

C1, RAC Service and Maintenance

This five day course enables a novice to understand how an RAC system works and be able to maintain and service it. It covers the theory and practical topics required for the F Gas category 1 qualification. The following are included in the standard course:

- How a system works – the basic principles;
- Common components - what they do and range of types;
- Refrigerants - associated hazards, environmental issues and legal responsibilities;
- How systems are controlled and protected;
- Typical system operating conditions;
- Introduction to brazing;
- System processing – strength / tightness pressure testing and evacuation;
- Refrigerant handling – charging and recovering;
- Setting simple controls;
- Leak testing and reduction of leak potential;
- Maintenance for reliability and optimum performance;
- Overview of design and installation;
- City and Guilds 2079-11 F Gas assessment.

The course is a mix of theory, practical, discussion sessions and “toolbox talks” with the emphasis on active participation. Numbers on the course are usually limited to five. Trainees are provided with high quality course notes. The course can be tailored to suit individual RAC sectors, businesses and equipment types.

Cost

The course cost is £1345 per person excluding VAT. This cost includes course notes, lunches and C & G certification.

Location

The course is run at our training centre a few minutes from junction 8 of the M5. We provide joining information with directions, start time and a list of local hotels.

About Cool Concerns Training

Our training is developed and delivered by the working directors Jane Gartshore and Stephen Benton. We are engineers and have a wide and varied range of practical and theoretical experience within the refrigeration and air conditioning industry.

We provide training which is up to date, informative and fun with the emphasis on practical ‘hands on’ mixed with high quality presentations and supported by relevant documentation and notes. All our training is designed to use trainees’ time as efficiently as possible to minimise expensive down time. We draw on our wide range of experience to prepare and deliver industry leading training sessions. We limit numbers on each session to ensure an effective trainer to trainee ratio.

City and Guilds 2079-11

Cool Concerns Ltd is approved by City and Guilds to assess candidates for the C & G 2079 refrigerant handling scheme. This is a practical skills test plus an online assessment to check knowledge. It meets the requirements of the Fluorinated Gas regulation.

The overall aim of the assessment is to ensure candidates:

- Handle refrigerant safely and with minimum loss to atmosphere;
- Minimise refrigerant leakage and leak potential;
- Maximise energy efficiency.

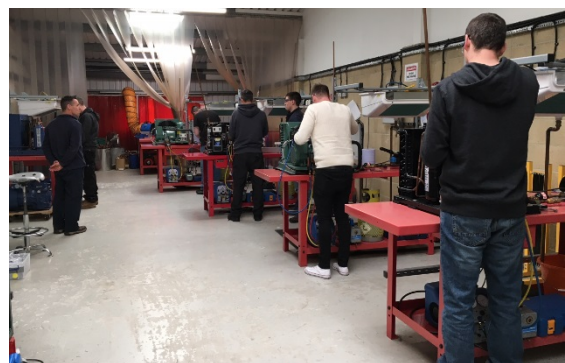
It is a legal requirement that all engineers who handle HFC type refrigerants have this qualification (or the Construction Skills equivalent). The category 1 assessment included in this course is for engineers working on any size of system who will be accessing the system (e.g. for service), charging and recovering refrigerant and leak testing. The assessments are carried out on the last day of the course.

Practical assessment

Engineers are required to carry out the following procedures on a test rig:

- Braze a joint and install it in the system;
- Pressure test the system for strength and leak tightness (including the brazed joint);
- Evacuate the system;
- Charge a zeotropic blend (e.g. R407F), run the system, check the refrigerant state;
- Carry out a visual check for leaks, indirectly assess the system for low charge and leak test using an electronic leak detector;
- Fit & disconnect gauges on the running system;
- Recover the refrigerant;
- Drain oil from a compressor.

The test rigs are industry standard air cooled condensing units coupled with DX evaporators, as shown in the photo.



Knowledge assessment

Knowledge is assessed online using the City and Guilds on line assessment facility at Cool Concerns. The following topics are included in the 40 question multiple choice assessment:

- SI units of measure;
- Basic refrigeration theory, pressure enthalpy charts, function of components, state of refrigerant in the system, operating conditions;
- Monitoring system performance and indications of leakage;
- Environmental aspects - direct and indirect - of HFCs and HFC systems, including energy efficiency;
- Environmental regulations;
- Required record keeping;
- Potential leak points;
- Handling of contaminated refrigerant and oil;
- Component function and associated leak risk.



The procedure for the online assessment is explained prior to the assessment.

For more information or to book contact:

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