



Your guide to  
**PURSuing  
EXCELLENCE**

Accredited CPD Courses  
for Consulting Engineers & Designers



**TOSHIBA**







**TOSHIBA**







## Keeping you **IN THE KNOW**

So, what is CPD? CPD stands for Continuing Professional Development (CPD) and is the term used to describe the learning activities professionals engage in to develop and enhance their abilities. It enables learning to become conscious and proactive, rather than passive and reactive.

CPD combines different methodologies to learning, such as training workshops, conferences and events, e-learning programs, best practice techniques and ideas sharing, all focused for an individual to improve and have effective professional development.

Engaging in Continuing Professional Development ensures that both academic and practical qualifications do not become out-dated or obsolete; allowing individuals to continually 'up skill' or 're-skill' themselves, regardless of occupation, age or educational level.

**Toshiba Carrier UK's Accredited CPD training programme has reached the required Continuing Professional Development standards and benchmarks. This means the value of the learning potential of our courses have been assessed and scrutinised to ensure only the highest levels of integrity and quality.**





"Students remember 10% of what they read, 20% of what they hear, but

**90%**  
**of what they do"**

Dale's Cone of Experience

# LEARNING

**There are three recognised methods of CPD learning. Active, Reflective and Self-Directed.**

## Reflective Learning

Reflective learning involves no participant-based interaction, so this form of CPD is much more passive and one directional. Examples of this include reading relevant news articles, podcasts & case studies and industry updates. Some informal meetings can be applicable to CPD reflective learning, but the learning objectives of these meetings must be made clear in an individual's overall CPD plan.

## Self-Directed Learning

Self-directed learning involves all unaccompanied CPD activities. It covers the reading of documents, articles and publications; either in print or online. Reading relevant publications, books by leading experts, industry journals and trade magazines are all types of self-directed CPD. You could also include industry-specific news feeds or research into relevant fields.

## Active Learning

Active learning on the whole is considered to contribute to an advanced and increased ability to absorb and learn information.

Structured CPD courses like the ones offered by Toshiba Carrier, which are considered to be "active learning", involve interactive and participation-based study. It is typically proactive and can include attending a training course, conference, workshop, seminar, lecture, e-learning course or CPD certified event.



### Collaboration

The heart of most "active learning" approaches. Collaboration is the key to keeping things interactive and increases creativity



### Engagement

Active learning is engaging, whether solving a problem, debating an issue or researching a concept the content is meaningful



### Retention

Active learning is proven to help people retain information much more effectively than simply reading alone





# TCUK

## CPD Course Levels (explained)



This CPD will be useful for graduate level engineers and those studying an apprenticeship qualification. A CPD which is graded a level 1 is generally pitched broadly and not in great detail from a technical perspective. Appropriate for many a level 1 CPD will cover the fundamentals at a top line perspective only.



A CPD graded Level 2 is developed for graduates and qualified engineers. The main difference between CPD level 2 and CPD level 1 is the amount of detail involved in the course, and the types of concepts and ideas that are typically explored. More often level 2 CPD's will cover in depth topics that require an assumed foundation level of technical knowledge.



A CPD graded Level 3 is most suited to advanced qualified Senior Associate Engineers. Typically these types of CPD courses consist of highly complex applications with a range of parameters and variables. An intermediate foundation level of knowledge is assumed and topics are often open to debate, complex and topical.

Once complete, we will provide a CIBSE approved certificate for your records.

