

TM44 Energy Assessments

Mandatory Air Conditioning Energy Inspections (TM44) have been introduced to help identify energy-saving opportunities and promote sustainability.

Est 1964

ADCOCK

REFRIGERATION
AIR CONDITIONING



Why Adcock?

A First Class Service, Every Time - The Adcock Way

With over 60 years of experience, Adcock continues to lead the way in quality, integrity, and customer-focused service. With a turnover of £45 million, our scale and expertise enable us to consistently deliver a premium service. Our commitment to honesty, respect and ethical practices ensures every project exceeds expectations - always putting our customers first.

Expertly Trained Engineers

We pride ourselves on having one of the best-trained workforces in the UK. We make significant investments in the development of our team of over 100 engineers and trainees. This ensures they are fully competent to install, service, and repair equipment from the industry's leading manufacturers.

Our in-house, City & Guilds accredited training centre in King's Lynn has the latest equipment and technology from a wide range of manufacturers. Our Training Manager ensures that each engineer and trainee has tailored training on the correct equipment specific to their own needs. We strive to be industry-leaders, providing qualifications not only for today's equipment, but also for a range of natural refrigerants including hydrocarbons and carbon dioxide ready for an environmentally sustainable future.

This commitment to excellence supports our promise to uphold the highest standards and deliver outstanding customer service.

Strategic Partnerships with Tier-One HVAC Manufacturers

At Adcock, we work with all major HVAC and refrigeration manufacturers, but our strongest partnerships are with the industry's top-tier brands. Over many years, we've built close, trusted relationships with the world's most reputable suppliers - making us one of the largest installers of their equipment in the UK.

These partnerships give us access to extended warranties and allow us to offer our customers some of the most energy-efficient solutions available. We are proud to hold elite accreditations, including D1+ Premium Partner status with Daikin and Diamond Quality Partner status with Mitsubishi Electric - the highest levels of recognition these manufacturers offer.

Who Needs A TM44?

Any building owner or manager in the UK with an air conditioning system (or systems) having a combined effective rated output of more than 12kW needs a TM44 inspection. For Example, if you have three air conditioning units, your systems likely exceeds the 12kW threshold. This requirement applies to a wide range of buildings, including commercial offices, retail units, public sector buildings, and industrial facilities.

When is the TM44 Inspection Required?

TM44 inspections are required every 5 years. If you're unsure whether your building has a valid inspection certificate, we can help by checking the government register for you. If your building has an air conditioning system of 12kW or more, the first inspection was due by January 4, 2011. New systems need an inspection within 5 years of installation. If you're a new landlord, ensure an inspection is completed within 3 months if the previous tenant hasn't arranged one.

DID YOU KNOW?

In February 2012 a European Directive was introduced that obligates building owners or managers who manage air conditioning systems with a total of 12kW or more to have a regular inspection of their air conditioning system. The Chartered Institute of Building Service Engineers (CIBSE) introduced a guide called TM44 which provides guidance on conducting an air conditioning inspection to satisfy the requirements of the directive with a focus on systems that use refrigerants to produce cooling.

Air Conditioning Inspections with greater business value

Adcock Refrigeration & Air Conditioning understands the primary carbon challenges business face today are;

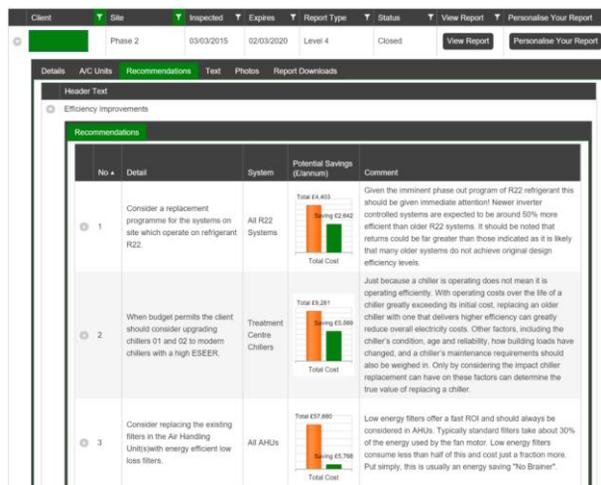
- Compliance – new and existing regulatory requirements (EPBD, ISO, ESOS)
 - The cost burden of compliance
 - Making compliance pay
- Board level commitment to carbon reduction programmes
 - Volatile energy costs
 - Market image and shareholder perception
 - Tax / financial incentives

