DAIKIN

INSTALLATION MANUAL

Packaged air-cooled water chillers and packaged reversible air to water heat pumps

EWAQ005ADVP
EWAQ006ADVP
EWAQ007ADVP

EWYQ005ADVP
EWYQ006ADVP
EWYQ007ADVP

CE - DECLARATION-OF-CONFORMITY
CE - KONFORMITÄTSERKLÄRUNG
CE - DECLARATION-DE-CONFORMITE
CE - CONFORMITEITSVERKLARING

CE - DECLARACION-DE-CONFORMIDAD
CE - DICHIARAZIONE-DI-CONFORMITA
CE - ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ

CE - DECLARAÇÃO-DE-CONFORMIDADE
CE - ЗАЯВЛЕНИЕ-О-СООТВЕТСТВИИ
CE - OPFYLDELSESERKLÆRING
CE - FÖRSÄKRAN-OM-ÖVERENSTÄMMELSE

CE - ERKLÆRING OM-SAMSVAR
CE - ILMOITUS-YHDENMUKAISUUDESTA
CE - PROHLÁŠENÍ-O-SHODĚ

CE - IZJAVA-O-USKLAĐENOSTI
CE - MEGFELELŐSÉGI-NYILATKOZAT
CE - DEKLARACJA-ZGODNOŚCI
CE - DECLARAŢIE-DE-CONFORMITATE

CE - IZJAVA O SKLADNOSTI
CE - VASTAVUSDEKLARATSIOON
CE - ДЕКЛАРАЦИЯ-ЗА-СЪОТВЕТСТВИЕ

CE - ATITIKTIES-DEKLARACIJA
CE - ATBILSTĪBAS-DEKLARĀCIJA
CE - VYHLÁSENIE-ZHODY
CE - UYUMLULUK-BİLDİRİSİ

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03 (F) déclare sous sa seule responsabilité que l'équipement visé par la présente déclaration:
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22 (LT) visiška savo atsakomybe skelbia, kad įranga, kuriai taikoma ši deklaracija:
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EWAQ005ADVP*, EWAQ006ADVP***, EWAQ007ADVP***,**
EWYQ005ADVP*, EWYQ006ADVP***, EWYQ007ADVP***,**
* = , -, 1, 2, 3, ..., 9, A, B, C, ..., Z

01 are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:
02 der/den folgenden Norm(en) oder einem anderen Normdokument oder -dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:
03 sont conformes à la/aux norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:
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06 sono conformi al(i) seguente(i) standard(s) o altro(i) documento(i) a carattere normativo, a patto che vengano usati in conformità alle nostre istruzioni:
07 είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:
08 estão em conformidade com a(s) seguinte(s) norma(s) ou outro(s) documento(s) normativo(s), desde que estes sejam utilizados de acordo com as nossas instruções:
09 соответствуют следующим стандартам или другим нормативным документам, при условии их использования согласно нашим инструкциям:
10 overholder følgende standard(er) eller andet/andre retningsgivende dokument(er), forudsat at disse anvendes i henhold til vore instrukser:
11 respektive utrustning är utförd i överensstämmelse med och följer följande standard(er) eller andra normgivande dokument, under förutsättning att användning sker i överensstämmelse med våra instruktioner:
12 respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutssetning av at disse brukes i henhold til våre instrukser:
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16 megfelelnek az alábbi szabvány(ok)nak vagy egyéb irányadó dokumentum(ok)nak, ha azokat előírás szerint használják:
17 spełniają wymogi następujących norm i innych dokumentów normalizacyjnych, pod warunkiem że używane są zgodnie z naszymi instrukcjami:
18 sunt în conformitate cu următorul (următoarele) standard(e) sau alt(e) document(e) normativ(e), cu condiţia ca acestea să fie utilizate în conformitate cu instrucţiunile noastre
19 skladni z naslednjimi standardi in drugimi normativi, pod pogojem, da se uporabljajo v skladu z našimi navodili:
20 on vastavuses järgmis(t)e standardi(te)ga või teiste normatiivsete dokumentidega, kui neid kasutatakse vastavalt meie juhenditele:
21 съответстват на следните стандарти или други нормативни документи, при условие, че се използват съгласно нашите инструкции:
22 atitinka žemiau nurodytus standartus ir (arba) kitus norminius dokumentus su sąlyga, kad yra naudojami pagal mūsų nurodymus:
23 tad, ja lietoti atbilstoši ražotāja norādījumiem, atbilst sekojošiem standartiem un citiem normatīviem dokumentiem:
24 sú v zhode s nasledovnou(ými) normou(ami) alebo iným(i) normatívnym(i) dokumentom(ami), za predpokladu, že sa používajú v súlade s našim návodom:
25 ürünün, talimatlarımıza göre kullanılması koşuluyla aşağıdaki standartlar ve norm belirten belgelerle uyumludur:

EN60335-2-40,

01 following the provisions of:
02 gemäß den Vorschriften der:
03 conformément aux stipulations des:
04 overeenkomstig de bepalingen van:
05 siguiendo las disposiciones de:
06 secondo le prescrizioni per:
07 με τήρηση των διατάξεων των:
08 de acordo com o previsto em:
09 в соответствии с положениями:
10 under iagttagelse af bestemmelserne i:
11 enligt villkoren i:
12 gitt i henhold til bestemmelsene i:
13 noudattaen määräyksiä:
14 za dodržení ustanovení předpisu:
15 prema odredbama:
16 követi a(z):
17 zgodnie z postanowieniami Dyrektyw:
18 în urma prevederilor:
19 ob upoštevanju določb:
20 vastavalt nõuetele:
21 следвайки клаузите на:
22 laikantis nuostatų, pateikiamų:
23 ievērojot prasības, kas noteiktas:
24 održiavajúc ustanovenia:
25 bunun koşullarına uygun olarak:

Low Voltage 2006/95/EC
Machinery 2006/42/EC **
Electromagnetic Compatibility 2004/108/EC *

01 Directives, as amended.
02 Direktiven, gemäß Änderung.
03 Directives, telles que modifiées.
04 Richtlijnen, zoals geamendeerd.
05 Directivas, según lo enmendado.
06 Direttive, come da modifica.
07 Οδηγιών, όπως έχουν τροποποιηθεί.
08 Directivas, conforme alteração em.
09 Директив со всеми поправками.
10 Direktiver, med senere ændringer.
11 Direktiv, med företagna ändringar.
12 Direktiver, med foretatte endringer.
13 Direktiivejä, sellaisina kuin ne ovat muutettuina.
14 v platném znění.
15 Smjernice, kako je izmijenjeno.
16 irányelv(ek) és módosításaik rendelkezéseit.
17 z późniejszymi poprawkami.
18 Directivelor, cu amendamentele respective.
19 Direktive z vsemi spremembami.
20 Direktiivid koos muudatustega.
21 Директиви, с техните изменения.
22 Direktyvose su papildymais.
23 Direktīvās un to papildinājumos.
24 Smernice, v platnom znení.
25 Değiştirilmiş halleriyle Yönetmelikler.

01	**Note** *	as set out in <A> and judged positively by <B> according to the **Certificate** <C>.	06	**Nota** *	delineato nel <A> e giudicato positivamente da <B> secondo il **Certificato** <C>.	11	**Information** *	enligt <A> och godkänts av <B> enligt **Certifikatet** <C>.	16	**Megjegyzés** *	a(z) <A> alapján, a(z) <B> igazolta a megfelelést, a(z) <C> **tanúsítvány** szerint.	21	**Забележка** *	както е изложено в <A> и оценено положително от <B> съгласно **Сертификата** <C>.
02	**Hinweis** *	wie in der <A> aufgeführt und von <B> positiv beurteilt gemäß **Zertifikat** <C>.	07	**Σημείωση** *	όπως καθορίζεται στο <A> και κρίνεται θετικά από το <B> σύμφωνα με το **Πιστοποιητικό** <C>.	12	**Merk** *	som det fremkommer i <A> og gjennom positiv bedømmelse av <B> ifølge **Sertifikat** <C>.	17	**Uwaga** *	zgodnie z dokumentacją <A>, pozytywną opinią <B> i **Świadectwem** <C>.	22	**Pastaba** *	kaip nustatyta <A> ir kaip teigiamai nuspręsta <B> pagal **Sertifikatą** <C>.
03	**Remarque** *	tel que défini dans <A> et évalué positivement par <B> conformément au **Certificat** <C>.	08	**Nota** *	tal como estabelecido em <A> e com o parecer positivo de <B> de acordo com o **Certificado** <C>.	13	**Huom** *	jotka on esitetty asiakirjassa <A> ja jotka <B> on hyväksynyt **Sertifikaatin** <C> mukaisesti.	18	**Notă** *	aşa cum este stabilit în <A> şi apreciat pozitiv de <B> în conformitate cu **Certificatul** <C>.	23	**Piezīmes** *	kā norādīts <A> un atbilstoši <B> pozitīvajam vērtējumam saskaņā ar **sertifikātu** <C>.
04	**Bemerk** *	zoals vermeld in <A> en positief beoordeeld door <B> overeenkomstig **Certificaat** <C>.	09	**Примечание** *	как указано в <A> и в соответствии с положительным решением <B> согласно **Свидетелству** <C>.	14	**Poznámka** *	jak bylo uvedeno v <A> a pozitivně zjištěno <B> v souladu s **osvědčením** <C>.	19	**Opomba** *	kot je določeno v <A> in odobreno s strani <B> v skladu s **certifikatom** <C>.	24	**Poznámka** *	ako bolo uvedené v <A> a pozitívne zistené <B> v súlade s **osvedčením** <C>.
05	**Nota** *	como se establece en <A> y es valorado positivamente por <B> de acuerdo con el **Certificado** <C>.	10	**Bemærk** *	som anført i <A> og positivt vurderet af <B> i henhold til **Certifikat** <C>.	15	**Napomena** *	kako je izloženo u <A> i pozitivno ocijenjeno od strane <B> prema **Certifikatu** <C>.	20	**Märkus** *	nagu on näidatud dokumendis <A> ja heaks kiidetud <B> järgi vastavalt **sertifikaadile** <C>.	25	**Not** *	<A>'da belirtildiği gibi ve <B> tarafından olumlu olarak değerlendirildiği gibi. **<C> Sertifikasına** göre

