mm ▸ 162.9 mm	83 mm	2001928
CrossBoard für CrossHook 3S/4S 	2100 mm	▸ 40/47/54 mm ▸ 56/55 - 85 mm ▸ approx. 123/130/137/ 120.5 - 165 mm	83 mm	2001972
CrossHook 2G 	100 mm	▸ 40/47/54 mm ▸ No spacing ▸ 89.2 mm	-	2000636
CrossHook 2 (BS EN 490) 	150 mm	▸ 44 mm ▸ 46 mm ▸ 100 mm	116 mm	1004900
SingleHook FT 	30 mm	▸ 16 mm ▸ 68 mm ▸ 141 mm	120 mm	2002568
SingleHook Vario 	100 mm	▸ 45 - 65 mm ▸ 68 mm ▸ 168 - 186 mm	110 mm	2002651

Dimension drawing for CrossHook



Dimension drawing for SingleHook

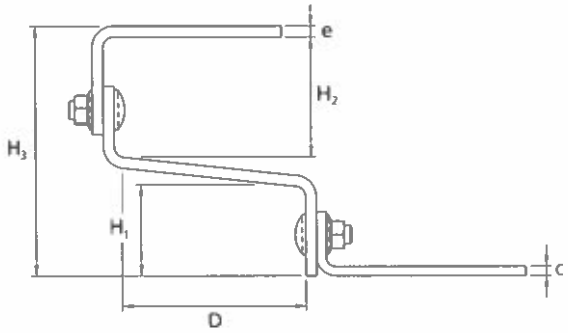


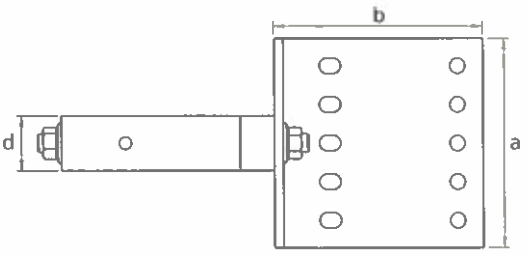
* Suitable exclusively for SingleRail

STAINLESS STEEL ROOF HOOKS FOR SOLIDRAIL

Type /Figure	Base plate [a x b x c]	Bracket [d x e]	Bracket [H_1]/[H_2]	Total height approx. [H_3]	Bracket depth [D]	Item no.
Pantiles 	150 × 60 × 5 mm	30 × 6 mm	47/65 mm	134 mm	98 mm	1000001
	180 × 80 × 4 mm	35 × 6 mm	38/69 mm	124 mm	91 mm	1000096
	180 × 80 × 4 mm	35 × 6 mm	38/89 mm	150 mm	91 mm	1000653
	180 × 80 × 5 mm	40 × 8 mm	47/55 mm	121 mm	87 mm	1000764
Vario 1 	150 × 60 × 5 mm	30 × 6 mm	43/41 - 71 mm	112 - 145 mm	95 mm	1000125
Vario 2 	140 × 55 × 5 mm	30 × 6 mm	49 - 57/41 - 69 mm	108 - 137 mm	94 mm	1000107
Plain tile 	40 × 50 mm	40 × 6 mm	33/62 mm	122 mm	189 mm	1000214
Plain tile, double roofing 	150 × 45 mm	150 × 60 mm	33/66 mm	103 mm	235 mm	1000074
Slate roofing 	40 × 250 mm	40 × 65 mm	-/60 mm	72 mm	72 mm	1000373
Coppo 	150 × 60 × 5 mm	30 × 5 mm	18/88 - 118 mm	123 - 153 mm	120 mm	1001068

Dimension drawing





Overview of roof fastenings

HANGER BOLTS

For timber substructures

For fastening the K2 SolidRail, SingleRail and CrossRail mounting rails on roofs with corrugated fibre cement or sheet metal on timber substructures. The K2 hanger bolts are equipped with an extra-long metric thread for installation height adjustment. Hanger bolts are outfitted with a pre-mounted adapter plate.

CrossRail / SingleRail Hanger Bolts

Type	Item number
M10×180, hexagonal SW 7 mm	1006166
M10×200, hexagonal SW 7 mm	1006167
M10×250, hexagonal SW 7 mm	1006168
M12×200, hexagonal SW 9 mm	1006169
M12×250, hexagonal SW 9 mm	1006170
M12×300, hexagonal SW 9 mm	1006171
M12×350, hexagonal SW 9 mm	1006172
M12×400, hexagonal SW 9 mm	1006173

SolidRail Hanger Bolt

Type	Item number
M10×180, hexagonal SW 7 mm	2000120
M10×200, hexagonal SW 7 mm	2000121
M10×250, hexagonal SW 7 mm	2000122
M12×200, hexagonal SW 9 mm	2000123
M12×250, hexagonal SW 9 mm	2000124
M12×300, hexagonal SW 9 mm	2000125
M12×350, hexagonal SW 9 mm	2000126
M12×400, hexagonal SW 9 mm	2000127

SOLAR FASTENER

For steel, timber and concrete substructures

Solar fasteners (stainless steel) for attaching the K2 mounting rails on roofs with trapezoidal sheet metal, corrugated fibre cement or corrugated sheet metal. Matching M10/M12 adapter plates are available separately.

Steel: Solar fastener Ø 8.0
with M10×50 screw thread, E16 dome

Type	Item number
8×64 / 50, length 114 mm	1001491
8×80 / 50, length 130 mm	1002586
8×100 / 50, length 150 mm	1001636
8×125 / 50, length 175 mm	1001412
8×150 / 50, length 200 mm	1001134
8×160 / 50, length 210 mm	1000666
8×200 / 50, length 250 mm	1001751

Steel: Solar fastener Ø 8.0
with M10×50 screw thread, FZD

Type	Item number
8×64 / 50, length 114 mm	1002218
8×80 / 50, length 130 mm	1001435
8×100 / 50, length 150 mm	1001400
8×125 / 50, length 175 mm	1001459
8×150 / 50, length 200 mm	1000985
8×160 / 50, length 210 mm	1004095
8×200 / 50, length 250 mm	1001838

Timber: Solar fastener Ø 8,0 mm
M10×50/70 mm,
metric thread
E14 calotte or
FZD sealing made of EPDM
On request

Concrete / aerated concrete:
Solar fastener Ø 8,0 mm
M10×50/70 mm, metric thread
E14 calotte or FZD sealing made of EPDM
On request

STANDING SEAM CLAMPS

Our seam clamps are used to fasten the K2 mounting rails onto standing seam roofs or rounded seams. We offer seam clamps for steel or aluminium roofs.

K2 Round Seam Clamp
For Kalzip roofs with rounded seam ends
Screw: M10
Clamping screw: M8
Sheet thickness: 3 mm
Material: Stainless steel
Item no. 2001853

S-5! Z-Mini-FL Round Seam
For Kalzip roofs with rounded seam ends
Slot: 11×22
Clamp: Grub screw
Material: Aluminium
Item no. 1000888

K2 Standing Seam Clamp
For standing seam metal roofs
Screw: M10
Clamping screw: M8
Sheet thickness: 2.5 mm
Material: Stainless steel
Item no. 2001712

S-5! E-Mini-FL Standing Seam
For Kalzip standing seam metal roofs
Slot: 11×22
Clamp: Set screw
Material: Aluminium
Item no. 1001052

Rib-Roof Evolution Round Seam
For Rib-Roof Evolution seam metal roofs with rounded seams
Screw: M10
Clamping screw: M8
Material: Aluminium
Item no. 2002226

Rib-Roof Speed 500 Standing Seam
For Rib-Roof Speed 500 standing seam metal roofs
Screw: M10
Clamping screw: M8
Material: Aluminium
Item no. 2002225

Rib-Roof 465 Standing Seam
For Rib-Roof 465 standing seam metal roofs
Screw: M10
Clamping screw: M8
Material: Aluminium
Item no. 2002118

Accessories

MODULE CLAMPS

Our module clamps can be easily mounted to any K2 rail. The MK2 slot nut automatically locks in place and can be moved in the rail by pressing lightly on the Allen bolt.

Module middle clamps XS

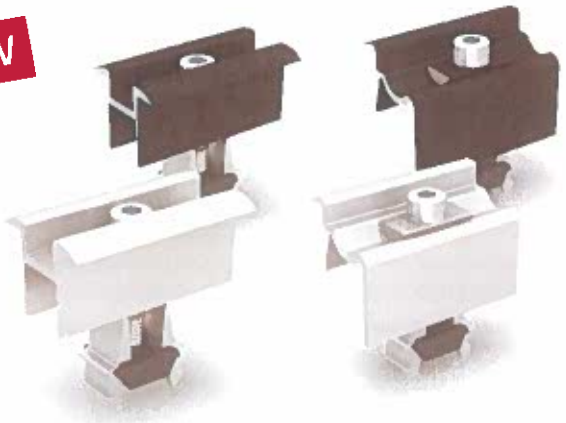
Module frame height / description	Item number
30–33 mm/M8×50, aluminium mill finish	1005156
30–33 mm/M8×50, black anodised	1005157
39–44 mm/M8×60, aluminium mill finish	1004908
39–44 mm/M8×60, black anodised	1005159
45–48 mm/M8×65, aluminium mill finish	1005143
45–48 mm/M8×65, black anodised	1005160
49–50 mm/M8×70, aluminium mill finish	1004407
49–50 mm/M8×70, black anodised	1005161

Universal module clamps OneMid and OneEnd

NEW

These module clamps are suitable for the most common module frame heights of 32 - 42 mm.
Compatible with SingleRail, CrossRail, SpeedRail, Multi-Rail, KoverRail, SolidRail plus S- and D-Dome.

Description	Item number
OneMid, mid clamp, aluminium mill finish	2002515
OneMid, mid clamp, black anodised	2002588
OneEnd, end clamp, aluminium mill finish	2002514
OneEnd, end clamp, black anodised	2002589



OneMid OneEnd

Module end clamps

Module frame height / description	Item number
30 - 31 mm/M8×30, aluminium mill finish	1005345
30 - 31 mm/M8×30, black anodised	1005347
42 - 44 mm/M8×35, aluminium mill finish	1005291
42 - 44 mm/M8×35, black anodised	1005295
45 - 47 mm/M8×40, aluminium mill finish	1005171
45 - 47 mm/M8×40, black anodised	1005270
48 mm/M8×40, aluminium mill finish	1005292
48 mm/M8×40, black anodised	1005296
49 - 50 mm/M8×45, aluminium mill finish	1005172
49 - 50 mm/M8×45, black anodised	1005271

Module clamps for laminate modules

Module middle clamps for fastening laminate modules; approved for First Solar and Calyxo thin-film modules; small module spacing.
Material: Aluminium mill finish, EPDM

Please note: For additional anti-slip protection the K2 Slideguard is suitable for vertical mounting of laminate modules with a glass thickness of 6-9 mm.
Material: Stainless steel 1.4016, EPDM

Type / accessory	Item number
Module middle clamp	1003157
Module end clamp	1003158
Slideguard	1005828

SELF-DRILLING WOOD SCREW, FLANGE HEAD

Self-drilling wood screw with flange head (Topix) and star socket (Torx) from Heco. With European Technical Assessment (ETA) approval. Material: Stainless steel A2, matches TX 25/40 screwdrivers

Type	Item number
6×80	1005837
6×100	1004978
8×80	1000642
8×100	1000656
8×120	1001525
8×160	1002366
8×180	1002367

SELF-TAPPING HEXAGON SCREW WITH SEALING WASHER

Approved for steel sheets with a minimum thickness of 0.5 mm and aluminium sheets with a minimum thickness of 0.7 mm (MiniRail 0.5 mm).
Material: Stainless steel A2, EPDM

Type	Item number
Drilling screw, SW 8, sealing washer Ø 16 mm	
6×25 mm	1000212
6×36 mm	1001622
Thin sheet screw, virtually chip-free, SW 8, sealing washer Ø 16 mm	
6×25 mm	1005207
6×38 mm	1005193

Drilling screw

Thin sheet screw

T-BOLT AND FLANGE NUTS WITH SERRATION

T-bolt for use in the lower chamber of K2 SolidRail rails. Head form: 28/15;
head dimensions: 22.5 × 10.5 × 4 mm
Material: Stainless steel A2 1.4301

Type	Item number
M10×20	1000637
M10×30	1000041
M8×20/30	1000614/1000368

The flanged nut with serration (similar to ISO 4161) prevents it from loosening.

Material: Stainless steel A2

Type	Item number
M8	1000043
M10	1000042

MK2 SLOT NUTS WITH ASSEMBLY CLIP

The MK2 slot nuts lock into place and can be readjusted at any point on the K2 rails by pressing lightly.

