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ACE Wizard User Guide

How to record and maintain F-Gas Inspection, PPM Visits, add Assets & run reports

[How to record F-Gas Leak tests and PPM visits in the ACE... | ACE Wizard](#)

Revision 1.0

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Prepared for:

Maintenance Users

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Maintenance User Functions

These instructions are also covered in a short training video on the ACE Wizard Website [How to record F-Gas Leak tests and PPM visits in the ACE...](#) | [ACE Wizard](#)

The “Maintenance” tab displays the data only on buildings which have a status of “Client Owned” as show below. At this level, access to building information is set as read only. To record maintenance visits, edit or add systems to a building, the maintenance user can do so by clicking the “Open” button for a building. When at least one leak tests for a site have been recorded, the “F-Gas Site Log Book” button will produce a live F-Gas Log book for a site/building.

ACE Wizard Air Conditioning Energy Inspections - Maintenance						
Search for <input type="text"/> in Any Go Clear						
	Id	Client	Site	Postcode	Manage Site	F-Gas
	11787	Client ACME 1	Site B	AB1 1BA	Open Site	F-Gas Site Log Book
	8628	Client ACME 1	Site A	SA12 1BB	Open Site	F-Gas Site Log Book

1 - 2 of 2 items

Recording F-Gas & PPM Visits

Open the building you wish to record visits against, the page will be opened on to the asset tab, select the asset type you want to record a visit against either, AC Units, Air Handling Units or Other Assets. (Page will default to AC Units). In this example we are recording a Visit for an AC Unit. Click the “Expander Triangle” for the AC Unit you wish to add a visit record for. Select the “Maintenance Log” tab and click “Record Visit” button.

ACE (Air Conditioning Energy) Wizard - Project Maintenance Editor

Project Id: 11787 Client: Client ACME 1 Site: Site B
 Address: Research Hospital Lister Road, Worcester AB1 1BA Cost/kWh (£): £0.12
 Contact: Client Simpson Username: ACMEClient Status: Client Owned
 Inspected: 14/09/2016 Expires: 13/09/2021 Report Type: Level 4

Edit...

Details

Assets Room Sizing Time Zones Report Summary Recommendations Report Downloads

AC Units Air Handling Units Chilled Water Pumps Other Assets Import AC Units

Totals

Cooling Capacity: 355.7kW	Rated Input Power: 134.1kW	Calculated Energy Input: 73.3kW
Total Refrigerant Weight: 98.30kg	Total Equivalent CO2: 181.8 tonne	Annual Operating Cost: £39,503
Number of Systems: 14	Average EER: 2.7	

Details

+ Add AC Unit Type System Group All Systems Go Clear

System(s) Select System(s)...

Asset I...	Location	Serving	Make/Model	Time Zone	In Service	Commands
01 Chiller	Chiller Compound	WWing Lecture Theatre and Meg Lab	York YCSA-100-T-3BOT	York Chiller	<input checked="" type="checkbox"/>	Edit Replicate Delete

Details Internal Units **Maintenance Log** Energy Usage

Total Refrigerant Weight: 55.00kg Serial Number: Print Unit F-Gas Log Book
 GWP Equivalent CO2: 97.6 tonne Required F-Gas Visits per Annum: 2 Print Unit PPM Log Book

+ Record Visit

Dat...	F-Gas	Visit T...	Engin...	Maintena...	Comments	Refrigerant Added (kg)	Next Act...	Commands
--------	-------	------------	----------	-------------	----------	------------------------	-------------	----------

The Record Visit window will be shown as per the image below.

The screen will pull through the system details which is shown on the left.

Fill in the details on the righthand side. If the visit included an F-Gas leak test or gas added to a unit, tick the “F-Gas Leak Test Completed” box to activate the F-Gas record fields.

Note: The “Next Action Date” is not currently linked to any automatic updates but will appear in the F-Gas and PPM reports.

The common tasks completed as part of a maintenance visit can be selected by ticking the relevant tick box.

Additional engineers’ comments is a free text field, any comments made in this box will appear with the visit record along with the ticked ‘Tasks Completed’.

