

# YOUR PARTNER FOR UNDERSTANDING FEI

## Introduction

Effective April 29, 2024, the California Energy Commission (CEC) began the first ever state-led energy efficiency regulation of commercial and industrial fans and blowers. This new energy conservation standard, CA Title 20, will help save a significant amount of energy by requiring fans and blowers installed in California to meet a minimum energy efficiency standard regardless of where they are manufactured.

Fans and blowers shipped to and/or installed in California must meet a minimum efficiency rating of 1.0 or higher on the Fan Energy Index (FEI), which is the new regulatory metric used to measure fan efficiency. FEI applies to fans with a minimum rating from 1 HP fan shaft power to less than 150 Air HP. This new regulation covers most stand-alone axial and centrifugal fans.



The FEI metric is a ratio of the actual fan efficiency to a baseline fan efficiency, both calculated at a given airflow and pressure (duty point). Since these efficiencies are each calculated at the same airflow and pressure, the FEI is also defined as the ratio of the baseline electrical power to the actual electrical power of a fan. The FEI measures the efficiency of the entire fan system including the fan, motor and drive in actual conditions compared to reference conditions.

## FUN FACTS

1. Through this new regulation, the CEC estimates Californians will save about 1.7 terawatt-hours of energy annually, which is equivalent to 40 million tons of coal.
2. With a 1% reduction in energy consumption, an additional 25.6 million households could be powered.
3. The estimated net benefit for end-users of commercial and industrial fans and blowers is between \$407 and \$6,117 per unit, depending on fan type and duty point.
4. Replacement parts for existing, in-place fans are exempt from this regulation.

## Manufacturer Requirements

Manufacturers are required to test and publish performance data for CA Title 20-regulated products using the Department of Energy (DOE) test procedure. Certified fans must be registered with the state of California by uploading performance data to the MAEDbS (Modern Appliance Efficiency Database System) database to meet the CEC requirements. The MAEDbS database allows easy verification of which regulated products are legal and certified to sell in California.



TWIN CITY FAN COMPANIES, LTD.

DESIGNERS OF AIR MOVING EQUIPMENT





## Fan Selection

To achieve compliance, fan selection will be done similarly to before the regulation, however two important considerations will need to be made.

1. A different fan type (axial rather than centrifugal, for example) may need to be selected.
2. The fan may also need a bigger motor to achieve the required minimum FEI rating of 1.0.

The easiest and most effective method of selecting a compliant fan is to use fan selection software, such as Fan Selector (FS10) from Twin City Fan Companies, Ltd. (TCFC). Our FS10 software already has FEI calculations and data, along with specific features to guide users through how to select CEC compliant fans for their applications.

## Labeling Requirements

Compliant fans must be permanently labeled by the fan manufacturer with the certified efficiency operating range to meet the new CEC regulations. These labels are required to contain certain fan performance data, including maximum regulatory-compliant airflow (CFM), fan speed (RPM), pressure (inches of water gauge) and the pressure type (static or total pressure).

Failure to comply with this new regulation could result in significant monetary penalties for either the fan manufacturer or the party who provides 'final assembly' from the time of installation to the discovery of the violation.

Fan Energy Index (FEI).....	≥ 1.00	Efficiency Boundaries
A. Max. Airflow (CFM).....	3496.3	
B. Max. Fan Speed (RPM).....	5206*	
C. Max. Pressure (in. water gauge).....	14.9891	
D. Type of Pressure (static or total).....	Total	

*Note: Operation outside of these boundaries will result in an energy inefficient operation.*

---

Regulated fans with an FEI value less than 1.0 are not intended for sale or intended to be offered by the manufacturer for sale in California, based on CA Title 20 requirements.

\*The values shown are used for CA Title 20 requirements and may not represent the performance for the application of this fan. Go to [www.tcf.com](http://www.tcf.com) to find the product catalog for more information. Operating the fans at maximum capacity could result in the fans failing and put the user or others at risk of injury or death.

Serial No.: 23-256485-003 500029235

*The regulatory-required labeling is being applied to product shipping from our facilities.*

**WE'RE HERE TO GUIDE YOU THROUGH THE FEI AND CA TITLE 20 CHANGES.**

## We Are Prepared

Selecting the right fan has become more critical with these new regulations. TCFC and our sales representatives are here to support you with the broadest portfolio of fans to choose from, ensuring efficiency and compliance. We have been working closely with AMCA and the DOE as these regulations are finalized and released. With over 50 years of experience, we can help eliminate any uncertainty and doubt when choosing the right fan. We'll leverage our specialized tools, deep industry knowledge and full range of products to ensure 'right fit, first time' with your fan selection. You can rest assured that whenever regulatory requirements are changed locally or nationally, you will have the fan experts in your corner from specification to installation.



Please reach out to your TCFC sales contact for further details on how we can help in this new regulated environment.



**TWIN CITY FAN COMPANIES, LTD.**

5959 Trenton Lane N. | Minneapolis, MN 55442  
Phone: 763.551.7600 | Fax: 763.551.7601



**THE GLOBAL LEADER IN THE FAN INDUSTRY**