<A>	DAIKIN.TCF.025E4/10-2011
<B>	DEKRA (NB0344)
<C>	2082543.0551-QUA/EMC

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02 ** Daikin Europe N.V. hat die Berechtigung die Technische Konstruktionsakte zusammenzustellen.
03 ** Daikin Europe N.V. est autorisé à compiler le Dossier de Construction Technique.
04 ** Daikin Europe N.V. is bevoegd om het Technisch Constructiedossier samen te stellen.
05 ** Daikin Europe N.V. está autorizado a compilar el Archivo de Construcción Técnica.
06 ** Daikin Europe N.V. è autorizzata a redigere il File Tecnico di Costruzione.
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15 ** Daikin Europe N.V. je ovlašten za izradu Datoteke o tehničkoj konstrukciji.
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23 ** Daikin Europe N.V. ir autorizēts sastādīt tehnisko dokumentāciju.
24 ** Spoločnosť Daikin Europe N.V. je oprávnená vytvoriť súbor technickej konštrukcie.
25 ** Daikin Europe N.V. Teknik Yapı Dosyasını derlemeye yetkilidir.

3PW33163-8K

DAIKIN

Jean-Pierre Beuselinck
Director
Ostend, 2nd of January 2012

DAIKIN EUROPE N.V.
Zandvoordestraat 300, B-8400 Oostende, Belgium

CONTENTS

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES, OPTIONAL EQUIPMENT, AND SPARE PARTS MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

The original instructions are written in English. All other languages are translations of the original instructions.

1. INTRODUCTION

1.1. General information

Thank you for purchasing this Daikin inverter chiller.

This unit is designed for outdoor installation and used for both heating and cooling applications. The unit is designed to be combined with fan coil units or air handling units for air conditioning purposes.

Heat pump and cooling only versions

This chiller range consists of two main versions: a heat pump (EWYQ) version and a cooling only (EWAQ) version, available in 3 standard sizes (5 kW, 6 kW and 7 kW).

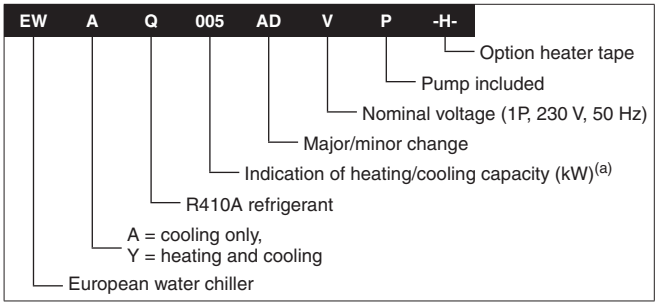
Heater tape option OP10

Both versions are also available with a heater tape option (OP10) for protecting internal water pipework at cold outdoor temperatures.

1.2. Scope of this manual

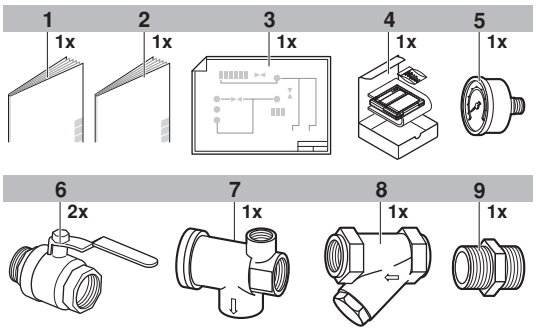
This manual describes the procedures for unpacking, installing and connecting all EWA/YQ models, as well as instructions for maintenance and troubleshooting of the unit.

1.3. Model identification



(a) Please see "8.4. Technical specifications" on page 17 for exact values.

2. Accessories



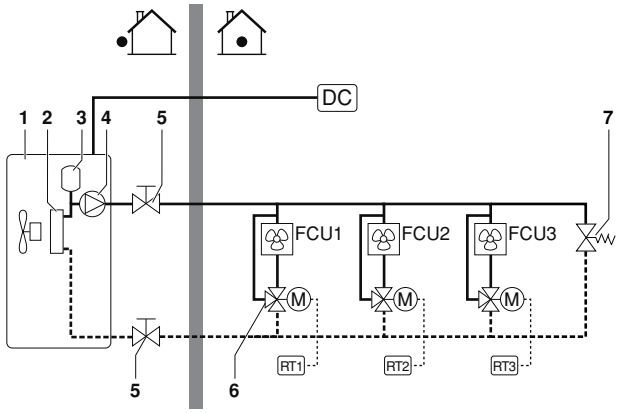
1	Installation manual	**5**	Manometer
2	Operation manual	**6**	Shut-off valve
3	Wiring diagram sticker (inside top unit cover)	**7**	Pressure relief valve
		8	Water filter
4	Remote controller kit (digital controller, 4 fixing screws and 2 plugs)	**9**	Pipe nipple male/male 1/2"

3. Typical application examples

These application examples are given for illustration purposes only.

Application 1

Space heating and cooling application (without thermostat).

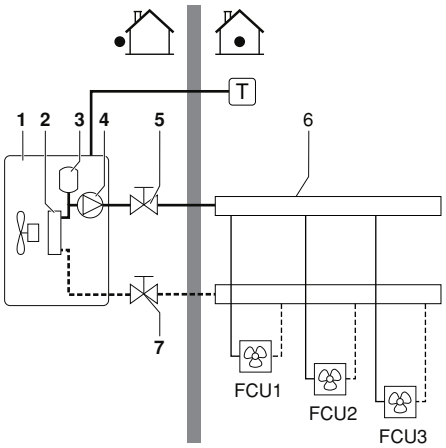


1	Reversible heat pump	**7**	Bypass valve
2	Plate heat exchanger	**FCU1..3**	Fan coil unit (field supply)
3	Expansion vessel		
4	Pump	**DC**	Digital controller
5	Shut-off valve	**RT1..3**	Room thermostat (field supply)
6	Motorised valve (field supply)		

The digital controller (DC) is installed indoors and allows the user to turn the unit (1) ON or OFF, to select between cooling and heating mode (only in case of a heat pump model) and to set the water temperature. When the unit is turned on, it will provide water at the set temperature to the fan coil units (FCU1..3).

3.1. Application 2

Space cooling and heating application with a room thermostat suitable for cooling/heating changeover connected to the unit.



1	Reversible heat pump	**7**	Shut-off valve
2	Plate heat exchanger	**FCU1..3**	Fan coil unit (field supply)
3	Expansion vessel		
4	Pump	**T**	Room thermostat or room thermostat with cooling/heating switch (field supply)
5	Shut-off valve		
6	Collector (field supply)		

- Pump operation and space heating and cooling (*space cooling and heating application with a room thermostat suitable for cooling/heating changeover connected to the unit*)

  According to the season, the customer will select cooling or heating on the room thermostat (T). This selection is not possible by operating the user interface.

  When space cooling/heating is requested by the room thermostat (T), the pump will start operating and the unit will switch to “cooling mode”/”heating mode”. The outdoor units will start operating to achieve the target leaving cold/hot water temperature.

  The ON/OFF setting of the heating/cooling operation is done by the room thermostat and cannot be done by the user interface on the unit.

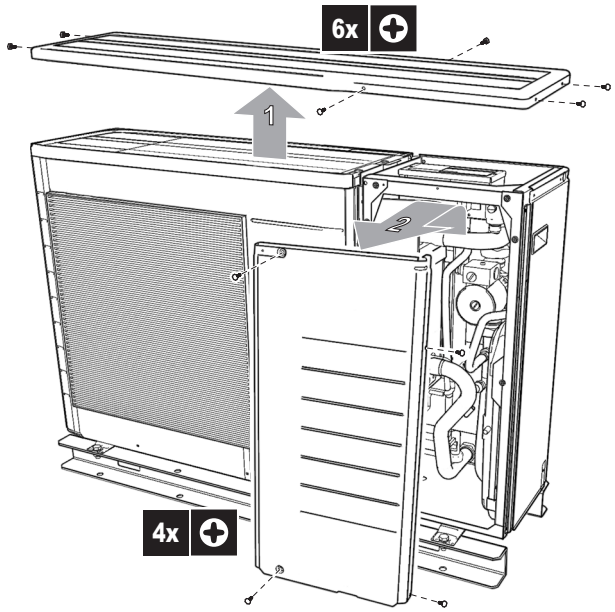
> ⚠ Make sure to connect the thermostat wires to the correct terminals (see "5.10.3. Connection of the thermostat cable" on page 10).

