

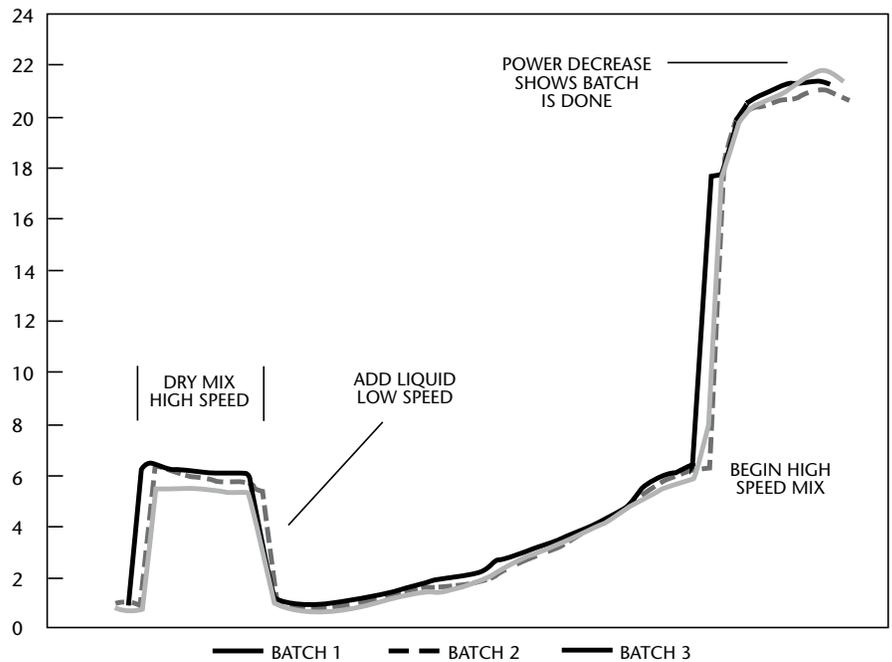
PROFILING A PROCESS

One of the best applications for a power sensor is for monitoring viscosity changes in mixers and agitators. As a batch is processed, the power changes will reflect the viscosity changes and a good batch will fit the normal "profile" for that product.

The curves show a typical example from a two speed high shear mixer. The five steps of this process are clear to see:

- Dry components are mixed at high speed.
- Liquid is added at low speed.
- Mixing continues at low speed and the power viscosity increases to the desired level.
- High-speed mixing begins and power increases sharply.
- As soon as the power/viscosity begins to decrease, the batch is done.

MIXER POWER READINGS



Note that for the three batches run, the curves don't vary much. A deviation from this profile should raise a red flag. Also, since power is linear with load changes it is easy to interpret and extrapolate the results at both the low and high end.

THE SENSOR

A Universal Power Cell works very well for process monitoring. It has both a 4-20 milliamp and 0-10 Volt analog output (powered by the unit) which can be sent to:

- Local and remote load meters
- Data collection systems
- Programmable Controllers
- Chart recorders

A built-in response adjustment lets you smooth out the signal. Especially when working with lumpy materials or slow agitators, the instantaneous or harmonic changes are usually not of interest.

The capacity or "Full Scale" is easily changed to match the load. A lot of processing equipment is oversized, so by reducing the sensor capacity to match the actual load, you improve the sensitivity.



SIMPLE INSTALLATION

The self-contained Universal Power Cell is located in the control cabinet. This means:

- No holes in the tank.
- No moisture or wash down problems.
- No current and voltage transformers to complicate the installation.
- The convenience of one model to cover a wide variety of applications.

OTHER APPLICATIONS

Processing facilities are now using power sensors to monitor many other functions in their plant.

- Pumps - Flow rate, loss of load, bearing failure.
- Fans - Proper flow rates.
- Grinders and Pulverizers - Maximize throughput.
- Clarifiers - Avoid jam-ups.
- Energy Input - Rubber or dough mixing, for example, can be monitored by the total accumulated power into a batch. The Universal Power Cell Model UPC-KWH has a pulsed output that can be set for Kilowatt Hours, Kilowatt Minutes or Kilowatt Seconds for maximum sensitivity.