To help address these business challenges, **Adcock** is aware that Facility / Building Service & Energy Managers are required to;

- Coordinate inspections for all business premises every 5 years on HVAC systems (TM44 Inspections)
- Reduce ongoing energy consumption & ongoing carbon emissions
- Manage / track regulatory changes (F-GAS) on A/C systems across diverse & dispersed facilities
- Improve and reduce bottom line costs.

However, to meet these objectives the FM / Building service face difficulties with air cooling systems to;

- Identify on-going areas of remedial work & energy efficiency improvements for targeted investment
- Cost effectively implement performance monitoring on every air-cooling system
- Begin to understand A/C systems as asset records often inaccurate or do not exist for buildings
- Simply do not have the data on Air Cooling available to make informed decisions



Manufacturer / Model	Number of Systems	Manufacturers Rated Input *(kW)	Total Rated Input (kW)	Energy Efficiency Ratio	Energy Label Class	Inverters Y/N
Daikin R35DB7V1	1	1.4	1.4	2.5	E	No
Daikin RY71B7W1	1	2.5	2.5	2.8	C	No
Daikin RY71D7W1	1	3.0	3.0	2.4	E	No
Hitachi RAS-6HG7E	1	5.5	5.5	2.5	E	No
Toshiba RAV-SM1402AT-E	1	4.1	4.1	3.0	B	Yes
Toshiba RAV-SM803AT-E	2	2.1	4.2	3.2	A	Yes
Total:	7		20.7			

Table 3 – Plant Energy Usage

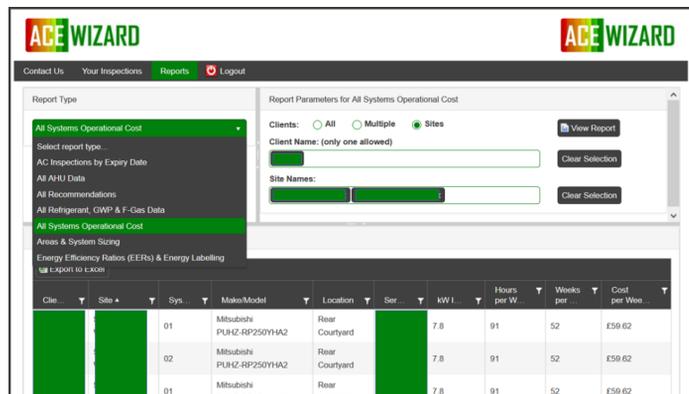
Today most firms look to gain DCLG TM44 compliance but struggle to make complying with the legislation anything other than negative cost exercise as typically no measurable benefits are provided back to the business other than just building compliance certificate. At **Adcock** we provide much more than TM44 compliance, using a specially developed system

called ACE Wizard, **Adcock** offers a report service which helps firms meet the business challenges listed above.

About our TM44 Energy Services

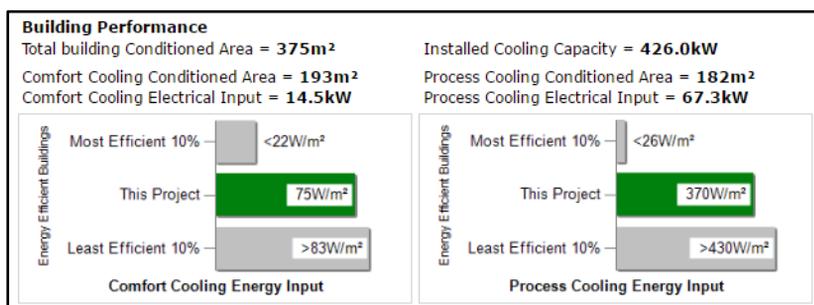
We have been delivering Air Conditioning Energy Inspections since the introduction of the regulation in 2009 and started to use the ACE Wizard system in 2012 to bridge the gap between what the DCLG TM 44 Air Conditioning report delivers and what our customers would actually benefit from. Our TM44 Inspection service provides;