4. Overview of the unit

4.1. Opening of the unit

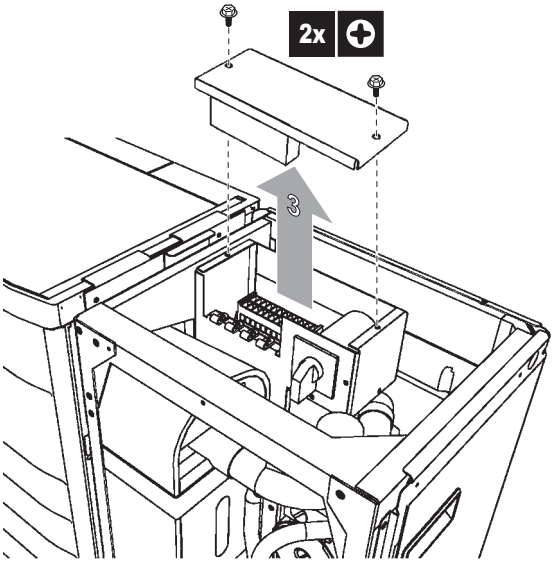
To have access to all main components for installation and servicing, the top and front cover of the unit must be removed.

- To open the top cover (1), loosen the 6 screws and lift the top cover.
- To open the front cover (2), loosen the four screws and unhitch the front cover.

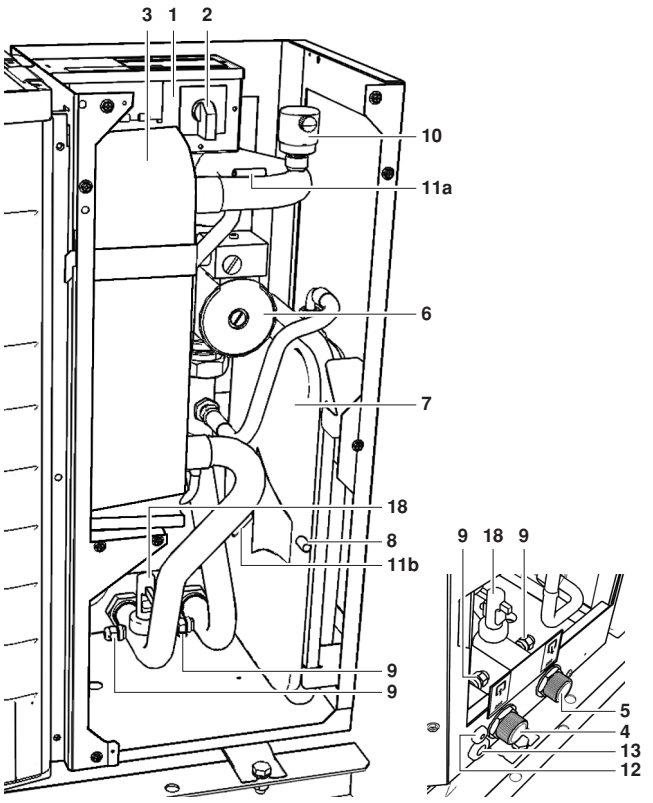


- To gain access to the switch box' internals – e.g. to connect the field wiring – the switch box service panel (3) can be removed. Thereto, loosen the two screws and lift the switch box service panel.

> ⚠ Switch off the power supply before removing the switch box service panel.



4.2. Main components



1 Switch box

The switch box contains connection terminals for the power supply and digital controller, and the main electronic and electrical parts of the unit.

2 Main isolator switch

The main isolator switch allows to cut off all electrical power to the unit.

3 Heat exchanger

4 Water inlet connection (1" MBSP)

5 Water outlet connection (1" MBSP)

6 Pump

The pump circulates the water in the water circuit.

7 Expansion vessel (6 litre)

The water in the water circuit expands with rising temperatures. The expansion vessel stabilises the pressure changes with changing water temperatures by giving free space to the changing water volume.

8 Expansion vessel service point

The service point allows connection of a dry nitrogen cylinder to adjust the expansion vessel pre-pressure if necessary.

9 Drain and fill valve (2x)

10 Air purge valve

Remaining air in the water circuit will be automatically removed via the air purge valve.

11 Water temperature sensors

Two temperature sensors determine the water inlet temperature (11a) and water outlet temperature (11b).

12 Digital controller cable intake

13 Power supply intake

14 OP10 heater tape (optional, not illustrated)

The heater tape is wrapped around the pipework and protects the evaporator and water circuit in the unit from freezing at cold outdoor temperatures.

4.3. Accessories

Not illustrated. Refer to "5.6.4. Connecting the water circuit" on page 7 for indications on how to connect the following accessories to the water system.

15 Manometer

The manometer allows readout of the water pressure in the water circuit.

16 Water filter

The water filter removes dirt from the water to prevent damage to the pump or blockage of the evaporator. The water filter should be cleaned on a regular base. See "7. Maintenance" on page 14.

17 Pressure relief valve (safety device)

The pressure relief valve prevents excessive water pressure in the water circuit (≥3 bar).

4.4. Safety devices

18 Flow switch

The flow switch checks the flow in the water circuit and protects the heat exchanger against freezing and the pump against damage. In case the minimum required flow is not achieved, the unit will be shut down.

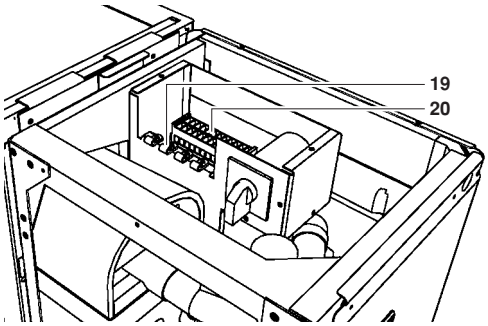
4.5. Switch box components

19 Cable tie mountings

The cable tie mountings allow to fix the field wiring with cable ties to the switch box to ensure strain relief.

20 Terminal block

The terminal block allows easy connection of field wiring.



5. Installation of the unit

5.1. Selecting the installation location

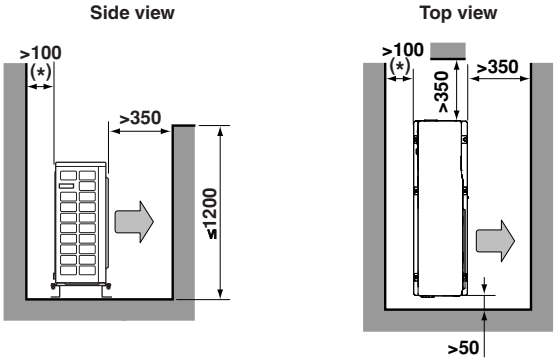
5.1.1. General guidelines

- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.
- Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

- The unit is designed to be installed in an outdoor location.
- Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial and household use by lay persons.
- Although the noise produced by the unit during operation is low, avoid installation near to places where even low noise levels can be disturbing (e.g., bedroom windows, terraces).
- Choose a location where the hot air discharged from the unit will not cause a nuisance.
- There must be sufficient space for air passage and no obstructions around the air intake and the air exhaust (see "5.1.2. Installing near a wall or obstacle" on page 4).
- The equipment is not intended for use in a potentially explosive atmosphere.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
- Install the unit and power cords at least 3 m away from television and radio sets. This is to prevent interference to images and sounds.
- In coastal areas or other places with salty atmosphere, corrosion may shorten the life of the unit. Prevent direct exposure to winds coming from the sea.
- Since drain flows out of the unit, do not place anything under the unit which must be kept away from moisture.

5.1.2. Installing near a wall or obstacle

- Where a wall or other obstacle is in the path of the unit's air intake or exhaust airflow, the distances as indicated on the figures below need to be respected.
- The wall height on the exhaust side should be 1200 mm or less.



(*) For future servicing, it is recommended to foresee a larger service space than the minimum operating space of 100 mm at the suction side of the unit.

5.1.3. Selecting a location in cold climates

When operating the unit in a low outdoor ambient temperature, be sure to follow the instructions described below.

- Prevent exposure to wind:
  - Install the unit with its air intake side facing the wall. Never install the unit at a site where the air intake side may be exposed directly to wind.
  - Install a baffle plate on the air exhaust side of the unit.
- In heavy snowfall areas, select an installation site where the snow will not affect the unit.

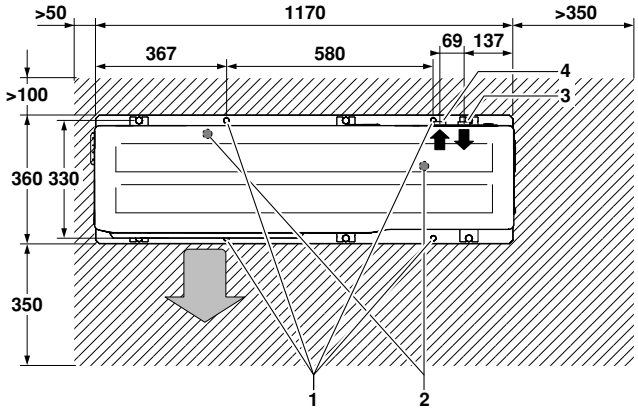
Construct a large canopy.

Construct a pedestal.

Install the unit high enough off the ground to prevent burying in snow.

- Make sure to protect the water circuit against freezing. Refer to "5.6.5. Protecting the water circuit against freezing" on page 7.

5.1.4. Unit installation drawing



▨	Service space
1	Fixation holes
2	Drain outlets (Ø18 mm)
3	Water inlet
4	Water outlet

Indicated distances must be respected to ensure optimal operation of the unit. For ease of access at the moment of installation or servicing, the unit may be pushed further away from walls or obstacles.

