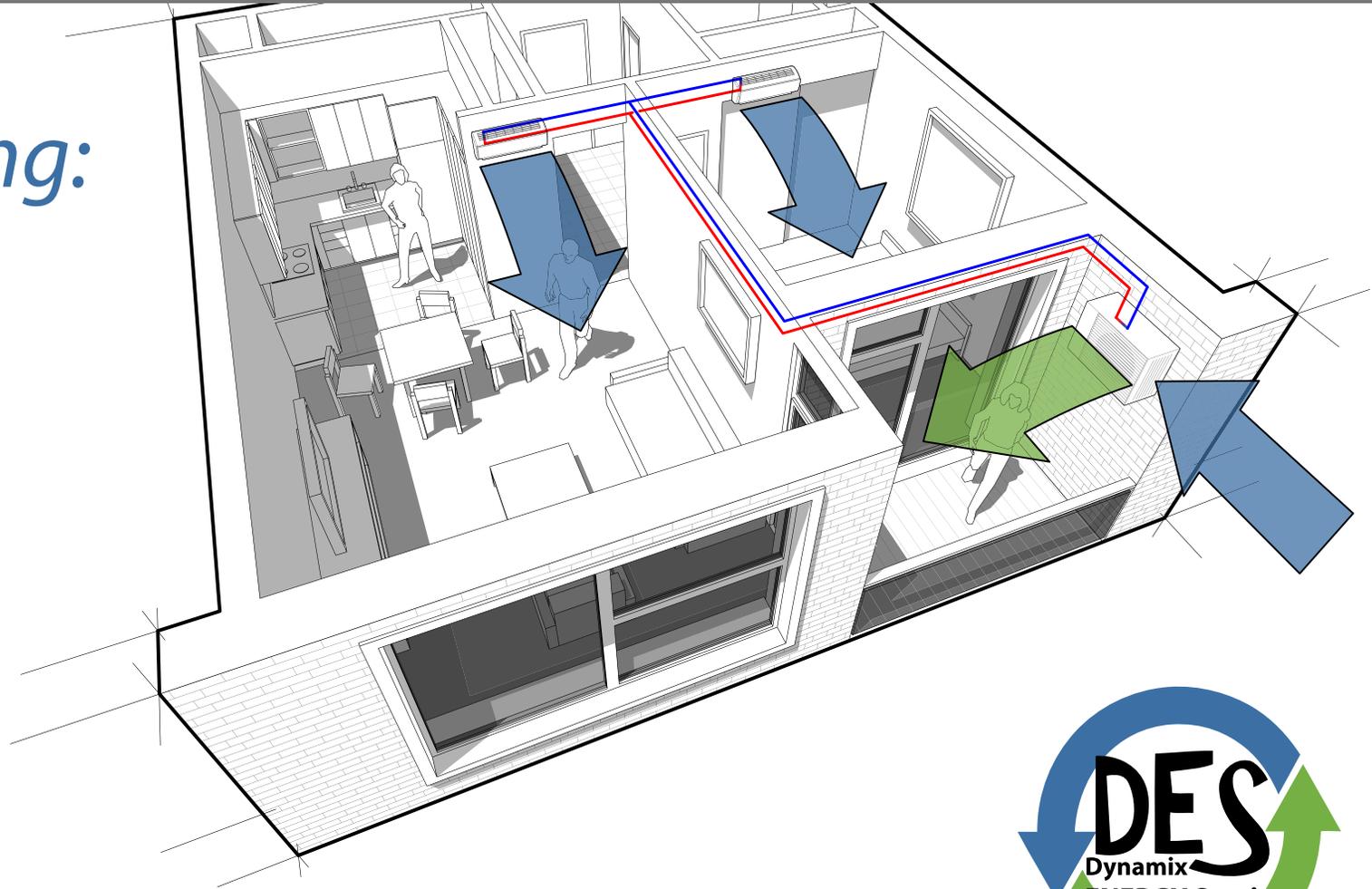


HVAC Control Systems— Get it Right the First Time! (Part 2)

*Fine-Tuning:
What is it
and Why
it Matters*



WHAT IS FINE-TUNING?

