



Industrial Technologies
1302 Goshen Parkway
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To: CC & AIRD Sales Managers; Sales Engineers

CC: CC Regional Managers; AIRD Distribution Sales Managers

RE: SCCR Position – Air Dryers

All:

The following describes Ingersoll Rand's position regarding the Short Circuit Current Ratings (SCCR) for refrigerated and desiccant air dryers manufactured at Ingersoll Rand's West Chester, Pennsylvania facility.

Background: SCCR values are required to be listed on the manufacturer's nameplate per several NEC Articles. These articles include but are not limited to "Air Conditioning and Refrigerating Equipment" (Article 440.4), Industrial Machinery (Article 670.3), and Industrial Control Panels (Article 409.110). SCCR values are also required to be listed per UL508A – "Industrial Control Panels". Given that these Code and Listing requirements are relatively new to the industry, customers may not necessarily understand the appropriate application of SCCR values. As such, it is important that we understand what these values mean as well as how these values are to be applied for specific equipment.

SCCR - Defined: The NEC defines SCCR per Article 100 as, "The prospective symmetrical fault current at a nominal voltage to which an apparatus or system is able to be connected without sustaining damage exceeding defined acceptance criteria." In layman's terms, SCCR refers to how much fault current an electrical panel can withstand without causing damage to the electrical components within the panel. The higher the SCCR value, the more fault current a product can withstand.

Method Of Achieving Increased SCCR Values: The method generally entails conducting an analysis of the main power circuit and selecting the appropriate combination of UL tested components that have proven to increase SCCR values. It is important to note that this process is only applicable for three phase equipment and would not apply to single phase, 115VAC or 200 – 240VAC applications.

Refrigerated Dryers – SCCR Ratings: SCCR values are required to be listed on equipment rated greater than 60A only. The standard SCCR ratings and specific requirements to achieve increased SCCR values will vary by model.

10-150 SCFM Cycling Dryers

- Default SCCR Value: *Not Applicable*. These dryers feature an electrical power cord for 15-20 ampere, 120 V or 15 ampere, 208-240 V single phase service. These units are exempt from the requirement of having a nameplate SCCR value per "Exception No. 3 of NEC Article 440.4 (B) because they are rated less than 60 amps.
- Requirements to achieve higher SCCR values: There is no economical means of increasing the SCCR ratings for these dryers due to component limitations.

200-800 SCFM Cycling and Noncycling Dryers –

- Default SCCR Value: *Not Applicable*. Standard dryers in this flow range are exempt from requiring a nameplate SCCR value per Article 440.4 (B) as the dryers are rated less than 60 amps.
- 100 kA SCCR Option: Increasing the SCCR for three phase machines will require adding a NEMA 4 option and the addition of components such as feeder fused disconnect and branch circuit fuses as well as the replacement of certain components that are used on standard products. Products in this range are listed through ETL and would require recertification with ETL to validate the higher SCCR rating.

1000-2400 SCFM Cycling and Noncycling Dryers –

- Default SCCR: 5 kA
- 100 kA SCCR Option: Dryers are supplied with UL508A enclosures. The "Feeder Calculation Method" of determining a SCCR value per UL SB4.3 allows for an increased value of 100kA by utilizing a feeder fused disconnect switch and branch circuit protection.

3250 and larger MultiModule Cycling and Noncycling Dryers

- Default SCCR: 5 kA
- 100 kA SCCR Option: Dryers are supplied with UL508A enclosures. In addition to supplying a disconnect switch on the power box, each module's non-fused disconnect switch will be replaced with an appropriate fused disconnect. The individual module branch circuit fuses presently located in the power box will be eliminated. A nameplate SCCR value is required for the entire dryer per NEC article 440.4.

Desiccant Dryers – SCCR Approach: The standard SCCR ratings and specific requirements to achieve increased SCCR values will vary by model.

HL & HLA Heatless Dryers

- Default SCCR: *Not Applicable*. Dryers are supplied with UL508A enclosures. Dryers are available in 115/1/60 (100-110/1/50) configurations only. The dryer is supplied with a 115 VAC to 24 VDC power supply that is fuse protected and supplied power by the customers protected branch circuit. The dryer is exempt from carrying a SCCR value.
- Increase SCCR: *Not Applicable*.

EH Heated Purge Dryers

- Default SCCR: 5 kA. Dryers are supplied with UL508A enclosures.
- 100 kA SCCR Option: The higher SCCR rating can be achieved, per the "Feeder Calculation Method" by utilizing a feeder fused disconnect switch and branch circuit protection.

HB Heated Blower Purge Dryers

- Default SCCR: 5 kA. Dryers are supplied with UL508A enclosures.
- 100 kA SCCR Option: The higher SCCR rating can be achieved, per the "Feeder Calculation Method" by utilizing a feeder fused disconnect switch and branch circuit protection.

Process for Addressing Customer Requirements for Higher SCCR Values (where applicable): For products that are eligible for increasing SCCR values, please contact your Product Specialist for pricing. Note that depending on the dryer, Engineering may require one to two days to determine the design changes and components required to achieve the higher SCCR values.

Sincerely,



Christopher Ursillo
Product Manager – Air Treatment