Material:
Stainless steel 1.4301, PA
Item number:
1001643

SELF-DRILLING WOOD SCREW, FLANGE HEAD, UNDERHEAD SECONDARY THREAD

Self-drilling wood screw (Heco) with flange head (Topix) and star socket (Torx). With building approval. For mounting with over-rafter insulation. Fixes the counterbattens in place using a second screw thread under screw head. Material: Stainless steel A2; matches TX 40 screwdrivers

Type	Item number
8 × 240	1003437
8 × 300	1003438
8 × 360	1003439

SELF-DRILLING WOOD SCREW, COUNTERSUNK HEAD

Self-drilling wood screw with countersunk head (Heco). With building approval.
Material: Stainless steel A2; matches TX 25 screwdrivers

Type	Item number
6 × 120	1004443
6 × 160	1001607

SCREW ANCHOR, MULTI MONTI

Multi Monti screw anchor (Heco) for fastening to concrete; min. borehole depth 40 mm. Steel surface: galvanised and blue passivated, head diameter 17 mm, nominal bore diameter 6 mm
Material: galvanised steel
Drive: TX 30

CROSSRAIL / SINGLERAIL END CAPS

End caps for K2 CrossRail and SingleRail.
Material: Glass fibre reinforced polyamide

Type	Item number
CrossRail/SingleRail 36	1004767
CrossRail 48	1004768

SOLIDRAIL END CAPS

End caps for K2 SolidRail.
Material: Glass fibre reinforced polyamide

Type	Item number
Light	1004765
Medium	1004766
Alpine	1005053

LIGHTNING PROTECTION CLAMP MULTI SETS

Lightning protection clamp for clamping lightning protection cables with Ø 8 mm.
For universal use as a T cross, parallel and impact clamps. Material: aluminium

Image	Type	Components	Item number
	**Lightning protection clamp Multi Alu 8 mm Set**	‣ Lightning protection clamp Multi (1003151), aluminium ‣ Slot nut (1001643), stainless steel, PA ‣ Washer (8,4 × 20 × 1.2 mm), stainless steel A2 ‣ Allen Bolt (M8×30), stainless steel A2	2002473
	**Lightning protection clamp 8 mm Double Set**	‣ 2× lightning protection clamps Multi (1003151), Aluminium ‣ Hexagon flange nut with serration M8 (100043); stainless steel A2 ‣ 2× washers (8.4 × 20 × 1.2 mm), stainl. steel A2 ‣ Allen Bolt (M8×40), stainless steel A2	2002474

TERRAGRIF EQUIPOTENTIAL BONDING

Equipotential bonding between module and rail.
Material: Stainless steel

Type	Item number
TerraGrif K2MI Landscape/Portrait	2002649
TerraGrif K2PA 32 Landscape	2000055
TerraGrif U17 Portrait	2000056
TerraGrif K2SZ Landscape/Portrait	2001881

K2MI

K2PA

U17

K2SZ

PAD SPACER

PA spacer shim to compensate for height differences when mounting K2 roof hooks with screw threads and K2 rails (except SolidRail).
Any number of spacer shims can be stacked to provide customised height.
Material: Glass fibre reinforced PA
Material thickness: 2 mm
Item no.: 1002361

HEIGHT COMPENSATOR FOR ALUMINIUM ROOF HOOKS

To compensate for batten differences so that the bracket height of each roof hook can be individually adjusted.
Material: Aluminium
Material thickness: 4 mm
Item no.: 2002332

CABLE CLIPS

Type	Item number
Omega Cable Clip Suitable for CrossRail, SingleRail, SolidRail, S-Rock 4 cables with Ø 6 mm Material: Polypropylene with UV stabiliser	1005394
Cable Routing Clip Suitable for clamping in module frames with a thickness of 1.5 - 2.5 mm and S-Rock 4 cables with Ø 6 mm Material: Spring steel	2002322

Omega Cable Clip

Cable Routing Clip

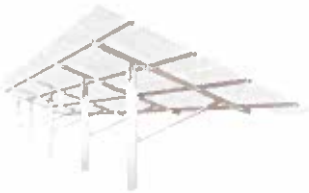
Notes

Mounting systems for solar technology

OTHER K2 SYSTEMS

- Flat roof systems

- Ground mounted systems



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info@k2-systems.com
www.k2-systems.com

Lissacarrow

Fuerty

F42W229

11/12/2024

Dear planning

Further to our recent conversion can I request that the following be checked please, as they could give grounds for an exemption for the replacement of the existing septic tank.

Planning and Development Regulations

Part 2 article 6 (4) (a)

Schedule 2

Class 41 (c) – article 12 (Water pollution act 1971)

Kind regards

Barry Tapster

Comhairle Contae
Ros Comáin
Roscommon
County Council

ROSCOMMON COUNTY COUNCIL
11 DEC 2024
PLANNING SECTION

ADVISORY NOTICE

WATER SERVICES ACTS 2007 and 2012

NOTICE PURSUANT TO SECTION 70H OF THE WATER SERVICES ACT 2007, AS AMENDED BY THE WATER SERVICES (AMENDMENT) ACT 2012 OF FAILURE TO COMPLY WITH THE DUTIES OF OWNERS OF PREMISES CONNECTED TO A DOMESTIC WASTE WATER TREATMENT SYSTEM AS SPECIFIED IN SECTION 70C(1).

Property Reference: [redacted] **Inspection Reference:** [redacted]

Site Reference: [redacted] **Advisory Notice Reference:** [redacted]

To: Barry and Hiromi Tapster

Correspondence Address: **LISSACARROW, FUERTY, CO. ROSCOMMON, F42W229**

From Water Services Authority: Roscommon County Council

WHEREAS the Water Services Authority is of the opinion that the person to whom this notice is addressed, being the owner of premises to which a domestic waste water treatment system is connected, has failed to comply with a duty specified under Section 70C(1) of the Water Services Act, 2007, as amended by the Water Services (Amendment) Act 2012, namely:

1. The said owner has contravened regulations made under Section 70L of the Water Services Act 2007, as amended by the Water Services (Amendment) Act 2012, namely the Water Services Act 2007 and 2012 (Domestic Waste Water Treatment System) Regulations 2012 (S.I. 223 of 2012).
2. The domestic waste water treatment system constitutes, or is likely to constitute, a risk to human health or the environment, and in particular - (i) creates a risk to water, air or soil, or to plants and animals, (ii) creates a nuisance through noise or odours, or (iii) adversely affects the countryside or places of special interest.

CONNECTED PROPERTY

Address **LISSACARROW, FUERTY, CO. ROSCOMMON, F42W229**

REASON FOR OPINION

#	Legislation Provision	Advisory Notice Reason
1	Regulation 2(1)a of S.I. 223 of 2012	There is evidence of an unintended leak or discharge from the Septic tank or secondary system
2	Regulation 2(1)b of S.I. 223 of 2012	There is evidence of an unlicensed or untreated discharge of untreated effluent to groundwater
3	Regulation 2(3) of S.I. 223 of 2012	There is evidence that the following system components are not fit for purpose, not operational and/or not in good repair so as to pose a risk to human health or the environment: Septic tank or secondary system
4	Section 70C(1)(b) of Water Services Act 2007 as amended by the Water Services (Amendment) Act 2012	There is evidence to show that the system poses a risk to human health or the environment, in particular: To water, air or soil, or to plants and animals

MEASURES REQUIRED

#	Measure	Details
1	Regulation 2(1)a of S.I. 223 of 2012	Submit a proposal to carry out improvement works to fix, upgrade or replace the existing domestic waste water treatment system serving your dwelling at Lisacarrow, Fuerty, Co. Roscommon so as to ensure compliance with Water Services Act 2007 as amended. The proposed design and installation of any DWWTS upgrade or replacement shall be subject to the approval of the Environment Department of Roscommon Co. Council and shall require the following: 1. Engage the services of a suitably qualified person; 2. Carry out a site characterisation report, including percolation tests and trial hole(s); 3. Submit a design of DWWTS upgrade or replacement for the approval of the Environment Department; 4. Complete approved works; 5. Submit details of servicing and maintenance arrangements 6. Submit certificate of installation. Any remediation works arising as a result of the aforementioned shall be subject to the approval of the Environment Department of Roscommon County Council, prior to the commencement of such works on site.

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NOTICE IS HEREBY GIVEN that the matters specified above must be remedied by you by **06/01/2025**

WATER SERVICES AUTHORITY STAMP

ROSCOMMON COUNTY COUNCIL

Signed By: Dominick Healy

Print Name: DOMINICK HEALY

Contact Tel No: 0906-637260

Dated this 12 day of July 2024

This notice takes effect in accordance with sections 70H(8), 70H (12), and 70H(13) (as applicable) of the Water Services Act 2007 as amended by the Water Services (Amendment) Act 2012.

IMPORTANT NOTES FOR THE PERSON ON WHOM THIS NOTICE IS SERVED

- It is an offence to fail to rectify matters specified in this advisory notice within the specified timeframe.
- Inspections carried out, and advisory notices issued, under the Water Services Act 2007, as amended by the Water Services (Amendment) Act 2012 do not provide exemption from prosecution for public health or environmental offences under other legislation.
- You must inform the water services authority of the completion of the remediation works required under this advisory notice within 10 days of completion of those works. The water services authority may carry out a further inspection to confirm that the necessary remediation has been carried out.
- A person aggrieved by an advisory notice may, within 21 days of the issue of this notice, apply to the issuing water services authority to have an inspection carried out by an authorised officer of the water services authority as provided for in Section 70H(7) of the Water Services Act 2007 as amended by the Water Services (Amendment) Act 2012 . Your application must be (a) made using the prescribed application form and (b) accompanied by the prescribed fee of €20.00. The fee will be refunded if this advisory notice is cancelled as a result of the inspection.
- Following such an inspection, this notice will be: (i) confirmed with no modifications, (ii) confirmed subject to modifications, alterations or additions, or (iii) cancelled. You will be notified of the outcome of the inspection in writing. Any such notification letter should be retained with the advisory notice.
- A person aggrieved by confirmation of an advisory notice may appeal the decision to the District Court in accordance with Section 70H(9) of the Water Services Act 2007 as amended by the Water Services (Amendment) Act 2012.

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APPENDIX A: SITE CHARACTERISATION FORM

File Reference: Tapster

1.0 GENERAL DETAILS (From planning application)

Prefix: Mr First Name: Barry Surname: Tapster

Address: Lissacarrow, Fuerty, Co. Roscommon, F42 W229

Site Location and Townland: Lissacarrow, Fuerty, Co. Roscommon, F42 W229

Number of Bedrooms: 3 Maximum Number of Residents: 5

Comments on population equivalent

Proposed Water Supply:

Mains ☑ Private Well/Borehole ☐ _____ Group Well/Borehole ☐

2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type): Tills derived chiefly from limestone

Subsoil, (Specify Type): Tills derived from limestone

Bedrock Type: Undifferentiated Visean Limestone

Aquifer Category: Regionally Important Rk | Locally Important _____ Poor _____

Vulnerability: Extreme ☐ High ☑ Moderate ☐ Low ☐

Groundwater Body: n/a Status Good

Name of Public/Group Scheme Water Supply within 1 km: None

Source Protection Area: ZOC ☐ SI ☑ SO ☐ Groundwater Protection Response: R2*

Presence of Significant Sites (Archaeological, Natural & Historical): None

Past experience in the area: No

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

GROUND WATER POTENTIAL TARGET AT RISK.

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Note: Only information available at the desk study stage should be used in this section.

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment

Landscape Position:	Rear of site on dry ground		
Slope:	Steep (>1:5) ☐	Shallow (1:5-1:20) ☑	Relatively Flat (<1:20) ☐
Slope Comment			

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses:

DWELLINGHOUSE ON SITE.

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Existing Land Use:

RESIDENTIAL

Vegetation Indicators:

GRASSLAND

Groundwater Flow Direction: SOUTH-EAST

Ground Condition:

GOOD & DRY UNDERFOOT.

Site Boundaries:

HEDGEROW & WALLS

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment (contd.)

Roads:

REGIONAL ROAD R 366 ON SOUTHERN BOUNDARY

Outcrops (Bedrock And/Or Subsoil):

NONE

Surface Water Ponding:

NONE

Lakes:

NONE

Beaches/Shellfish Areas:

NONE

Wetlands:

NONE

Karst Features:

NONE

Watercourses/Streams:*

NONE

*Note and record water level

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment (contd.)

Drainage Ditches:*

NONE.

Springs:*

NONE

Wells:*

NONE

Comments:
(Integrate the information above in order to comment on the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

THE AREA IS POTENTIALLY SUITABLE. THE POTENTIAL TARGET AT RISK IS GROUNDWATER. THE SITE IS SUITABLE TO TREAT THE WASTEWATER. THE SUITABLE LOCATION OF THE PROPOSED WASTE WATER TREATMENT SYSTEM ADJACENT TO THE SOUTHERN SITE BOUNDARY.

*Note and record water level

3.2 Trial Hole (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas which are at or adjacent to significant sites, (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m): 3500

Depth from ground surface to bedrock (m) (if present): 0

Depth from ground surface to water table (m) (if present): 00

Depth of water ingress: 0

Rock type (if present): NONE

Date and time of excavation: 08-Jun-2024

Date and time of examination: 19-Jun-2024

Depth of Surface and Subsurface Percolation Tests	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m	ORGANIC TOPSOIL 300mm. 0 - 0.30m	Non dilatant, rib 100,110,120 thread 3,4,5 4 threads ribbons	Crumb	Low	Dark Brown	None
0.2 m						
0.3 m						
0.4 m	SUBSOIL 300mm. 0.30 - 0.60m		Crumb	Low	Brown	None
0.5 m						
0.6 m						
0.7 m						
0.8 m						
0.9 m	BOULDER CLAY WITH BOULDERS. 700mm. 0.60m - 1.30m		Granular	Medium	Grey/Brown	None
1.0 m						
1.1 m						
1.2 m						
1.3 m						
1.4 m						
1.5 m						
1.6 m						
1.7 m						
1.8 m						
1.9 m						
2.0 m						
2.1 m						
2.2 m						
2.3 m	Sand		Granular	Medium	Grey	None
2.4 m						
2.5 m						
2.6 m						
2.7 m						
2.8 m						
2.9 m						
3.0 m						
3.1 m						
3.2 m						
3.3 m						
3.4 m						
3.5 m	3.50m bottom of hole.					

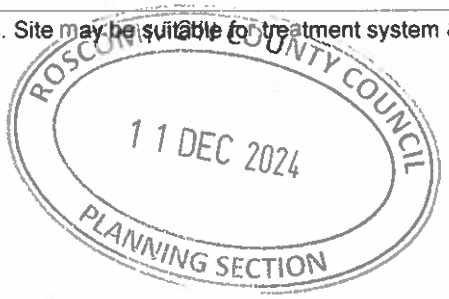
Likely Subsurface Percolation Value: 10

Likely Surface Percolation Value: -

Note: *Depth of percolation test holes should be indicated on log above. ('Enter Surface or Subsurface at depths as appropriate).
** See Appendix E for BS 5930 classification.
*** 3 samples to be tested for each horizon and results should be entered above for each horizon.
**** All signs of mottling should be recorded.

3.2 Trial Hole (contd.) Evaluation:

No Sign of Mottling. No water ingress. Site may be suitable for treatment system & percolation area.



3.3(a) Subsurface Percolation Test for Subsoil

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm) (A)	400	400	400
Depth from ground surface to base of hole (mm) (B)	800	800	800
Depth of hole (mm) [B - A]	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

		1	2	3
Pre-soak start	Date	18-Jun-2024	18-Jun-2024	18-Jun-2024
	Time	11:45	11:45	11:45
2nd pre-soak start	Date			
	Time	00:00	00:00	00:00

Each hole should be pre-soaked twice before the test is carried out.

