

Proposed Meeting Agenda
SOUTH DAKOTA ELECTRICAL COMMISSION
Wednesday, April 22, 2026, at 1:00 p.m. CDT

Microsoft Teams: [Join the meeting now](#)
Meeting ID: 231 931 055 570 05 | Passcode: Ae7TX9Wp
or Call +1 605-679-7263 ID # 331 885 265

- | | |
|--|----------------|
| A. Call to Order | Tor Sorlien |
| B. Approval of Agenda | ACTION |
| C. Approval of January 8 Minutes | ACTION |
| D. Public Comment | |
| E. Undertaking Form | ACTION |
| F. Machinery Designation Applications | ACTION |
| G. Third Party Inspector Application | ACTION |
| H. Subcommittee Reports | Pamela Overweg |
| i. Fee Structure | |
| I. Executive Session to discuss legal matters pursuant to SDCL 1-25-2(3) | |
| J. President's Report | Tor Sorlien |
| K. Program Director's Report | Pamela Overweg |
| L. Inspector's Report | Brent Schoulte |
| M. Next Meeting | July 16, 2026 |
| N. Adjournment | Tor Sorlien |

Meeting Minutes
SOUTH DAKOTA ELECTRICAL COMMISSION
via Microsoft Teams and Conference Call
Thursday, January 8, 2026, 1:00 p.m. CST

Director Overweg called the roll. A quorum was present.

Members Present electronically: Dave Eide, Bob Jarding, Doug Fuerst, Carl Odde, Tor Sorlien, Stephen Burgess

Others Present: Pamela Overweg, Program Director, Jodi Aumer, Director of Professional Licensing, Brent Schoulte, Lead Inspector, Jennifer Doubledee, Attorney, Billy Schneider, Kim Swift, Ashley Flynn

Sorlien called the meeting to order at 1:00 p.m.

Fuerst made a motion to approve the agenda as presented. Burgess seconded the motion. **MOTION PASSED.**

Eide made a motion to approve the October 9 and October 28 minutes as written. Odde seconded the motion. **MOTION PASSED.**

Sorlien asked for Public Comment. Ashley Flynn addressed the commission regarding a complaint filed against licensee Colby Hodo.

Director Overweg reviewed the current draft of the Class B electrician bill with the board and informed them it would be SB 62 this legislative session.

The board discussed the machinery designation applications. Eide made a motion to approve all machinery designation applications in the packet. Jarding seconded the motion. **MOTION PASSED.**

Director Overweg updated the board on the fee subcommittee, noting that the first meeting was held on October 21, 2025. The board has requested that Director Overweg draft a letter requesting that electrical contractors provide the commission with information on the dollars paid to the commission in inspection fees versus the dollars paid by the customer.

Jarding made a motion to enter executive session to discuss contracts and personnel. Fuerst seconded the motion. **MOTION PASSED.** The board entered executive session at 1:27 pm.

The board exited executive session at 1:49 pm.

Director Overweg notified the commission she was in the process of interviewing and hiring a new program assistant.

Director Overweg updated the board on the status of the billing reconciliation. The commission sent out final notices in November and plans to start sending accounts that have made no attempt to pay to collections in January.

Director Overweg asked commission members to help identify individuals with fire safety expertise who would be interested in serving as a board member for the Electrical Commission. Referrals can be directed to Director Overweg.

Schoulte updated the commission on the status of inspections, noting that things were going well. He also said there is one area of the state where he is reviewing the possibility of adding an additional electrical inspector.

Burgess made a motion to adjourn the meeting. Fuerst seconded the motion. **MOTION PASSED.**

The commission adjourned the meeting at 1:54 p.m.

DRAFT

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
ELECTRICAL COMMISSION

217 W. Missouri Ave. Pierre, South Dakota 57501
Tel: 605.773.3573 | Fax: 605.773.6213 | dlr.sd.gov

UNDERTAKING FUND CLAIM FORM

SDCL 36-16-20; ARSD Chapter 20:44:26

Submitter Name: _____

Submitter Address: _____

Submitter Phone: _____

Submitter E-mail address: _____

Name of contractor who performed the installation: _____

Description of work to be completed:

Description of work not completed and/or improperly completed:

Amount paid to contractor (attach proof of payment if available): \$ _____

Attach three bids for correction and/or completion of the installation as required under ARSD 20:44:26:02(4):

_____ I certify that I have not obtained a civil judgment against the contractor who performed this installation (ARSD 20:44:26:02(5)).

Submitter Name

Date

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

____/____/____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060023



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-01-28
1.0	After Corrections - PASSED	2026-04-01

Muth Power Solutions

Summary:

_____ panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060023**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

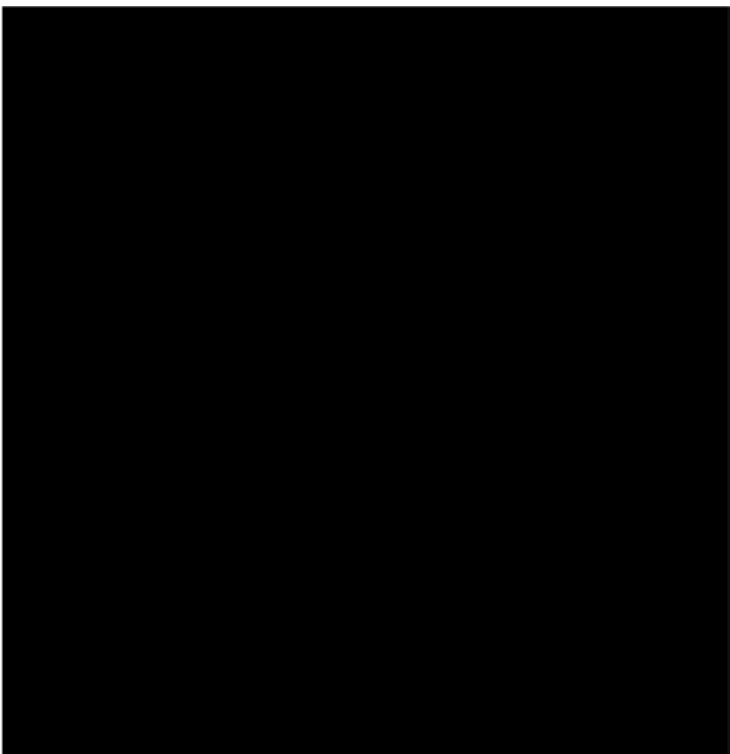
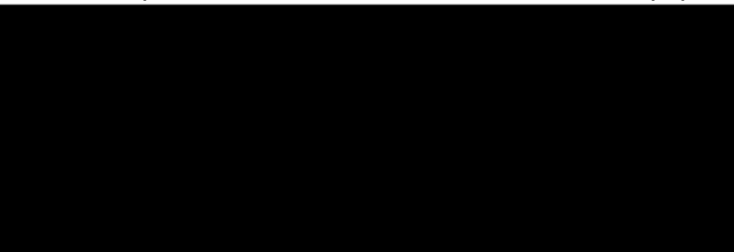
Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

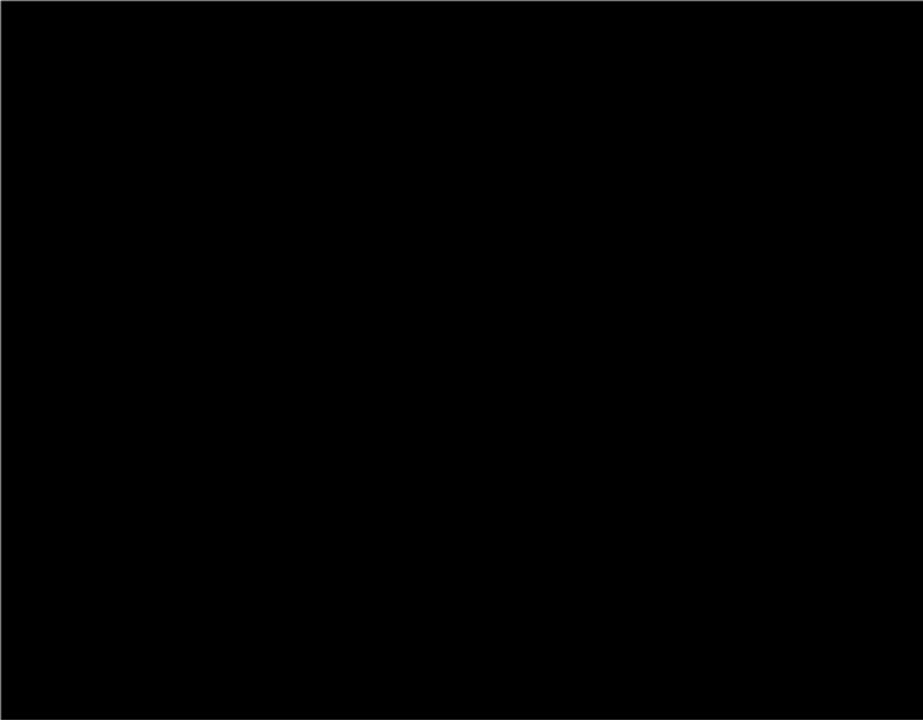
Main Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



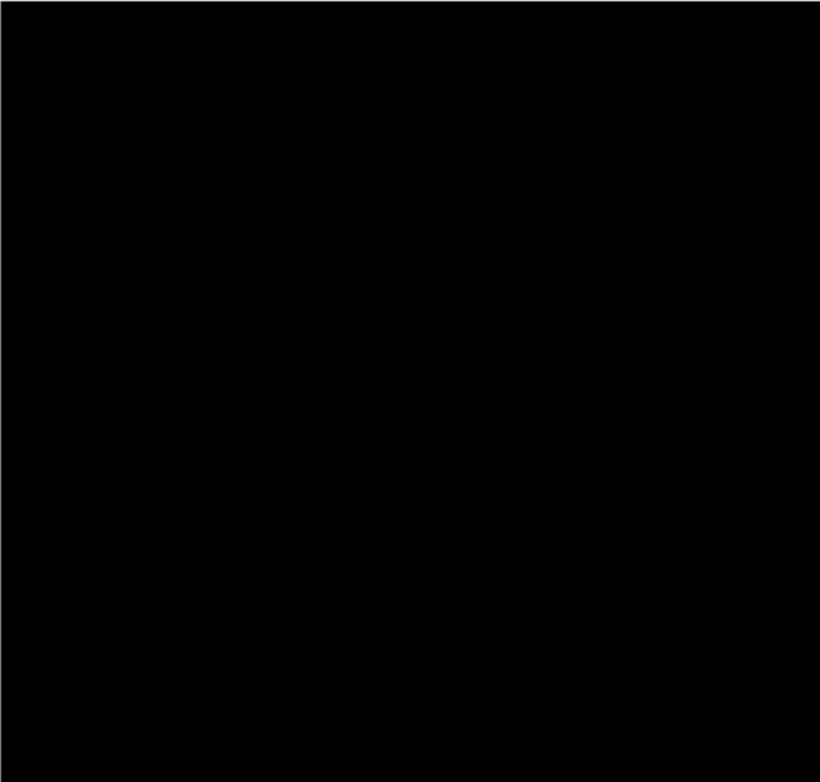
Auxiliary Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



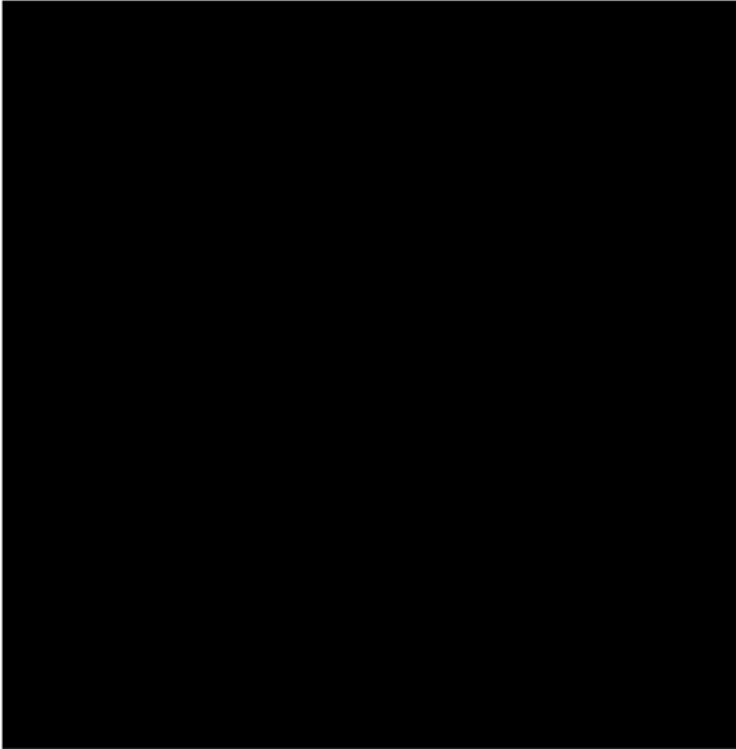
Auxiliary Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



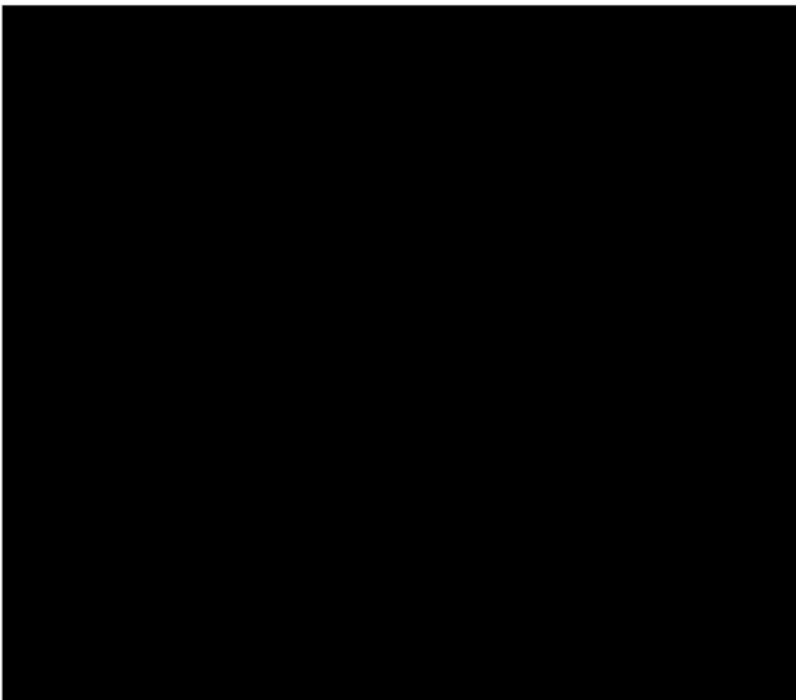
Auxiliary Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



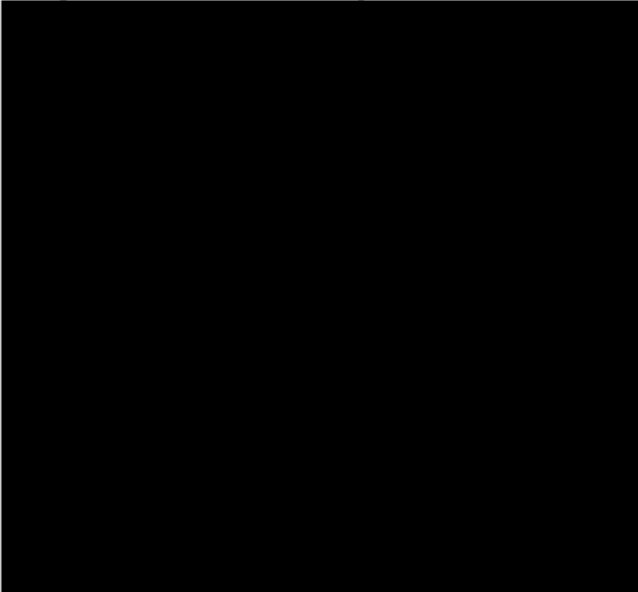
Auxiliary Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



Auxiliary Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The UL-listed nameplate shows 175A for the full load current. After doing the calculation in 670.4(A) and 409.20, the minimum ampacity was calculated to be **197.43 A**
- 3/0 CU was brought to the enclosure, which is rated for 200A, so this is compliant

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a main disconnect on the door & is compliant

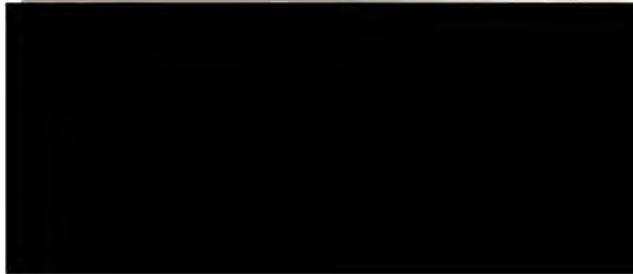


Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The UL-listed nameplate shows 175A for the full load current. After doing the calculation in 670.4(A) and 409.20, the minimum ampacity was calculated to be **197.43 A**
- The upstream breaker was initially shown as 150A, but it was replaced with 3P/200A breaker as shown below. This is compliant now.



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The enclosure's nameplate says the enclosure is rated for 65 kAIC & it was observed that there's a fused disconnect that connects the supply conductors. The maximum fault current calculated at this node was 13,038A. An additional calculation was done to make sure the worst case supply XFMR that could be added in the future still has the maximum fault current below the enclosure's rating. This additional calculation resulted in the sheeted line panel as being 15,524 A, so the enclosure is compliant



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- A type 1 SPD was observed in the enclosure for the supply conductors L1,L2, L3



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below





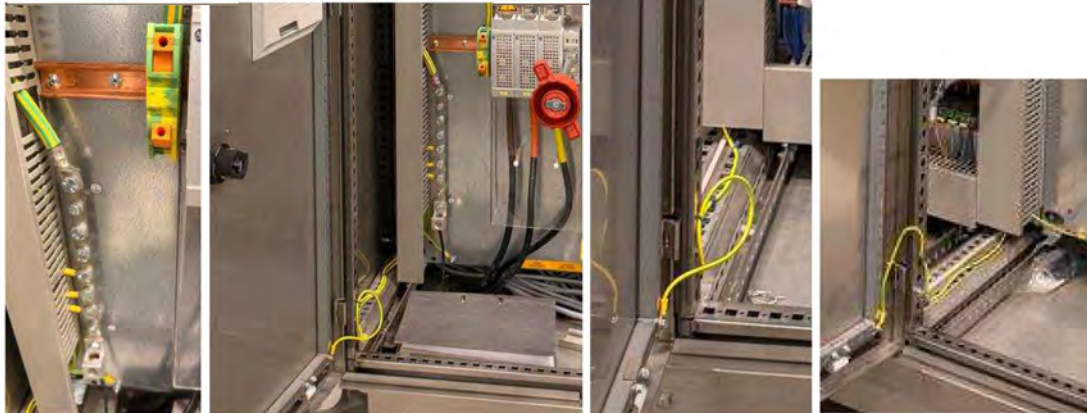
- The machine has appropriate speed / phase protection on the motors that have VFDs

Grounding & Bonding

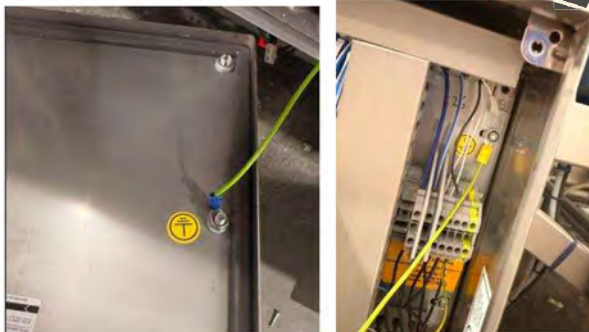
The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



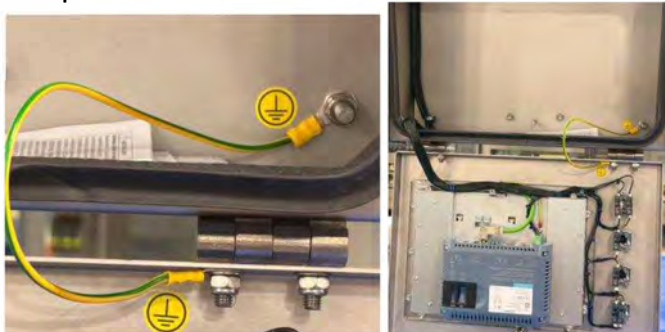
- The main panel has appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.



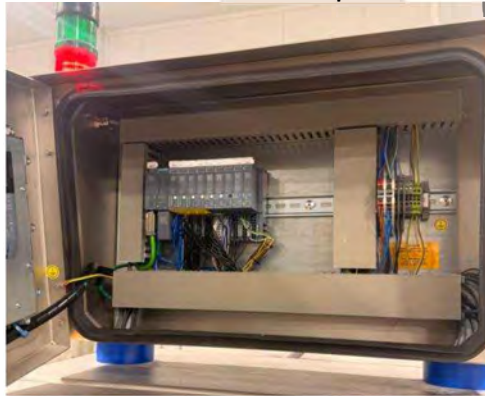
- JBOX X26 was initially missing ground sticker & the bonding conductor to the door was loose. It was re-installed & the ground sticker was placed so it is compliant now



- HMI was initially missing ground sticker at the bonding point, but it was installed in March 2026 & is compliant now



- JBOX X23 was initially missing ground sticker & the bonding conductor to the door. It was installed in March 2026 & is now compliant with NFPA 79.



Control Circuits & Control Functions

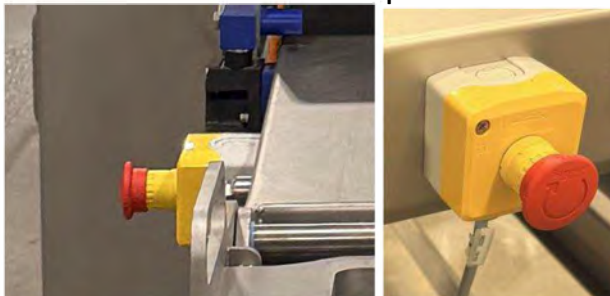
The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)
 - E-stops were observed to be compliant with NFPA 79



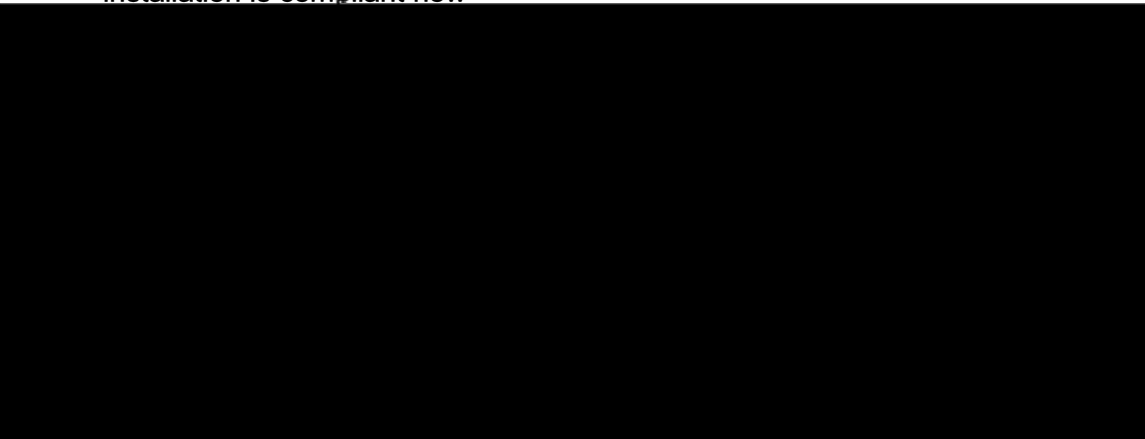
- Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79



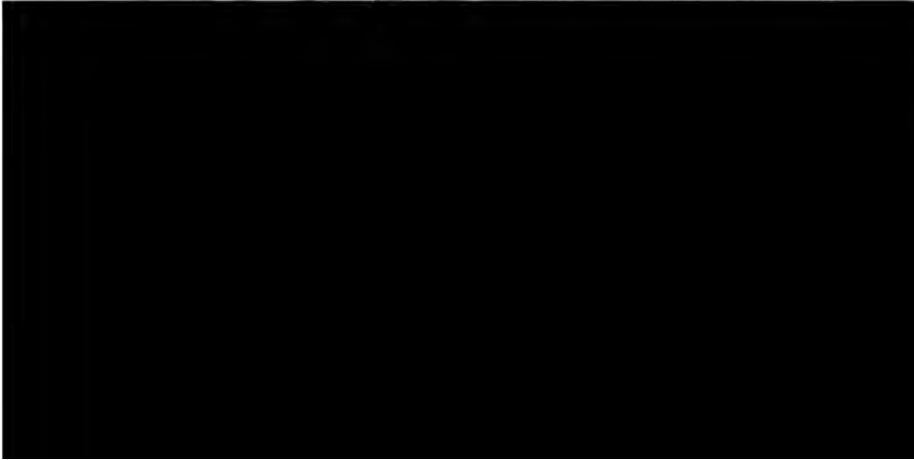
Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

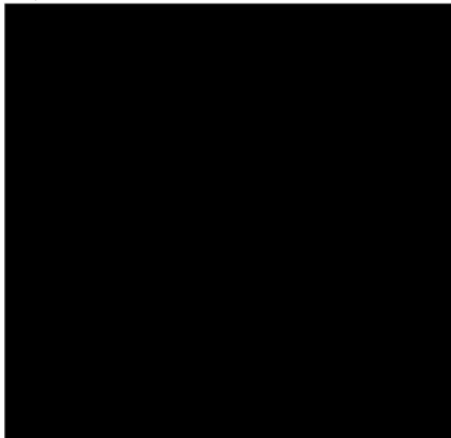
- Pneumatic / air lines were initially observed to be in a shared duct with electrical cables. This is not allowed per NEC 300.8 since a rupture of the air line could damage the cables if the air line were to burst from overpressure/leak. The air line was re-routed to the outside of the tray in March 2026, so the installation is compliant now



- It was initially observed that some of the duct was missing its protective cover. This was installed in March 2026 & is now compliant with NFPA 79



- There were exposed connectors initially observed & these didn't have a NEMA 4X cover installed. The appropriate covers / gaskets were installed in March 2026 & the installation is compliant with NFPA 79 now.



- It was initially observed that there were connectors (hose clamps + brass fittings) installed that would have likely corroded over time when it was exposed to high pressure washdown / chemicals. These connectors were replaced with food grade connectors in March 2026 and the installation is compliant with NFPA 79 now.



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

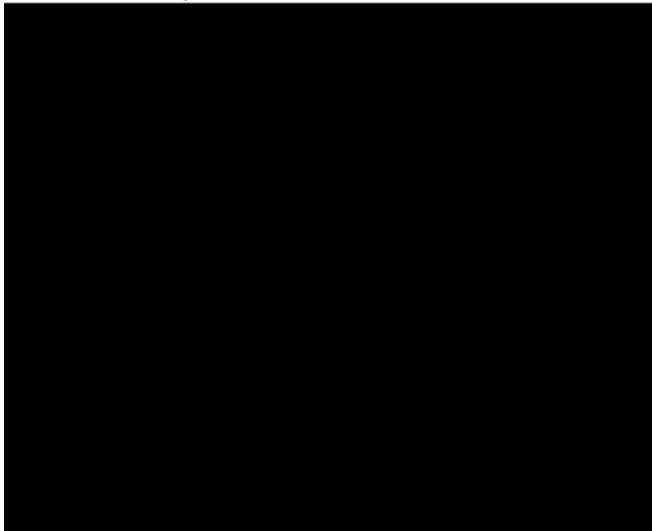
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire / cables are installed in a professional manner & they're secured to the machine in compliance with NFPA 79



- Wire duct cover was observed initially to not installed in some of the enclosures. Wire duct covers were installed in all effected enclosures & the installation is compliant now.



- A wire / splice was observed initially to be crossing over a base. This wire was corrected, so it is no longer crossing over the base & the installation is compliant now.



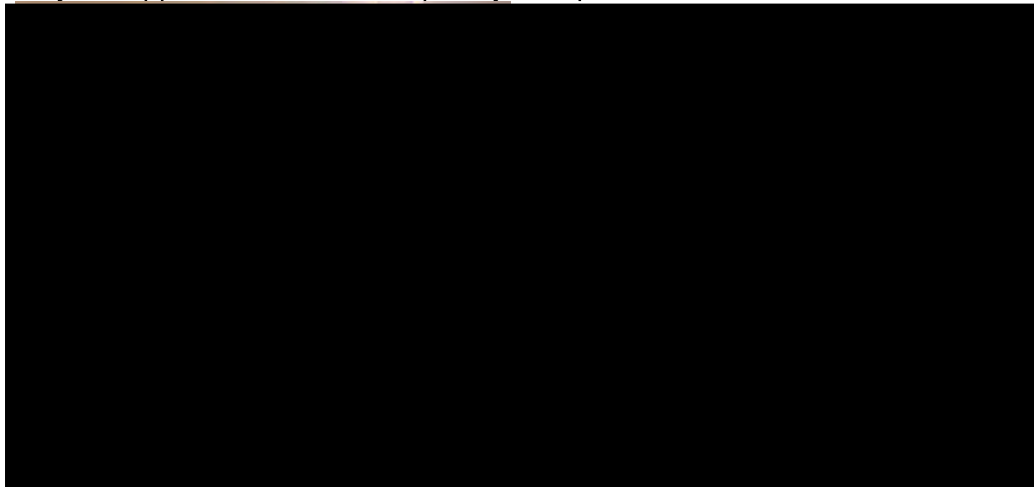
- Wire ferrules were observed initially to be installed incorrectly. The ferrule was re-installed, so it is now inserted fully into the termination & is compliant with NFPA 79 now.



- A plug in device was observed initially in the main cabinet. It is not a code violation to have devices plugged into the receptacle, but it would be recommended to install a device that could be permanently installed in the enclosure (circuit breaker, terminal, din-rail mount, etc). The code violation here is that the portable device did not have its cabling supported adequately and it could put strain on the receptacle/plug assembly and start to pull out of the receptacle. The wire was re-routed in the wire duct & supported adequately per NFPA 79 in March 2026.



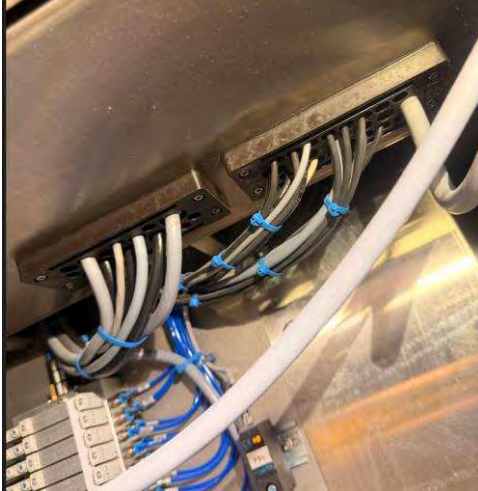
- Field cabling + hoses were observed initially to be inadequately supported. They were re-installed so they're supported/secured adequately now per NFPA 79.



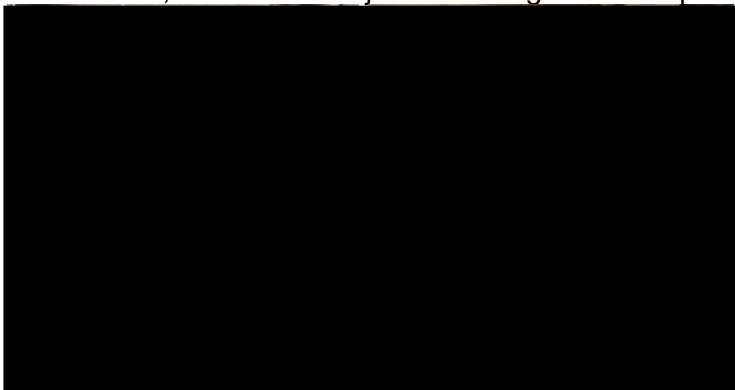
- Field cabling was observed initially to have damaged insulation where it was pulled through the metal hole / channel. This damage was corrected & it's now compliant with NFPA 79.



- Field cabling was observed initially to enter the enclosure through a cable gland with the insulation stripped outside the enclosure. The multi-conductor cable was re-installed in March 2026, so it entered the enclosure fully with intact insulation. It is now compliant with NFPA 79.



- Field cabling was observed initially to be bent beyond its recommended bend radius in order to prevent the cable from being damaged by the close/nearby mechanical gears. The cable was secured better in March 2026, so it is not subject to damage & is compliant with NFPA 79 now



- A loose / incorrectly installed bolt was observed initially on the machinery. This was corrected March 2026 & it's compliant with NFPA 79 now.

- Per NEC 300.4, cables need to be protected from potential damage. It was observed initially that several cables were passing through holes notched into metal frames without a rubber grommet / cord grip that would prevent the cable from being damaged from vibration over time. All locations like this, had a proper UL listed product installed in March 2026 that will protect the cable from vibration damage over time. It's compliant with NFPA 79 / NEC now.

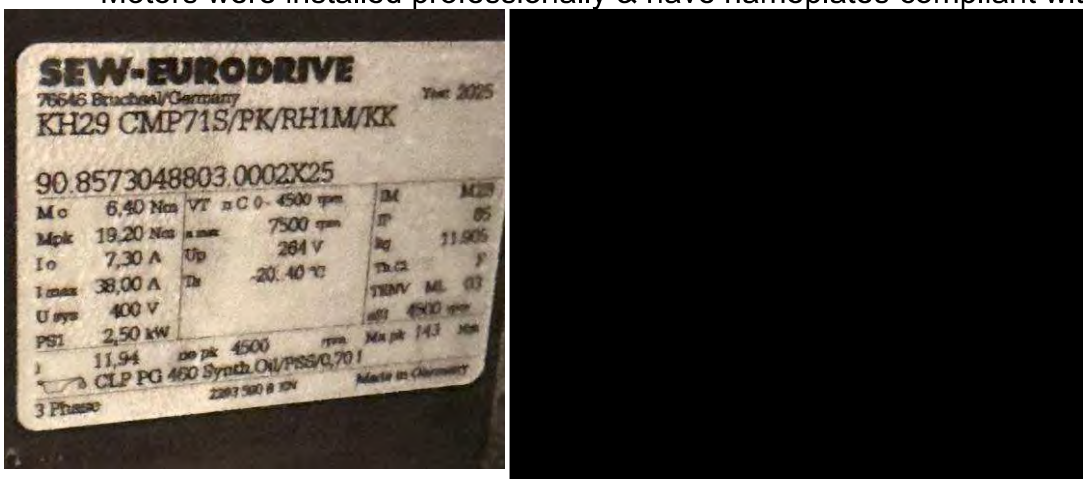


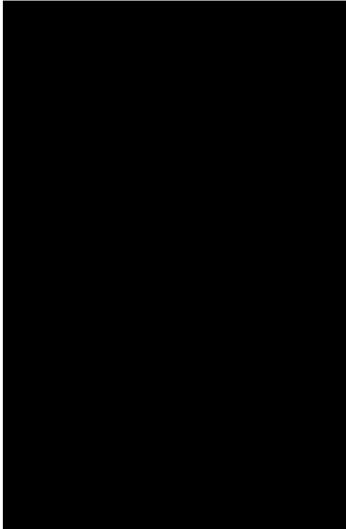
- Per NFPA 79, cables need to be routed in wire duct / cover installed. It was observed that JBOX X24 & X23 had too many wires respective for the wire duct that was installed. It was also observed that the ground symbol was not installed on the door for the bonding point. The cable was re-installed in March 2026 so the wire duct cover was able to be installed. The installation is now compliant with NFPA 79 / NEC.

Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79





Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

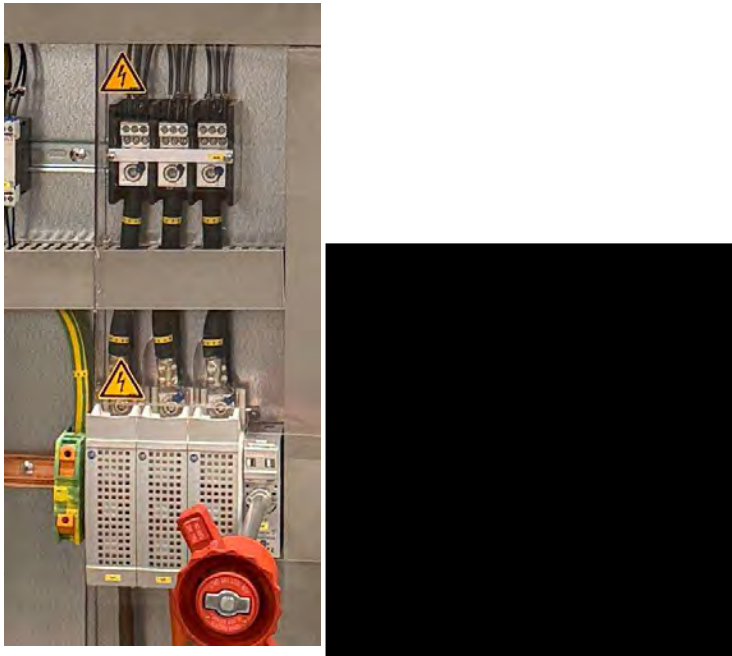
- The machine has GFCI protected receptacles within the enclosures



Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards
- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC



- Warning Label – *Does Not De-Energize All Exposed Parts When Disconnecting Means in (off) Position*
 - Place visibly on Enclosure next to disconnect when multiple sources are present

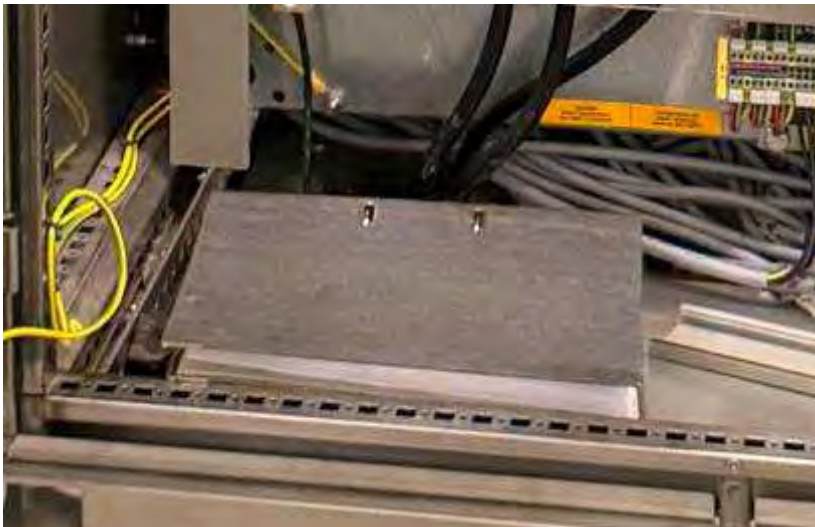


- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

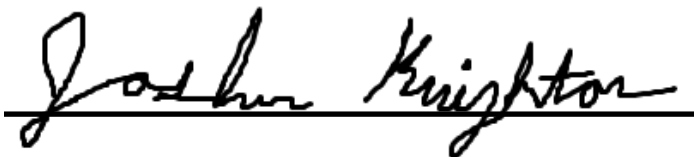
- Technical documentation was observed with the machine.



NFPA 79 Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 1, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC	The upstream supply breaker is 150A and is undersized per NEC 670 and 409.21	YES - Replace 3P/150A with 3P/200A breaker. Make sure supply conductors are at least 3/0 CU Corrected March 2026
2	NFPA 79	Wire duct covers were not installed properly in some of the enclosures & were missing	YES – make sure wire duct has covers installed for the full length of wire duct Corrected March 2026
3	NFPA 79	Wire was observed to be crossing over wire duct / equipment & the wire was spliced	YES – if the equipment is not needed, remove it from the enclosure, so there is not a splice crossing over equipment / wire duct Corrected March 2026
4	NFPA 79	Wire ferrules were observed to be inadequately inserted into terminations	YES – insert the ferrule fully into the terminal and tighten to the correct torque for all effected devices Corrected March 2026
5	NEC 300.8	Air hose was observed to be within the same duct as the electrical wires	YES – NEC 300.8 prohibits air lines being installed within the same duct /raceway as electrical cables. A listed divider shall be installed within the duct that fully separates the air hose from the cables, or the air hose shall be installed outside this duct in a separate raceway/duct Corrected March 2026
6	NFPA 79	Wire duct is missing its cover + stainless steel fasteners/hardware. It was also observed that the cover that is existing was damaged / missing bolts & will allow water to fill this duct up when the high pressure wash procedure takes place	YES – NEMA 4X rated cover + hardware shall be installed, so it protects the equipment from flour, food, and washdown chemicals that will be utilized in this environment. The existing cover shall be corrected so all bolts are installed & any bends/voids will not allow water to enter the machine Corrected March 2026
7	NFPA 79	Exposed electrical connectors were observed & they did not have NEMA 4X rated covers installed	YES – NEMA 4X rated cover shall be installed for all exposed connectors/receptacles on the machine, unless their respective equipment is connected to it permanently Corrected March 2026

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
8	NFPA 79	JBOX X26 has loosely ran bonding conductor to the door & it could be damaged	YES – route / secure so the bonding conductor is not subject to damage when the door is removed / placed back on. Place bonding symbol on the enclosure's door Corrected March 2026
9	NFPA 79 & NEC	Cable insulation was observed to be damaged where it was pulled through metal holes / channels and supported on the machine	YES – correct the damage by replacing the cable or using a UL listed method to correct the damage Corrected March 2026
10	NFPA 79	JBOX X24 has too many wires installed, so the respective wire duct is bulging / cover is not able to be installed properly	YES – correct the cables so the wire duct's cover is able to be installed. If it is not possible, a larger JBOX shall be installed that can properly house the respective cables Corrected March 2026
11	NFPA 79	Various connectors were observed that are not appropriate for the area (washdown / chemical for food grade cleaning)	YES – replace the inadequate hardware with hardware that is rated for high pressure food washdowns Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060038



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-03-20
1.0	After Corrections - PASSED	2026-04-01

Muth Power Solutions

Summary:

██████████ panel + connected equipment was installed with a recognized listing label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is "**No Listing on Installation**". The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060038**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

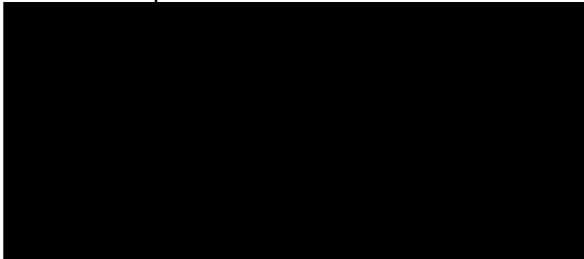
Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

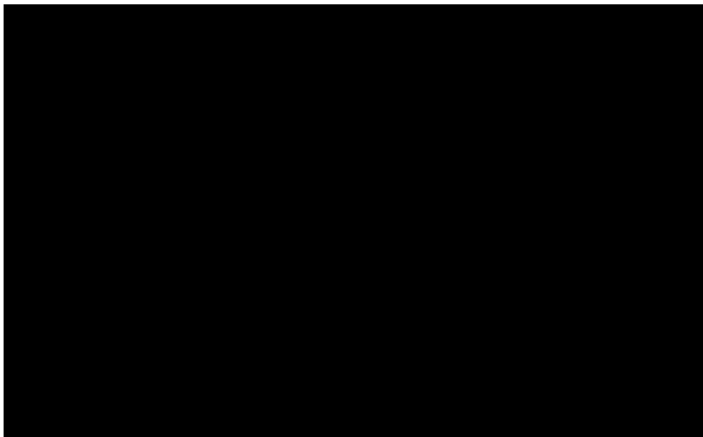
- The chiller skid controls the water & glycol pumps to maintain temperature. This machine has thermal control, and this meets the definition of an industrial machine since it processes with thermal techniques.

Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



- The machine has a nameplate on it that is compliant with NEC 670



The (2) pump starters are fed with 480V & are in listed control panels

Glycol Pump Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

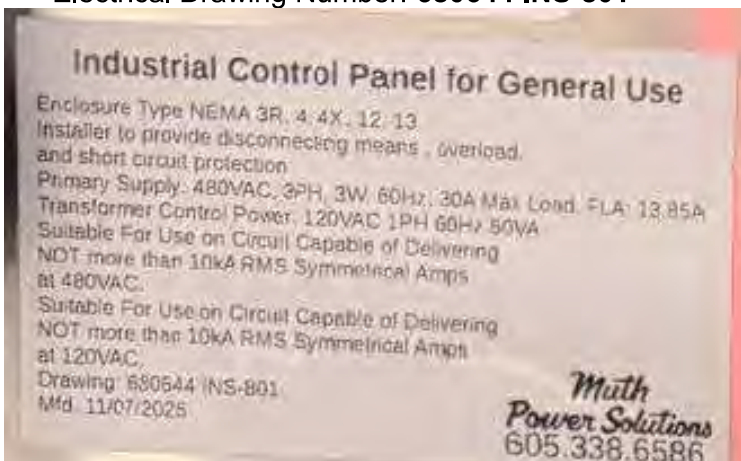
- Supply Voltage: **480VAC**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **6.1A**
- Short Circuit Current Rating: **10 KAIC**
- Largest Motor or Load: -
- Electrical Drawing Number: **680644 INS-800**



Chilled Water Pump Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480VAC**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **13.85**
- Short Circuit Current Rating: **10 KAIC**
- Largest Motor or Load: -
- Electrical Drawing Number: **680644 INS-801**



Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The glycol pump starter is supplied with #10 wire. This is appropriate since nameplate shows maximum of 6.1A
- The chilled water pump starter is supplied with #10 wire. This is appropriate since nameplate shows maximum of 13.85A

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- Each panel has a disconnecting means. This is compliant with NEC 670.



Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

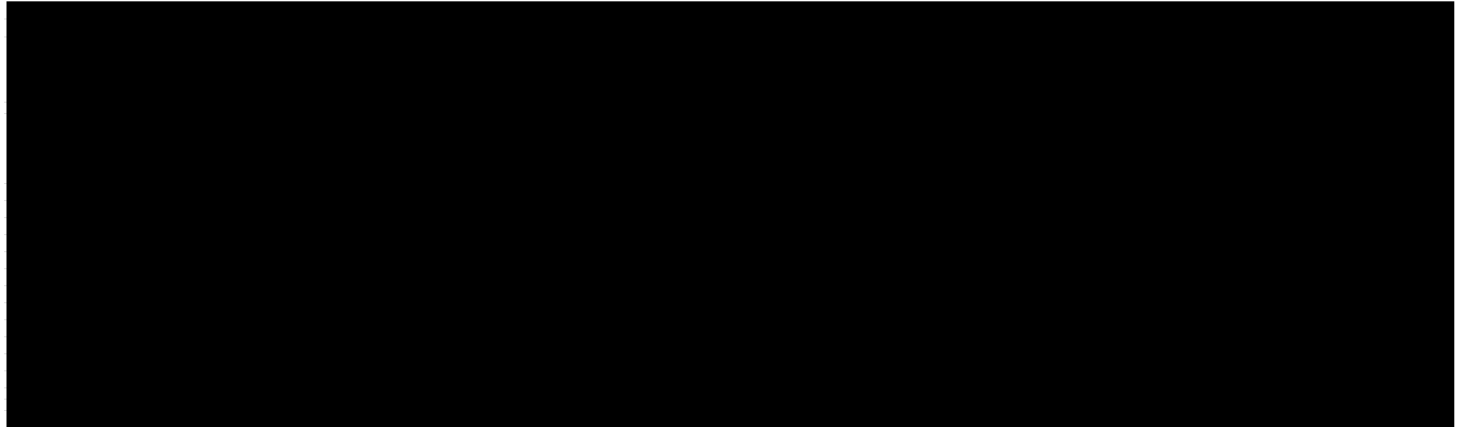
$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- Each pump starter is supplied from H2 panelboard with a 30A 3P 460V circuit breaker. This is compliant for the motor.

Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The pump starters are supplied with #10 wire. With the distance from H2, the fault current is less than 10 kAIC. **Final SCCR is compliant**



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The main 480V panel at OLM has surge protection. The 24 VDC power supply also has surge protection

NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

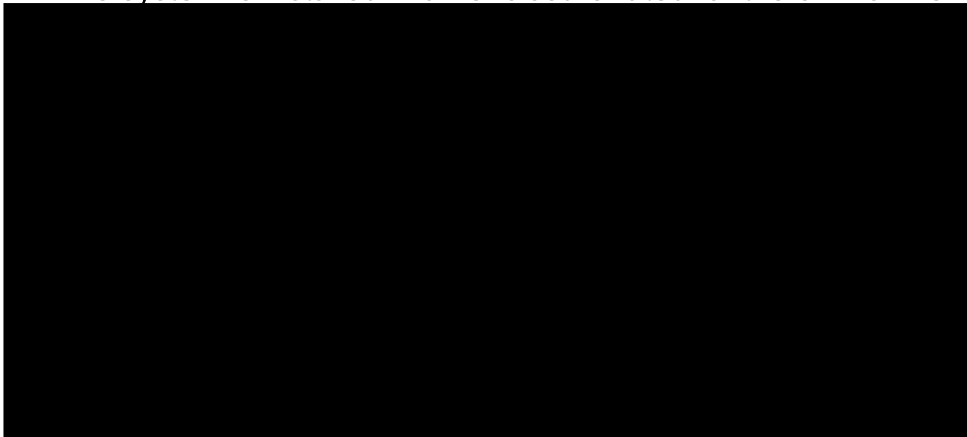
The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 120V/1ph 60 Hz for the chiller control panel. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant
- The supply circuit is 480V/3ph 60 Hz for the pump starter panels. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (nema 4x)



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.

Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- Overcurrent
 - The 24vdc power supply is protected with a 5A circuit breaker on the input & output that are appropriate for the FLA



Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The bonding points are all identified with the ground symbol

Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control circuits were tested and were fully working/functioning as intended. The circuits are all supplied from a 24VDC control circuit (Phoenix Contact 2904376 Power Supply), which has integral surge protection & short circuit protection.

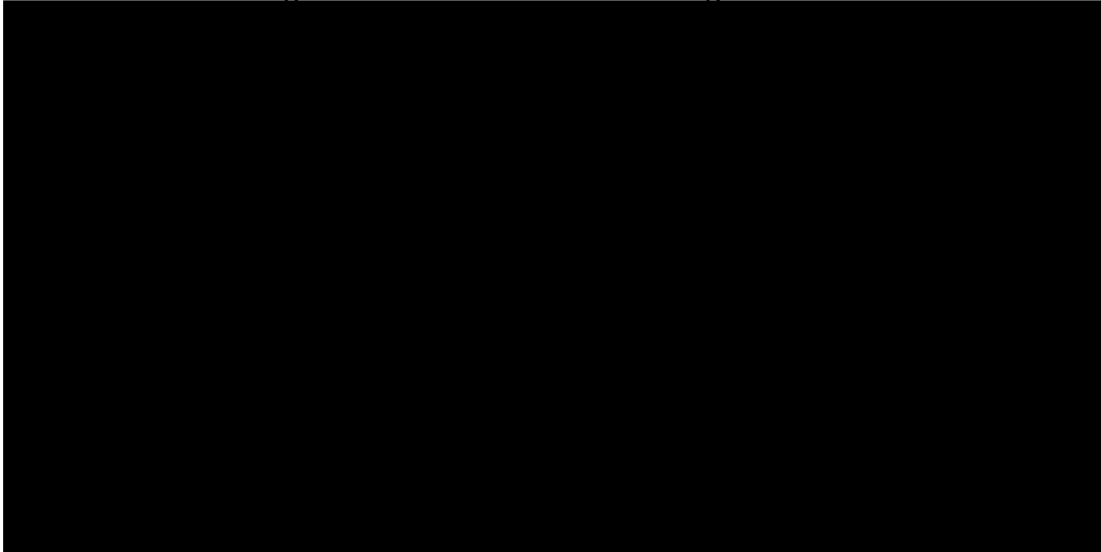
Protection against overvoltage at the output (OVP)	$\leq 35 \text{ V DC}$
Control deviation	$< 1 \% \text{ (change in load, static } 10 \% \dots 90 \%)$
	$< 2 \% \text{ (change in load, dynamic } 10 \% \dots 90 \%)$
	$< 0.1 \% \text{ (change in input voltage } \pm 10 \%)$
Residual ripple	$< 40 \text{ mV}_{pp} \text{ (with nominal values)}$
Short-circuit-proof	yes

Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- Start or Normal Conditions** (Green but Black, White, or Gray)
- Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- Abnormal Conditions** (Yellow or Amber)
- Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- Mandatory Conditions** (Blue)
- Neutral Conditions** (White)

- The panel has compliant control/interface devices
 - Red Light : shows there is an alarm or stop condition
 - Green Light : shows machine is running

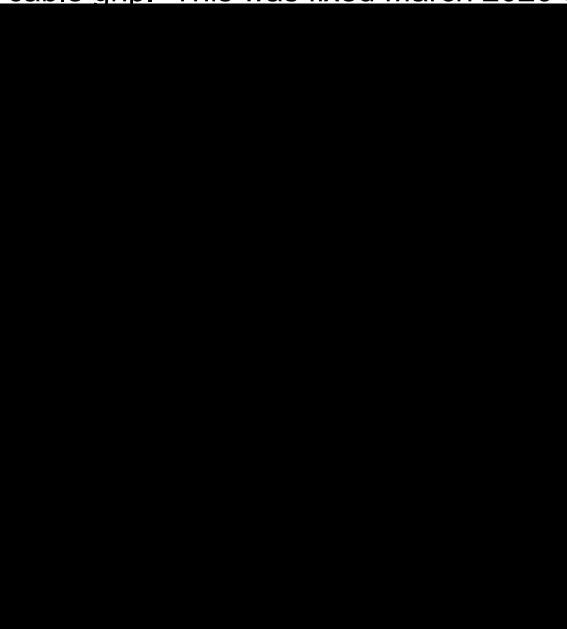


Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine + connected cables / hoses / tubing is installed in compliant with NPFA 79

It was observed initially that the cable insulation was stripped back too far & was sticking out of the cable grip. This was fixed March 2026 & it's compliant with NFPA 79 now.



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

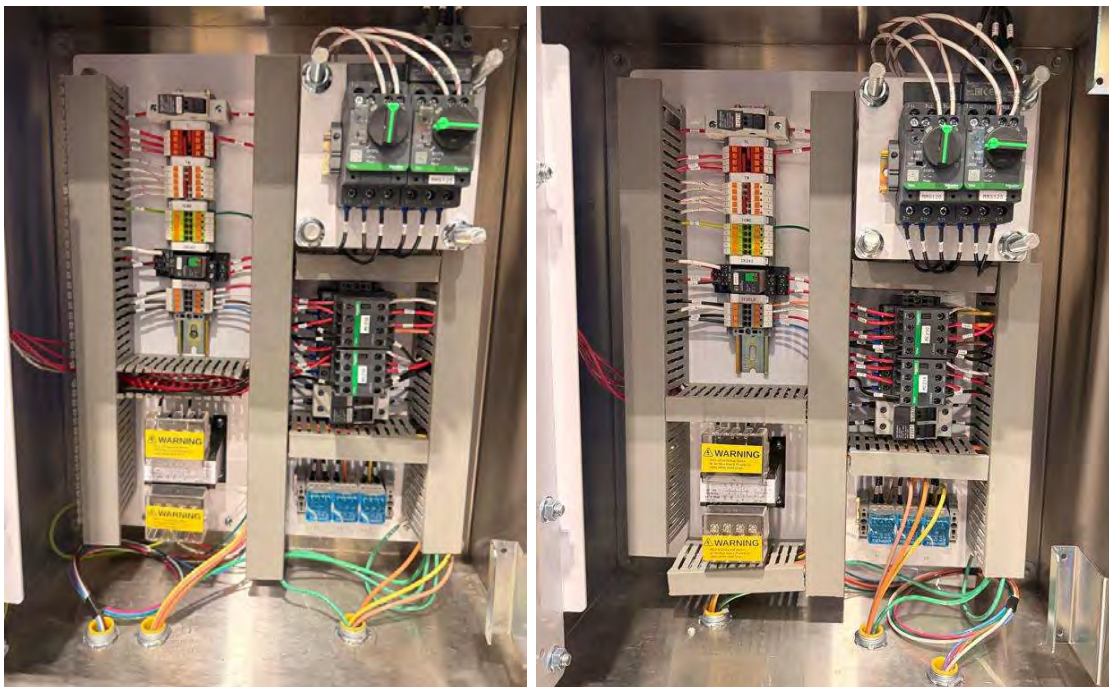
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- The conductors were all observed to be appropriate sizes for their respective FLA and they're compliant with NPFA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire was installed in a professional manner, and in no instance were any wires loose, had exposed conductors on the termination, crossed over things, etc. The wire/raceway was installed in compliance with NFPA 79

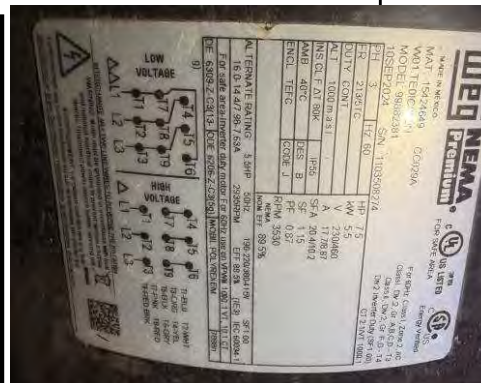
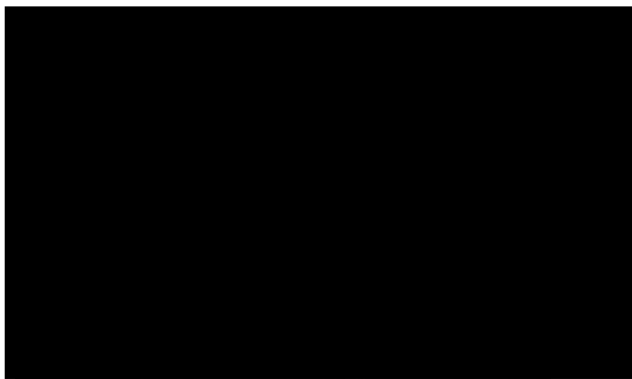




Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motor's nameplate is compliant with NFPA 79 & it is installed in a professional manner



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- There were not any receptacles or lighting supplied from the machine's 480V control panel, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
- The machine has appropriate safety placards



- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
- See NEC 670 section above for nameplate information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



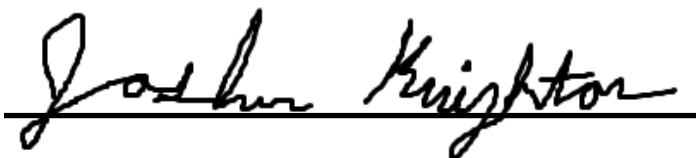
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 1, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	There are not grounding symbols at all bond points	YES – install ground symbol stickers at all of the bond points Corrected March 2026
2	NFPA 79	Wire insulation was stripped back too far & not protected with cable grip	YES – fix the stripped insulation so it's fully covered by the cord grip Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

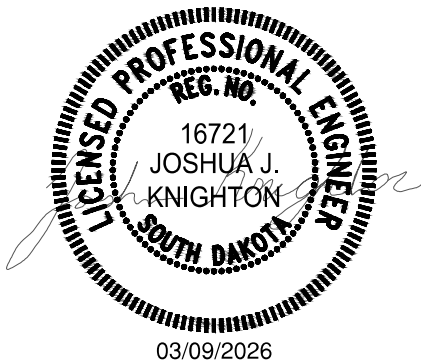
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060027



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-06
1.0	Corrective Actions - PASSED	2026-03-09

Muth Power Solutions

Summary:

[REDACTED] panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060027**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

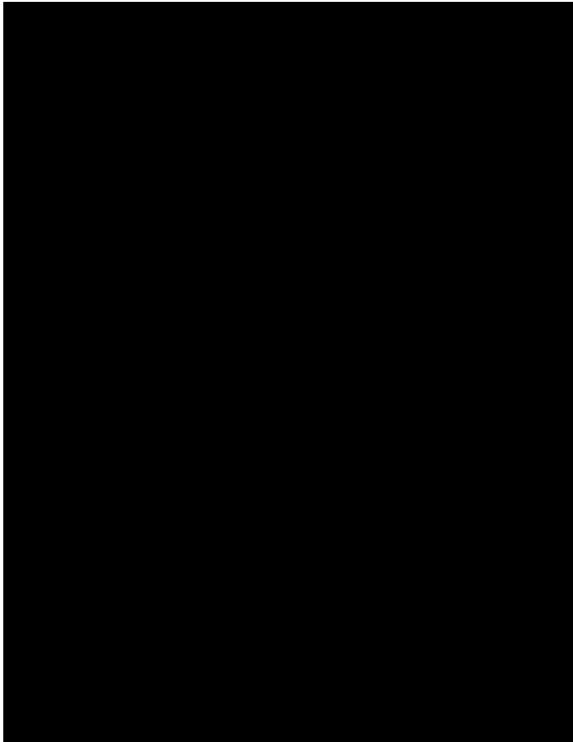
Definition of Industrial Machinery [NFPA 70, Article 670.2]



A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

Panel Nameplate Data [NFPA 70, Article 670.3(A)]

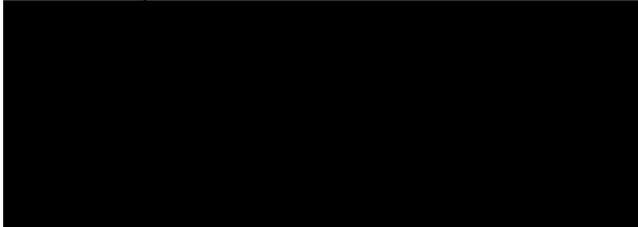
The nameplate must be attached to the control equipment enclosure or machine with the following information



- The nameplate was not accurate since the short circuit rating of 5 kA did not align with the equipment installed within the cabinet. It was observed that the manufacturer confirmed 65 kAIC was appropriate & the new nameplate was affixed to the machine

Remote Control Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



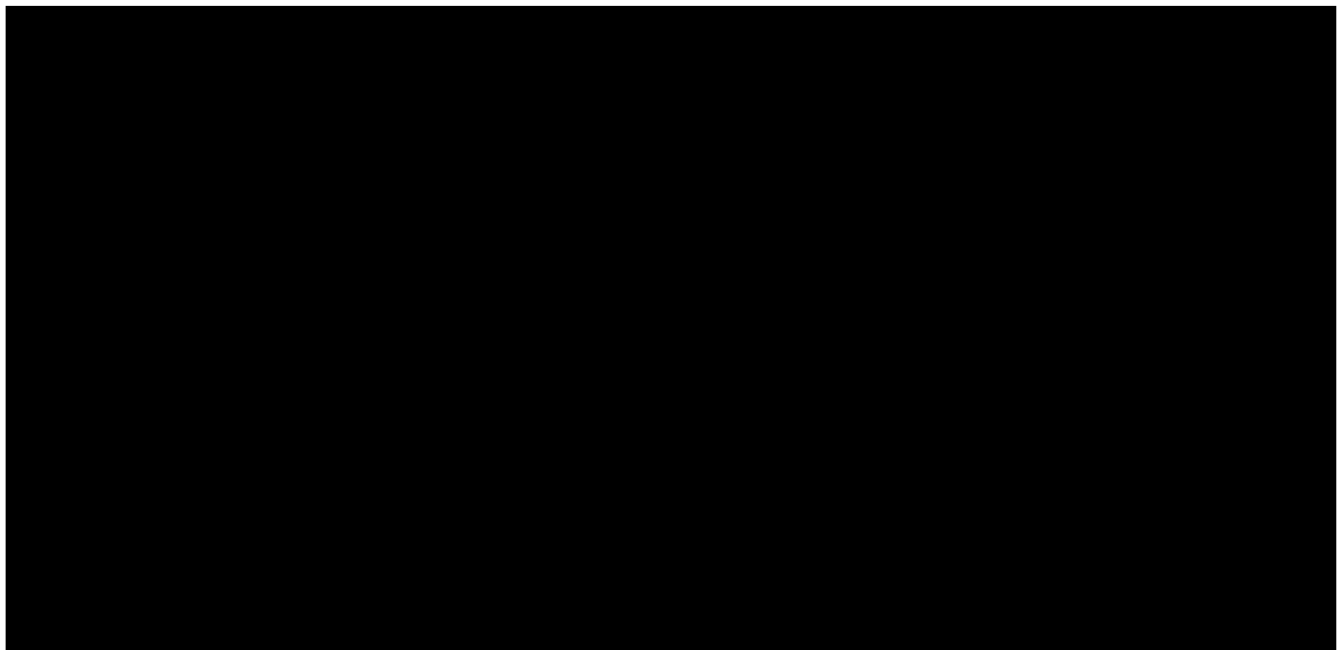


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The supply conductors are (2 sets) of 3/C #3/0 CU conductors, which the parallel set is rated for 400A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 284.04A & the conductors are rated more than this.



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a rotary disconnect on the door & is compliant with NEC 670



Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

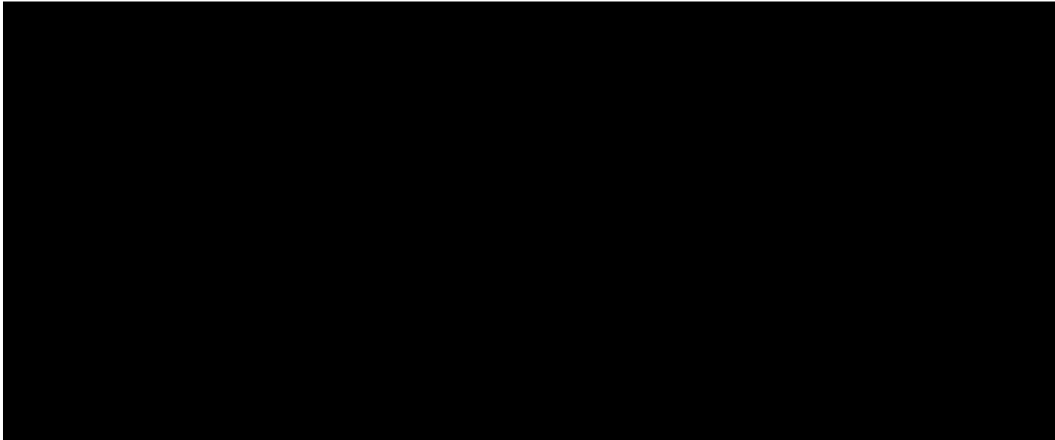
- The upstream circuit breaker was observed to be an adjustable trip circuit breaker with the long setting at 400A/3P and 460V. This was corrected to 300A to be compliant with NEC/NFPA 79



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The maximum fault current was approximated to be 23.8 kA from the utility TX secondary down to the line terminals on the freezer panel. The panel's nameplate rating shows 65 kAIC, so this is compliant with NFPA 79.



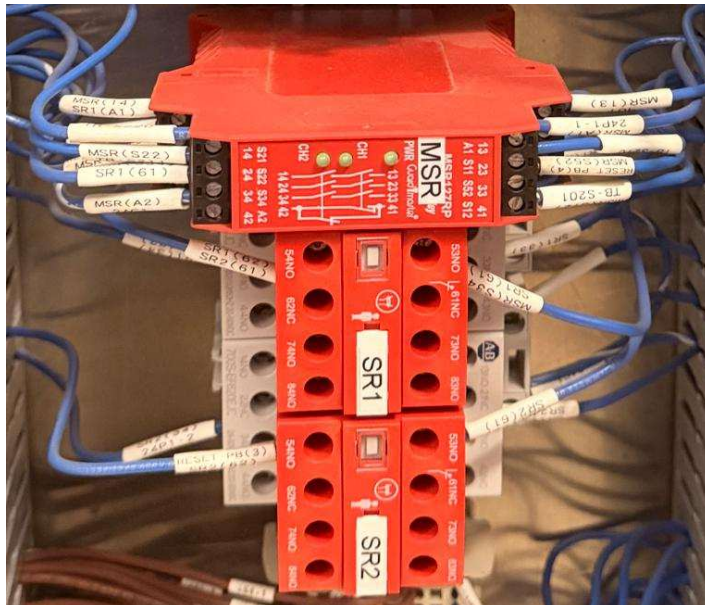
Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from dedicated safety relays. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



Rated overload protection	110 % - 140 %
Output short circuit (U_o, I_{oN})	Current limited (fold forward)
Ripple & noise ($U_o, I_{oN}, BW = 20 \text{ MHz}$)	<100 mV _{ss}
Operation indicator for	Display range
Output voltage OK (U_i, I_{oN})	"DC OK", LED green ($U_o = 17.6 \dots 19.4 \text{ V}$)
Output voltage too low (U_i, I_{oN})	"DC LOW", LED red ($U_o < 17.6 \dots 19.4 \text{ V}$)
Parallel operation ($0.9 I_{oN}$)	yes, max. 3 devices
Derating ($56^\circ \text{C} \dots 71^\circ \text{C}$)	2.5 % / K (see Fig. 1 Derating)
Overvoltage protection (U_o, I_{oN})	125 % ... 137.5 %



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in enclosures that are rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above for NFPA 79 information

Disconnecting Means

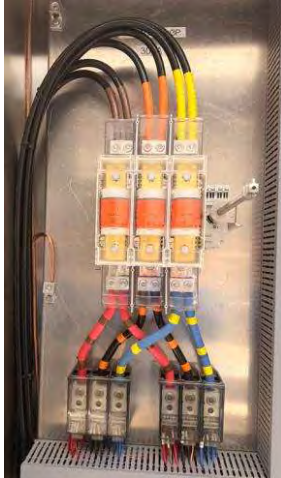
The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above for NFPA 79 information

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

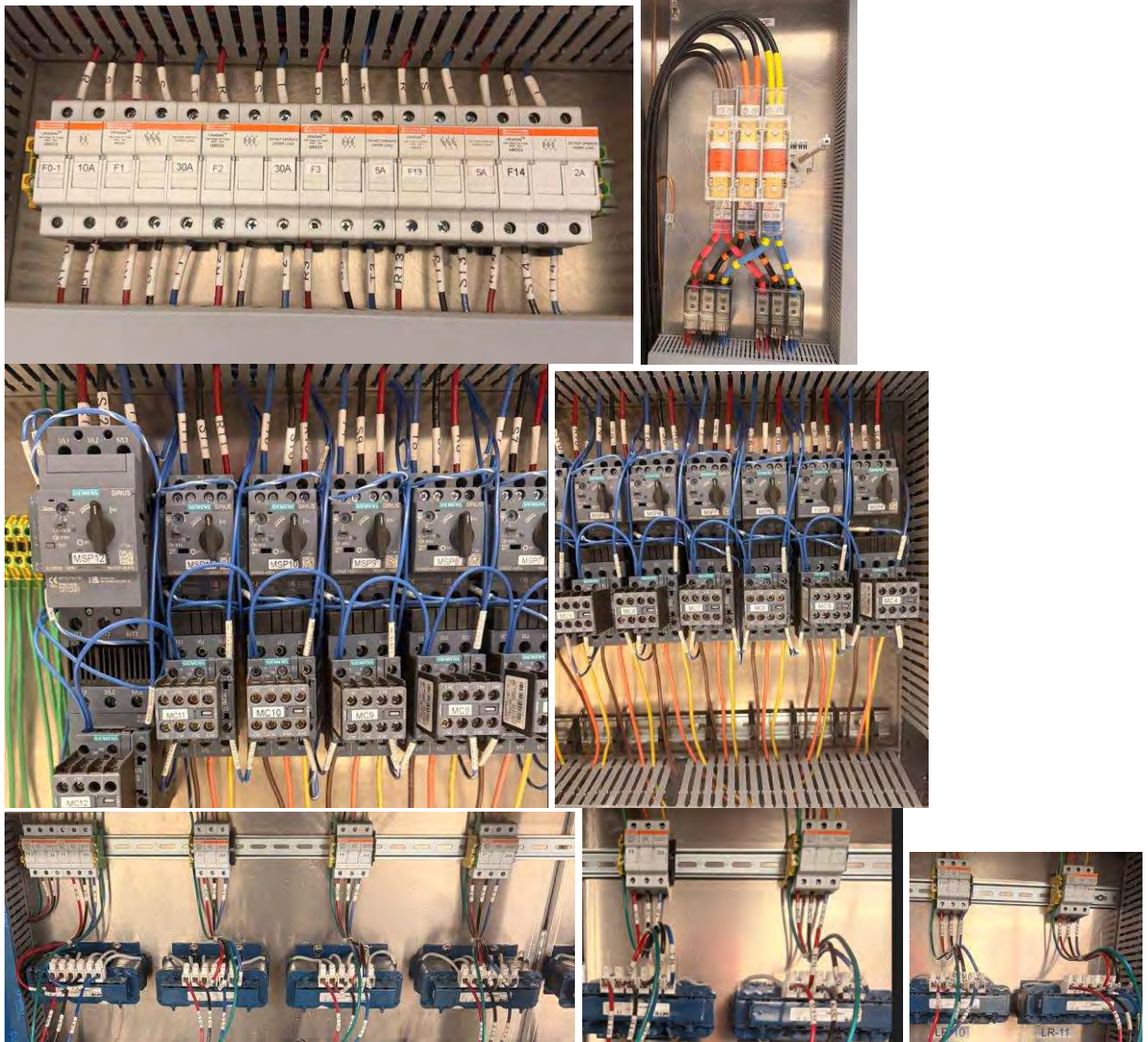
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

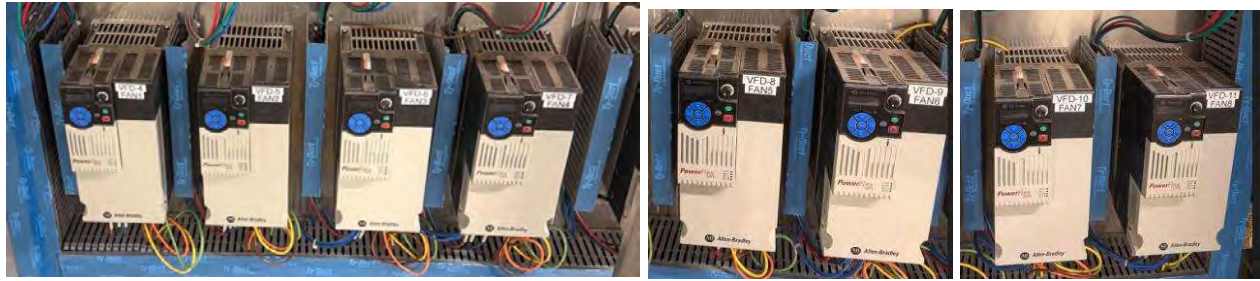
The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
-
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below
 - MSP12 MCP was set at 32A & the FLA on the motor was 28A. This is appropriate
 - MSP11 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP10 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP9 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP8 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP7 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP6 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP5 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate
 - MSP4 MCP was set at 28A & the FLA on the motor was 23.53A. This is appropriate



- The machine has appropriate speed / phase protection on the motors that have VFDs



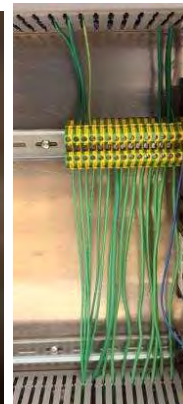


Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The main power / control enclosure was observed to be compliant with NFPA 79 and had the word GROUND at the main bonding point. The doors were missing the ground bond symbol, but they were bonded appropriately. This was corrected after the initial evaluation.



- It was observed that the panels were missing the door bonds / ground symbols in most instances. These were corrected after the initial evaluation



Control Circuits & Control Functions

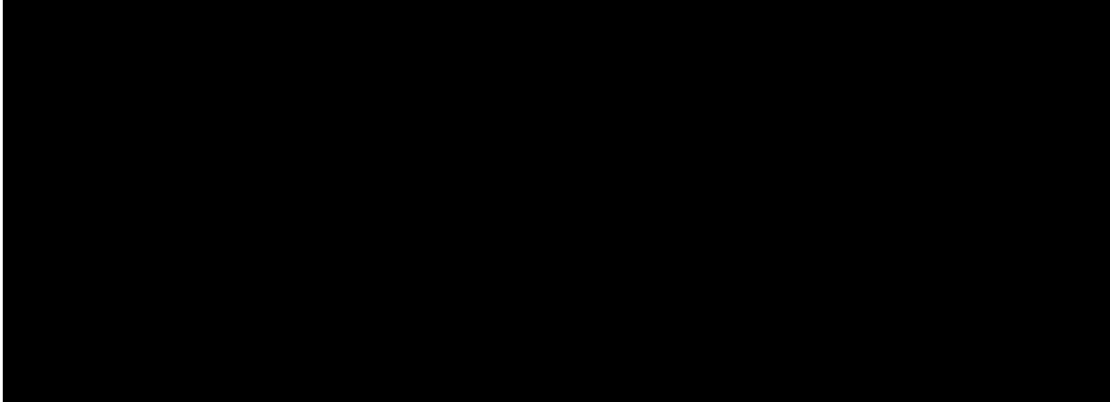
The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

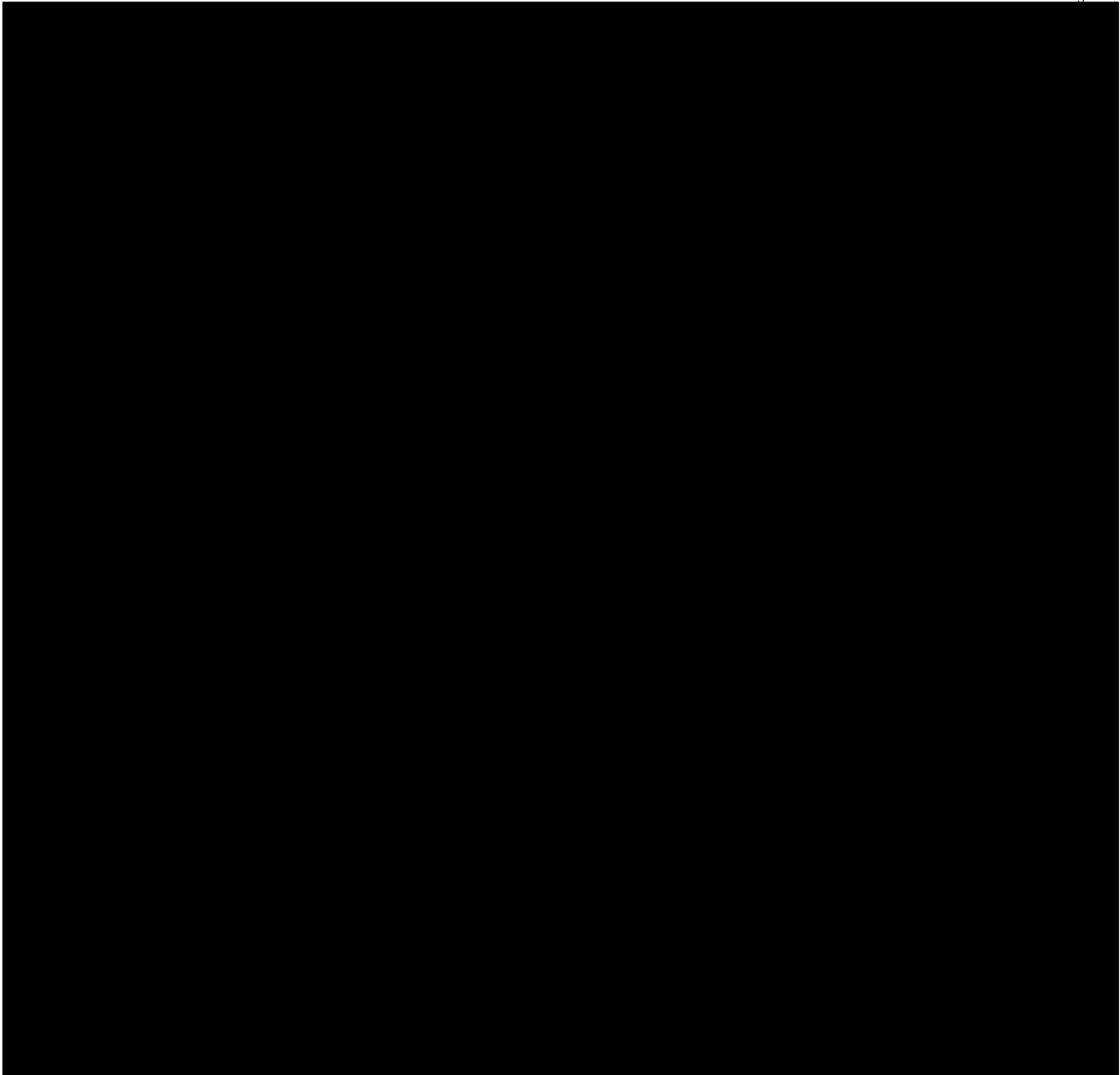
- **Start or Normal Conditions** (Green but Black, White, or Gray)
 - **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
 - **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
 - **Abnormal Conditions** (Yellow or Amber)
 - **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
 - **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
 - **Mandatory Conditions** (Blue)
 - **Neutral Conditions** (White)
-
- E-stop, Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79

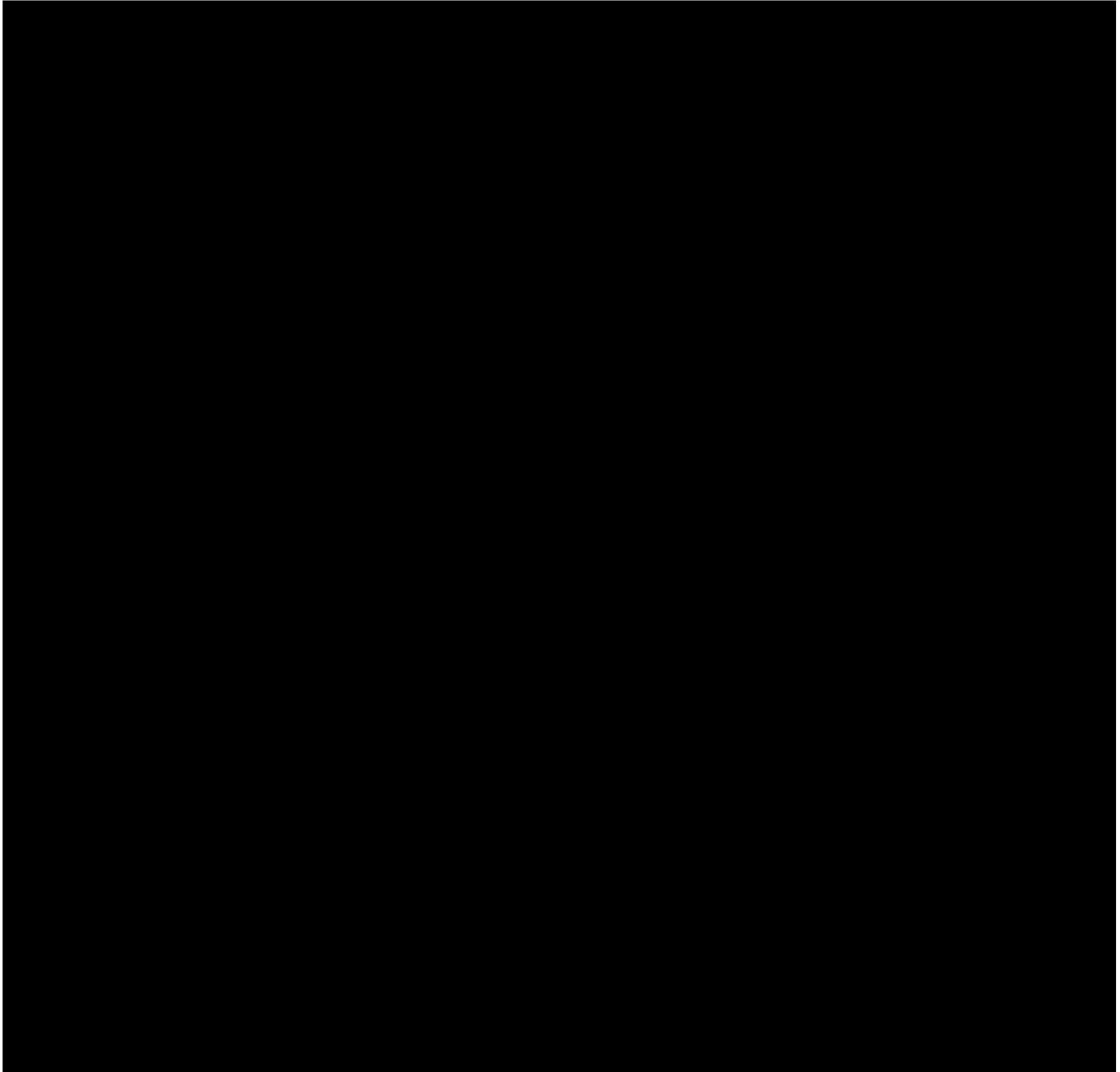


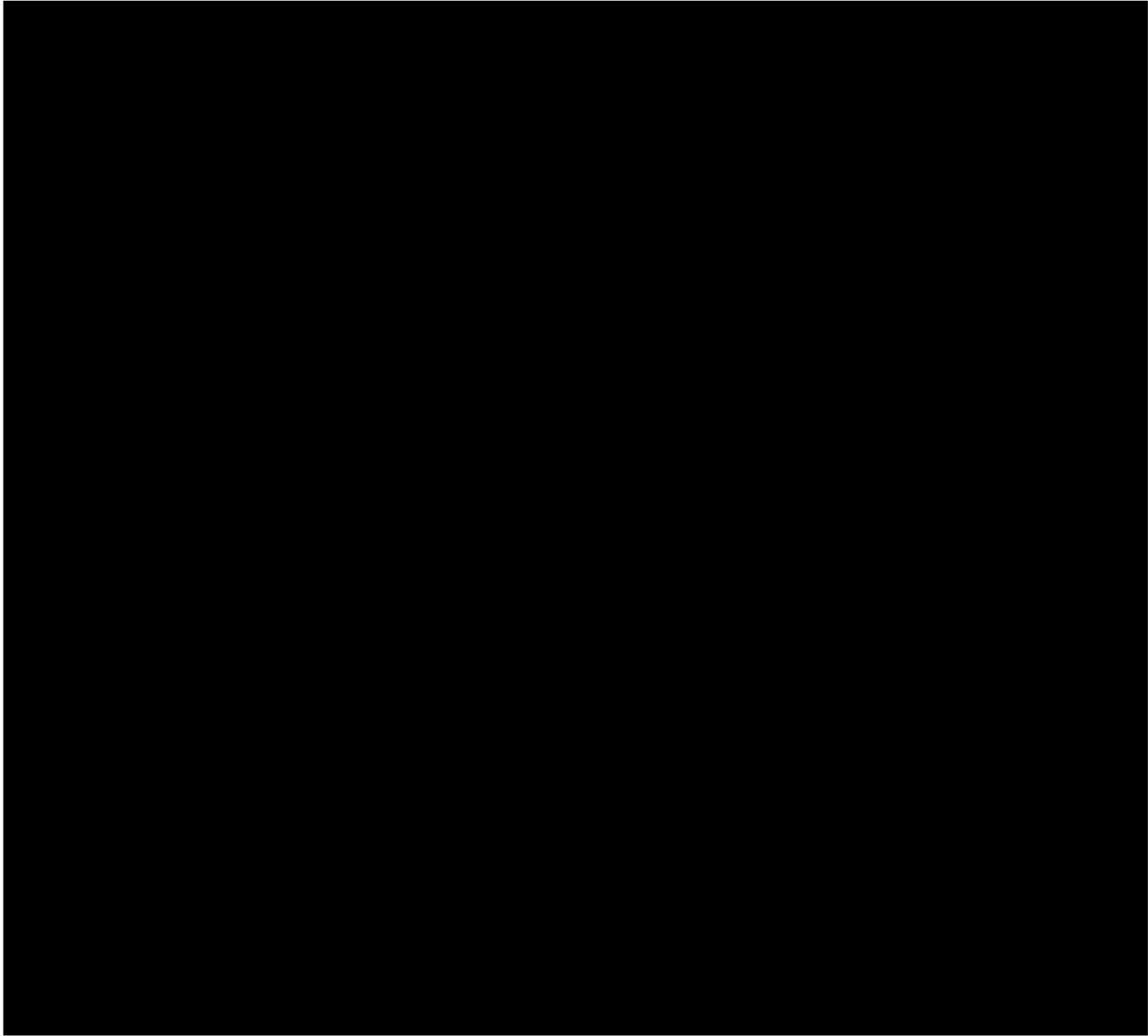
Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79







- It was observed that one of the electrical junction boxes was missing a stainless steel screw on its cover. This was corrected after the initial evaluation

_ Conductors, Cables, and Flexible Cords

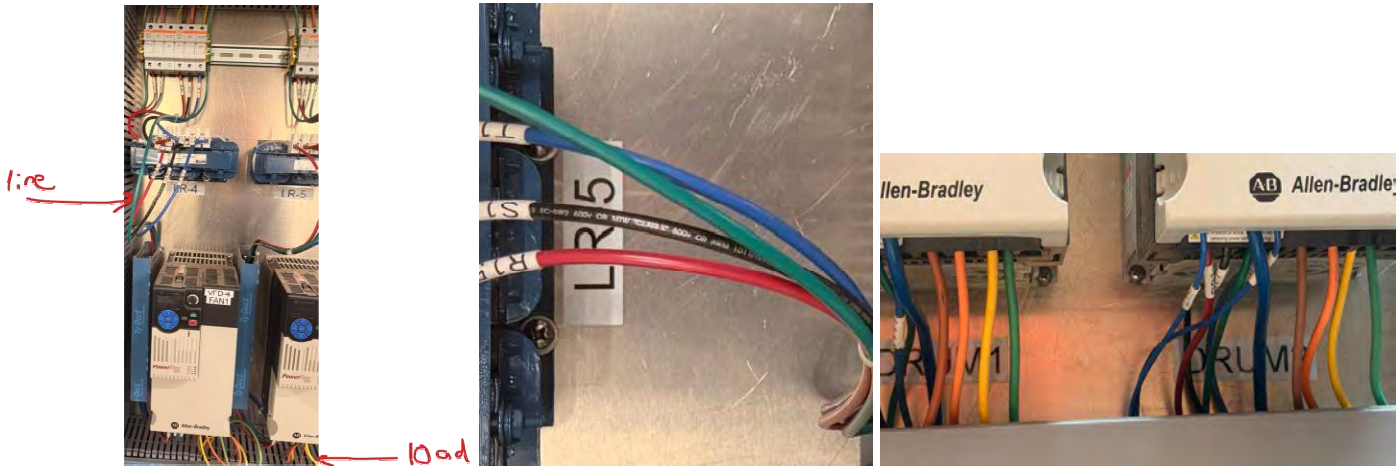
All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes were observed to be compliant with NFPA 79

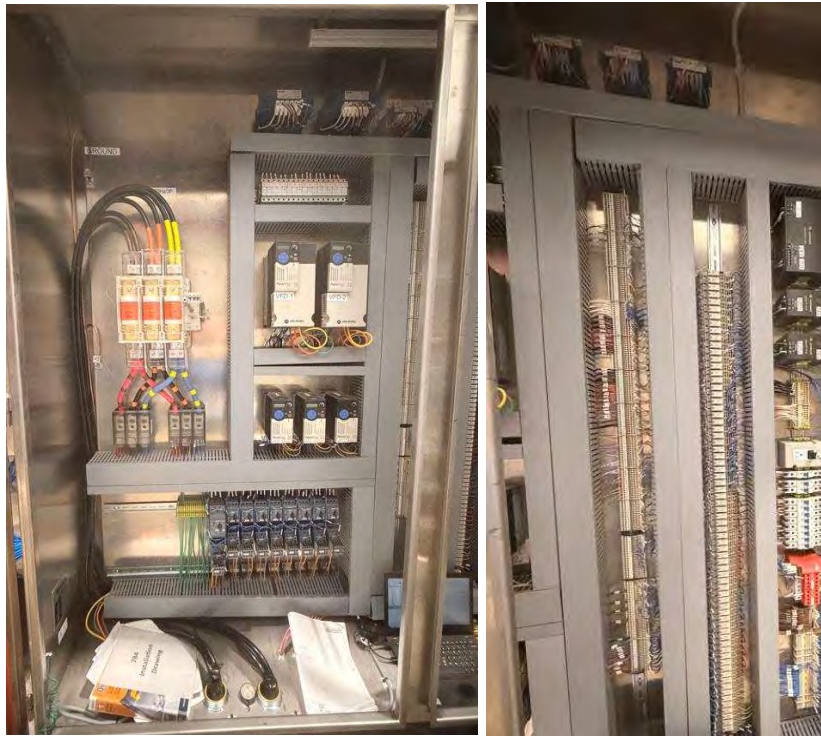
- It was observed that all VFDs had load wire that was not compliant with NFPA 79. NFPA 79 4.4.28 requires that conductors must be identified for use with adjustable speed drive systems.
 - The line conductors are 600V rated MTW. This is okay on the line side
 - The load conductors were observed to be THHN / non-shielded. This was corrected after the initial evaluation & replaced with insulation rated for 1000V



Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

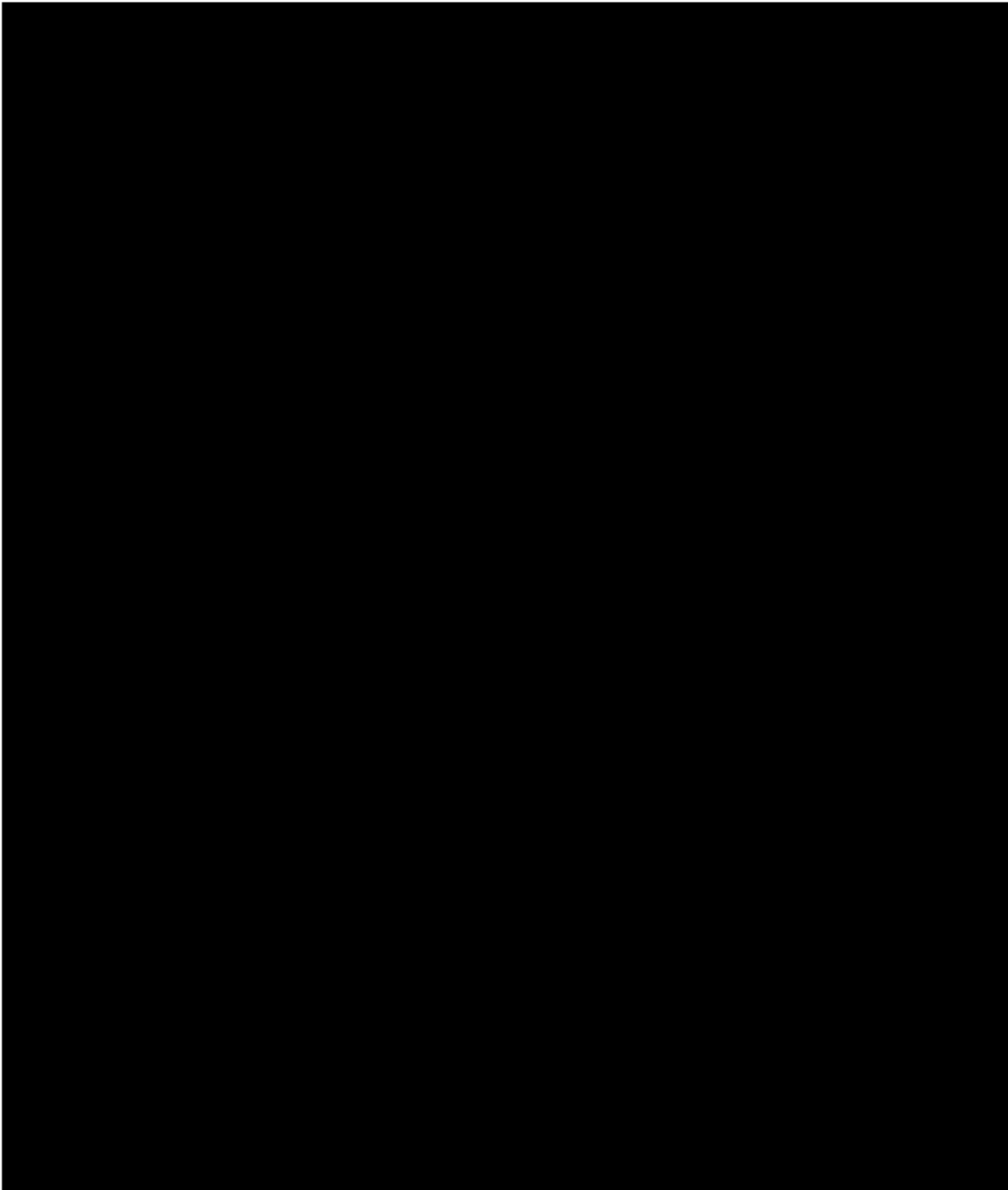
- The wire within the main power/control enclosure was observed to be compliant with NFPA 79 & it was secured well.