Fine tuning allows operators of new buildings to achieve optimum HVAC system results. The process involves “living with the building” for a full year of operation, and is much more in depth than the standard post installation punch list.

The fine tuning process requires all the interrelated components of the HVAC system to be observed in operation, and the control system logic to be modified. These observations and modifications must be performed “live” as changes occur both inside and outside the building, during the first year of operation.

Changes such as:

Building occupancy



Special events



Space temperature requirements



Seasonal weather patterns



Extreme temperature conditions



WHY DOES FINE-TUNING MATTER?

Typically, HVAC systems are sized to meet the most extreme heating and cooling conditions that may occur in a building.

However, these extreme conditions are rare, and According to the National Institute of Building Sciences, the conditions only occur **1% to 2.5%** of the time. Fine-tuning the system ensures the HVAC systems perform properly and efficiently the remaining **97.5% to 99%** of the time.

A new building with a properly fine-tuned HVAC system is comfortable, energy efficient with low utility costs, and has a user-friendly platform for operations.

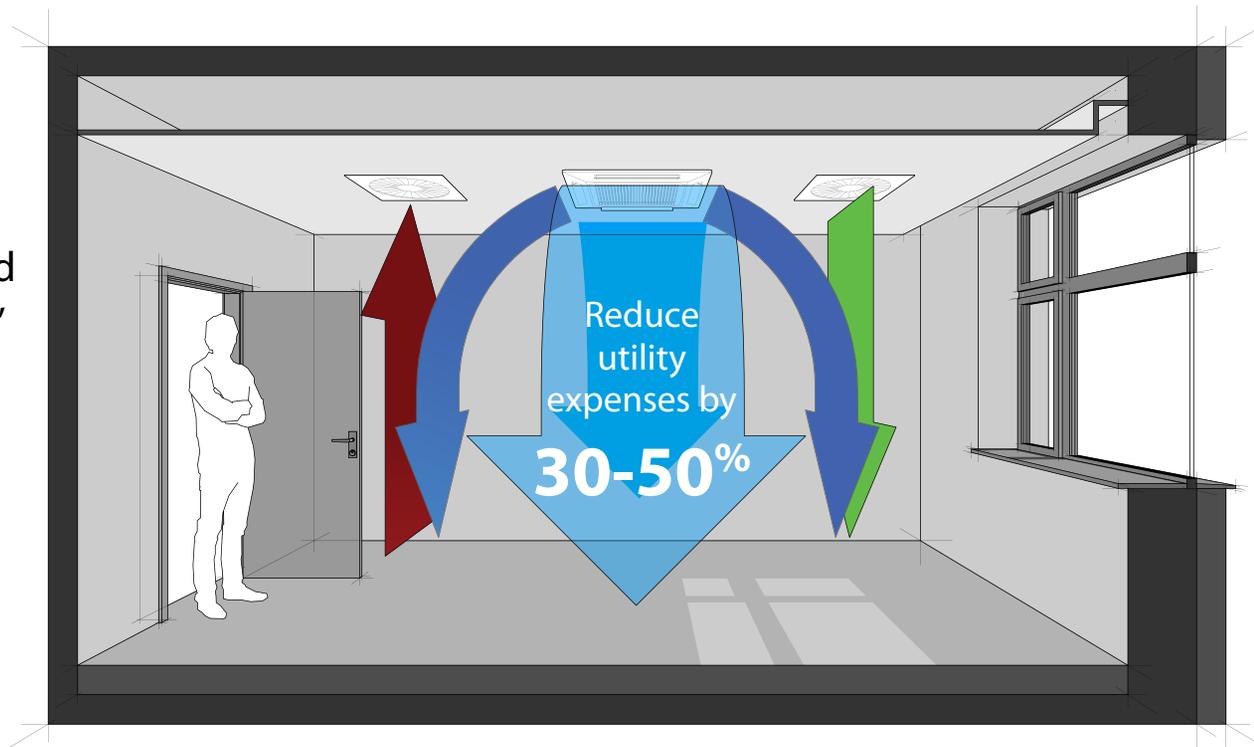
BENEFITS OF FINE-TUNING

- ✓ Energy conservation
- ✓ Enhanced comfort
- ✓ Improved system performance
- ✓ Reduced maintenance costs
- ✓ Increased useful life of equipment

