

Atunci când se intră în circuitul de agent frigorific pentru reparații - sau în orice alt scop - se vor folosi proceduri convenționale. Cu toate acestea, este important ca cele mai bune practici să fie respectate, deoarece inflamabilitatea este o considerație. Trebuie respectată următoarea procedură:

îndepărtați agentul frigorific;
purjați circuitul cu gaz inert;
evacuați;

din nou purjați cu gaz inert;
deschideți circuitul prin tăiere sau sudură tare.

Încărcătura de agent frigorific trebuie recuperată în cilindrii de recuperare corespunzători. Sistemul trebuie spălat cu OFN pentru a face unitatea sigură. Repetarea acestui proces poate fi necesară de câteva ori. Aerul comprimat sau oxigenul nu se va utiliza pentru această sarcină.

Spălarea se realizează prin ruperea vaccumului în sistem cu OFN și continuarea umplerii până la atingerea presiunii de lucru, apoi aerisirea în atmosferă și, în final, tragerea la vid. Acest procedeu se va repeta până când în sistem nu mai este prezent agentul de refrigerare. Atunci când este utilizată încărcarea finală cu OFN, sistemul trebuie să fie ventilat până la presiunea atmosferică pentru a permite efectuarea lucrărilor. Această operație este absolut vitală în cazul în care trebuie să se realizeze operațiunile de sudură tare pe tubulatură. Asigurați-vă că priza pentru pompa de vid nu este aproape de sursele de aprindere și că există ventilație disponibilă.

15. Proceduri de încărcare

Suplimentar la procedurile convenționale de încărcare, este necesară respectarea următoarelor cerințe.

- Asigurați-vă că nu se produce contaminarea diferitor agenți frigorifici atunci când se utilizează echipamente de încărcare. Furtunurile sau liniile trebuie să fie cât mai scurte posibil pentru a minimiza cantitatea de agent frigorific conținut în acestea.

- Cilindrii trebuie ținutăți în poziție verticală.

- Asigurați-vă că sistemul de răcire este legat la pământ înainte de încărcarea sistemului cu agent frigorific.

- Etichetați sistemul când încărcarea este completă (dacă nu ați făcut deja acest lucru).

- Se va avea grijă deosebită ca sistemul de răcire să nu se supraîncălzească.

Înainte de reîncărcarea sistemului, acesta trebuie testat la presiune cu OFN. Sistemul trebuie să fie testat pentru scurgere la finalizarea încărcării, dar înainte de punerea în funcțiune. Trebuie să se efectueze un test de scurgere pentru urmărire înainte de a părăsi locul.

16. Dezamorsare

Înainte de a efectua această procedură, este esențial ca tehnicianul să fie complet familiarizat cu echipamentul și cu toate detaliile acestuia. Se recomandă o bună practică pentru ca toți agenții frigorifici să fie recuperați în siguranță. Înainte de efectuarea sarcinii, se prelevează un eșantion de ulei și agent frigorific în cazul în care este necesară o analiză înainte de reutilizarea agentului refrigerent regenerat. Este esențial ca energia electrică să

INSTRUCȚIUNI PENTRU SERVICIU APARATELOR CE CONȚIN R 290

fie disponibilă înainte de începerea sarcinii.

- a) Familiarizați-vă cu echipamentul și cu funcționarea acestuia
- b) Izolați sistemul electric
- c) Înainte de încercarea procedurii, asigurați-vă că:
sunt disponibile echipamente de manipulare mecanică, dacă este necesar, pentru manipularea buteliilor cu agent frigorific;
toate echipamentele de protecție individuală sunt disponibile și utilizate corect;
procesul de recuperare este supravegheat în orice moment de o persoană competentă;
echipamentul de recuperare și buteliile sunt conforme cu standardele corespunzătoare.
- d) Dacă este posibil, reduceți presiunea sistemului de răcire.
- e) Dacă nu este posibil un vid, faceți un colector astfel încât agentul frigorific să poată fi îndepărtat din diferite părți ale sistemului)
- f) Asigurați-vă că butelia este situată pe cântar înainte de recuperare.
- g) Porniți mașina de recuperare și utilizați în conformitate cu instrucțiunile producătorului.
- h) Nu umpleți buteliile. (Nu mai mult de 80% din volumul de lichid).
- i) Nu depășiți presiunea maximă de lucru a buteliei, fie și temporar.
- j) Când buteliile au fost umplute corect și procesul a fost finalizat, asigurați-vă că buteliile și echipamentul sunt îndepărtate imediat de pe zonă și că toate supapele de izolare de pe echipament sunt închise.
- k) Agentul frigorific recuperat nu trebuie încărcat într-un alt sistem de răcire decât dacă a fost curățat și verificat.