- The wire within the small control enclosure was observed to be compliant with NFPA 79 & it was secured well.



- The wire within the freezer was observed to be compliant with NFPA 79 & it was secured well.



- It was observed that a penetration into the enclosure was not done per NEC Article 300s and NFPA 79. This was corrected after the initial evaluation.



- It was observed that wire insulation was stripped back too far & there was exposed conductors on some of the terminations. This was corrected after the initial evaluation
- It was observed that multiple wires were landed on devices that appeared not to be rated for 2 wire terminations. This was corrected after the initial evaluation
- It was observed that the connector for the dough ball line / freezer tie in appeared to have silicone around it & wasn't rated for the environment. This was corrected after the initial evaluation

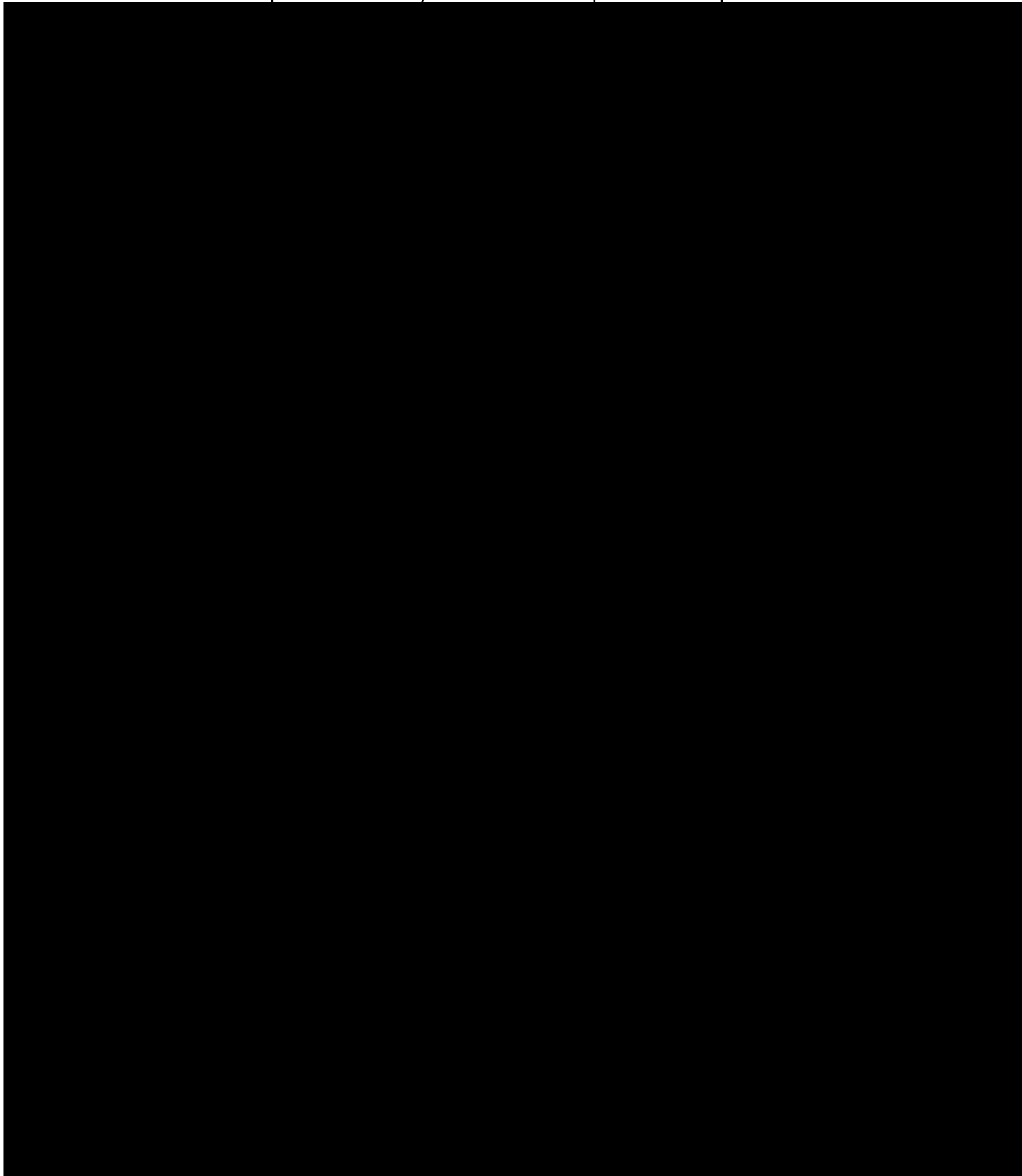


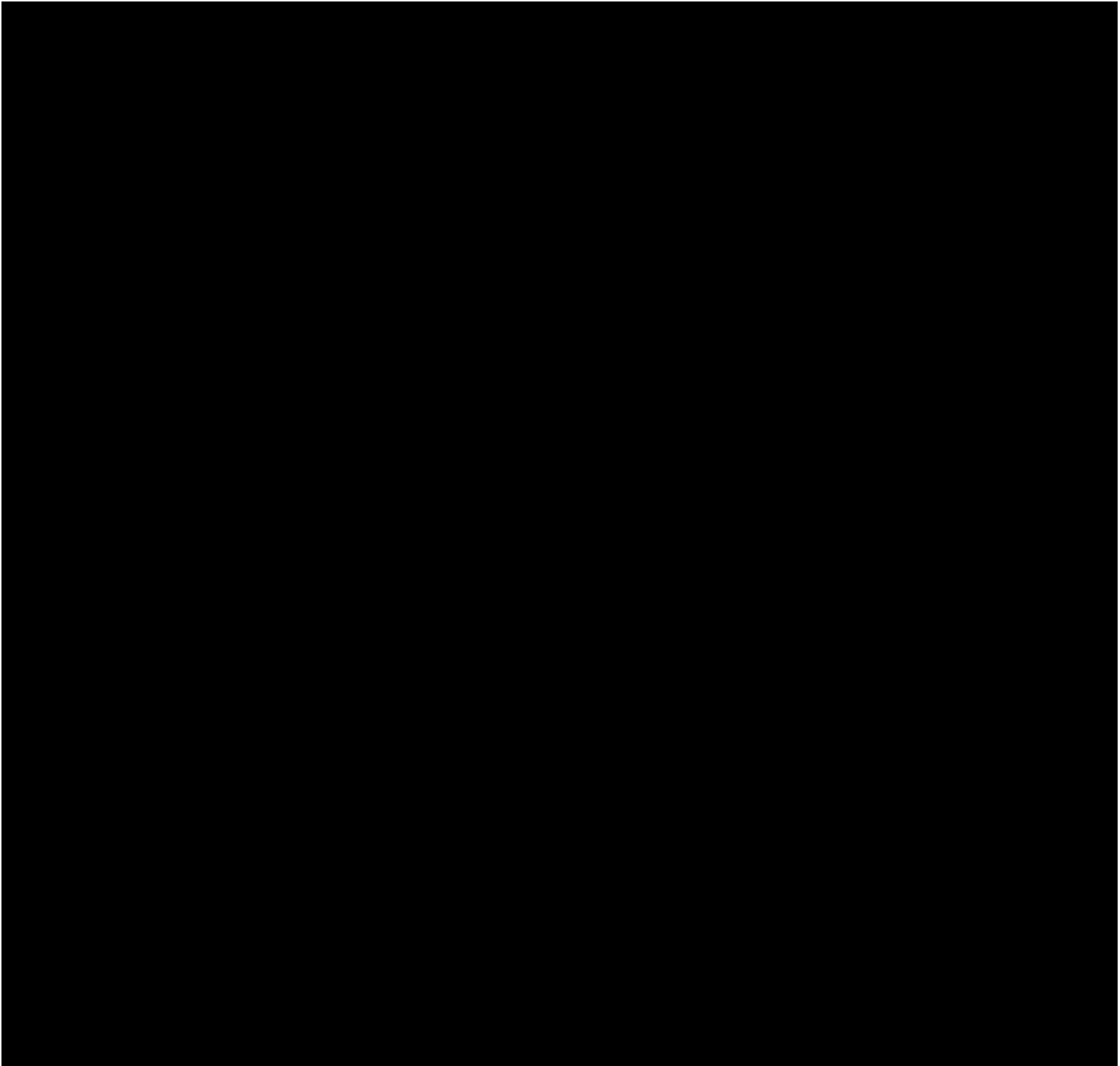
- It was observed that some of the PVC junction boxes did not have plugs on the unused entries. This was corrected after the initial evaluation
- It was observed that there were non-terminated/exposed wires in the fan enclosure on top of the freezer. This was corrected after the initial evaluation

Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79





Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

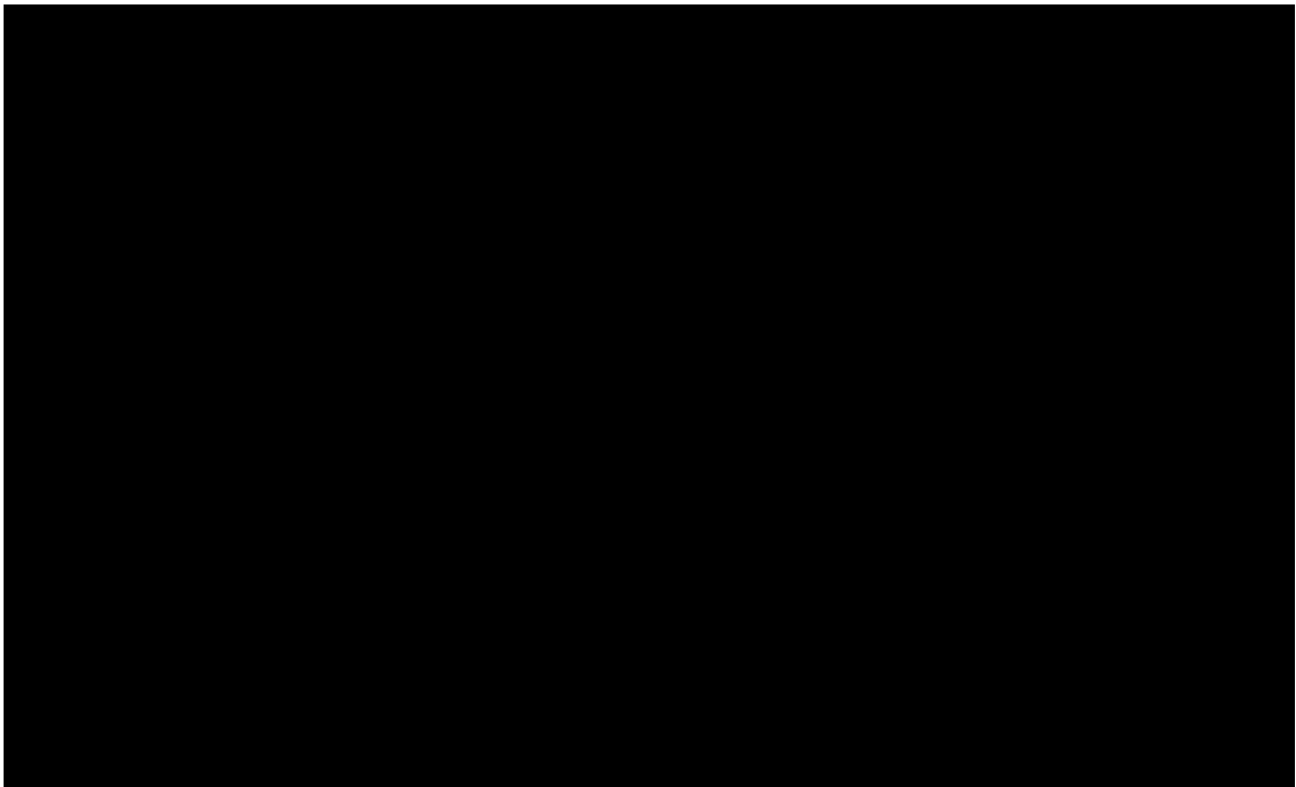
- Receptacles were not observed on the machine, so this is not applicable



Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards
- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC



- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

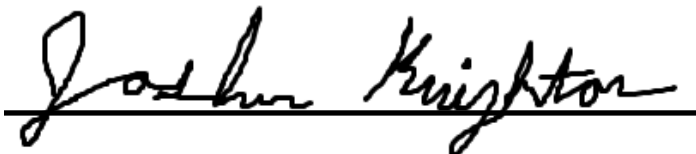
- Technical documentation was observed within the main enclosure while evaluating the machine.



NFPA 79 Compliance Result:

- PASS
 FAIL
 Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

March 9, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC & NFPA 79	The Panel's nameplate shows 5 kA. This is below the maximum short circuit available at the panel	YES – coordinate with the vendor and confirm if 5kA is right or not. If it's not right, the vendor shall affix a new nameplate that shows a SCCR above the maximum available fault current at the line terminals of the panel Corrected March 2026
2	NEC & NFPA 79	It was observed that a penetration into the enclosure was not done per NEC Article 300s and NFPA 79. This installation does not protect the conductors from damage.	YES – It shall be corrected by installing a protective bushing on the conduit penetration into the enclosure, installing a rubber grommet, or another UL-listed / NEC compliant method to enter the enclosure so the conductors aren't subject to damage Corrected March 2026
3	NEC & NFPA 79	It was observed that multiple wires were landed on devices that appeared not to be rated for 2 wire terminations	YES - A double wire crimp ferrule should be utilized in instances like this to ensure the termination is compliant / rated for the device Corrected March 2026
4	NEC & NFPA 79	It was observed that wire insulation was stripped back too far & there was exposed conductors on some of the terminations. This shall be corrected to prevent faults / shock hazards	YES – the exposed conductor should be trimmed & re-terminated so conductors are not exposed on any termination Corrected March 2026
5	NEC & NFPA 79	It was observed that the connector for the dough ball line / freezer tie in appeared to have silicone around it & wasn't rated for the environment. Confirm onsite that these are the right cord grips & connectors for the plug + motor. If they're not for this application, they should be replaced with appropriate connectors	YES – Upon verification, if the connectors are not suitable for this application, they shall be replaced with appropriate connectors Corrected March 2026
6	NEC & NFPA 79	It was observed that one of the electrical junction boxes was missing a stainless steel screw on its cover. This could allow water / frost to accumulate inside. The screw shall be installed, and if the threads are	YES – The screw shall be installed, and if the threads are stripped, it shall be rethreaded Corrected March 2026

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
		stripped, it shall be rethreaded or replaced, so the cover is able to have all (4) screws installed	
7	NFPA 79 4.4.2.8	VFD load conductors were observed to be THHN type conductors and this is a code violation per NFPA 79 since THHN is not rated for 1000V, does not have EMI shielding, and can heat up / melt over time in this application	YES – all VFD load conductors need to be rated for VFD use, have minimum insulation rating up to 1000V to fully handle the voltage spikes within the VFD conversion, and have necessary shielding for the EMI created from the VFD Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

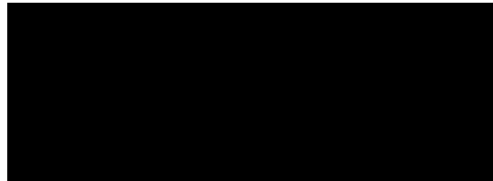
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060028



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-05
1.0	After Corrections - PASSED	2026-03-28

Muth Power Solutions

Summary:

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 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060028**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)



Applicable Construction Requirements of NFPA 70, Article 670:

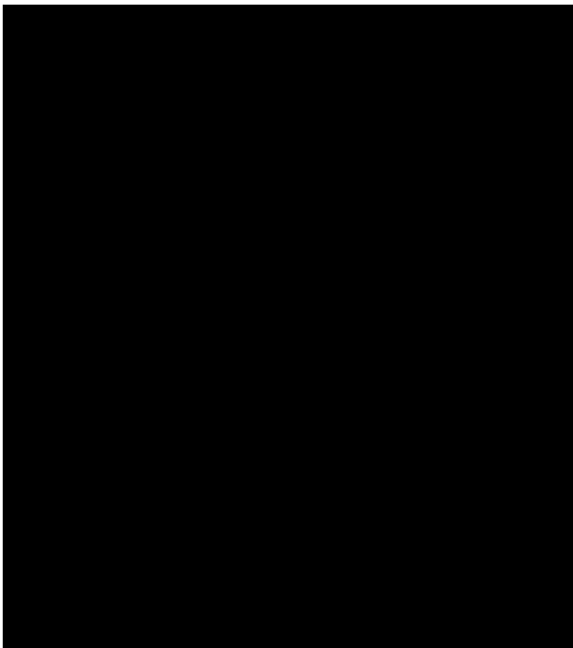
Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480V/277V (Solidly Grounded Wye Source)**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **125 FLA**
- Short Circuit Current Rating: **65 KAIC**
- Largest Motor or Load: **7.2A**
- Electrical Drawing Number: **23161- OLM**





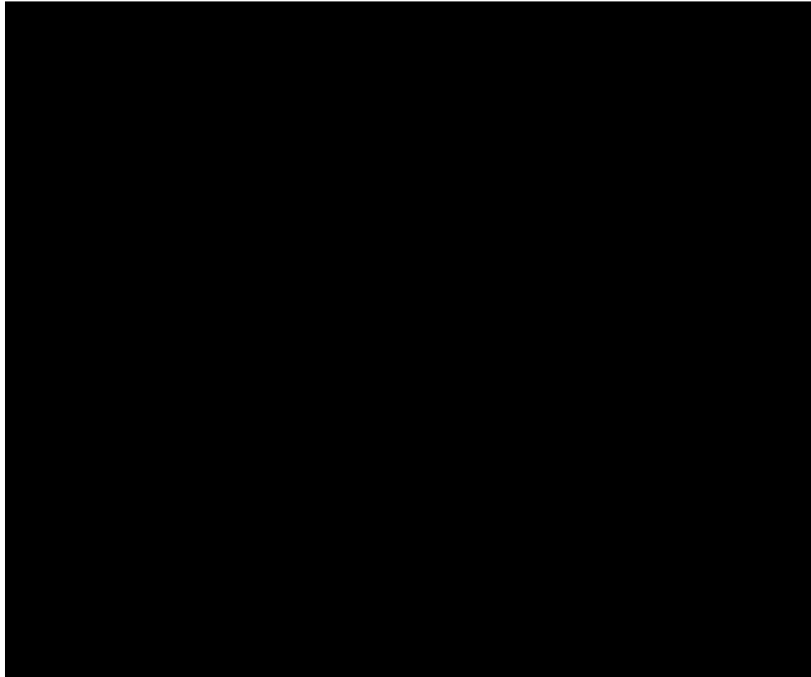
Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The supply conductors are (3) #1 CU conductors, which are rated for 130A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 117A & the conductors are rated more than this.





Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has (2) flanged disconnects on the door & is compliant with NEC 670

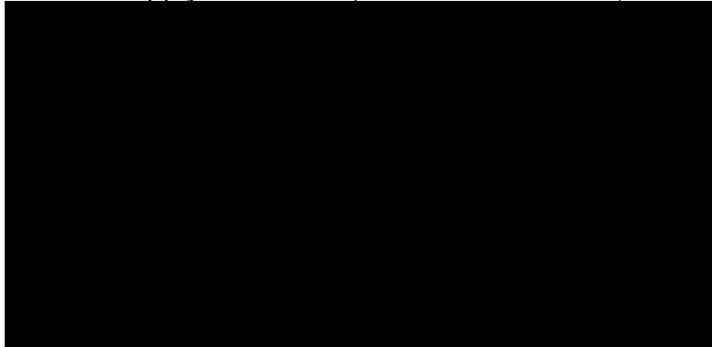


Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

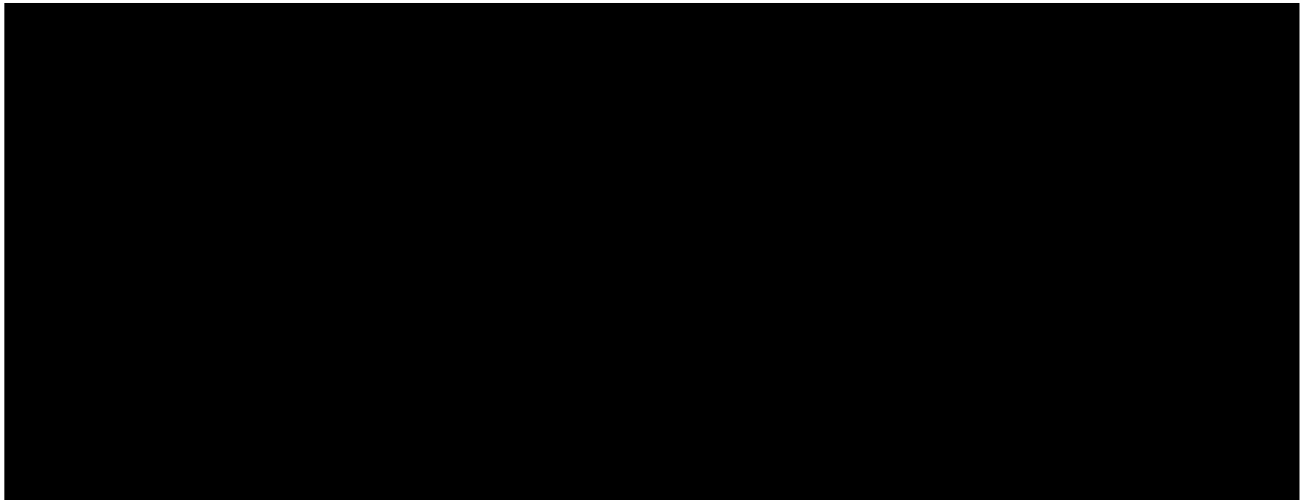
- The upstream circuit breaker was observed to be 125A/3P and 460V. Per the above calculation done with the supply conductors, this results in 117A, which 125A is appropriate for this machine.



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The maximum fault current was approximated to be 12.7 kA from the utility TX secondary down to the line terminals on the panel. The panel is rated for 65 kAIC, so this is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from SICK safety relays. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)



Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

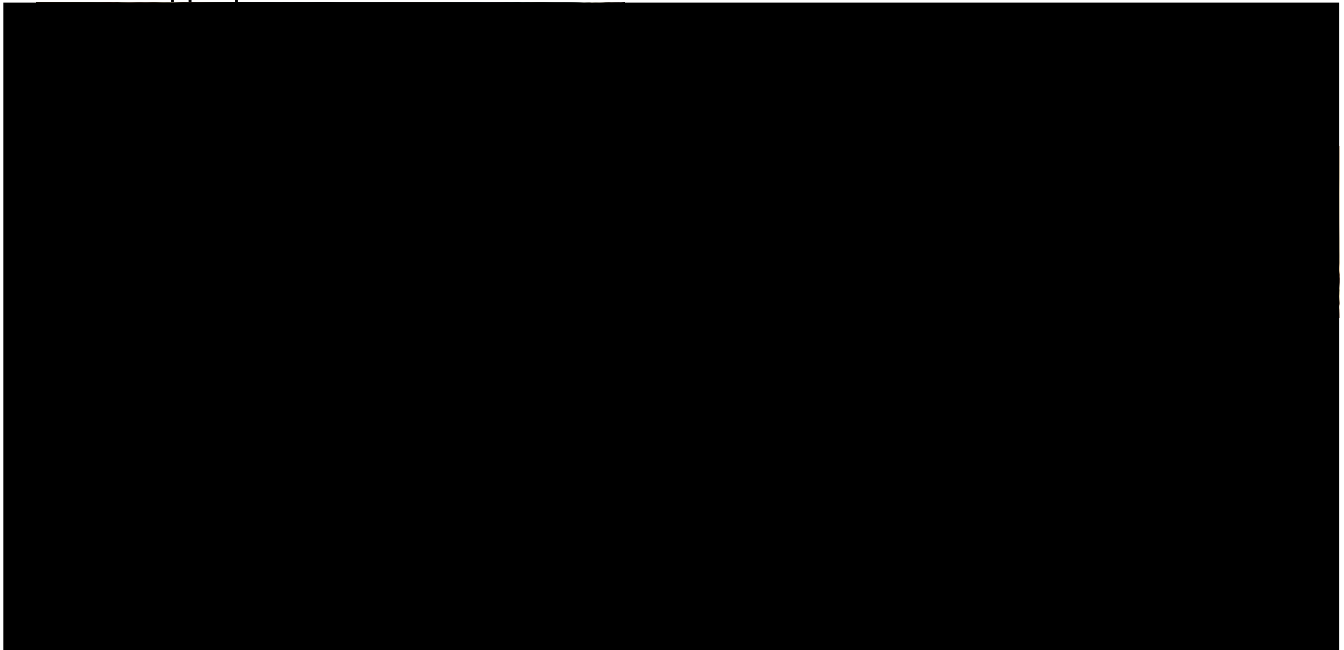
The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

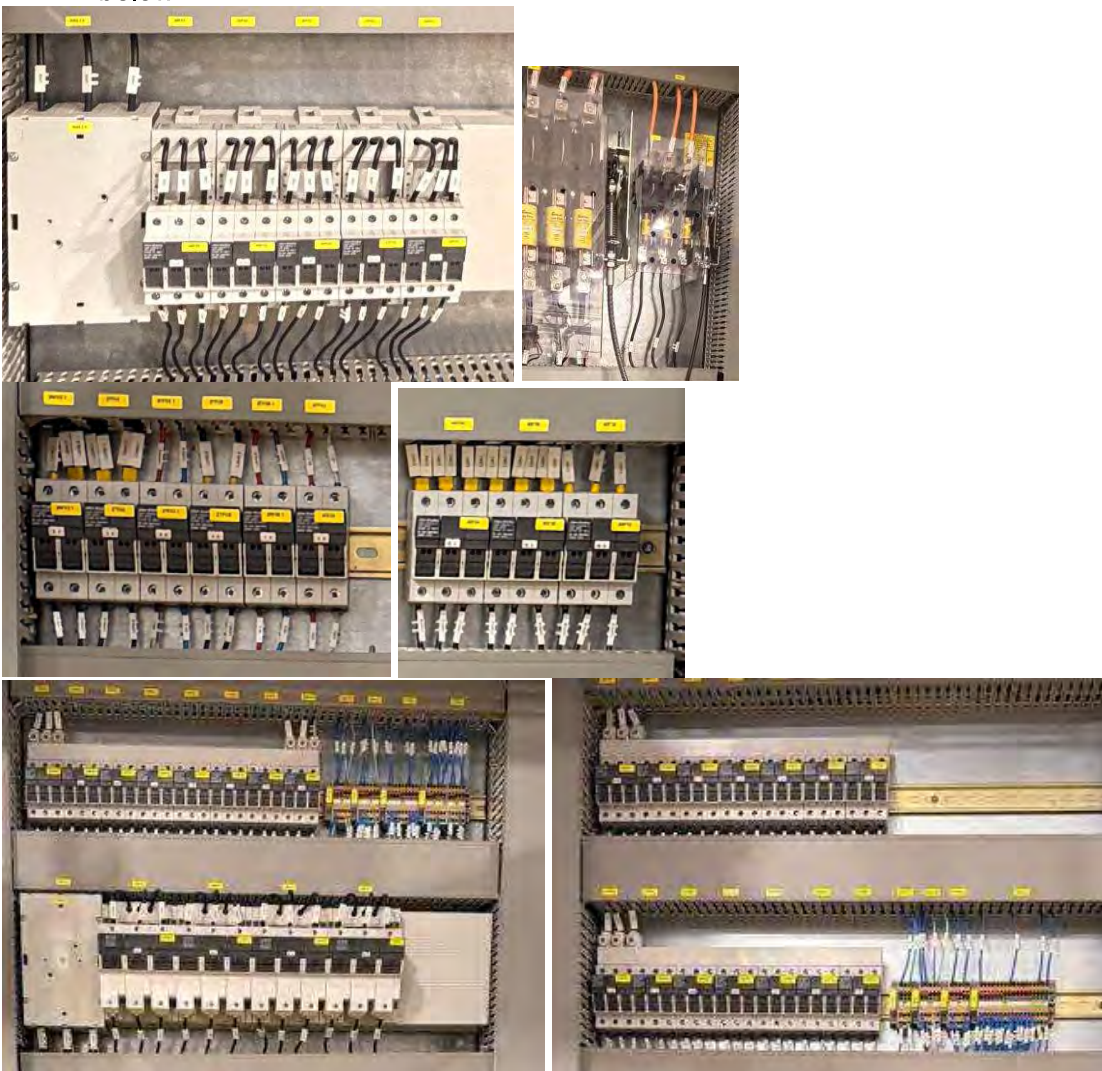
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below



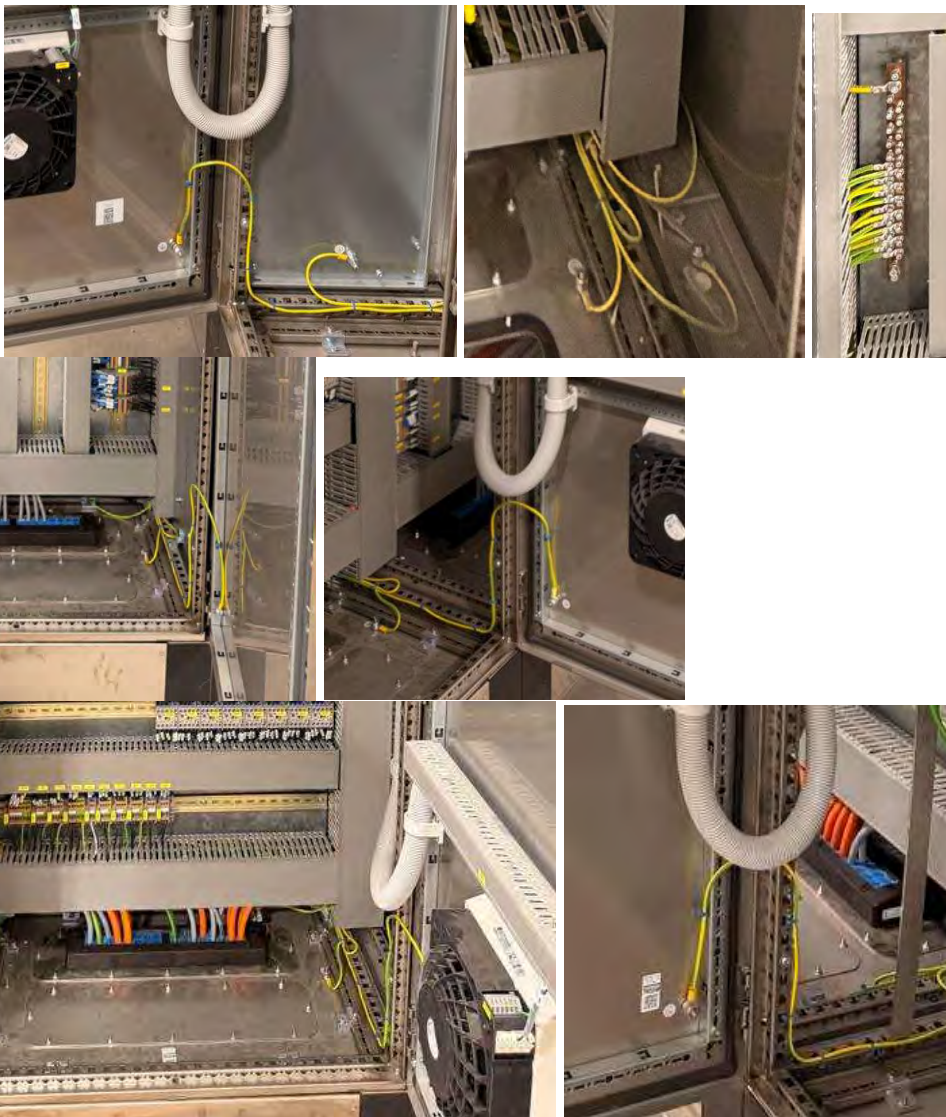
- The machine has appropriate speed / phase protection on the motors that have VFDs

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels have appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.





- HMI / small enclosures did not have ground symbols next to door bonds. This is required per NFPA 79, and they were added in March 2026 so the installation is compliant now



- Some of the bushed conduits used for transitions to/from cable tray are not clear if they're bonded to the metallic tray since the conduit supports/anchors appear to be non-metallic. All of the bushed conduits were verified in March 2026 to be bonded to the cable tray or tray supports & are compliant with NFPA 79 / NEC.

Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

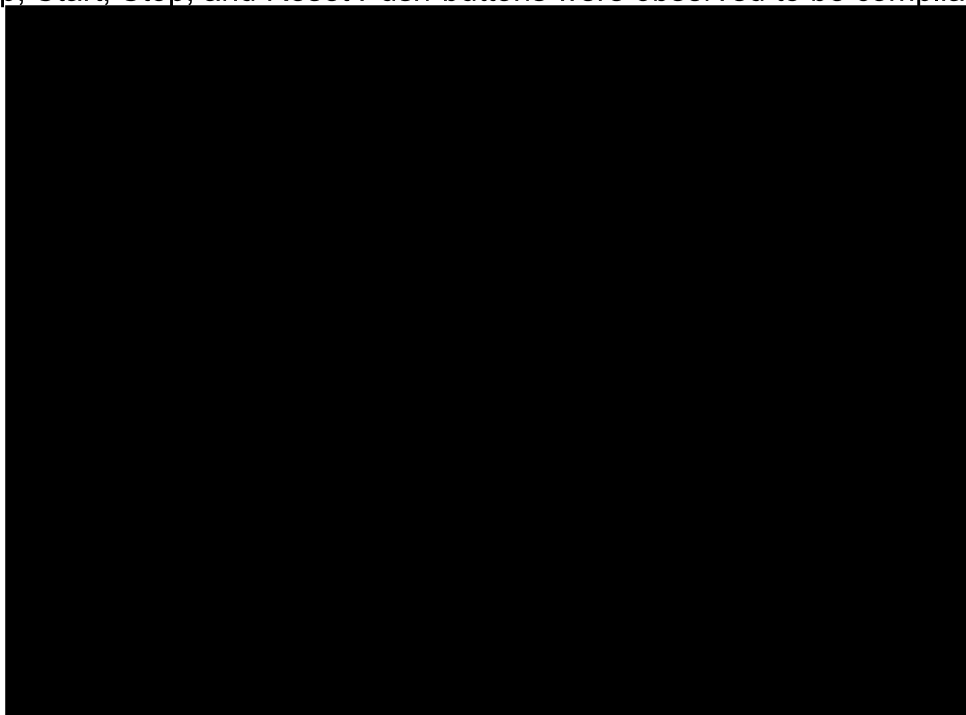
- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)

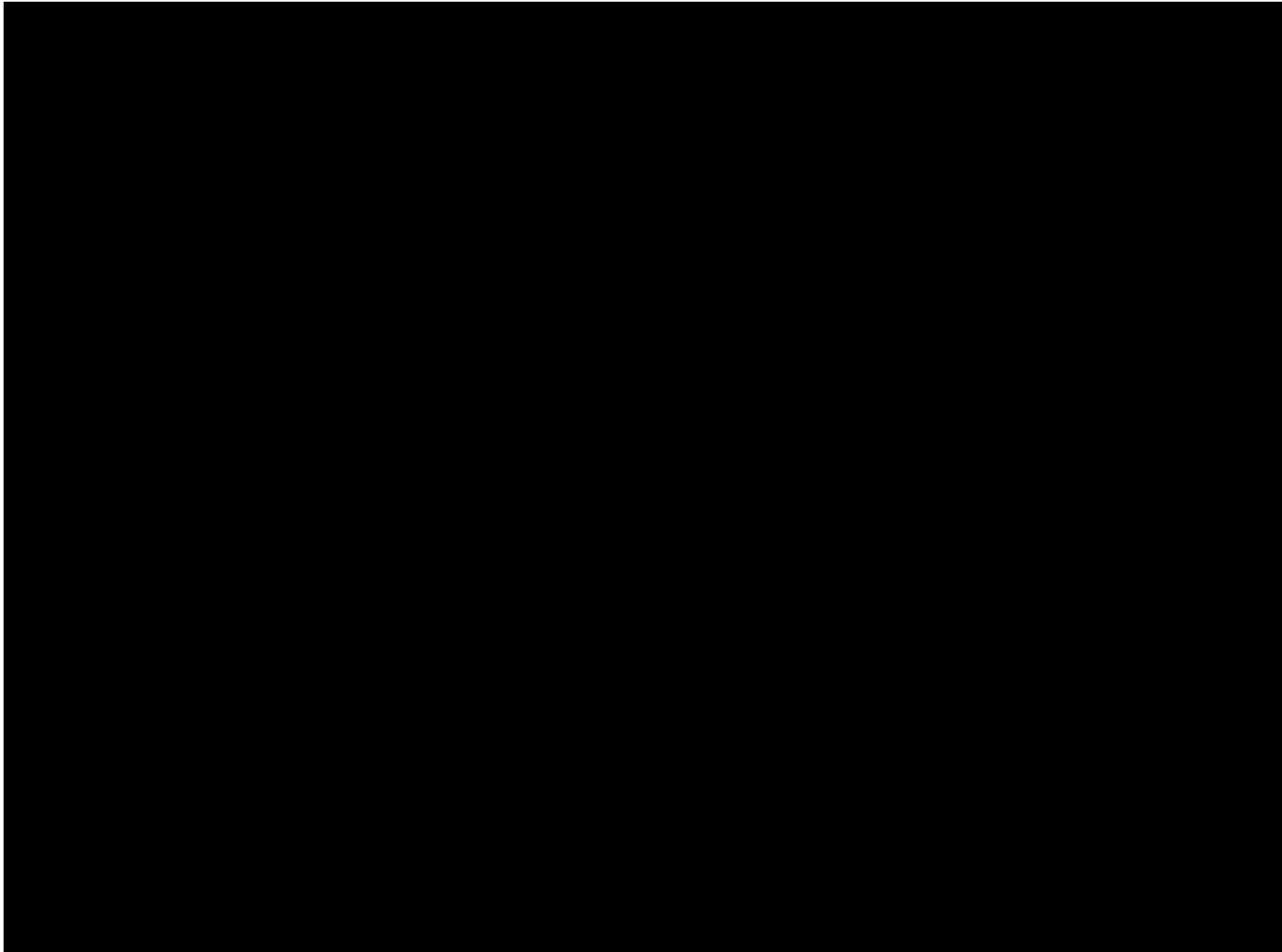
- E-stop, Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79

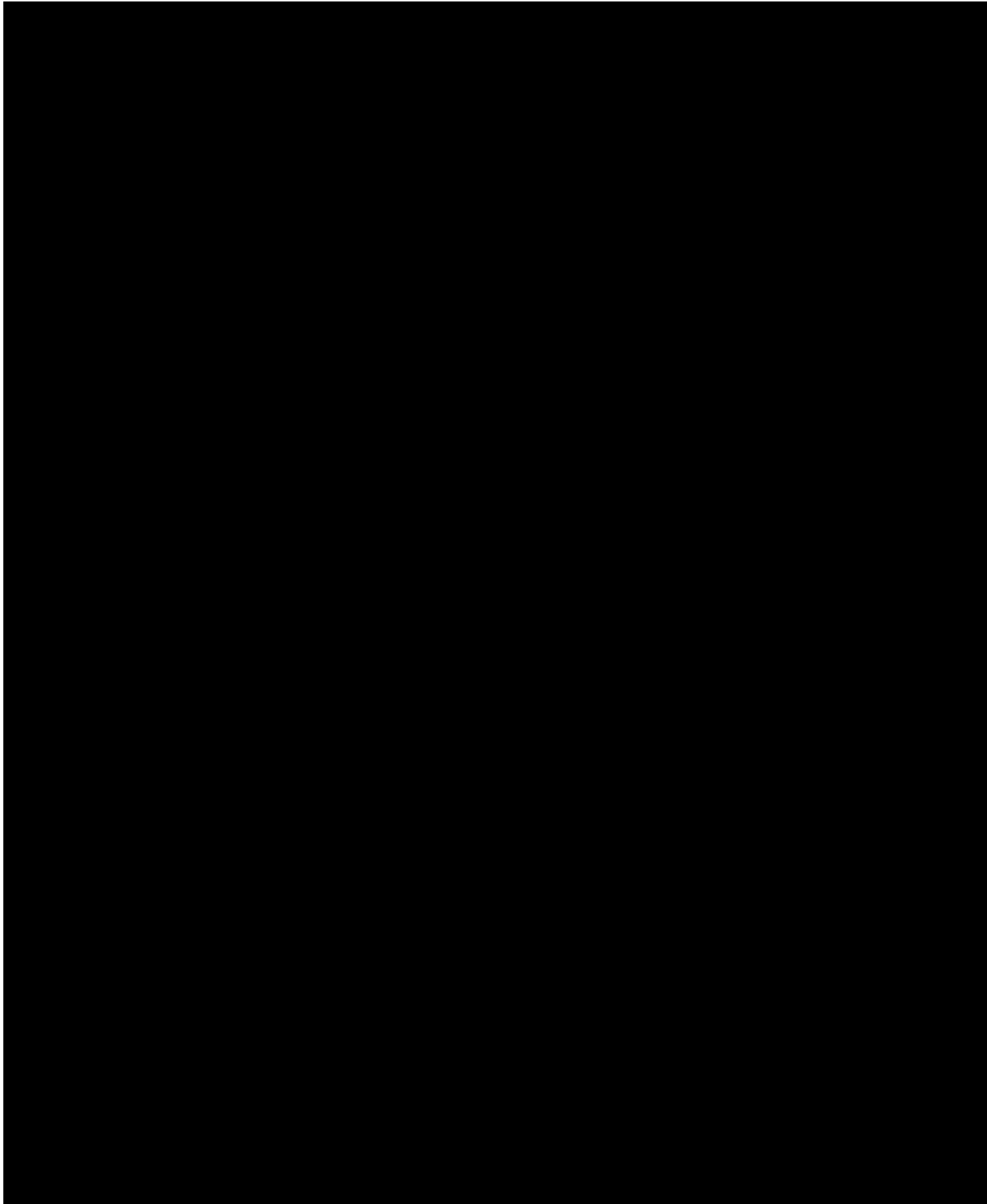


Control Equipment: Location, Mounting, and Enclosures

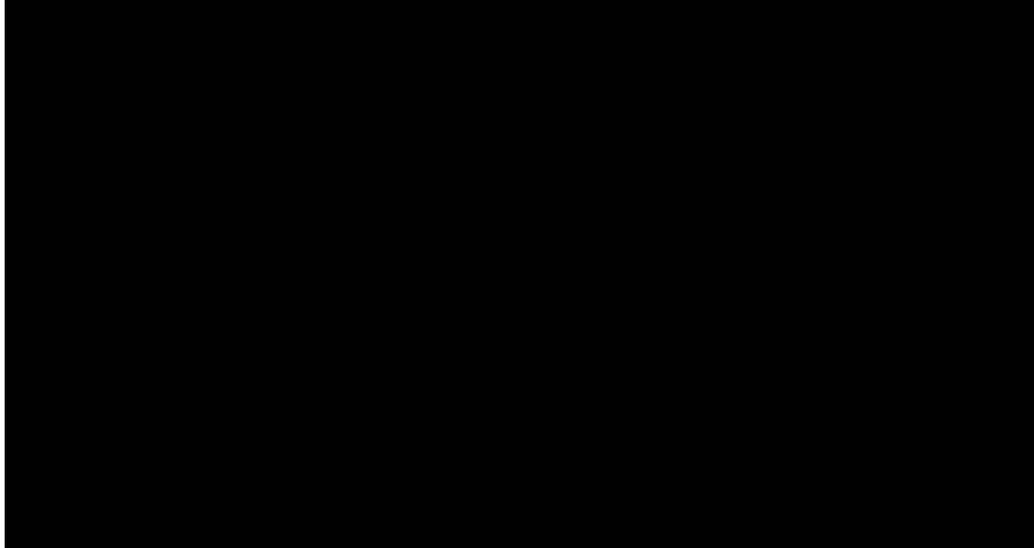
All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- Most of the hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79





- It was observed that hoses were routed in the same basket tray as the electrical cables. The hoses were pulled out of the basket tray & installed on the outside of the tray, so this is compliant with NEC 300.8 & NFPA 79 now



- It was observed that hoses & electrical cables were not supported adequately per NEC and NFPA 79. The cable grips / cables must be supported within 12" of connecting to the enclosure. This was all corrected in March 2026 & is compliant with NFPA 79 now

Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

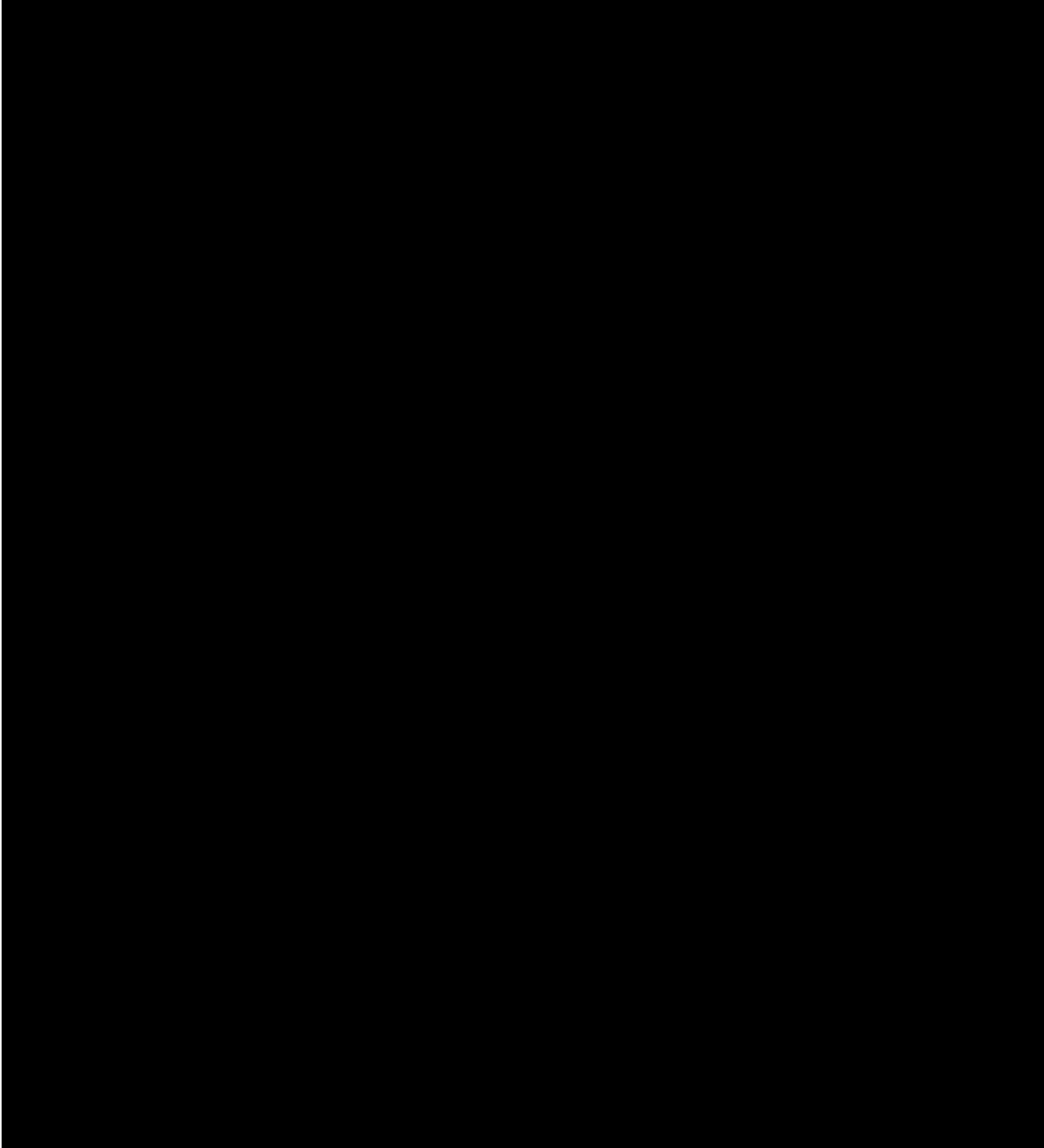
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire within the enclosures was observed to be compliant with NFPA 79 and they were installed in a professional manner

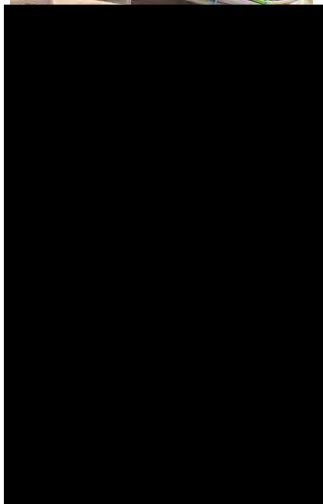




- Cable insulation should extend fully into the cord grip connector, so the rubber gasket seals the entry from water. It was observed initially that the shield was allowed outside the sealing gasket / was making contact with the cable's insulation. This is not per MFG's installation instructions and it violates the NEC since the metal shield conductors could cut the insulation over time due to vibration / wear & tear. All of these instances were corrected in March 2026

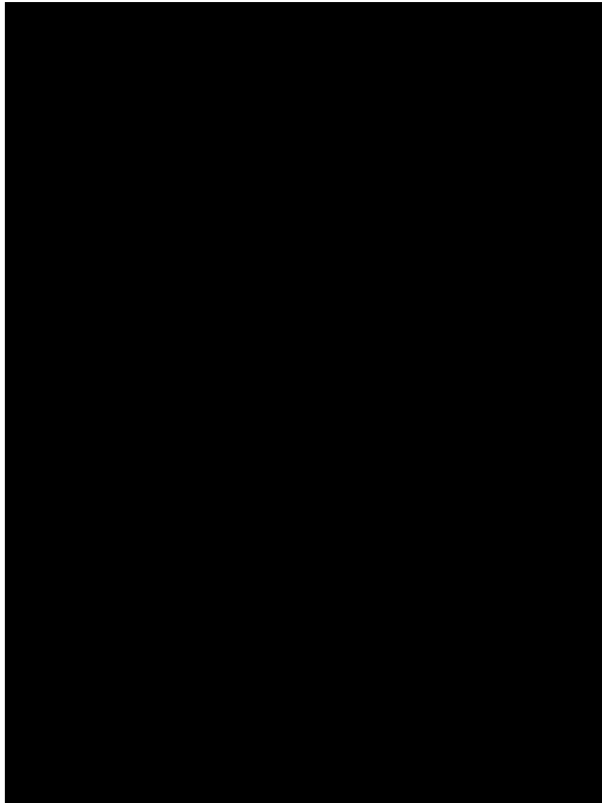


- It was observed that unused cable grips were present on various enclosures within the machine. It was not clear if these will prevent water from entering the machine. The cable grips were corrected in March 2026 & is compliant with NFPA 79 now





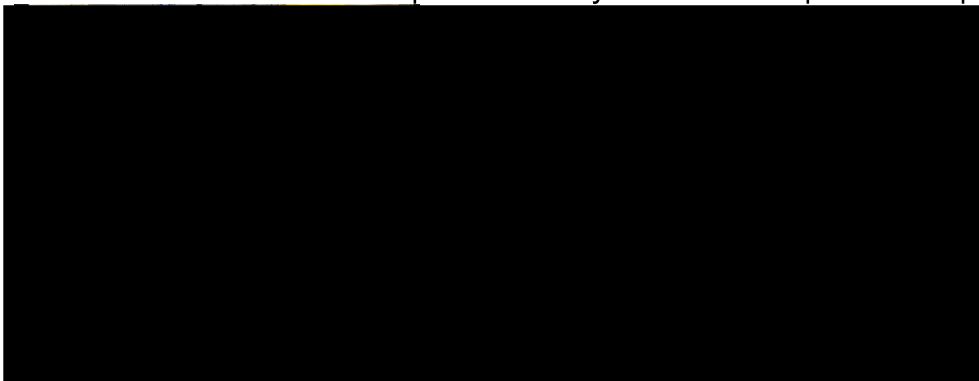
- It was initially observed that one of the junction boxes was not completed & wires were observed non-terminated / wire duct covers still off. This panel was fully terminated & covers installed in March 2026, and the installation is compliant with NFPA 79 now.

