

## **DIGITEK-IIIET**

### **ENERGY SAVING EVALUATION GUIDELINES**

1. A motor with lower load can save more energy in percentage with DIGITEK-IIIIGS.
2. A motor with load close to full load, the possibility for saving energy is very small.
3. Power factor is a good reference of load.
4. A three-phase motor has a rated power factor about 0.85. The rated power factor is given on the name plate.
5. A load with power factor less than 0.5 can have good saving in percentage.
6. A motor with fixed load, such as an exhausting fan, will have a good saving if the power factor is lower than 0.5.
7. For a motor with variable load, one may estimate the time at low load and the time at high load so that the over all energy saving can be estimated.
  - a. Example 1: A plastic mold injection machine has a low load for certain time period and gradually approach to highest load which might be full load. After reaching pick load, it then gradually decreases the load to low load. Usually during the low load there can be a good energy saving. As the load is increased, the power factor is increased and the energy saving percentage is decreased. When the power factor is over 0.5, there is very small energy saving or no saving. Some of the plastic mold injection machines can have over all saving 15% or more depending on the size of the mold and the design of the injection machines.
  - b. Example 2: A press machine with fly wheel can have over all good saving. When the press machine is at low load it can have good saving and when it is at high load it will almost have no saving at all. For a press machine with longer low load, the saving is larger. A press machine in general can have over all saving 15% or more.
  - c. Example 3: An escalator can have saving more than 20% or even more than 30% at low load.