17. Etichetare

Echipamentul trebuie să fie etichetat cu mențiunea că a fost demontat și golit de agentul frigorific. Eticheta trebuie să fie datată și semnată. Asigurați-vă că pe echipament există etichete care să ateste că echipamentul conține agent frigorific inflamabil.

18. Recuperare

Când scoateți agentul frigorific dintr-un sistem, fie pentru service, fie pentru dezafectare, se recomandă o bună practică pentru ca toți agenții frigorifici să fie îndepărtați în siguranță.

Când transferați agentul frigorific în butelii, asigurați-vă că sunt folosite numai butelii de recuperare a agentului frigorific. Asigurați-vă că sunt disponibile numărul corect de butelii pentru menținerea încărcării totale a sistemului. Toate buteliile care urmează să fie utilizate sunt destinate agentului frigorific recuperat și etichetate pentru agentul frigorific respectiv (adică butelii speciale pentru recuperarea agentului frigorific). Buteliile trebuie să fie complet echipate cu supapa de presiune și supapele de închidere automată în stare bună de funcționare. Buteliile de recuperare goale sunt evacuate și, dacă este posibil, răcite înainte de recuperare.

Echipamentul de recuperare trebuie să fie în stare bună de funcționare, cu un set de instrucțiuni privind echipamentul la îndemână și să fie adecvat pentru recuperarea agenților frigorifici inflamabili. În plus, un set de cântare de cântărire calibrate trebuie să fie disponibile și în stare bună de funcționare. Furtunurile trebuie să fie completate

cu cuplaje de deconectare fără scurgeri și în stare bună. Înainte de a utiliza mașina de recuperare, verificați dacă aceasta este în stare de funcționare satisfăcătoare, a fost întreținută corespunzător și că toate componentele electrice asociate sunt etanșeizate pentru a preveni aprinderea în cazul eliberării agentului frigorific. Consultați producătorul dacă aveți îndoieli.

Agentul frigorific recuperat va fi returnat furnizorului de agent frigorific în butelia de recuperare corectă și vor fi aranjate note de transfer a deșeurilor relevante. Nu amestecați agenții frigorifici în unitățile de recuperare și mai ales nu în butelii.

Dacă este necesară îndepărtarea compresoarelor sau uleiurilor compresoare, asigurați-vă că acestea au fost evacuate la un nivel acceptabil pentru a vă asigura că agentul frigorific inflamabil nu rămâne în lubrifiant. Procesul de evacuare trebuie efectuat înainte de returnarea compresorului furnizorilor. Pentru accelerarea acestui proces va fi utilizată numai încălzirea electrică a corpului compresorului. Atunci când uleiul este scos dintr-un sistem, acest lucru trebuie să fie efectuat în siguranță.

19. Transportarea echipamentului care conține agenți de răcire inflamabili (Anexa CC.1)

Conformitate cu regulamentele privind transportul.

20. Aparat uzate care furnizează agenți frigorifici inflamabili

A se consulta regulamentele naționale.

21. Depozitarea echipamentelor/aparatelor

Depozitarea echipamentului trebuie să fie în conformitate cu instrucțiunile producătorului.

22. Depozitarea echipamentelor ambalate (nevândute)

Pachetul de protecție la depozitare trebuie construit astfel încât deteriorarea mecanică a echipamentului din interiorul ambalajului să nu cauzeze o scurgere a încărcăturii cu agent frigorific.

Numărul maxim de bucăți de echipamente care pot fi depozitate împreună va fi determinat de reglementările locale.