Step 3: Measuring T_{100}

Percolation Test Hole No.	1	2	3
Date of test	19-06-2024	19-06-2024	19-06-2024
Time filled to 400 mm	13:45	13:49	13:53
Time water level at 300 mm	14:25	14:17	14:22
Time (min.) to drop 100 mm (T_{100})	40.00	28.00	29.00
Average T_{100}			32.33

If T_{100} > 480 minutes then Subsurface Percolation value >120 – site unsuitable for discharge to ground
If $T_{100} \leq 210$ minutes then go to Step 4;
If T_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $T_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)
1	14:25	15:12	47.00	14:17	14:45	28.00	14:22	14:55	33.00
2	15:13	16:05	52.00	14:46	15:20	34.00	14:56	15:33	37.00
3	16:06	17:00	54.00	15:21	16:00	39.00	15:34	16:15	41.00
Average Δt Value			51.00			33.67			37.00
	Average Δt/4 = [Hole No.1]		12.75 (t_1)	Average Δt/4 = [Hole No.2]		8.42 (t_2)	Average Δt/4 = [Hole No.3]		9.25 (t_3)

Result of Test: Subsurface Percolation Value = 10.14 (min/25 mm)

Comments:

Step 5: Modified Method (where $T_{100} > 210$ minutes)

Percolation Test Hole No.	1					
Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 1 = (T_1)			0.00

Percolation Test Hole No.	2					
Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Time hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 2 = (T_2)			0.00

Percolation Test Hole No.	3					
Fall of water in hole (mm)	Time Factor = T_f	Start Time hh:mm	Finish Tim§e hh:mm	Time of fall (mins) = T_m	$K_{fs} = T_f / T_m$	T – Value = 4.45 / K_{fs}
300 - 250	8.1			0.00		
250 - 200	9.7			0.00		
200 - 150	11.9			0.00		
150 - 100	14.1			0.00		
Average	T- Value		T- Value Hole 3 = (T_2)			0.00

Result of Test: Subsurface Percolation Value = 0.00 (min/25 mm)

Comments:

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3.4 The following associated Maps, Drawings and Photographs should be appended to this site characterisation form.

1. Discovery Series 1:50,000 Map indicating overall drainage, groundwater flow direction and housing density in the area.
2. Supporting maps for vulnerability, aquifer classification, soil, subsoil, bedrock.
3. North point should always be included.
4. (a) Scaled sketch of site showing measurements to Trial Hole location and
   (b) Percolation Test Hole locations,
   (c) wells and
   (d) direction of groundwater flow (if known),
   (e) proposed house (incl. distances from boundaries)
   (f) adjacent houses,
   (g) watercourses,
   (h) significant sites
   (i) and other relevant features.
5. Site specific cross sectional drawing of the site and the proposed layout[1] should be submitted.
6. Photographs of the trial hole, test holes and site including landmarks (date and time referenced).
7. Pumped design must be designed by a suitably qualified person.

[1] The calculated percolation area or polishing filter area should be set out accurately on the site layout drawing in accordance with the code of practice's requirements.

4.0 CONCLUSION of SITE CHARACTERISATION

Integrate the information from the desk study and on-site assessment (i.e. visual assessment, trial hole and percolation tests) above and conclude the type of system(s) that is (are) appropriate. This information is also used to choose the optimum final disposal route of the treated wastewater.

Slope of proposed infiltration / treatment area: Flat

Are all minimum separation distances met? ✓

Depth of unsaturated soil and/or subsoil beneath invert of gravel (or drip tubing in the case of drip dispersal system) 2.70

Percolation test result: Surface: Sub-surface: 10.14

Not Suitable for Development ☐ **Suitable for Development** ✓

Identify all suitable options

1. Septic tank system (septic tank and percolation area) **(Chapter 7)** — No
2. Secondary Treatment System **(Chapters 8 and 9)** and soil polishing filter **(Section 10.1)** — Yes
3. Tertiary Treatment System and Infiltration / treatment area **(Section 10.2)** — No

Discharge Route [1]

Groundwater

5.0 SELECTED DWWTS

Propose to install: Secondary Treatment System and soil polishing filter

and discharge to: Ground Water

Invert level of the trench/bed gravel or drip tubing (m) 65.65

Site Specific Conditions (e.g. special works, site improvement works testing etc.

This Report to be read in conjunction with Drawing No- 24/P/BT/01 P-06. It is proposed to install a proprietary waste water treatment system & construct a Raised Soil Polishing Filter.
The polishing filter will be located in the north-west corner of the site & constructed in accordance with the attached drawings, 24/P/KD/01- P-06. The polishing filter distribution pipes should be laid at an invert level of 65.95m & the surface of the filter shall be at 66.40m. The formation level shall be graded to a level of 65.65. When preparing the formation level at 65.65m, all stones to be removed from the formation. The 300mm layer of 8 - 32mm washed gravel layer should be laid to 65.95m. Distribution pipework is then laid on this gravel layer. The distribution pipes are covered with a 150mm layer of gravel which is covered with a geotextile membrane. A 300mm layer of topsoil is laid over this. The surface of the polishing filter will be at 66.40m.
The treatment system constructed as per the above & the attached drawings will provide a polishing filter of 2.70m of unsaturated material. This design meets the criteria for a R2[4] Ground Water Protection Response. The design will ensure that treated effluent can be discharged without adversely effecting the groundwater. A Management & Maintenance agreement will be completed with the treatment system supplier.

[1] A discharge of sewage effluent to "waters" (definition includes any or any part of any river, stream, lake, canal, reservoir, aquifer, pond, watercourse or other inland waters, whether natural or artificial) will require a licence under the Water Pollution Acts 1977-90. Refer to Section 2.4.

6.0 TREATMENT SYSTEM DETAILS

SYSTEM TYPE: Septic Tank Systems (Chapter 7)

Tank Capacity (m^3)		Percolation Area		Mounded Percolation Area	
		No. of Trenches		No. of Trenches	
		Length of Trenches (m)		Length of Trenches (m)	
		Invert Level (m)		Invert Level (m)	

SYSTEM TYPE: Secondary Treatment System (Chapters 8 and 9) and polishing filter (Section 10.1)

Secondary Treatment Systems receiving septic tank effluent (Chapter 8)

Media Type	Area (m^2)*	Depth of Filter	Invert Level
Sand/Soil			
Soil			
Constructed Wetland			
Other			

Packaged Secondary Treatment Systems receiving raw wastewater (Chapter 9)

Type: Chieftain 6 PE

Capacity PE: 6

Sizing of Primary Compartment: 2.70 m^3

Polishing Filter*: (Section 10.1)

Surface Area (m^2)*: 90.00

Option 1 - Direct Discharge Surface area (m^2):

Option 2 - Pumped Discharge Surface area (m^2): 90.00

Option 3 - Gravity Discharge Trench length (m):

Option 4 - Low Pressure Pipe Distribution Trench length (m):

Option 5 - Drip Dispersal Surface area (m^2):

SYSTEM TYPE: Tertiary Treatment System and infiltration / treatment area (Section 10.2)

Identify purpose of tertiary treatment	Provide performance information demonstrating system will provide required treatment levels	Provide design information
N/A	Parameters-BOD5 TSS Ammonia Effluent mg/l 7 ± 1 3 ± 1 3 ± 2 Parameters E.coli Enterococci % Reduction 97.35% 98.22% See Site Specific Report.	Please see Paragraph 5 above & Site Specific Report for detailed design.

DISCHARGE ROUTE:

Groundwater	✓	Hydraulic Loading Rate * ($l/m^2.d$)	10.00	Surface area (m^2)	90.00
Surface Water **		Discharge Rate (m^3/hr)			

* Hydraulic loading rate is determined by the percolation rate of subsoil

** Water Pollution Act discharge licence required

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6.0 TREATMENT SYSTEM DETAILS

QUALITY ASSURANCE:

Installation & Commissioning

Molloy Environmental Solutions

On-going Maintenance

Molloy Environmental Solutions- Annual Service & de-sludge annually.

7.0 SITE ASSESSOR DETAILS

Company: Seamus Murray

Prefix: Mr First Name: Seamus Surname: Murray

Address: 2 Cherryside Business Park,
Castle Street,
Roscommon.

Qualifications/Experience: BTech, MIEI, Dip Envir. Eng.

Date of Report: 26-Jun-2024

Phone: 087 2222874 E-mail seamusmurray60@gmail.com

Indemnity Insurance Number: PIN/7027 (Newline Insurances)

Signature: SM

Professional Indemnity Insurance Schedule

Policy Number: [redacted]

Item 1 **Policyholder**

Seamus Murray

Address

2 Cherryside Business Park Castle Street Roscommon

Profession

Engineer

Item 2 **Policy Period**

Inception Date: 21/10/2023

Expiry Date: 20/10/2024

Both days inclusive local standard time at address in Item 1

Item 3 Limit of Liability

A. € 1,000,000 any one Claim except however, in respect of:

B. Asbestos, the Limit of Liability is

€ 1,000,000 or 50% of the amount specified in Item 3.A. whichever is the less, both in respect of any one Claim and in the aggregate for the Policy Period

C. Pollution, the Limit of Liability is

€ 1,000,000 or 50% of the amount specified in Item 3.A. whichever is the less, both in respect of any one Claim and in the aggregate for the Policy Period

D. III. Extensions B. Lost Documents, the Limit of Liability is

€ 500,000 or 50% of the amount specified in Item 3.A. whichever is the less, both in the aggregate for the Policy Period

E. III. Extensions C. Statutory Regulation, the Limit of Liability is

€ 150,000 in the aggregate for the Policy Period or the amount applicable to II. Cover A. Professional Indemnity, whichever is less

F. III. Extensions D. Legal Representation Costs, the Limit of Liability is

€ 350,000 in the aggregate for the Policy Period or 50% of the amount specified in Item 3.A. whichever is the less, both in the aggregate for the Policy Period

Cover under II. Cover C. Defence Costs does not form part of and will not erode the Limit of Liability in respect of 3.A – 3.F. above.

Item 4 **Excess**

A. € 1,500 each and every Claim except however, in respect of:

B. Asbestos Claims (for which the applicable Limit of Liability is the amount specified in Item 3.B. above), the Excess shall be € 5,000 each and every Claim or the amount specified in Item 4.A. above whichever is the greater

C. Pollution Claims (for which the applicable Limit of Liability is the amount specified in Item 3.C. above), the Excess shall be € 5,000 each and every Claim or the amount specified in Item 4.A. above whichever is the greater

D. Defamation, the Excess is € 10,000 each and every Claim or the amount specified in Item 4.A. above whichever is the less

Subject to an overall aggregate Excess of three times the applicable Excess specified in Item 4.A. in the aggregate for the Policy Period. Payment by the Insured of the applicable Excess specified in Item 4.A. above will erode the aggregate Excess; once the aggregate Excess is exhausted an Excess of nil shall apply thereafter.

The Excess does not apply to II. Cover C. Defence Costs or III. Extensions A. Court Attendance Costs, III. Extensions B. Lost Documents, III. Extensions C. Statutory Regulation or III. Extensions D. Legal Representation Costs.

Item 5 **Professional Services**

Any professional architectural and engineering services (including surveys and/or valuations), design or specification, supervision of construction, feasibility study, technical information or calculation including whilst the Insured hold any individual appointment in respect of such services including design, assigned or ancillary certifier as defined by the Building Control Amendment Regulations 2014.

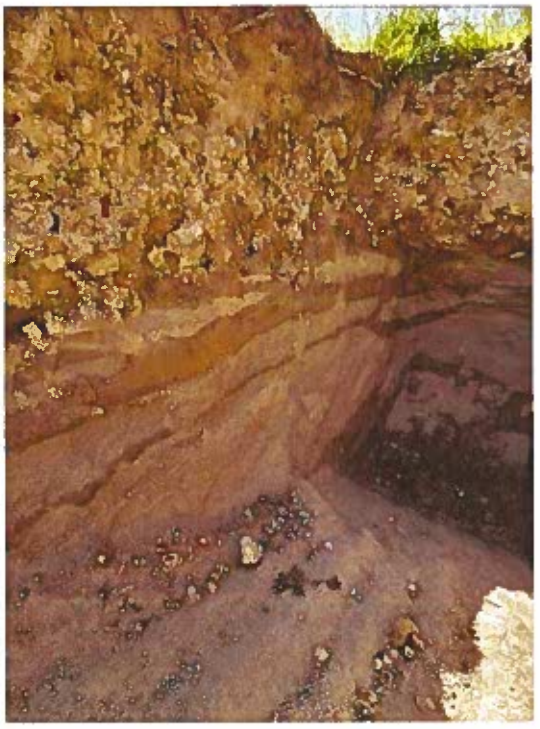
Item 6 **Retroactive Date**

Unlimited

Proposed Refurbishment of Dwellinghouse at Lissacarrow, Fuerty, Co. Roscommon for Barry Tapster.

SITE OVERVIEW.

TRIAL HOLE, 3500mm Deep.



SOIL PROFILE.

T1- BEFORE TEST.

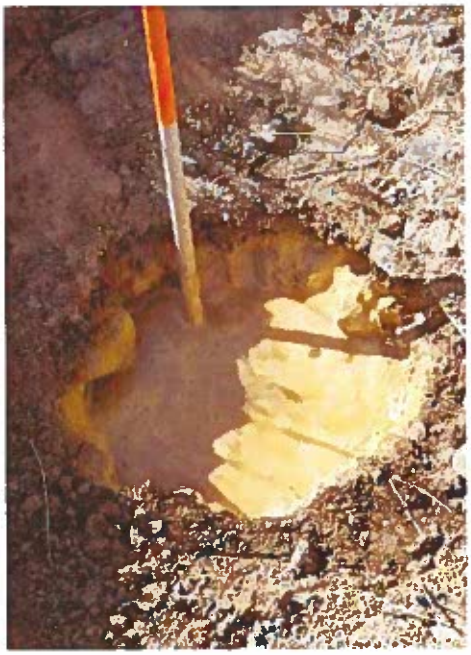
T2- BEFORE TEST.

T3- BEFORE TEST.

T1- DURING TEST.

T2- DURING TEST.

T3- DURING TEST.



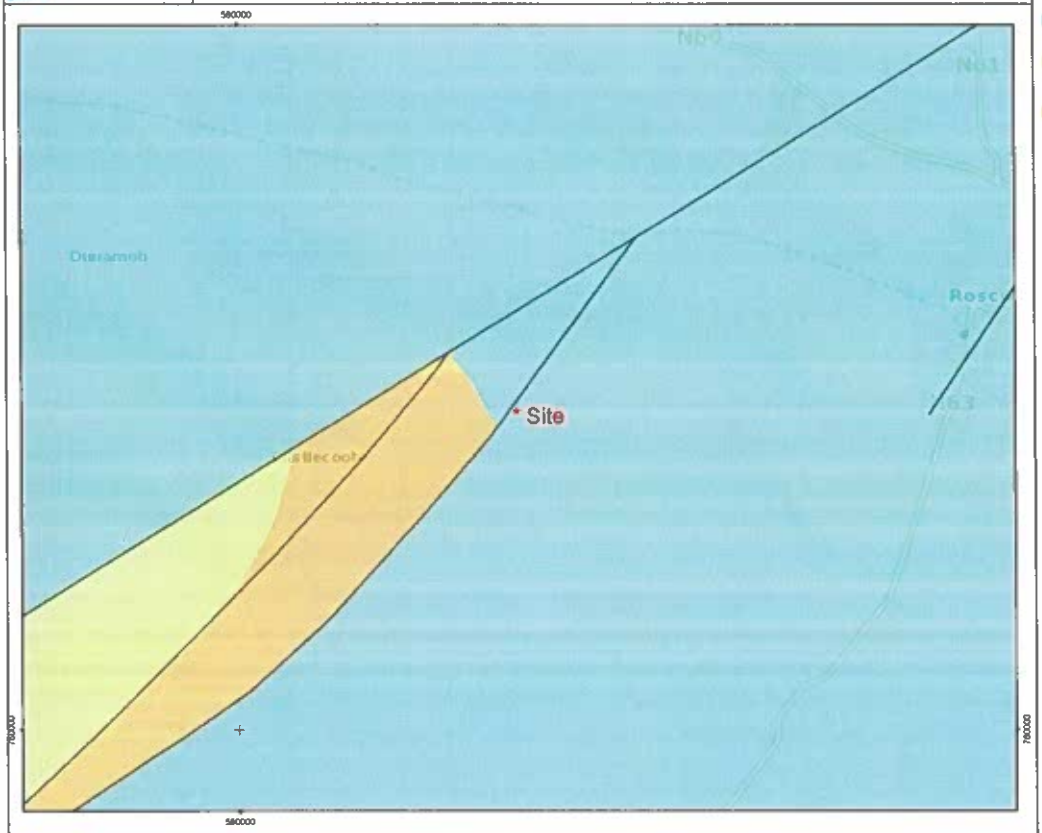
T1- AFTER TEST.