5.2. Inspecting, handling and unpacking the unit

- The unit is packed in a cardboard box fixed by straps.
- At delivery, the unit should be checked and any damage should be reported immediately to the carrier claims agent.
- Check if all unit accessories (see "2. Accessories" on page 2) are enclosed.
- Bring the unit as close as possible to its final installation position in its original package to prevent damage during transport.
- After unpacking, the unit can be positioned correctly using the handles provided at both ends of the unit.

5.3. Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent gases into the atmosphere.

Refrigerant type: R410A

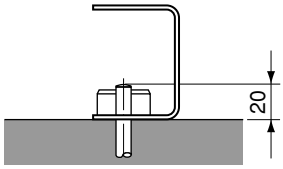
GWP(1) value: 1975

(1) GWP = global warming potential

The refrigerant quantity is indicated on the unit name plate.

5.4. Mounting the unit

1. Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installation.
2. Make sure that the unit is installed level.
3. Prepare 4 sets of M8 or M10 foundation bolts, nuts and washers each (field supply).
4. Fix the unit securely by means of the foundation bolts in accordance with the installation drawing.
   Screw in the foundation bolts until their length remains 20 mm above the foundation surface.



5.5. Drain work

If drain work is necessary, follow the guidelines below.

- Two drain outlets are provided in the bottom plate of unit, see "5.1.4. Unit installation drawing" on page 5 (drain plug and drain hose are field supply).
- In cold areas, do not use a drain hose with the unit. Otherwise, drain water may freeze and block the drain. In case the use of a drain hose is unavoidable for one reason or another, it is recommended to install a heater tape in order to protect drain from freezing.

5.6. Water pipework

5.6.1. Checking the water circuit

The units have a water inlet and water outlet for connection to a water circuit. This circuit must be provided by a licensed technician and must comply with all relevant European and national regulations.

The unit is only to be used in a closed water system. Application in an open water circuit can lead to excessive corrosion of the water piping.

Before continuing the installation of the unit, beware of the following points:

- Two shut-off valves are delivered with the unit. To facilitate service and maintenance, install one at the water inlet and one at the water outlet of the unit.
- Drain taps must be provided at all low points of the system to permit complete drainage of the circuit. Two drain valves are provided inside the unit.
- Air vents must be provided at all high points of the system. The vents should be located at points which are easily accessible for servicing. An automatic air purge is provided inside the unit. Check that this air purge valve is not tightened too much so that automatic release of air in the water circuit remains possible.
- Take care that the components installed in the field piping can withstand the water pressure.

5.6.2. Checking the water volume and expansion vessel pre-pressure

The unit is equipped with an expansion vessel of 6 litre which has a default pre-pressure of 1 bar.

To assure proper operation of the unit, the pre-pressure of the expansion vessel might need to be adjusted and the minimum and maximum water volume must be checked.

1 Check that the total water volume in the installation is 10 l minimum:

> **NOTE** In most air conditioning applications this minimum water volume will have a satisfying result.
>
> In critical processes or in rooms with a high heat load though, extra water volume might be required.

2 Using the table below, determine if the expansion vessel pre-pressure requires adjustment.

3 Using the table and instructions below, determine if the total water volume in the installation is below the maximum allowed water volume.

Installation height difference[(a)]	Water volume	
	≤300 l (EWAQ) ≤170 l (EWYQ)	>300 l (EWAQ) >170 l (EWYQ)
≤7 m	No pre-pressure adjustment required.	Actions required: • pre-pressure must be decreased, calculate according to "Calculating the pre-pressure of the expansion vessel" • check if the water volume is lower than maximum allowed water volume (use graph below)
>7 m	Actions required: • pre-pressure must be increased, calculate according to "Calculating the pre-pressure of the expansion vessel" • check if the water volume is lower than maximum allowed water volume (use graph below)	Expansion vessel of the unit too small for the installation.

(a) Installation height difference: height difference (m) between the highest point of the water circuit and the unit. If the unit is located at the highest point of the installation, the installation height is considered 0 m.

Calculating the pre-pressure of the expansion vessel

The pre-pressure (Pg) to be set depends on the maximum installation height difference (H) and is calculated as below:

Pg=(H/10+0.3) bar

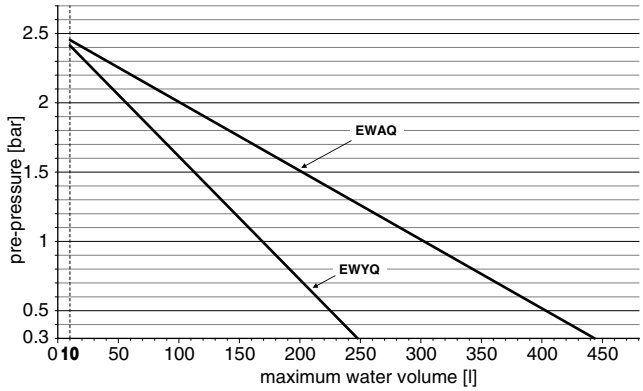
Checking the maximum allowed water volume

To determine the maximum allowed water volume in the entire circuit, proceed as follows:

1 Determine for the calculated pre-pressure (Pg) the corresponding maximum water volume using the graph below.

2 Check that the total water volume in the entire water circuit is lower than this value.

If this is not the case, the expansion vessel inside the unit is too small for the installation.



pre-pressure = pre-pressure

maximum water volume = maximum water volume

Example 1

A heat pump model unit is installed 5 m below the highest point in the water circuit. The total water volume in the water circuit is 100 l

In this example, no action or adjustment is required.

Example 2

A heat pump model unit is installed 4 m below the highest point in the water circuit. The total water volume in the water circuit is 190 l.

Result:

- Since 190 l is higher than 170 l, the pre-pressure must be decreased (see table above).
- The required pre-pressure is:
  Pg = (H/10 + 0.3) bar = (4/10 + 0.3) bar = 0.7 bar
- The corresponding maximum water volume can be read from the graph: approximately 200 l.
- Since the total water volume (190 l) is below the maximum water volume (200 l), the expansion vessel suffices for the installation.

5.6.3. Setting the pre-pressure of the expansion vessel

When it is required to change the default pre-pressure of the expansion vessel (1 bar), keep in mind the following guidelines:

- Use only dry nitrogen to set the expansion vessel pre-pressure.
- Inappropriate setting of the expansion vessel pre-pressure will lead to malfunction of the system. Therefore, the pre-pressure should only be adjusted by a licensed installer.

5.6.4. Connecting the water circuit

Water connections must be made in accordance with "5.1.4. Unit installation drawing" on page 5, respecting the water in- and outlet.

> Be careful not to deform the unit piping by using excessive force when connecting the piping.

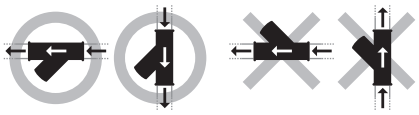
If dirt gets in the water circuit, problems may occur. Therefore, always take into account the following when connecting the water circuit:

- Use clean pipes only.
- Hold the pipe end downwards when removing burrs.
- Cover the pipe end when inserting it through a wall so that no dust and dirt enter.
- Use a good thread sealant for the sealing of the connections. The sealing must be able to withstand the pressures and temperatures of the system, it must also be resistant to the used glycol in the water.
- When using non-brass metallic piping, make sure to insulate both materials from each other to prevent galvanic corrosion.
- Because brass is a soft material, use appropriate tooling for connecting the water circuit. Inappropriate tooling will cause damage to the pipes.

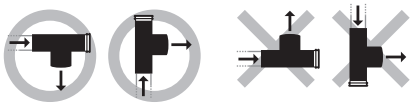
How to connect the accessories delivered with the unit

> Make sure the water filter, manometer and pressure relief valve (delivered with the unit) are mounted between shut-off valve and water inlet. This part of the assembly must be installed indoors.

- According to the direction of the water flow, the water filter must be positioned as shown in the figure.

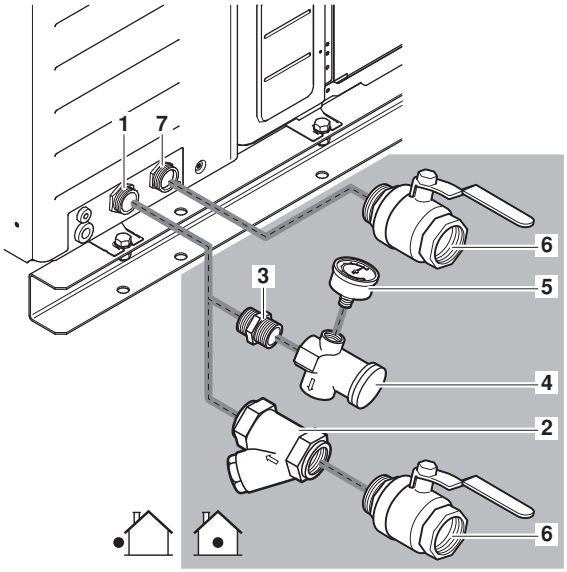


- Provide sufficient space allowing easy access to clean the water filter and regular operation check of the pressure relief valve.
- The pressure relief valve must be installed in accordance with relevant local and national regulations and must be positioned as shown in the figure.



- If a discharge pipe is connected to the pressure relief valve it must be installed in a continuously downward direction and in a frost-free environment. It must be left open to the atmosphere.

