PROCESS INDUSTRY PRACTICES

COMPLETE REVISION
November 2016

Electrical

PIP ELSPF01
Medium-Voltage Metal-Enclosed Power Factor Correction Capacitor Specification from 2.4 kV to 35 kV

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

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Data Sheet

ELSPF01-D - Medium-Voltage Metal-Enclosed Power Factor Correction Capacitors

1. Scope

This Practice provides minimum requirements for design, fabrication, inspection, testing, shipment, and documentation, for metal-enclosed power factor correction capacitors, from 2.4 kV to 35 kV, containing enclosure, lightning/surge arrestor, transient inrush reactor, vacuum circuit breaker, capacitor, capacitor protection, insulated buses, and control for indoor/outdoor installation in unclassified areas. This Practice covers fixed, manual, and automatic switched capacitor banks.

2. References

Applicable parts of the following Practices, industry codes and standards, and references shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

2.1 Process Industry Practices (PIP)

- PIP ELSPF01-D - *Medium-Voltage Metal-Enclosed Power Factor Correction Capacitors*
- PIP STC01015 - *Structural Design Criteria*

2.2 Industry Codes and Standards

- Institute of Electrical and Electronic Engineers (IEEE)
  - IEEE C37.20.2-2015 - *Standard for Metal-Clad Switchgear*
  - IEEE C37.66 - *Standard Requirements for Capacitor Switches for AC Systems (1kV to 38 kV)*
  - IEEE 18 - *Standard for Shunt Power Capacitors*
- International Electrical Testing Association
  - ANSI/NETA ATS-2013 - *Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems*
- National Electrical Manufacturers Association (NEMA)
  - NEMA 250 - *Enclosures for Electrical Equipment (1000 Volts Maximum)*
- Underwriters Laboratories (UL)
  - UL-508A - *Industrial Control Panels*

3. Definitions

owner: The party who owns the facility wherein the medium-voltage metal-enclosed power factor correction capacitor will be used

purchaser: The party who awards the contract to the supplier. The purchaser may be the owner or the owner's authorized agent.

purchaser's inspector: The purchaser's authorized representative with authority to act in the interest of, and on behalf of, the purchaser in all quality assurance matters

supplier: The party responsible for manufacturing, furnishing, and/or installing the medium-voltage metal-enclosed power factor correction capacitor