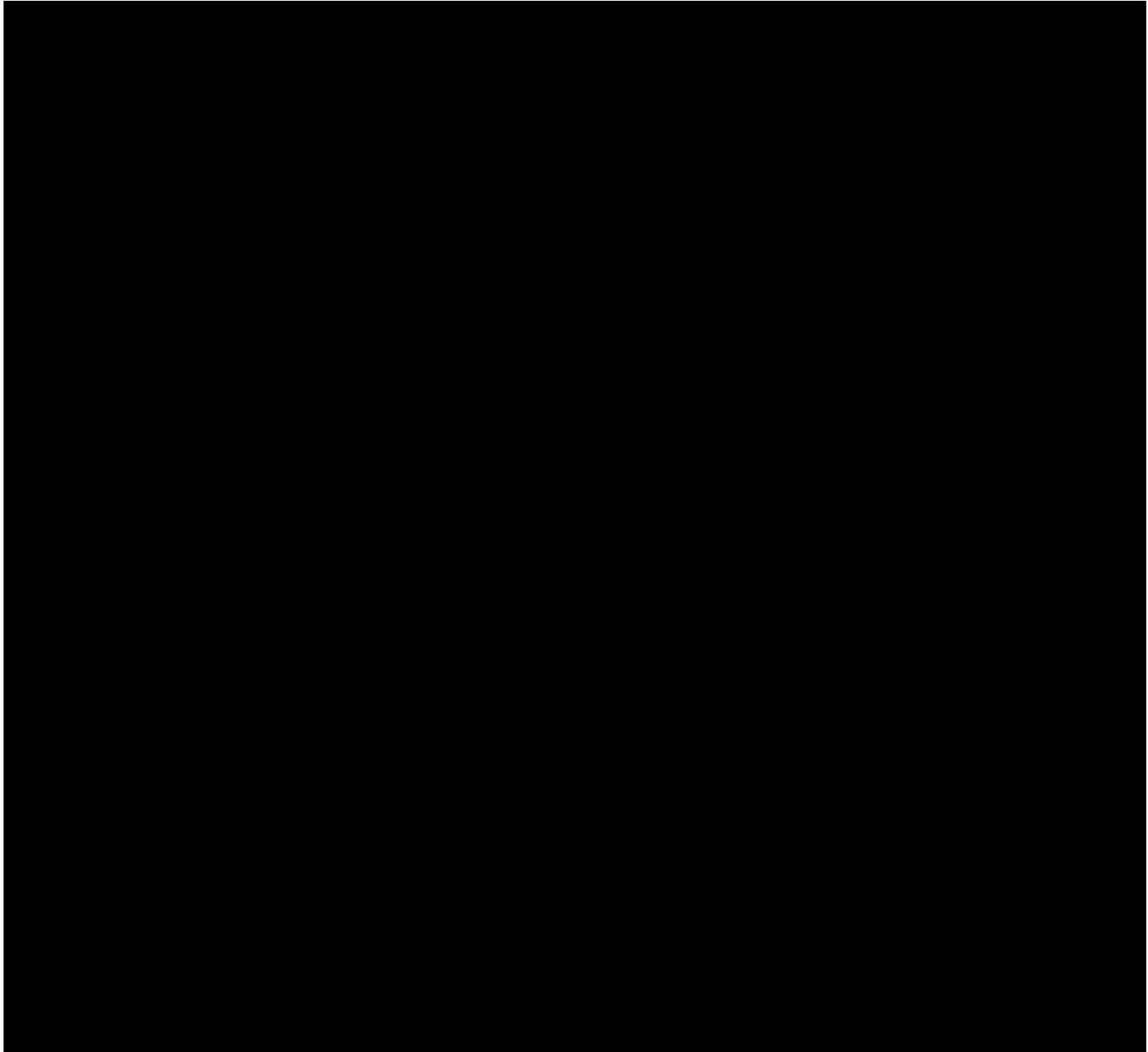


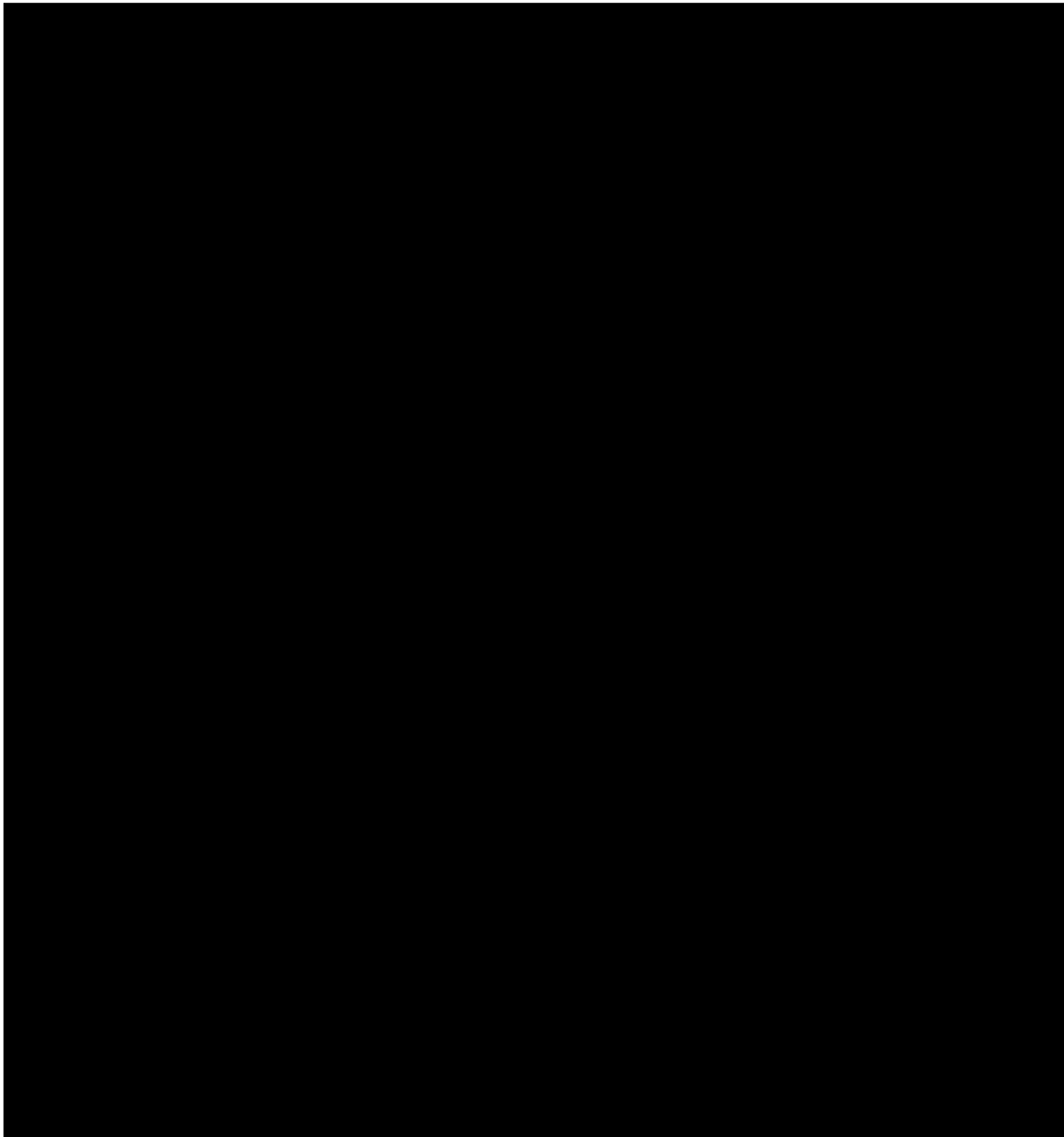
Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79







Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

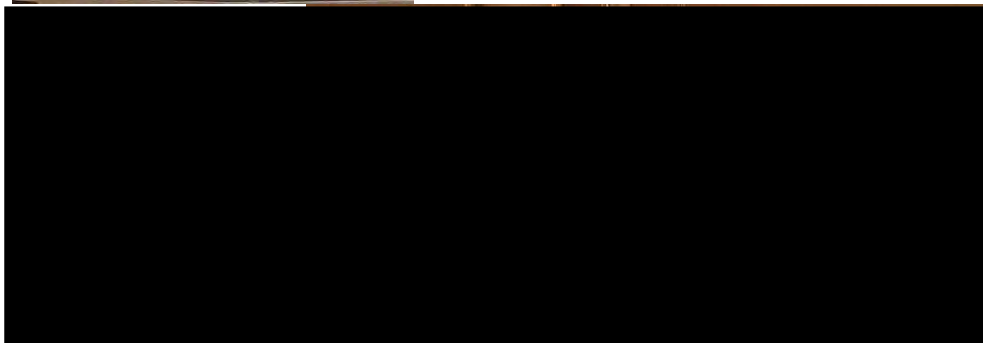
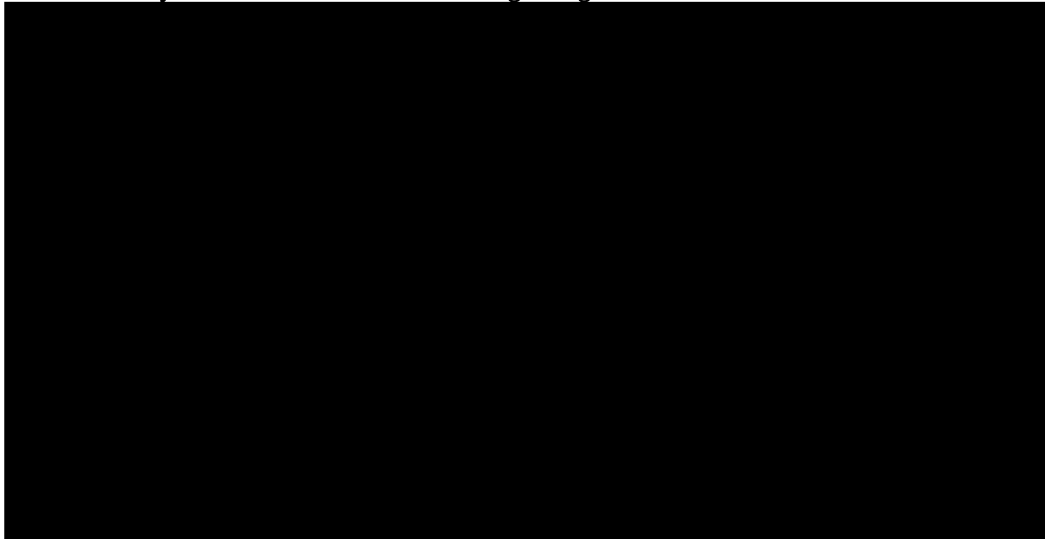
- Receptacles were not observed on the machine, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.



- The machine has appropriate safety placards
- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC

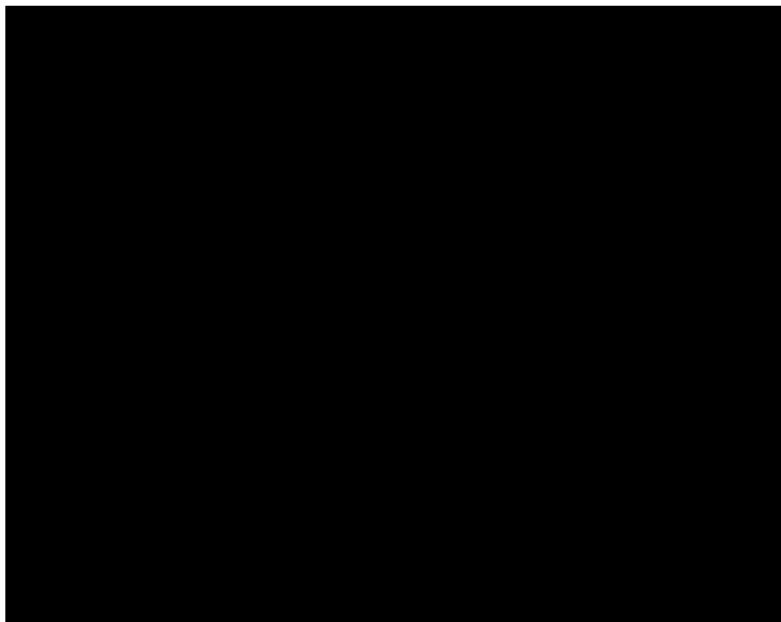




- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.



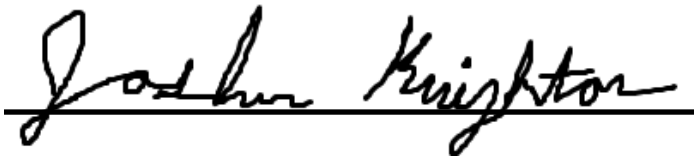
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



March 28, 2026

Date:

Joshua J. Knighton
Professional Engineer

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Grounds on enclosure doors do not have proper symbol	YES – NFPA 79 requires ground symbol for all bonding points Corrected March 2026
2	NEC 300.8 & NFPA 79	Air hoses were routed in the same cable tray as the electrical cables. This is not compliant per NEC 300.8	YES – install UL listed divider to separate air hoses from electrical cable, or route air hoses outside the basket tray Corrected March 2026
3	NEC 300s & NFPA 79	Air hoses and cables were observed to be inadequately supported	YES – cables should be supported within 12" of entering an enclosure so the cord grip doesn't support the full weight of the cable. Air hoses should be supported every 36" for vertical runs and every 12"-18" for horizontal runs Corrected March 2026
4	NEC 300s & NFPA 79	Metal shielding was observed to be protruding out of the cord grip / making contact with the insulation. This is not per the MFR's installation instructions & it's a violation of NEC 300.4 since it doesn't adequately protect the conductor from damage over time	YES – The metal shielding outside the cord grip is likely to cause damage to the cable's insulation over time with vibration causing it to cut the insulation Corrected March 2026
5	NEC 300s & NFPA 79	It was observed that unused cable grips were present on the machine. It's not clear if these will prevent water from entering the machine.	YES – install a permanent NEMA 4X cap in the place of the unused cable grip connector, so water/chemicals stay out of the electrical enclosure Corrected March 2026
6	NFPA 79	It was observed that one of the junction boxes was not completed & wires were observed non-terminated / wire duct covers still off. This panel shall be fully terminated & covers installed	YES – install the wire / terminate per the drawings & install the wire duct cover Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

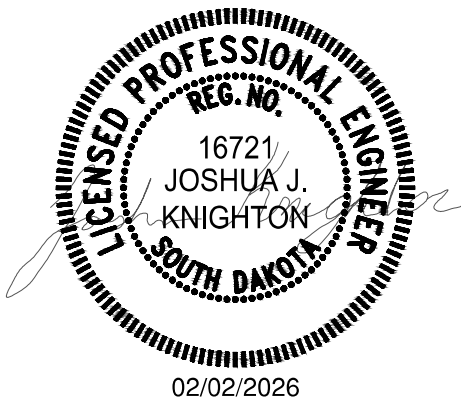
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060026



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - PASSED	2026-02-02

Muth Power Solutions

Summary:

████████████████████ panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is "**No Listing on Installation**". The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060026**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

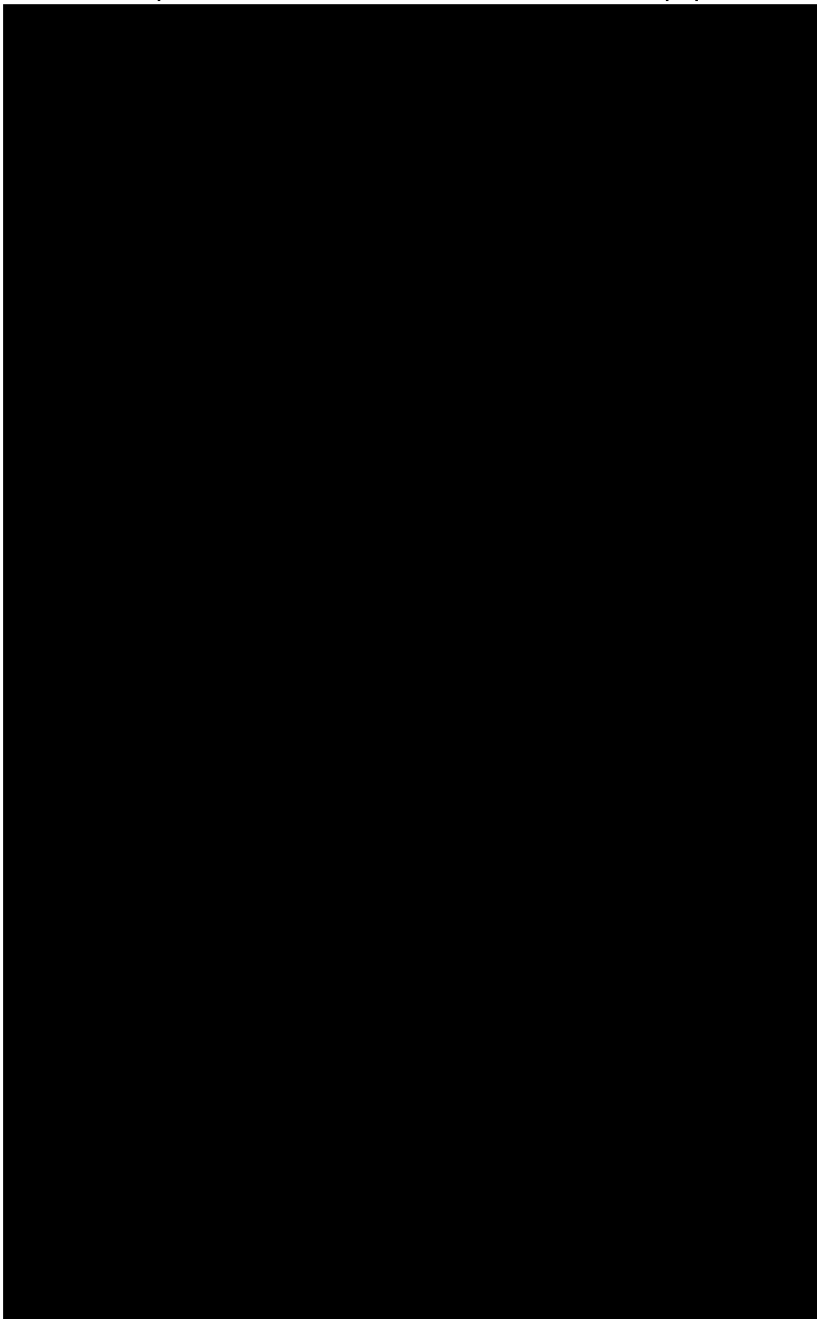
Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

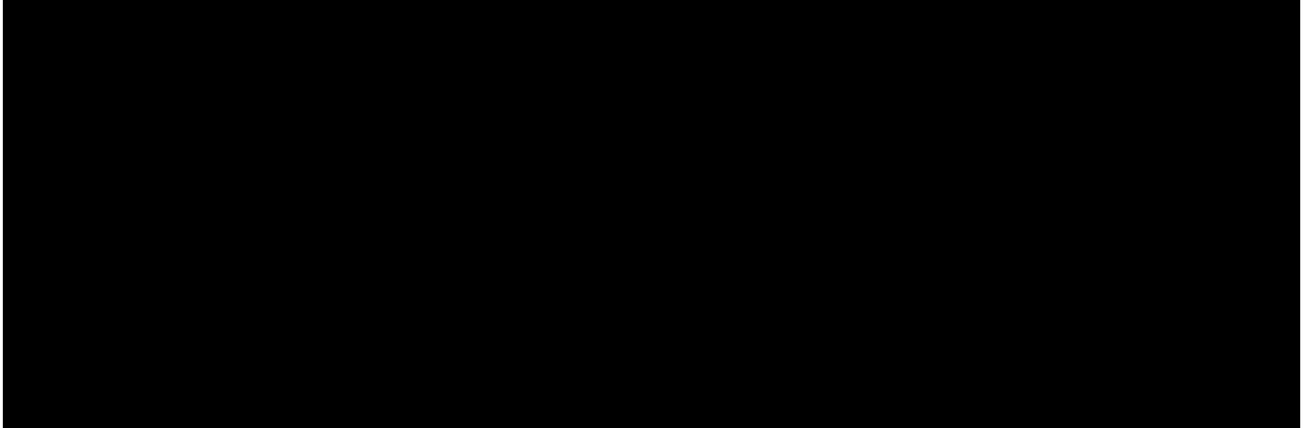


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

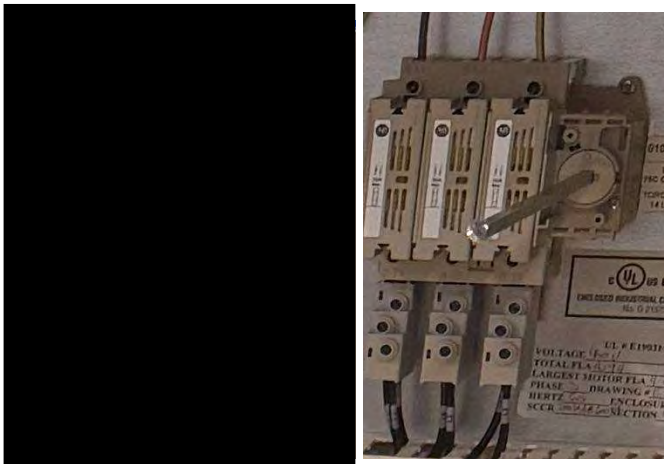
- The supply conductors are (3) #12 CU conductors, which are rated for 25A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 14.44A & the conductors are rated more than this.



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a flanged disconnect on the door & is compliant with NEC 670



Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

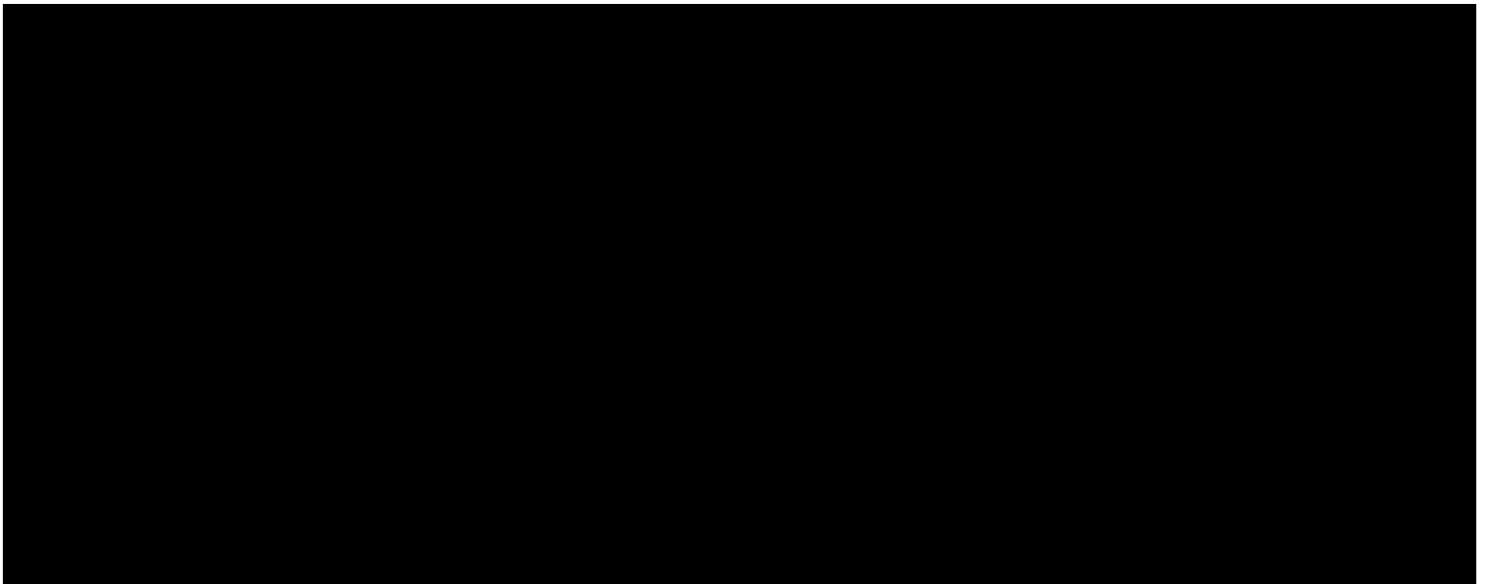
- The upstream circuit breaker was observed to be 20A/3P and 460V. Per the above calculation done with the supply conductors, this results in 14.5A, which 20A is appropriate for this machine.



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The maximum fault current was approximated to be 1.1 kA from the utility TX secondary down to the line terminals on the chunker panel. The panel is rated for 65 kAIC, so this is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from Allen Bradley's Guard Logix and Point I/O safety-rated modules. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

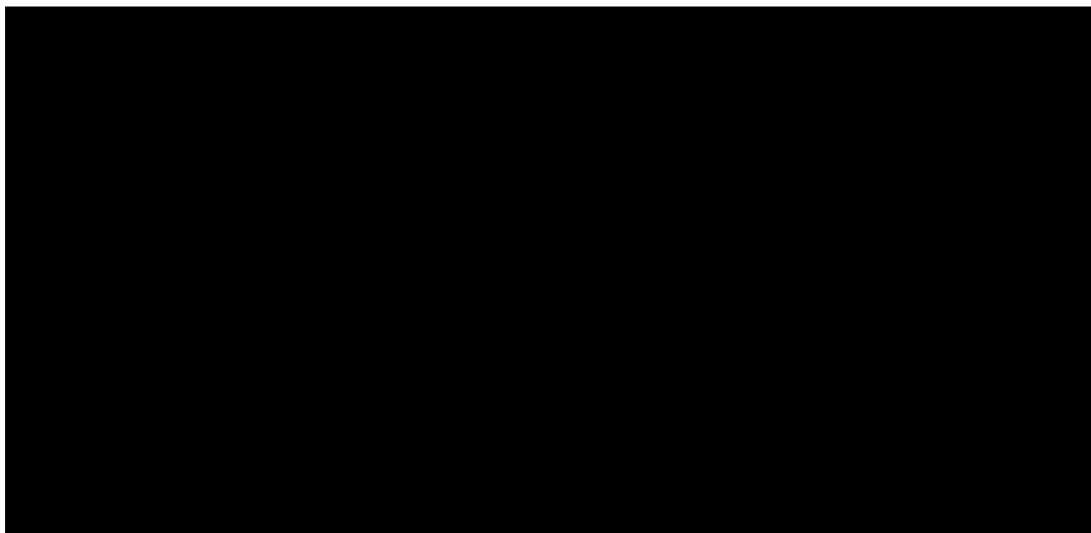
The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

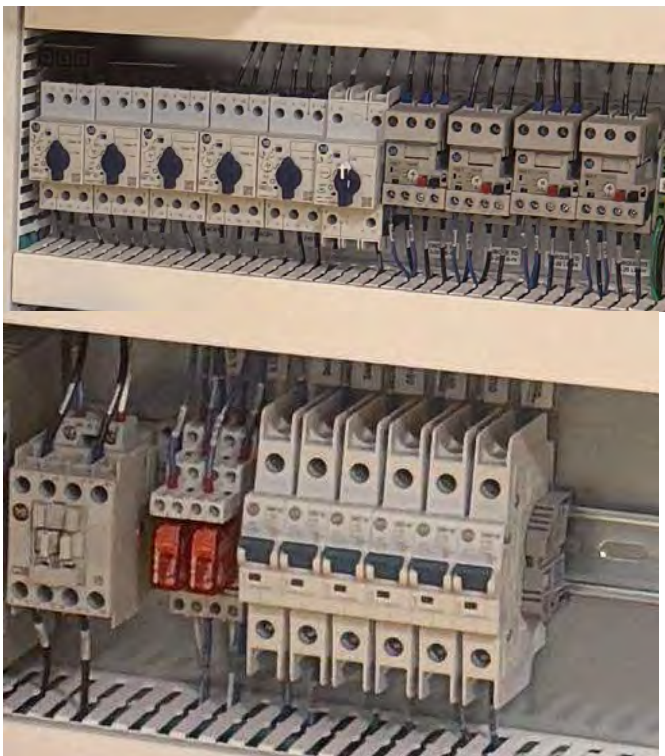
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below



- The machine has appropriate speed / phase protection on the motors that have VFDs

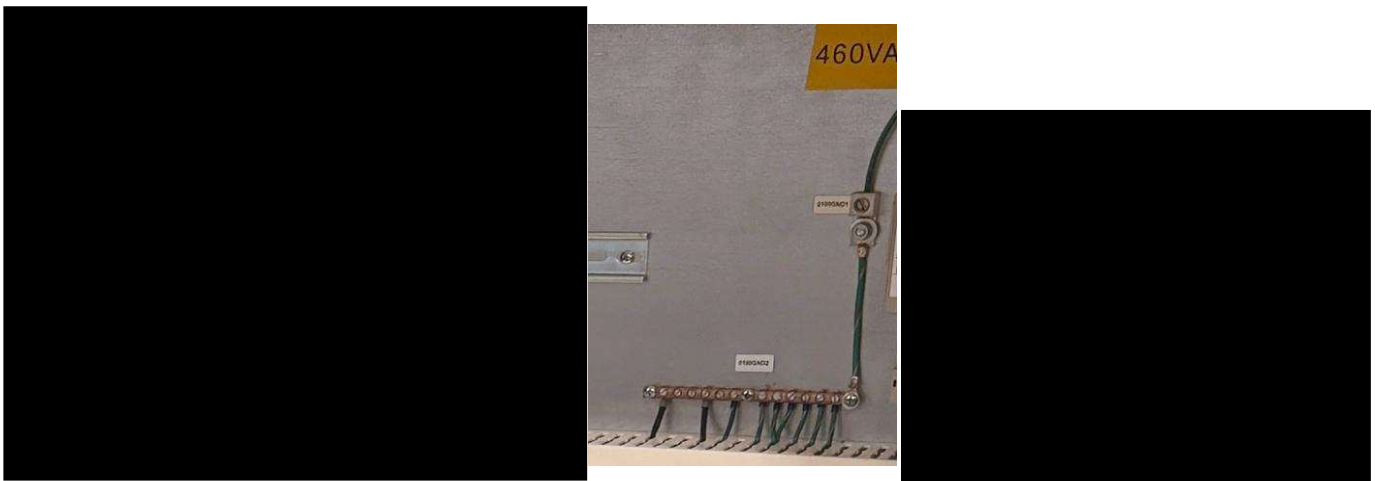


Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels have appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

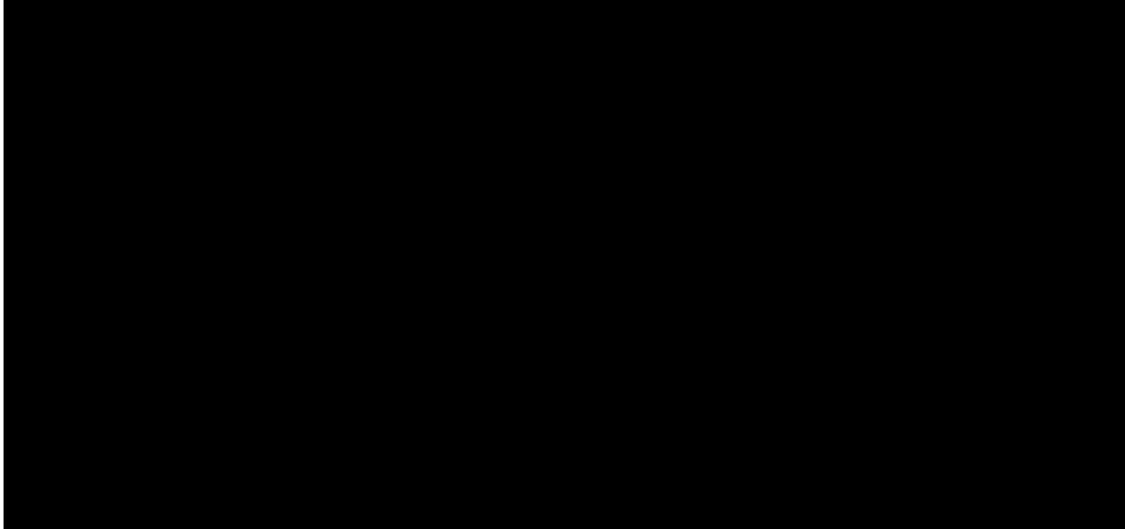
Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)



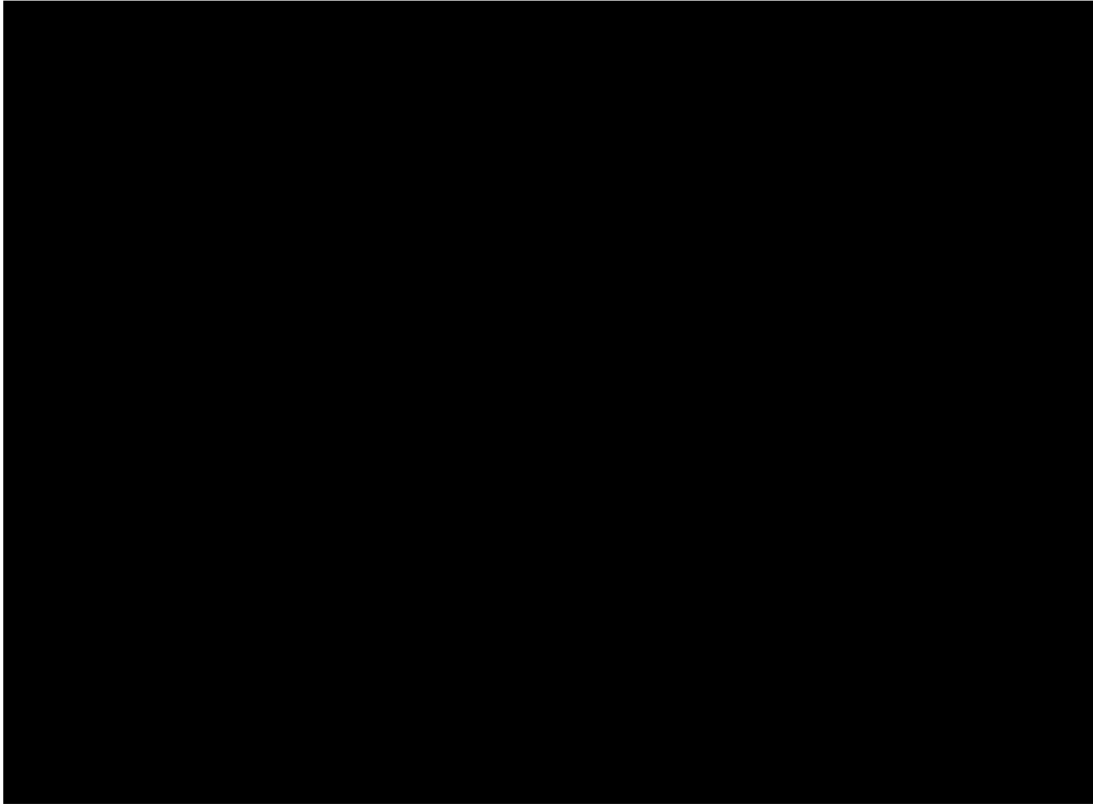
- **Neutral Conditions (White)**
 - E-stop, Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79



Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

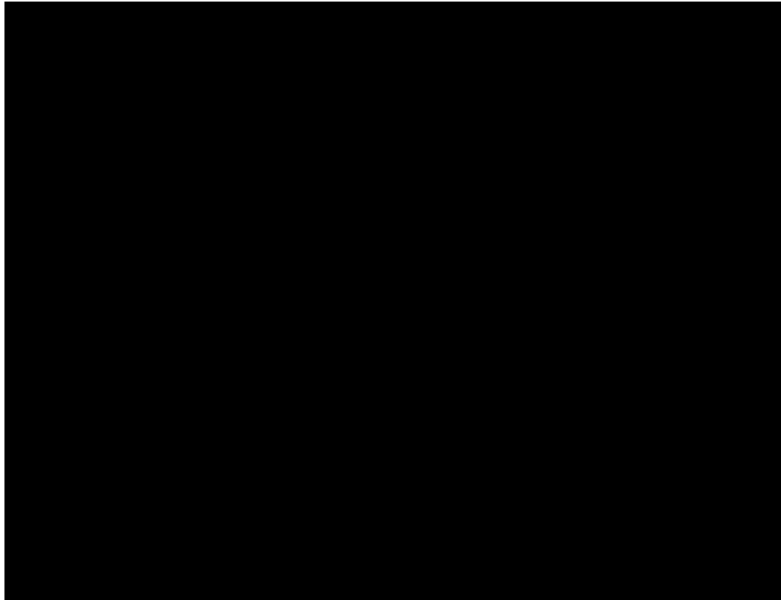
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire within the enclosures was observed to be compliant with NFPA 79 and they were installed in a professional manner



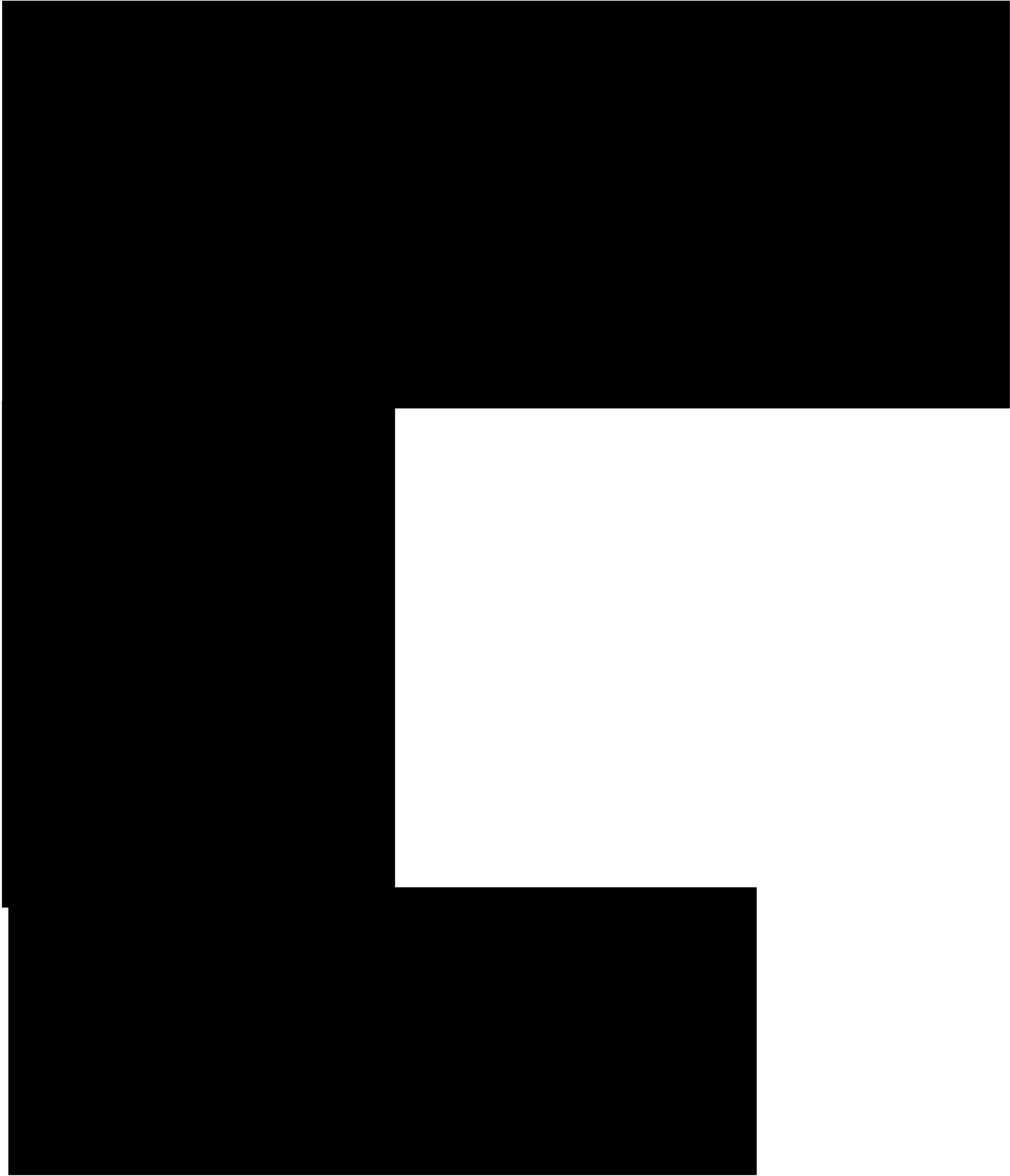
- Raceways/cables & cord grips were installed & supported in a professional manner. The cable in the picture looks like thermoplastic, but it's control cabling to sensors

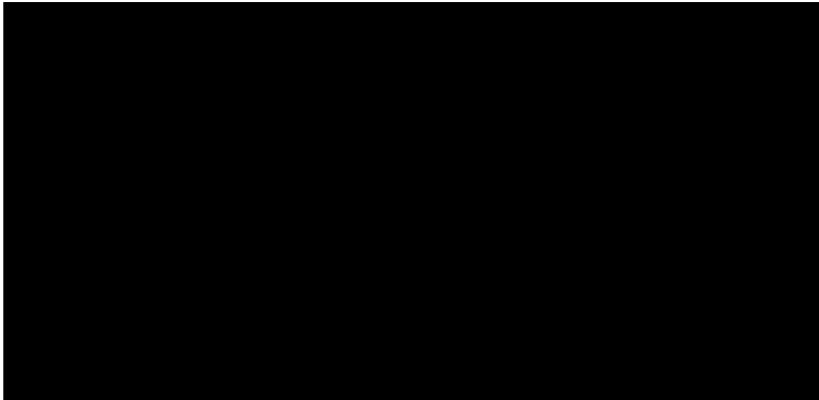


Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79





Receptacles and Lighting

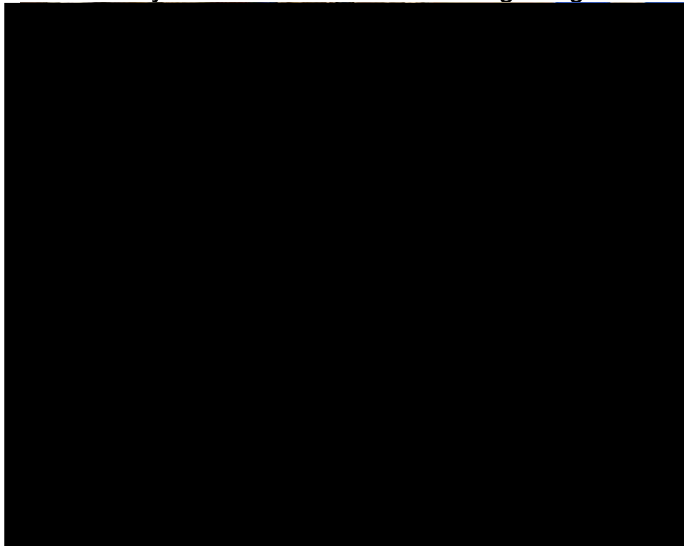
Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- Receptacles were not observed on the machine, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards
- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC



- Nameplate
 - Required by manufacturer
 - Name of Supplier

- Model, Serial Number, etc
- Rated voltage, phase, frequency, and full-load current for each supply
- Largest Motor or Load
- Max Protective Device Threshold
- Short Circuit Current Rating
- Electrical Diagram Number(s) or Drawing Index

- See NEC 670 section above for nameplate compliance information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

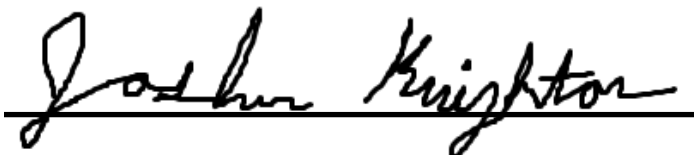
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

February 2, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Technical documentation was not observed with the machine	YES – print off all drawings / documents & store with the machine in a 3 ring binder or equivalent, prior to FEB label being placed on the equipment

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

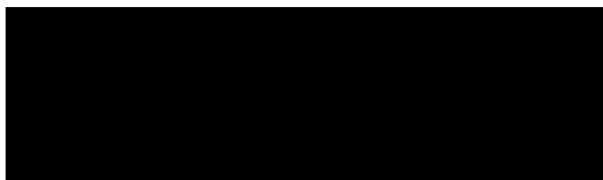
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060024



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-01
1.0	Corrective Actions - PASSED	2026-03-09

Muth Power Solutions

Summary:

██████████ panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060024**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

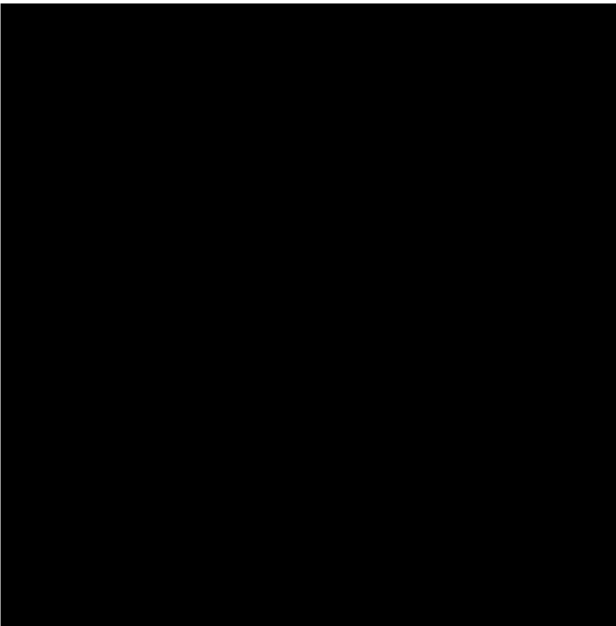
Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

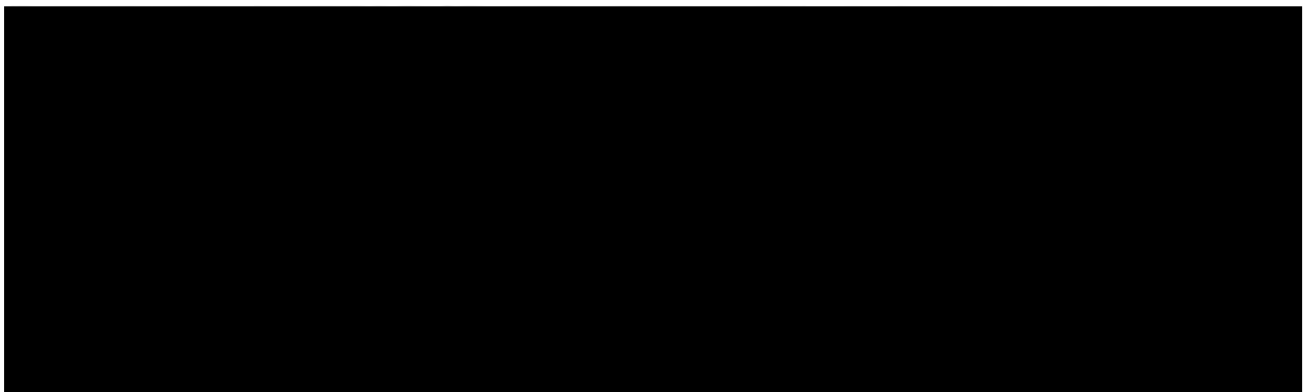


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

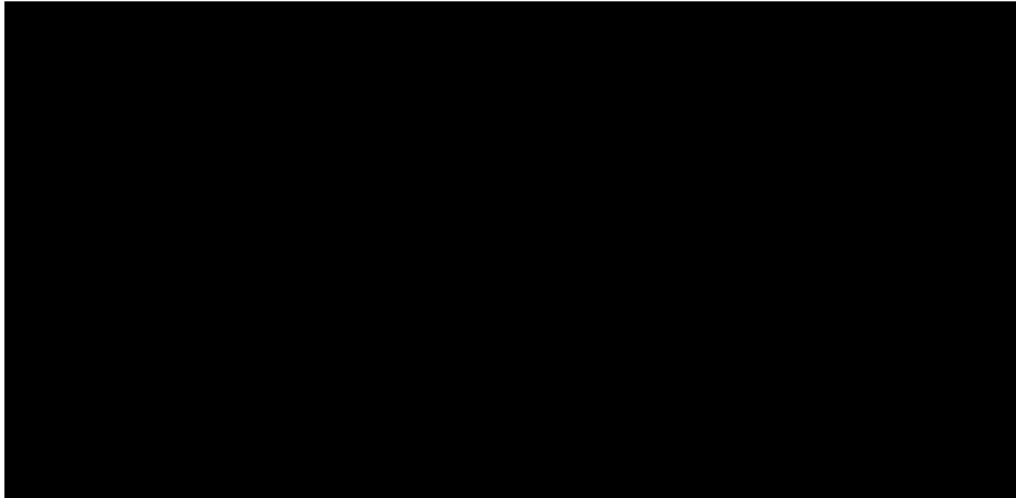
- The supply conductors are (3) 350 MCM CU conductors, which are rated for 310A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 255A & the conductors are rated more than this.



