

Apprenticeship standard (England only)

Refrigeration Air Conditioning and Heat Pump Engineering Technician

Industry: Engineering and Manufacturing Technologies

City & Guilds code: 6090

LARS number: 49



A City & Guilds Group Business

 **Typical duration: 36 months**

 **Funding band: 12 (£18,000)***

 **Level 3**

*Funding bands from May 2017

On-programme learning: Available

On-programme mandatory qualification: (2079): Available

End-point assessment (EPA): We're on the register for EPA organisations

The refrigeration air conditioning and heat pump engineering technician plans, prepares and safely carries out work in process, product and space cooling, refrigeration, air conditioning or heat pumping. The work is for key UK business activities such as: food production, product distribution, retail storage and display, transport and office climate control, manufacturing processes (e.g. petrochemical, pharmaceutical), IT/data centres and medical/healthcare services temperature and environmental control.

Our Refrigeration Air Conditioning and Heat Pump (RACHP) Engineering Technician is for individuals new to working in the sector who want to be trained in the practical aspects of installing, commissioning, testing and maintaining refrigeration, air conditioning and heat pump systems and also learn the underpinning scientific and mathematical principles involved with vapour compression cycles and refrigerants. This will give engineering technicians the capability to work on a variety of different systems in a wide diversity of settings to the occupational standard set by employers.

The Department for Business, Energy & Industrial Strategy (BEIS) approved the new standard in September 2015, it directly replaces the 6187 and 7189 and qualifications SASE apprenticeship framework.

City & Guilds – helping you with an expert solution

There are four stages where we can work together to help your apprentices from the start through to successful completion of their training.



Plan

Helping you plan and prepare for the new standards with a bespoke solution to make the most of your investment in apprentices.



Attract

Simple online vacancy and candidate set up, TalentPortal can connect you to the talent you need to fill your apprenticeship vacancies.



Deliver

High-quality, online and offline content to help draw out the skills, knowledge and behaviours to prepare apprentices for end-point assessment as well as tracking options to monitor performance.



Assess

Support for you and your apprentices to prepare for end-point assessment by our first-rate, fully trained assessors. Our simple, flexible service meets the demands of your team and your partners.

The apprentice journey



1 On-programme (deliver)

Training and development takes place during this part of the apprenticeship. It may include a qualification if set in the standard.

Formative assessment of skills, knowledge and behaviours is required in the delivery of the standard and this will be outlined in the assessment plan.

Apprentices have to reach a minimum level of maths and English set by the standard. If they've not previously achieved this, they'll need further study and support.

1 On-programme: what apprentices need to learn

On-programme is the learning phase for apprentices to pick up the skills, knowledge and behaviours set in each standard. Apprentices need to complete 20% off-the-job training during the on-programme phase of their apprenticeship. Specific rules govern this and it must take place in the apprentice's contracted hours.

The 2079 F Gas is a mandatory qualification for this apprenticeship. The skills, knowledge and behaviours are:

Skills

Safe working practices, control circuit application, mechanical operations, applications of math principles, sustainable system operation.

Knowledge

Legislation, regulations and standards, underpinning principles, data analysis, system fundamentals, sustainability.

Behaviours

Safety approach, strong work ethic, logical problem solver, focus on quality, personal responsibility, communicate well, adaptable, self-motivated.

Assessments will test apprentice's knowledge and are set and marked independently of the training organisation (e.g. online multiple choice). Short assignments are set by an awarding organisation but assessed by the training organisation (e.g. observed workshop projects and written test projects), to test practical skills including electrical, pipefitting, health and safety, installation, and service/maintenance.

Our resources and tools that support on-programme delivery

Our core content for this standard covers Prevent, British values, equality and diversity, and health and safety which give you the basics to deliver the standard and satisfy regulators. It's a blend of e-learning and downloadable content. We also have:



Mandatory qualification

The 6090 at Levels 2 and 3 are closely aligned to the content of the apprenticeship standard and enhance the on-programme learning for the apprentice. The 2079 F Gas is a mandatory qualification for this apprenticeship.



Apprentice development journal

Available in print and as part of our e-portfolio, the Refrigeration Air Conditioning and Heat Pump Engineering apprentice development journal guides learners step-by-step through tasks that evidence the skills, knowledge and behaviours required.



Learning Assistant

Innovative and cost effective e-portfolio solution that lets you dramatically improve the delivery of their apprenticeship standards by tracking apprentices' progress online in real time. And helps authorise and evidence 20% off-the-job learning.



Guidance documents

- The qualification handbooks contain all of the skills and knowledge with learning guidance.
- Qualification handbook.