23. Marcarea echipamentului utilizând semen

A se vedea regulamentele locale

WARNING

This product contains flammable gas R290, hermetically sealed.
Additional warnings for appliances with R290 refrigerant gas (refer to the rating plate for the type of refrigerant gas used)

**• READ THE MANUAL CAREFULLY BEFORE USING THE APPLIANCE**

- R290 refrigerant gas complies with European environmental directives.
- This appliance contains approximately 0.045 kg of R290 refrigerant gas.
- Use only implements recommended by the manufacturer for defrosting or cleaning.
- Do not use the appliance in a room with continuously operating sources of ignition (eg. Open flames, an operating gas appliance or an operating electrical heaters).
- Do not perforate any of the components in the refrigerant circuit.
- A surface area greater than 4m² is necessary for the installation, use and storage of the appliance.
- Stagnation of possible leaks of refrigerant gas in unventilated rooms could lead to fire or an explosion hazard should the refrigerant come in contact with electric heaters, stoves or other sources of ignition.
- Use care when storing the appliance to prevent mechanical faults.
- Only persons authorized by an accredited agency certifying their competence to handle refrigerants in compliance with sector legislation should work on refrigerant circuits.
- Maintenance and repairs requiring the assistance of other qualified

WARNING

personnel must be carried out under the supervision of specialists in the use of inflammable refrigerants.

- Information for spaces where pipes containing flammable refrigerant are allowed should include statement:
 - The installation of pipe-work shall be kept to a minimum;
 - Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space;
 - Compliance with national gas regulations shall be observed;
 - Mechanical connections shall be accessible for maintenance purposes;
- An unventilated area where the appliance using flammable refrigerants is installed shall be so constructed that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation

ELECTRICAL CONNECTIONS

- Failure to follow these important safety instructions absolves all liability for the manufacturer .

Before plugging the appliance into the mains socket, ensure that:

- The value indicated on the rating plate must be the same as the mains power supply.
- The power socket and the electrical circuit are sufficient for the appliance.
- The main socket matches the plug. Replace the plug if necessary by a qualified person.
- Ensure the main socket is earthed.

SYMBOLS

Read the instructions



Caution



Protective Earth

GENERAL SAFETY INSTRUCTIONS

Read this instruction manual thoroughly before using the appliance and save it for future reference and if necessary pass the instruction manual on to a third party.

In any doubt consult the manufacturer's technical department for assistance

WARNING: When using electrical appliance, basic safety precautions should always be followed to reduce the risk of fire, electrical shock and personal injury.

1) General

Check if the electrical specifications of this appliance are compatible with your installation.

To protect against electrical hazard, do not immerse in water or other liquids. Do not use near water.

This appliance is for indoor use only.

GENERAL SAFETY INSTRUCTIONS

Do not use the unit without the filter.

Do not unplug the unit if your hands are wet, electrical shock could occur.

Do not carry the appliance while it is operating.

Place it on a secure and level area. Keep out of reach of children to prevent any accident.

Unauthorized use and technical modifications to the appliance can lead to danger to life and health.

Do not push any object into the appliance. Do not disassemble the appliance.

(For EN Standard) This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.

(For IEC Standard) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

2) Electrical safety

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.

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SPECIFIC SAFETY RULES

The appliance shall be installed in accordance with national wiring regulations.

Keep ventilation openings clear of obstruction.

The appliance shall be stored so as to prevent mechanical damage from occurring.

The method of connection of the appliance to the electrical supply:

- (1) Do not operate the unit with a damaged plug or loose outlet.
- (2) Use only the correct power supply-AC220-240V~50Hz.
- (3) Remove the plug from the socket if the unit is not going to be used for a long period of time.
- (4) Always turn the unit off and remove the power plug from the socket when cleaning.

WARNING: Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

Do not pierce or burn.

Be aware that refrigerant gases may not contain an odour.

ENVIRONMENTAL PROTECTION

Meaning of crossed-out wheeled dustbin:



Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get in the food chain, damaging your health and well-being

When replacing old appliances with new ones, the retailer is legally obliged to take back your old appliance for disposal at least free of charge.

