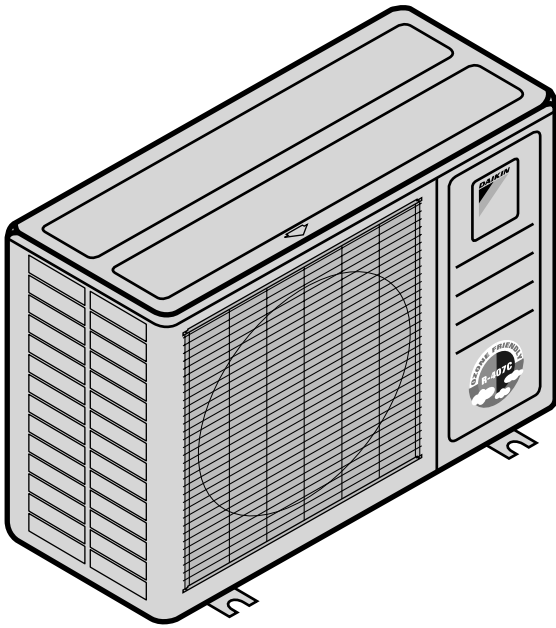




# INSTALLATION MANUAL

## R-407C Split series outdoor units



**RY35EAZ7V1**  
**RY45EAZ7V1**

Daikin Europe N.V.

declares under its sole responsibility that the air conditioning models to which this declaration relates:  
erklärt auf seine alleinige Verantwortung daß die Modelle der Klimageräte für die diese Erklärung bestimmt ist:  
déclare sous sa seule responsabilité que les appareils d'air conditionné visés par la présente déclaration:

verklaart hierbij op eigen exclusieve verantwoordelijkheid dat de airconditioning units waarop deze verklaring betrekking heeft:  
declara baja su única responsabilidad que los modelos de aire acondicionado a los cuales hace referencia la declaración:  
dichiara sotto sua responsabilità che i condizionatori modello a cui è riferita questa dichiarazione:

δηλώνει με αποκλειστική της ευθύνη ότι τα μοντέλα των κλιματιστικών συσκευών στα οποία αναφέρεται η παρούσα δήλωση:  
declara sob sua exclusiva responsabilidade que os modelos de ar condicionado a que esta declaração se refere:  
erklærer under eneansvar, at klimaanlægmodellerne, som denne deklaration vedrører:

deklarerer i egenskap av huvudansvarig, att luftkonditioneringsmodellerna som berörs av denna deklaration innebär att:  
erklærer et fullstendig ansvar for at de luftkondisjoneringsmodeller som berøres av denne deklarasjon innebærer at:  
ilmoittaa yksinomaan omalla vastuullaan, että tämän ilmoituksen tarkoitamat ilmastointilaitteiden mallit:

RY35EAZ7V1, RY45EAZ7V1,

are in conformity with the following standard(s) or other normative document(s), provided that these are used in accordance with our instructions:  
der/den folgenden Norm(en) oder einem anderen Normdokument oder -dokumenten entspricht/entsprechen, unter der Voraussetzung, daß sie gemäß unseren Anweisungen eingesetzt werden:  
sont conformes à la/aux norme(s) ou autre(s) document(s) normatif(s), pour autant qu'ils soient utilisés conformément à nos instructions:

conform de volgende norm(en) of één of meer andere bindende documenten zijn, op voorwaarde dat ze worden gebruikt overeenkomstig onze instructies:  
están en conformidad con la(s) siguiente(s) norma(s) u otro(s) documento(s) normativo(s), siempre que sean utilizados de acuerdo con nuestras instrucciones:  
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:

είναι σύμφωνα με το(α) ακόλουθο(α) πρότυπο(α) ή άλλο έγγραφο(α) κανονισμών, υπό την προϋπόθεση ότι χρησιμοποιούνται σύμφωνα με τις οδηγίες μας:  
está 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:  
overholder følgende standard(er) eller andet/andre retningsgivende dokument(er), forudsat at disse anvendes i henhold til vore instrukser:

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 :  
respektive utstyr er i overensstemmelse med følgende standard(er) eller andre normgivende dokument(er), under forutsetning av at disse brukes i henhold til våre instrukser:  
vastaavat seuraavien standardien ja muiden ohjeellisten dokumenttien vaatimuksia edellyttäen, että niitä käytetään ohjeidemme mukaisesti:

EN60335-2-40,

following the provisions of:  
gemäß den Vorschriften der:  
conformément aux stipulations des:

overeenkomstig de bepalingen van:  
siguiendo las disposiciones de:  
secondo le prescrizioni per:

με τήρηση των διατάξεων των:  
de acordo com o previsto em:  
under iagttagelse af bestemmelserne i:

enligt villkoren i:  
gitt i henhold til bestemmelsene i:  
noudattaa määräyksiä:

Directives, as amended.  
Direktiven, gemäß Änderung.  
Directives, telles que modifiées.

Richtlijnen, zoals geamendeerd.  
Directivas, según lo enmendado.  
Direttive, come da modifica.

Οδηγιών, όπως έχουν τροποποιηθεί.  
Directivas, conforme alteração em.  
Direktiver, med senere ændringer.

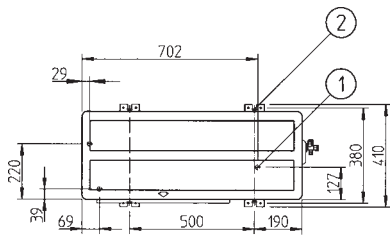
Direktiv, med företagna ändringar.  
Direktiver, med foretatte endringer.  
Direktiivejä, sellaisina kuin ne ovat muutettuina.

Low Voltage 73/23/EEC  
Machinery Safety 89/392/EEC  
Electromagnetic Compatibility 89/336/EEC \*

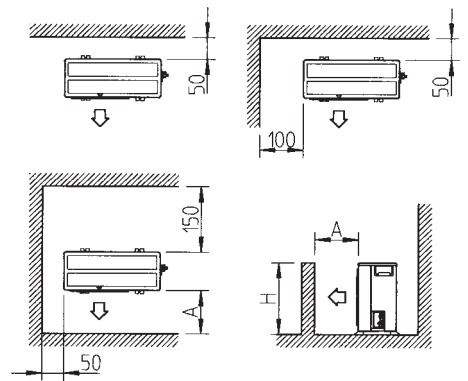
* Note	as set out in the Technical Construction File <b>DAIKIN.TCF.001</b> and judged positively by <b>KEMA</b> according to the <b>Certificate 58242-KRQ/ECM95-4224</b> .
Hinweis	wie in der Technischen Konstruktionsakte <b>DAIKIN.TCF.001</b> aufgeführt und von <b>KEMA</b> positiv ausgezeichnet gemäß <b>Zertifikat 58242-KRQ/ECM95-4224</b> .
Remarque	tel que stipulé dans le Fichier de Construction Technique <b>DAIKIN.TCF.001</b> et jugé positivement par <b>KEMA</b> conformément au <b>Certificat 58242-KRQ/ECM95-4224</b> .
Bemerk	zoals vermeld in het Technisch Constructiedossier <b>DAIKIN.TCF.001</b> en in orde bevonden door <b>KEMA</b> overeenkomstig <b>Certificaat 58242-KRQ/ECM95-4224</b> .
Nota	tal como se expone en el Archivo de Construcción Técnica <b>DAIKIN.TCF.001</b> y juzgado positivamente por <b>KEMA</b> según el <b>Certificado 58242-KRQ/ECM95-4224</b> .
Nota	delineato nel File Tecnico di Costruzione <b>DAIKIN.TCF.001</b> e giudicato positivamente da <b>KEMA</b> secondo il <b>Certificato 58242-KRQ/ECM95-4224</b> .
Σημείωση	όπως προσδιορίζεται στο Αρχείο Τεχνικής Κατασκευής <b>DAIKIN.TCF.001</b> και κρίνεται θετικά από το <b>KEMA</b> σύμφωνα με το <b>Πιστοποιητικό 58242-KRQ/ECM95-4224</b> .
Nota	tal como estabelecido no Ficheiro Técnico de Construção <b>DAIKIN.TCF.001</b> e com o parecer positivo de <b>KEMA</b> de acordo com o <b>Certificado 58242-KRQ/ECM95-4224</b> .
Bemærk	som anført i den Tekniske Konstruktionsfil <b>DAIKIN.TCF.001</b> og positivt vurderet af <b>KEMA</b> i henhold til <b>Certifikat 58242-KRQ/ECM95-4224</b> .
Information	utrustningen är utförd i enlighet med den Tekniska Konstruktionsfilen <b>DAIKIN.TCF.001</b> som positivt intygas av <b>KEMA</b> vilket också framgår av <b>Certifikat 58242-KRQ/ECM95-4224</b> .
Merk	som det fremkommer i den Tekniske Konstruktionsfilen <b>DAIKIN.TCF.001</b> og gjennom positiv bedømmelse av <b>KEMA</b> ifølge <b>Sertifikat 58242-KRQ/ECM95-4224</b> .
Huom	jotka on esitetty Teknisessä Asiakirjassa <b>DAIKIN.TCF.001</b> ja jotka <b>KEMA</b> on hyväksynyt <b>Sertifikaatin 58242-KRQ/ECM95-4224</b> mukaisesti.



