

Statutory basis: the Fluorinated Greenhouse Gases Regulations 2015 enforce the GB regime for fluorinated refrigerants — certification of the people who recover, evacuate and charge systems, containment, leak checking and records. Flammable refrigerants are dangerous substances under DSEAR 2002. Contaminated compressor oils and acids are controlled under COSHH 2002. Refrigerant recovered and not returned to the system is waste, transferred under the duty of care in the Environmental Protection Act 1990 s.34; in England and Wales it is consigned under the Hazardous Waste (England and Wales) Regulations 2005, and elsewhere the waste contractor confirms the rules that apply. Recovery units, pumps and hoses are work equipment under PUWER 1998; access to roof-mounted units is work at height under the Work at Height Regulations 2005. This document is the recorded safe system of work required by HSWA 1974 s.2(2)(a) and MHSWR 1999 regs 3 and 5.

1 DOCUMENT AND PROJECT IDENTIFICATION

RAMS REFERENCE	PROJECT / SITE REF	SITE NAME AND ADDRESS	DATE PREPARED	NEXT REVIEW DATE
CLIENT / PRINCIPAL CONTRACTOR	PLANNED START	DURATION	OPERATIVES	SUPERVISING THE WORK

2 SCOPE OF WORKS

Recovering refrigerant from existing systems before repair, replacement or decommissioning, evacuating and charging systems, and the handling, transport and return of recovery cylinders — on split, multi-split, VRF and packaged systems, including roof-mounted units, using fluorinated and flammable refrigerants. This document does not cover: refrigerant pipework installation and brazing (KD-RAMS-ME-008), heat pump installation (KD-RAMS-ME-012), ammonia and carbon dioxide systems, and any refrigerant handling by a person not certificated for it.

SITE-SPECIFIC SCOPE, LOCATIONS AND LIMITATIONS

3 RISK ASSESSMENT — SCORE EACH RISK FOR THIS SITE, THEN ADD WHAT IS MISSING

The hazards and controls below are the starting point for this activity, written by a working main contractor. They are not complete for your site until a competent person has scored each risk, added the site-specific hazards, and struck out anything that does not apply. Rate risks High / Medium / Low before and after controls.

1. Refrigerant handled by someone not certificated or trained for it, or vented to atmosphere

At risk: The environment, engineers

Controls: Recovery, evacuation and charging of fluorinated refrigerants only by a person certificated under the Fluorinated Greenhouse Gases Regulations 2015 for that category, checked before the job. Training in flammable refrigerants is checked separately — for hydrocarbons, which are not F-gases, and for mildly flammable F-gases such as R32, R1234yf and R1234ze. Refrigerant is recovered, never vented.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

2. Flammable refrigerant released near an ignition source

At risk: Engineers, occupants

Controls: Refrigerant type read from the nameplate first. For flammable refrigerants — a zone clear of ignition sources, ventilation confirmed, a leak detector suitable for that refrigerant, recovery equipment the manufacturer rates for it, and recovery cylinders designated for flammable refrigerant. No brazing until the circuit is recovered and purged.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

3. Asphyxiation in plant rooms, cupboards and ceiling voids

At risk: Engineers, occupants

Controls: Refrigerant is heavier than air and collects at low level. Enclosed spaces ventilated; fixed refrigerant detection checked working; on a leak, withdraw, ventilate and do not re-enter until clear.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

4. Recovery cylinder overfilled, wrong cylinder, or refrigerants mixed — cylinder rupture

At risk: Engineers

Controls: Only refillable recovery cylinders marked for recovery, in test date and dedicated to one refrigerant. The cylinder sits on scales throughout and is never filled beyond its marked maximum fill weight; disposable cylinders are never used for recovery.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

5. Refrigerant left in the system — released when it is opened

At risk: Engineers

Controls: Recovery continues to the end point the system and refrigerant require. After the recovery unit stops, system pressure is watched; a rise means refrigerant is still coming out of the oil or liquid pockets, and recovery resumes.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

6. Liquid release at hose connections — cold burns; acid oil from a burnt-out compressor

At risk: Engineers

Controls: Low-loss fittings; hoses and recovery unit rated for the refrigerant's pressures and inspected before use; valves closed before disconnecting; cold-burn gloves and eye protection. Oil tested for acid after a compressor failure; chemical-resistant gloves; oil collected in a sealed container as hazardous waste.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

7. Fans, compressors and electrical parts of the unit

At risk: Engineers

Controls: Unit isolated and locked off before any panel is removed; fans allowed to stop; capacitors treated as charged until discharged by the electrician's method.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

8. Falls from roofs and through fragile surfaces at roof-mounted units

At risk: Engineers, anyone below

Controls: Access only where edge protection or a guarded walkway serves the unit; fragile surfaces identified and avoided or covered; cylinders and recovery units hoisted, never carried up a ladder.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

9. Handling and transporting cylinders

At risk: Engineers, drivers

Controls: Cylinders on a trolley; upright and secured in a ventilated vehicle compartment with valve caps fitted; never left in a closed vehicle in sun.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

