



COMPRESSOR TROUBLE SHOOTING GUIDE

PRESENTED BY



Before condemning a single-phase compressor that fails to start, it is important to take a few minutes to make sure it's really gone. After all, you don't want to spend several hours replacing a compressor, only to find out it didn't fix the problem.

STEP 1

Verify the following components are working:

- A. Run capacitor
- B. Starting components (even if not originally installed, start assist should be tried before going to step 2)
- C. Contactor
- D. Winding resistance within manufacturer's specification (ensure compressor is cool to the touch)
- E. Compressor not grounded via ohmmeter/Megger, etc.
- F. Compressor power terminals are tight and secure
- G. Check for hot spots in system wiring (wire insulation melted, connectors, insulators melted, etc.)



STEP 2

Verify Locked Rotor Pull Down Voltage (LRPDV)

Always check LRPDV before removing the old or new replacement compressor. If the LRPDV reduces the supply voltage to the compressor below the "guaranteed to start" voltage of the compressor (single-phase 230/208 LRPDV is 197v), the power supply must be corrected before removing the compressor.

Procedure to check for LRPDV:

Warning! Make sure system is properly grounded before proceeding!

- A. Connect a voltmeter to the common terminal and run terminal of the compressor.
- B. Remove the start wire from the compressor and insulate the connector lead wire.
- C. Terminal cover and retainer MUST be installed before applying voltage.
- D. Apply voltage to the compressor and measure the voltage as the compressor attempts to start (during locked rotor). If internal overload trips, allow time for reset before continuing.
- E. If the voltage at the compressor terminals does not pull down below the LRPDV, reconnect the start wire and try to start again.