T2- AFTER TEST.

T3- AFTER TEST.

Geological Survey

Aquifer Map



Legend

- IE_GSI_Aquifer_Geological_Lines_100K_I...
- Rkc - Regionally Important Aquifer - Karstified (conduit)
- Lm - Locally Important Aquifer - Bedrock which is Generally Moderately Productive
- Ll - Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones

Scale: 1:50,000

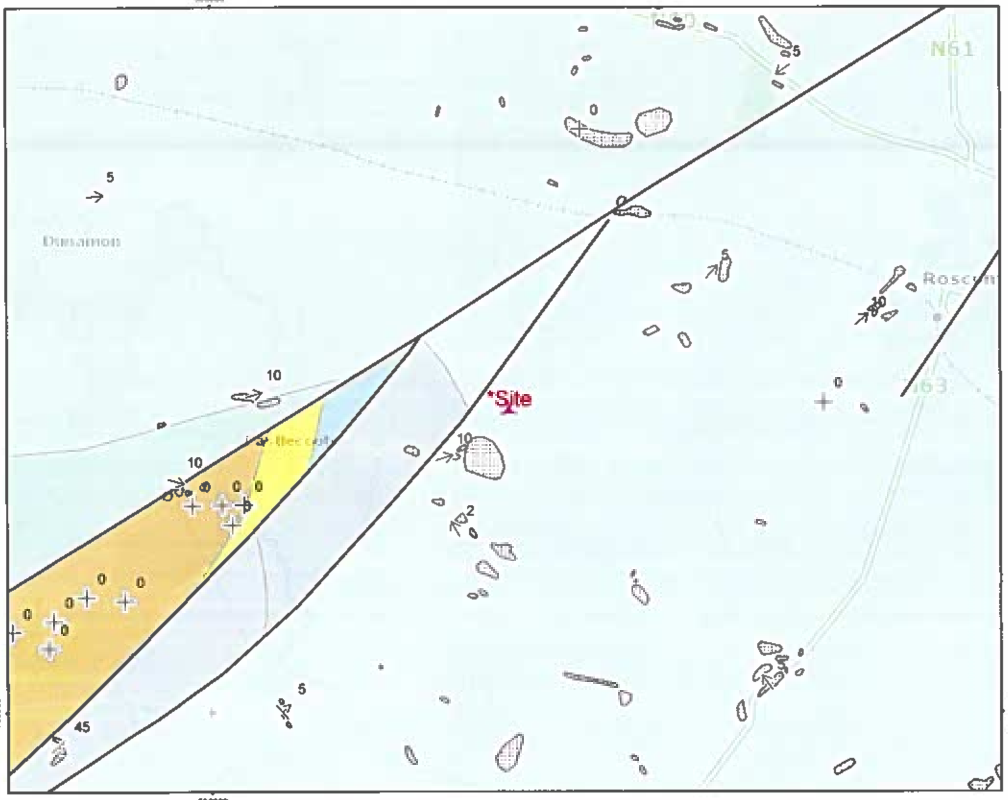
Geological Survey Ireland

0 1,900 3,800 7,600 ft

0 550 1,100 2,200 m

Map Centre Coordinates (ITM) 582,708 763,031
01/07/2024, 13:53:01

Bedrock Map



Legend

- Dip of bedding or main foliation, old GSI data
- Horizontal Bedding
- Strike and dip of bedding, right way up
- IE_GSI_Bedrock_Outcrops_100K_IE26_ITM
- Fault
- Moathill Formation
- Ballysteen Formation
- Ballymore Limestone Formation
- Croghan Limestone Formation
- Feamaght Formation
- Argillaceous Limestones (Visean)
- Visean Limestones (undifferentiated
- Waulsortian Limestones

Scale: 1:50,000

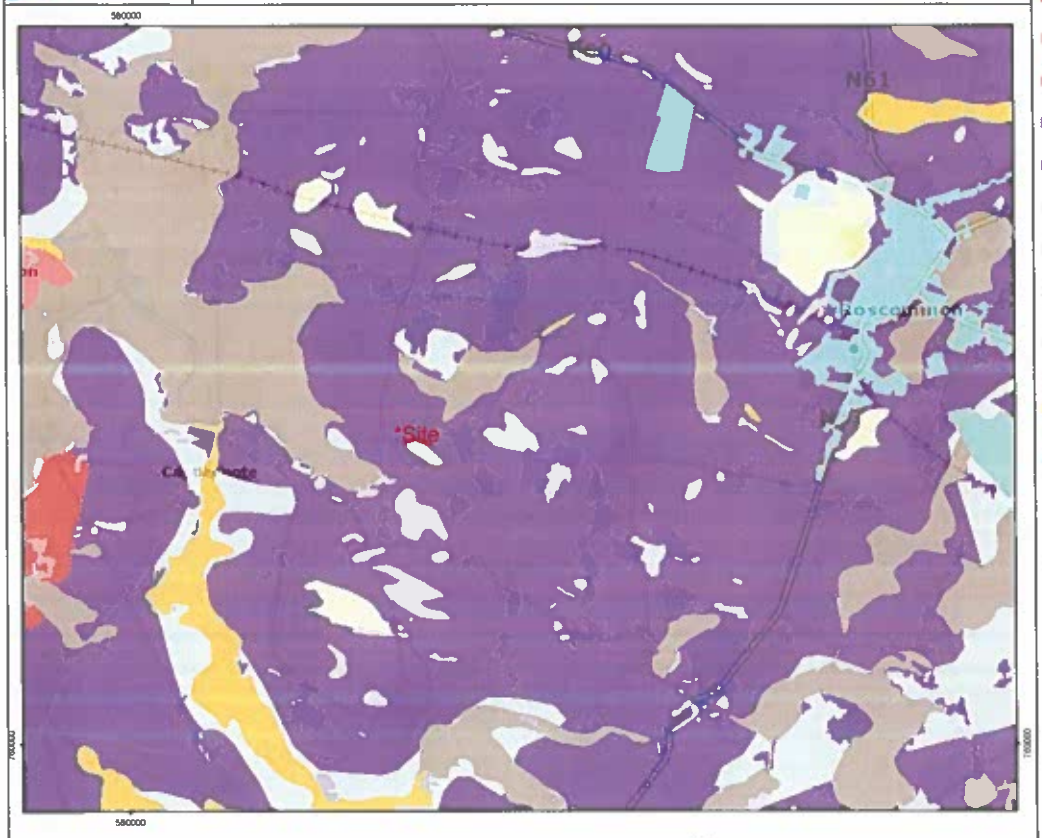
Geological Survey Ireland

0 1,900 3,800 7,600 ft
0 550 1,100 2,200 m

Map Centre Coordinates (ITM) 582,625 753,048
01/07/2024, 13 56 07

Geological Survey

Soils Map



Legend

- AminDW - Deep well drained mineral (Mainly acidic)
- AminPD - Mineral poorly drained (Mainly acidic)
- AminPDPT - Peaty poorly drained mineral (Mainly acidic)
- BminDW - Deep well drained mineral (Mainly basic)
- BminPD - Mineral poorly drained (Mainly basic)
- BminPDPT - Peaty poorly drained mineral (Mainly basic)
- BminSW - Shallow well drained mineral (Mainly basic)
- BminSPPT - Shallow peaty poorly drained mineral (Mainly basic)
- BminSRPT - Shallow, rocky, peaty/non-peatymineral complexes (Mainly basic)
- Cut - Cutover/cutaway peat
- AlluvMIN - Alluvial (mineral)
- Lac - Lacustrine type soils
- Made - Made ground
- Water - Water

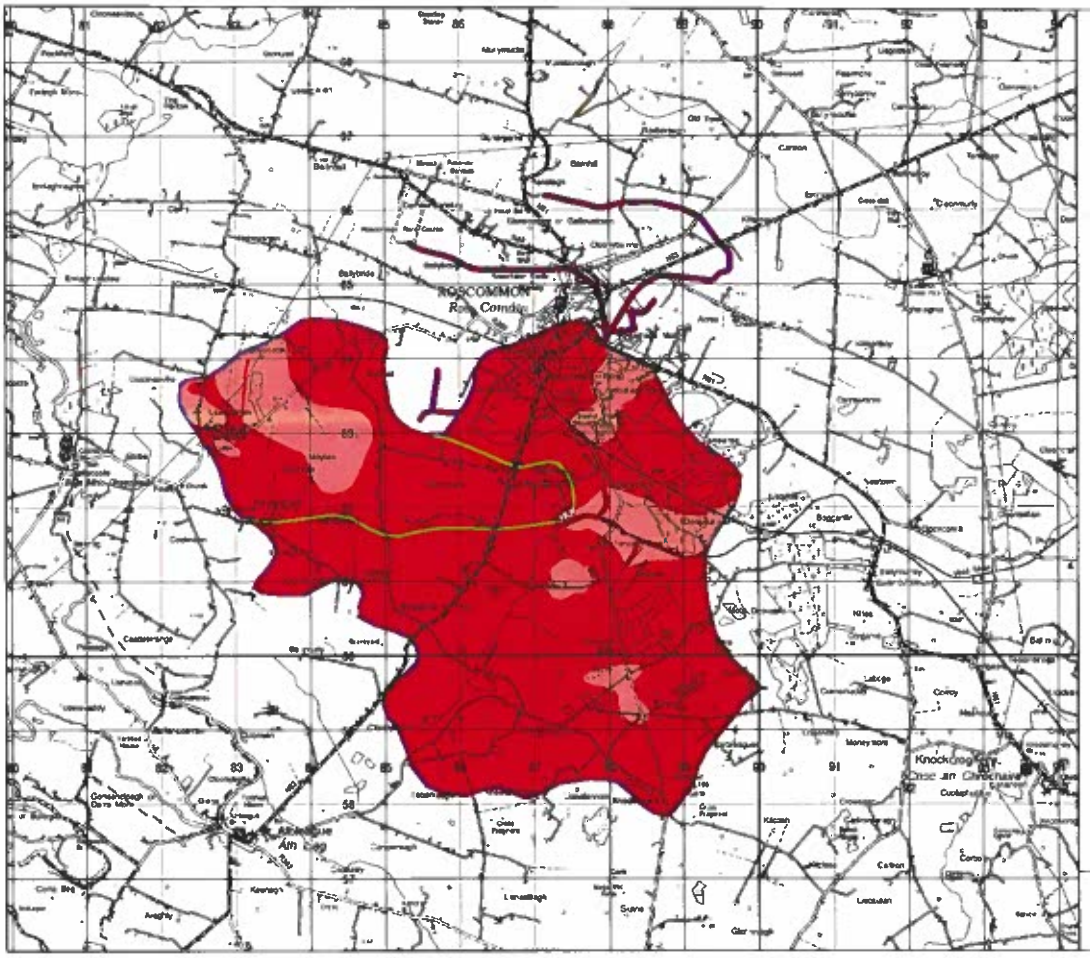
Scale: 1:50,000

Geological Survey Ireland

0 1,900 3,800 7,600 ft

0 550 1,100 2,200 m

Map Centre Coordinates (ITM) 583,771 753,169
01/07/2024, 14 00 25



BALLINAGARD WATER SUPPLY SCHEME
Figure 5. Source Protection Zones

VULNERABILITY RATING	SOURCE PROTECTION ZONES Inner (SI)
Extreme (E)	SI/E
High (H)	SI/H
Moderate (M)	SI/M
Low (L)	not present SI/L

Production Boreholes
Zone of Contribution (SI)

Spring
Zone of Contribution (SI)

Public Supply Spring

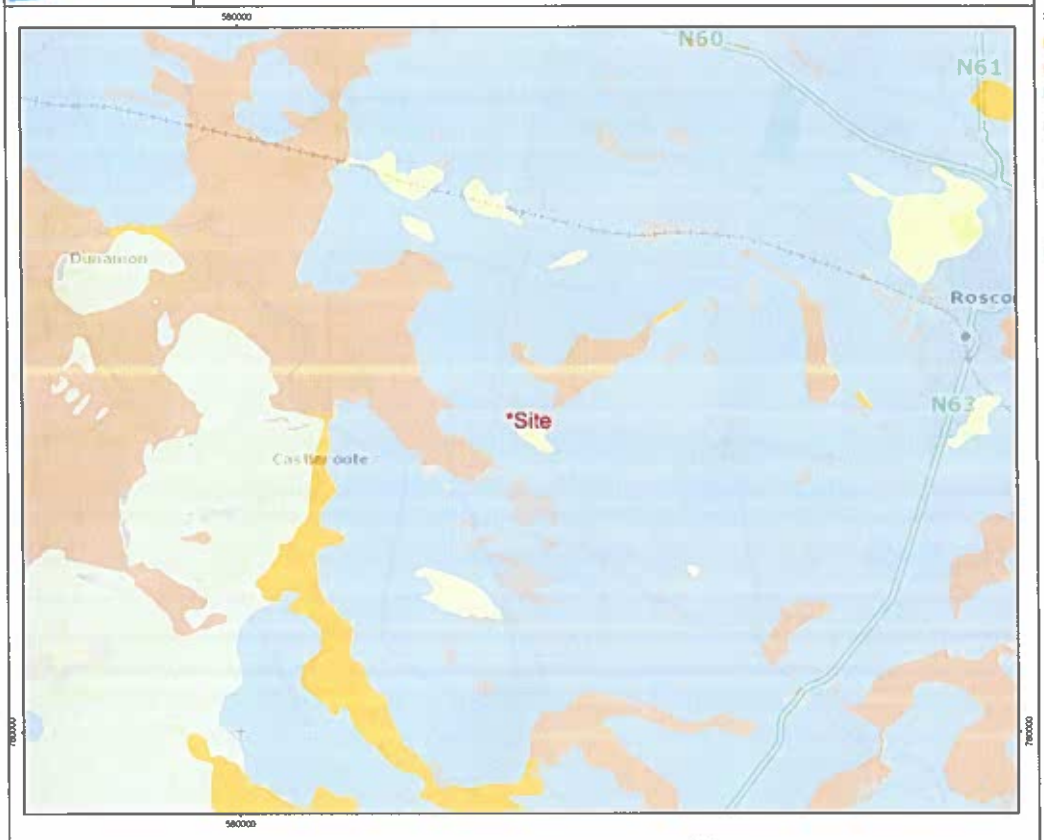
This Source Protection Zone map is designed for general information and strategic planning usage. The boundaries are based on the available evidence and local details have been generalised to fit the map scale. Evaluation of specific sites and circumstances will normally require further and more detailed assessments and will frequently require site investigations to determine the risk to groundwater.

