

Background

California's Appliance Efficiency Regulations ([Title 20](#)) set minimum performance requirements for energy- and water-saving appliances. In August 2015, the California Energy Commission (CEC) launched the [Modernized Appliance Efficiency Database System](#) (MAEDbS) 1.0 which automated and centralized the appliance certification processes. To ensure regulated products are compliant with Title 20 standards, they must be certified to the MAEDbS. The CEC manages the MAEDbS and continuously makes improvements to allow for better functionality. More detail on these updates is available on the [CEC site](#).

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Who Uses the MAEDbS?

Appliance Manufacturers and Third-Party Certifiers

Appliance manufacturers, their third-party certifiers or their test labs must use the MAEDbS to certify that their regulated products comply with Title 20 prior to selling or offering their products for sale in California.

Retailers, Distributors and Installers

Retailers, distributors and installers must use the MAEDbS to verify that the products they sell are compliant prior to selling or offering them for sale in California.

Anyone from the public may search the MAEDbS to confirm if a product has been properly certified or not. Users do not need to create an account in MAEDbS if they are only searching for products.

Building Designers and Contractors

According to [Section 110.0b](#) of California's Title 24, Part 6 Building Energy Code (Energy Code), regulated appliances can only be installed if they are Title 20-compliant. When builders, designers and contractors are specifying or purchasing appliances that are regulated by Title 20, they must verify that the products are listed in the MAEDbS.

In addition, the Energy Code also includes requirements for lamps and luminaires, specifically in residential occupancies that require a building permit to have high-efficacy light sources installed. [Table 150.0-A](#) lists high efficacy light sources. Like other Title 20-regulated products, manufacturers must certify [Joint Appendix 8 \(JA8\)](#)-compliant lamps to the MAEDbS. Builders, designers and contractors must verify the lamps they use are listed in the MAEDbS as JA8-compliant before choosing and installing the lamp.

California Energy Commission

The CEC uses the MAEDbS to verify compliance for products and issue penalties to manufacturers, distributors and retailers who sell or offer for sale non-compliant products.



Ace Tip

Learn more about JA8 requirements in the Energy Code Ace fact sheet, [Residential High-Efficacy Lighting - Title 20 and Title 24, Part 6 JA8: Key Differences and Overlap](#)



Product Types Certified to the MAEDbS

All products regulated by Title 20 and/or the U.S. Department of Energy (DOE) must be certified to the MAEDbS. In addition, federally regulated products must also be certified to the [DOE's Compliance Certification Management System](#) (CCMS).

If a manufacturer, distributor or retailer sells both state- and federally regulated products in California, the MAEDbS can be used to verify compliance with both.

There are 19 different categories of appliance types found on the MAEDbS, as listed in Table 1 below.

Product Category	Appliance Type
Air Filters	Air Filters
Central Air Conditioners (AC)	Computer room AC Evaporatively cooled AC Large & very large AC Small air-cooled AC Water-cooled AC
Central ACs and Heat Pumps (HP)	Central ACs and HPs (other than multi split systems), Appendix M1 Central ACs and HPs (multi split systems), Appendix M1 Commercial ACs and HPs Single package vertical AC and HP Variable refrigerant flow ACs and HPs (multi split systems)
Central HPs	Gas-fired HP Geothermal HP Water heating packages Large and very large HP Small air-source HP
Computers	Monitors Desktops, thin clients, mobile gaming systems Medical monitors Notebooks and portable all-in-ones Small scale serves and rack-mounted workstations Workstations and high expandability computers
Cooking and Washing Products	Clothes washers and dryers Commercial and residential cooking equipment Dishwashers
Electronics	Consumer audio & video equipment Federally regulated battery chargers Small and large battery charger systems Televisions and signage displays
Fans and Dehumidifiers	Ceiling fans Commercial and Industrial (C&I) fans Dehumidifiers Whole house fans & residential exhaust fans Residential furnace fans
General Pumps	Pumps
Heating Products	Boilers Combination space/water heaters Duct furnaces & unit heaters Furnaces Gas space heaters Infrared heaters
Landscape Irrigation Equipment	Spray sprinkler bodies