Installation example



1 Water inlet
2 Water filter
3 Pipe nipple male/male 1/2”
4 Pressure relief valve
5 Manometer
6 Shut-off valve
7 Water outlet

5.6.5. Protecting the water circuit against freezing

Frost can damage the unit. For this reason, in colder climates the water circuit must be protected by means of a heater tape or by adding glycol to the water.

In case of heater tape

1 Check that the unit has the option heater tape installed. (Connections of the factory mounted heater tape are made on terminals 4/5 inside the switch box).

> For the heater tape to operate, power to the unit must be provided and the main isolator switch must be on. For this reason never disconnect power and never turn off the main isolator switch for a long time during cold periods!

2 Install a heater tape (field supply) on the outdoor field piping. Power supply connections for this heater tape must be made on terminals 4/5 inside the switch box provided this heater tape is of a type that consumes not more than 200 W.

> In case this heater tape is of a type that consumes more than 200 W, this heater tape must be connected to a separate power supply and not to heater tape terminals 4/5!

In case of glycol

Depending on the expected lowest outdoor temperature, make sure the water system is filled with a weight concentration of glycol as mentioned in the table below.

Minimum outdoor temperature	0°C	–5°C	–10°C	–15°C
Ethylene glycol	10%	15%	25%	35%
Propylene glycol	10%	15%	25%	35%

Also refer to "6.1.1. Checks before start-up" on page 11.

5.6.6. Initial start-up at low ambient temperatures

NOTE

To ensure that the unit operates within its operating range as soon as possible (water temperature >30°C), the load during start-up must be reduced as much as possible. For example you can do this by putting off fans of the fan coil units until the water temperature has increased to 30°C.

5.7. Charging the water

1 Connect the water supply to the drain and fill valves (see "4.2. Main components" on page 3).

2 Fill with water until the manometer indicates a pressure of approximately 2.0 bar. Remove air in the circuit as much as possible using the air purge valves.

NOTE

- During filling, it might not be possible to remove all air in the system. Remaining air will be removed through the automatic air purge valves during first operating hours of the system. Additional filling with water afterwards might be required.
- The water pressure indicated on the manometer will vary depending on the water temperature. (higher pressure at higher water temperature). However, at all times water pressure should remain above 0.3 bar to avoid air entering the circuit.
- The unit might dispose some excessive water through the pressure relief valve.

5.8. Piping insulation

The outdoor and indoor part of the water circuit must be insulated to prevent condensation during cooling operation and reduction of the cooling and heating capacity.

5.9. Field wiring

- All field wiring entering the unit shall be double insulated (example: H07RN-F or H07V wire inside an insulation sleeve).
- All field wiring and components must be installed by a licensed electrician and must comply with relevant European and national regulations.
- The field wiring must be carried out in accordance with the wiring diagram supplied with the unit and the instructions given below.
- Be sure to use a dedicated power supply. Never use a power supply shared by another appliance.
- Be sure to establish an earth. Do not earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock.
- Be sure to install an earth leakage circuit breaker. This unit uses an inverter, which means that an earth leakage circuit breaker capable of handling high harmonics needs to be used in order to prevent malfunctioning of the earth leakage circuit breaker itself.
- Use an all-pole disconnection type breaker with a contact separation of at least 3 mm in-between all poles.

5.9.1. Internal wiring - Parts table

Refer to the internal wiring diagram supplied with the unit (inside the unit top cover). The abbreviations used are listed below.

Accessible switch box

A1P.....Main PCB
A2P.....Digital controller PCB (indoor)
E5H .....Heater tape (models with heater tape only (option OP10))
E6H .....Field supplied heater tape (models with heater tape only (option OP10))
FU1.....Fuse 3.15 A T 250 V
FU2.....Fuse 5 A 250 V (models with heater tape only (option OP10))
K1M .....Relay (models with heater tape only (option OP10))
M1P .....Pump
Q1DI .....Earth leakage circuit breaker
R1T.....Outlet water heat exchanger thermistor
R3T.....Refrigerant liquid side thermistor
R4T.....Inlet water thermistor
S1L.....Flow switch
S1M .....Main switch
SS2.....Dipswitch
TR1.....Transformer 24 V for PCB
X10A, X15A.....Connector
X17A~X20A.....Connector
X1A, X2A.....Connector
X4A, X5A.....Connector
X7A, X8A.....Connector
X3M .....Terminal strip

Non-accessible switch box

AC1, AC2.....Connector
E1, E2.....Connector
FU1.....Fuse 30 A 250 V
FU2,FU3.....Fuse 3.15 A 250 V
HR1, HR2 .....Connector
L .....Live
L1R.....Reactor
LED A .....Pilot lamp
M1C.....Compressor motor
M1F .....Fan motor
MRC/W.....Magnetic relay
MRM10,MRM20 .....Magnetic relay
N.....Neutral
PCB1,2 .....Printed circuit board
PM1 .....Power module
Q1L.....Overload protector
R1T~R3T.....Thermistor
S2~S102 .....Connector
SA2.....Surge arrester
SHEET METAL.....Terminal strip fixed plate
SW1.....Forced operation ON/OFF switch
SW4.....Local setting switch
U, V, W, X11A .....Connector
V2,V3,V5,V6,V11 ...Varistor
X1M, X2M.....Terminal strip
Y1E.....Electronic expansion valve coil
Y1R .....Reversing solenoid valve coil
Z1C~Z4C.....Ferrite core

Notes

..... Field wiring
..... Terminal strip
..... Connector

⊸ ..... Terminal

⏚ ..... Protective earth

(1) This wiring diagram only applies to the outdoor unit

(4) Do not operate the unit by short-circuiting protection devices Q1L, S1L

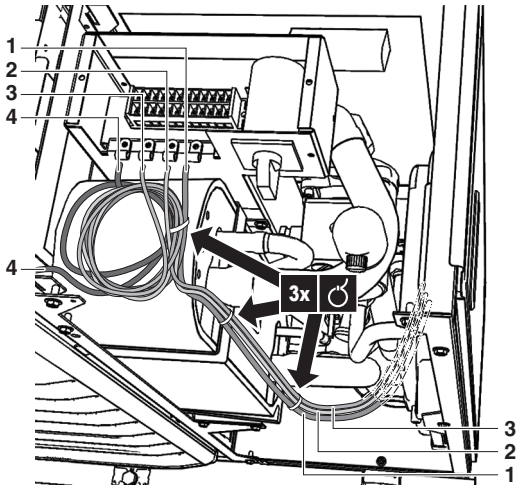
BLK	: Black	GRY	: Grey	VIO	: Violet
BLU	: Blue	PNK	: Pink	WHT	: White
BRN	: Brown	ORG	: Orange	YLW	: Yellow
GRN	: Green	RED	: Red		

5.9.2. Field wiring guidelines

When fixing cables inside the unit, make sure the cables do not touch the pump or refrigerant piping.

Equipment complying with EN/IEC 61000-3-12(1)

- The field wiring on the unit is to be made on the terminal block inside the switch box. To gain access to the terminal block, remove the unit top cover and switch box service panel, see "4.1. Opening of the unit" on page 3.
- Foresee the field wiring cable length to be 600 mm longer than strictly required.
  This will facilitate future servicing by allowing the switch box to be pulled up without having to disconnect cables.
  Bundle the surplus of field wiring length and keep wires together with cable ties as shown in the figure.
  Keep in mind that the main switch must stay easily accessible and that cables must be kept away from hot piping and sharp edges.



1 Power supply cable
2 Heater tape power supply cable (220 V)
Only functional in case of ADVP-H- units (heater tape option OP10).
3 Digital controller communication cable
4 Interconnection power supply cable (factory mounted)

- Cable tie mountings are provided at the side of switch box. Fix all cables using cable ties to provide strain relief.
- The back cover of the unit is equipped with 2 holes to guide the digital controller cable (smallest hole) and the power supply cable (largest hole) wiring into the unit. Refer to "4.2. Main components" on page 3.

  Make sure to use double insulated cables or to put cables outside the unit into a protective pipe in order to avoid damage to cables by friction on the basis of the unit.
- The power supply cable must be selected in accordance with local and national regulations.

5.9.3. Connection of the power supply

Switch off the power supply before making any connections.

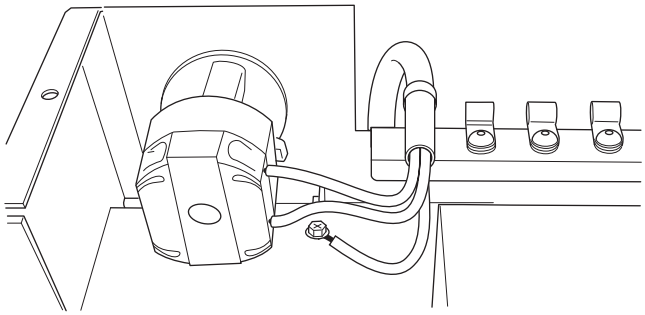
1 Using the appropriate cable (see above), connect the power circuit to the L and N terminals on the main isolator switch inside the switch box.

NOTE For easy connection of the wires, the back part of the switch must be detached by turning the lever a quarter turn and then pulling the rear part off the switch.

2 Connect the earth conductor (yellow/green) to the earthing screw on the switch box mounting plate.

3 Fix the cable with cable ties to the cable tie mountings to ensure strain relief.

Note: only relevant field wiring is shown.