Note: The only mandatory field is the PPM Type which lists the visit type of ‘PPM – Main, PPM Interim, Breakdown or Other’ if you require more options please contact support@acewizard.co.uk

Dat...	F-Gas	Visit T...	Engin... Name	Maintena... Company	Comments	Refrigerant Added (kg)	Next Acti...	Commands
13/03/2021	<input checked="" type="checkbox"/>	PPM - Main	Mike Engineer	ACME AC/PM Ltd	The following has been completed: External Condenser Cleaned, External Fan Operation, Correct Operation Heating, Air On/Off Temperatures Checked, Cond...	0	13/10/2021	<div>Replicate to All AC Units</div> <div>Edit</div> <div>Delete</div>

Once you have completed the form click update, all visit data will now show under the system you have recorded the visit against.

To replicate the visit record to all AC systems in the building click the “Replicated” button.

Note: Replicating a visit record of a system will only be replicated

to all systems of the same type, replicating a visit record for an AC Unit will not record the visit against and AHU or Other Asset.

To record a visit for “Air Handling Units” or “Other Assets” click on the corresponding tab from the “Asset” Tab and click the expander triangle for a unit the visit will be recorded against, click on the “Maintenance Log” tab before finally clicking on the “Record Visit” button.

The screenshot shows the 'Assets' tab in the software. Under the 'Air Handling Units' sub-tab, a table lists units. The first unit, AHU 01, is highlighted. Below the table, the 'Maintenance Log' sub-tab is selected, and the '+ Record Visit' button is highlighted in red.

Asset I...	Loca...	Ser...	Make/Model	Time Zone	Air Vol... (m3...	Su... Mo... Ra...	Ext... Mo... Ra...	V...	Commands
AHU 01	West Wing Plant Room	Lecture Theatre	Air Handling Systems Ltd AHU 01	Mechanical Ventilation	1.88	4.00	3.00		Replicate Edit Delete

Date	Visit T...	Engineer	Maintena... Company	Next Action	Comments	Commands
+ Record Visit						

The Air Handling Unit record card shown below, contains common task associated with maintaining mechanical ventilation system. Any task not listed can be recorded in the additional comments box.

The 'Edit' form contains the following fields and sections:

- System:** AHU 01
- Location:** West Wing Plant Room
- Serving:** Lecture Theatre
- Manufacturer:** Air Handling Systems Ltd
- Model:** AHU 01
- Visit Date:** 13/03/2021
- Engineer Name:** [Text Field]
- Maintenance Company Name:** [Text Field]
- PPM Type:** Select a Log Type...
- Next Action Date:** [Text Field]

Tasks Completed:

AHU Correct Operaton Checked	<input type="checkbox"/>	Inverter(s) Checked	<input type="checkbox"/>
AHU Filters Checked	<input type="checkbox"/>	Condensate Drains Run Clear	<input type="checkbox"/>
AHU DX Coil Checked and Cleaned	<input type="checkbox"/>	Thermal Insulation Checked	<input type="checkbox"/>
AHU Heating Coil Checked and Cleaned	<input type="checkbox"/>	AHU Controls Checked	<input type="checkbox"/>
Supply Fan Operation Checked	<input type="checkbox"/>	Damper(s) Operation Checked	<input type="checkbox"/>
Extract Fan Operation Checked	<input type="checkbox"/>	Filter Gauge(s) Checked	<input type="checkbox"/>
Fan Drive Belts Checked	<input type="checkbox"/>		

Additional Comments: [Text Area]

Buttons: Update, Cancel

The record visit card for “Other Assets” is shown below, as “Other Assets” can contain refrigerant, these systems may require leak tests and will appear in the F-Gas Logbook & Refrigerant/GWP reports only if a system has been set up with refrigerant. (see how to add or update “Other Assets”)

System

ASHP01

Visit Date

13/03/2021

Serial No

1212CV4A97000226

Engineer Name

Location

Underfloor Heating CCT

Maintenance Company Name

Serving

Roof

PPM Type

Select a Log Type...

Manufacturer

Delonghi

F-Gas Leak Test Completed

☐

Model

MICS - N/S 0152FF

F-Gas Certifying Body

Select a Certifying Body...

