
MTE Matrix Filter Field checks Authored: Wayne Walcott MTE product manager

1. Read and understand the voltage appropriate MTE Matrix user manual. These manuals may be downloaded from the www.mtecorp.com web site. Locate figures and drawings for your particular filter and identify the terminals locations.
2. Disconnect all power and remove input power wiring from U1, V1, W1 terminals.
3. Remove VFD drive power connections from filter terminals U2, V2, W2 and any contactor or temperature switch wiring. (For filters having control transformers: remove power fuses on top of transformer.)
4. Visually inspect filter terminals and wiring lugs for signs of heat and corrosion. **Contact factory if any wires appear to be missing or cut!**
5. Inspect the U4, V4, W4 capacitor interconnect terminals and wiring.
6. Visually inspect all capacitors for signs of case deformation bowing of the top, leaking oil or terminal damage. Note the CAP- # and date code of any damaged capacitors.
7. Using a multi meter set to read 100K ohms check:
 - a. Phase to phase U1-V1-W1-U1 (mechanically activate contactor if present) after reactor and caps charge reading should be about 40K (total equivalent breeder resistance value) and should be the same for each phase. Open circuit or very low readings indicate a problem.
 - b. Phase to chassis U1- case, V1-case, W1- case; low readings indicate a ground fault problem.
8. Ensure the “disconnect” is safe then wire the utility power to U1, V1, W1.
9. Apply power and verify that proper output voltage is present on U2, V2, and W2.
10. Using a clamp on amp meter read the filter input current:
 - a. Readings will be 0.7 of the capacitor current listed in table 3 for the listed filter current in the user manual (mechanically activate the contactor if the filter is equipped with one). Readings should be the same (+/- 5%) for all phase currents; **contact the factory if currents are out of tolerance!**
 - b. Open contactor readings will show zero current for all phases.
11. Disconnect filter power and wire the VFD to U2, V2, and W2 as well as any control wiring to the filter contactor or temperature switch. Replace any control transformer fuses. Follow the drive power startup guidelines in the drive manufactures user manual.