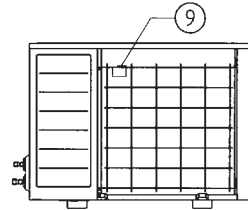
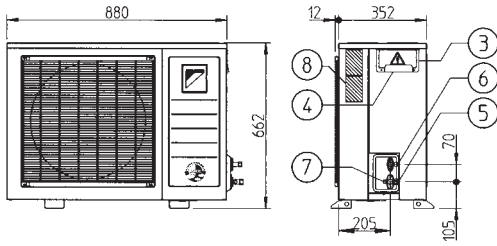
**DAIKIN EUROPE NV**  
Zandvoordestraat 300, B-8400 Oostende, Belgium



	⑤ ØA	⑥ ØB
RY35EAZ7	Ø12.7mm or 1/2" CuT	Ø6.4mm or 1/4" CuT
RY45EAZ7	Ø15.9mm or 5/8" CuT	Ø6.4mm or 1/4" CuT

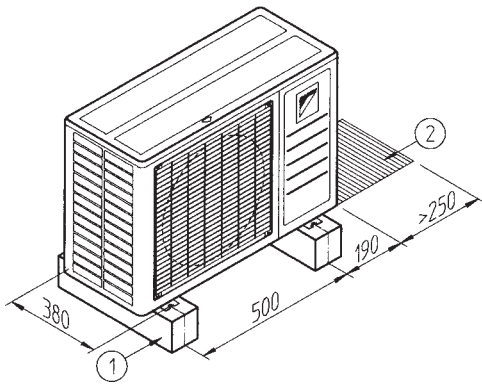


H 1000 ⇒ A 300
H > 1000 ⇒ A 600



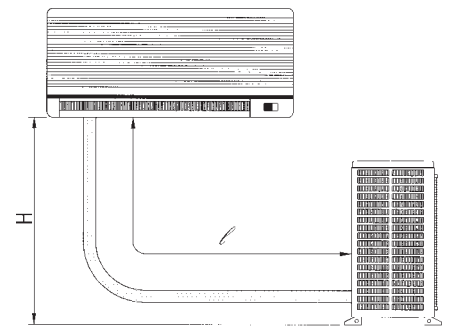
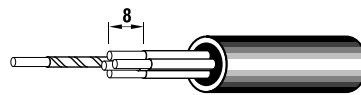
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	RY35EAZ7	RY45EAZ7
L	20m	25m

