

CustomKraft Variable Frequency Drive Inverters

CustomKraft uses two types of variable frequency drive inverters, a Baldor 15J series and an Allen-Bradley PowerFlex 40. Both inverters reduce components and increases versatility, allowing up to eight different adjustable motor speeds.



Operation

The system operates similar to the original CustomKraft MultiPressure System[®] with fewer components and smoother operation. The inverter operates a standard three phase electric motor at several speeds, allowing the system to deliver several pressures using a single pump and motor per bay. Any cycle may be delivered with hot or cold water and up to eight (8) adjustable operating pressures. Pressures may be adjusted from 100 pounds per square inch (psi) to full operating pressure. The delivery line is purged with high-pressure, when the solution reaches the tip of the trigger gun, the motor slows to a preset speed, delivering the selected product at the desired pressure.

Both inverters permit “soft starts”, accelerating the motor from stop to start in 1.5 seconds. Soft start decreases electrical usage and reduces component fatigue. The soft start drastically reduces the inrush amperage demanded at start-up. A standard starter with digital operation (on or off will demand 8 to 10 times operating amperage, while the soft start will demand 1.5 to 2 times operating amperage to start the motor.

Variable frequency inverters increase versatility and save money. Inverters will operate a three phase motor with either single or three phase input voltage.

The units invert alternating current (AC) to direct current (DC). The inverter creates a synthetic three phase signal that can be phase width modulated. Simply, it allows the standard 60 hertz or cycles per second to be adjusted from 6 to 60 hertz. By adjusting the cycles per second, the speed of the motor, pump and output pressure are adjusted.

Instructions for programming Baldor variable frequency drive (VFD) inverter

1. Power unit to program.
2. Press program – to preset speeds.
3. Press enter #1 push program – shift – arrow up to 9 hertz – enter.
4. Press arrow up to program #2 – shift – arrow up to 18 hertz – enter.
5. Press arrow up to program #3 – shift – arrow up to 60 hertz – enter.
6. Press arrow up to program #4 – shift – arrow up to 27 hertz – enter.
7. Press arrow up to program #5 – shift – arrow up to 36 hertz – enter.
8. Press arrow up to program #6 – shift – arrow up to 45 hertz – enter.
9. Press arrow up to program #7 – shift – arrow up to 54 hertz – enter.
10. Arrow up to accel/decal program #1 – shift- arrow to 1.5 seconds - enter.
11. Arrow up to decal time program #1 – shift – arrow to 3.0 seconds –enter.
12. Arrow up to input – enter – program to 7 speed – enter.
13. Arrow up to ANA-CMD select Potentiometer- arrow up to exit – enter.
14. Arrow up to Level 2 Blocks – enter – output limits – arrow up to miscellaneous – enter – restart auto/man – program to auto – enter arrow up to restart fault – program – shift – 5 – enter – restart delay – enter – shift – 5 seconds – arrow up to exit –enter.
15. Arrow up to program exit – push LOC (local).



Instructions for programming Allen-Bradley variable frequency drive (VFD) inverter

1. Unit is programmed using factory hand-held programmer.

