



TECHNICAL NOTE #: TN_VFD_CV10001_T
EFFECTIVE DATE: April 15, 2005
SUPERSEDES DATE:
ORIGINATOR: A. Perez
NO. OF PAGES: 1

CV10 Tuning Guide

In order to obtain the best performance between drive and motor, certain criteria must be met. This includes, selecting the proper control mode, entering the correct motor information into the drive, and performing an auto tune. Auto tuning is an essential part of the process as the drive uses the obtained information to perform all the calculations regarding torque, speed, etc. for vector control operation.

The drive set up is divided into several parameter groups. The most important group, when it comes to drive and motor performance is group 0, which deals with motor information. This information is critical when the drive is operating on the "Vector Control Mode". Group 0 consist of the following parameters:

- 0-00= Control Mode (Vector Control or Volts/Hz) which is application dependant.
- 0-01= Motor Rated Voltage (Obtain from motor nameplate).
- 0-02= Motor Rated Amps (Nameplate motor full load amps).
- **0-03= Motor Rated KW.** If this is not given on the motor nameplate, use the following formula: $KW = \text{Motor HP} \times 0.746$

Note: if parameter 0-03 is not set properly, the motor may have a hard time developing torque at low speeds. This could cause the motor to stall. In most cases the output frequency will not go higher than 5Hz as indicated on the display. If this is the case with your CV10 then gradually increase the value of parameter 0-03 (Motor KW) until the motor runs up to speed without stalling.

- **0-04= Motor Rated RPM** (Obtain from motor nameplate).

Note: In firmware version 2.29 and 2.30 a decimal point was added to accommodate setting of higher base speeds by changing the scale to hundreds rpm. For example if the motor is rated at 1750RPM then the setting of 0-04=17.50.

To check the firmware revision in the drive, view parameter 15-1.

- 0-05= Motor Rated Frequency (Obtain from motor nameplate).
- 0-06= Auto Tuning. After the above information has been entered, start the auto tune by setting 0-06=1.
- 0-07= Input Voltage. Measure the incoming AC line voltage then enter this value in parameter 0-07.

In rare cases where the drive is larger than the motor by one size or more, adjustments to parameters 14-0 (Stator Resistance) and 14-1 (Rotor Resistance) may be necessary. Reference the CV10 instruction manual, chapter 7 appendix 1 table.

Ensuring that the proper information has been entered into the drive and that the auto tune has been carried out, is key to satisfactory motor operation.