Type

Air Source Heat Pump

F-Gas Certificate Unique Number

Refrigerant

R410A

Factory Charge (kg)

13.30

Refrigerant Added (kg)

Additional Charge (kg)

0.00

Refrigerant Removed (kg)

Total Charge (kg)

13.30

Bottle Serial No

Equivalent CO2 (tonne)

27.8

Next Action Date

F-Gas Leak Tests Per Annum

1

Tasks Completed

Cold Room Condition Checked

☐

External Electrical Connections Checked

☐

Condenser(s) Coil(s) Cleaned

☐

Internal Electrical Connections Checked

☐

Evaporator Col(s) Cleaned

☐

Condensate Drain Runs Clear

☐

Set point Temperatures Checked

☐

Condenser Area Clear of Debris

☐

Correct Operation Checked

☐

All Surfaces Wiped Clean

☐

Fan Speed Controller Checked

☐

Running Amps Checked

☐

Defrost Heater Checked

☐

Extract Fan Cleaned

☐

Refrigeration Pipework Condition Checked

☐

Impeller Cleaned

☐

Thermal Insulation Checked

☐

Inverter Checked Correct Operation

☐

External Fan Operation

☐

System Checked For Errors

☐

Additional Comments

Update

Cancel

Adding Assets to a building/project

Assets can only be added to a building by a Maintenance User, there are 3 main asset types each with their own tab and one subcategory asset type under AC Units, these are:

- AC Units – Air Conditioning Condensers including Chillers, Splits, VRF/V, CRAC, CCUs and DX condensers serving Air Handling Units
 - Internal Unit – Used to record the internal evaporators linked to an external AC unit
- Air Handling Units – Heat Recovery Units such as VAMs and Lossnay type systems and Fresh/heated or cooled Mechanical Ventilation Systems (AHUs).
- Other Assets – All other assets not covered in the categories above such as Boilers or Air Source Heat Pumps

Adding AC Units & Chillers

ACE has a database of over 25,000 AC/Chiller systems available to make adding new assets easier. To add an asset, click the “Add Unit” button in any of the Asset tabs (AC Asset shown below) – a training video is also available via the following link [Adding an AC Unit in ACE Wizard | ACE Wizard](#).

The AC Unit page split in to “AC Unit” & “Unit Details” begin by populating the data on the left-hand side.

Asset ID – Please use a unique name for each system on a site such as your current asset tag or label the units AC01, AC02, AC03 etc.

Location – Is the area the external unit is sited such as ‘Roof’

Serving – If a room already exists in the project this can be selected via the drop down, if not, type the room or area name in the field.

Manufacturer – Start to type the manufacturer in the box and all possible selection options will appear based on the text typed. Alternatively, if you know the Model number, type this in the **Make/Model** field. ACE will start to search our system database as you type, once selected the “Unit Details” section will populate with the known system data. *Note: If there is no matching system in the database, please follow the instructions on the next page.*

Time Zone – Select any option which best fits the type of operation.

Approximate Age & Condition – State the estimated year of install and general, if unknown please type ‘Unknown’. For Condition, please select an option from the drop-down list. ((Note: Condition Additional Description is not required to be filled in))

Serial Number – The serial number of the unit if known.

All details on the “Unit Details” side of the above image can be edited to align with the information found on site.

EER/SEER/COP/SCOP & Capacity Control – ACE Wizard will automatically populate these fields using the ACE system database. If the data is not known, these fields can be left blank.

Unit Details (Data Confirmed) – Indicates the system energy and refrigerant data has been confirmed by ACE Wizard against manufactures data.