ENVIRONMENTAL PROTECTION

Environment friendly disposal

You can help protect the environment!

Please remember to respect the local regulations: hand in the non-working electrical equipments to an appropriate waste disposal centre. The packaging material is recyclable. Dispose of the packaging in an environmentally friendly manner and make it available for the recyclable material collection-service.

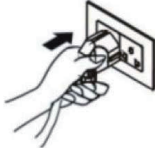
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APPLIANCE SPECIFICATIONS

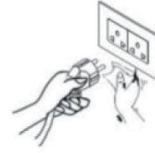
TECHNICAL CHARACTERISTICS	
Rated voltage	220-240V
Rated frequency	50Hz
Rated wattage	280W
Refrigerant number	R290
Refrigerant amount	0.045kg
Ambient operating temperature	5-35°C
Maximum allowable pressure	Discharge 2.6MPa
	Suction 1.0MPa
Protection class	I
IP number	IP21 (protection against the penetration of water, authorized in laundry and area in the bathroom according IEC60364-7-701)
Fuse Type/Rating	T2AL 250V
Model	D002A-10L

WARNING

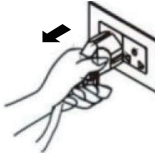
- Make sure the plug is placed fully & firm into the socket !



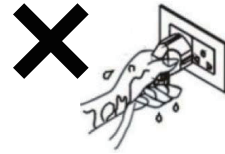
- Make sure the plug is clean !



- After turning the unit off, please take plug out of the socket.



- Do not have wet hands when connecting the power plug.



CAUTION

- Do not place anything on top of the control panel !



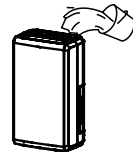
- Do not place anything over the inlet or outlet points.



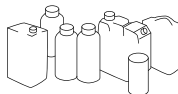
- Do not let children play with the unit or control !



- Do not wet the machine or the control panel !



- Keep the flammable gas/oil away from the machine !

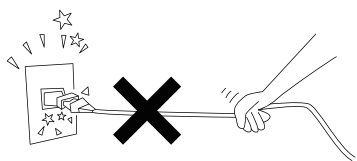


- Ask professionals to do the servicing !

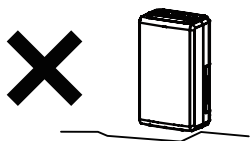


CAUTION

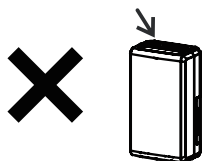
- Do not pull the power cord to avoid broken cord, which lead to danger.



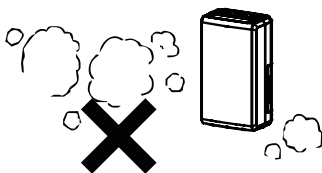
- Do not place the machine on an uneven ground, to avoid shaking, noise and leakage of water.



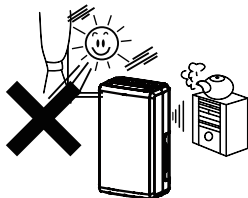
- It is dangerous to put anything into the machine.



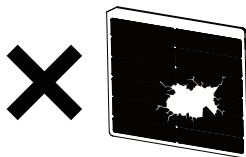
- Do not use in dusty area.



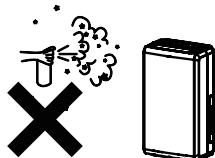
- Keep the machine away from any type of heat sources.



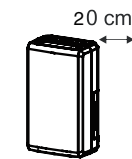
- Do not use without Air filter or with damaged Air filter



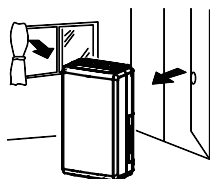
- Do not use insect, oil or paint spray around the machine, it might cause damage to the plastic parts or start a fire.



