VLT 5000 Start-Up Check List

	1. Reference Material
	a. VLT 5000 Installation, Operation and Maintenance Manual.
	b. Customer Connection Diagram (specific for the order).
	c. Schematic Diagram (specific for the order).
	2. Pre-Installation Checks
	a. Compare the drive model number to what was ordered.
	b. Be sure the following are for the same voltage:
	i) Drive.
	ii) Power line.
	iii) Motor.
	c. Record the following motor data:
	i) Voltage
	ii) Frequency
	iii) Full load current
	iv) Full load speed
	v) Power (convert HP to Kw – see the description of parameter 102)
	d. Be sure that rated drive current is greater than or equal to the total full load current of all motors which will be driven at once.
	e. Check motor wiring:
	i) A disconnect or contactor between the drive and the motor may need to be interlocked to the drive or else nuisance trips may occur.
	ii) Multiple motors have individual motor overload and short circuit protection.
	iii) No power factor correction capacitors between the drive and the motor.
	iv) Two speed motors must be wired permanently for full speed.
	v) Y-start, Δ-run motors must be wired permanently for run.
	vi) Part winding start motors must be wired permanently for run.
	3. Installation Checks
	a. Verify appropriate short circuit protection is provided at the input of the drive. Specific fuse requirement necessary for UL (see instruction manual)
	b. Measure phase to phase line voltage and ensure measured voltage is within drive specification (see instruction manual)
	c. Measure phase to ground voltage. If any measured phase voltage is greater than 60% of phase to phase voltage, open RFI switch.
	d. Environmental concerns.
	i) Suitable for drive enclosure type, Chassis, NEMA1, NEMA12
	ii) Max 95% relative humidity, non-condensing.
	iii) 14°F to 104°F ambient temperature range (typical).
	iv) 3300 foot maximum elevation with no de-rating.
	v) Non-corrosive environment or unit conformal coated.
	e. Mounting
	i) Flush mounted, no heat sink fins exposed out the back.
	ii) Drive mounting clearances observed (see instruction manual)
	iii) No excessive vibration.
	iv) Keep dirt and debris out of the drive
	v) Use knock-outs provided or conduit entry plates for wire entry
	f. Connections and Wiring
	i) Check all wiring connections are secure.
	ii) Each drive grounded individually, no daisy chain grounds.
	iii) 0-10Vdc and ma signal wires protected from noise.

VLT 5000 Start-Up Check List

	iv) Separated runs for input power, motor power, and control wiring.
	v) Note some control connections may be 115VAC.
	vi) Motor thermistor wires separate from load wires.
	4. Powering Drive
	a. Double check all wire connections (correct terminal connection, correct tightness)
	b. All RUN commands off, all speed commands set to zero.
	c. Switch Power on.
	d. Display and PWR LED on.
	5. Setting Up the Drive for the Motor — *This step is essential!*
	a. Parameter 101, TORQUE CHARACTERISTICS
	i) Select VT – Normal Overload for centrifugal fans and pumps
	ii) Leave as CT – High Overload for all other applications
	b. Parameter 102, MOTOR POWER (in Kw)
	c. Parameter 103, MOTOR VOLTAGE
	d. Parameter 104, MOTOR FREQUENCY
	e. Parameter 105, MOTOR CURRENT
	f. Parameter 106, MOTOR SPEED
	g. Parameter 107, run AUTOMATIC MOTOR ADAPTATION
	6. Check Additional Parameter Settings
	a. Parameter 201, MIN. FREQUENCY (0Hz or to customer needs)
	b. Parameter 202, MAX. FREQUENCY (60Hz or to customer needs)
	c. Parameter 206, RAMP UP TIME (according to customer needs)
	d. Parameter 207, RAMP DOWN TIME (according to customer needs)
	e. Parameters 300 – 307 setup for Digital Inputs (use DI display -operation)
	f. Parameters 308 – 318 setup for Analog Inputs (use AI display –operation)
	g. Parameters 319 – 360 setup for Analog/Digital Outputs & Relays
	7. Operational Tests — LOCAL set Parameter 002 to Local; set Parameter 003 to 10Hz, Press START key on keypad.
	a. Check the motor's rotation from the drive. If incorrect, reverse two leads between the drive and the motor.
	b. If a bypass is provided, check the motor's rotation in bypass mode. If incorrect, reverse two input power lines.
	c. Change Local Reference to full speed (60Hz) - verify operation.
	d. Change Local Reference to zero speed (0Hz) - verify stop.
	8. Operational Tests — Remote, Open Loop Change Parameter 002 = Remote
	a. Ensure that the drive follows run/stop commands from the system.
	b. Ensure that the drive follows the speed command from the system.
	c. Ensure that the drive follows direction change.
	d. Ensure that the drive follows Jog switch.
	e. Ensure that the drive follows other switches, setup, ramp 2, etc.
	f. Setup Brake Parameters if required – Parameters 400 - 404
	9. Final Adjustments
	a. Copy parameters to other setups as required - Parameter 006
	b. Copy parameters to the LCP - Parameter 007