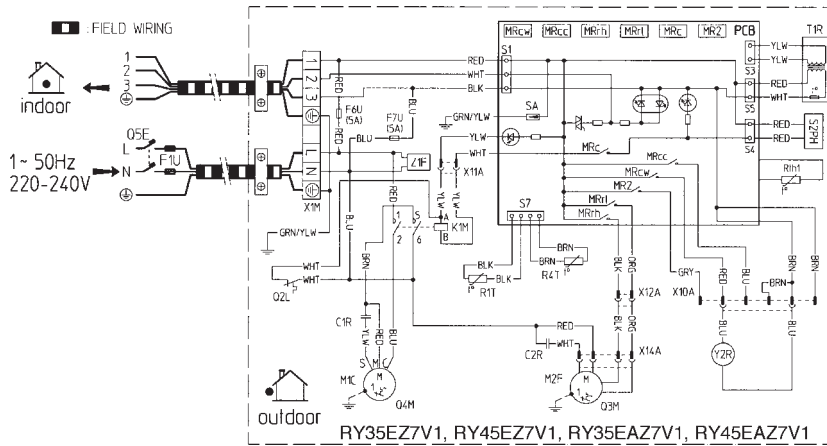
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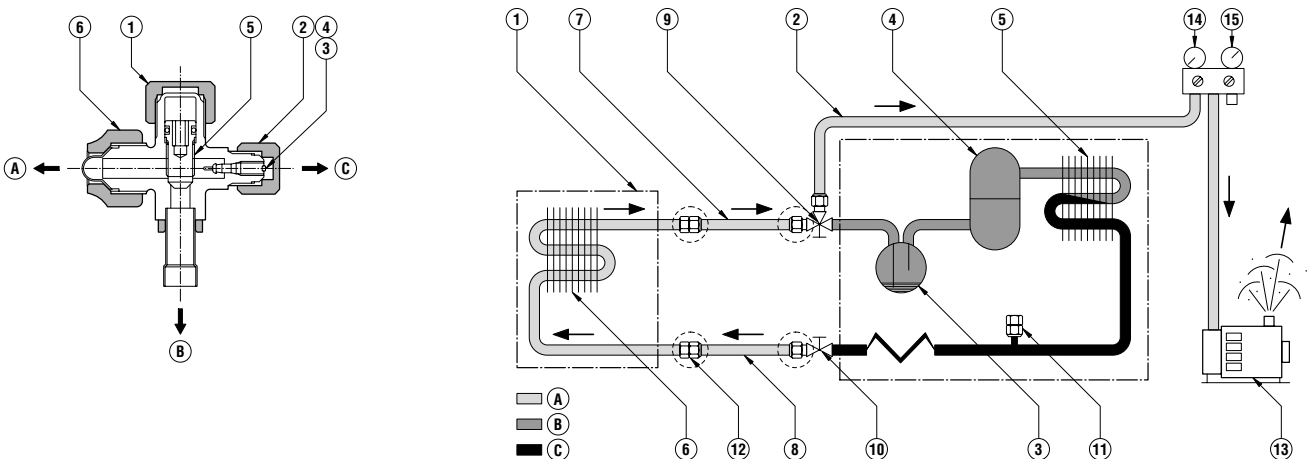
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(3TW01326-1B)



8

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READ THIS MANUAL IN COMBINATION WITH THE INSTALLATION MANUAL OF THE CORRESPONDING INDOOR UNIT.



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 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.

## 1. INSTALLING THE OUTDOOR UNIT

### 1.1. OUTLOOK DIAGRAM (see figure 1)

- 1) drain outlet (3x)
- 2) 4 x holes for anchor bolts (M10)
- 3) service cover
- 4) power intake
- 5) low pressure gas stop valve ØA
- 6) liquid stop valve ØB
- 7) low pressure service port
- 8) nameplate
- 9) outdoor air thermistor

### 1.2. SELECTING THE LOCATION

Be sure to install the outdoor unit where:

- the foundation is solid enough to bear the weight and vibration of the unit.
- the space around the unit is adequate for ventilation. (see figure 2)
- the site is not near a concentration of flammable gas.
- the site is not exposed to a salty atmosphere or sulphate gas.
- the site is efficiently isolated so that the running noise and hot exhaust do not disturb the users or their neighbours.