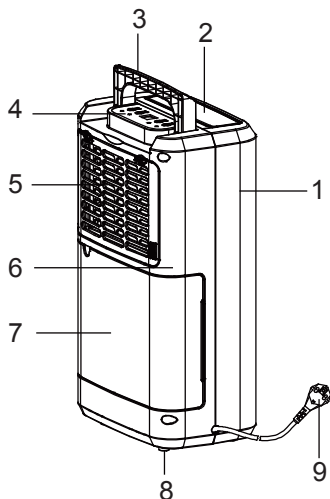
- Please always keep the unit 20 cm away from the wall to dissipate the heat properly.



- Close all the open windows to reach the maximum possible efficiency.

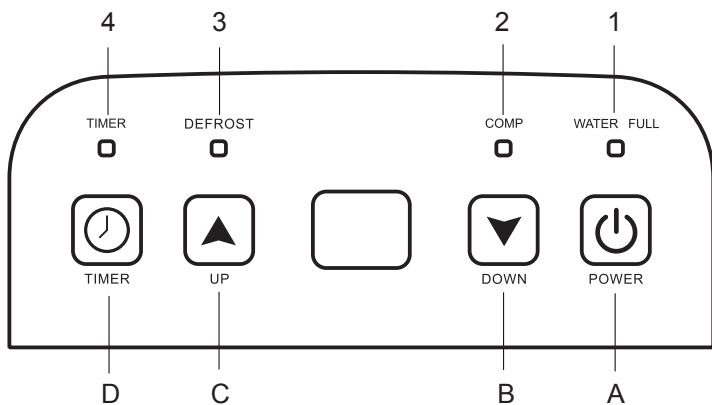


DESCRIPTION OF COMPONENTS



1. Front shell
2. Outlet
3. Handle
4. Control Panel
5. Filter box
6. Back shell
7. Tank
8. Rubber feet
9. Supply cord

FUNCTION EXPLANATION



LED INDICATORS

1. WATER FULL-LED
2. COMP-LED

3. DEFROST
4. TIMER-LED





Humidity Level & Timer 2 digit display



The indicator features 3 functions:

1. when you set the humidity, it will indicate the humidity that you have selected
2. when you program the time for the unit to turn on and off, it will show the hours.
3. When the environment humidity is lower than 35%, it will show "LO"
4. When the environment humidity is higher than 95%, it will show "HI"

Push Button Functions



- A. Power Push Button 
- B. DOWN Push Button 
- C. UP Push Button 
- D. Timer Push Button 

OPERATING INSTRUCTIONS


1. The Power indication light will turn on when the unit is plugged in, regardless of whether the unit is operating or not.

FUNCTION EXPLANATION

2. Press  button once to start operation. Press it again to stop operation.

3. Press  or  button to set the desired humidity level in the room, which can be set from 30% to 90% at 5% intervals.

After a period of working, when environment humidity is lower than the selected humidity by 2%, compressor will stop and fan stops working 3 minutes later; When environment humidity is equal to or higher than the selected humidity by 3%, compressor will restart once 3-minute compressor protection time over.

4. press  button can be timer setting :

Press the button to program the time when the unit turns on and turns off. If you want to cancel the timer programming, press the button to adjust the time at 00, and press the button ,it will be circulate from 00-01-02.....23-24.It is the programmed time to switch the machine. The programmed time will be canceled when to switch compressor manually each time. The programmed time remains unchanged if the machine stops to wok due to water full or during defrosting

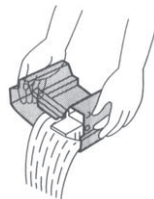
After switching the unit off, the compressor has an automatic 3 minute time delayed start.

FUNCTION EXPLANATION

• When Water tank Full Lamp Is On

When the water tank is full the machine will stop and the "Water tank Full" light will illuminate. The water tank should be carefully removed from the machine by sliding it outwards from the front of the machine and it should be emptied. When the empty tank is replaced properly into the machine, the machine will start up and run normally.

Please use both hands to carefully empty the water tank.