Site-specific hazards not listed above — every site has at least one:

HAZARD	WHO IS AT RISK	CONTROLS	INITIAL H/...	RESIDUAL...	ACTION OWNER	BY WHEN

4 METHOD — SEQUENCE OF WORK

- 1 Check the engineer's certification, category and flammable-refrigerant training; read the nameplate for refrigerant type and charge; confirm the scope.
- 2 Plan access to the unit — roof edge protection and the roof work permit for roof-mounted units.
- 3 Isolate and lock off the unit electrically; ventilate the work area; set the ignition-free zone for flammable refrigerants.
- 4 Select a recovery cylinder for that refrigerant — designated for flammable refrigerant where applicable — check its test date and marked maximum fill weight, and set it on scales.
- 5 Connect the recovery unit with low-loss hoses; leak check connections.
- 6 Recover to the end point the system requires; stop the unit and watch system pressure; resume if it rises. STOP if the cylinder approaches its marked maximum or the refrigerant is not as the nameplate states.
- 7 After a compressor failure, test the oil for acid before opening the circuit; carry out any brazing under KD-RAMS-ME-008.
- 8 Pressure test with regulated nitrogen, evacuate to the specified vacuum and hold; record.
- 9 Charge by weight to the nameplate or design charge; leak check every joint worked on.
- 10 Complete the F-gas records and labels; send recovered refrigerant not returned to the system to the supplier or a permitted reclaimer, with the waste code confirmed by the waste contractor and the consignment note kept.

SITE-SPECIFIC AMENDMENTS TO THE SEQUENCE

5 PLANT, EQUIPMENT AND MATERIALS

Recovery unit rated for the refrigerant	Vacuum pump and micron gauge
Recovery cylinders and electronic scales	Leak detector for the refrigerant type
Low-loss hoses and manifold gauges	Oil acid test kit

INSPECTION / THOROUGH EXAMINATION REFS

COSHH ASSESSMENT REFS

6 PPE — THE LAST LINE OF CONTROL, NOT THE FIRST

Head protection	Gloves — task-rated	Cold-burn gloves and eye protection for refrigerant connections
Safety footwear	Eye protection	
High visibility	Hearing protection	

RPE TYPE, FACE-FIT STATUS, AND ANY OTHER PPE REQUIRED

7 PERMITS REQUIRED BEFORE THIS WORK STARTS

A permit authorises this work in that place, on that day. It extends the safe system of work in this document — it does not replace it (HSE HSG250). The site issues the permit; record its number before work starts.

KD-PTW-EI-011 — Electrical Isolation Certificate

For isolating the unit before any panel is removed.

PERMIT NUMBER

KD-PTW-RF-007 — Roof Work Permit

For roof-mounted units.

PERMIT NUMBER

KD-PTW-GP-003 — General Permit to Work

Where the site requires a permit for refrigerant work in plant rooms or occupied areas.

PERMIT NUMBER

8 EMERGENCY ARRANGEMENTS — COMPLETE FOR THIS SITE

FIRST AIDER AND LOCATION

NEAREST A&E

ASSEMBLY POINT

HOW THE ALARM IS RAISED

EMERGENCY ACCESS FOR THIS WORK AREA

SPILL / ENVIRONMENTAL RESPONSE

9 BRIEFING RECORD — EVERYONE WORKING UNDER THIS RAMS SIGNS BEFORE STARTING

By signing you confirm the contents of this RAMS have been explained to you, you understand the hazards and controls, and you will work to the sequence stated. Tell the supervisor if the work or the site does not match this document — work stops until it does.

NAME	COMPANY	SIGNATURE	DATE

10 PREPARED AND ACCEPTED

Prepared / adapted for this site by — I confirm I have adapted this document to the site, scored the risks, and that it describes how the work will actually be done.

PRINTED NAME	ROLE / COMPETENCE	COMPANY	SIGNATURE	DATE	TIME

Accepted for the site by — principal contractor or site manager review.

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

Review this RAMS if the work, the site or the law changes, and at least before each new phase of the works. Flatten the completed PDF before filing so the record cannot be silently edited.

R REVISION HISTORY

Every revision of this document, and every review that found nothing to change. The revision on the front of this sheet is the one you are holding — check kubitdocs.com for the current one before use.

Rev	Date	Class	What changed	Authorised by
D0	2026-09-11	first-issue	First issue.	— not yet approved —
A0	2026-09-11	review	Approved for issue by the author. Content unchanged from the reviewed draft; the draft status strip is removed. No independent third-party review has been carried out.	Author — director, UK principal contractor, SMSTS. Not an independent review.

Class: first-issue · material (the law, a control, a field or the scope changed — past buyers are notified) · editorial (wording or layout only) · review (checked, nothing changed) · withdrawal. Revision prefix D = draft, not approved and not for sale; A = approved for issue by the person named, on the date shown.