5.10. Installation of the digital controller

The unit is equipped with a digital controller offering a user-friendly way to set up, use and maintain the unit. Before operating the controller, follow this installation procedure.

Wiring specifications

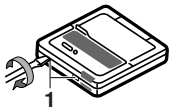
Wire specification	Value
Type	2 wire
Section	0.75–1.25 mm^2
Maximum length	500 m

NOTE The wiring for connection is not included.

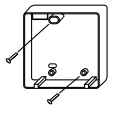
5.10.1. Mounting

The digital controller, delivered in a kit, has to be mounted indoors.

1 Remove the front part of the digital controller.
Insert a slotted screwdriver into the slots (1) in the rear part of the digital controller, and remove the front part of the digital controller.



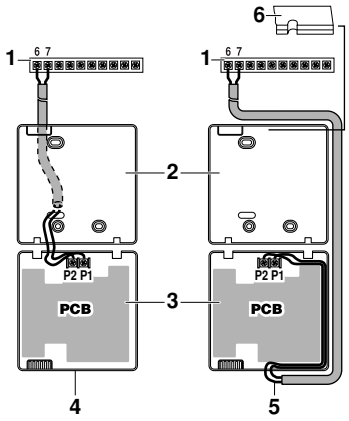
2 Fasten the digital controller on a flat surface.



NOTE Be careful not to distort the shape of the lower part of the digital controller by over tightening the mounting screws.

(1) European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.

3 Wire the unit.

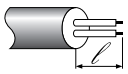


1 Chiller unit
2 Rear part of the digital controller
3 Front part of the digital controller
4 Wired from the rear
5 Wired from the top
6 Notch the part for the wiring to pass through with nippers, etc.

Connect the terminals on top of the front part of the digital controller and the terminals inside the unit (P1 to 6, P2 to 7).

NOTE

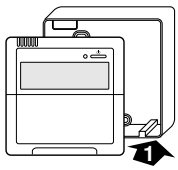
- When wiring, run the wiring away from the power supply wiring in order to avoid receiving electric noise (external noise).
- Peel the shield for the part that has to pass through the inside of the digital controller case (✓).



4 Reattach the upper part of the digital controller.

Be careful not to pinch the wiring when attaching.

First begin fitting from the clips at the bottom.



5.10.2. Remote ON/OFF and cooling/heating possibilities

Remote control of the unit can be done by a voltage free contact. Depending on the setting on the digital controller, the unit will operate in cooling or in heating mode.

5.10.3. Connection of the thermostat cable

Connection of the thermostat cable depends on the application.

See also "3. Typical application examples" on page 2.

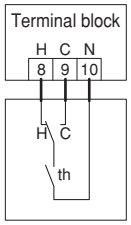
Thermostat requirements

- Contact voltage: 230 V.

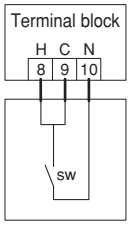
Procedure

1 Connect the thermostat cable to the appropriate terminals as shown on the wiring diagram.

Heating/cooling thermostat



Remote ON/OFF



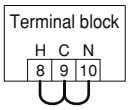
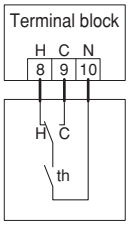
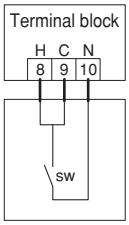
2 Fix the cable with cable ties to the cable tie mountings to ensure strain relief.

NOTE

- When a room thermostat is connected to the unit, the heating and cooling schedule timers are never available. Other schedule timers are not affected. For more information on the schedule timers, refer to the operation manual.
- When a room thermostat is connected to the unit, and the ☀/❄ button or ON/OFF button is pressed, the centralised control indicator will flash to indicate that the room thermostat has priority and controls on/off operation and change over operation.

The following table summarizes the required configuration and thermostat wiring at the terminal block in the switch box. Pump operation is listed in the third column. The three last columns indicate whether the following functionality is available on the user interface (UI) or handled by the thermostat (T):

- space heating or cooling on/off (ON/OFF)
- heating/cooling changeover (☀/❄)
- heating and cooling schedule timers (◷⊗)

Thermostat	Configuration	Pump operation	ON/OFF	☀/❄	◷⊗
No thermostat	wiring: 	on when unit is on	**UI**	**UI**	**UI**
Thermostat with heating/cooling switch	wiring: 	on when heating request or cooling request by room thermostat	**T**	**T**	—
Remote ON/OFF	wiring: 	on when remote on	**T**	—	—

th = Thermostat contact
C = Cooling contact
H = Heating contact
N = neutral

6. START-UP AND CONFIGURATION

6.1. Pre-operation checks

6.1.1. Checks before start-up (before initial start-up or at restart after a longer period of standstill)

Switch off the power supply before making any connections.

After the installation of the unit, check the following before switching on the circuit breaker:

1 Field wiring

Make sure that the field wiring has been carried out according to the instructions and guidelines given under "5.9. Field wiring" on page 8.

2 Internal wiring

Visually check the switch box on loose connections or damaged electrical components.

3 Fixation

Check that the unit is properly fixed, to avoid abnormal noises and vibrations.

4 Damaged equipment

Check the inside of the unit on damaged components or squeezed pipes.

5 Refrigerant leak

Check the inside of the unit on refrigerant leakage. If there is a refrigerant leak, contact your local Daikin dealer.

6 Power supply voltage

Check the power supply voltage on the local supply panel. The voltage must correspond to the voltage on the identification label of the unit.

7 Shut-off valves

Make sure that the shut-off valves are correctly installed and fully open.

8 Water pressure

Make sure the unit is filled with water and that the water pressure is approximately 2.0 bar.

9 Protection against freezing

Make sure that in colder climates (ambient temperature can become lower than 0°C) the unit is protected against freezing by means of a heater tape or by adding glycol to the water.

Also refer to "5.6.5. Protecting the water circuit against freezing" on page 7.

6.2. Powering up the unit

1 Switch on the main isolator switch inside the unit.

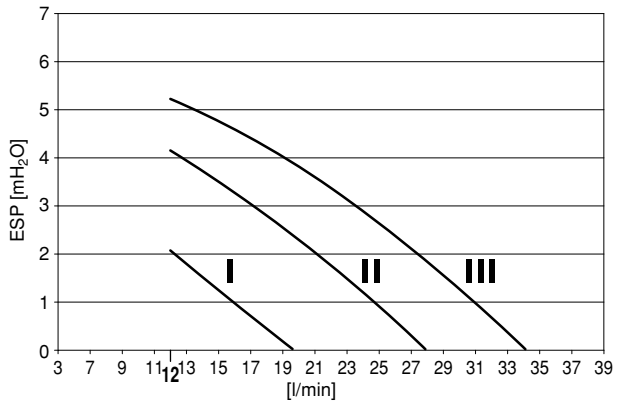
2 When power supply to the unit is turned on, "88" is displayed on the digital controller during its initialisation, which might take up tot 10 seconds. During this process the digital controller cannot be operated.

6.3. Setting the pump speed

The pump speed can be selected on the pump (see "4.2. Main components" on page 3).

The default setting is highest speed (III). If the water flow in the system is too high (e.g., noise of running water in the installation) the speed can be lowered (I or II).

The available external static pressure (ESP, expressed in mH_2O) in function of the water flow (l/min) is shown in the graph below.



6.4. Field settings

The unit should be configured by the installer to match the installation environment (outdoor climate, etc.) and user expertise. Thereto, a number of so called field settings are available. These field settings are accessible and programmable through the digital controller.

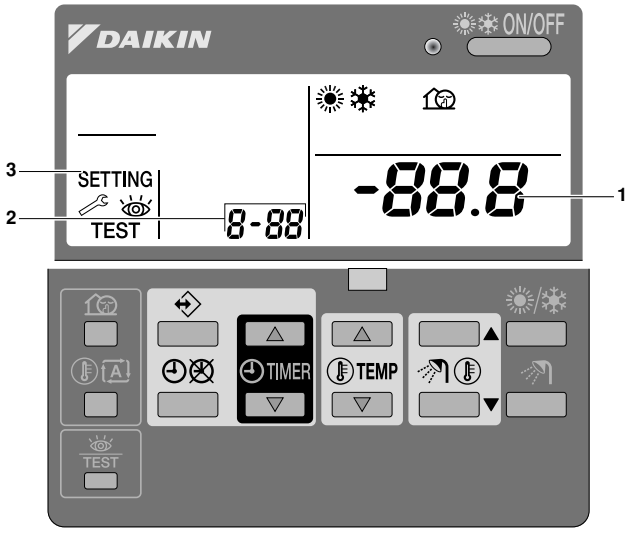
Each field setting is assigned a 3-digit number or code, for example [1-02], which is indicated on the digital controller display. The first digit [1] indicates the 'first code' or field setting group. The second and third digit [02] together indicate the 'second code'.

A list of all field settings and default values is given under "6.4.3. Field settings table" on page 13. In this same list, we have provided 2 columns to register the date and value of altered field settings at variance with the default value.

A detailed description of each field setting is given under "6.4.2. Detailed description" on page 12.

6.4.1. Procedure

To change one or more field settings, proceed as follows.



1 Press the TEST button for a minimum of 5 seconds to enter FIELD SET MODE.

The SETTING icon (3) will be displayed. The current selected field setting code is indicated *8-88* (2), with the set value displayed to the right *888* (1).