- Online system to review and manage inspections across one or multiple buildings
- Incorporates all systems on site not just a percentage and creates an asset list
- Shows the EER and energy rating of all systems on site
- Makes it easy to identify remedial and investment opportunities across all buildings to reduce energy consumption
- Holds the official certificate, report and ACE online report as PDF's for easy download
- Produces sizing, cost, energy and efficiency data to help plan short, mid and long-term improvements to help a business cut costs by reducing energy consumption.
- Unlike any other TM44 inspection service, the ACE Wizard system links recommendations to the potential cost impact on the business which is specific to the inspected site.



Area Served	System	Conditioned Floor Area (m ²)*	Number of Occupants	Occupant Density (m ² per person)	Cooling Load Density (W/m ²)*†	Required Cooling Capacity (kW)	Actual Cooling Load (kW)	Variance (%)	Actual Cooling Load Density W/m ²	Comment	Partial Loading Capability
1st Floor Open Plan	04	255	25	10.2	110	28.1	14.0	-50%	55	Undersized	No
Daye's Office	02	35	5	7.0	70	2.5	3.5	40%	100	Oversized	No
Garys Office	05	1	1	1.0	110	0.1	7.1	7000%	7100	Oversized	No
Server Room	03	30	1	30.0	500	15.0	12.5	-17%	417	Correctly Sized	Yes

Table 7 – Calculated Room/System Cooling Loads



Standard TM44 compared to an ACE Wizard TM44 Inspection

A standard TM44 Air Conditioning Inspection provides compliance so why should I ask for an ACE Wizard TM44 Air Conditioning Inspection?

An ACE Wizard report is focused on providing energy data which is directly linked to the energy impact it could have across your business. The report helps a business to make decisions based on their energy consumption and potential savings to help the board reduce carbon emissions and energy bills.

	STANDARD TM44 AIR CONDITIONING INSPECTION	ACE WIZARD TM44 AIR CONDITIONING INSPECTION WITH ACE WIZARD MANAGEMENT PORTAL
Site visit and compliant report completed by a fully accredited Air Conditioning Energy Assessor	●	●
Report lodged onto the CLG central database "Landmark register"	●	●
Provide a site-specific Air-Conditioning Inspection Certificate	●	●
PDF report provided of assessors site inspection. (NOTE: the depth and quality of a report varies between assessors, ACE Wizard system and training helps achieve a high consistent standard across assessors)	●	●
Executive Summary to explain the assessor's findings. (NOTE: the depth and quality of the Executive Summary vary between assessors, ACE Wizard system and training helps achieve a high consistent standard from all assessors)	●	●
Site specific recommendations / advice for your HVAC systems.	●	●
Energy usage data and refrigerant quantities provided for each system.	○	●
A projection of operation costs and energy usage for each system.	○	●
A projection of the operating costs and energy usage for the whole site.	○	●
A projection of the potential energy and costs savings through implementing the assessors site recommendations.	○	●
The report calculates and provides the Energy Efficiency Rating (EER) of each system	○	●
The report provides area sizing tables, maintenance standard table, AHU efficiency table and Specific Fan Power (SFP)	○	●
Manage your ongoing inspection anniversaries dates of all your facilities in one place	○	●
Factors occupancy hours and allows post report adjustments to fine tune potential cost savings	○	●
Secure on-line portal to view and interrogate energy consumption, efficiency rating etc. across all building portfolio's and client portfolio's and the ability to export the data to Excel	○	●
Ability to record PPM and F-gas visits as part of a buildings F-gas compliance (Jan 2015 GWP data calculations due May 2015)	○	●
Capture a full facility "External Plant" asset list entered and available in the ACE Wizard on-line portal and the ACE Wizard report.	○	●