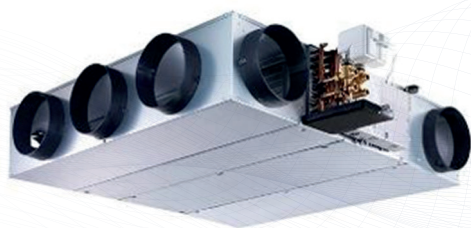


# APPLIED HYDRONIC

## CPD Courses

Course Title	Level	Credit	Event	Webinar	Portal
<b>CPD 1.0 F-Gas Refrigerants</b>  <p>This CPD covers the latest updates relating to the F Gas regulations on the phase down of HFC refrigerants. In particular their impact on both manufacturers and installers on how they need to comply with the Directive with regards to use of refrigerants in Chiller systems.</p> <p>We discuss the use of different refrigerants and look at their impact on the Refrigerant phase down and the development of new low GWP refrigerants. We also review how this impacts the manufacturers of chiller systems and the considerations they need to take into account when developing new products using new low GWP refrigerants. In the final section of this CPD we look at the Eco Design Lot 21 Directive relating to the published energy efficiency of the all chiller equipment, detailing the guidance that all manufacturers need to follow to be able to publish their product energy efficiencies.</p>	1	0.5 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Understand the impact of refrigerants on the environment</li> <li>• Be able to consider GWP impact on future projects</li> <li>• Able to identify the part load metrics that are now part of EcoDesign Regulations</li> </ul>					
<b>CPD 2.0 Chiller Legislation</b>  <p>In this CPD we look at some of the legislation and acronyms that are driving the market for chillers.</p> <p>This CPD provides background information explaining how chiller efficiency is derived.</p> <p>The application of different compressor technologies is explained and how this can have an impact on energy efficiency.</p> <p>The F-Gas HFC phase down is also covered explaining GWP's and the market trend.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Be more familiar with what drives the market</li> <li>• Relate this to real world applications</li> <li>• Appreciate how system &amp; product efficiencies are derived</li> <li>• Recognise opportunities to improve energy efficiency.</li> <li>• Understand the refrigerant landscape</li> </ul>					
<b>CPD 3.0 Absorption Chillers</b>  <p>This CPD is designed to cover the basic fundamental principles of how an absorption chiller operates, what needs to be considered when selecting an absorption chiller and how to apply them. In addition the CPD will cover what we need to take into account when considering the use of an absorption chiller in a "real life" situation and how absorption chillers can be used in a CHP system. Finally the CPD will finish with an overview of the Carrier portfolio.</p>	3	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Absorption principles</li> <li>• Four stage cycle</li> <li>• Unit Design and Operation</li> <li>• Selection Considerations</li> <li>• Application Guidance</li> <li>• Carrier Range</li> </ul>					
<b>CPD 4.0 Indoor Air Quality (IAQ)</b>  <p>In this CPD we discuss IAQ (Indoor Air Quality) and the myriad of factors that affect it. We look at recent guidance and how HVAC systems can be key contributors in the improvement of IAQ. In addition the course covers the potential new and existing product innovations to support the quest for cleaner indoor air.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Contributing factors to poor IAQ</li> <li>• Effects of poor IAQ</li> <li>• What we as a sector should be doing</li> <li>• Filtration and filtration levels</li> <li>• New and existing innovations that support IAQ</li> </ul>					





# APPLIED AIRSIDE

## CPD Courses

Course Title	Level	Credit	Event	Webinar	Portal
<p><b>CPD 1.0 AHU Application &amp; Design</b></p> <p>In this CPD we reveal the principles and approach of Eco Design along with how it shapes the rules of ventilation (LOT 6). We look at the main goals of Eco Design and how it is used to anticipate and minimize negative environmental impacts.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• What is ECO Design</li> <li>• What is LOT 6</li> <li>• What is ErP</li> <li>• The Importance of IAQ</li> <li>• Eco design LOT 6 rules and exemptions</li> </ul>					
<p><b>CPD 2.0 RTU Application &amp; Design</b></p> <p>In this CPD we learn about the principles of a Roof top unit and the applications in which they are used. We also learn about the inner workings of the RTU and the technology used.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• What is a RTU</li> <li>• Key Components</li> <li>• Technology</li> <li>• Applications</li> </ul>					
<p><b>CPD 3.0 FCU Application &amp; Design</b></p> <p>In this CPD we look at the types of hydronic fan coil units available on the UK market, where they are best applied and why. We look at the basics around meeting legislation for both residential and commercial property. This will cover subjects such as SFP, energy ratings, noise ratings, and product specification. We review components and controls, how they differ, where and why they are utilised. We will also cover the many optional extras that are utilised to optimise and FCU's operation and installation.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• FCU unit types</li> <li>• Selecting the right unit</li> <li>• Project requirements</li> <li>• Project nuances</li> <li>• Typical systems</li> <li>• System components</li> <li>• Optimisation</li> </ul>					



# DX/VRF

## CPD Courses

Course Title	Level	Credit	Event	Webinar	Portal
<b>CPD 1.0 A Basic Guide to Air Conditioning</b>  Covering the basic requirements to air condition a building including looking at heat gains and losses, the requirement for fresh air & how this impacts on the design of air conditioning solutions. VRF systems and basic software selections.	1	1 hr	✓	✓	✓
<b>CPD 2.0 F-Gas Legislation</b>  F-Gas regulation and phase down process of high GWP refrigerants, charge thresholds, leak detection requirement, equipment and system test requirements. In addition training standards are all discussed in detail. Finally finishing with A2L application and additional training requirements.	2	1 hr	✓	✓	✓
<b>CPD 3.0 Refrigerants</b>  Reasoning behind the progression to new refrigerant gases. Particular focus is paid to R410a R32 & potential new refrigerants in both split systems and Variable refrigerant based systems.	2	0.5 hr	✓	✓	✓

### Key Learning outcomes:

- Assessing building needs – types of air conditioning solutions
- Main Mechanical Items involved with Air Conditioning systems
- Basic understanding of heat gains, losses and ventilation calculations
- Basic understanding of heat pump technology
- Awareness of selection software to aid VRF system design

### Key Learning outcomes:

- Detailed understanding of F-Gas Legislation for Air Conditioning products
- Phase down process in the EU
- Link between regulation and manufacturer changes