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

- To prevent exposure to wind, install the outdoor unit with its suction side facing the wall.
- Never install the outdoor unit at a site where the suction side may be exposed directly to wind.
- To prevent exposure to wind, it is recommended to install a baffle plate on the air discharge side of the outdoor unit.
- In heavy snowfall areas, select an installation site where the snow will not affect operation of the unit.

Since drain comes out of the outdoor unit, do not place anything around the outdoor unit that must be kept free from moisture. Do **not** install the condensing unit in a place containing moisture.

### 1.3. INSTALLATION (see figure 3)

- 1) If drainage is bad, place concrete blocks as bases.
- 2) Leave sufficient space for piping and electric wiring, or at least enough space for unscrewing and removing the terminal cover.

## 2. REFRIGERANT PIPING

### 2.1. FIELD PIPING



All field piping must be provided by a licensed refrigeration technician and must comply with the relevant local and national codes.

### 2.2. PIPE CONNECTIONS



Do not use mineral oil on flared part.

Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.

Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.

Do never install a drier to this R-407C unit in order to guarantee its lifetime. The drying material may dissolve and damage the system.

Piping connections must be made from the right side of the unit. (Refer to figure 1 for the required piping diameters).

### 2.3. FIRST INSTALLATION (see figures 4 and 6)

- If pipe length (L) between indoor and outdoor unit exceeds **10 meters**, additional refrigerant R-407C (**30g/m**) must be charged after vacuum drying of the installation!
- Maximum allowable level difference (H<sub>max</sub>) between indoor and outdoor unit is limited up to 15 meters.
- Maximum allowable piping length (L) is limited as shown in figure 4.

## 3. VACUUM DRYING OF THE INSTALLATION



Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation! There is no extra refrigerant in the outdoor unit for air purging!




Use a vacuum pump for R-407C exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.

## 3.1. FIGURES


### 3.1.1. Gas stop valve (see figure 8)

- A) connection to fan coil (indoor) unit
- B) connection to accumulator / compressor
- C) connection to low pressure gauge manifold
  - 1) blind cover
  - 2) low pressure service port cover
  - 3) low pressure service
  - 4) check valve
  - 5) valve shaft
  - 6) flare nut

### 3.1.2. Vacuum pump connection drawing (see figure 9)


- A) air
- B) refrigerant - gas
- C) refrigerant - liquid
-  test for leakage
  - 1) fan coil (indoor) unit
  - 2) condensing (outdoor) unit
  - 3) accumulator
  - 4) compressor
  - 5) condenser
  - 6) evaporator
  - 7) gas line
  - 8) liquid line
  - 9) gas stop valve with low pressure service port
  - 10) liquid stop valve
  - 11) high pressure service port
  - 12) flare joint
  - 13) 2-stage vacuum pump
  - 14) low pressure gauge
  - 15) high pressure gauge

## 3.2. METHOD

- Step 1: Gas stop valve and liquid stop valve remain closed.
- Step 2: Connect the low pressure service port to the low pressure gauge manifold and the vacuum pump as illustrated in figure 9.
- Notes: 
- Use a 2-stage vacuum pump with a built-in contra flow preventive adapter or attach a separate contra flow preventive adapter.
  - Use a clean gauge manifold and charging hose for R-407C exclusively.
- Step 3: Open the low pressure valve of the gauge manifold
- Step 4: Actuate the vacuum pump and make sure that the low pressure gauge indicates -0.1 MPa (-760 mmHg)

Evacuation duration:

Gas side piping size	Piping length	
	15 m	> 15 m
ø 12.7 mm	15 minutes	20 minutes
ø 15.9 mm	20 minutes	