Example Report

Example Report

ACTION	SYSTEM MAINTENANCE	ESTIMATED IMPACT ON OPERATION (%)	APPLICABLE SYSTEMS	POTENTIAL IMPACT IN COSTS (PER ANNUM)
02	The AHU doors fastenings should be repaired/replaced and leaks should be checked as part of any maintenance program and any leakage discovered should be repaired.		AHU 01	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #0056b3; margin-right: 10px;"></div> £1123.20 </div> <div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #c00000; margin-right: 10px;"></div> £56.16 </div>
07	It is recommended that the client considers raising the set temperatures of the less efficient none inverter systems so as they are used as back-up only		All fixed speed systems	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #0056b3; margin-right: 10px;"></div> £9246.18 </div> <div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #c00000; margin-right: 10px;"></div> £4623.09 </div>
01	Review options of installing a BMS / centralised controller and the possibility of linking back to control other building services such as the lighting		All systems	<div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #0056b3; margin-right: 10px;"></div> £31389.47 </div> <div style="display: flex; align-items: center;"> <div style="width: 100px; height: 15px; background-color: #c00000; margin-right: 10px;"></div> £6279.89 </div>

All The Bases Covered

The UK government are committed to reducing carbon emissions, and one way they're doing this is by focusing on businesses energy efficiency. Since air conditioning can account for up to 30% of a company's energy costs, mandatory Air Conditioning Energy Inspections (TM44) have been introduced to help identify energy-saving opportunities and promote sustainability.

AC Cooling Efficiency Score



Average SEER (EU) - 4.36

Overall Efficiency

Our engineers run extensive tests to find how efficiently your system operates, using their extensive knowledge to identify areas of weakness that can be improved.

Energy Consumption

We review how your system heats and cools your space. Our engineers can pinpoint adjustments that may help you save thousands of pounds over time.

AC Heating Efficiency Score



Average SCOP (EU) - 3.78

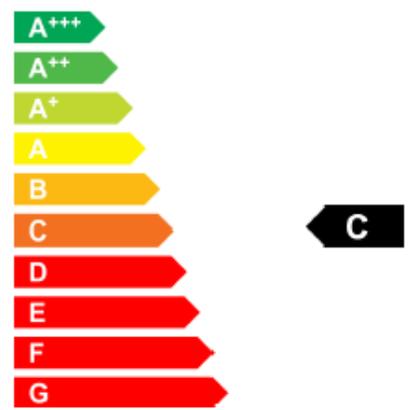
Size & Performance

The team will assess the size and performance of your current system to determine if it's fit for purpose or can be adjusted to improve efficiency and cost.

Cooling Load Reduction

Our engineers will pinpoint areas in your building's structure that reduce energy efficiency. Solutions may include better insulation or improved window glazing.

Refrigerant Score



1,484 GWP per kg

Ventilation Performance

How well your system is ventilated plays a key role in your TM44 report. We will measure ventilation levels to determine how efficiently your system is operating.

European Standards

We test every system according to European Standards, which are some of the most rigorous in the world, to ensure your HVAC is compliant and delivers cost-effective performance.

The question should never be:
“What’s the lowest price for a
TM44 Air Conditioning
Inspection?”

Instead, it should be:
“How much value can my
business gain from an Adcock
Refrigeration & Air Conditioning
TM44 Air Conditioning
Inspection

At Adcock, we believe installation is just the beginning. With a nationwide network, our expert engineers provide 24/7 repair services to keep your HVAC and refrigeration systems running smoothly all year round. Whether it’s a planned maintenance visit or an emergency call out, we aim for same-day response to reduce downtime and disruption. We proudly welcome new customers and are ready to deliver the same trusted, high-quality service that has earned us a loyal client base - where 85% of our work comes from repeat business and referrals.

enquiries@adcock.co.uk

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