



Application Engineering Bulletin

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**PRODUCTION LINE STARTING CONDITIONS
FOR COPELAWELD PSC COMPRESSORS**

Copelaweld compressors equipped with permanent split capacitor (PSC) motors are warranted to start during manufacturers' production line starting tests under the following conditions. This warranty covers replacement of line rejects only, and is not to be implied or extended in any way to cover field installations. The following conditions are not intended to specify minimum production line processing procedures, but represent conditions of the Copeland warranty which must be met prior to final rejection of a compressor for failure to meet low voltage starting requirements. Copeland will not assume any liability for the cost of labor to exchange compressors, or the cost of labor or materials required to add any electrical components.

1. Copeland specified electrical components must be used.
2. Copeland specified oil charge or an oil charge approved by the Copeland Application Engineering Department must be used.
3. The compressor in package units must be tested as part of a complete refrigeration cycle. The unit must utilize capillary tubes, orifice, or equalizing expansion valves.
4. Condensing units may be tested without an evaporator by means of an approved bypass circuit with a restrictor, provided all other specified conditions are met.

5. The compressor must be operated in the unit for a minimum period of 20 minutes prior to the low voltage start test.
6. Pressures in the high and low pressure sides of the system must be equalized at a pressure not exceeding 170 psig.
7. The starting voltage shall be applied for a minimum of six (6) seconds before rejecting for failure to start. If an overload trip occurs in less than six (6) seconds, the overload protector shall be allowed to reset and the starting test repeated for a total of three times before rejection for failure to start.
8. The minimum test voltage **at the compressor terminals** for 60 cycle motor-compressors during the starting period after the motor is energized shall be as follows.

| NOMINAL VOLTAGE | RATING | MINIMUM TEST | STARTING VOLTAGE |
|--------------------|---------|-----------------|---------------------|
| | 115 | | 97 |
| | 208 | | 177 |
| | 208/230 | | 197 |
| | 230 | | 197 |