The map is intended for use in conjunction with groundwater protection responses for potentially polluting activities, which lists the degree of acceptability of these activities in each zone and describes the control measures necessary to prevent pollution.

0 1km 2km

Geological Survey

Subsoils Map



Legend

IE_GSI_Quaternary_Sediments_50K_I...

SYMBOLOGY

- A, Alluvium
- Cut, Cut over raised peat
- Fill, Made ground
- KaRck, Karstified bedrock outcrop or subcrop
- L, Lacustrine sediments
- Rck, Bedrock outcrop or subcrop
- TCSsCh, Till derived from Carboniferous sandstones and cherts
- TLs, Till derived from limestones
- Water

Scale: 1:50,000

Geological Survey Ireland

N S W E

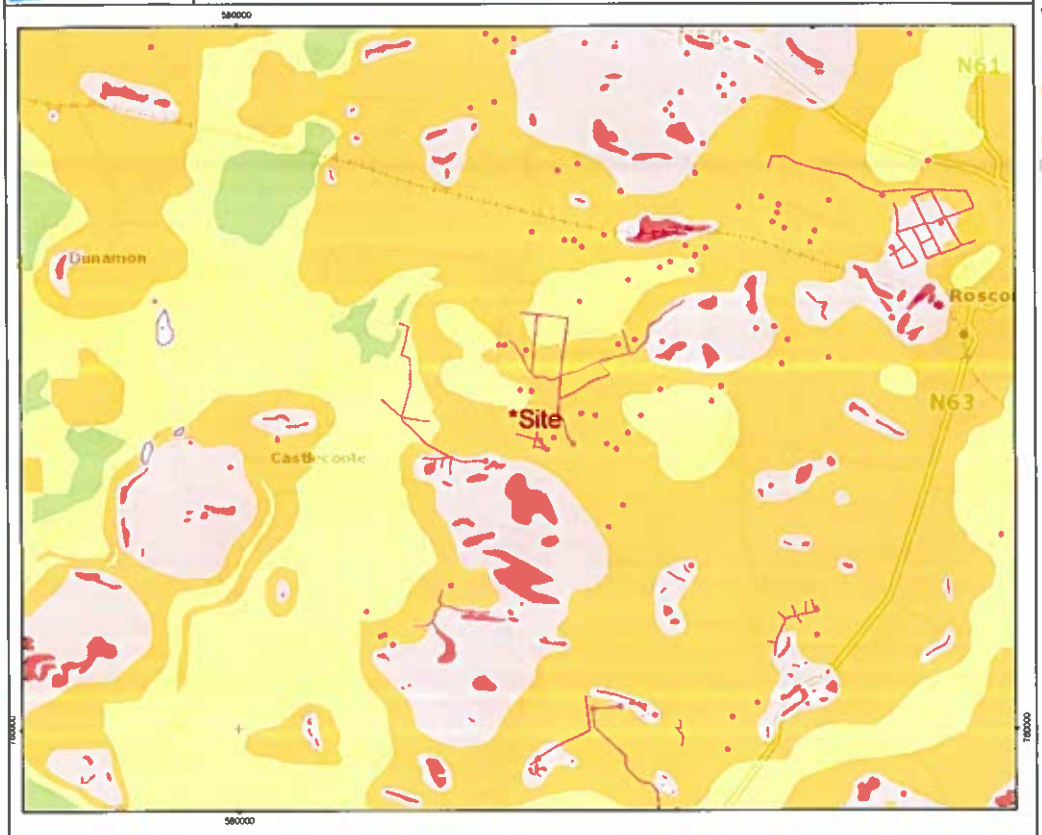
0 1,900 3,800 7,600 ft

0 550 1,100 2,200 m

Map Centre Coordinates (ITM) 582,708 763,031

01/07/2024, 13 55 23

Vulnerability Map



Legend

IE_GSI_Groundwater_Vulnerability...

VULNERABILITY

- Rock at or near Surface or Karst
- Extreme
- High
- Moderate
- Low
- Water

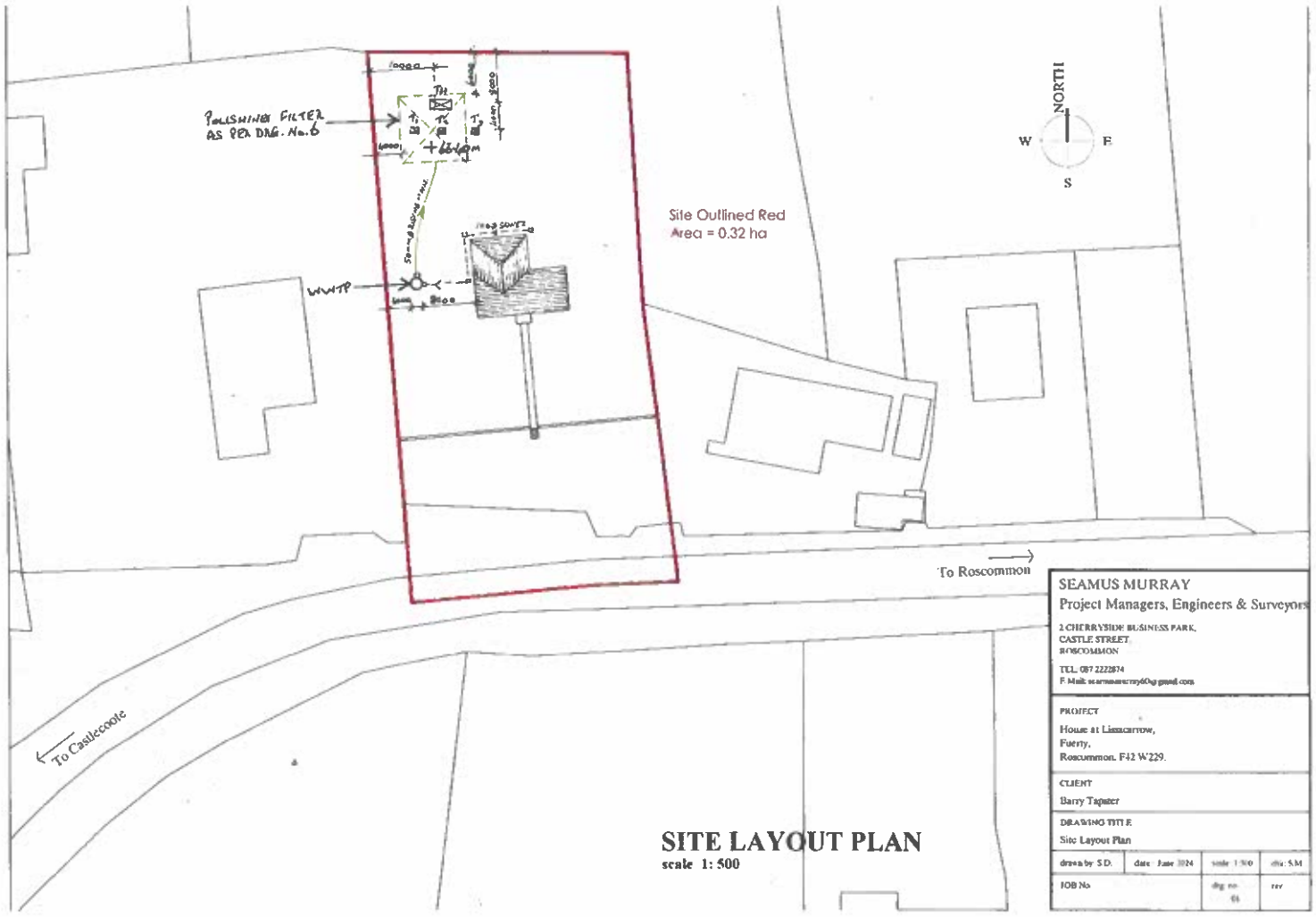
Scale: 1:50,000

Geological Survey Ireland

0 1,900 3,800 7,600 ft

0 550 1,100 2,200 m

Map Centre Coordinates (ITM): 582,708 763,031
01/07/2024, 13:50:32



SITE LAYOUT PLAN

scale 1: 500

SEAMUS MURRAY
Project Managers, Engineers & Surveyors
2 CHERRYSIDE BUSINESS PARK,
CASTLE STREET,
ROSCOMMON
TEL: 087 2222874
E Mail: seamusmurray60@gmail.com

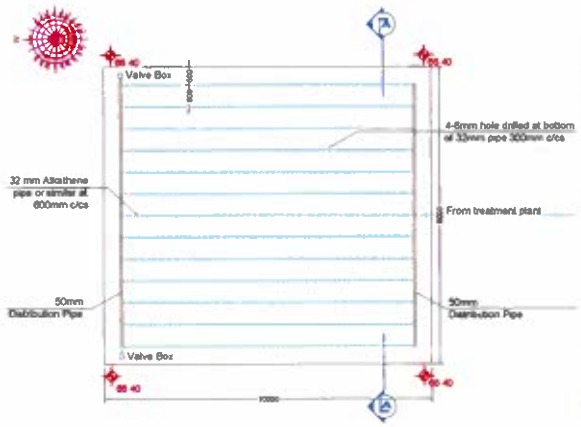
PROJECT
House at Lissacarrow,
Fuerty,
Roscommon. F42 W229.

CLIENT
Barry Tapster

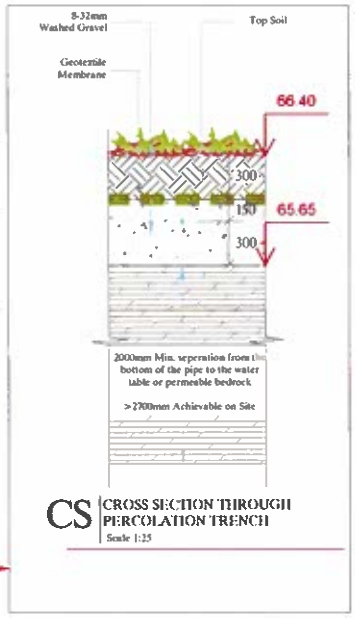
DRAWING TITLE
Site Layout Plan

drawn by S.D.	date June 2024	scale 1:500	chk: S.M
JOB No.		dwg no. 01	rev

DETAIL 1: PLANS & SECTIONS OF PROPOSED PERCOLATION AREA

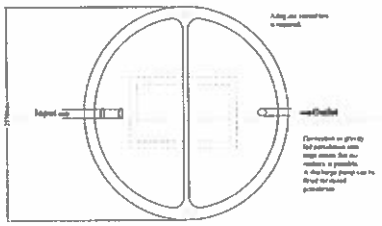


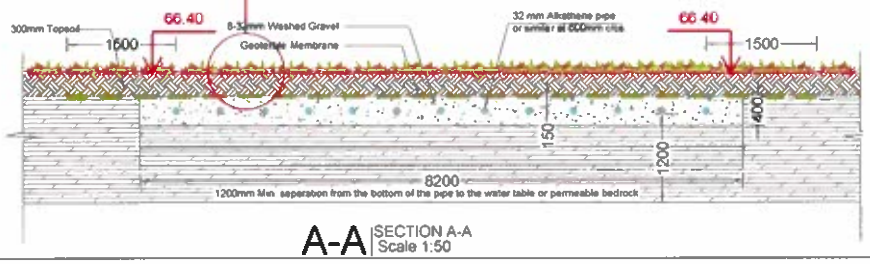
P PLAN OF INTERMITTENT SOIL POLISHING FILTER
Scale 1:100



CS CROSS SECTION THROUGH PERCOLATION TRENCH
Scale 1:25

DETAIL 2: PLANS & SECTION OF PROPOSED WASTE WATER TREATMENT SYSTEM Chieftain SBR 6 PE





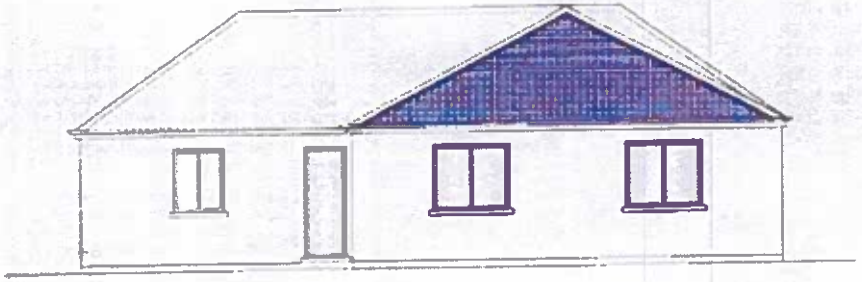
A-A SECTION A-A
Scale 1:50

Planning Issue

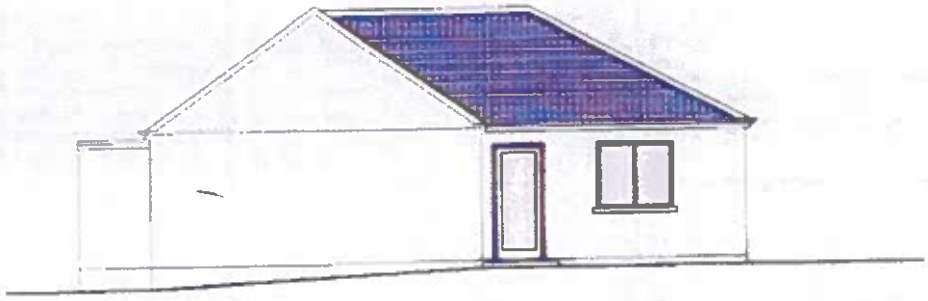
SEAMUS MURRAY
Project Managers, Engineers & Surveyors