WHY IS IT IMPORTANT TO GET IT RIGHT THE FIRST TIME?

Comparison case studies of new buildings, both with and without proper fine-tuning, have proved that a properly fine-tuned building will reduce utility expenses by **30-50%**, significantly lower maintenance costs and enhance comfort versus a building that has not been fine-tuned.

The fine-tuning process takes 12 months to complete, yet the results are everlasting! The new fine-tuned HVAC system is controlled with logic that acts in an “automatic” manner, with programmed functionalities that allow the equipment to react appropriately to all the changes that occur inside and outside the building, while maintaining building comfort and low utility costs.

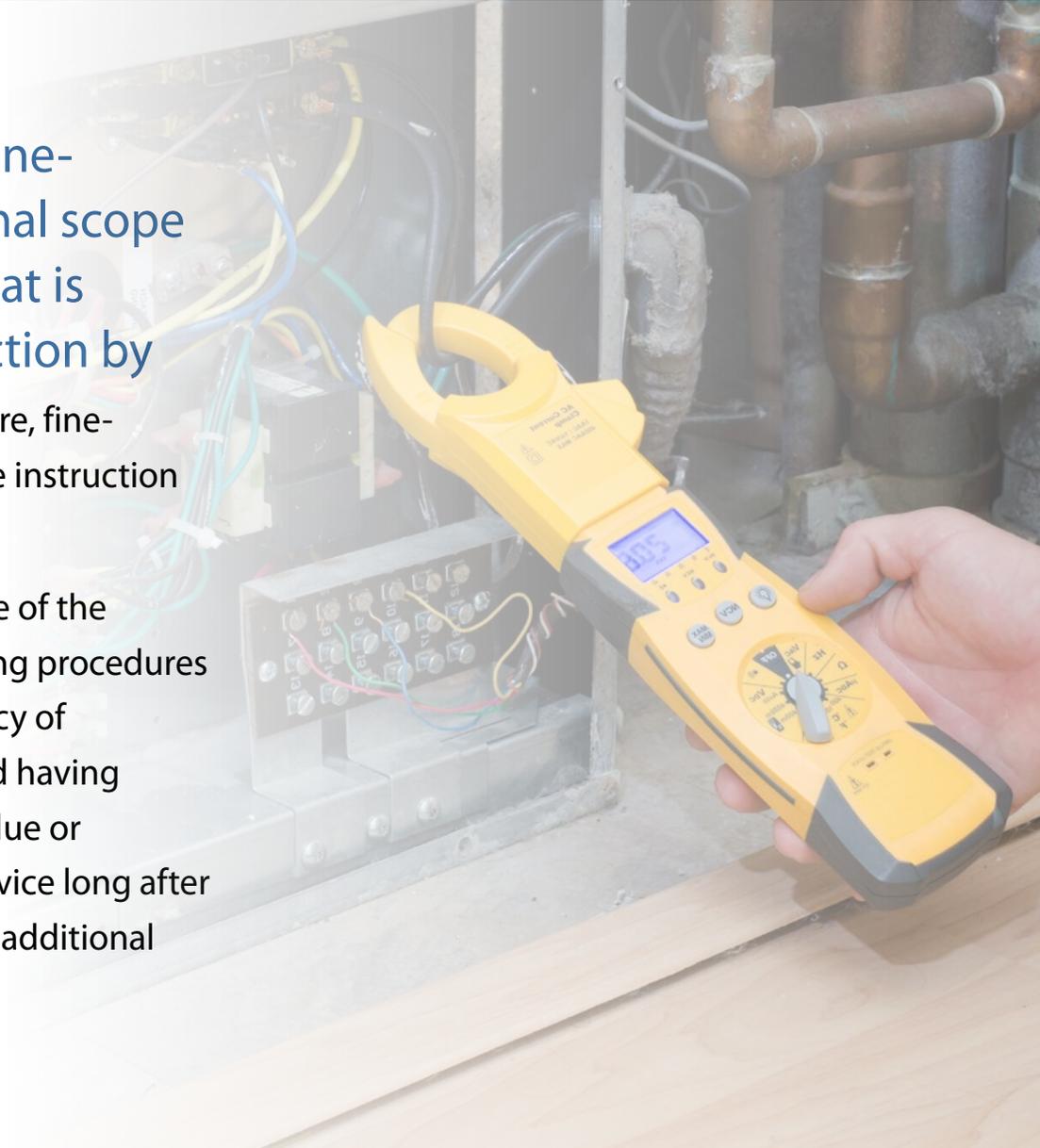


HOW IS FINE-TUNING *TYPICALLY* DONE OR NOT DONE?

The tasks required to carry out the fine-tuning process are beyond the normal scope of installation and checkout work that is typically performed during construction by the control system contractor. Therefore, fine-tuning is often left to the building owner with little instruction or follow-up.

Unfortunately, most building owners are not aware of the numerous independent and interrelated fine-tuning procedures required to optimize the functionality and efficiency of their HVAC system. As a result, owners either avoid having their systems fine-tuned, for a lack of perceived value or unawareness, or hire a vendor to complete the service long after the building has been in operation. In either case, additional expenses are incurred.

WHY PAY MORE?



HOW SHOULD FINE-TUNING BE DONE?

Simply put, a single source design-build and fine-tuning approach achieves the best results.

The same mechanical engineer who designs the HVAC system should also handle the control system design, programming, and fine-tuning. The advantage of including the programming and fine-tuning services with the design, is it demands a sense of accountability and ownership that the system will work properly from the start. And if for any reason the system is not performing satisfactorily, the owner knows exactly who to turn to.