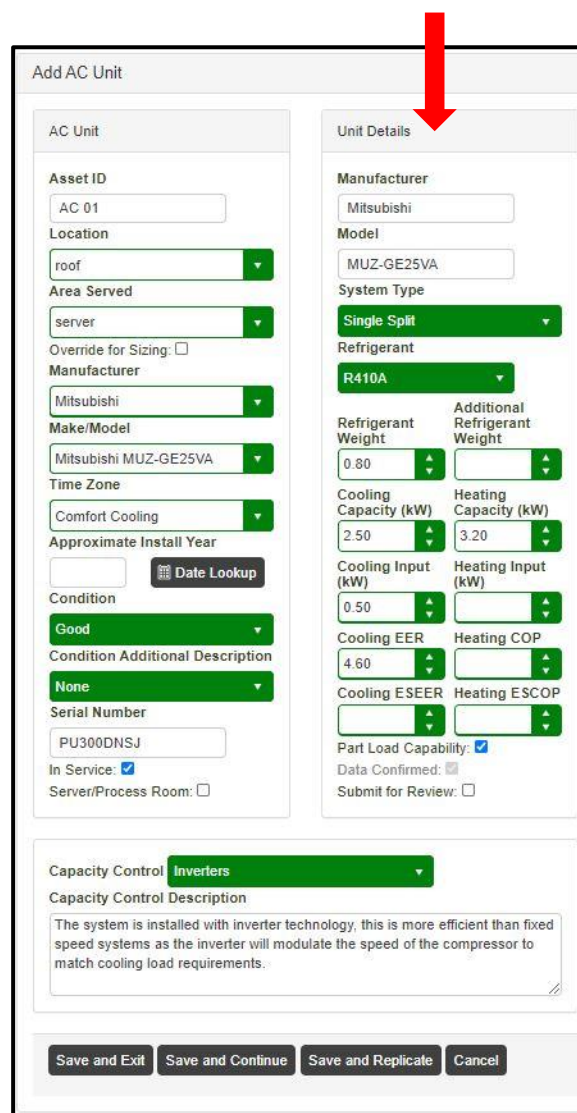
Systems not in ACE Wizard database – When adding systems which are not in the database, select any system from the same manufacture and amend the “Unit Details” data on the right-hand side manually.

if you do not know the refrigerant weight for a system, you have the option to leave this field blank however this will mean the F-gas logbook will not show the system GWP.

Note: You can also learn how to add systems not in the ACE database by clicking the following link. [Adding an AC unit which is not in the ACE Wizard database | ACE Wizard](#)

You are now ready to save the system, if you have no more systems to add click “Save & Exit”, to enter a new system from scratch click “Save & Continue”, to enter a similar or identical system click “Save & Replicate”. Replicating will duplicate the AC unit and most of the references, remember to change the condition, age, location, or room served if you need to on this replicated system. You will also see when you replicate a system the “Asset ID” name has a suffix of “001”. This is to prevent an asset ID being used more than one for each building.

Once an asset list has been completed, at the top of the page you will see a search/filter system where you can filter the A/C systems by various categories such as time zone, area served, refrigerant type, manufacturer, and system type.



Adding Internal AC Units

Select the AC Unit you wish to link the internal unit to and click the expander triangle shown below, click on the 'Internal Unit' Tab and then click the 'Add new record' button.

The screenshot shows the 'Details' window of the ACE Wizard software. The 'Assets' tab is active, and the 'AC Units' sub-tab is selected. The 'Totals' section displays various metrics: Cooling Capacity: 169.5kW, Rated Input Power: 60.3kW, Calculated Energy Input: 42.5kW, Total Refrigerant Weight: 24.30kg, Total Equivalent CO2: 50.5 tonne, Annual Operating Cost: £27,872, Number of Systems: 12, and Average EER: 2.8. The 'Details' section shows a table with columns: Asset ID..., Location, Serving, Make/Model, Time Zone, In Service, and Commands. A record for 'CAM 14564' is shown, with location 'South Wing Loft', serving 'IT Rooms', and make/model 'Daikin RXYQ5M7W1B'. The 'Internal Units' sub-tab is selected, and the '+ Add new record' button is highlighted with a red box.