POLISHING FILTER & WASTE WATER TREATMENT SYSTEM DETAILS

24 P 8104

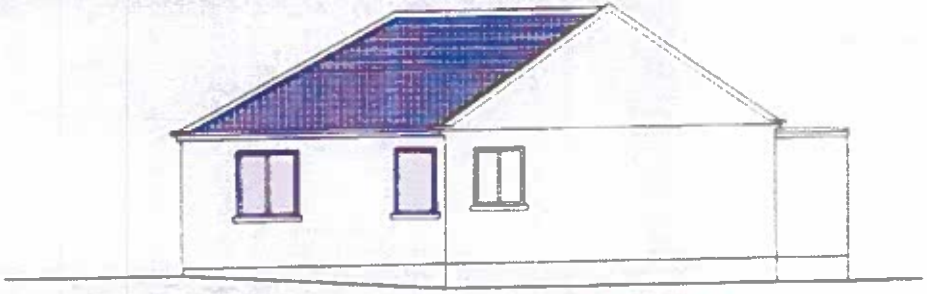


PROPOSED NORTH ELEVATION scale 1:100



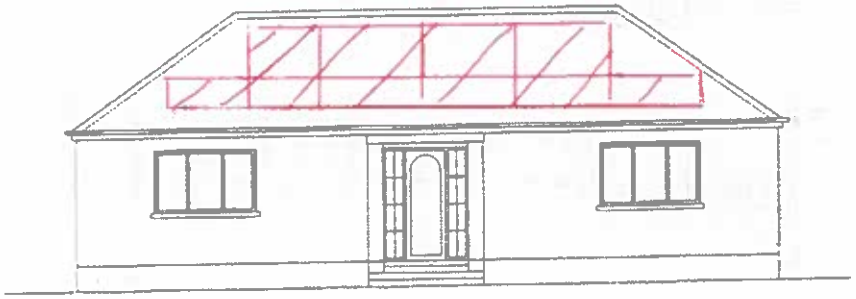
PROPOSED EAST ELEVATION scale 1:100

ROSCOMMON COUNTY COUNCIL
04 DEC 2024
PLANNING SECTION



PROPOSED WEST ELEVATION scale 1:100

SOLAR PANELS



PROPOSED FRONT ELEVATION scale 1:100

ROSCOMMON COUNTY COUNCIL
02 OCT 2024
PLANNING SECTION

SEAMUS MURRAY
Project Managers, Engineers & Surveyors

SITE LAYOUT PLAN

scale 1: 500

SEAMUS MURRAY
Project Managers, Engineers & Surveyors
2 CHERRYSIDE BUSINESS PARK,
CASTLE STREET,
ROSCOMMON.
TEL: 087 2222874
E.Mail: seamusmurray60@gmail.com

PROJECT
House at Lissacarrow,
Fuerty,
Roscommon. F42 W229.

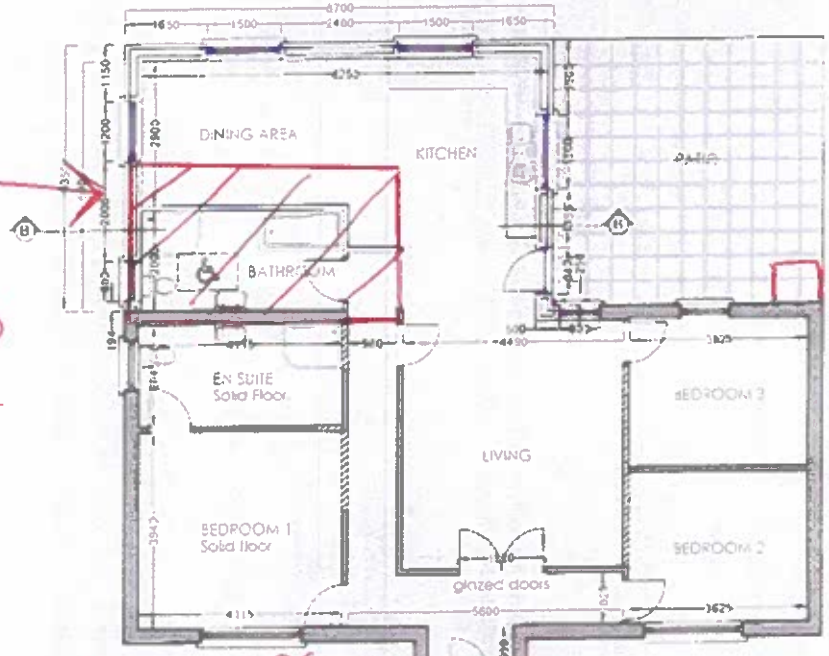
CLIENT
Barry Tapster

DRAWING TITLE
Site Layout Plan

drawn by: S.D.	date: June 2024	scale: 1:500	chk: S.M.
JOB No.		drg. no. 01	rev.

ROSCOMMON COUNTY COUNCIL
04 DEC 2024
PLANNING SECTION

EXISTING LEAN TO - TO BE DEMOLISHED AND BUILT OVER



NORTH
W E
S

PROPOSED HEAT PUMP LOCATION

FRONT STEPS TO BE REPLACED LIKE FOR LIKE IN CONCRETE

PROPOSED PLAN scale 1:100
Area of Extension = 40 sq.m

ROSCOMMON COUNTY COUNCIL
02 OCT 2024
PLANNING SECTION

SEAMUS MURRAY
Project Managers, Engineers & Surveyors
24TH RIVERSIDE BUSINESS PARK,
CASTLE STREET,
ROSCOMMON
TEL: (090) 6622574
E-Mail: seamusmurray@eircom.net

PROJECT:
House at Lecarrow,
Fuerty,
Roscommon, F42 W229.

CLIENT:
Barry Tapster

DRAWING TITLE:
Proposed Plan and Cross Section

drawn by: SD	date: June 2024	scale: 1:100	size: A1
JOB No.		dwg no. 01	rev.

Comhairle Contae
Ros Comáin
Roscommon
County Council

Barry Tapster,

[redacted]

Date: **8th November 2024**
Ref: **DED 778**

Re: **Application for a Declaration under Section 5 of the Planning & Development Act 2000 (as amended), regarding Exempted Development.**

Development: **WHEREAS a question has arisen as to whether the construction of an extension & to renovate an existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains at Lissacarrow, Fuerty, Co. Roscommon., is or is not development and is or is not exempted development.**

****

A Chara,

Further to your application received on the 2nd October 2024 and in order for the Planning Authority to determine as to whether the construction of an extension & to renovate an existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains at Lissacarrow, Fuerty, Co. Roscommon., is or is not development and is or is not exempted development., you are requested to submit the following further information:

1. State if the existing dwelling has been extended previously and if so confirm the floor area and year to which the extension was built.
2. State the proposed intentions for existing extension and the external tank to the rear of the property i.e retain or demolish.
3. Provide a drawing indicating the location of the proposed air to water heat pump and a data sheet/ specification of same.
4. Provide a (roof or site layout) plan showing the proposed location and size of the solar panels and provide a data sheet/specification of same.
5. Provide further information in relation to the item '27) replace front steps' and the proposed footpaths including areas, materials, existing and proposed finish levels and proposed drainage for same.
6. Provide more information concerning item '30) replace exterior drains.'

Consideration of your application is being deferred pending compliance with this request for further information. When replying please quote Planning Reference Number **DED 778.**

You are advised that Item '17) install new septic tank/ water treatment system' requires planning permission and will not be considered an exempted development, it may be of interest to submit a planning application in which all work is covered under as well as the waste water treatment system.

Note: Replies to this communication must be by way of original documents.

Mise le meas,

Alan O'Connell,
A/Senior Planner,
Planning.

Planner's Report on application under
Section 5 of the Planning and Development Act 2000 (as amended)

Reference Number:	DED 778
Re:	Application for a Declaration under Section 5 of the Planning & Development Act, 2000, as amended, regarding Exempted Development to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains.
Name of Applicant:	Barry Tapster
Location of Development:	Lissacarrow, Fuerty, Co. Roscommon
Site Visit:	06/11/2024

WHEREAS a question has arisen as to whether the following works; to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains **at the above address is or is not development and is or is not exempted development.**

I have considered this question, and I have had regard particularly to –

(a) Sections 2, 3, 4 and 5 of the Planning and Development Act, 2000, as amended

(b) Articles 6, 9 and 10 of the Planning and Development Regulations, 2001, as amended
(c) Class 1, 2, 6, 7 and 10 of Part 1 of Schedule 2 of the Planning and Development Regulations, 2001 (Exempt Development – General), as amended
(d) The record forwarded to Roscommon County Council in accordance with subsection (6)(c) of Section 5 of the Planning and Development Acts 2000 as amended.
(e) The planning history of the site

Site Location & Development Description
The property is a single story detached dwelling with what appears to be a flat roof extension to the rear, the property also consists of an external covered area/porch over the front door in Lissacarrow, Fuerty, Co. Roscommon. The property is accessed off the R-366 road and has a large garden area to the front, side and rear of the property with a set of steps and railings to the change in ground levels. The proposed development consists extensive works to the dwelling including the replacing of the roof, windows/doors, removal of chimneys, external plastering, new WWTS, new heating system and solar panels, construction of extension, new paths and paving's around the dwelling and varies internal works.

There are no European designated sites in, adjoining or in close proximity to the subject site. There is no known heritage related sites/structures in very close proximity to the subject site, as per the Roscommon County Council GIS.

Archaeological and Cultural Heritage

No RMP recorded in the likely zone of influence of the proposed development. No Protected structures or structures listed in the National Inventory of Architectural Heritage the likely zone of influence of the proposed development.

Appropriate Assessment

The closest European sites to the site of the proposed development are Suck River Callows NHA/SPA (Site Code 000222/004097) which is located circa 1.7km to the west and Ballinturly Turlough PNHA/SAC (Site Code 000588) which is located circa 2.7km to the south of the subject site.

Having regard to the separation distance between the site and the closest Natura 2000 site and the nature of the proposal, there is no real likelihood of significant effects on the conservation objectives of these or other European sites arising from the proposed development. The need for further Appropriate Assessment, therefore, be excluded.

Planning History
As per the Roscommon County Council's Planning Registry, no recent planning history traced to the site.

<u>Relevant statutory provisions</u>

Planning and Development Acts 2000 (as amended)

Section 2. -(1)
"works" includes any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal and, in relation to a protected structure or proposed protected structure, includes

any act or operation involving the application or removal of plaster, paint, wallpaper, tiles or other material to or from the surfaces of the interior or exterior of a structure.

Section 3. -(1)
In this Act, "development" means, except where the context otherwise requires, the carrying out of any works on, in, over or under land or the making of any material change in the use of any structures or other land.

Section 4(1) of the Act defines certain types of development as being 'exempted development'. Of potential relevance is section 4(1)(h) which provides as follows:

development consisting of the carrying out of works for the maintenance, improvement or other alteration of any structure, being works which affect only the interior of the structure or which do not materially affect the external appearance of the structure so as to render the appearance inconsistent with the character of the structure or of neighbouring structures;

Section 4 (2) of the Planning and Development Act provides that the Minister, by regulations, provide for any class of development to be exempted development. The principal regulations made under this provision are the Planning and Development Regulations.

Planning and Development Regulations, 2001 as amended

Article 6 (1)

Subject to article 9, development of a class specified in column 1 of Part 3 of Schedule 2 shall be exempted development for the purposes of the Act, provided that such development complies with the conditions and limitations specified in column 2 of the said Part 3 opposite the mention of that class in the said column 1.

Article 9 (1) applies;
Development to which article 6 relates shall not be exempted development for the purposes of the Act

viiB) comprise development in relation to which a planning authority or an Bord Pleanála is the competent authority in relation to appropriate assessment and the development would require an appropriate assessment because it would be likely to have a significant effect on the integrity of a European site,

Initial Planning Assessment:

Following a review of the documents submitted and site inspection there are varies elements of the proposed works that require further information such as to what appears to be an extension to the rear and the outcome of such, the external structure/storage tank and the outcome of such, the proposed solar panels and air to water heat pump, external landscaping.

Accordingly, a further Information request will be made in this regard.

Recommendation:

Please provide the below information:

- State if the existing dwelling has been extended previously and if so confirm the floor area and year to which the extension was built.
- State the proposed intentions for existing extension and the external tank to the rear of the property i.e retain or demolish.
- Provide a drawing indicating the location of the proposed air to water heat pump and a data sheet/ specification of same.
- Provide a (roof or site layout) plan showing the proposed location and size of the solar panels and provide a data sheet/specification of same.
- Provide further information in relation to the item '27) replace front steps' and the proposed footpaths including areas, materials, existing and proposed finish levels and proposed drainage for same.
- Provide more information concerning item '30) replace exterior drains.'

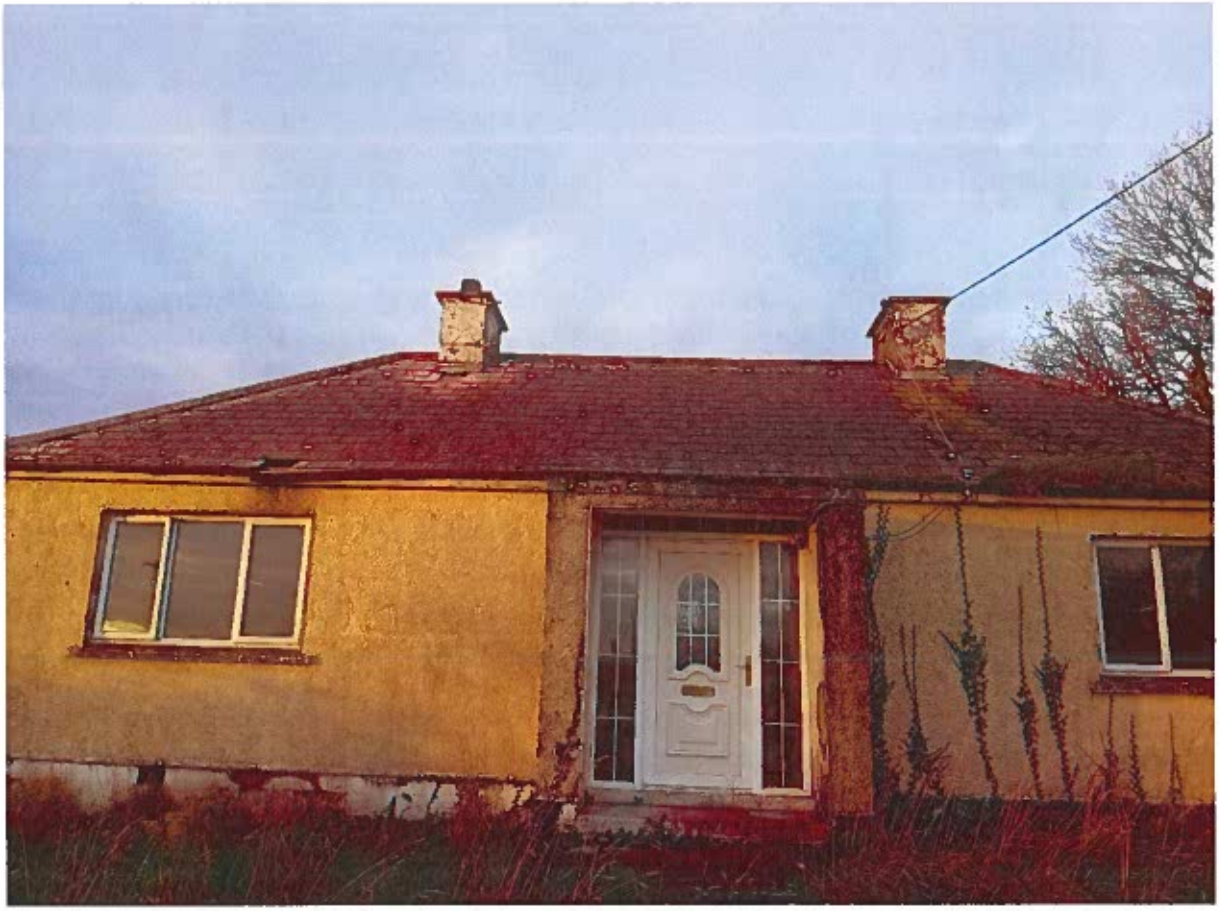
Note: Item '17) install new septic tank/ water treatment system' requires planning permission and will not be considered an exempted development, it may be of interest to submit a planning application in which all work is covered under as well as the waste water treatment system.