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Product Category	Appliance Type
Lighting Products	Ballasts Ballasts for residential recessed luminaires Ceiling fan light kits Deep-dimming ballasts Emergency lighting 2013 JA8 high efficacy LEDs 2016 & 2019 JA8 high efficacy LEDs Lamps Metal halide luminaires Portable luminaires State-regulated LED lamps State-regulated small diameter directional lamps Torchieres Traffic signals Under cabinet luminaires
Motor Products	Electric motors
Non-Central AC & HP Products	Evaporative coolers Portable air conditioners Portable terminal air conditions and heat pumps Room air conditioners and heat pumps Spot air conditioners
Plumbing Products	Plumbing fittings (faucets and showerheads) Plumbing fixtures (toilets and urinals)
Pool Products	Dedicated purpose pool pumps Heat pump pool heaters Gas/oil pool heaters Residential pool pumps and motor combinations Portable electric spas Replacement dedicated purpose pool pump motors
Refrigeration Products	Commercial refrigerators Commercial refrigerators multiple compartments Automatic icemakers Miscellaneous refrigeration products Non-commercial refrigerators Refrigerated beverage vending machines Walk-in cooler/freezer doors, panels, and systems Water dispensers
Transformer Products	Transformers
Water Heater Products*	Commercial water heaters Residential-duty commercial water heaters Residential water heaters

Table 1. Product Types Certified to the MAEDbS

*In 2019, DOE issued a policy stating that it wouldn't enforce regulations on several consumer water heater product types. For more information, see the related [Enforcement Policy Statement](#).



Searching the MAEDbS: Quick vs Advanced Search

To choose a search option (“Quick” or “Advanced”), hover over the “search” button on the top left of the MAEDbS home page.

Quick Search

The quick search is the best search option if you have a particular product you’d like to verify. It allows users to search by one or all of the following filters:

- **Model number:**
 - Standard Model Search:
 - As each digit is typed, the standard model search will find models that begin with those digits
 - This is the better search option if the user knows the exact model number already
 - Dynamic Model Search:
 - This search method will show all model numbers that contain the set of digits or characters that a user enters (the standard search will only search for model numbers that start with the set of digits or characters)
- **Appliance type:**
 - Users may select one of the product categories and appliance types (listed in Table 1 above) to search by
- **Company:**
 - Users may filter by company name if they are looking for products from a particular manufacturer
- **Brand:**
 - Users may also filter by brand, which can be useful as some manufacturers have multiple brands under one company name
- **Appliance status:**
 - Searching by appliance status allows users to view Approved and Archived products
 - Approved products meet the current regulations
 - Archived products previously met a regulation, but that regulation is now outdated, or the manufacturer has chosen to remove the product from the approved listing



The image shows the MAEDbS login page. At the top is the California Energy Commission logo. Below it, the text reads "Modernized Appliance Efficiency Database System" and "MAEDbS". There are three tabs: "Appliance Quick Search", "Appliance Advanced Search", and "Test Lab and 3rd-Party Search". The "Appliance Quick Search" tab is active. Below the tabs is a login form with fields for "User ID" and "Password". There is a checkbox for "I have read and agree to the Login Policy" and a "Sign In" button. Below the login form are links for "Create an Account", "Forgot your User ID?", and "Forgot your Password?". At the bottom, there is a link for "California Appliance Efficiency Regulations" and a "Help" link. The footer contains the text "Current Build: Version 3.0.18 Deployed on 10/13/2021" and "Accessibility | Conditions of Use | Privacy Policy Copyright © 2016 State of California".


Figure 1. MAEDbS Login Page

Advanced Search

When using the advanced search, users can also search by category, appliance type and appliance status, just like with the quick search. However, the Advanced option includes two additional search functionalities – selecting fields to display and using filters.

By **selecting fields to display**, users can manipulate what data are displayed. For instance, if a user wants to see a specific feature related to that product type, they may select it. These fields can include characteristics related to size, efficiency or functionality. Each appliance type has different fields available to select.

By **using filters**, users may choose any of the fields available for the product and filter certain products in or out. For instance, if they select the model number field, they can filter the search to only show results that begin with certain numbers or letters. Users can also filter based on the unique fields available for each product (up to five filters at a time). This feature is particularly useful when users are specifically looking for a product that meets a certain set of criteria.