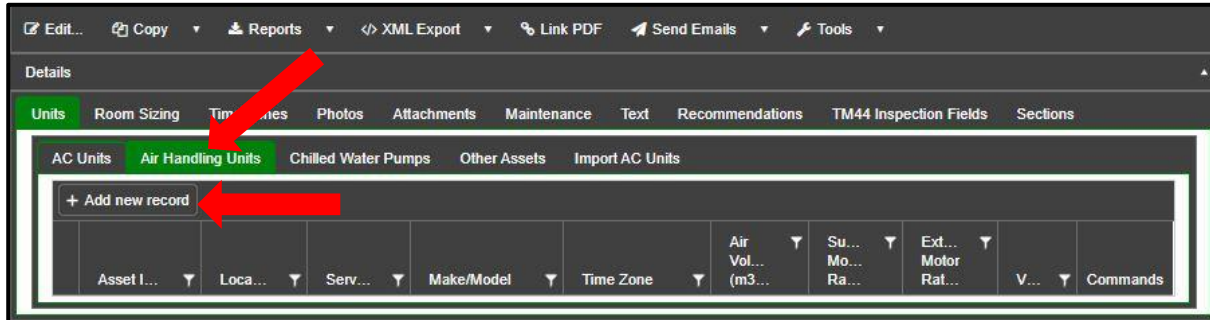
The page will pull through the core details from the external AC asset the internal unit is being linked to, these fields can be changed if required.

Once the internal asst data has been filled in click update to save the record. Or click Update & Replicate if there are multiple internals of the same model linked the external AC Unit.

The 'Edit' dialog box is shown, with fields for: Asset ID, Manufacturer (Daikin), Model, Type (Select an Internal Unit Type...), Serial Number, Location (IT Rooms), Use ACU Room Details (checked), Approx Year Installed (2005), and In Service (checked). At the bottom, there are three buttons: 'Update' (with a green checkmark), 'Update & Replicate', and 'Cancel'.

Add AHUs & HRUs:

If there is mechanical ventilation at site, add this data next by selecting “Air Handling Units” tab and click “Add New Record” button.



As with the A/C Unit please create a unique system name for each AHU system recorded, most fields are then completed manually.

Enter the system 'Location' such as roof and 'Area Served' such as First Floor Offices.

The “Area Type” drop down menu has a list of the most common areas with the estimated required air changes per hour.

ACE has a small database of HRUs (Heat Recovery Units). Input the manufacturer and start typing the model number, for example, Manufacturer: Mitsubishi. Model: LGH-100RS2-E2, it will fill in the data for you.

When adding an AHU, if the boxes labelled “Speed Controlled/VSD” (Variable Speed Drive) is ticked then you are indicating the system has a method of “Air Speed Control” on either the supply or extract motors.

Asset ID	AHU 01		
Location	Roof Plant	Area Served	office
Area Type	Offices [6-10 ACH/hr]	Model (if required)	
Manufacturer	Trane	Time Zone	Mechanical Ventilation
Approximate Age	2001	Extract Air Volume (m3/s) (if required)	
Supply Air Volume (m3/s)	5.60	Supply Speed Controlled/VSD	<input checked="" type="checkbox"/>
Supply Motor Rating (kW)	15.00	Extract Speed Controlled/VSD	<input checked="" type="checkbox"/>
Extract Motor Rating (kW)	7.50	Heat Recovery	Re-circulation Dampers
Fan Power De-Rated (%)	70	Building Age	Pre-2010
AHU Type	Central mechanical ventilation (in...	Data Confirmed	<input type="checkbox"/>
In Service	<input checked="" type="checkbox"/>	Applicable Room Volume (m3)	2016 - 3360
		SFP (W/(l/s))	2.81
		Building Reg Expected SFP (W/(l/s))	2.20

Note: How to add an AHU/HRU to an ACE project is available by clicking the following link, [Adding an AHU or an HRU to an ACE project | ACE Wizard](#)

Add Other Assets

Click on the 'Add new record' from the 'Other Assets' tab.

As with all assets, assign a unique Asset ID and then select the 'Asset Type', to increase the asset type options please email support@acewizard.co.uk with your request. If the manufacture does not appear in the drop-down list you can simply type the name you wish to enter.

If the 'Other Asset' contains F-Gas which you wish to show on your F-Gas logbook please tick the 'Contains Refrigerant Gas' box, this will enable the Refrigerant fields to be filled in.

Once you have filled in the page click 'update'.