Signed: Ian Murray **Date**: 7th November 2024

Civil Technician

Signed: **Date**: 7th November 2024

Senior Executive Planner



Comhairle Contae
Ros Comáin
Roscommon
County Council

Barry Tapster,

[redacted]

Date: **3rd October 2024**
Planning Reference: **DED 778**

Re: **Application for a Declaration under Section 5 of the Planning & Development Act 2000 (as amended), regarding Exempted Development.**

Development: **Permission to construct an extension & renovate existing dwelling, works including 1)remove and replace roof tiles/ felt and any defective trusses & wall plates; 2) remove chimney stacks; 3) repair & replace any defective block work; 3)remove and replace existing porch; 4)re-plaster interior and exterior walls; 5) replace all windows & external doors; 6)remove existing flooring and install solid floor; 7)install underfloor heating system; 8)replace all pipework throughout the property; 9)replace skirting/architraves throughout; 10)remove and replace all electrical wiring/sockets/boards; 11)install air to water heat pump; 12)install photovoltaic solar panels/inverter; 13)replace bathroom fittings; 14)remove and replace all interior pipework; 15)install roof insulation; 16)install cavity wall insulation; 17)install new septic tank/ water treatment system; 18)excavate trenches for foundations for 4m x 5m rear extension; 19)construct cavity block wall for 4m x 5m rear extension as per plans; 20)install new windows/doors as per plans in 4m x 5m rear extension; 21)replace interior lintels where required; 22)install new kitchen suite; 23)retile bathroom; 24)retile kitchen; 25)Install floor coverings throughout; 26)replace cement path around property; 27)replace front steps; 28)replace soffit boards; 29) replace gutters and down pipes; 30)replace exterior drains under the Planning & Development Act (Exempt Development) Regulations 2018 at Lissacarrow, Fuerty, Co. Roscommon, F42 W229.**

****

A Chara,

I wish to acknowledge receipt of your application which was received on the 2nd October 2024, for a Declaration under Section 5 of the Planning & Development Act 2000 (as amended), regarding Exempted Development along with the appropriate fee in the sum of €80.00, Receipt No. **L01/0105756/230206** dated 23rd August 2024 receipt enclosed herewith.

Note: Please note your Planning Reference No. is **DED 778.**
This should be quoted in all correspondence and telephone queries.

Mise le meas,

Alan O'Connell
Senior Executive Planner,
Planning Department.

Roscommon County Council
Aras an Chontae
Roscommon
09066 37100

23/08/2024 14 40 33

Receipt No : L01/105756/230206
***** REPRINT *****

ARRY TAPISTER
[redacted]

PLANNING APPLICATION FEES	80 00
GOODS 80 00	
VAT Exempt/Non-vatable	
DED 754	
Total :	80 00 EUR
Tendered :	
Credit/Debit Card	80 00
3408	
Change :	0 00

Issued By : Bernadine Duignan
From : Central Cash Office

ROSCOMMON COUNTY COUNCIL
23 AUG 2024
PLANNING SECTION

Comhairle Contae
Ros Comáin
Roscommon
County Council

Áras an Chontae,
Roscommon,
Co. Roscommon.

Phone: (090) 6637100
Email: planning@roscommoncoco.ie

Roscommon County Council

Application for a Declaration under Section 5 of the

Planning & Development Act 2000 (as amended), regarding
Exempted Development

Name of Applicant(s)	BARRY TAPSTER
Name of Agent	ROSCOMMON COUNTY COUNCIL 02 OCT 2024 PLANNING SECTION
Nature of Proposed Works	HOUSE RENOVATION AND EXTENSION
Location & Address of Subject Property to include, Eircode (where applicable), Townland & O.S No.	LISSACARROW, FUARTY CO ROSCOMMON, F42 W22a
Floor Area: a) Existing Structure b) Proposed Structure	a) 92.6m² b) 132 m²
Height above ground level:	16m approx
Total area of private open space remaining after completion of this development	2792 m²
Roofing Material (Slates, Tiles, other) (Specify)	SLATES

Roscommon County Council

Application for a Declaration under Section 5 of the

Proposed external walling (plaster, stonework, brick or other finish, giving colour)	PLASTER – WHITE
Is proposed works located at front/rear/side of existing house.	REAR
Has an application been made previously for this site	NO
If yes give ref. number (include full details of existing extension, if any)	—
Existing use of land or structure	DERELICT
Proposed use of land or structure	HOME
Distance of proposed building line from edge of roadway	
Does the proposed development involve the provision of a piped water supply	YES
Does the proposed development involve the provision of sanitary facilities	YES

Planning & Development Act 2000 (as amended), regarding Exempted Development

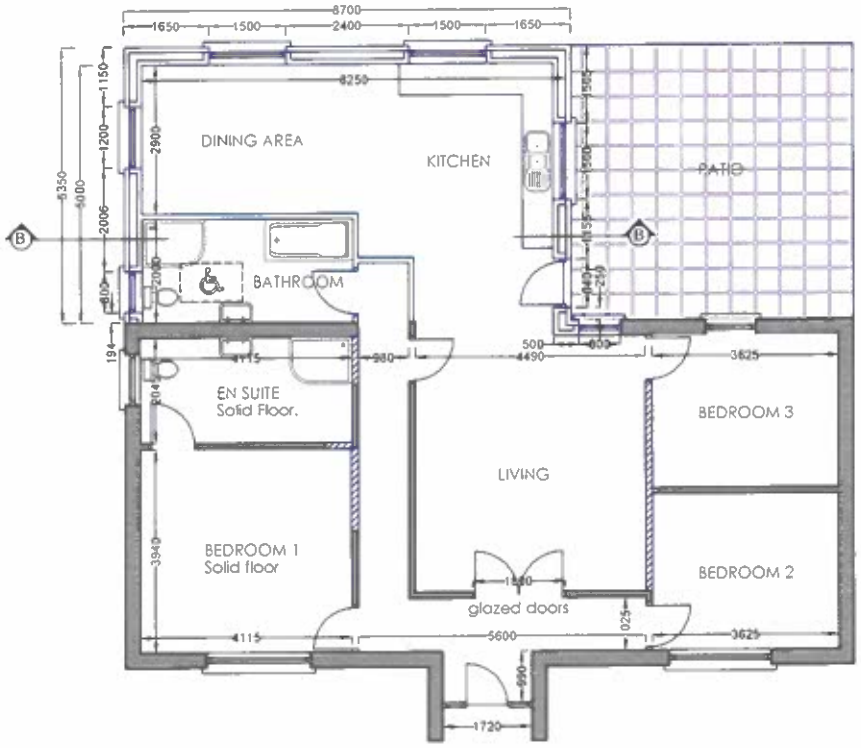
ROSCOMMON COUNTY COUNCIL
02 OCT 2024
PLANNING SECTION

Signature: Barry Hyde

Date: 23.8.24

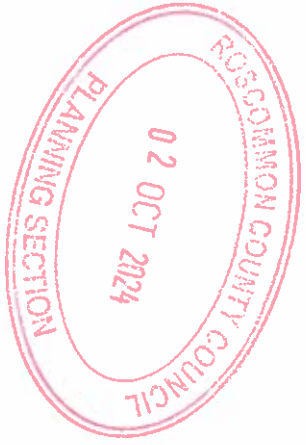
Note: This application **must** be accompanied by: -

(a) €80 fee
(b) Site Location map to a scale of 1:2500 clearly identifying the location
(c) Site Layout plan to the scale of 1:500 indicating exact location of proposed development
(d) Detailed specification of development proposed



PROPOSED PLAN scale 1:100

Area of Extension = 40 sq.m



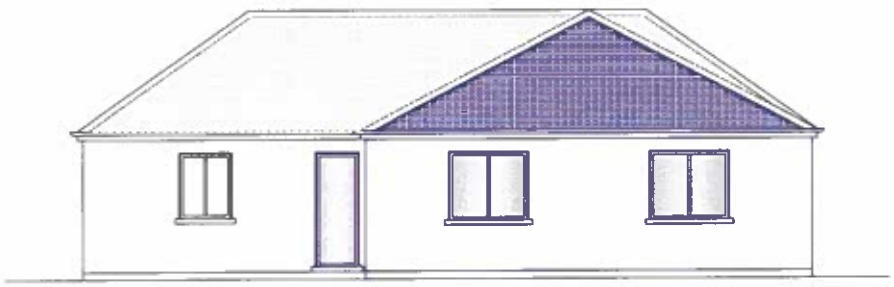
SEAMUS MURRAY
Project Managers, Engineers & Surveyors
2 CHERRYSIDE BUSINESS PARK,
CASTLE STREET,
ROSCOMMON
TEL: 087 2222874
E-Mail: seamusmurray60@gmail.com

PROJECT
House at Lissacarrow,
Fuerty,
Roscommon. F42 W229.

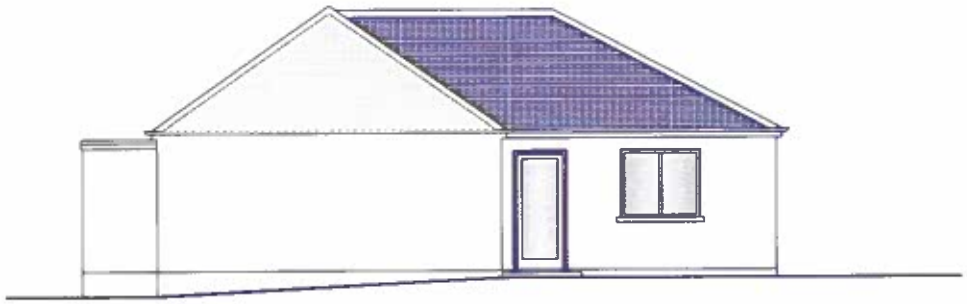
CLIENT
Barry Tapster

DRAWING TITLE
Proposed Plan and Cross Section

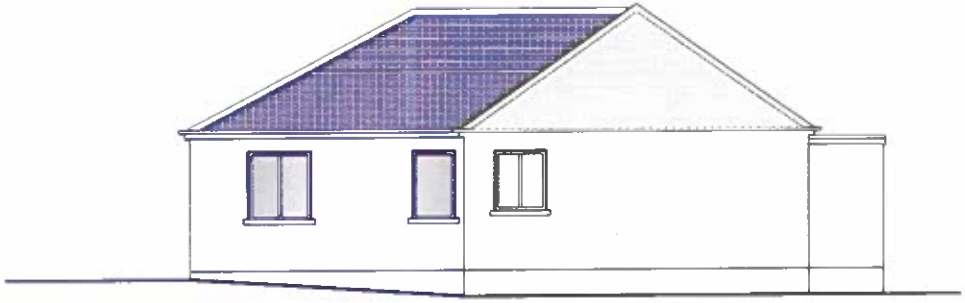
drawn by: S.D	date: June 2024	scale: 1:100	chk: S.M
JOB No.		drg. no. 04	rev



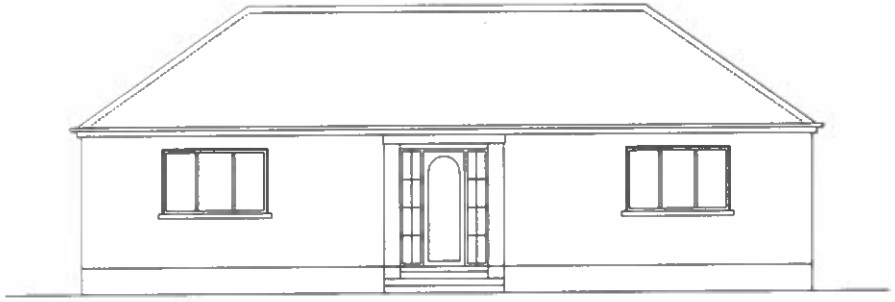
PROPOSED NORTH ELEVATION scale 1:100



PROPOSED EAST ELEVATION scale 1:100



PROPOSED WEST ELEVATION scale 1:100



PROPOSED FRONT ELEVATION scale 1:100

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PROJECT
House at Lissacarrow,
Faerty,
Roscommon. F42 W229.

CLIENT
Barry Tapster

DRAWING TITLE
Proposed Elevations

drawn by: SD	date: June 2024	scale: 1:100	chk: SM
JOB No.		drg. no: 05	rev.