2 Press the TEMP▲ button to select the appropriate field setting first code.

3 Press the TEMP▼ button to select the appropriate field setting second code.

4 Press the TIMER▲ button and TIMER▼ button to change the set value of the select field setting.

5 Save the new value by pressing the ⊗ button.

6 Repeat step 2 through 4 to change other field settings as required.

7 When finished, press the TEST button to exit FIELD SET MODE.

NOTE Changes made to a specific field setting are only stored when the ⊗ button is pressed. Navigating to a new field setting code or pressing the TEST button will discard the change made.

NOTE

- Before shipping, the set values have been set as shown under "6.4.3. Field settings table" on page 13.
- When exiting FIELD SET MODE, "88" may be displayed on the digital controller LCD while the unit initialises itself.

6.4.2. Detailed description

[0] User permission level

If required, the digital controller functions available to the user can be limited by restricting the number of operable buttons. This may prevent the user from disrupting correct operation of the installation.

Three permission levels are available (see the table below). Switching between level 1 (default) and level 2/3 is done by pressing the following 4 buttons at the same time for more than 5 seconds (in normal mode): 🏠, Ⓐ, TIMER▲ and TIMER▼. Press these 4 buttons to switch to level 2/3, press again for 5 seconds to switch back to level 1. When level 2/3 is selected, the actual permission level — either level 2 or level 3 — is determined by the field setting [0-00].

- [0-00] User permission level: applicable permission level number (level 2 or level 3). See the table below.

Button		Permission level		
		1	2	3
On/off button	ON/OFF	**operable**	**operable**	**operable**
Operation changeover button	☀/❄	**operable**	**operable**	**operable**
Sanitary water heating button		***– Not available –***		
Sanitary temperature adjust buttons	▲ ▼	***– Not available –***		
Temperature adjust buttons	TEMP▲ TEMP▼	**operable**	**operable**	**operable**
Time adjust buttons	TIMER▲ TIMER▼	**operable**		
Programming button		**operable**		
Schedule timer enable/ disable button	⊗	**operable**	**operable**	
Quiet mode button	🏠	**operable**		
Weather dependent set point button	Ⓐ	**operable**		
Inspection/test operation button	TEST	**operable**		

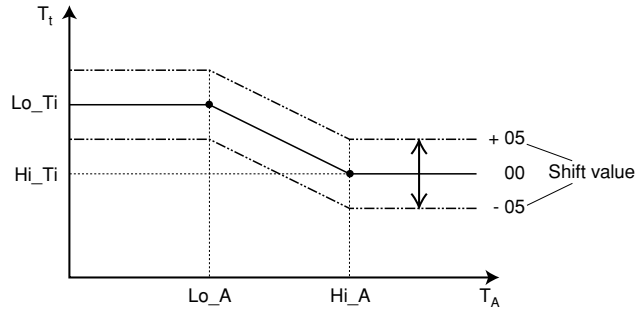
[1] Weather dependent set point (heat pump models only)

The weather dependent set point field settings define the parameters for the weather dependent operation of the unit. When weather dependent operation is active, the water temperature is determined automatically depending on the outdoor temperature: colder outdoor temperatures will result in warmer water and vice versa. During weather dependent operation, the user has the possibility to shift the target water temperature up or down by a maximum of 5°C. See the operation manual for more details on weather dependent operation.

- [1-00] Low ambient temperature (Lo_A): low outdoor temperature.
- [1-01] High ambient temperature (Hi_A): high outdoor temperature.
- [1-02] Set point at low ambient temperature (Lo_Ti): the target outgoing water temperature when the outdoor temperature equals or drops below the low ambient temperature (Lo_A).

  Note that the Lo_Ti value should be *higher* than Hi_Ti, as for colder outdoor temperatures (i.e. Lo_A) warmer water is required.

■ [1-03] Set point at high ambient temperature (Hi_Ti): the target outgoing water temperature when the outdoor temperature equals or rises above the high ambient temperature (Hi_A).
Note that the Hi_Ti value should be *lower* than Lo_Ti, as for warmer outdoor temperatures (i.e. Hi_A) less warm water suffices.



T_t Target water temperature
T_A Ambient (outdoor) temperature
Shift value = Shift value

[3] Auto restart

When power returns after a power supply failure, the auto restart function reapplies the user interface settings at the time of the power supply failure.

NOTE It is therefore recommended to leave the auto restart function enabled.

Note that with the function disabled the schedule timer will not be activated when power returns to the unit after a power supply failure. Press the ⏲⊗ button to enable the schedule timer again.

■ [3-00] Status: defines whether the auto restart function is turned **ON (0)** or **OFF (1)**.

[9] Cooling and heating set points

The purpose of this field setting is to prevent the user from selecting a wrong (i.e., too hot or too cold) leaving water temperature. Thereto the heating temperature set point range and the cooling temperature set point range available to the user can be configured.

■ [9-00] Heating set point upper limit: maximum leaving water temperature for heating operation.

■ [9-01] Heating set point lower limit: minimum leaving water temperature for heating operation.

■ [9-02] Cooling set point upper limit: maximum leaving water temperature for cooling operation.

■ [9-03] Cooling set point lower limit: minimum leaving water temperature for cooling operation.

6.4.3. Field settings table

First code	Second code	Setting name	Installer setting at variance with default value				Default value	Range	Step	Unit
			Date	Value	Date	Value				
0	**User permission level**									
	00	User permission level					**3**	**2 ~ 3**	**1**	**—**
1	**Weather dependent set point**									
	00	Low ambient temperature (Lo_A)					**–10**	**–20 ~ 5**	**1**	**°C**
	01	High ambient temperature (Hi_A)					**15**	**10 ~ 20**	**1**	**°C**
	02	Set point at low ambient temperature (Lo_Ti)					**40**	**25 ~ 55**	**1**	**°C**
	03	Set point at high ambient temperature (Hi_Ti)					**25**	**25 ~ 55**	**1**	**°C**
2	**Not available**									
3	**Auto restart**									
	00	Status					**0 (ON)**	**0/1**	**—**	**—**
4	**Not available**									
5	**Not available**									
6	**Not available**									
7	**Not available**									
8	**Not available**									
9	**Cooling and heating set point ranges**									
	00	Heating set point upper limit					**55**	**37 ~ 55**	**1**	**°C**
	01	Heating set point lower limit					**25**	**25 ~ 37**	**1**	**°C**
	02	Cooling set point upper limit					**20**	**18 ~ 20**	**1**	**°C**
	03	Cooling set point lower limit					**5**	**5 ~ 18**	**1**	**°C**

6.5. Test run and final check

The installer is obliged to verify correct operation of the unit after installation.

NOTE

Remark that during the first running period of the unit, required power input may be higher than stated on the nameplate of the unit. This phenomenon originates from the compressor that needs elapse of a 50 hours run in period before reaching smooth operation and stable power consumption.

6.5.1. Test run operation

1 Push the TEST button 4 times so that the **TEST** icon is displayed.

2 Depending on the unit model, heating operation, cooling operation or both must be tested as follows (when no action is performed, the digital controller will return to normal mode after 10 seconds or by pressing the TEST button once):

- To test the heating operation push the ☀/❄ button so the ☀ icon is displayed. To start the test run operation press the ON/OFF button.
- To test the cooling operation push the ☀/❄ button so the ❄ icon is displayed. To start the test run operation press the ON/OFF button.

3 The test run operation will end automatically after 30 minutes or when reaching the set temperature. The test run operation can be stopped manually by pressing the ON/OFF button once. If there are misconnections or malfunctions, an error code will be displayed on the digital controller. Otherwise, the digital controller will return to normal operation.

4 To resolve the error codes, see "8.3. Error codes" on page 16.

NOTE

To display the last resolved error code, push the TEST button 1 time. Push the TEST button again 4 times to return to normal mode.

6.5.2. Final check

Before handing over the unit to the user, read following recommendations:

- When the complete installation and all necessary settings have been carried out, close all unit covers.
- The service panel of the switch box may only be opened by a licensed electrician for maintenance purposes.

7. MAINTENANCE

In order to ensure optimal availability of the unit, a number of checks and inspections on the unit and the field wiring have to be carried out at regular intervals.

If the unit is used for air conditioning application, the described checks must be executed at least once a year. In case the unit is used for other applications, the checks must be executed every 4 months.

Before carrying out any maintenance or repair activity, always switch off the circuit breaker on the supply panel, remove the fuses or open the protection devices of the unit.

Do never clean the unit with water under pressure.

Beware that some parts of the unit can be extremely hot.

7.1. Chiller unit

1 Air heat exchanger

Remove dust and any other contaminant from the coil fins using a brush and a blower. Blow from the inside of the unit. Take care not to bend or damage the fins.

2 Fan motor

- Clean the cooling ribs of the motor.
- Check on abnormal noises. If the fan or motor are damaged, contact your local Daikin dealer.

3 Water pressure

Check if the water pressure is above 0.3 bar. If necessary add water.

4 Water filter

Clean the water filter.

5 Water pressure relief valve

Check for correct operation of the pressure relief valve by turning the red knob on the valve counter-clockwise:

- If you do not hear a clacking sound, contact your local Daikin dealer.
- In case the water keeps running out of the unit, close both the water inlet and outlet shut-off valves first and then contact your local Daikin dealer.

7.2. Digital controller

The digital controller does not need maintenance.

Remove dirt with a soft damp cloth.

8. TROUBLESHOOTING

This section provides useful information for diagnosing and correcting certain troubles which may occur in the unit.