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a flanged disconnect on the door & is compliant with NEC 670



Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

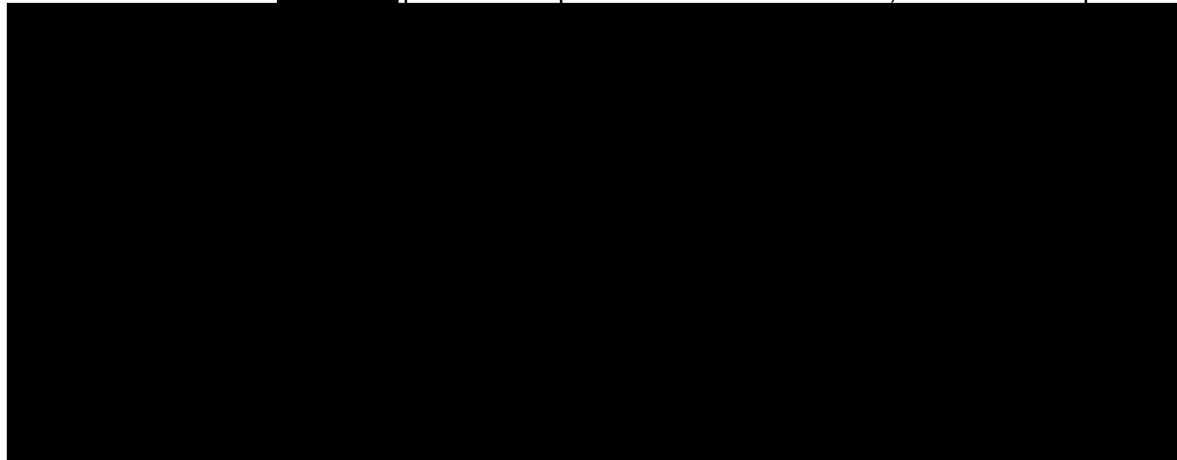
$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The upstream circuit breaker was observed to be 300A/3P and 460V. Per the above calculation done with the supply conductors, this results in 255A, which 300A is appropriate for this machine.

Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

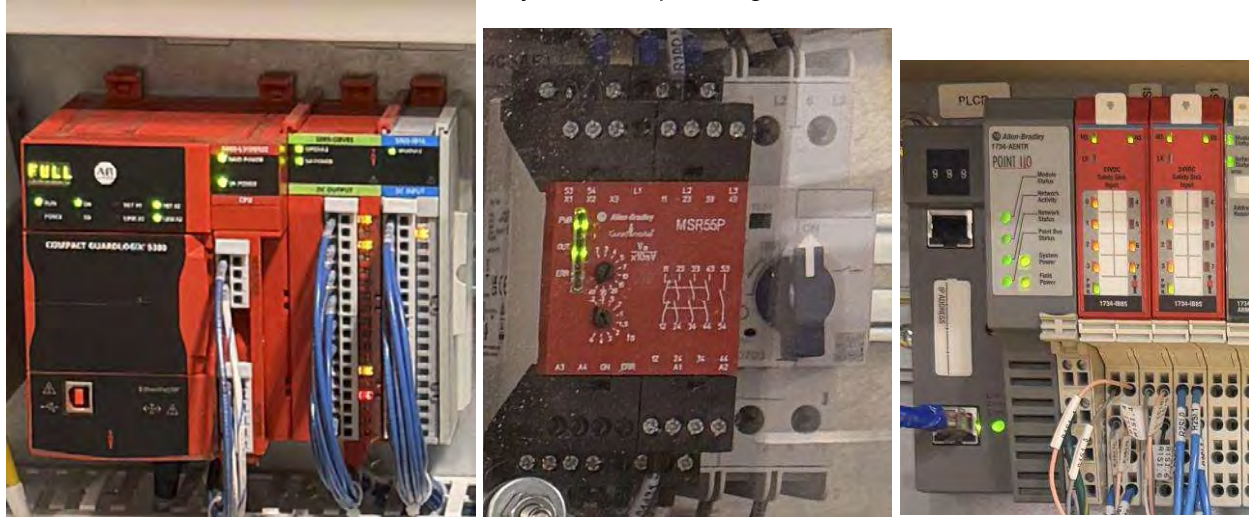
- The maximum fault current was approximated to be 19.7 kA from the utility TX secondary down to the line terminals on the [redacted] panel. The panel is rated for 65 kAIC, so this is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from Allen Bradley's Guard Logix and Point I/O safety-rated modules. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79



Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.

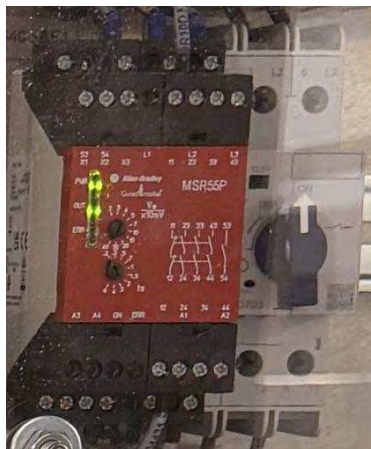
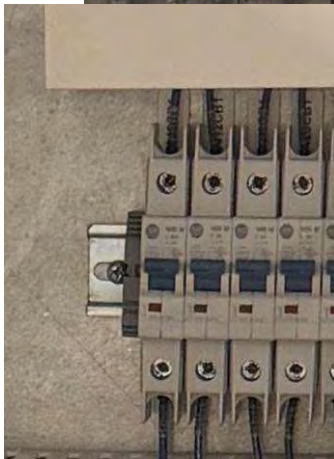


Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
- Overloads for motors
- Ground fault
- Overvoltage
- Abnormal temperature
- Incorrect phases or loss of phases
- Overspeed of machines

- The machine has appropriate overcurrent protection and overloads for the field devices as shown below
 - MCP (10 to 16A) : set @ 10A for the hydraulic pump
 - MCP (6.3 to 10A) : set @ 6.3A for the 24VDC Power Supply
 - MCP (6.3 to 10A) : set @ 6.3A for the HVAC



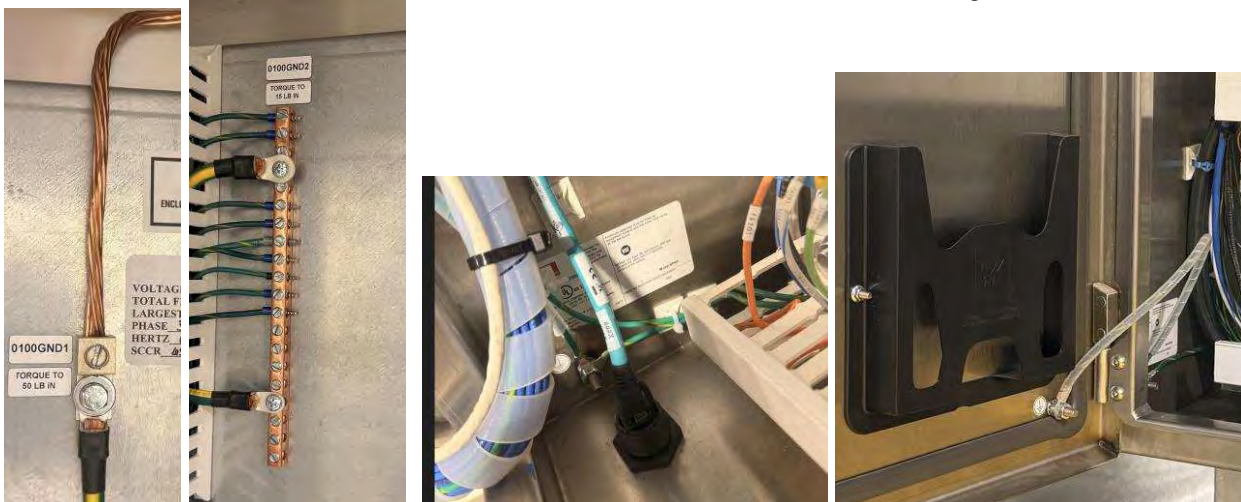
- The machine has appropriate speed / phase protection on the motors that have VFDs

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels have appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

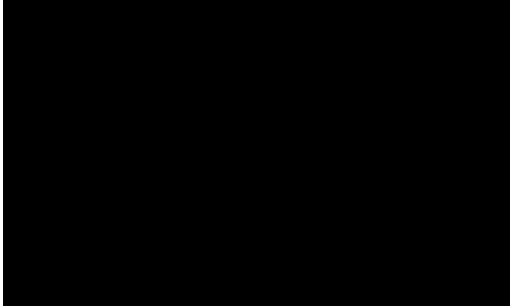
Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

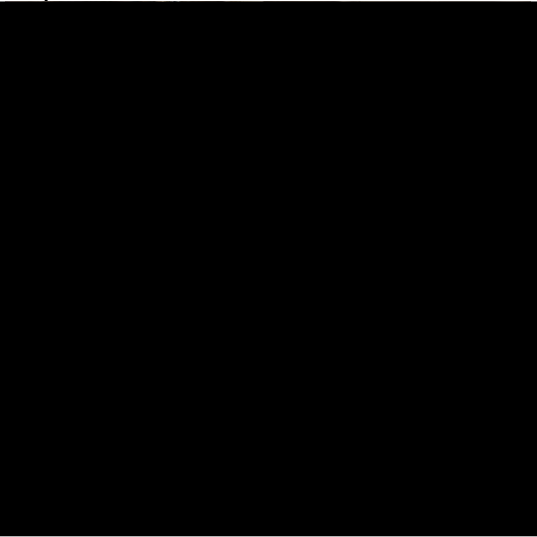
- Start or Normal Conditions** (Green but Black, White, or Gray)
- Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- Abnormal Conditions** (Yellow or Amber)
- Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- Mandatory Conditions** (Blue)



- **Neutral Conditions (White)**
 - E-stops were observed to be compliant with NFPA 79



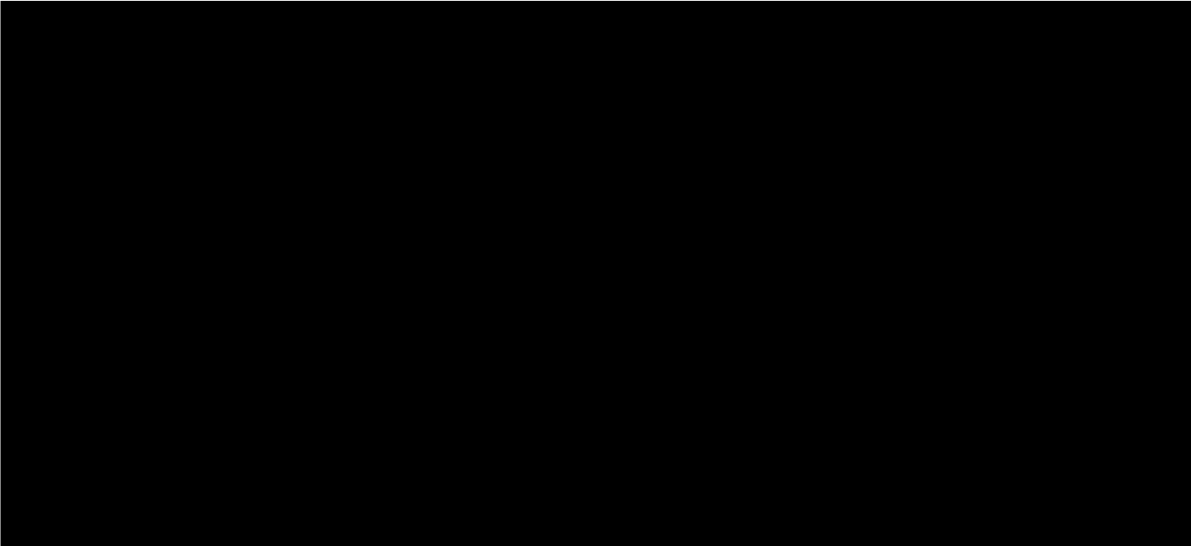
- Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79



Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

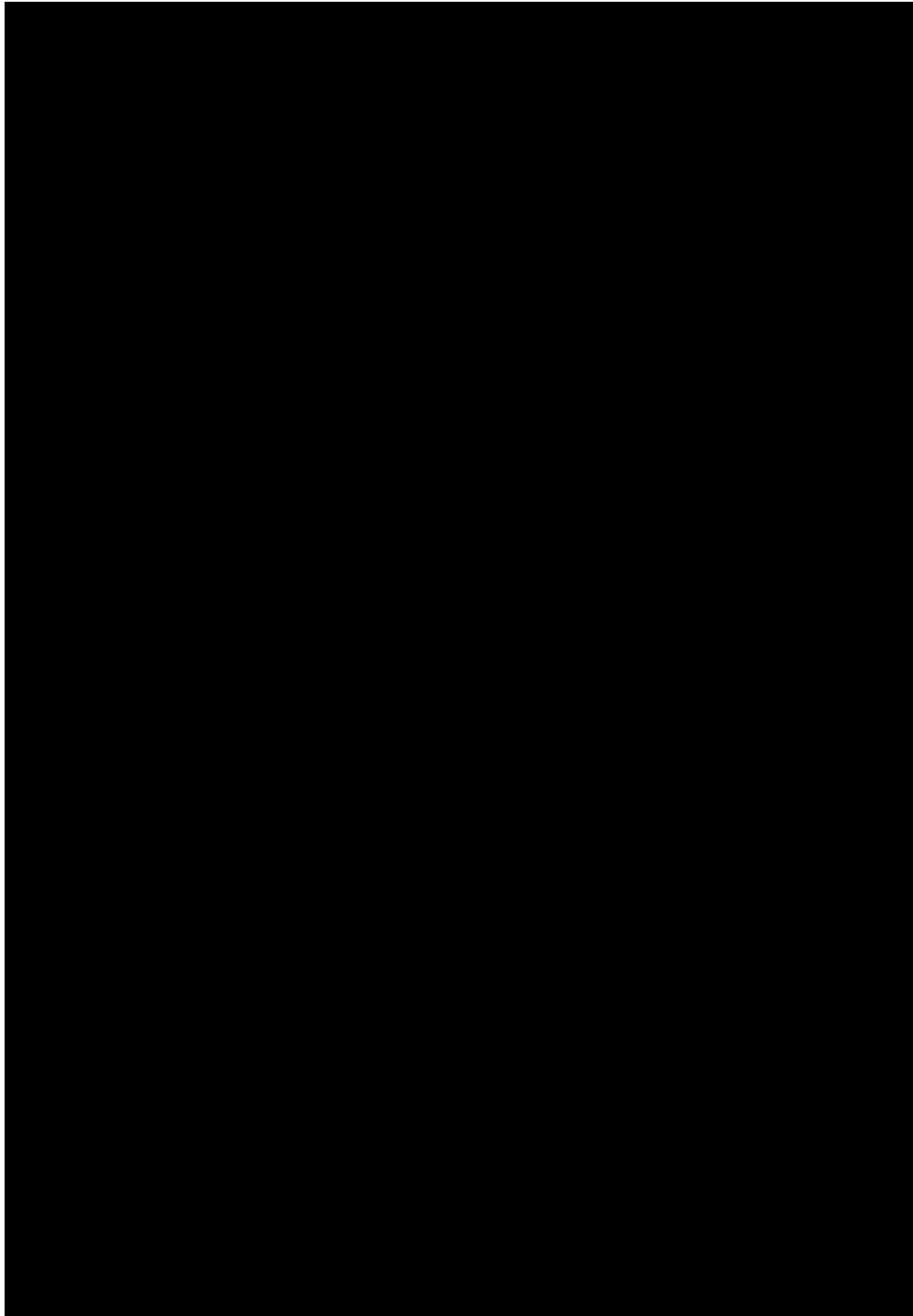
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire within the enclosures was observed to be compliant with NFPA 79 and they were installed in a professional manner



- The raceways were observed to be compliant with NFPA 79 and they were installed in a professional manner



- There were FMC runs observed that were not supported within 12" of the enclosure on the bottom of it. This was observed to have been corrected.
- A conduit bushing was observed to be improperly installed initially. The a listed product was installed after the evaluation & it is in compliance now / will protect the conductors



- Wire trimmings were observed to be in the bottom of the 480V enclosure. All wire trimmings / debris were observed to be removed from the enclosures after the initial evaluation.

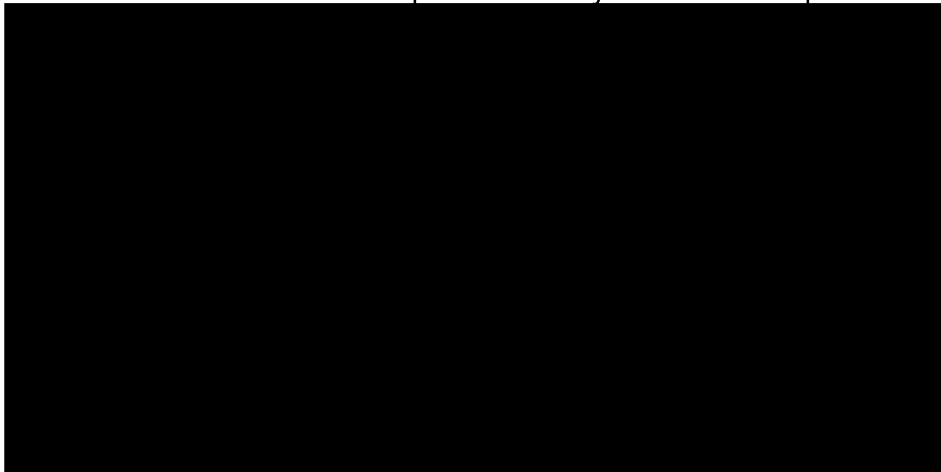
- Loose wire / non-terminated was observed within the control side of the enclosure. This wire was observed to have been removed after the initial evaluation.



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

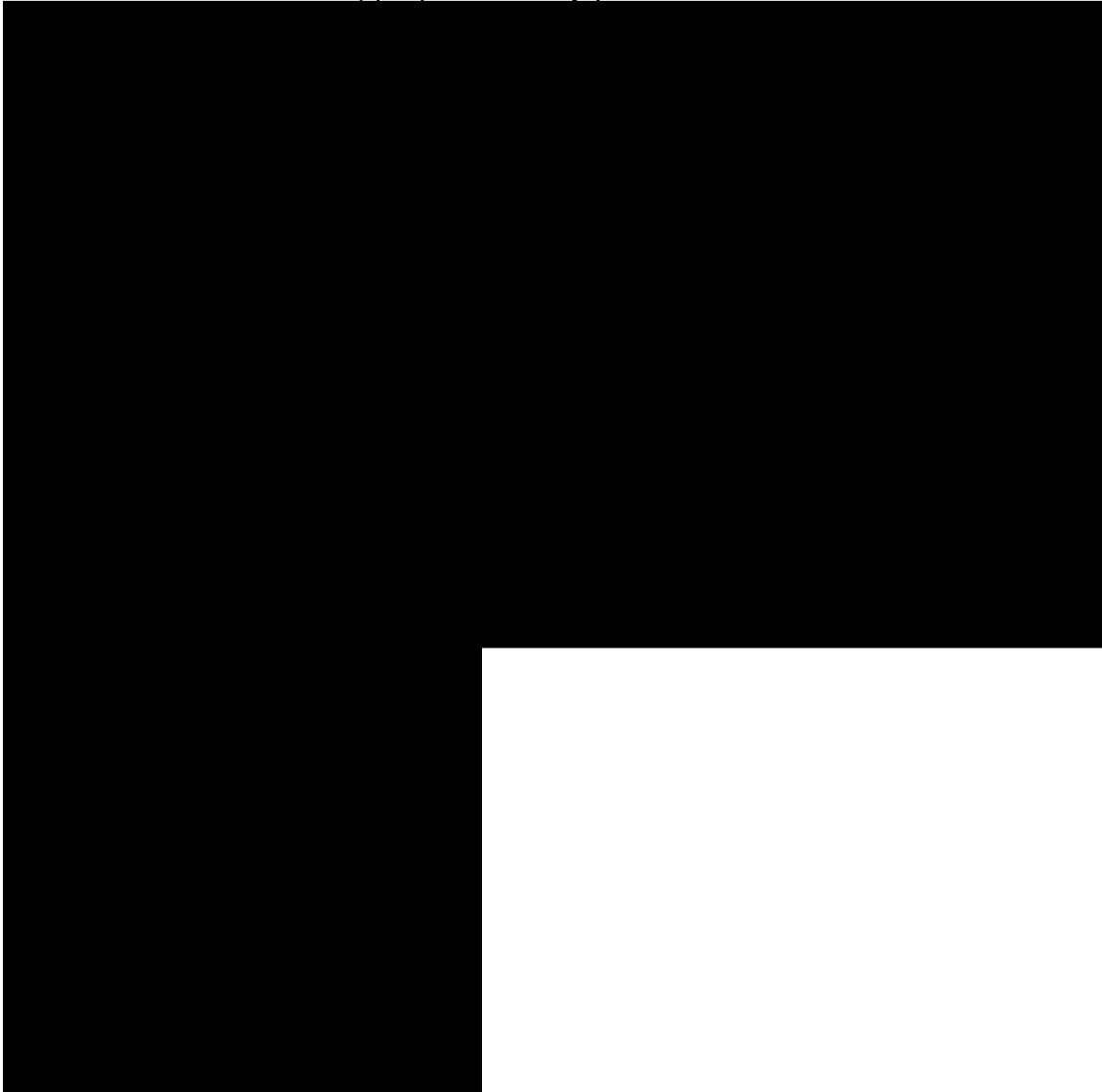
- Receptacles were not observed on the machine, so this is not applicable



Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards



- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC

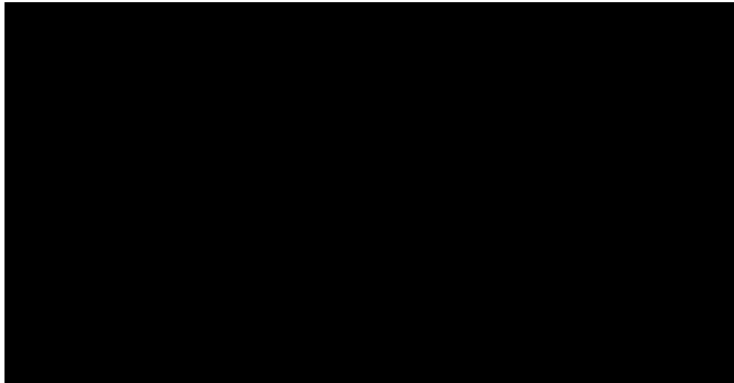


- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



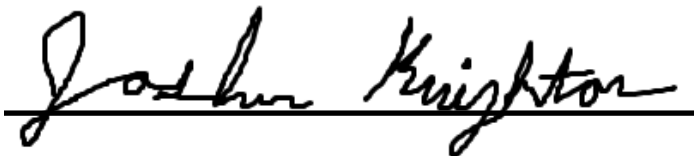
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

March 9, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC & NFPA 79	There were FMC runs observed to have inadequate support per NEC 348.30(A)	YES – support the FMC within 12” of the enclosure penetrations, so the LB/conduit body is not supporting the full span of FMC. This will put strain on the conduit knockout / could cause it to fall out of the enclosure over time Corrected March 2026
2	NEC & NPFA 79	There were conduit penetrations into the enclosures that did not have proper bushing/hub/grommet installed to protect the cables entering/leaving the enclosure	YES – correct the plastic conduit bushing, so the conduit extends into the enclosure & prevents the cable’s insulation from coming in contact with the sharp edges on the manually cut hole Corrected March 2026
3	NFPA 79	Wire trimmings / debris was observed to be in the bottom of the enclosures	YES – the enclosures should be free of debris & all wire trimmings shall be removed from the enclosures prior to energizing Corrected March 2026
4	NFPA 79	Loose Wire / Non-Terminated Wires were observed in the control side of the enclosure. This can lead to potential shock or incorrect control functions	YES – terminate the wire per the drawings, or remove from the enclosure Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

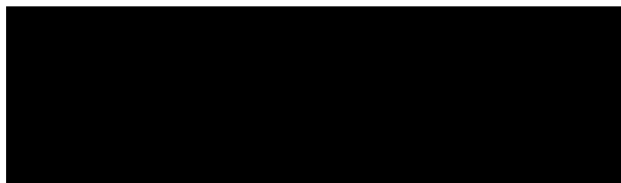
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060025



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-01
1.0	Corrective Actions - PASSED	2026-03-09

Muth Power Solutions

Summary:

██████████ panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060025**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

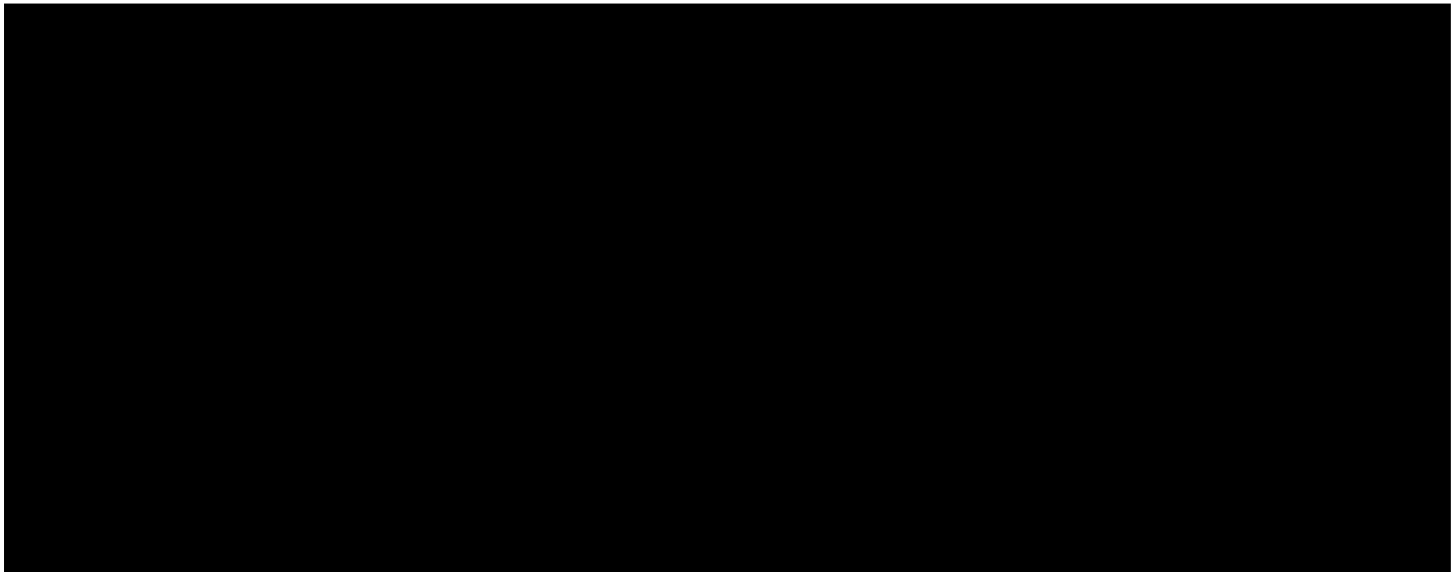
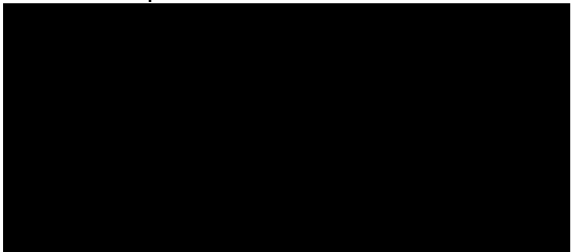
Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

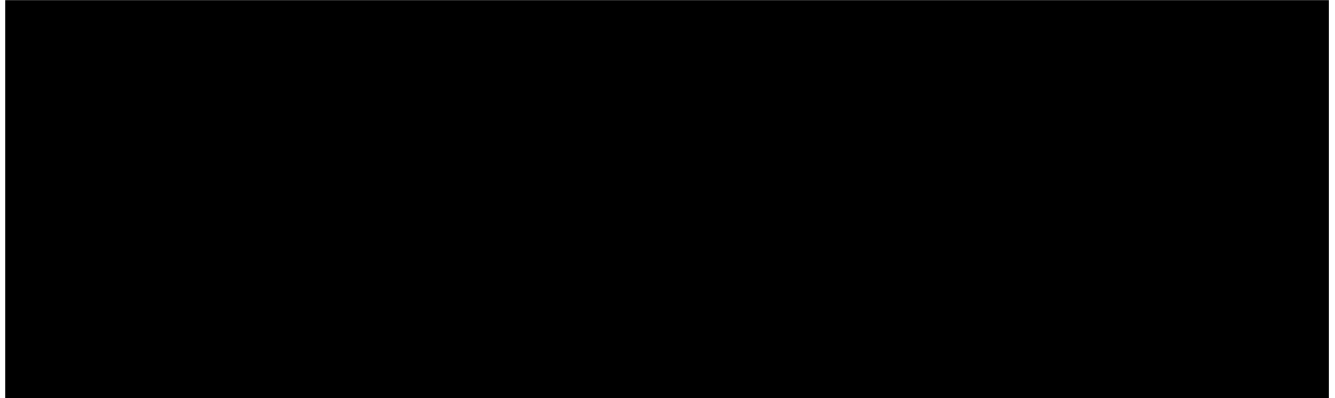


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

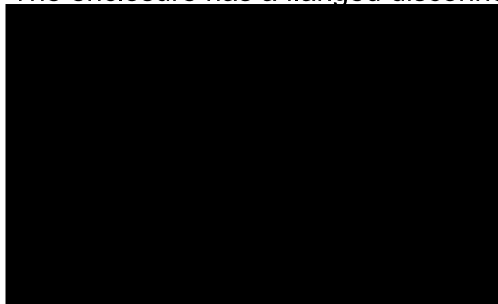
- The supply conductors are (3) 350 MCM CU conductors, which are rated for 310A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 255A & the conductors are rated more than this.



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a flanged disconnect on the door & is compliant with NEC 670



Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

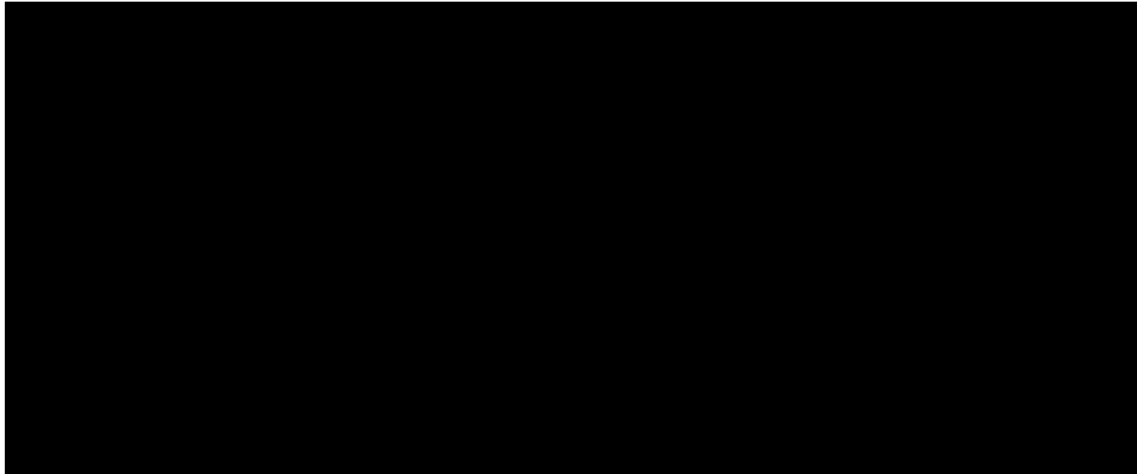
$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The upstream circuit breaker was observed to be 300A/3P and 460V. Per the above calculation done with the supply conductors, this results in 255A, which 300A is appropriate for this machine.

Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

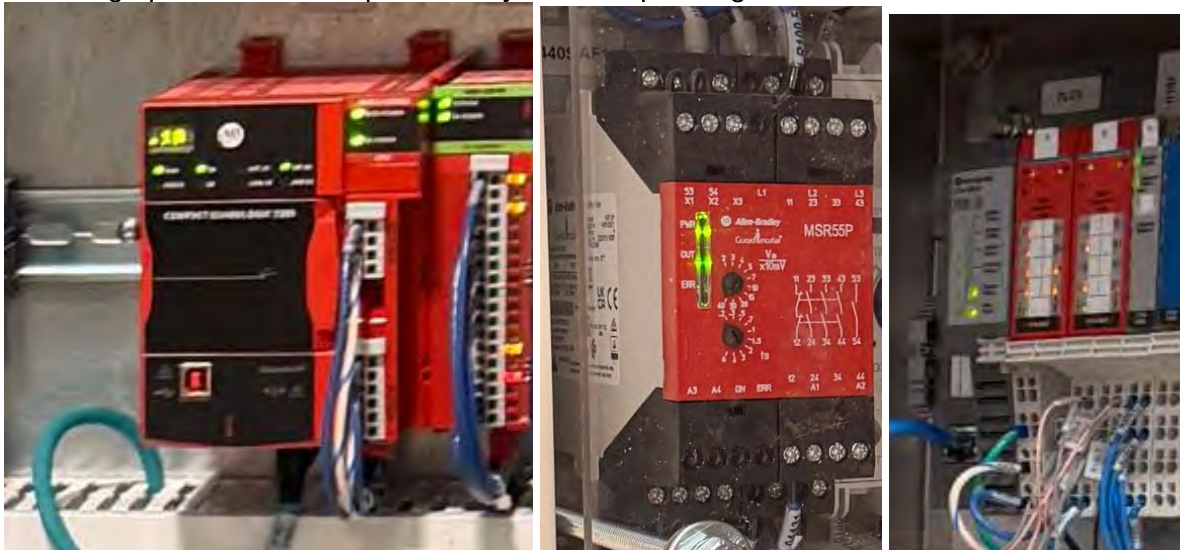
- The maximum fault current was approximated to be 22.2 kA from the utility TX secondary down to the line terminals on the mixer #2 panel. The panel is rated for 65 kAIC, so this is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from Allen Bradley's Guard Logix and Point I/O safety-rated modules. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



NFPA 70, Article 670 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

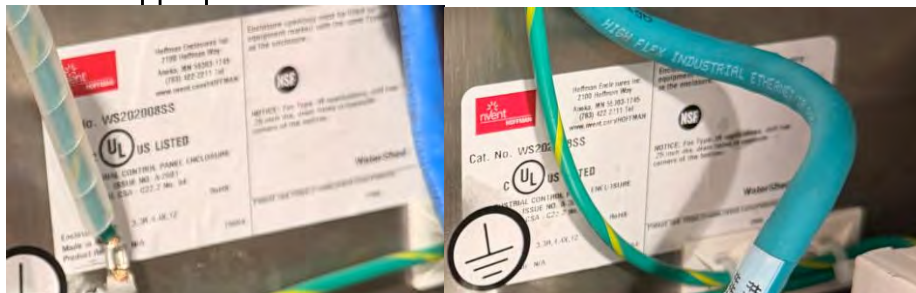
The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (stainless steel / NEMA 4X), which is appropriate for food washdown areas



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

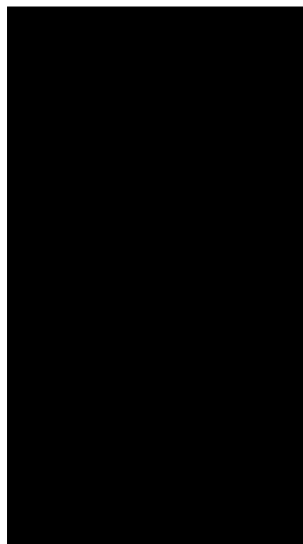
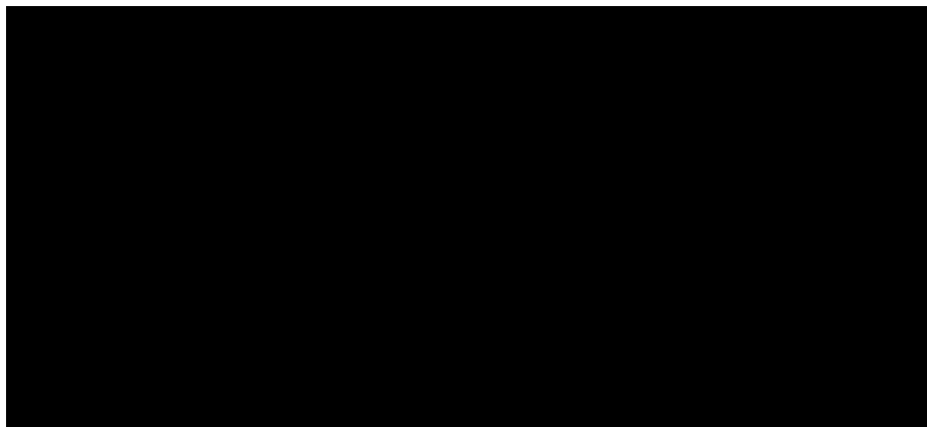
The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below



- The machine has appropriate speed / phase protection on the motors that have VFDs
- The machine's overload/circuit protector settings were not appropriate for the connected FLA of the loads. This was adjusted to be compliant with NEC

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels have appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

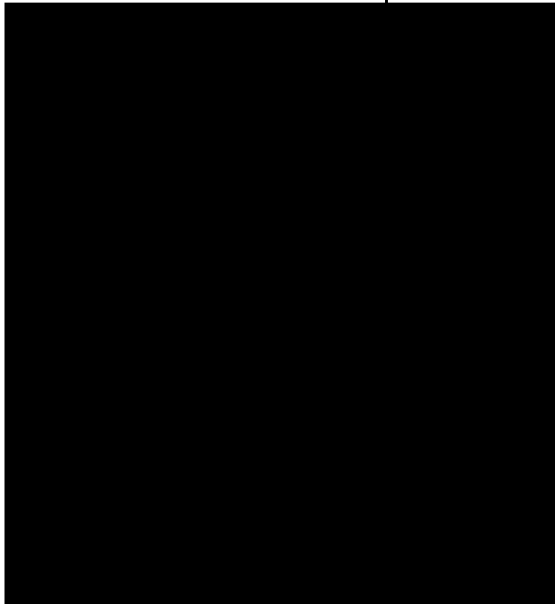
- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

Operator Interface and Control Devices

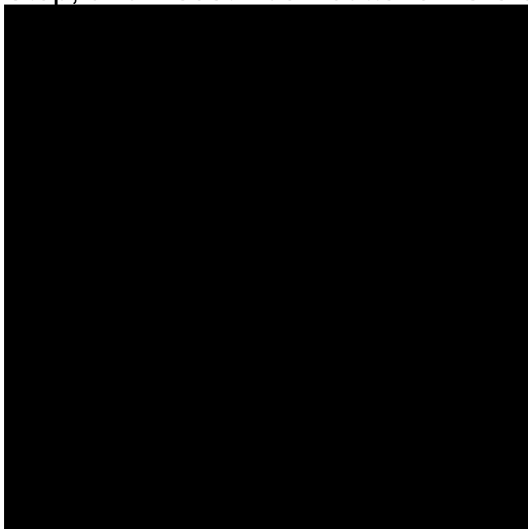
The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)

- E-stops were observed to be compliant with NFPA 79



-
- Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79

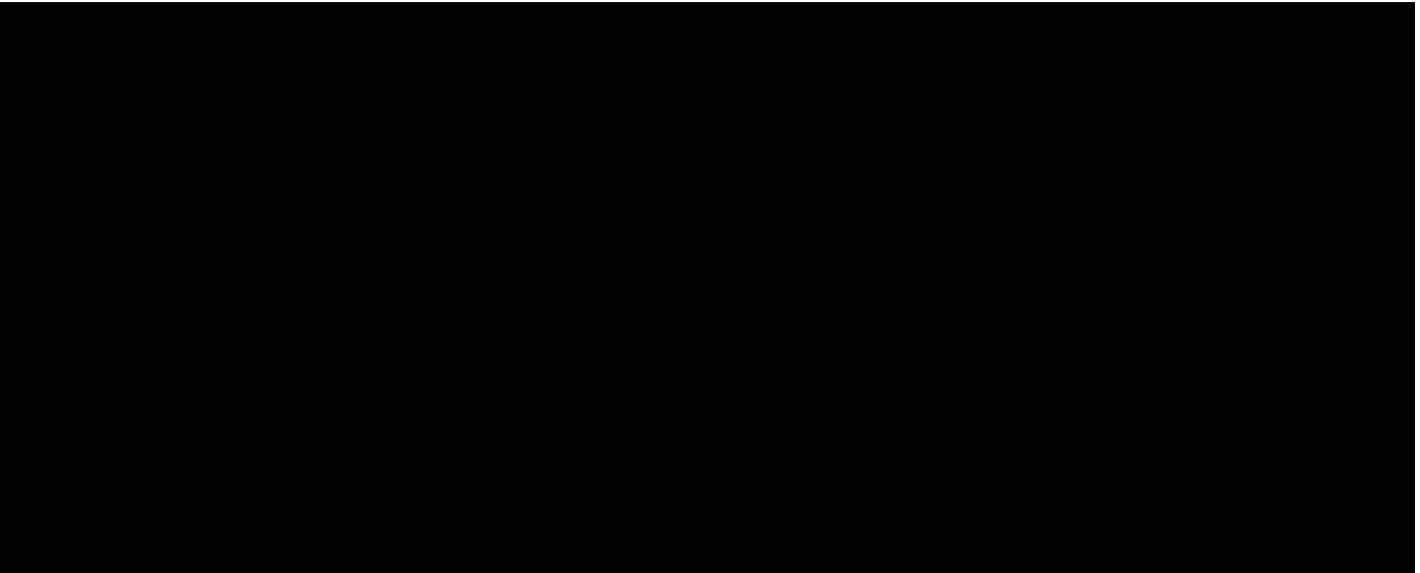


○

Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

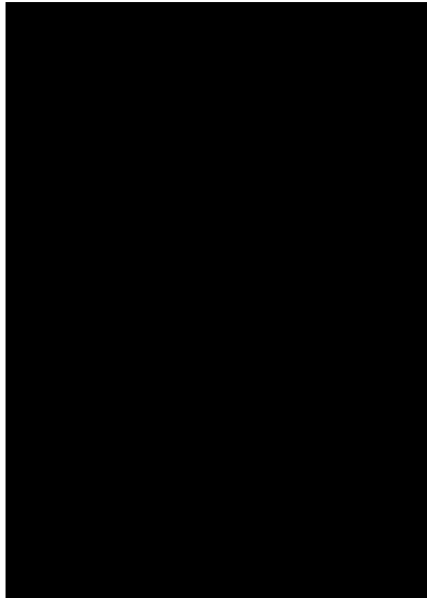
- The wire within the enclosures was observed to be compliant with NFPA 79 and they were installed in a professional manner



- There were FMC runs observed that were not supported within 12" of the enclosure on the bottom of it. This was observed to have been corrected since the initial evaluation
- Conduit cut out / bushing did not extend past the sharp edges & could cause damage to the conductor insulation over time. This was corrected after the initial evaluation



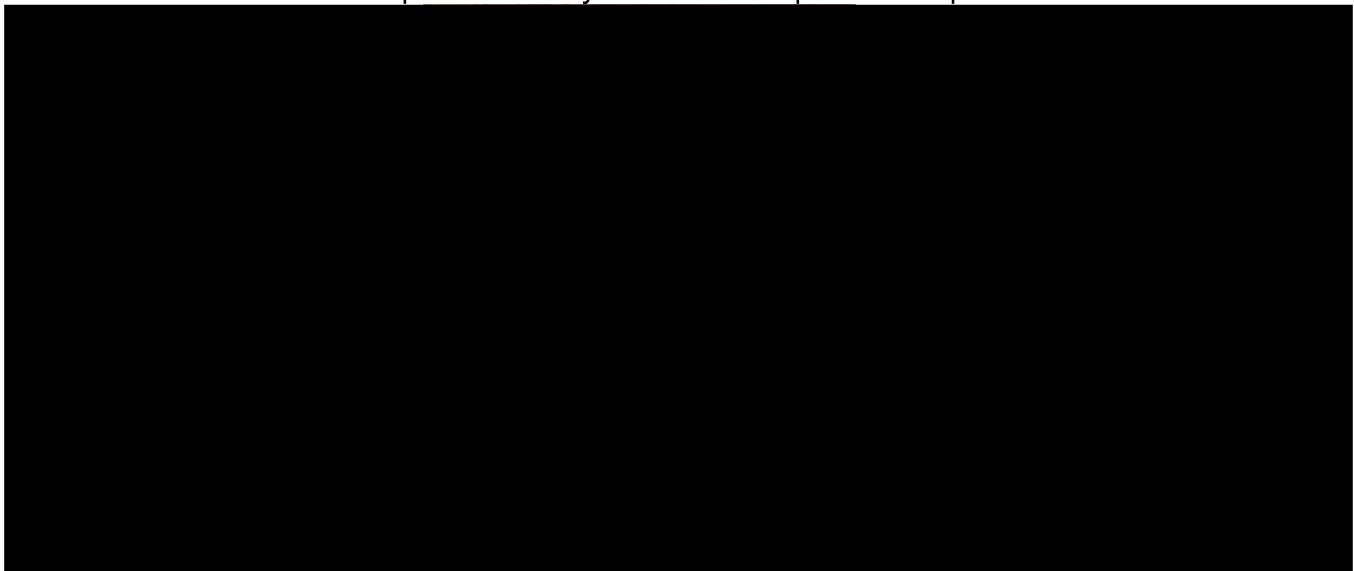
- Loose wire / non-terminated was observed within the control side of the enclosure. This wire was corrected after the initial evaluation



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79



Receptacles and Lighting

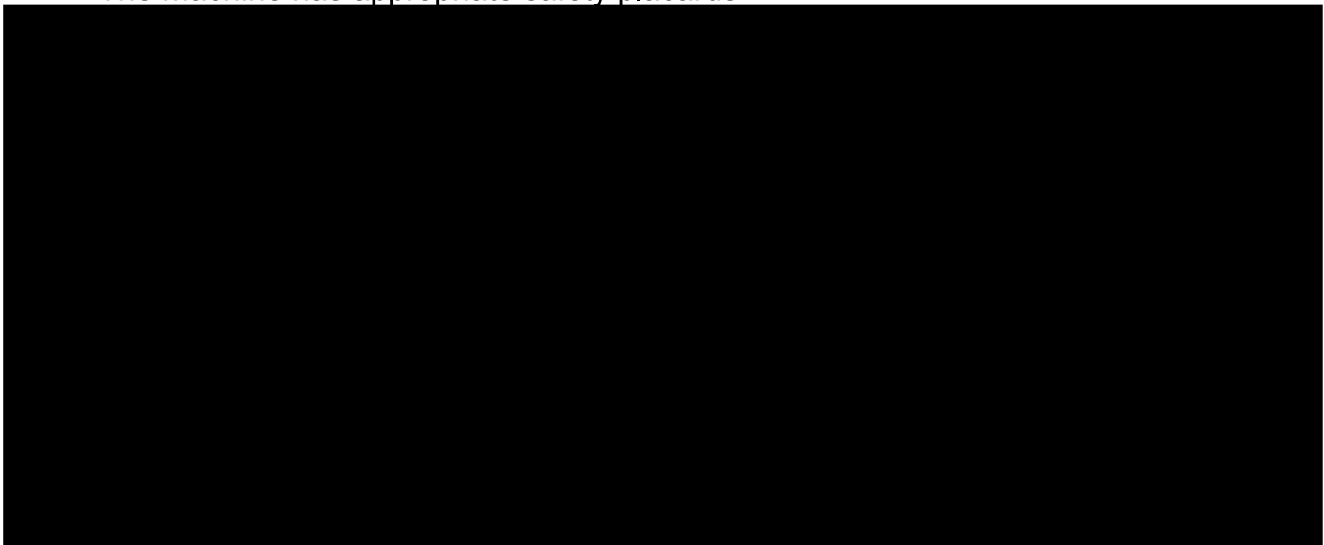
Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- Receptacles were not observed on the machine, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards



- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC



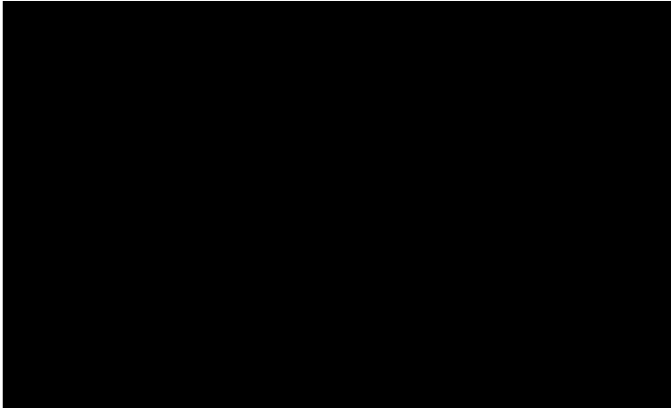
- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information



Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.