ROOF CONSTRUCTION STRICTLY
TO STRUCTURAL ENGINEERS DETAIL

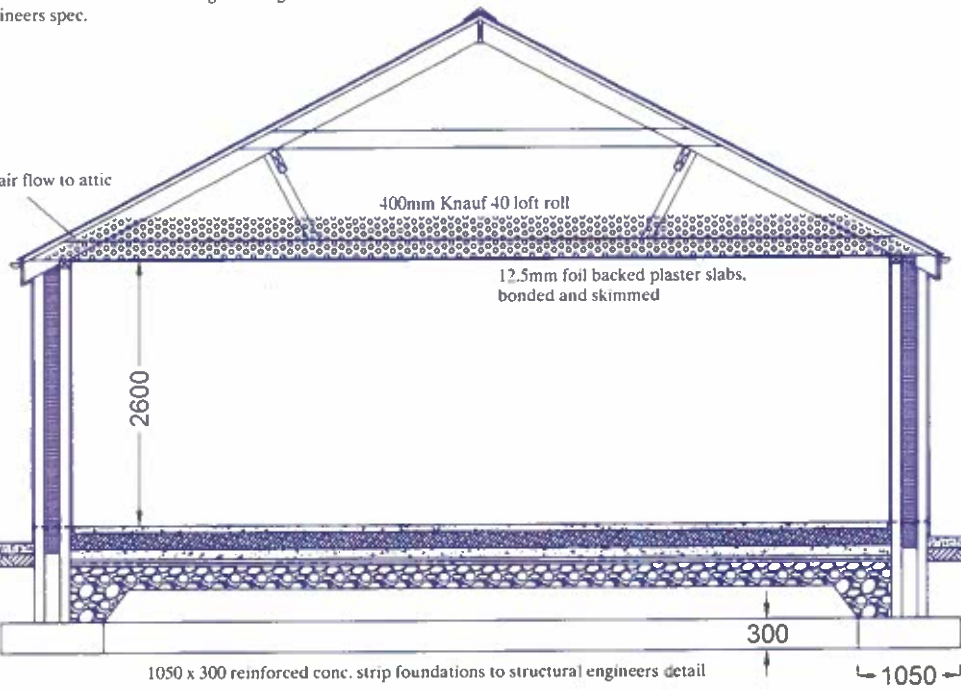
ALL WORKS STRICTLY IN ACCORDANCE
WITH CURRENT BUILDING REGULATIONS

NOTE:
All masonry to be accordance with SR 325 : 2013 + A2 : 2018 / AC : 2019, Recommendations for the design of masonry structures in Ireland to Eurocode 6.

ROOF TIMBERS I.S. 444 (1998) C.16 G.s.

Battens 50 x 44mm on
Tyvex Felt BS 747 on
Rafters, struts, struts and collars 150 x 50mm
Ridge Board 225 x 35mm
Purlins 225 x 75mm Grade C.20
Struts 100 x 75mm @ max c/c 2.4m
Collar Ties 125 x 44mm
Hangers 100 x 44mm @ 1.2m c/c
Wallplate 115 x 75mm strapped @ 1.2m c/c
Rafter at Ridge strapped @ 2.0m c/c
Ceiling Joists 175 x 44mm
Facia Board 225 x 35mm
uPVC Facia & Soffit
Soffit fixed to 50 x 50mm runners
Gutters/Down Pipes to be Seamless Aluminium
Insulation 400mm Knauf 40 loft roll

Cedral Rivendale 600 x 300 slates to manufacturers spec. on 50 x 44mm vacuum impregnated & treated timber slating battens on reinforced roofing underlay on trusses or cut roof to Eng. drawings on 100 x 75 wallplate to Engineers spec.



external walls to be 350mm wide
100mm Conc. Block Outer Leaf
150mm Cavity with full fill insulation
100mm Conc. Block Inner Leaf
Wall Ties to IS 268 Stainless Steel
Insulation to give U-value of 0.21W/m2K

wall ties must be galvanised iron or stainless steel to I.S. 268, horizontal spacing to be no more than 750 and vertical spacing not more than 450mm, also provide ties at unbonded jambs to all openings in cavity walls within 150mm of the opening.

CROSS SECTION B-B scale 1:50

floors to be 75mm liquid screed on min. 150mm high density xtratherm poly-iso insulation or similar approved to give U-value of 0.15 W/m2K on damp proof membrane on 100mm conc. sub floor on Rhinoplast or similar approved radon barrier tape jointed as per manufacturers instructions on sand blinding on min. 300mm crushed stone (75mm down) compacted in 150mm layers (see TGD A+C specification).

ROSCOMMON COUNTY COUNCIL
PLANNING SECTION
02 OCT 2024

SEAMUS MURRAY
Project Managers, Engineers & Surveyors
2 CHERRYSIDE BUSINESS PARK,
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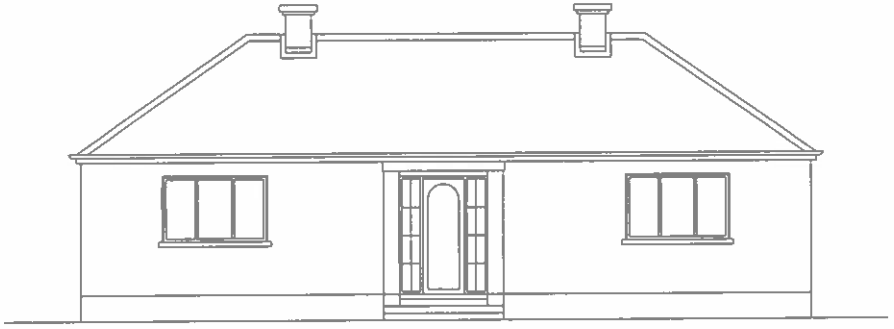
ROSCOMMON
TEL: 087 2222874
E.Mail: seamusmurray60@gmail.com

PROJECT
House at Lissacarrow,
Fuerty,
Roscommon. F42 W229.

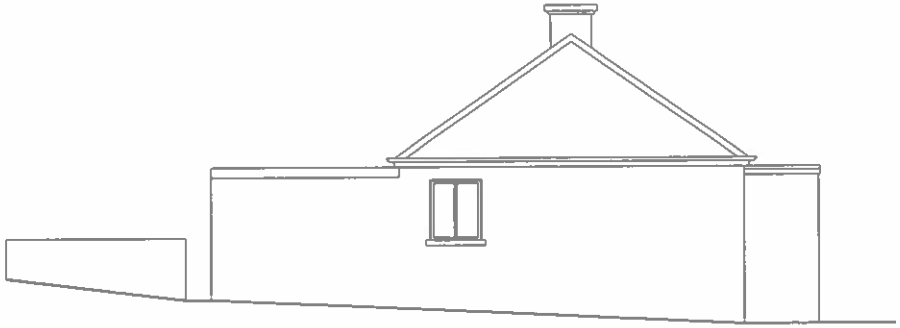
CLIENT
Barry Tapster

DRAWING TITLE
Cross Section B-B

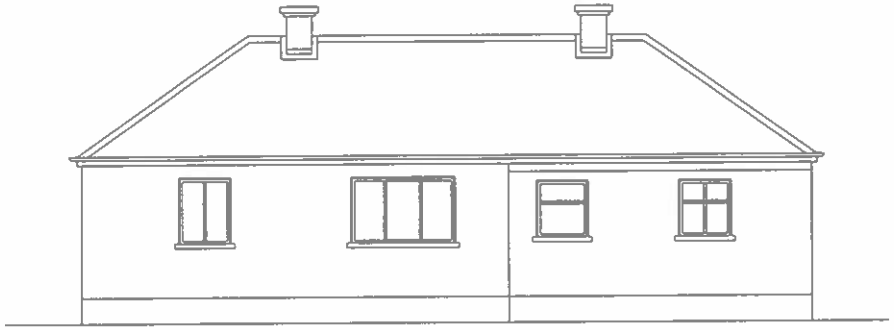
drawn by: SD	date: June 2024	scale: 1:50	chk: S.M.
JOB No.		drg. no 06	rev.



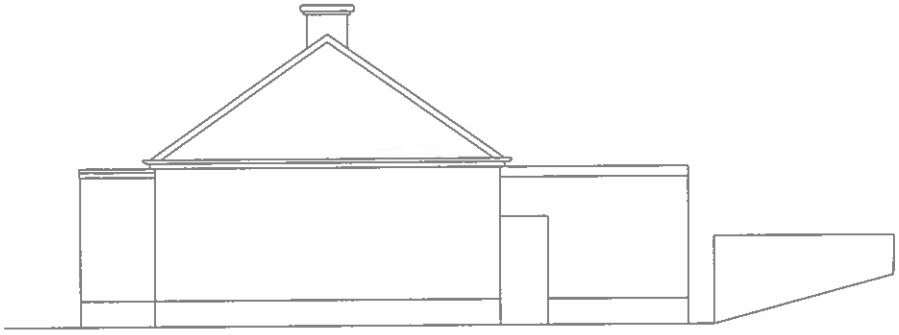
FRONT ELEVATION scale 1:100



WEST ELEVATION scale 1:100



REAR ELEVATION scale 1:100



EAST ELEVATION scale 1:100

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PROJECT
House at Lissacarrow,
Fuerty,
Roscommon. F42 W229.

CLIENT
Barry Tapster

DRAWING TITLE
Existing Elevations

drawn by SD	date June 2024	scale 1:100	chk SM
JOB No		drg no 03	rev

Comhairle Contae
Ros Comáin
Roscommon
County Council

REGISTERED POST
Barry & Hiromi Tapster,
[redacted]

ROSCOMMON COUNTY COUNCIL
02 OCT 2024
PLANNING SECTION

Ref: Environment/OL

Date: 12th July, 2024

RE: NATIONAL INSPECTION PLAN – INSPECTION REFERENCE – [redacted]
ADVISORY NOTICE REFERENCE – [redacted]

A Chara,

An inspection of the domestic waste water treatment system (DWWTS), serving your premises at **Lissacarrow, Fuerty, Co. Roscommon, F42W229** was carried out on the **9th May, 2024** in accordance with the National Inspection Plan for DWWTSs prepared by the Environmental Protection Agency in 2013.

Please be advised that based on the evidence apparent on the day of the inspection, the Inspector was of the opinion that the DWWTS contravened the provisions of the Water Services (Amendment) Act, 2012 and/or the Water Services Acts 2007 and 2012 (Domestic Waste Water Treatment Systems) Regulations 2012.

The Advisory Notice attached, gives the reason(s) for this opinion, and also specifies the date by which the matter(s) must be remedied. You must notify the Water Services Authority within 10 days of completion of the remedial works. The Water Services Authority may then carry out a further inspection to verify that the works have been carried out. There is no charge for this verification inspection.

You are entitled to have your system re-inspected if you do not agree with the findings of the initial inspection. There is a charge of €20 for a re-inspection. The Advisory Notice includes important notes regarding a re-inspection and the prescribed application form is also attached. In the event of a re-inspection, the Advisory Notice may be confirmed, modified or cancelled.

You may qualify for grant aid in respect of remediation costs. Full details of the eligibility criteria and an application form are attached.

Please telephone the Water Services Authority at the contact number below if you wish to discuss the matter. There may be an opportunity to extend the period specified in the Notice if circumstances warrant it.

Should you require any assistance in relation to this matter, please contact the undersigned on 090 6637261 or email environment@roscommoncoco.ie

Is mise, le meas,

Dominick Healy,
Senior Executive Engineer,
Environment.

ROSCOMMON COUNTY COUNCIL
02 OCT 2024
PLANNING SECTION

Schedule of works

Lissacarrow, Fuerty

- Remove and replace roof tiles/felt and any defective trusses & wall plates
- Remove chimney stacks
- Repair and replace and defective block work
- Remove and replace existing porch
- Re-plaster interior and exterior walls
- Replace all windows and external doors
- Remove and existing flooring and install solid floor
- Install underfloor heating system
- Replace all pipework throughout the property
- Replace skirting/architraves throughout
- Remove and replace all electrical wiring/sockets/board
- Install air to water heat pump
- Install photovoltaic solar panels/inverter
- Replace all bathroom fittings
- Remove and replace all interior pipework
- Install roof insulation
- Install cavity wall insulation
- Install new septic tank/water treatment system
- Excavate trenches for foundations for 4m x 5m rear extension
- Construct cavity block wall for 4m x 5m rear extension as per plans
- Install new windows/door as per plans in 4m x 5m rear extension
- Replace interior lintels where required
- Install new kitchen suite
- Retile bathroom
- Retile kitchen
- Install floor coverings throughout
- Replace cement path around property
- Replace front steps
- Replace soffit boards
- Replace gutters and down pipes
- Replace exterior drains

582650 mE, 763080 mN

582490 mE, 762950 mN

Creation Date: 26 September 2024 10:41:41

Application Number: S2024LR013183E

Tailte Éireann
Clárúchán, Luacháil, Suirbhéireacht
Registration, Valuation, Surveying

Official Tailte Éireann Registration Map

This map should be read in conjunction with the folio.

Tailte Éireann (TÉ) Registration mapping is based on TÉ Surveying mapping. Where TÉ Registration maps are printed at a scale that is larger than the TÉ Surveying scale, accuracy is limited to that of the TÉ Surveying map scale.

For details of the terms of use and limitations of scale, accuracy and other conditions relating to Land Registry maps, see www.tailte.ie.

(centre-line of parcel(s) edged)

- Freehold
- Leasehold
- SubLeasehold
- 'S' Register

(see Section 8(b)(ii) of Registration of Title Act 1964 and Rule 224 & 225 Land Registration Rules 1972 - 2010).

Burdens (may not all be represented on map)

- Right of Way / Wayleave
- Turbary
- Pipeline
- Well
- Pump
- Septic Tank
- Soak Pit

A full list of burdens and their symbology can be found at: www.landdirect.ie

Tailte Éireann Registration operates a non-conclusive boundary system. The TÉ Registration map identifies properties not boundaries meaning neither the description of land in a folio nor its identification by reference to a TÉ Registration map is conclusive as to the boundaries or extent. (see Section 85 of the Registration of Title Act, 1964). As inserted by Section 62 of the Registration of Deed and Title Act 2006.

1:500

582990 mE, 763340 mN

582190 mE, 762690 mN

Date Printed: 04/06/2015

Creation Date: 04 June 2015 10:34:17

Application Number: D2015LR063718C

The Property Registration Authority
An tÚdarás Clárúcháin Maoine

Folio: RN18091F

This map should be read in conjunction with the folio.

Registry maps are based on OSi topographic mapping. Where registry maps are printed at a scale that is larger than the OSi published scale, accuracy is limited to that of the orignial OSi map scale.

For details of the terms of use and limitations as to scale, accuracy and other conditions relating to Land Registry maps, see www.prai.ie.

(centre-line of parcel(s) edged)

- Freehold
- Leasehold
- SubLeasehold

Burdens (may not all be represented on map)

- Right of Way / Wayleave
- Turbary
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The registry operates a non-conclusive boundary system. The Registry Map identifies properties not boundaries meaning neither the description of land in a register nor its identification by reference to a registry map is conclusive as to the boundaries or extent. (see Section 85 of the Registration of Title Act, 1964). As inserted by Section 62 of the Registration of Deed and Title Act 2006.

1:2500 Scale