8.1. General guidelines

Before starting the troubleshooting procedure, carry out a thorough visual inspection of the unit and look for obvious defects such as loose connections or defective wiring.

Before contacting your local Daikin dealer, read this chapter carefully, it will save you time and money.

When carrying out an inspection on the switch box of the unit, always make sure that the power supply to the unit is switched off.

When a safety device was activated find out why the safety device was activated before resetting it. Under no circumstances safety devices may be bridged or changed to a value other than the factory setting. If the cause of the problem cannot be found, contact your local Daikin dealer.

8.2. General symptoms

Symptom 1: The unit is turned on (ON/OFF LED is lit) but the unit is not heating or cooling as expected

POSSIBLE CAUSES	CORRECTIVE ACTION
The temperature setting is not correct.	Check the controller set point.
The water flow is too low.	• Check that all shut off valves of the water circuit are completely open. • Check if the water filter needs cleaning. • Make sure there is no air in the system (purge air). • Check on the manometer that there is sufficient water pressure. The water pressure must be >0.3 bar (water is cold), >> 0.3 bar (water is hot). • Check that the pump speed setting is on the highest speed (III). • Make sure that the expansion vessel is not broken. • Check that the resistance in the water circuit is not too high for the pump (refer to "6.3. Setting the pump speed" on page 11).
The water volume in the installation is too low.	Make sure that the water volume in the installation is above the minimum required value (refer to "5.6.2. Checking the water volume and expansion vessel pre-pressure" on page 6).

Symptom 2: Pump is making noise (cavitation)

POSSIBLE CAUSES	CORRECTIVE ACTION
There is air in the system.	Purge air.
Water pressure at pump inlet is too low.	• Check on the manometer that there is sufficient water pressure. The water pressure must be >0.3 bar (water is cold), >>0.3 bar (water is hot). • Check that the manometer is not broken. • Check that the expansion vessel is not broken. • Check that the setting of the pre-pressure of the expansion vessel is correct (refer to "5.6.3. Setting the pre-pressure of the expansion vessel" on page 6).

Symptom 3: The water pressure relief valve opens

POSSIBLE CAUSES	CORRECTIVE ACTION
The expansion vessel is broken.	Replace the expansion vessel.
The water volume in the installation is too high.	Make sure that the water volume in the installation is under the maximum allowed value (refer to "5.6.2. Checking the water volume and expansion vessel pre-pressure" on page 6.

Symptom 4: The water pressure relief valve leaks

POSSIBLE CAUSES	CORRECTIVE ACTION
Dirt is blocking the water pressure relief valve outlet.	Check for correct operation of the pressure relief valve by turning the red knob on the valve counter-clockwise: • If you do not hear a clacking sound, contact your local Daikin dealer. • In case the water keeps running out of the unit, close both the water inlet and oulet shut-off valves first and then contact your local Daikin dealer.

8.3. Error codes

When a safety device is activated, the digital controller LED will be flashing, and an error code will be displayed.

A list of all errors and corrective actions can be found in the table below.

Reset the safety by turning the unit OFF and back ON (by pushing digital controller ON/OFF button 2 times). In case this procedure for resetting the safety is not successful, contact your local Daikin dealer.

Error code	Failure cause	Corrective action
80	Inlet water temperature thermistor error (inlet water thermistor broken)	Contact your local Daikin dealer.
81	Outlet water temperature thermistor failure (outlet water temperature sensor broken)	Contact your local Daikin dealer.
89	Water heat exchanger freeze-up failure (due water flow too low)	Refer to error code 7H.
	Water heat exchanger freeze-up failure (due to refrigerant shortage)	Contact your local Daikin dealer.
7H	Flow failure (water flow too low or no water flow at all, minimum required water flow is 9 l/min)	• Check that all shut off valves of the water circuit are completely open. • Check if the water filter needs cleaning. • For heat pump models: make sure that the unit is working within its operating range - ambient temperature >–15°C - water temperature >30°C. Also refer to "5.6.6. Initial start-up at low ambient temperatures" on page 8. • Make sure there is no air in the system (purge air). • Check on the manometer that there is sufficient water pressure. The water pressure must be >0.3 bar (water is cold), >>0.3 bar (water is hot). • Check that the pump speed setting is on the highest speed (III). • Make sure that the expansion vessel is not broken. • Check that the resistance in the water circuit is not too high for the pump (refer to "6.3. Setting the pump speed" on page 11).
A1	A1P PCB defective (in accessible switch box)	Contact your local Daikin dealer.
A5	Too low outlet water temperature (outlet water temperature measured by R1T too low)	Refer to error code 7H.
C0	Flow switch failure (flow switch remains closed while pump is stopped)	Check that the flow switch is not clogged with dirt.
C4	Heat exchanger thermistor failure (heat exchanger temperature sensor broken)	Contact your local Daikin dealer.
E1	A4P PCB defective (in non-accessible switch box)	Contact your local Daikin dealer.
E5	Overload activation of compressor	Check that the unit is operating within its operating range (refer to "8.4. Technical specifications" on page 17). Contact your local Daikin dealer.
E6	Compressor start-up failure	Contact your local Daikin dealer.
E7	Fan lock failure (fan is locked)	Check if the fan is not obstructed by dirt. If the fan is not obstructed, contact your local Daikin dealer.
E8	Overcurrent failure	Check that the unit is operating within its operating range (refer to "8.4. Technical specifications" on page 17).
EA	Cooling/heating switching failure (only for heat pump model)	Contact your local Daikin dealer.
F3	Too high discharge temperature (e.g. due to outdoor coil blockage)	Clean the outdoor coil. If the coil is clean, contact your local Daikin dealer.
F6	Too high condensing pressure during cooling (e.g. due to outdoor coil blocked by dirt)	Clean the outdoor coil. If the coil is clean, contact your local Daikin dealer.
	Too high condensing pressure during cooling (e.g. due to unit operating outside its operating range)	Check that the unit is operating within its operating range (refer to "8.4. Technical specifications" on page 17).
FA	High pressure failure (due to unit operating outside its operating range)	Check that the unit is operating within its operating range (refer to "8.4. Technical specifications" on page 17).
H0	Voltage and current sensor failure (sensor broken)	Contact your local Daikin dealer.
H9	Outdoor temperature thermistor failure (outdoor thermistor is broken)	Contact your local Daikin dealer.
J3	Discharge pipe thermistor failure	Contact your local Daikin dealer.
J6	Outdoor unit heat exchanger thermistor broken or disconnected	Contact your local Daikin dealer.
L3	Electric component failure	Contact your local Daikin dealer.
L4	Electric component failure	Contact your local Daikin dealer.
L5	Electric component failure	Contact your local Daikin dealer.
P4	Electric component failure	Contact your local Daikin dealer.
U0	Refrigerant failure (due to refrigerant leak)	Contact your local Daikin dealer.
U2	Main circuit voltage failure	Contact your local Daikin dealer.
U4	Communication error failure	Contact your local Daikin dealer.
U7	Communication error failure	Contact your local Daikin dealer.
UA	Communication error failure	Contact your local Daikin dealer.

8.4. Technical specifications

8.1. General

	Cooling only models			Heat pump models		
	EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP	EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP
Nominal capacity						
• cooling[(a)]	5.3 kW	6.1 kW	7.2 kW	5.3 kW	6.1 kW	7.2 kW
• heating[(b)]	—	—	—	7.2 kW	8.5 kW	9.1 kW
Dimensions H x W x D	805 x 1190 x 360 mm					
Weight						
• machine weight	100 kg					
• operation weight	104 kg					
Connections						
• water inlet/outlet	1" MBSP[(c)]					
• water drain	5/16" SAE flare					
Refrigerant						
• Type	R410A					
• Charge	1.7 kg					
Expansion vessel						
• Volume	6 l					
• Pre-pressure	1 bar					
• Maximum working pressure (MWP)	3.0 bar					
Pump						
• Type	water cooled					
• no. of speed	3					
• Nominal ESP	normal: 25 kPa, high: 40 kPa					
Sound level						
• Sound power	62 dBA	62 dBA	63 dBA	62 dBA	62 dBA	63 dBA
• Sound pressure (at 1 m distance)	48 dBA	48 dBA	50 dBA	48 dBA	48 dBA	50 dBA
Internal water volume	4 l					
Nominal water flow	14.9 l/min	17.2 l/min	20.4 l/min	14.9 l/min	17.2 l/min	20.4 l/min
Pressure relief valve water circuit	3 bar					
Operation range - water side						
• heating	—			+25~+55°C		
• cooling	+5~+20°C			+5~+20°C		
Operation range - air side						
• heating	—			–15~+25°C		
• cooling	+10~+43°C			+10~+43°C		

(a) Nominal cooling capacities are based on the following conditions (EN14511:2011):
evaporator: 12°C/7°C
ambient: 35°C

(b) Nominal heating capacities are based on the following conditions (EN14511:2011)
ambient: 7°C DB/6°C WB
condenser: 30°C/35°C

(c) MBSP = Male British Standard Pipe

8.2. Electrical specifications

	Cooling only models			Heat pump models		
	EWAQ005ADVP	EWAQ006ADVP	EWAQ007ADVP	EWYQ005ADVP	EWYQ006ADVP	EWYQ007ADVP
Power circuit						
• Phase	1P					
• Frequency	50 Hz					
• Voltage	230 V					
• Maximum running current	17.3 A			19 A		

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