The image shows the MAEDbS Advanced Search landing page. At the top is the California Energy Commission logo. Below it is a "SEARCH" button. The page title is "Advanced Search". Below the title is a paragraph explaining the advanced search functionality. Below that is a section titled "Select Appliance Type" with three dropdown menus: "Select Category", "Select Appliance", and "Select Appliance Status". The "Select Appliance Status" dropdown is currently set to "Approved". At the bottom of the page is a footer with links for "Accessibility", "Conditions of Use", and "Privacy Policy", and the text "Copyright © 2016 State of California".

Figure 2. MAEDbS Advanced Search Landing Page

When searching in the MAEDbS, users will likely find that a model number is close to the model number they’re trying to match, but not exact. This is because of “wild cards.” Models that have identical data but different model numbers due to features unrelated to energy use can be certified with a single listing through the use of asterisks. These asterisks can make it difficult to find an exact match for a product a user is looking for and are typically found in the middle or end of a model number.

If you’re having trouble finding the model number in the MAEDbS, try the following:

- Remove the first or last few digits from the model number you’re searching for
- Download the product data in Excel and use the Excel “Find” function
- Contact the manufacturer and ask which model number the product corresponds to in the MAEDbS



Additional Search Information

Comparing products - check marks: After searching for a certain type of appliance, users can compare the features of up to five products simultaneously. Click on the empty box in the column that is second from the left for products to compare. Scroll to the bottom of the page and click “compare” in the bottom left.

Export: Once users complete a quick or advanced search, they may export product data to Excel or CSV. This allows users to sort through the results using Excel features that may be more familiar. For instance, in Excel users could sort with more than the five filters allowed while on the MAEDbS site. To export all of the data for one or more products, use the advanced search tool and check the option to “Select all fields” before exporting.

Search

Clear

Search Results

1050 record(s) found

Export To:

Excel

CSV

	<input type="checkbox"/>	Manufacturer	Brand	Model Number	Lamp Type	Regulatory Status	Add Date
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/SP841	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/SP830	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/SP835	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/SP850	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/HL/SP830	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F32T8/HL/SP850	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015
Select	<input type="checkbox"/>	Sunshine Lighting	Sunlite	F28T8/SP830	4-foot medium bi-pin general service fluorescent lamp	Federally-Regulated Consumer Product	11/12/2015

Figure 3. MAEDbS Search Results Example (Manufacturer, Brand and Model Number data intentionally blurred)

Viewing product attributes: Once users select a certain product, they will see its specific attributes for the various fields listed for that product type. Different appliance types will have different information listed. Note that not all products will have information for every field. If a user selects a certain product on a desktop computer, a QR code will be displayed that allows the user to easily view the same information on a mobile device.



For More Information

CALIFORNIA ENERGY COMMISSION

www.energy.ca.gov

Appliances Call Center

(888) 838-1467 or outside California (916) 651-7100

Questions may also be emailed to

Appliances@energy.ca.gov

Appliance and Company Search Database Instructions

bit.ly/3zd5eP1

California Appliance Efficiency Standards Site

bit.ly/Title-20-Regulations

Modernized Appliance Efficiency Database (MAEDbS)

bit.ly/MAEDbS

Modernized Appliance Efficiency Database System (MAEDbS) Enhancements and Improvements

bit.ly/3HmpbG6

ADDITIONAL RESOURCES

US DOE Compliance Certification Management System (CCMS)

<https://www.regulations.doe.gov/ccms>

US DOE Enforcement Policy Statement – Certain consumer water heaters

bit.ly/3FK5EyT



EnergyCodeAce.com

Online “one-stop-shop” with no-cost tools, training and resources on compliance requirements of Title 24, Part 6 and Title 20

Email: title20@energycodeace.com



Tools

Interactive tools to help you understand the compliance process, required forms, installation techniques and energy efficiency regulations applicable to building projects and appliances in California

Timeline Ace

energycodeace.com/timeline

An interactive tool for schedules of Title 24, Title 20 and Federal code changes

Title 20 Reference Ace

energycodeace.com/content/reference-ace-t20-tool

Tool to help navigate the Title 20 Regulation documents



Training

Portfolio of on-demand and live (in-person and online) training options

Title 20 Training Courses

energycodeace.com/content/title-20-training/



Resources

Downloadable materials with guidance on how and when to comply with California's building and appliance energy efficiency standards

Fact Sheets

energycodeace.com/content/resources-fact-sheets/



Create an account on the Energy Code Ace site and select an industry role for your profile in order to receive messages about all our offerings!



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