Edit

Asset ID

Type

Room

Location in Room

Manufacturer

Model

Approx. Year Installed

Serial Number

kW Input

In Service ☒

Contains Refrigerant Gas ☐

Refrigerant

Refrigerant Weight (kg)

Additional Refrigerant Weight (kg)

Notes

Note: It is not currently possible to create a Project/Building under the Maintenance User Role. To create a new Building record please email support@acewizard.co.uk. With the Building Name & Address.

Amending Assets in a building/project

All assets can be edited by a Maintenance User, there are 3 main asset types each with their own tab and one subcategory asset type.

- AC Units – Air Conditioning Condensers including Chillers, Splits, VRF/V, CRAC, CCUs and DX condensers serving Air Handling Units
 - Internal Unit – Used to record the internal evaporators linked to an external AC unit.
- Air Handling Units – Heat Recovery Units such as VAMs and Lossnay type systems and Fresh/heated or cooled Mechanical Ventilation Systems (AHUs).
- Other Assets – All other assets not covered in the categories above such as Boilers or Air Source Heat Pumps

To edit an asset, click on the “Maintenance” tab and click the “Open” button for the building you wish to amend the asset on.

The screenshot shows the 'Maintenance' tab in the ACE Wizard interface. At the top, there's a navigation bar with 'Contact Us', 'Your Inspections', 'Maintenance' (highlighted), 'Data Reports', 'Administration', and 'Logout (ACMEMaintenance)'. Below this is a search bar and a table of assets. The table has columns: Id, Client, Site, Postcode, and Manage Site. Two rows are visible: one for Site B (ID 11787) and one for Site A (ID 8628). The 'Open Site' button for Site B is highlighted with a red box. At the bottom right, it says '1 - 2 of 2 items'.

Select the “Asset Type” and click the “Edit” button of the asset you wish to edit. *Note: to edit the internal unit linked to an AC system click on the “Expander Triangle” of the asset.*

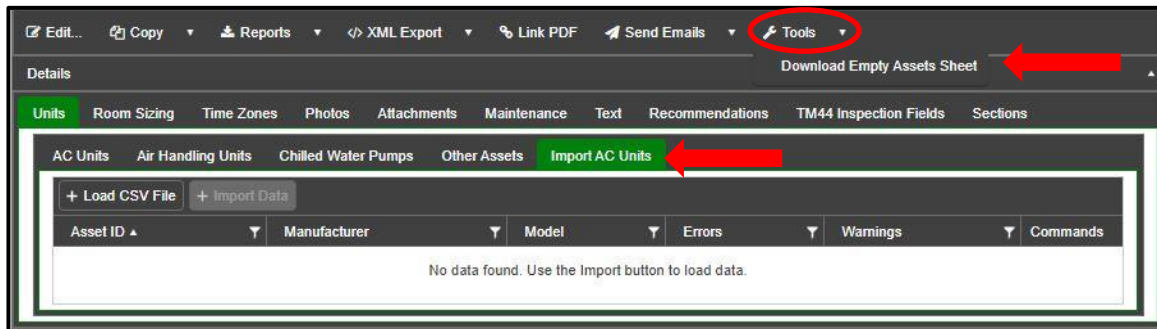
The screenshot shows the 'Details' page for 'AC Units'. The 'Assets' tab is selected. Below the navigation bar, there's a section for 'Totals' with various energy metrics. Then, there's a 'Details' section with a search bar and a table of AC units. The table has columns: Asset ID, Location, Serving, Make/Model, Time Zone, In Service, and Commands. One row is visible for 'AC 01456'. The 'Edit' button in the 'Commands' column for this unit is highlighted with a red box. Below the table, there's a section for 'Internal Units' with a table of internal units. The 'Edit' button for the first internal unit is also highlighted with a red box.

All fields can be amended in the same way a unit is added, once you have made the required changes click ‘Save/Update’. Assets can also be deleted; however, you are not able to recover a deleted asset and any linked records including Internal Units and PPM/F-Gas Visit Records will also be deleted.

Import A/C Units:

If there are no assets recorded for a building, ACE allows the external AC Units to be uploaded to prepopulate the core AC unit data as possible.

Under the “Tools” tab you can download an empty asset list for excel. This can be used on mobile phones or tablets to enable the assessor to complete an asset list while on site, in some cases it may be quicker to complete the asset list during the site visit.



