

When is it more efficient to use Electric Actuators and when are Pneumatics Better?

Are you considering replacing an air compressor and 200 pneumatic cylinders with electric actuators to save compressor costs? Or, are you thinking about building a new machine with pneumatics because 30 electric actuators cost a whopping \$34,000? You might be making the wrong decision and as a result wasting tens of thousands of dollars a year. Are you interested in updating your facility to minimize the overhead costs including the always dynamic cost of power and electricity? Are you considering opening a new production facility in an area where energy costs are traditionally higher than the National average? Or, are you looking to implement more flexible, adaptable, and scalable machines and processes that work towards improving the bottom-line? Are you looking for ways to eliminate waste by streamlining yesterday's solutions & processes with modern solutions? Are you searching for ways to precisely define and quantify the energy consumption of your existing facility? If you answered yes to any of the questions above, this workshop may be the starting point towards realizing new ways to improve legacy processes or assist in supporting the decision-making for selecting future processes.

Intense global competition is putting increased pressure on machine builders and production facilities to deliver and employ ever-increasing levels of efficient and feature rich machines and processes with resultant higher throughput, less waste, reduced operating cost and more flexibility. Rising energy costs and increasing environmental awareness are causing organizations to focus on gaining incremental efficiency advantages via non-traditional methods that increase energy-efficiency while lowering the total overall cost of power consumption. Reviewing and calculating all the variables involved in achieving plant efficiency plays a big role when coping with energy costs and goes a long way in realizing this advantage.

In this workshop, we will review the considerations and learn what one must contemplate before arriving at a most energy-efficient actuator motion solution. As part of the workshop, discussion will include the criteria to consider when arriving at an electric or pneumatic solution including performance considerations, upfront costs, installation and maintenance costs, "ideal" application scenarios, energy usage costs, operating costs over the lifetime, and productivity gains. This workshop provides an analysis of cost components for both pneumatic and electric actuators, and offers examples of cost estimations. Sample cost calculations will be reviewed and worked to show the benefits of conducting an efficiency review to use in the decision making process when estimating costs that facilitate a most energy efficient solution. In addition, an example of a sample calculation that calls for an electric solution and another sample calculation that directs one to a pneumatic solution will be worked and reviewed. We will also look at ways of maximizing efficiencies by selecting motion actuators that offer intelligence and easy flexibility to increase productivity and improve the bottom-line.

Finally, we will review some new ways that progressive organizations are using technology and data acquisition to improve their energy management initiatives. Electronic power monitoring devices with data storage assists in energy savings analysis by monitoring real energy consumption over time. This file data information can be transformed into configurable and robust bar and trending graphs that can demonstrate, at a glance, the power usage of the facility and allow one to compare usage to a power baseline. To this end, we will learn of some Department of Energy (DoE) qualified energy services company (ESCO) that contract their services to help organizations reduce operating costs and align with facility energy and sustainability objectives.

Please join Bimba's Gil Guajardo as he leads this thought provoking workshop discussion to help define the situations and considerations one must review when deciding if it is more efficient to use Electric Actuators and when are Pneumatics Better.