- Step 5: - Completely close the low pressure valve first.  
 - Remove the vacuum pump from the gauge manifold, and then turn off the vacuum pump.  
 - Leave the system as it is for 2 minutes and confirm that the low pressure gauge readout does not decrease.  
 - If the needle moves back, ingress of water inside the system or leakage at the joints are considered.  
 - Check every joint and then loosen the nut once and tighten it again firmly. After that, repeat step 2 to 5.
- Step 6: Remove the blind cover of the gas stop valve and liquid stop valve.
- Step 7: Open the gas stop valve for about 3 seconds with a hexagon wrench, then quickly close it firmly.
- Step 8: Check the connections marked with  for leakage.  
 - Apply soapsuds to the connections and inspect carefully.  
 - After checking, wipe them off completely.
- Step 9: Disconnect the gauge manifold.
- Step 10: Open the liquid and gas stop valve completely.
- Step 11: Tighten up the blind cover of the liquid stop valve.
- Step 12: Tighten up the service port cover and the blind cover of the gas stop valve.

#### 4. FIELD WIRING

##### 4.1. FIELD WIRING



All field wiring and components must be provided by a licensed electrician and must comply with the relevant local and national codes.

Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.

##### 4.2. FIELD CABLE AND FIELD FUSE

###### 4.2.1. Cautions



- Use solid core cables to avoid loosening of the wires.
- Do not use flexible or stranded wires to avoid the risk for short circuit!
- Remove maximum 8mm of the PVC wire insulation when connecting the wires to the terminals. (see figure 5)










###### 4.2.2. Minimum recommended field cables and field fuses

MODEL	POWER SUPPLY		wire size interconnection
	PHASE	FIELD FUSE	
RY35	1~	16A	1.5 mm <sup>2</sup>
RY45	1~	20A	1.5 mm <sup>2</sup>

#### 5. FAULT DIAGNOSIS

### FAULT DIAGNOSIS - OUTDOOR PRINTED CIRCUIT BOARD

- 1) Check the interunit wiring between indoor and outdoor units to ensure that all wire connections are correctly connected.
- 2) Turn the power OFF for at least 5 seconds and turn it ON again. If the same LED display recurs, the diagnosis can be determined.


LED-A green	LED-1 red	LED-2 red	Meaning of display and actions to be taken
			NORMAL → CHECK THE INDOOR UNIT
			PROTECTIVE DEVICES ARE ACTIVATED
			FAULTY SENSOR (HPS, HEAT EXCHANGER OR SUCTION THERMISTOR IS OPEN OR SHORT CIRCUITED)
	---	---	FAULT ON OUTDOOR PRINTED CIRCUIT BOARD
	---	---	ABNORMAL POWER SUPPLY OR FAULT ON OUTDOOR PCB → 3)

 : LED ON       : LED OFF       : LED FLASHING      --- : INSIGNIFICANT

- 3) Turn the power OFF for at least 5 seconds and disconnect the connection wire (2), then turn it ON again.  
If LED-A flashes, the indoor PCB is faulty.
- 4) After checking, turn the power OFF for at least 5 seconds, to reset the LED display.

- Wire in accordance with the wiring diagrams (see figure 7) and outlook diagram (see figure 1). The required electrical power supply is stated on the unit's nameplate.

Parts table:

	protective earth
C1R,C2R	running capacitor
F1U	field fuse
F6U,F7U	fuse
K1M	compressor contactor
L	live
M1C	compressor motor
M2F	fan motor
MR	magnetic relay
N	neutral
PCB	printed circuit board
Q2L	overload protector (compressor)
Q3M,Q4M	thermal protector
Q5E	field earth leak detector
R1T	outside air thermistor
R4T	defrost thermistor
Rth1	PCB temp. thermistor
S1,S3	connectors on PCB
S2PH	high pressure switch
SA	surge arrester
T1R	transformer
X1M	terminal strip
X10A,X11A	connector
Y2R	reversing solenoid valve
Z1F	noise filter
BLK	black wire
BLU	blue wire
BRN	brown wire
GRN/YLW	green/yellow wire
ORG	orange wire
PNK	pink wire
RED	red wire
WHT	white wire
YLW	yellow wire
PPL	purple wire

#### 6. DISPOSAL REQUIREMENTS

Dismantling of the unit, treatment of the refrigerant, oil and eventual other parts, should be done in accordance with the relevant local and national regulations.

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