See completed example spreadsheet:



Asset ID	Location	Area Served	Manufacturer	Model	Serial	System Type	Year	Refrig Type	Refrig Wt	Add Ref Wt	Gen Cond	Coil Cond	Pipe Cond	In Service	Other Notes
AC 01	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U000	Single Split	2001	R410A	5.6		Good	Good	Good	Yes	Leaves rear of coils
AC 02	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U001	Single Split	2002	R410A	6.6		Good	Good	Good	Yes	Leaves rear of coils
AC 03	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U002	Single Split	2003	R410A	7.6		Good	Good	Good	Yes	Leaves rear of coils
AC 04	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U003	Single Split	2004	R410A	8.6		Good	Good	Good	Yes	Leaves rear of coils
AC 05	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U004	Single Split	2005	R410A	9.6		Good	Good	Good	Yes	Leaves rear of coils
AC 06	Roof	Office	Mitsubishi	PUHZ-ZRP100VKA	22332U005	Single Split	2006	R410A	10.6		Good	Good	Good	Yes	Leaves rear of coils

Once the excel asset list has been completed, save the asset list as a “.CSV” (CSV Comma Delimited) file on your computer. Next click “+ Load CSV File” in ACE under the Import AC Units tab, this will load the asset list and will display any errors or warnings you may have. From here you can edit the systems before importing into the project.

Note: Any errors within the asset list must be corrected before you can import these systems. Warnings do not have to be amended; however, it is recommended you double check these to ensure the data is correct. In the case below the refrigerant weights differ from the database figures.

Asset ID	Manufacturer	Model	Errors	Warnings	Commands
AC 02	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 6.60 (Database 5.00)	Edit Delete
AC 03	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 7.60 (Database 5.00)	Edit Delete
AC 04	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 8.60 (Database 5.00)	Edit Delete
AC 05	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 9.60 (Database 5.00)	Edit Delete
AC 06	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 10.60 (Database 5.00)	Edit Delete
AC 07	Mitsubishi	PUHZ-ZRP100VKA	None	Refrigerant Weights don't match 5.60 (Database 5.00)	Edit Delete

Once you are happy with the asset list and any errors have been amended then click “+ Import Data” and this will populate the A/C Units asset list within ACE. It is worth noting that ACE will assign all the A/C units to the first comfort cooling time zone.

Running Data Reports & PPM / F-Gas Logbook Reports

There are 2 types of pre-configured reports available to users in ACE Wizard, these can be split in to 2 categories.

- Data Reports – which compiles data from all projects/buildings and can be exported in the Excel. Many of these reports relate to the governments mandatory TM44 Air Conditioning Energy Inspections for buildings in the UK with cooling systems installed with a combined cooling capacity of 12kW. These inspections are required every 5 years and the data reports in ACE allow for firms to extract the data capture during these energy assessments to help identify energy saving opportunities to help improve their carbon emissions.
- F-Gas & PPM Logbooks – These provide PDF output of the visits and leak tests on a building or systems within a building.

Running Data Reports

There are 11 preconfigured database reports these are,

- AHU Data – Shows the energy performance data including Specific Fan Power of AHUs installed.
- Areas & System Sizing – Highlights where systems are potentially under or oversized for the area served by the systems. (Data will only show on sites which have had a TM44 Air Conditioning Energy Inspection)
- Asset List – A full single or multi building report of all assets recorded in a building.
- Reports by Expiry Date – Shows the renewal date of the building TM44 Air Conditioning Energy Certificate (Data will only show on sites which have had a TM44 Air Conditioning Energy Inspection)
- F-Gas Site Logbook – Displays the last leak test carried out on all systems recorded in the software, can be run across single or multiple buildings.
- Refrigerant, GWP & F-Gas Data – Displays data of all systems recorded in ACE use in an F-Gas logbook and to see the total.
- System Energy Efficiency Rating
- Recommendations (Energy and cost saving data will only display if the ACE Advanced Energy report has been completed)
- AHU Data
- Areas & System Sizing
- Operational Cost (Energy and cost saving data will only display if the ACE Advanced Energy report has been completed)
- Key findings Report.