



Commercial Construction
and Industrial Automation

Buck-Boost Solutions

Buck-boost transformers provide a simple and *economical* way to correct off-standard voltages... from 95 to 500 volts; single and three-phase, in sizes up to 360 kVA. Buck-boost are physically smaller than isolation transformers. Most common when using 240V equipment in a facility with 208V service or vice versa. Electrical and electronic equipment is designed to operate on standard supply voltage. When the supply voltage is constantly too high or too low, (usually more than 55%), the equipment fails to operate at maximum efficiency.

Applications

1. AC Motors
2. Lighting
3. Pumps
4. HVAC
5. Control Circuits

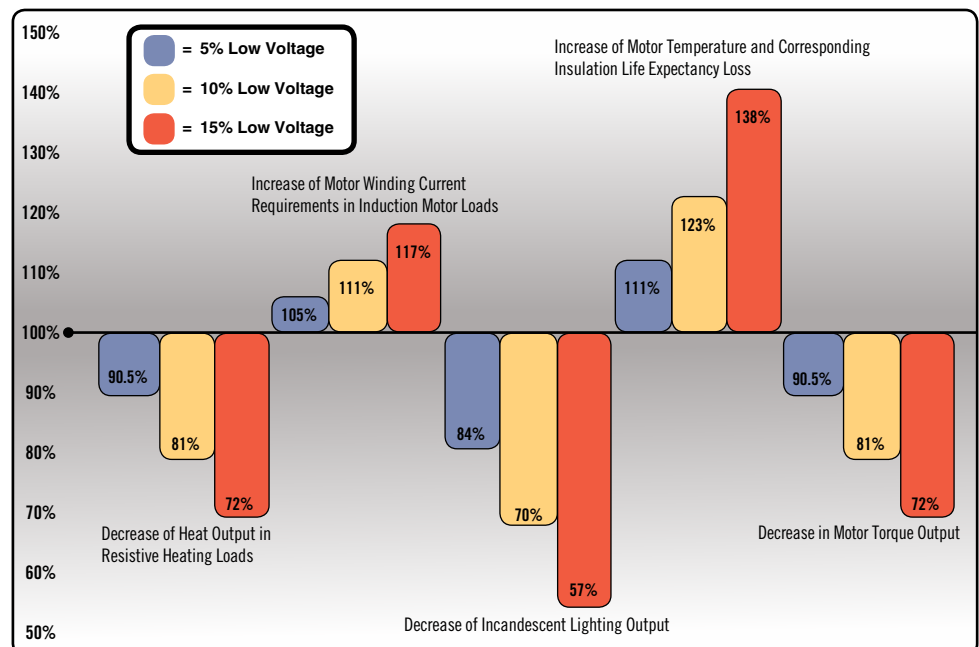


When Correct Voltage Is Critical

With nearly two thirds of all electrical loads being A.C. motor loads, maintaining proper voltage is important. If the supply voltage is not maintained, motor winding current increases causing reduced torque and escalating temperature, all of which results in the rapid loss of insulation life expectancy. In addition, the detrimental effects of low voltage on both resistive heating loads and incandescent lighting output. Anytime you have lower than standard voltage, equipment damage and failure can result. Anytime a line voltage change in the 5-20% range is required, a buck-boost transformer should be considered as your first line of defense.

Effects Of Low Voltage On Motors

- Motor failure due to overheating
- Nuisance tripping of breakers, due to excessive current draw
- Insufficient torque, causing equipment to not function properly
- Wasted energy and money, a 10% voltage decrease will cause a 10% amperage increase



Acme's NEW three-phase buck-boost transformers

Buck boost transformers are the ideal solution anytime a line voltage change in the 5-15% range is required in single phase or three-phase applications.

Until now, three-phase applications required separate single phase buck-boost transformers to be wired and mounted together. Acme Electric's **NEW three-phase auto buck-boost transformers** remove the need for multiple separate units and provide the same great electrical advantages standard buck-boost transformers offer in one simple and convenient package.

Acme Electric's **NEW three-phase auto buck-boost transformers** are the best economical solutions available for three-phase applications, requiring the overall footprint. Additionally, the transformers are assembled and pre wired at the factory, a considerable time and installation cost savings.

Acme Electric's **NEW three-phase auto buck-boost transformers** are UL Listed with a 10 year warranty and are currently being offered in five of the most common sizes, 6, 9, 15, 30, and 45kVA in Type 3R enclosures.

How to identify low or high voltage situations

- Overheating motors
- Premature motor failures
- Equipment not working properly due to low torque of motors
- Nuisance tripping breakers
- Long distance service runs
- Improper, erratic, or no operation of equipment
- Increase in energy cost

Causes of voltage mismatch

- Service voltage changed after equipment installed
- Voltage drop in power line
- Error in ordering equipment
- Utility cutback in source voltage



Why use buck-boost instead of an isolation transformer?

A buck-boost transformer IS an insulating type transformer when it is shipped from the factory. When it is connected at the job site, a lead wire on the primary is connected to a lead wire on the secondary - thereby changing the transformer's electrical characteristics to those of an autotransformer.

The primary and secondary windings are no longer "insulated" and secondary windings are no longer "insulated" and its kVA capacity is greatly increased.



- Smaller and lighter
- More efficient
- Versatile, many applications
- Lower cost