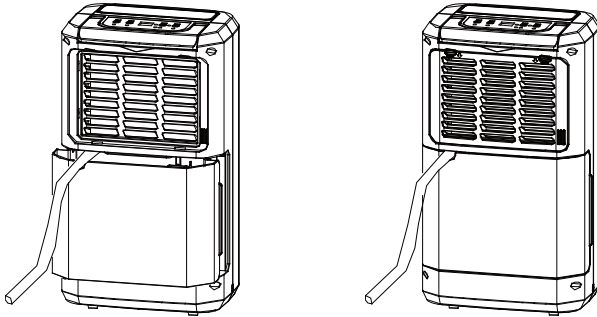
• DEFROST

When operating in low temperatures (less than 12°C) the surface of the evaporator will accumulate frost and affect the efficiency of the dehumidifier. When this happens the machine will go into periodic defrost mode automatically. This is quite normal. Defrost lamp will come on. The unit will operate in temperatures down to 5°C. Defrost time may vary. If the dehumidifier freezes up turn the unit off for few hours and then restart. It is not recommended to use the dehumidifier in temperatures below 5°C.

CONTINUOUS DRAINAGE

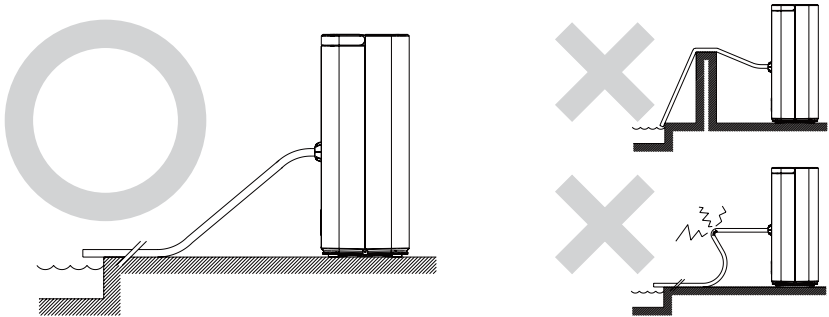
The unit features a continuous drainage port. Using a plastic pipe (with an inner diameter of 10mm) inserts into drain hole (on intermediate plate), reach out from side of water tank, install it in place, and arrange the drain pipe.

The water in the drainage tank can be continuously drained out from the continuous port on the unit.



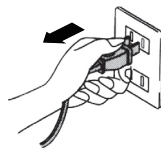
• The Proper Way To Place The Water Drainage PVC Hose

When using continuous drainage, the PVC hose must be placed below the drainage hole. Avoid uneven surfaces and do not "kink" the hose.



MAINTENANCE

Please make sure the dehumidifier is unplugged before servicing or cleaning the machine, for safety reasons!



1) Clean the Shell :

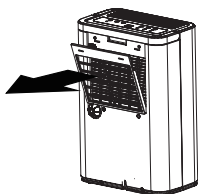
- A. Wipe the shell using soft and clean cloth.
- B. If the dehumidifier is very dirty, please use mild detergent then wipe off the detergent with half dried cloth.
- C. Do not wash the machine with a hose, it will cause leakage of electricity.

2) Clean the Air Filter :

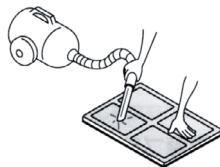
The purpose of the air filter is to filter the dust or unclean material in the air. If the filter is blocked by the dust the usage of the electricity will be greater than normal and there is a risk of overheating. For the best more efficient of removing moisture, please clean the filter every two weeks. Do not use in dusty area.

• Cleaning Steps :

- A. Pull out the filter gently.



- B. Clean the filter by vacuum cleaner or washing with clean water then dry the filter using dry cloth.



- C. Place the filter back to its position.

EMERGENCY

Please unplug the machine when there is something wrong. Contact the store immediately. Do not disassemble the dehumidifier yourself !

INSTRUCTION FOR SERVICING APPLIANCES CONTAINING R 290

Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

1. Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

2. General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

3. Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. nonsparking, adequately sealed or intrinsically safe.

4. Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

5. No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

6. Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

7. Checks to the refrigeration equipment

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Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

- the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- the ventilation machinery and outlets are operating adequately and are not obstructed;

8. Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding

9. Repairs to sealed components

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that apparatus is mounted securely.

Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications,

NOTE The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

10. Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring

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that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

11. Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

12. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

13. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants.

Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

14. Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas;
- evacuate;