Inverting your thoughts about press drive controllers

The Newspaper Production & Research Center (NP&RC) has Goss International Corp. Metroliner, C150 tower, Goss Urbanite and Goss Community presses at its training facility in Oklahoma City. The machines are used to educate workers about how to operate and maintain press equipment.

Recently, the press drive used to control the motor on the Goss Community press started to give us problems.

It would run, but at full speed, the motor would make a growling noise, which is an indication that one of the three phases was missing within the DC controller. The fix was either the vector trigger circuit or a silicon-controlled rectifier.

In either case, the price to fix the problem was approximately $1,000. The drive system was at least 40 years old. The first thought was to replace it with a new DC motor controller. That would be the easiest thing to do since the motor was still good. The next thought was that the DC motor is 40 years old as well. How long would the motor last before major repairs would be needed on it as well? The cost of major repairs to this motor would be approximately $2,000 to $3,000.

Tight Budgets

To buy a new DC motor and controller costs between $5,000 and $7,000, not installed. That's a bit pricey, especially if your budget is already tight. Maintenance is another issue that has to be considered.

The motor needs to be cleaned regularly to prevent premature failure and the brushes need to be consistently inspected.

If the brush rigging is not properly set to zero, then arcing can occur. If the arcing becomes savvier enough, the motor will flash over, which is essentially a short circuit between the brushes. If this happens, both the motor and controller can be destroyed.

Alternative option

To avoid this scenario, we decided to examine an alternative option: the purchase of an AC inverter and motor. Why not? They are commonly in use on large presses.

AC inverters are used in shaftless presses. And if they can be used in shaftless presses then I felt that AC inverters could be used as a reasonable replacement. I also discovered that some press manufactures are using AC inverters whenever they add press units or color towers to an existing pressline.

We wound up spending less than $3,000 for the AC inverter system and motor, and so far, we are very impressed with its performance.

First, the drive is fully digital, which means we can accurately control the inch speed, regardless of how many units we're using or how high the tension is set. The drive can also use various inputs to control the motor's speed.

Better performance

The new system operates far better than the old one, even when it was in good condition. We don't have to worry about over-sizing. If we need to expand the press we can just add another motor.

Finally, the system was easy to install. We spent one day replacing the motor and drive and the next day hooking up the control wiring. With some preliminary planning, you could probably do the whole job in a single day – ***NT***.