### Key Learning outcomes:

- Understanding current HVAC refrigerants and applications
- Link between regulation and manufacturer changes
- Understanding different refrigerant properties
- Transitional and long terms refrigerant options, application and their impact





# DX/VRF

## CPD Courses

Course Title	Level	Credit	Event	Webinar	Portal
<p>CPD 4.0 BREEAM Refrigerant Pump Down Credit &amp; BSEN378</p> <p>How leak detection pump down systems work and comply with current legislation regarding leak detection for occupied area's such as hotels. How to demonstrate compliance for BREEAM credits and BS EN378 when applied to the safety of occupied spaces for both R410a and R32 refrigerants.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Understanding how leak detection pump down systems work</li> <li>• Understanding the requirements for compliance with BREEAM and BSEN378</li> <li>• Application of Toshiba solutions to comply with regulations</li> </ul>					
<p>CPD 5.0 A Guide to Variable Refrigerant Technology</p> <p>Covering key client requirements for the installation of air conditioning systems and different design packages via Specification or D&amp;B. The CPD covers the refrigeration cycle, the types of compressor technology that are used and how these relate to achieving SEER &amp; SCOP energy efficiency levels. Demonstrating key elements of the design and system components we focus on hotel and office type applications for air conditioning utilising Toshiba's Design Airs VRF selection software.</p>	2	1 hr	✓	✓	✓
<p><b>Key Learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• Detailed understanding of application and design</li> <li>• Types of equipment available</li> <li>• The application of VRF systems</li> <li>• Detailed investigation into the refrigeration cycle</li> <li>• Awareness of the different support tools that is available to aid the correct equipment selections to be made for a project</li> <li>• System installation criteria</li> </ul>					



# OUR CPD COURSES

TCUK CPD Courses are delivered only by CIBSE approved presenters, a full list of these presenters can be found on CIBSE's CPD Directory via the following link:

[www.cibse.org/membership/continuing-professional-development-cpd/directory-of-cpd-course-providers/toshiba-carrier-uk-ltd](http://www.cibse.org/membership/continuing-professional-development-cpd/directory-of-cpd-course-providers/toshiba-carrier-uk-ltd)


All our presenters have a wide knowledge base & experience in the HVAC industry to enable them to deliver our range of CIBSE Approved CPDs with a consistent high quality of delivery of the presentation material.

Our CPD material is regularly reviewed to make sure they continue to be engaging, of the latest relevance to the industry subject matter we are presenting and support learning to enable attendees to achieve the highest levels of information retention as possible.

Upon completion of the CPD courses we provide an attendance form that enables us to collect attendees details so we can issue them with a CIBSE CPD Certificate for the successful completion of the course and details of the CPD credits (Hours) awarded. We also provide a short feedback form that enables us to collect valuable data regarding the delivery, course content and future CPD courses that may be of interest to the attendees that helps us to continually improve our CPD offering.







**We are now able to provide CPD's on the online training Portal comes with certificate once complete!**

# TRAINING ACADEMY PORTAL

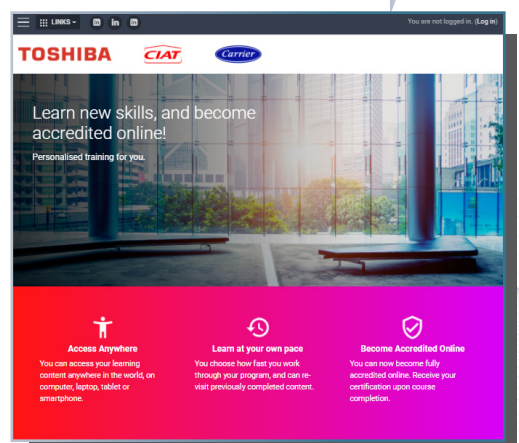
To support the increasingly fast-moving world that we live in and our desire to embrace digital technology, we have given customers accessibility to a range of training material via our training academy portal. This also includes our full range of CIBSE Approved CPD's that can be completed via the portal in your own time and pace.

As with the option for face to face CPD course delivery we provide the means for attendees to download their CPD certificate following the successful completion of the chosen course and also provide valuable feedback to us on the delivery and content of the course.

Our training academy portal can be found at:

<https://tcuktrainingacademy.co.uk/>

and provides the additional benefits:-



- ✓ **Personal account with your own log in**
- ✓ **A range of free and available training 24/7 365 days a year**
- ✓ **No time limit – complete courses at your own pace**
- ✓ **Instructional videos & online guides**
- ✓ **Downloadable content which can be used as a refresher**
- ✓ **Print your own certificate as soon as you complete a course**

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Our CIBSE Approved CPD's can be delivered to you at a location to suit you either at one of TCUK's offices plus our network of Distributors premises or at your own office locations.



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