Maths and English requirements

If your apprentices need to complete maths and English, our popular Functional Skills qualifications fit within apprenticeship programmes and cover the core maths and English requirement for the workplace and further study. We have an extensive support package available, including e-Functional Skills, and an online teaching and learning platform, which guides learners from an initial and a diagnostic assessment, through to being exam ready.

Find out more: [cityandguilds.com/functionalskills](https://www.cityandguilds.com/functionalskills)



2 Gateway

The employer and provider must sign off the apprentice as ready to move on to end-point assessment.



3 Assess

The end-point assessment must demonstrate that the apprentice can perform in the occupation in a fully competent, holistic and productive way.

The assessment will be graded if required by the standard.

The assessment organisation and assessor must be independent of, and separate from, the training provided by the provider and employer.



4 Apprenticeship certificate

On successful completion, the end-point assessment organisation will apply to the Education and Skills Funding Agency (ESFA) for the apprenticeship certificate. The certificate is sent to the apprentice's employer.

2 Gateway

Apprentices must achieve an individual F Gas Certification (Category 1), which is a mandatory qualification, before EPA. The F Gas Certification comprises a practical and knowledge test on elements related to environmental impact of RACHP work.

They must also complete their apprentice development journal, signed off by the training organisation and employer, before they take the practical and theory elements of the EPA.

3 End-point assessment (EPA): how apprentices demonstrate their learning

End-point assessment (EPA) is the final stage that an apprentice goes through to complete their apprenticeship. The apprentice must show their learning to an independent end-point assessor. The overall grade can be distinction, merit, pass or fail. Assessment events for this standard are:



Synoptic knowledge test

Online test covering all learning aspects of the apprenticeship. Graded pass (60-75%), merit (76-85%), distinction (86-100%).



Synoptic skills test

A project carried out under assessment conditions over two-three days and documented by the training organisations.



Logbook

Evidence gathered from workplace experience to demonstrate behaviours mapped to the standard and satisfying engineering technician requirements. Graded pass, merit or distinction.

Our resources and tools that support end-point assessment

We are on the register of end-point assessment organisations and our EPA service includes support resource as well as flexibility around assessment delivery and a dedicated EPA team to support you.



EPA preparation tool

Online content to help the apprentice feel ready for their EPA experience. Personalised to their confidence levels and the standard, they're sent free access details once they're registered with us for EPA.



EPA team

Our dedicated EPA team is on hand to help with bookings and questions on anything from the assessment process to evidence portfolios.



EPA pack and guidance

Let our support, including short videos and how to guides help you get to grips and stay on track with the EPA process.



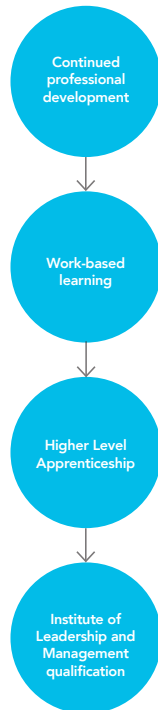
4 Apprenticeship certification

As well as receiving their Institute for Apprenticeships (IfA) apprenticeship certificate, the apprentice will receive a City & Guilds statement of achievement for end-point assessment.

Progression with City & Guilds Group

Develop new and existing talent at all levels with ILM management apprenticeships including: Team Leader/Supervisor Level 3; Operations/Departmental Manager Level 5; Chartered Manager Degree Level 6 and the Senior Leader Master's Degree Level 7.

Post-apprenticeship



Developed to meet the needs of employers and designed with input from a trailblazer group including: Enigma Environmental Services Ltd, GEA Refrigeration, Integral UK Ltd, Mitsubishi Electric Living Environmental Systems, Star Refrigeration, Space Engineering Services, Carter Synergy, Adcock Refrigeration and Air conditioning, Epta Group, Sainsbury's, Daikin Airconditioning UK Ltd and the Institute of Refrigeration.

How our offer supports you:

Supportive payment structure

When you choose us for EPA you pay a small registration fee and the balance once the EPA has taken place and results submitted.

Personal support

Our Technical Advisors, Business Managers and Customer Service teams are on hand to help you with all aspects of apprenticeships.

Specialist online tools

Our e-Functional Skills can boost maths and English; Skills Zone develops workplace behaviours and skills; and our e-portfolio, Learning Assistant, lets you manage assignments and track the 20% off-the-job training requirement.

Events and webinars

We deliver a range of events and webinars run by industry specialists to advise and guide you, including regional networking and CPD events.



More information

If you're a City & Guilds centre, visit Walled Garden or contact your Business Manager to find out prices and if any elements are extra to the package. If you're a new customer, contact apprenticeships@cityandguilds.com to find out more.

Or visit cityandguilds.com/apprenticeships for full information on our apprenticeship products and services. Visit i-l-m.com/apprentice for information on management apprenticeships.