The fine-tuning process is as much an art, as it is a science. The ongoing facility monitoring required throughout the implementation stage requires the necessary knowledge, skill and keen approach to realize maximum efficiency. In addition, a proper preventative maintenance program shall be in place to sustain the benefits of the fine-tuned system.



WHY IT MATTERS *WHO* FINE-TUNES YOUR HVAC SYSTEM?

An HVAC control system is a complex and interrelated system, where adjustments of one element of the control system frequently interact with other portions of the system.

Therefore, the methods employed in fine-tuning a system must be highly disciplined and done by trained, knowledgeable individuals, who understand the theory of HVAC and control systems.

It is also critical that the individuals thoroughly understand the intent and functionality of the building HVAC system which is to be fine-tuned, and have the ability to make the proper modifications to make the system perform as intended.



HOW DO YOU GET IT RIGHT THE FIRST TIME?

The key to getting HVAC control systems right the first time is to find the right partner. Dynamix Energy Services includes programming and fine-tuning as part of the HVAC control system design-build process. Single-source design-build and fine-tuning results in greater energy efficiency, higher performing equipment and maximum savings.

Count on Dynamix to provide innovative, value-based solutions for all of your new or renovation building Projects. Dynamix can help you:

- Optimize your building's energy consumption
- Open your new building project trouble free of HVAC Control issues
- Enhance comfort
- Reduce costs
- Resolve your ongoing facility challenges
- Optimize control systems
- Guarantee energy operating costs



OUR CLIENTS AVERAGE 50% COST SAVINGS! HAVE ONE OF OUR EXPERTS SEE HOW MUCH WE CAN SAVE YOUR ORGANIZATION WITH A FREE ANALYSIS.