Joshua J. Knighton
Professional Engineer

March 9, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC & NFPA 79	There were FMC runs observed to have inadequate support per NEC 348.30(A)	YES – support the FMC within 12” of the enclosure penetrations, so the LB/conduit body is not supporting the full span of FMC. This will put strain on the conduit knockout / could cause it to fall out of the enclosure over time. NEC 348.30(A) requires support for FMC within 12” of the enclosure penetration Corrected March 2026
2	NFPA 79	Wire trimmings / debris was observed to be in the bottom of the enclosures	YES – the enclosures should be free of debris & all wire trimmings shall be removed from the enclosures prior to energizing Corrected March 2026
3	NFPA 79	Loose Wire / Non-Terminated Wires were observed in the control side of the enclosure. This can lead to potential shock or incorrect control functions	YES – terminate the wire per the drawings, or remove from the enclosure Corrected March 2026
4	NEC & NFPA 79	There were conduit penetrations into the enclosures that did not have proper bushing/hub/grommet installed to protect the cables entering/leaving the enclosure per NEC 300.4(G)	YES – correct the plastic conduit bushing, so the conduit extends into the enclosure & prevents the cable’s insulation from coming in contact with the sharp edges on the manually cut hole Corrected March 2026
5	NFPA 79	The motor circuit protectors / overloads were set too high for the connected load	YES – look at the load’s nameplate / service factor & set the trip either 115% or 125% per NEC 430.32 for the separate overload device Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060040



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-03-20
1.0	After Corrections - PASSED	2026-04-01

Muth Power Solutions

Summary:

████████████████████ panels + connected equipment was installed with a recognized listing label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is "**No Listing on Installation**". The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060040**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

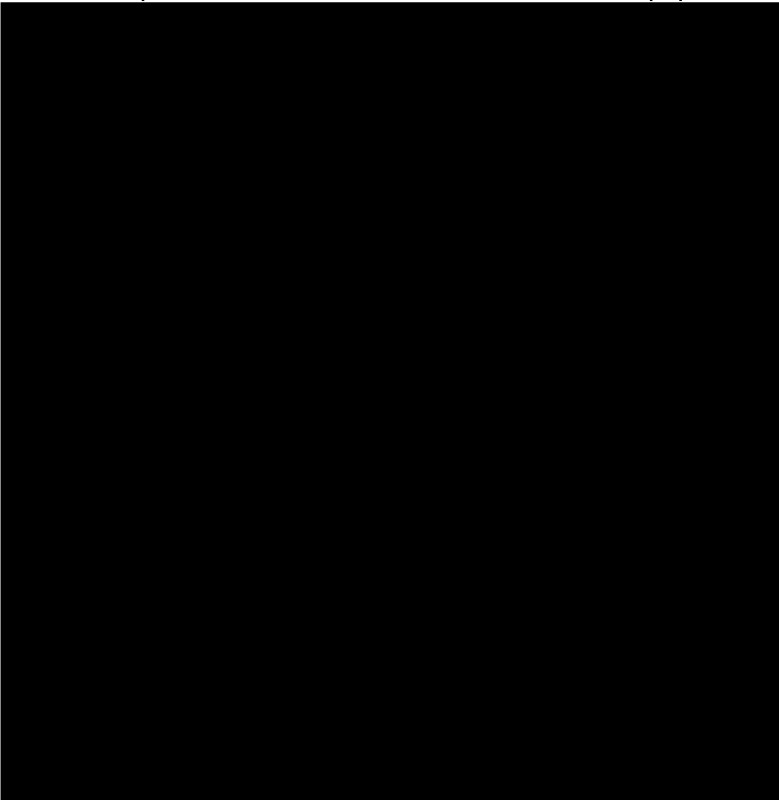
Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

- The ammonia skid controls the refrigeration compressor to maintain temperature. This machine has thermal control, and this meets the definition of an industrial machine since it processes with thermal techniques.

RCP-4 Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



The (4) compressors are supplied individually with 480V/3ph circuits from their corresponding VFDs. These were all observed to be compliant with NEC 670

Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied with #8 wire. This is appropriate since nameplate shows maximum of 40A, so this is compliant

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The RCP-4 panel has a single circuit & it's located in adjacent room to the electric room (less than 20' away). NPFA 79 does not require a local disconnect. This is compliant

Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied with a 40A circuit breaker. This is appropriate for the 40A MOCP listed on the nameplate

Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The panel is rated for 10 kaic & the maximum calculated at this panel is less than 10kaic. This is compliant with NEC 670.

Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The main 480V panel at OLM has surge protection. The 24 VDC power supply also has surge protection

NFPA 70, Article 670 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 120V/1ph 60 Hz for the panel. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (nema 4x)

Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

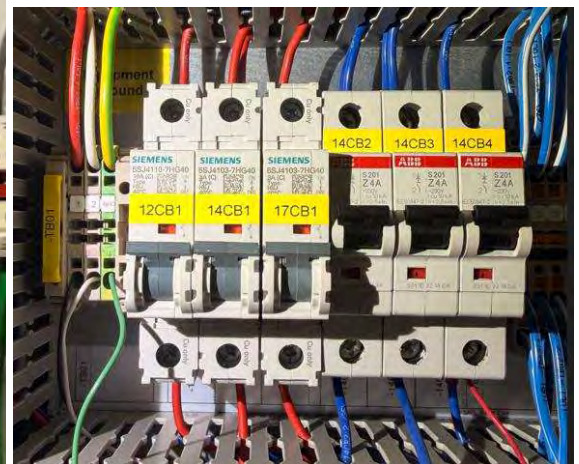
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.

Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
- Overloads for motors
- Ground fault
- Overvoltage
- Abnormal temperature
- Incorrect phases or loss of phases
- Overspeed of machines

- Overcurrent



- Overload / overspeed / other protection
 - The VFDs have integral protection for the motors

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The bonding points are all identified with the ground symbol in the main control panel



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control circuits were tested and were fully working/functioning as intended. The circuits are all supplied from a 24VDC control circuit, which has integral surge protection & short circuit protection.

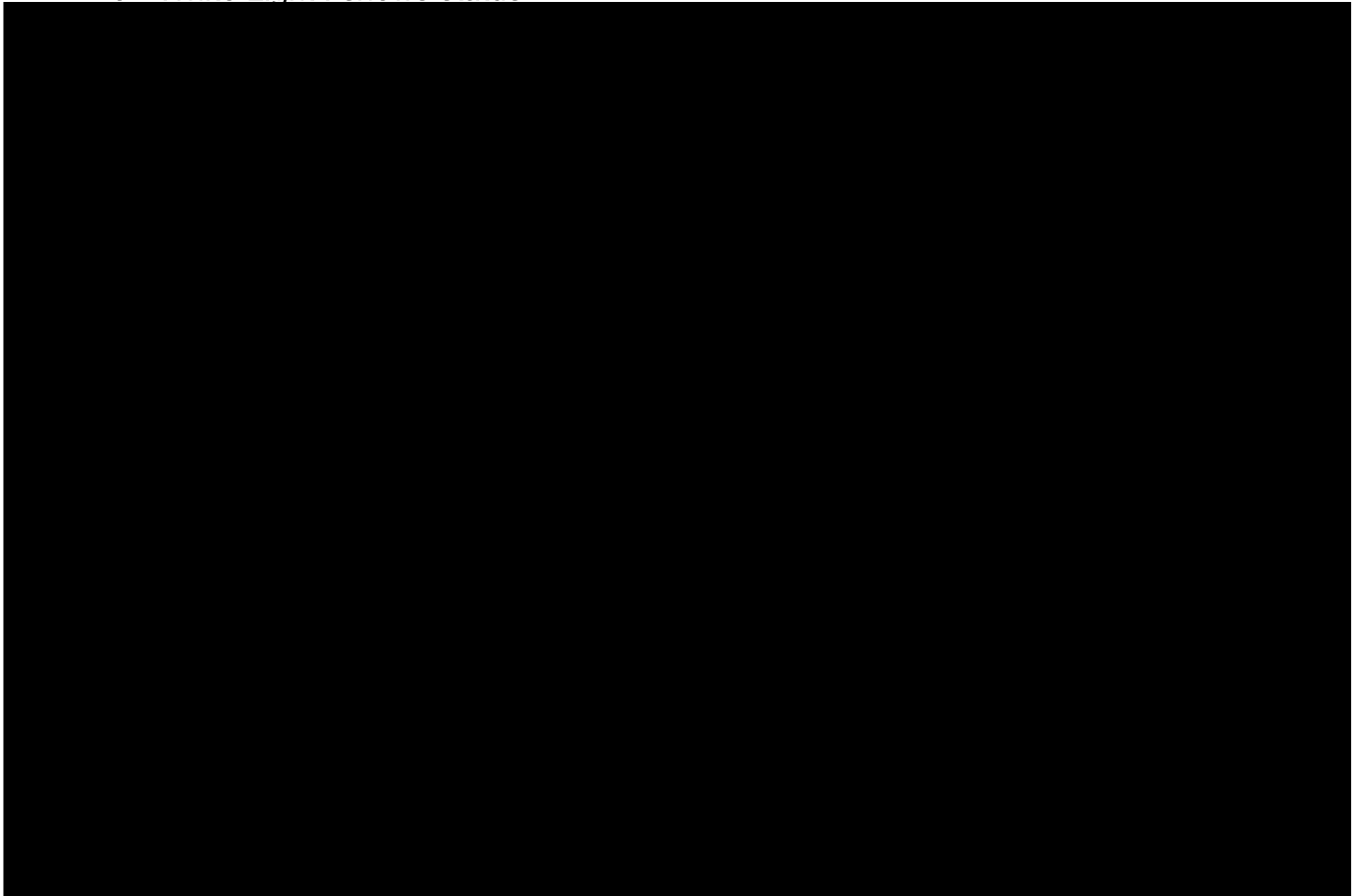
Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- Start or Normal Conditions** (Green but Black, White, or Gray)
- Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- Abnormal Conditions** (Yellow or Amber)
- Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)

- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)

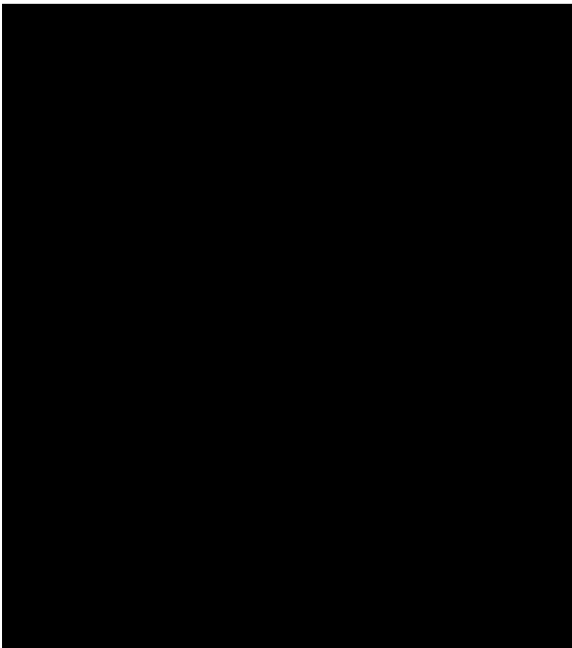
- The panel has compliant control/interface devices
 - E-stop : emergency stop switch
 - Red Light : shows there is an alarm or stop condition
 - Amber Light : shows there's a warning
 - White Light : shows status



Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine + connected cables / hoses / tubing is installed in compliant with NPFA 79



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- The conductors were all observed to be appropriate sizes for their respective FLA and they're compliant with NPFA 79

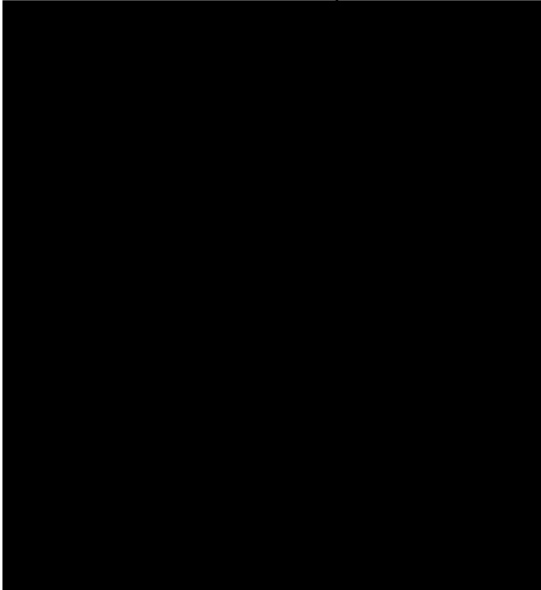
Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire was installed in a professional manner, and in no instance were any wires loose, had exposed conductors on the termination, crossed over things, etc. The wire/raceway was installed in compliance with NFPA 79



The wire duct covers were observed initially to not be installed. All covers were installed in March 2026 & the finished wire was left in a professional like manner



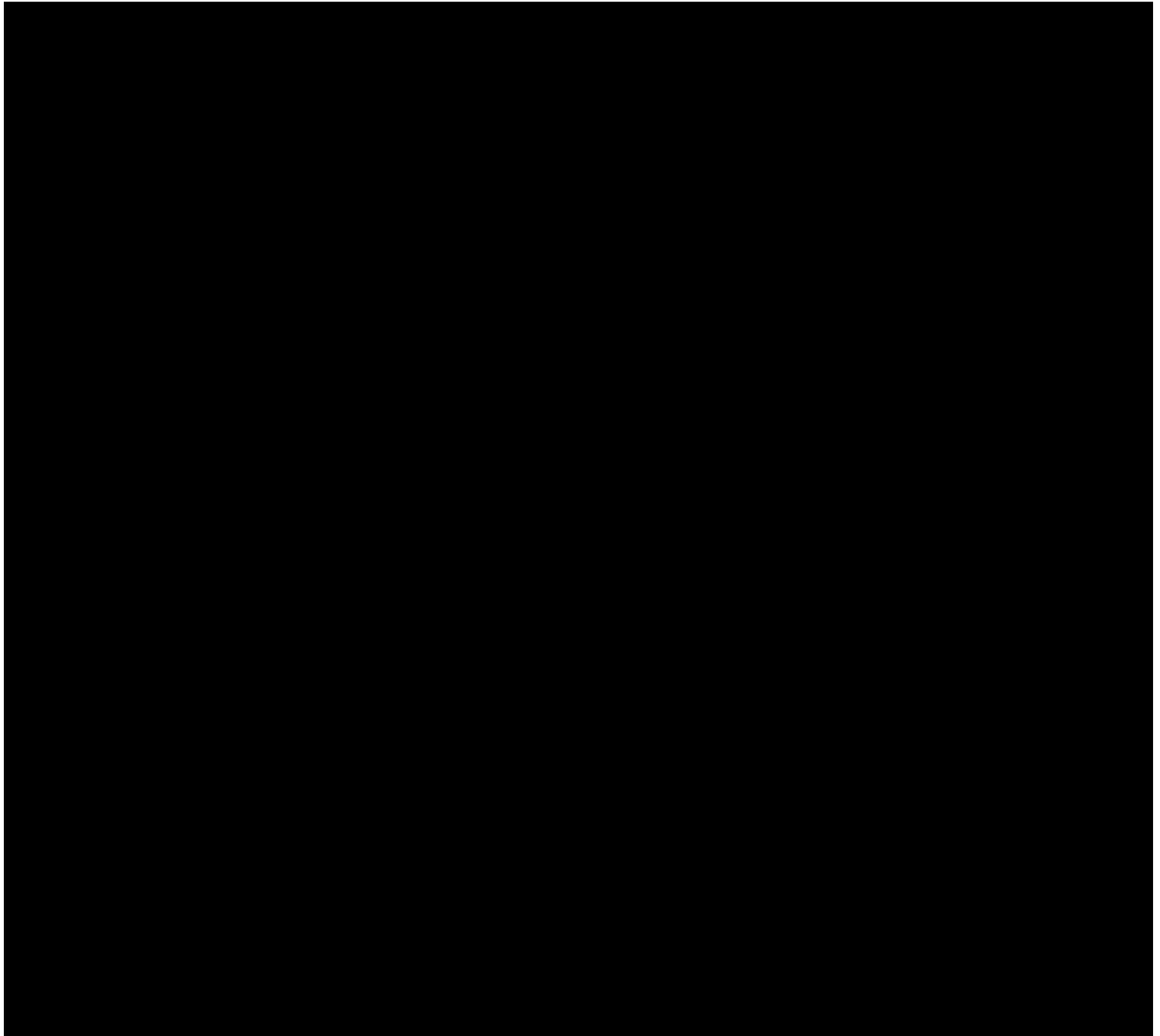
A cord grip was observed initially to be missing for wire directly leaving a conduit. This can cause damage to the wire over time. A cord grip was installed in March 2026 & is compliant with NFPA 79 now.



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motor's nameplate is compliant with NFPA 79 & it is installed in a professional manner



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- There were not any receptacles or lighting supplied from the machine's 480V control panel, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
 - The machine was observed to be missing electric shock & arc flash hazard safety placards. These were added to all panels with voltages greater than 50VAC or 60VDC in March 2026.
- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.

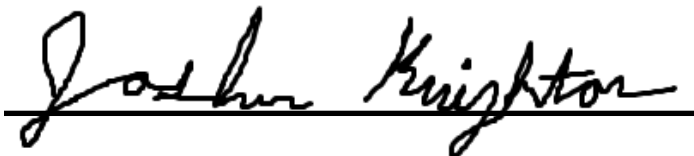
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 1, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Wire was observed to be leaving conduit directly without a cord grip	YES – a cord grip is required to protect the cable Corrected March 2026
2	NEC & NFPA 79	The RCP-4 panel was observed to not have wire duct covers installed	YES – install the duct covers & make sure wire is left in a professional like manner Corrected March 2026
3	NEC & NFPA 79	The machine is missing electric shock & arc flash hazard safety placards.	YES - These shall be added to all panels with voltages greater than 50VAC or 60VDC Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____



SIGNATURE

____/____/____
DATE

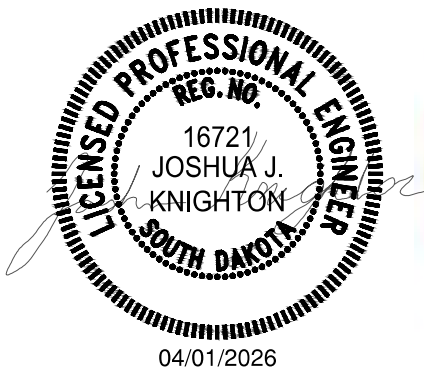
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060041



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-03-20
1.0	After Corrections – Passed	2026-04-01

Muth Power Solutions

Summary:

[REDACTED] panels + connected equipment was installed with a recognized listing label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060041**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

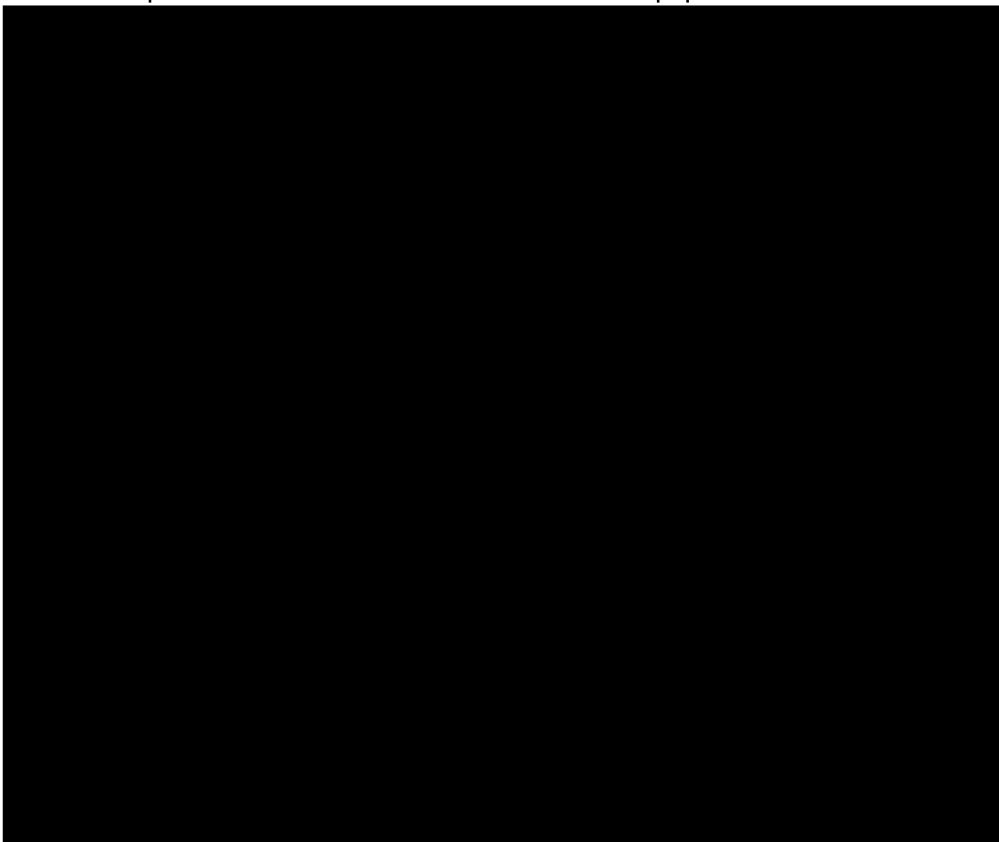
Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

- The ammonia skid controls the refrigeration compressor to maintain temperature. This machine has thermal control, and this meets the definition of an industrial machine since it processes with thermal techniques.

RCP-3 Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



The (4) compressors are supplied individually with 480V/3ph circuits from their corresponding VFDs. These were all observed to be compliant with NEC 670

Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied with #8 wire. This is appropriate since nameplate shows maximum of 40A, so this is compliant

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The RCP-3 panel has a single circuit & it's located in adjacent room to the electric room (less than 20' away). NPFA 79 does not require a local disconnect. This is compliant

Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied with a 40A circuit breaker. This is appropriate for the 40A MOCP listed on the nameplate

Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The panel is rated for 10 kaic & the maximum calculated at this panel is less than 10kaic. This is compliant with NEC 670.

Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The main 480V panel at OLM has surge protection. The 24 VDC power supply also has surge protection

NFPA 70, Article 670 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 120V/1ph 60 Hz for the panel. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (nema 4x)

Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

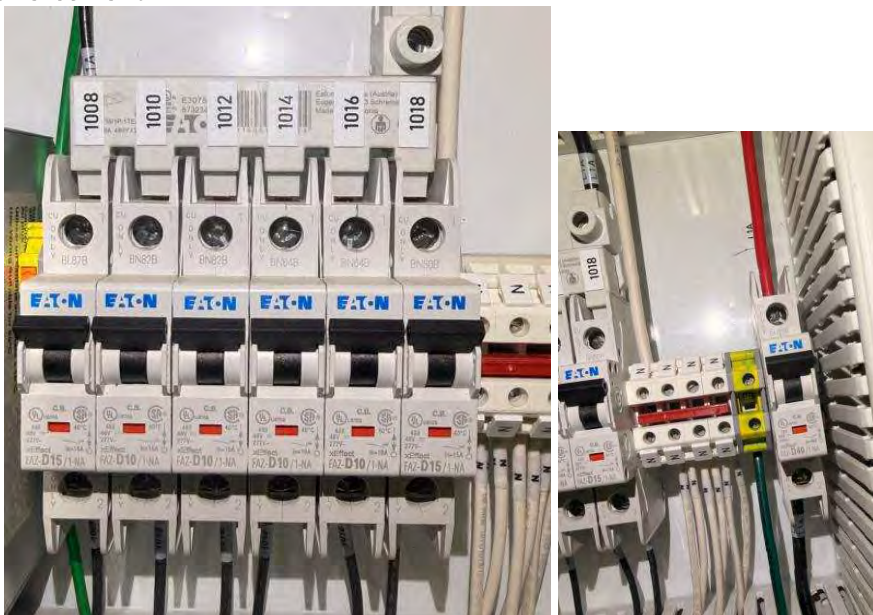
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.

Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
- Overloads for motors
- Ground fault
- Overvoltage
- Abnormal temperature
- Incorrect phases or loss of phases
- Overspeed of machines

- Overcurrent



- Overload / overspeed / other protection
 - The VFDs have integral protection for the motors

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The bonding points are all identified with the ground symbol in the main control panel



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control circuits were tested and were fully working/functioning as intended. The circuits are all supplied from a 24VDC control circuit, which has integral surge protection & short circuit protection.



Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

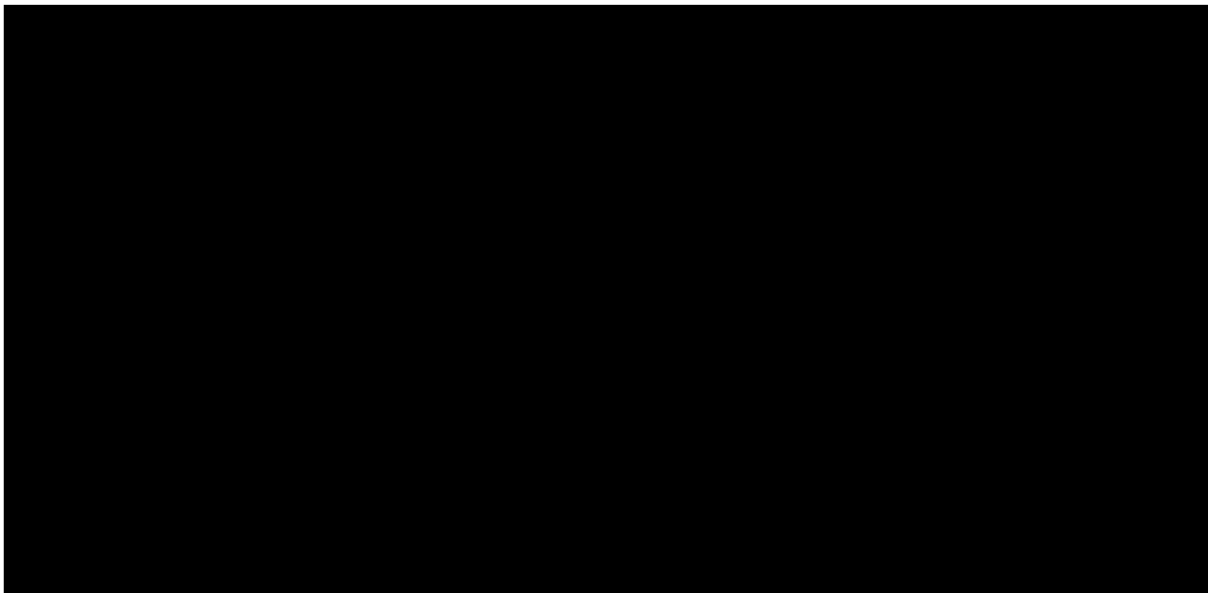
- **Start or Normal Conditions** (Green but Black, White, or Gray)
 - **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
 - **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
 - **Abnormal Conditions** (Yellow or Amber)
 - **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
 - **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
 - **Mandatory Conditions** (Blue)
 - **Neutral Conditions** (White)
-
- The panel has compliant control/interface devices

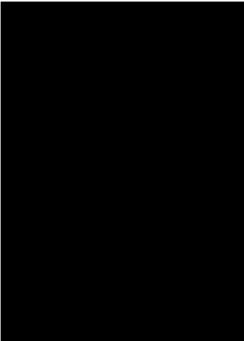
Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected.

Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine + connected cables / hoses / tubing is installed in compliant with NPFA 79





Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

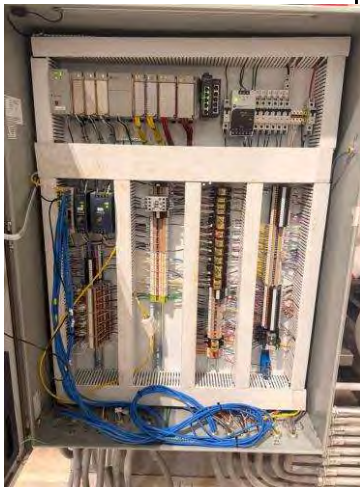
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- The conductors were all observed to be appropriate sizes for their respective FLA and they're compliant with NPFA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire was observed initially to have been installed in a unprofessional manner within RCP-3 & the wire duct covers were not able to be installed. This was corrected in March 2026 & the installation is compliant with NFPA 79 / everything looks professional



- It was observed initially that there were missing din rail anchors & the din-rail mounted equipment was loosely sliding. A proper anchor was installed in March 2026 & this is compliant with NFPA 79 now.



- It was observed initially that equipment wasn't mounted to the backplate properly & was just hanging within the panel. This CT has the ability to be mounted to the backplate & it was relocated to the dinrail in March 2026. This will prevent accidental shock / damage & is compliant with NFPA 79 now.



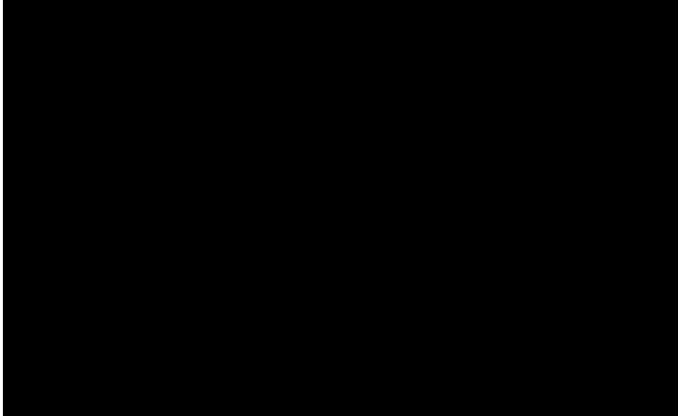
- It was observed initially that wire crossed over the equipment multiple times instead of using the other side of the wire duct. NFPA 79 does not allow wire to cross over equipment or terminals. This was corrected in March 2026 & is compliant now.



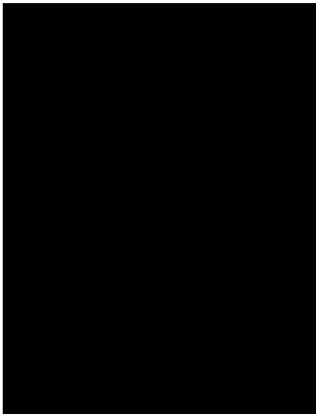
Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motor's nameplate is compliant with NFPA 79 & it is installed in a professional manner



- The manufacturer confirmed that it's normal / expected to have this much frost build up on the outside of the pipe & there's no reason to be concerned.



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- There were not any receptacles or lighting supplied from the machine's 480V control panel, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
 - The machine was missing electric shock & arc flash hazard safety placards. These were placed on all panels with voltages greater than 50VAC or 60VDC in March 2026 & is compliant with NFPA 79 now.
- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



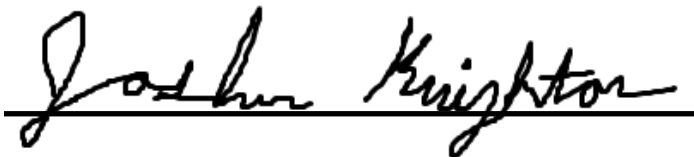
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 1, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Wire was observed to be installed in violation of NFPA 79 within RCP-3 panel	YES – all wire shall be reworked until it's compliant with NFPA 79 Corrected March 2026
2	NEC & NFPA 79	The RCP-3 panel was observed to not have wire duct covers installed	YES – install the duct covers & make sure wire is left in a professional like manner Corrected March 2026
3	NEC & NFPA 79	The machine is missing electric shock & arc flash hazard safety placards.	YES - These shall be added to all panels with voltages greater than 50VAC or 60VDC Corrected March 2026
4	-	A large quantity of frost / ice was observed on the recirculation pumps	NO – verification only. Please verify that the MFG is okay with this level of ice developing on the equipment. It appears that heat trace or insulation would be required to prevent that big of ice build up. There were obvious signs of corrosion occurring Manufacturer confirmed these instances are typical & there is no reason to be concerned

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

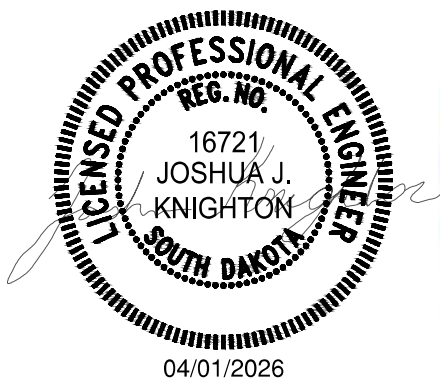
To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060039



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-03-20
1.0	After Corrections - PASSED	2026-04-01

Muth Power Solutions

Summary:

██████████ panel + connected equipment was installed with a recognized listing label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is "**No Listing on Installation**". The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060039**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

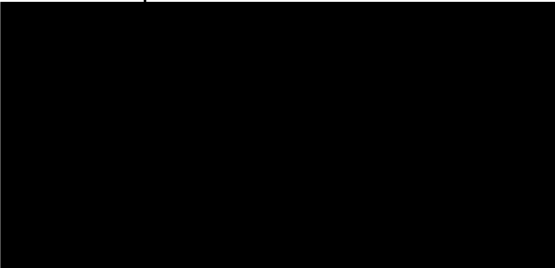
Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

- The [REDACTED] water heater controls the water to maintain temperature. This machine has thermal control, and this meets the definition of an industrial machine since it processes with thermal techniques.

Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



- The machine has a nameplate on it that is compliant with NEC 670

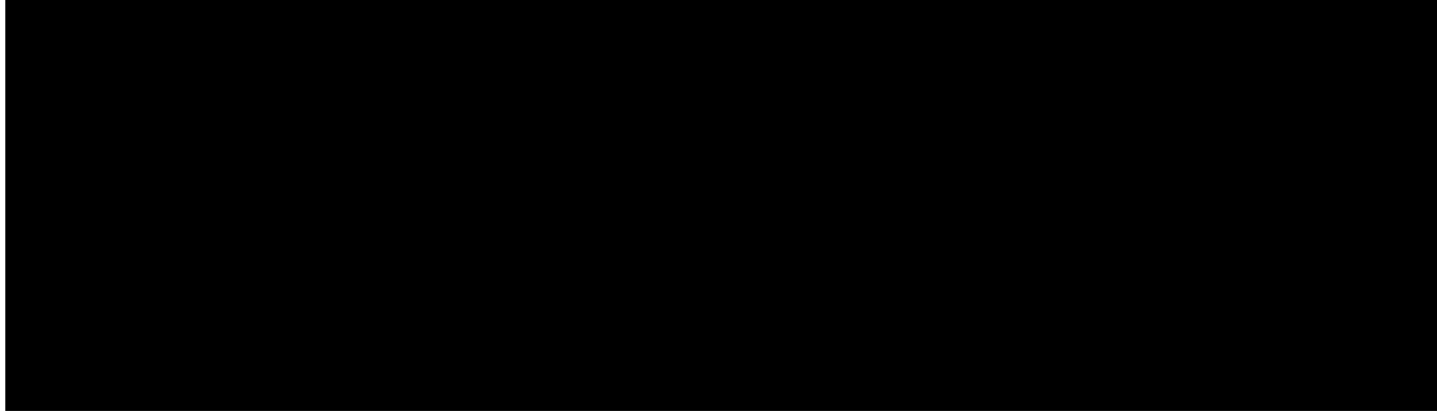


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied with #4 wire. This is appropriate since nameplate shows maximum of 66A and the calculation results in 76A. #4 is rated for 85A, so this is compliant



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

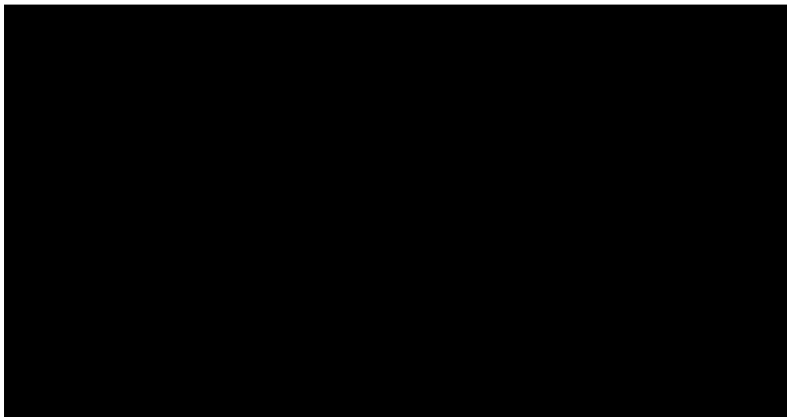
- The panel has a single circuit & it's located in adjacent room to the water room (less than 20' away). NPFA 79 does not require a local disconnect. This compliant

Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

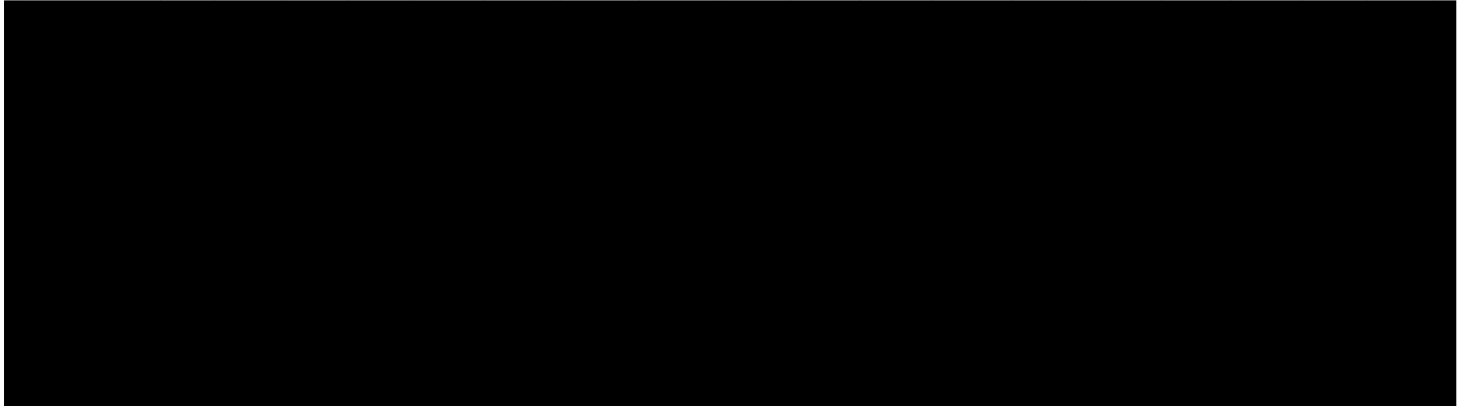
- The panel is supplied with an 80A circuit breaker. This is appropriate for the 66 FLC on the nameplate and the above calculation resulted in 76A



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The ████████ panel is rated for 65 kaic & the maximum calculated at this panel is less than 10kaic. This is compliant with NEC 670.



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The main 480V panel at OLM has surge protection. The 24 VDC power supply also has surge protection

NFPA 70, Article 670 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz for the panel. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (nema 4x)

Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

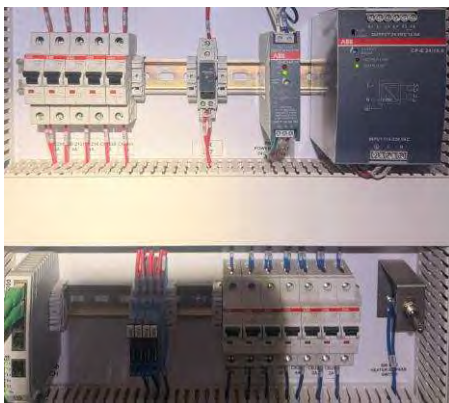
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.

Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
- Overloads for motors
- Ground fault
- Overvoltage
- Abnormal temperature
- Incorrect phases or loss of phases
- Overspeed of machines

- Overcurrent



- Overload / overspeed / other protection
 - The VFDs have integral protection for the motors

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The bonding points are all identified with the ground symbol in the main & secondary control panels



Control Circuits & Control Functions

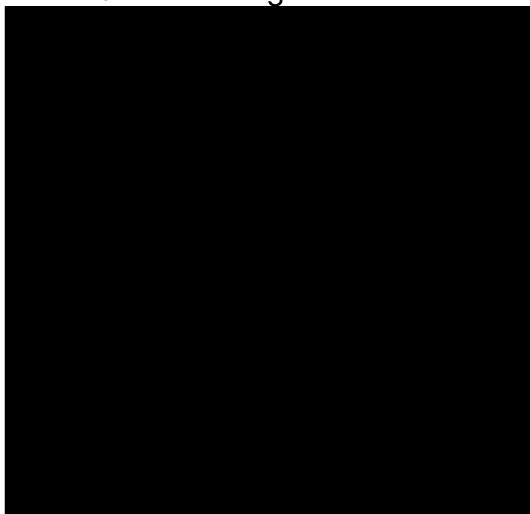
The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control circuits were tested and were fully working/functioning as intended. The circuits are all supplied from a 24VDC control circuit, which has integral surge protection & short circuit protection.

Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
 - **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
 - **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
 - **Abnormal Conditions** (Yellow or Amber)
 - **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
 - **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
 - **Mandatory Conditions** (Blue)
 - **Neutral Conditions** (White)
-
- The panel has compliant control/interface devices
 - E-stop : emergency stop switch
 - Red Light : shows there is an alarm or stop condition
 - Amber Light : shows call for heat
 - Green Light : shows machine is running



Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine + connected cables / hoses / tubing is installed in compliant with NPFA 79

It was observed initially that wire was routed loosely / not secured. This wire was secured better in March 2026 to prevent accidental snagging

Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

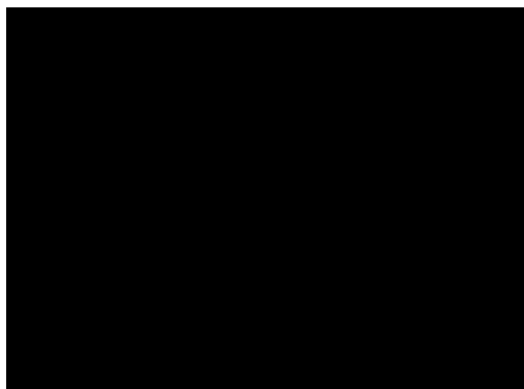
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- The conductors were all observed to be appropriate sizes for their respective FLA and they're compliant with NPFA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The wire was installed in a professional manner, and in no instance were any wires loose, had exposed conductors on the termination, crossed over things, etc. The wire/raceway was installed in compliance with NFPA 79

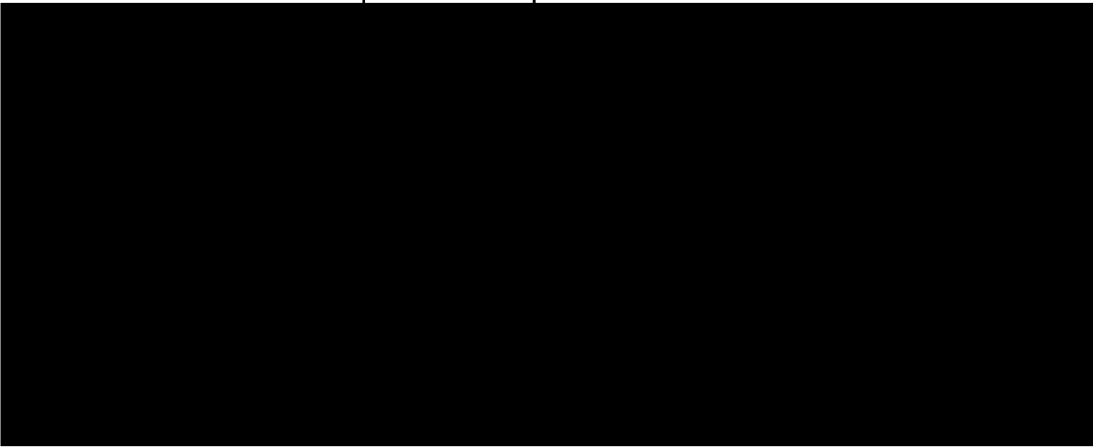


It was observed initially that the VFD load wire was THHN. NFPA 79 4.4.2.8 requires that load conductors on VFDs be rated for the VFD application. THHN is only rated for 600V and reflective voltage waves can cause VFD load conductors to experience voltage potentially past this threshold. This wire was replaced with 1000V rated wire in March 2026 & installed. It is compliant with NFPA 79 now.

Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motor's nameplate is compliant with NFPA 79 & it is installed in a professional manner



One of the local disconnects was observed initially to not open fully 90 degrees. This was corrected March 2026 & it is able to open fully now

Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- There were not any receptacles or lighting supplied from the machine's 480V control panel, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
- The machine has appropriate safety placards

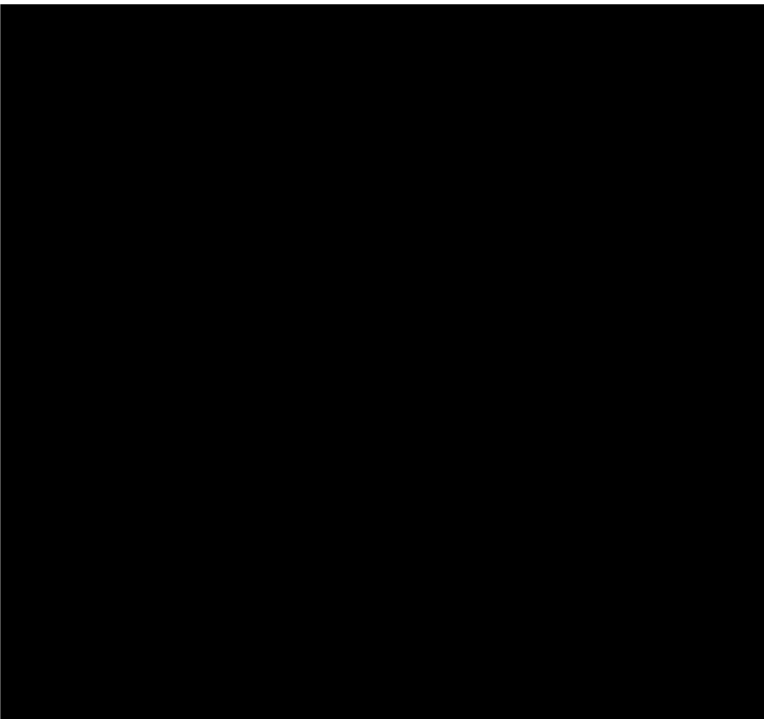


- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



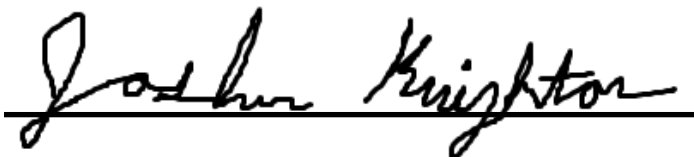
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 1, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	There are not grounding symbols at all bond points	<p>YES – install ground symbol stickers at all of the bond points</p> <p>Corrected March 2026</p>
2	NFPA 79	VFD load wire was THHN / thermoplastic	<p>YES – NPFA 79 4.4.2.8 requires that load conductors on VFDs be rated for the VFD application. THHN is only rated for 600V and reflective voltage waves can cause VFD load conductors to experience voltage potentially past this threshold. It is recommended to use a thermoset type conductor that's rated for VFD applications</p> <p>Corrected March 2026</p>
3	NEC & NFPA 79	Motor's disconnect was observed to be obstructed & isn't able to open fully 90 degrees	<p>YES – the disconnect shall be moved slightly until it is able to open 90 degrees / is not obstructed by anything</p> <p>Corrected March 2026</p>
4	NEC & NFPA 79	A wire was observed to not be supported/secured properly & this could become snagged over time	<p>YES – secure the cable to prevent accidental snagging</p> <p>Corrected March 2026</p>

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

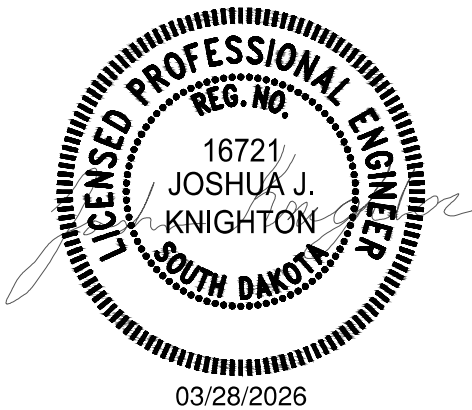
- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060029



OLM Food Solutions
2400 N Marietta Pl, Sioux Falls
Minnehaha County, South Dakota



Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-05
1.0	After Corrections - PASSED	2026-03-28

Muth Power Solutions

Summary:

██████████ panel was installed **WITH** a recognized listing label, but the machinery is not listed with the label. The panel + connected equipment was built solely for **OLM Food Solutions** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060029**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

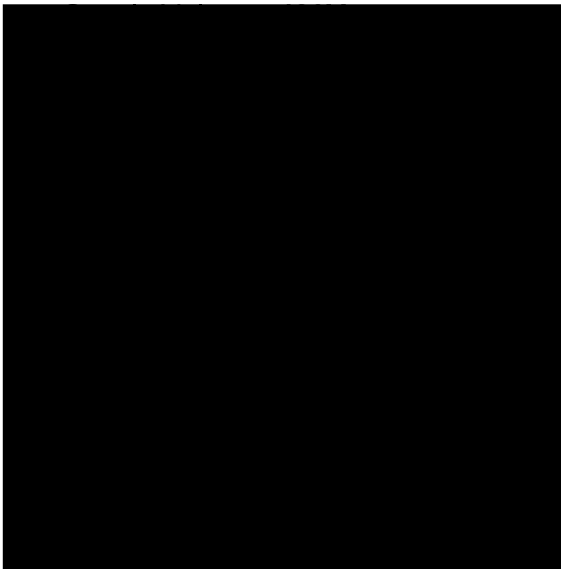
Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

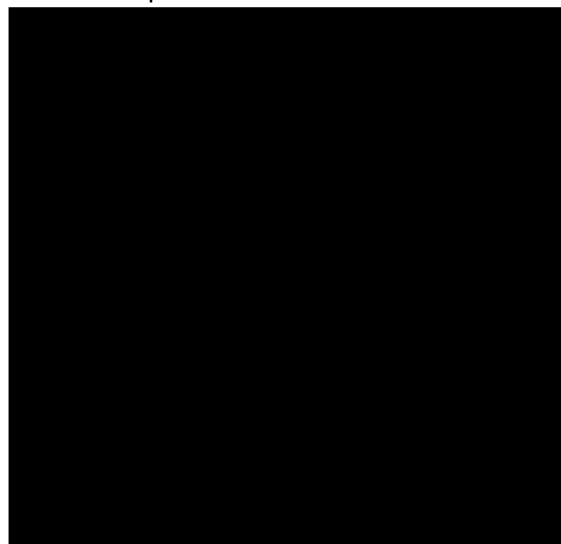
Main Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information



HMI Panel Nameplate Data [NFPA 70, Article 670.3(A)]

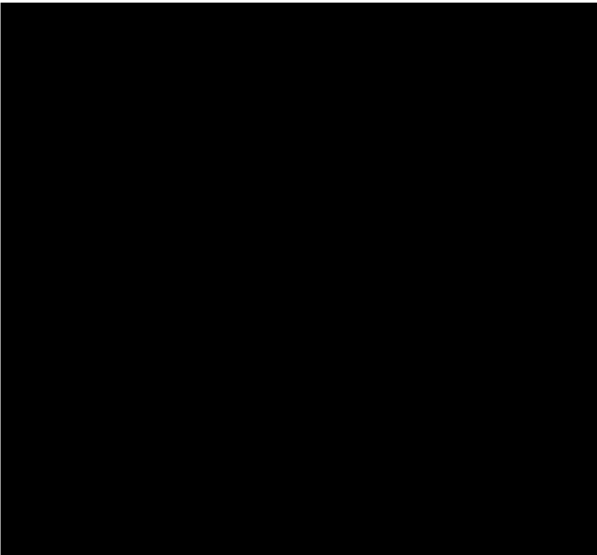
The nameplate must be attached to the control equipment enclosure or machine with the following information





Panel Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

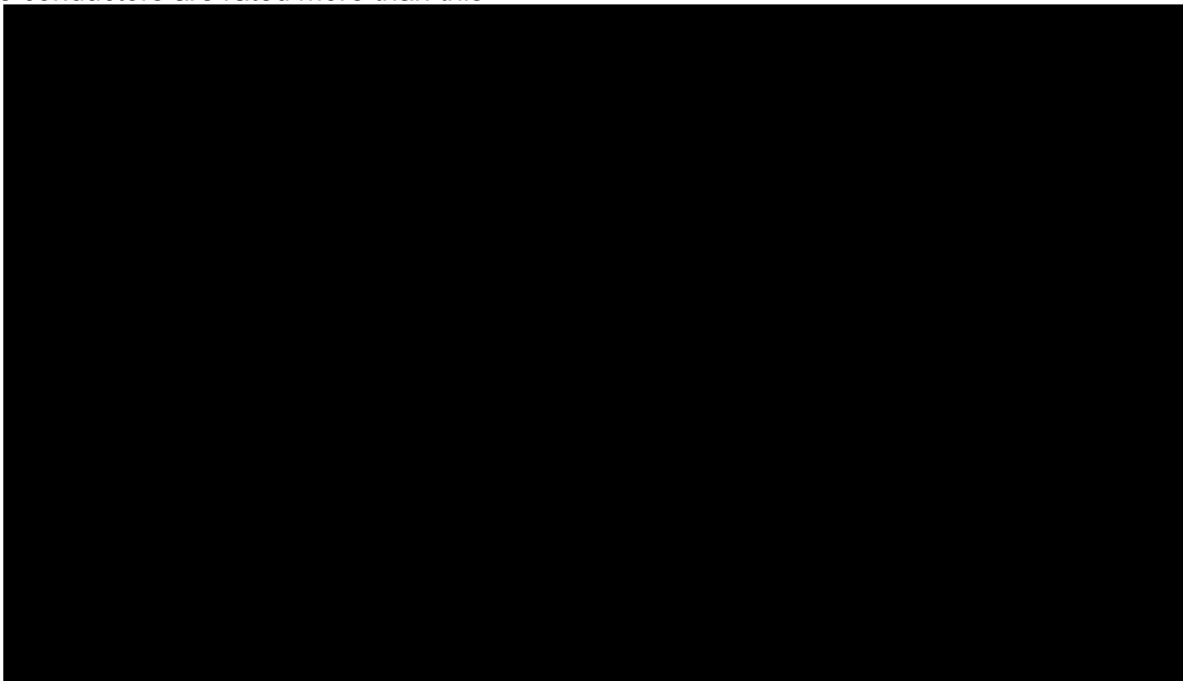


Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

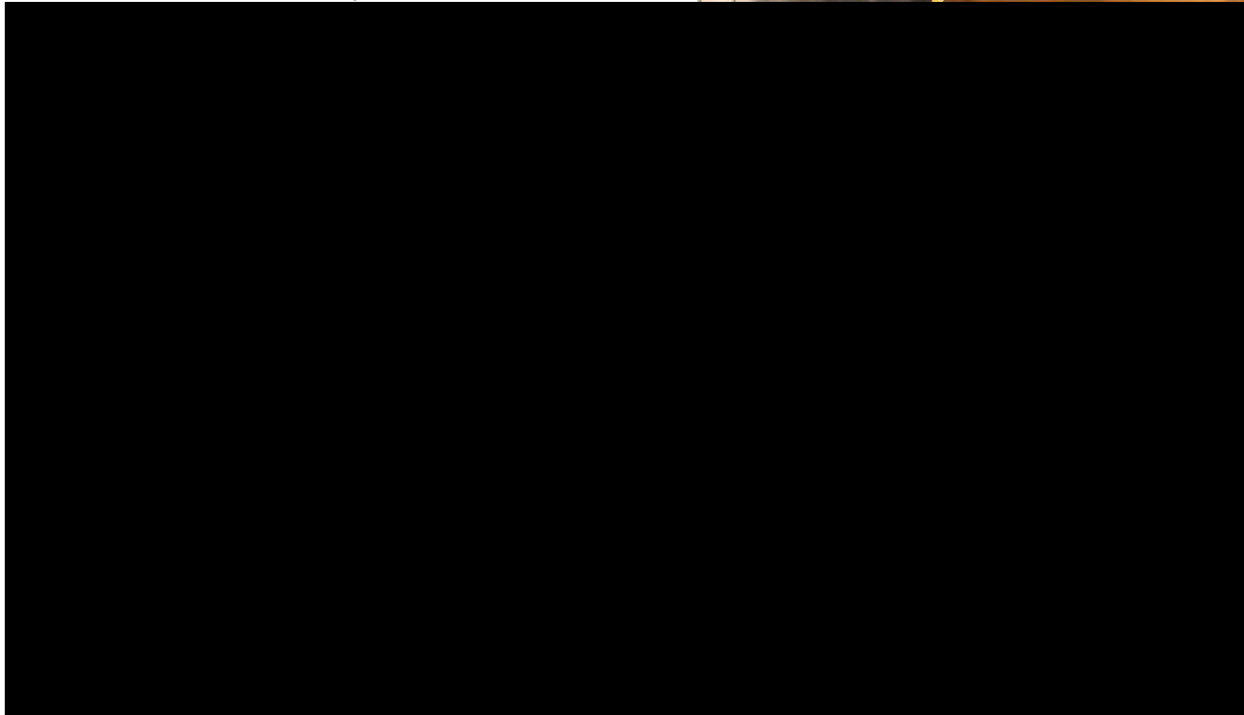
- The supply conductors are (3) 3/0 CU conductors, which are rated for 200A @ 75 Deg C. This is compliant with NEC 670 per the calculation below since the calculation results in approximately 119A & the conductors are rated more than this.



Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The enclosure has a rotary disconnect on the door & is compliant with NEC 670

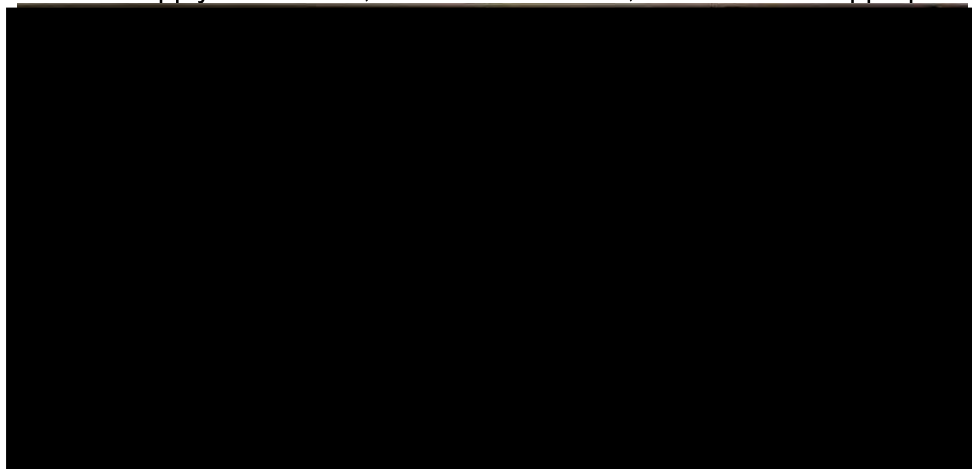


Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

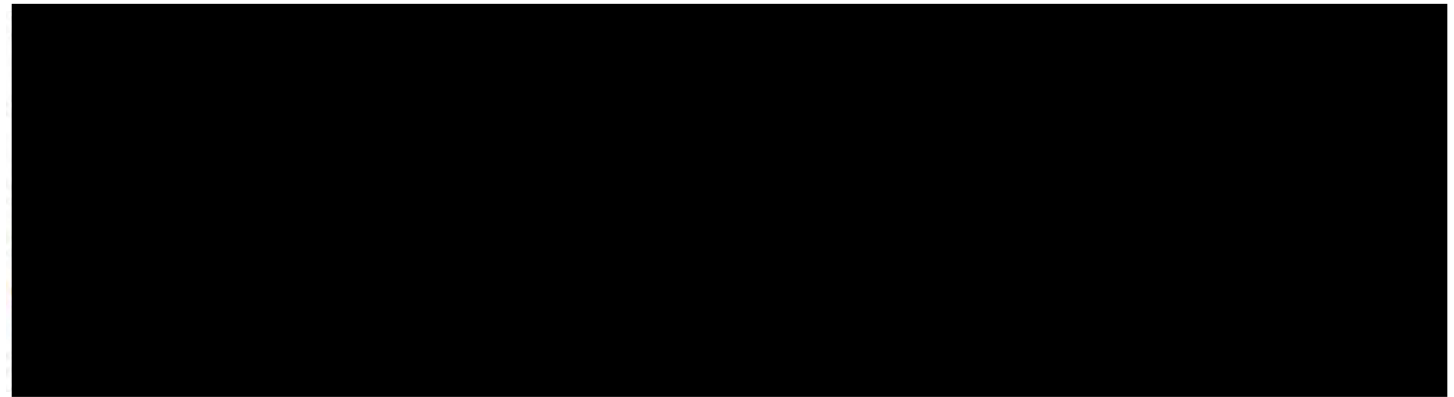
- The upstream circuit breaker was observed to be 125A/3P and 460V. Per the above calculation done with the supply conductors, this results in 119A, which 125A is appropriate for this machine.



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The maximum fault current was approximated to be 14.9 kA from the utility TX secondary down to the line terminals on the [REDACTED] panel. The panel is rated for 65 kAIC, so this is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety components are all on 24VDC and connected/controlled from Siemens PLC & safety relay. The 24VDC power supply has appropriate surge protection / overvoltage protection to keep the safety circuits operating as intended



NFPA 70, Article 670 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)



Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

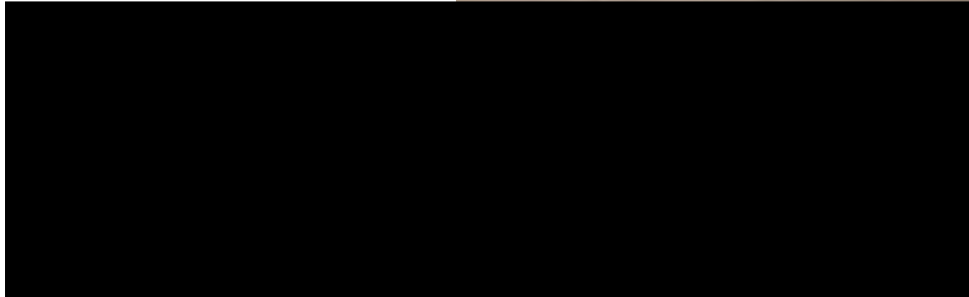
Environmental

The system shall be protected from the environment it is installed within.

- The main system is installed in an enclosure rated for the environment (Nema 1/12), which is appropriate for the non-washdown area



- The system is installed in an enclosure rated for the environment (Nema 4x), which is appropriate for the washdown area



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

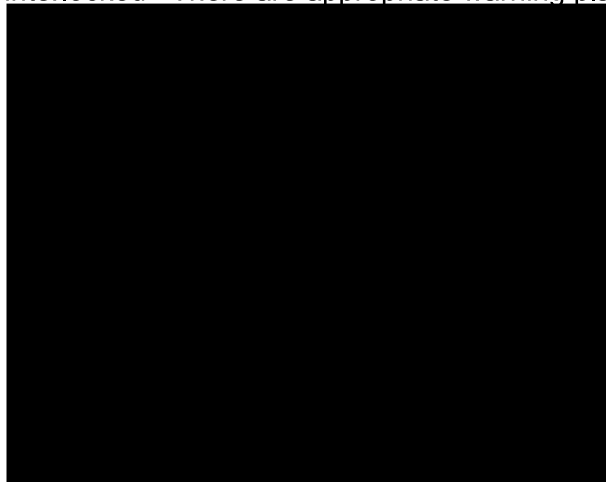
The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

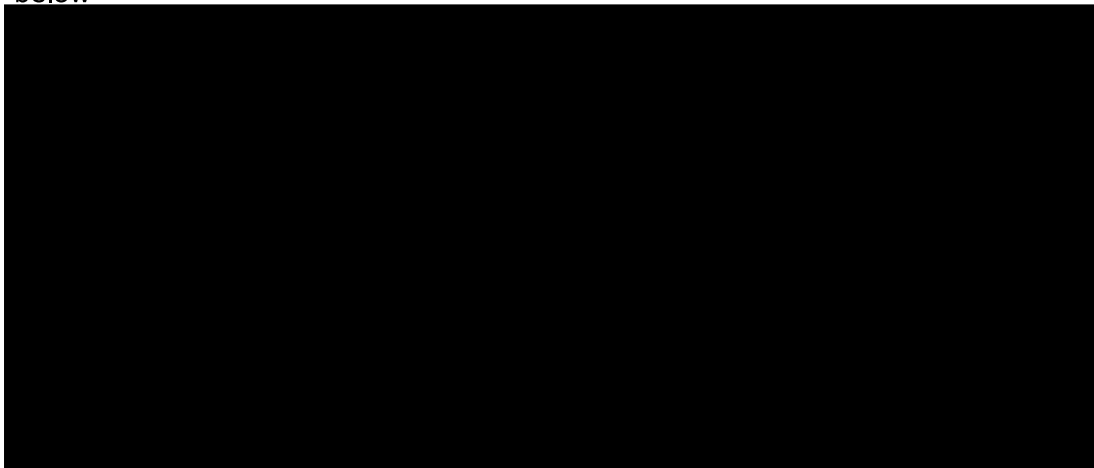
- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts since the terminations have appropriate insulation / guards, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- The machine has appropriate overcurrent protection and overloads for the field devices as shown below



- The machine has appropriate speed / phase protection on the motors that have VFDs

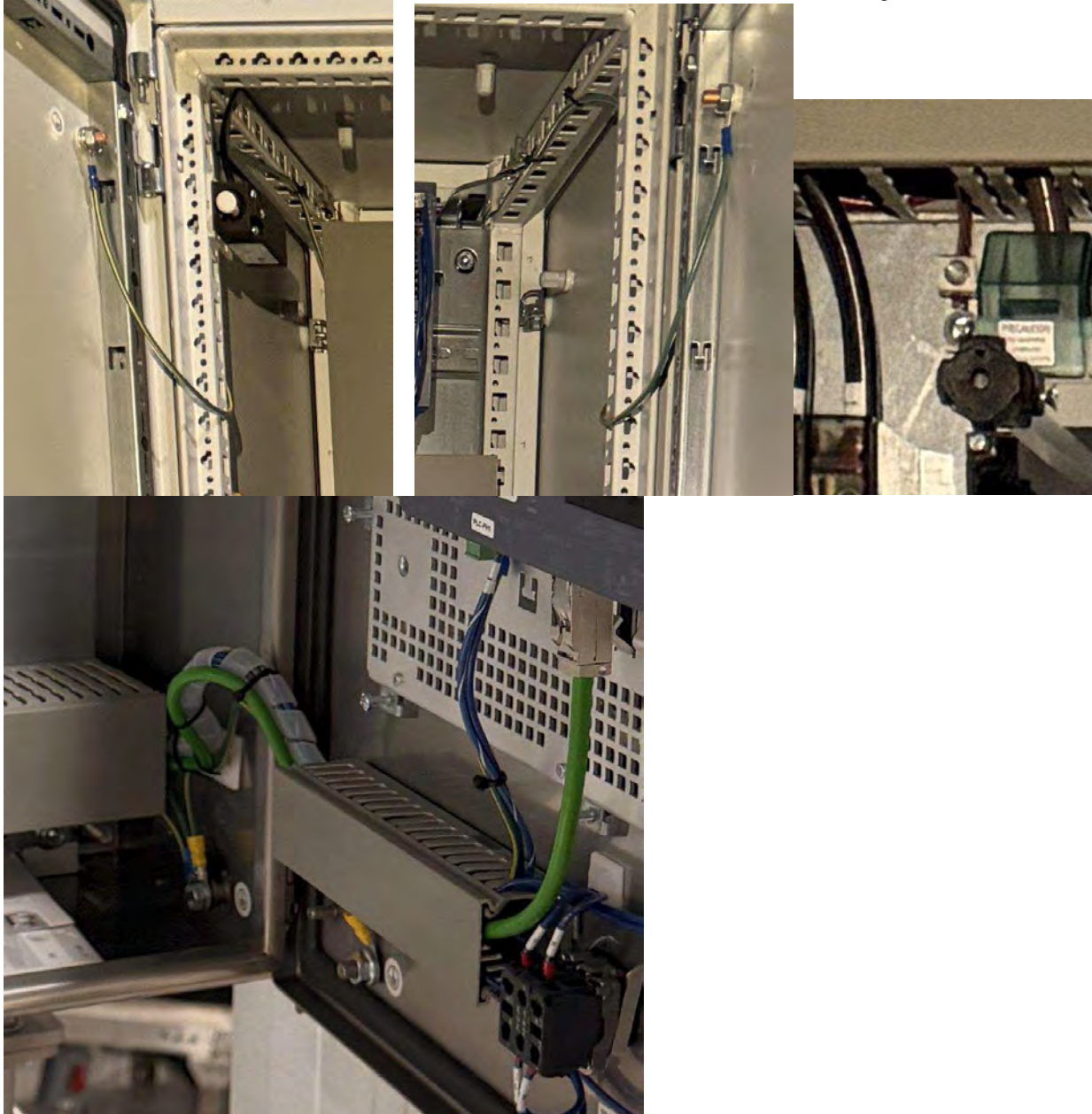


Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels have appropriate bonding that's compliant with NFPA 79. The equipment ground is identified from the supply conductors and the doors are bonded back to this ground bar.



Control Circuits & Control Functions

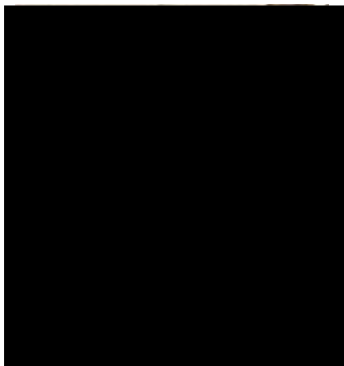
The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control devices & safeties were tested and were all in working order. There's a reset push-button to reset the system

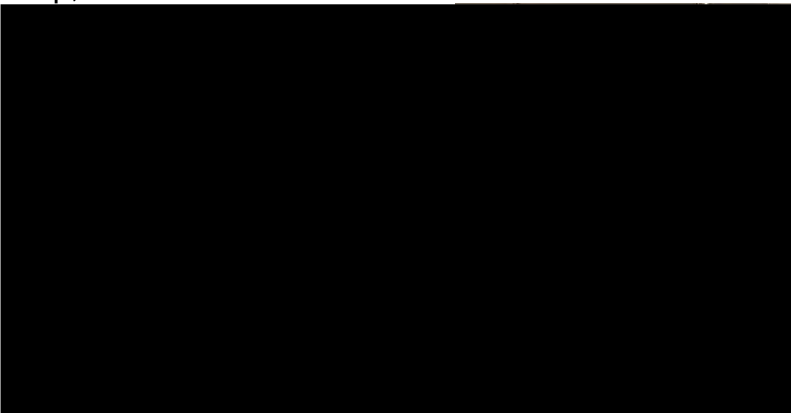
Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)
 - E-stops were observed to be compliant with NFPA 79



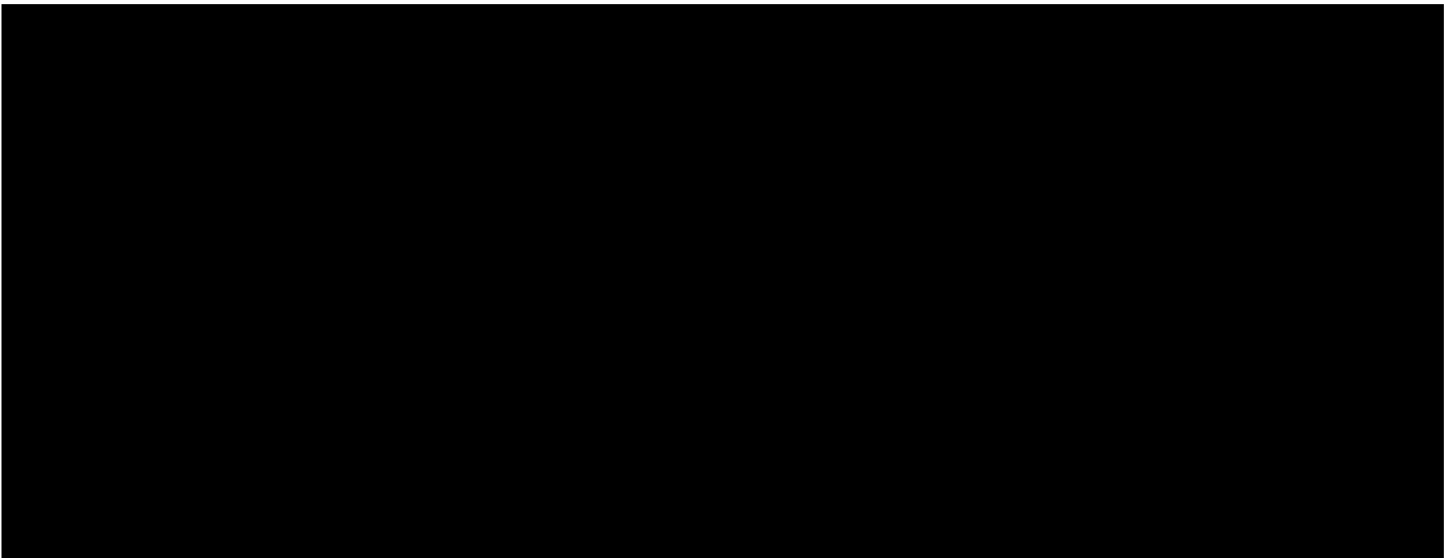
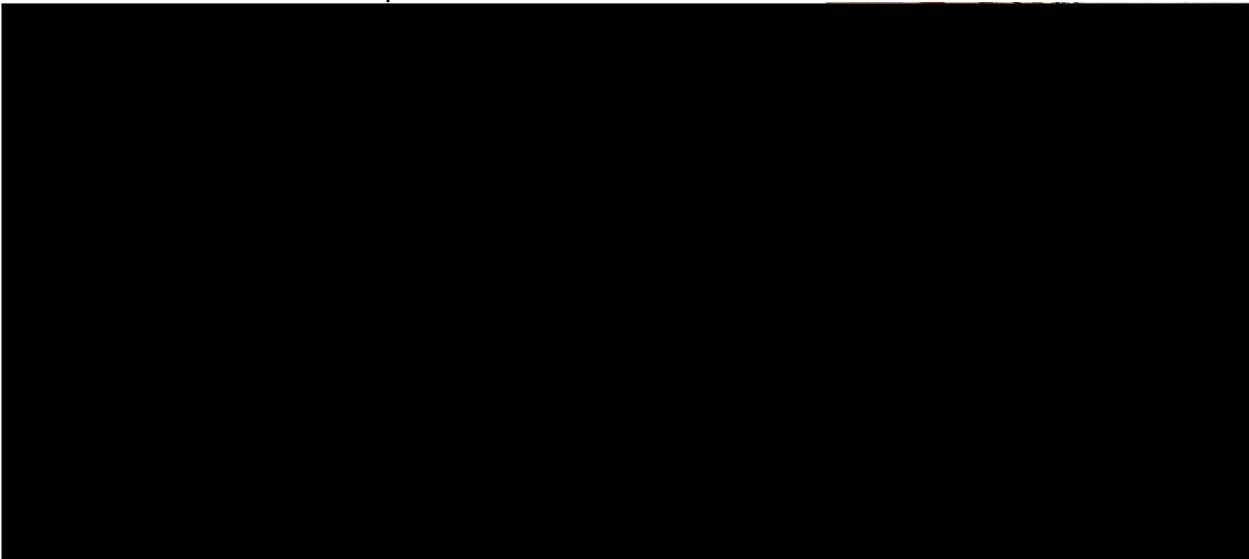
- Start, Stop, and Reset Push-buttons were observed to be compliant with NFPA 79



Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure or raceways/ducts that have electrical within them. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The hoses, piping, valves, etc are in installed in a professional manner and they were observed to be compliant with NFPA 79





- It was initially observed that pneumatic hoses were routed in the same cable tray as the electrical cables. This is a violation of the NEC 300.8. The pneumatic hoses were re-routed on the outside of the cable tray in March 2026. It is now compliant with NFPA 79 & NEC.

Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

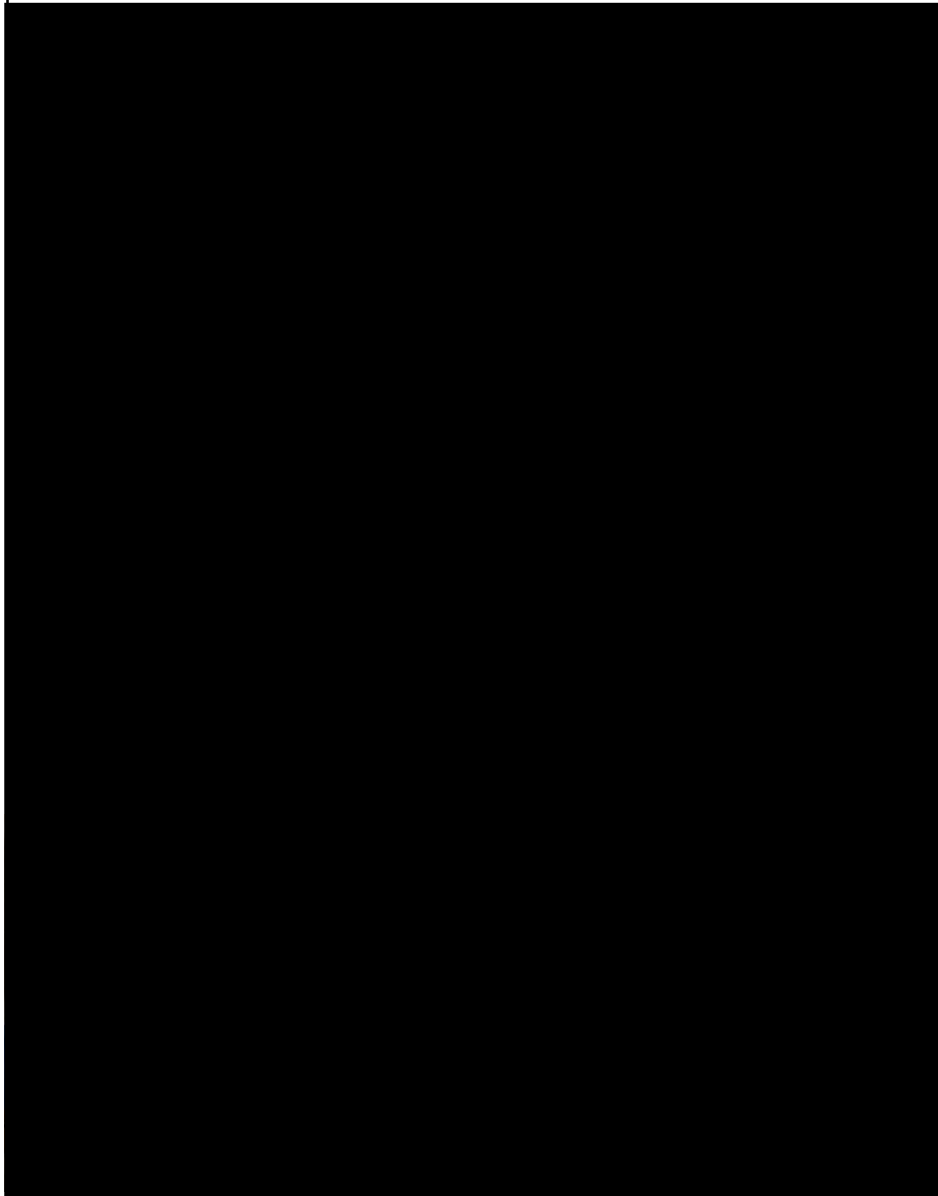
The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- Conductor sizes / ratings were observed to be compliant with NFPA 79

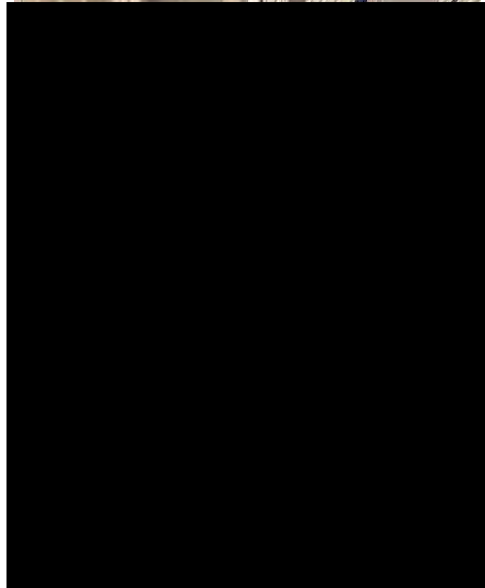
Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

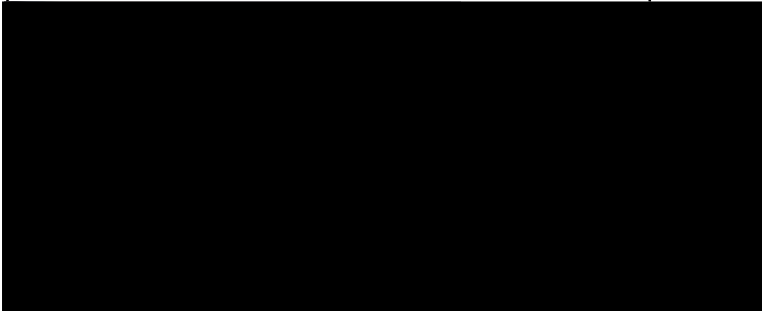
- The wire within the enclosures was observed to be compliant with NFPA 79 and they were installed in a professional manner



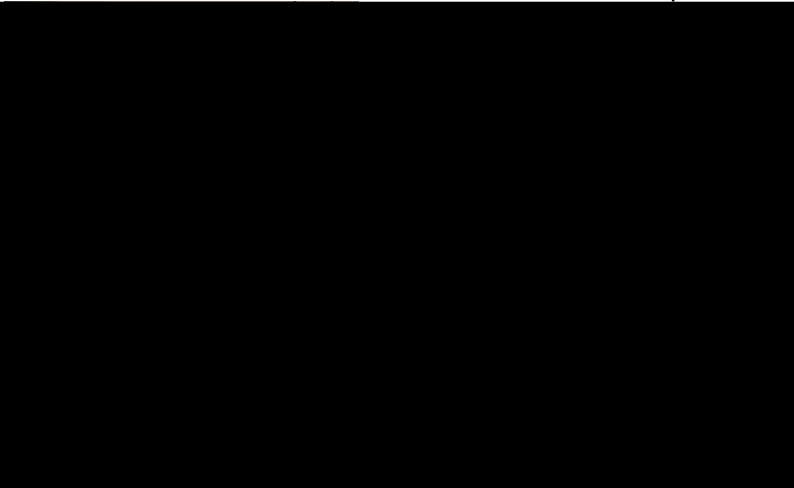
- The wire duct cover in one of the enclosures was initially observed to be overloaded / didn't appear the covers could be placed. This is not compliant with NFPA 79. A deeper wire duct was installed in March 2026 & the wire was re-routed so the covers could be placed on the wire duct. This is compliant with NFPA 79 now



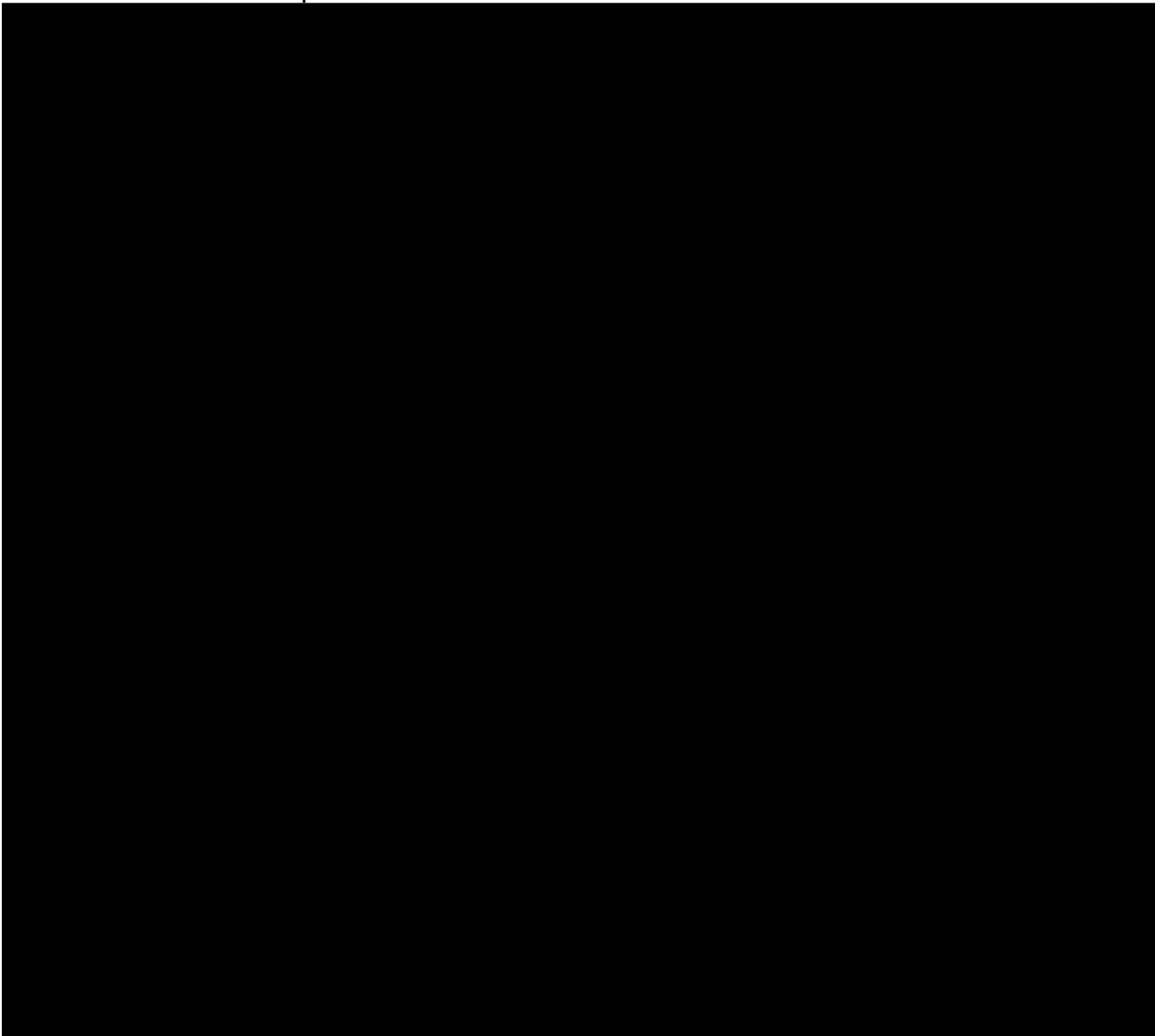
- The wire penetrations on the flour silo & exterior building did not appear to be sealed. These penetrations were sealed in March 2026 & is compliant with NFPA 79 now.



- The main PLC cabinet was initially observed to have non-terminated wires with ferrules on them. These wires were removed March 2026 and is compliant with NFPA 79 / NEC now.



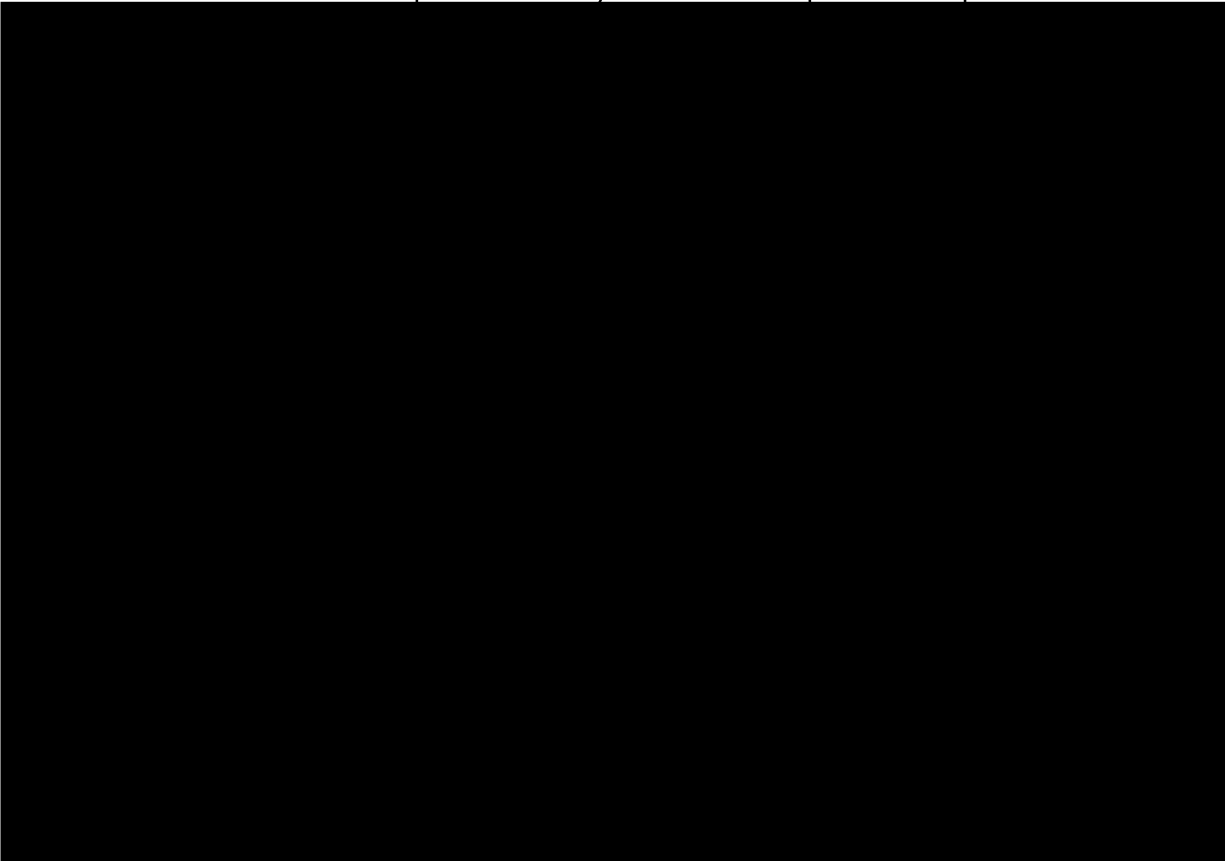
- The flour silo area appears to be installed as non-hazardous. It was observed that flour dust was present in the silo area & there's concern about dust explosions. The manufacturer's documentation shows there are a few "explosion panels" included in their installation. The manufacturer was consulted after the evaluation & they confirmed that the area will not be considered an explosive environment. They confirmed that the flour dust was not normal operation & this happened during startup testing. They confirmed that this will not happen during normal operations per their email below. The installation is compliant.



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- Motors were installed professionally & have nameplates compliant with NFPA 79



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- Receptacles were not observed on the machine, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- The machine has appropriate safety placards
- Warning Label – *Potential Electric Shock and Arc Flash Hazard*

- Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC



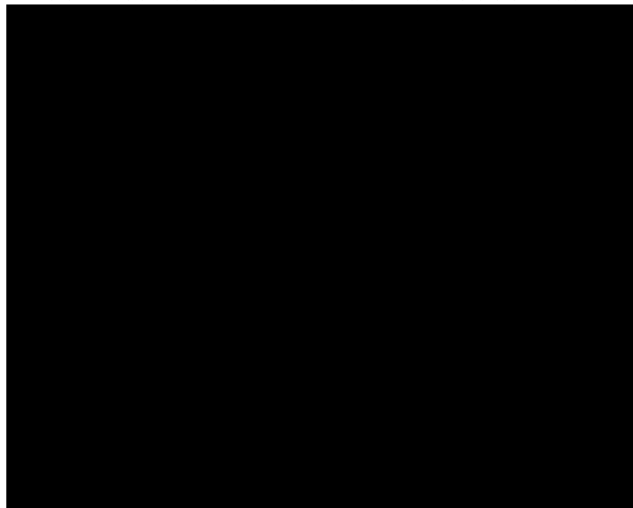
- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate compliance information



Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation was observed with the machine.



NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.

Joshua J. Knighton
Professional Engineer

March 28, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC & NFPA 79	There was a PLC enclosure that was observed to have overloaded wire duct & the covers were not installed	YES – one of the options should be implemented to correct the issue: existing wire duct replaced with deeper wire duct, existing enclosure replaced with a larger enclosure, or wire re-routed / insulation stripped better, so the duct is not over-filled Corrected March 2026
2	NEC & NFPA 79	Penetrations were observed on the exterior building & flour silo that didn't appear to be sealed	YES – these shall be sealed with UL-listed compound that's exterior rated & will hold up to the elements Corrected March 2026
3	NEC & NFPA 79	It was observed that the flour silos were installed as non-hazardous area, but NEC typically classifies flour silos are class II division 1 areas since flour dust can become explosive in certain concentrations.	YES - Verification required to have the manufacturer provide documentation on the hazardous area classification of the flour silo. If the documentation shows that the area meets the code/definitions to be non-hazardous, no further action is required. If the documentation shows that the area should be treated as a class II area, the electrical should all be redone to be compliant with NEC 502 Verified March 2026 & Installation is compliant
4	NEC & NFPA 79	It was observed that pneumatic hoses were routed in the same cable tray as the electrical cables. This is a violation of the NEC 300.8. The pneumatic hoses should be corrected with one of the options: route on the outside of the tray, put a UL listed tray divider in tray to separate hoses from wire, or route hoses in a separate raceway than the electrical.	YES - the pneumatic hoses should be corrected with one of the options: route on the outside of the tray, put a UL listed tray divider in tray to separate hoses from wire, or route hoses in a separate raceway than the electrical. Corrected March 2026
5	NEC & NFPA 79	It was observed that there were loose wires that were not terminated in the main plc cabinet	YES – these wires shall be terminated or removed from the enclosure to prevent accidental shock hazard or fault Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans



03/11/2026

Field Evaluation of Non-Listed Industrial Machinery MPS-FEB-060037

Sierra International Machinery, T1100 Shear



TJN Enterprises
6511 E. Rice Street
Sioux Falls, SD 57110

Revision	Description	Date
0.0	Initial Release - FAILED	2026-02-25
1.0	After Corrections - PASSED	2026-03-11

Muth Power Solutions

Summary:

Sierra International Machinery, T1100 Shear panel + connected equipment was installed without a recognized listing label. The panel + connected equipment was built solely for **TJN Enterprises** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060037**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

- The machine uses hydraulics to cut metal. This meets the definition of an industrial machine.



Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480Y/277V**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **1100A**
- Short Circuit Current Rating: **25 KAIC**
- Largest Motor or Load: **125 HP / 165 FLC**
- Electrical Drawing Number: **T1100_6MR_FLAP**



Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The above calculation resulted in 1076.40A. The supply conductors are (4) sets of 600 MCM AL, which is rated for 1360A. This is compliant with NFPA 79

Heating Loads						
Load	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]
Oil Heater #1						3
Oil Heater #2						3

Largest Motor							
Load	HP	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]
Pump Oil Motor #1	125	156	460	3	1	1	124.29

Other Loads							
Load	HP	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]
Pump Oil Motor #2	125	156	460	3	1	1	124.29
Pump Oil Motor #3	125	156	460	3	1	1	124.29
Pump Oil Motor #4	125	156	460	3	1	1	124.29
Pump Oil Motor #5	125	156	460	3	1	1	124.29
Pump Oil Motor #6	125	156	460	3	1	1	124.29
Recirculating Pump Motor #1	12	18	460	3	1	1	14.34
Recirculating Pump Motor #2	12	18	460	3	1	1	14.34
Recirculating Pump Motor #3	12	18	460	3	1	1	14.34
Cooling Oil Fan Motor #1	4	5	460	3	1	1	3.98
Cooling Oil Fan Motor #2	4	5	460	3	1	1	3.98
Cooling Oil Fan Motor #3	4	5	460	3	1	1	3.98
Cooling Oil Fan Motor #4	4	5	460	3	1	1	3.98
Cooling Oil Fan Motor #5	4	5	460	3	1	1	3.98
Cooling Oil Fan Motor #6	4	5	460	3	1	1	3.98
Grease Pump	-	0.56	460	3	1	1	0.45
DC Power Supply #1	-	1	460	1	1	1	0.46
DC Power Supply #2	-	1	460	1	1	1	0.46
TV1 control XFMR	-	6.521739	460	1	1	1	3.00
TV2 control XFMR	-	4.347826	460	1	1	1	2.00

Supply Conductor Rating @ 75 Deg C	
4 Sets 600 MCM AL @ 75 Deg C =	1360A
Calculated Amps (1.25 (heat + large motor) + Other Loads)	1076.40

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The control panel is equipped with a 2000AF breaker that's rated as a disconnecting means.



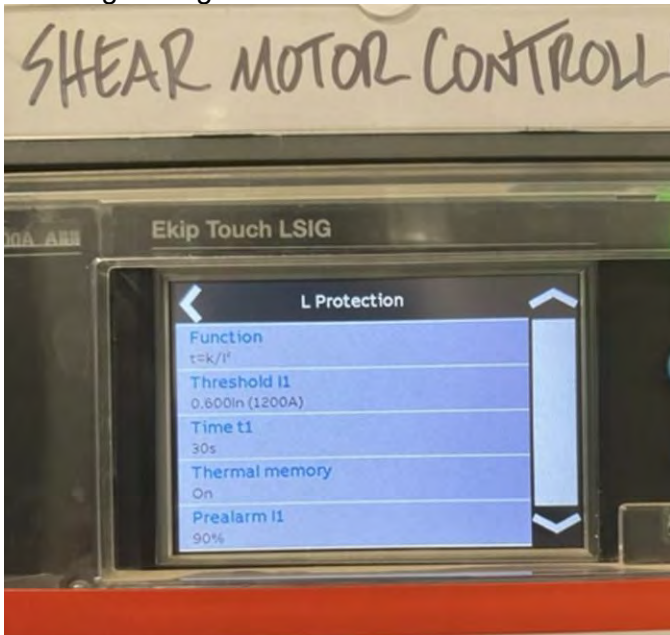
Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The above calculation resulted in approximately 1076.40A. The circuit breaker's LONG setting on the LSIG should be set around 1100A when the coordination study is completed by others.

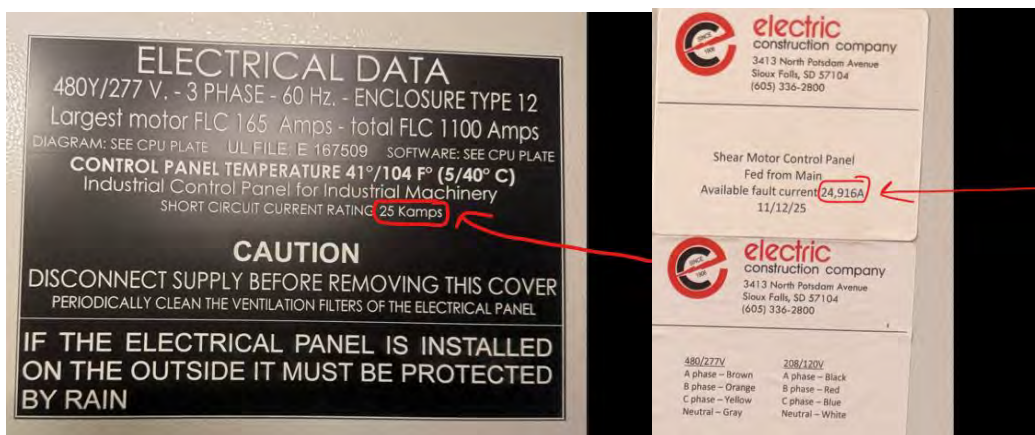
The long setting was set / verified after the initial evaluation & is compliant at 1200A



Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- The enclosure had a nameplate sticker on it from the electrician's that installed it. They calculated 24,916A, which is below the 25 kA SCCR on the industrial machine, so it is compliant with NFPA 79



Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- The safety circuits are all on 24VDC & the 24VDC power supplies have integral surge protection & short circuit protection.



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The voltage was measured to be 471VAC. The frequency & THD was within the tolerance listed in NFPA 79. Everything is compliant

Environmental

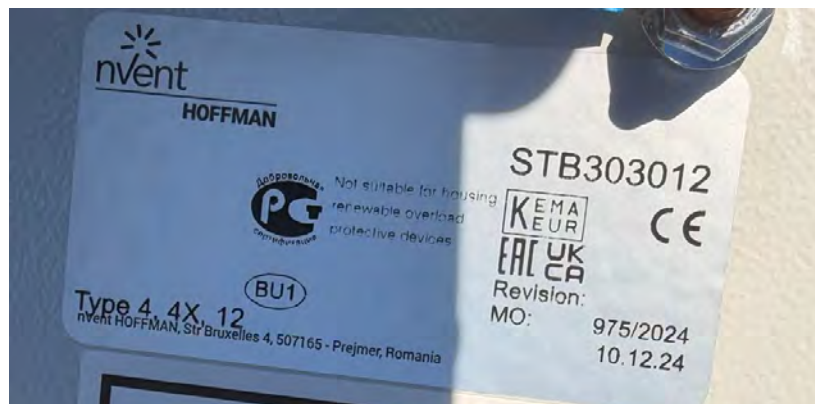
The system shall be protected from the environment it is installed within.

- The equipment installed inside a shelter has compliant enclosures (NEMA 1/12)



- The equipment installed outside has compliant enclosures. The enclosures are all rated for the environment they're installed in for oil splashing / weather elements (NEMA 4x)





Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above for information on fault current

Disconnecting Means

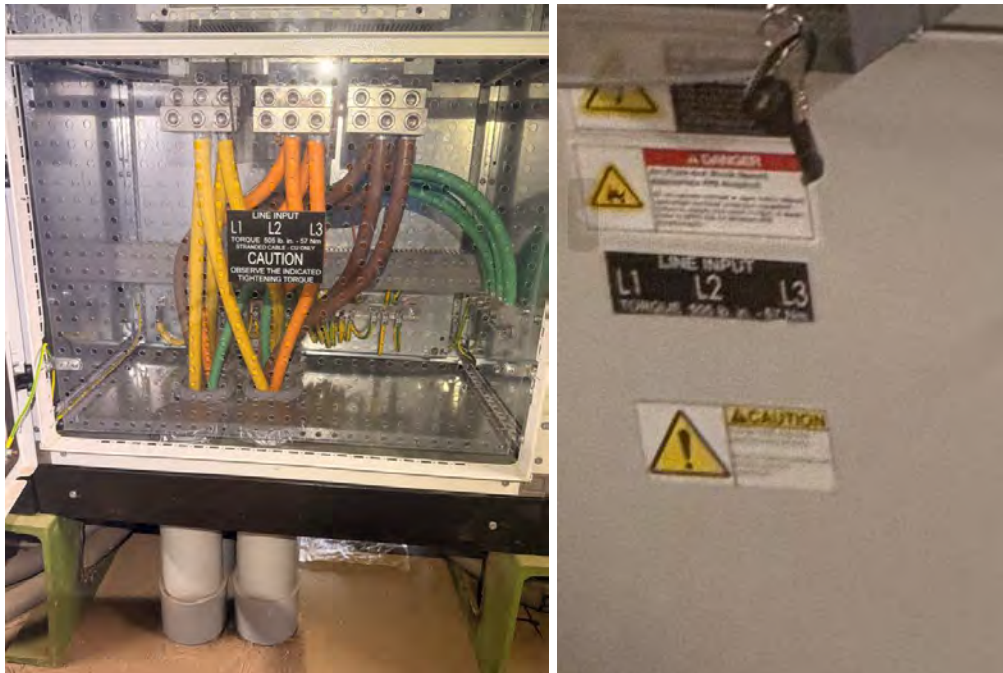
The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above for information on disconnecting means

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- Live buses / terminals / etc are protected from accidental connections



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
- Overloads for motors
- Ground fault
- Overvoltage
- Abnormal temperature
- Incorrect phases or loss of phases
- Overspeed of machines

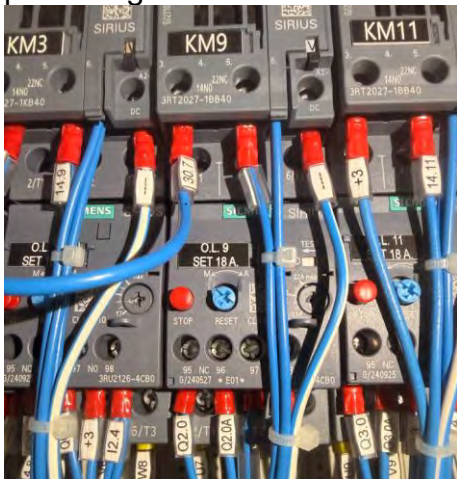
- The machine has appropriate protection for the equipment & is compliant with NFPA 79
- Main is protected by a LSIG breaker + maintenance mode switch for arc reduction



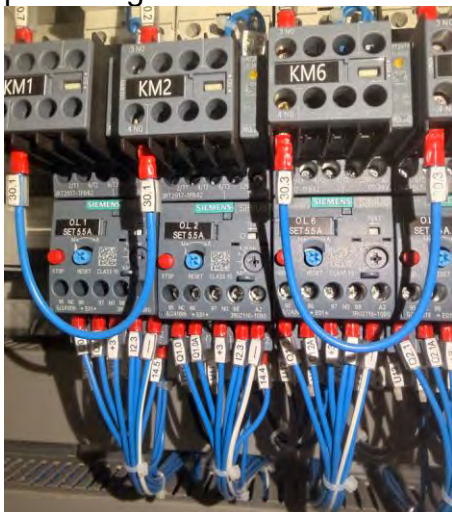
- 125 HP motors have a 200A fuse protecting the motor / soft-starter



- 12 HP motors have a 32A fuse protecting the contactor / conductor & an overload set at 18A protecting the motor



- 4 HP motors have a 10A fuse protecting the contactor / conductor & an overload set at 5.5A protecting the motor



- Other loads within the panel have appropriate protection

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- Control enclosure have appropriate grounding connections
- The control enclosure near motors / fans was missing grounding symbol on connections in the initial evaluation. A sticker was placed at all bonding points & is compliant with NFPA 79 now.



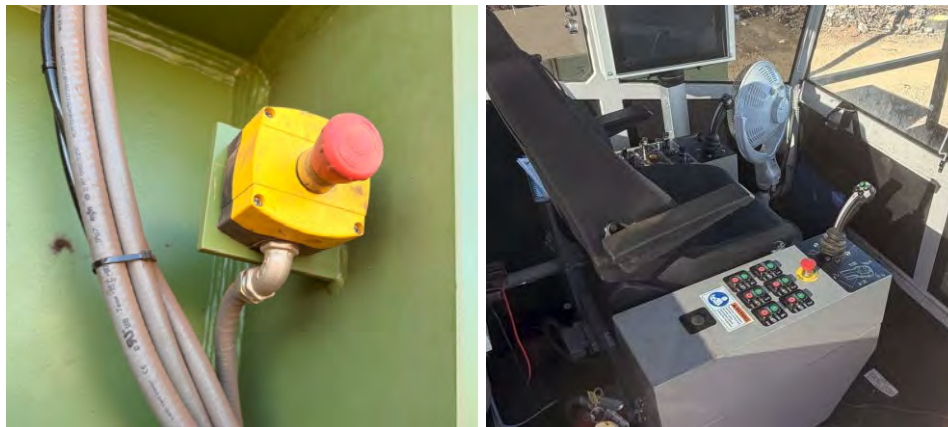
Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The control circuits are 120VAC and the safety circuits are 24VDC



- The safety circuits were tested & everything works as intended. The safety circuits are controlled/monitored from safety rated equipment

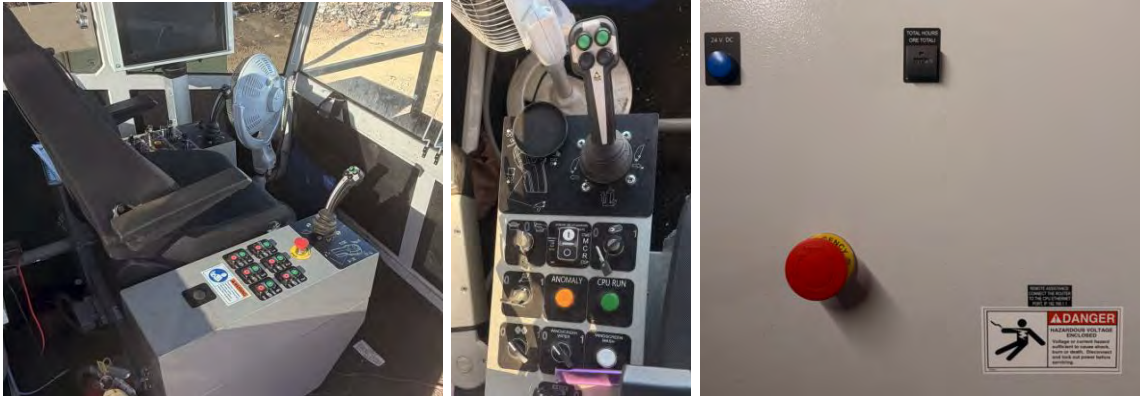


Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)

- The operator controls are compliant with NFPA 79

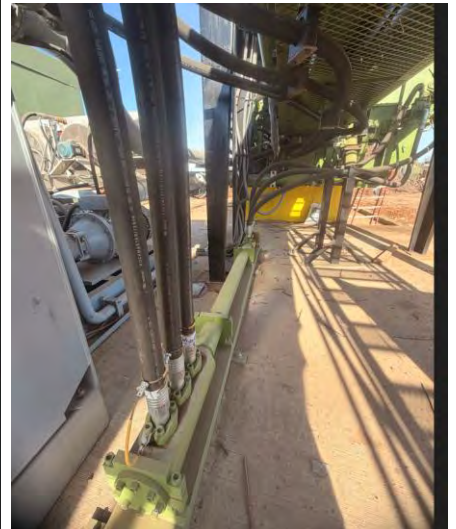
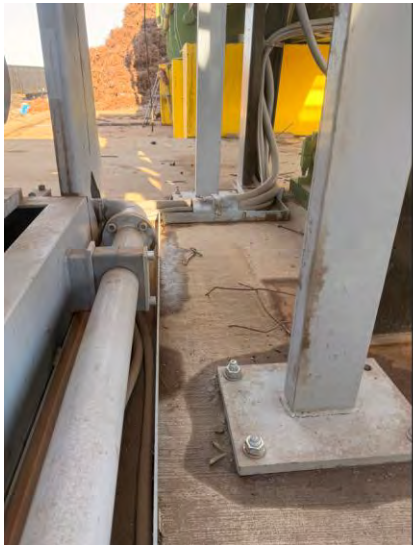


Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine is installed in a professional manner & is compliant with NFPA 79







- It was observed that a raceway had electrical cables + hydraulic lines in it. Customer / manufacturer went back after the initial evaluation & confirmed that all of these cables are in liquidtight flex conduit. This is compliant with NFPA 79.

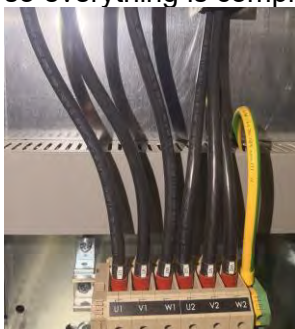
Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

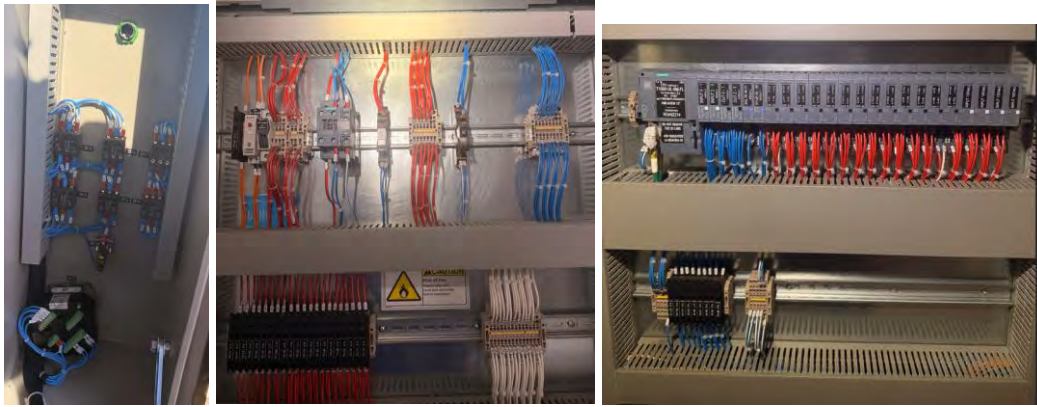
- Wires were observed to be compliant with NFPA 79 after the corrections/clarifications were made
- 125 HP motors : field wiring was observed to be #2 & ran in flex conduit. Per NEC 310.16 table, #2 cu is only rated for 115A in conduit. The report assumed these were setup/configured as 3 wire for the soft-starter, but the manufacturer confirmed that all of these motors are wired in wye start, delta run configuration & the NEC allows the field wiring to be 72% of the FLA for this application ($156 * .72 = 112A$). 115A rating is greater than 112A, so this is compliant with NEC 430.22(C). The wye start, delta run was also re-verified to make sure there were 6 wires going out to the motor. It was wired this way, so everything is compliant



Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The control panels & operator console wiring is compliant with NFPA 79



- It was observed that a cable entered a metallic wall without a protective grommet or sleeve. This cable was re-installed in an appropriate raceway after the initial evaluation. It is compliant now.



- It was observed that the cable entry into the electrical room was not sealed well. After the initial evaluation, a permanent penetration plate was installed & the penetrations were sealed well. It is compliant now.



- It was observed that some of the cables below the control room were not supported in interval limits defined in the NEC. The raceways were re-supported after the initial evaluation & they're now compliant with NFPA 79 / NEC



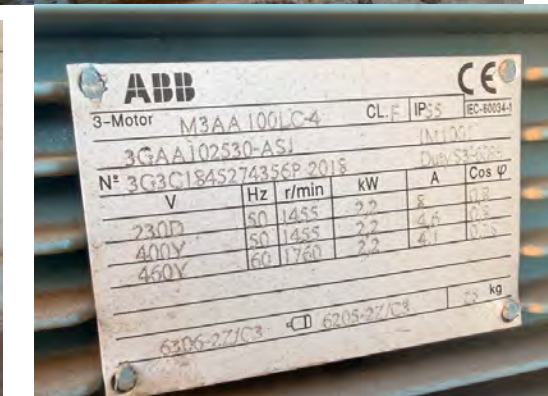
- It was observed that the flex conduit was zip tied to rigid conduit as its means of support / securing point. It wasn't clear if these zip ties are UL listed & identified for securement/support per NEC 350.30(A). After the evaluation, the customer confirmed that these zip ties are UL listed & rated for this application. The installation is compliant.

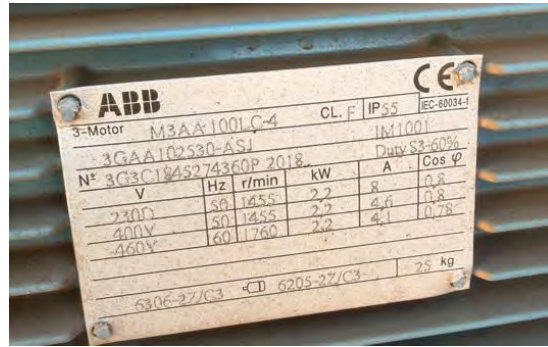
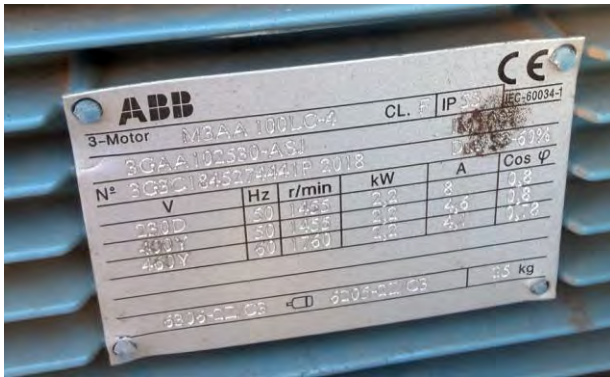


Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motors were installed in compliance with NFPA 79







Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- Receptacles & lighting are compliant

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC

The machine has appropriate warning placards





- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for information on nameplate

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

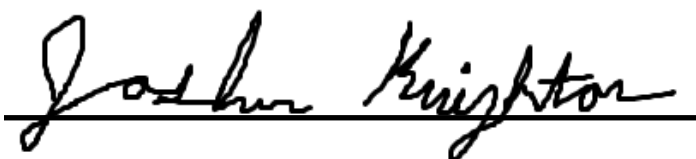
- Technical documentation was observed with the machine



NFPA 79 Compliance Result:

- PASS
 FAIL
 Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

March 11, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Control enclosure is missing grounding connection. A bonding jumper should be installed & Control enclosures are missing grounding symbol on connections. A sticker should be installed	YES – add bonding strap for doors & make sure all bonding points have grounding symbol sticker Corrected March 2026
2	NEC 300.8	It was observed that a raceway had electrical cables + hydraulic lines in it. This is not allowed per NEC 300.8. The hydraulic lines should be ran in a separate raceway, or a listed divider installed in the tray should be installed to separate the different energy sources	YES – the hydraulic lines + electrical should be separated by a divider, routed elsewhere, or in separate raceways Confirmed/Verified all cables were in an appropriate raceway & separated from the non-electrical
3	NEC & NFPA 79	125 HP motors : field wiring was observed to be #2 & ran in flex conduit. Per NEC 310.16 table, #2 cu is only rated for 115A in conduit. All 125 HP motors should have at least #3/0 CU to be compliant with NEC 430.22 for continuous duty motor (FLA * 1.25) -> 156A * 1.25 = 195A rating. #3/0 CU is rated 200A when ran in raceway with not more than 3 current carrying conductors	YES – the field wiring + raceways to all 125 HP motors shall be replaced with wire rated at least 200A to be compliant with NEC 430.22 Confirmed/Verified motors were wired wye-start / delta run & the installed field wire + raceways were compliant with NEC 430.22(C)
4	NEC & NFPA 79	It was observed that a cable entered a metallic wall without a protective grommet or sleeve. This cable could become damaged over time if the hole was cut / has sharp edges.	YES – A rubber grommet or other UL listed product should be installed on this penetration Corrected March 2026

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
5	NEC & NFPA 79	It was observed that the cable entry into the electrical room from the outside was not sealed	YES - The raceways should have a permanent penetration plate installed & sealed properly to prevent rodents/snow/water from entering the E-house / causing accidental faults or shock hazards Corrected March 2026
6	NEC & NFPA 79	It was observed that some of the cables were not supported in interval limits defined in the NEC.	YES - The cables should be supported every 3'-4.5' and the cable entering the building should have a proper strain relief installed so the termination isn't supporting the full weight of the cable Corrected March 2026
7	NEC	It was observed that the flex conduit was zip tied to rigid conduit as its means of support / securing point. It wasn't clear if these zip ties are UL listed & identified for securement/support per NEC 350.30(A). If these are not listed for this application, all the liquid tight conduit that these are used with shall be replaced with listed/rated cable ties.	NO – verification only. If the verification results in non-compliance findings, then the cable ties shall be replaced. Verified installed zip ties were UL listed & appropriate for the installation
8	-	LSIG settings were not retrieved during the evaluation & was not posted on the gear / available in an arc flash + coordination study	NO – verification only. It's recommended to make sure all of the devices are coordinated well to prevent nuisance tripping. It's also required by code to make sure the "LONG" setting is not set past 1360A on the upstream circuit breaker since that's what the feeder conductors are rated for to the industrial machine panel (4x 600 MCM AL conductors). The downstream breakers should be coordinated with these LONG setting to prevent further nuisance tripping Verified the long setting was at 1200A & is compliant with the above.

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060030

Makor, 20240312



Showplace Wood Products
1 Enterprise St #2, Harrisburg
Lincoln, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-01-30
1.0	After Corrections - PASSED	2026-04-02

Muth Power Solutions

Summary:

Makor, 20240312 panels + connected equipment was installed without a recognized listing label. The panel + connected equipment was built solely for **Showplace Wood Products** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

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- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060030**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

CS Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480 VOLT**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **6A**
- Short Circuit Current Rating: **Technical Documentation states 10 kAIC**
- Largest Motor or Load: **1.1 kW**
- Electrical Drawing Number: **50434**



Stark Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480 VOLT**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **31A**
- Short Circuit Current Rating: **Technical Documentation states 10 kAIC**
- Largest Motor or Load: **5A**
- Electrical Drawing Number: **50435**

MACHINE TYPE	STARK
YEAR	2024
ELECTRICAL BOARD S/N	20240322
WIRING DIAGRAM S/N	50435
SUPPLY VOLTAGE X PHASE	480 V 3 ph
CONTROL VOLTAGE	24 V
CONNECTED LOAD KW	14 KW
FULL LOAD AMPS	31 A
MAIN FUSE X AMPS	63 A
LARGEST MOTOR RATING KW	3.50 KW

Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The CS enclosure has a single feeder & single disconnecting means for the enclosures



- The stark enclosure has a single feeder & single disconnecting means for the enclosures



Overcurrent Protection [NFPA 70, Article 670.4©]

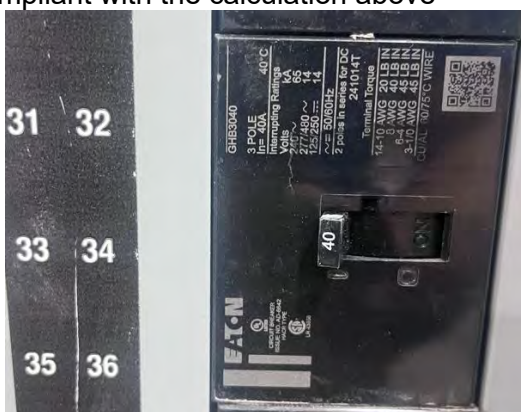
The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- CS panel has an upstream 15A circuit breaker. This is appropriate since the FLA on the panel is 5A & is compliant with the calculation above



- Stark panel has an upstream 40A circuit breaker. This is appropriate since the FLA on the panel is 31A & is compliant with the calculation above





Short Circuit Current Rating [NFPA 70, Article 670.5]

The electrical enclosure must not be installed in a location where the maximum available fault current exceeds the nameplate rating.

- Each enclosure is rated for 10 kAIC. A calculation was done to make sure the maximum fault from the utility TX does not exceed this rating. All of the enclosures are compliant & have appropriate SCCR

FAULT CURRENT CALCULATION																	
Utility XFMR Rating:	1500 kVA	Transformer Phase:	3	Impedance (%Z):	5.32%	Fault Current (Inf. Bus):	33913.90 A	Utility XFMR Secondary Voltage:	480								
Panel or Transformer Name	Feeder Length in Feet "L"	Upstream Available Fault Current "I"	Wire Material	Wire Size	Conduit Type	(Based on Wire and Conduit) "C"	Line-to-Line Voltage "E"	Number of Conductors "n"	$f = \frac{\sqrt{3} \times I \times L \times E}{n \times C \times E}$	Total Available Fault Current (Inf. Bus) "I _{sc} "	Transformer kVA	Transformer %Z	Transformer Phase	Transformer Primary Voltage	Transformer Secondary Voltage	$f = \frac{I_{sc} \times \sqrt{3} \times V_{pri} \times \sqrt{Z}}{100,000 \times H}$	Transformer Secondary Available Fault Current "I _{sc(secondary)} "
CT-1	15	35,914	COPPER	500 MCM	NON-MAGNETIC	2676	480	3	0.01	33454							
FE8B1	45	32,454	COPPER	500 MCM	NON-MAGNETIC	2676	480	3	0.04	32146							
H1	30	32,146	COPPER	300 MCM	STEEL	1978	480	3	0.01	20013							
Panel H1A	15	26,513	COPPER	2 AWG	STEEL	980	480	3	0.18	16011							
Haker CS	30	16,911	COPPER	12 AWG	STEEL	617	480	3	2.67	4263							
Haker Stark	30	16,911	COPPER	12 AWG	STEEL	617	480	3	2.97	4263							

Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- Upstream surge protection was not identified, but the machinery's safety circuits are powered by 24VDC. The 24VDC power supply has built-in overvoltage and surge protection that is compliant with NFPA 79

NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The service to the machine was measured and it was within the specs listed above / is compliant with NFPA 79

Environmental

The system shall be protected from the environment it is installed within.

- The enclosures are rated type 1/12 and have an IP rating of 55, which is appropriate for indoor painting applications



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosures have insulated connections & prevents user from coming in contact with live voltage. All terminations appear to be done in insulated ferrules & conductors are not exposed. The installation is compliant with NFPA 79



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
-
- Each enclosure has appropriate overcurrent protection & other necessary protection for the connected loads

Grounding & Bonding

The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The enclosures are bonded in compliance with NFPA 79



- The bonding conductor was observed initially to be connected to the CS enclosure with the insulation still on it. The insulation was stripped back in March 2026 & the bare conductor looped clockwise around the bolt/ tightened to ensure a good bond was made.



- The bonding symbol was observed initially to be missing on a few enclosures. This was corrected in March 2026 & is compliant with NFPA 79 now



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The safety circuits were tested and they're all in working order & require a reset. The push-buttons & sensors are all working as intended.
- The safety devices are controlled from 24VDC safety relays & the power supplies have the necessary surge/overvoltage & overload protection to keep the equipment in working order



Additional functions	Overload protection	Yes, automatic reset
	Overvoltage protection	Yes, Shut off the input voltage and turn on the input again
	Series operation	Yes (Up to 2 Power Supplies with external diode)
	Parallel operation	Yes (Up to 2 Power Supplies)
	Output indicator	Yes (LED, color: green, lighting from 80 to 90% or more of rated voltage)



Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
- **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
- **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
- **Abnormal Conditions** (Yellow or Amber)
- **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
- **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
- **Mandatory Conditions** (Blue)
- **Neutral Conditions** (White)

- Safety E-stops and push-buttons are compliant with NFPA 79

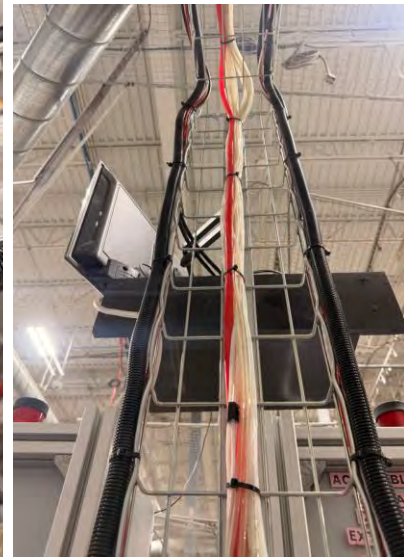
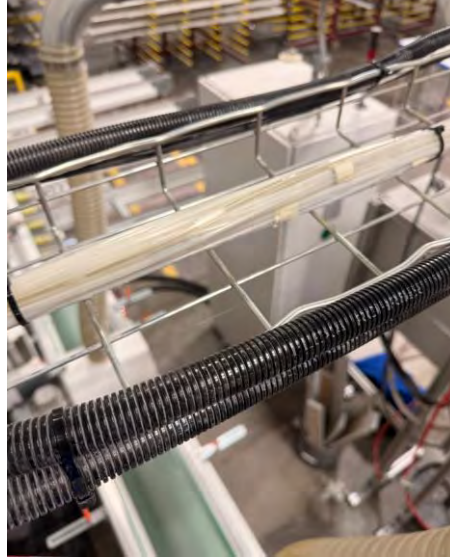
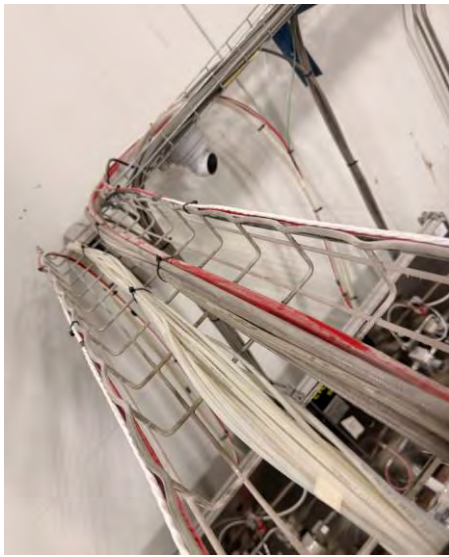


Control Equipment: Location, Mounting, and Enclosures

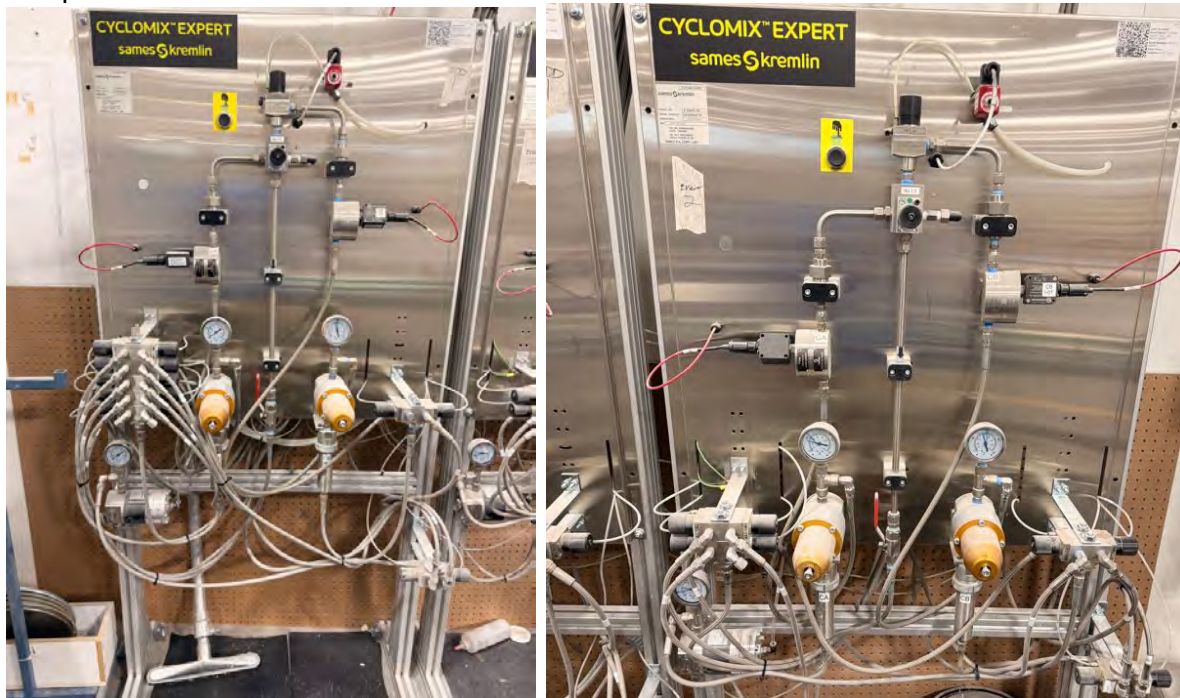
All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected.

Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- It was observed initially that the basket tray contained air hoses/tubing & is routed with electrical cables without UL listed dividers. NEC 300.8 and NFPA 79 does not allow electrical cables to be routed with air hoses in the same cable tray. The air hoses were separated from the electrical in March 2026 & it is now compliant with NFPA 79



- Chemical agents were observed initially as being stored on the machine during operation. Vibration / movement of the machine could cause the chemical agent to fall/spill & potentially damage equipment. This chemical agent was relocated to an appropriate location in March 2026 & the installation is now compliant with NFPA 79.



- The machine was questionable on area classification, so the manufacturer was consulted & they replied with the following statement for area classification saying that the outside is treated as a non-hazardous area since pressure prevents combustible fumes from leaving the paint machine's paint chamber. The installation is compliant with a non-hazardous area.

4 Technical features

4.1 Description

The sprayer model FPC 400 has been designed in compliance with current anti-pollution requirements and for protection of the work environment. It enables spraying, automatic and on the assembly line, with water based (and/or solvent based, excluding nitro paint) products, of slats, frames, valances, matchboarding, door and window parts, and also of very short pieces.

Structure made of sheet metal and steel pipes, in which all the feature parts are housed. Advancement via a special solvent-resistant material belt, driven by a geared motor unit to regulate the operating speed, on which a system is in effect which cleans and recovers product deposited on it, which allows the belt to constantly stay clean.

Cabin for complete safe-guarding of the work area, kept under pressure by the suction and filtration system to avoid harmful fumes in the environment, easily accessible by means of a large front door for quick set-up and easy maintenance, equipped with glass walls for perfect visibility.

Inside the cabin a large work station is situated which is equipped with a stainless steel reservoir for containing and collecting excess product, easily removable for cleaning and supplied with independent orientable support stands for each spray gun.

A button placed in an accessible position enables manual activation of the sprayer during assembly and fine-tuning phases.

Large stainless steel vacuum chamber for reducing the air speed, in order to aid the precipitation of the nebulised paint and the efficiency of the filter system particularly designed for the collection and recovery of the retained paint. Two large rear doors allow easy inspection of filters and related cleaning. Collection system with spout through which the recovered product is channelled out.

○

Vacuum for channelling and expelling the filtered air out.

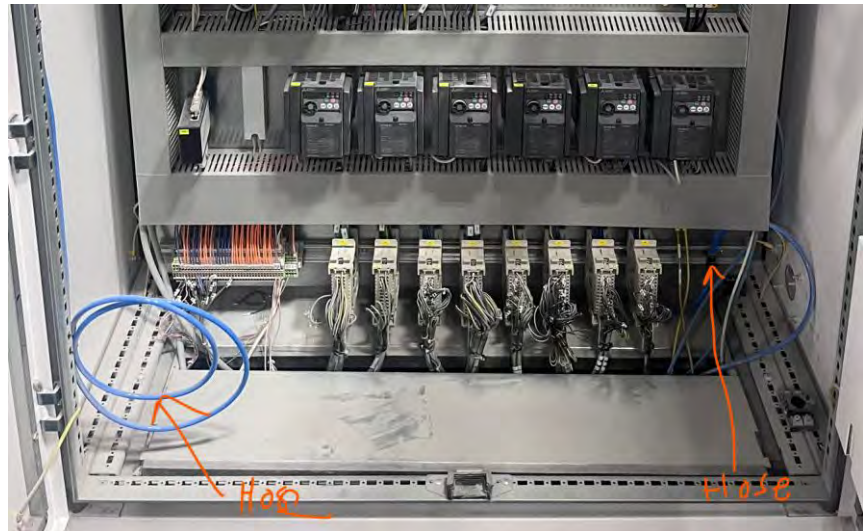
See attached clarification from the manufacturer regarding the Hazardous/Classified Area non-compliance issue for the Makor Painter.

He stated (referencing this highlighted text snip)

○

- Per the design of the machine, (1) fan blows air in and (1) fan sucks air out. Fan speed wise, they are set up to created a "negative" pressure within the Painting Chamber so no fumes exit the Booth.
- Classified area within the Chamber Booth but not at all outside the Booth...

- The stark cabinet was observed to have pneumatic connections installed in it. These were discovered to just sense the pressure & didn't actively have high pressure within the cabinet. This is okay since it's for monitoring purposes only.



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

- The conductors are rated appropriately for their connected load / intended use & they're compliant with NFPA 79

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

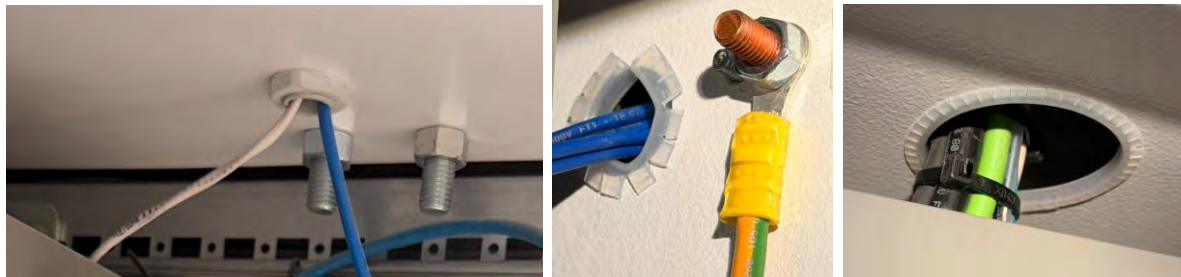
- An exposed ethernet cable was observed initially to be routed in an unprofessional manner & it was possible for accidental snagging of the cable. This was corrected in March 2026 so the ethernet cable was re-routed within the wire duct & will not allow accidental snagging anymore.



- The hoses / tubing were observed initially to not be secured properly. They were secured & zip-tied to the stand, so they can not be snagged in March 2026. It's compliant with NFPA 79 now.



- It was observed initially that penetrations into an enclosure was done manually / sharp edges existed since a UL listed bushing, cable grip, or grommet wasn't utilized. This was corrected in March 2026 using an approved enclosure entry method in NEC article 300s. The installation is compliant with NFPA 79 now.



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motors were installed in compliance with NFPA 79







Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- Receptacles derived from the control cabinets were not observed, so this is not applicable

Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
 - The machine has appropriate warning electrical labels



- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- The machine has the provided documentation stored with the machine



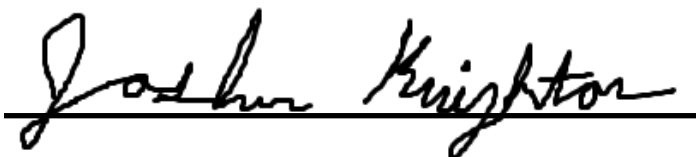
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

April 2, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NFPA 79	Ethernet cable is not routed in the wire duct within the enclosure	YES – re-route the cable, so it's within the enclosure's wire duct & the cover re-installed over it Corrected March 2026
2	NFPA 79	Bonding conductor in CS enclosure is bonded with the insulation still intact & it may/may not be making a good connection / providing a low impedance connection	YES – strip insulation back, loop exposed conductor around stud in clockwise fashion, and tighten the nut/washer to torque spec. It would also be acceptable to use a crimp / ring terminal on the stud Corrected March 2026
3	NEC 300.8 & NFPA 79	Air hoses are routed in the same cable tray as the electrical cables & this violates NEC 300.8	YES – re-route hoses/tubing, so they're outside the basket tray. It is also acceptable to install a UL-listed tray divider & route air hoses separately than the cables Corrected March 2026
4	NFPA 79	Air hoses / wire are installed in an unorganized fashion & are not secured per NFPA 79.	YES – de-pressure the system & re-route all cables / hoses at the paint bucket stations, so they're secured well & routed in an organized manner. It is acceptable to leave excess hose length for the connections to the buckets. This should be coiled up on a permanent mount, if it isn't connected to a bucket Corrected March 2026
5	NFPA 79	Chemical agents were observed to be stored on the machine that were portable / not used for the process/machine	YES – Remove all chemicals/containers currently on the machine & store in a proper chemical cabinet when it isn't being utilized Corrected March 2026
6	NFPA 79 & NEC 516	The paint machine area appears to be treated as non-classified, but there is not any documentation from the machine supplier showing the hazardous area boundaries / classification. NEC 516 states that spray application & painting processes could be considered hazardous areas & they need to go	YES – machine supplier shall provide documentation showing all hazardous area classifications of the machine, their respective boundaries, and if mechanical ventilation / sensors was used to reduce the area classifications, so necessary interlocks can be ran to all of the non-classified machines if the mechanical ventilation were to fail or sensors indicate that there's an explosive atmosphere present

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
		through the rigorous steps to properly classify the area, so the installation is compliant with article 500-505 of the NEC (if the study results in it being considered a hazardous area)	MFGR confirmed that only the paint enclosure shall be treated as classified area & the area outside the paint booth is non-hazardous
7	NFPA 79	An enclosure was observed to have pneumatic hoses + solenoid valve, tubing, etc in the enclosure that has an electrical 480V feeder + control equipment	YES – NFPA 79 prohibits electrical enclosures from having any hoses, pneumatic equipment, fittings, etc in the enclosure. This equipment can not be connected to the enclosure or installed within the electrical cabinet. If this is intended to pressurize the enclosure / keep hazardous gases out, it must be listed for this application Corrected March 2026
8	NFPA 79	The stark enclosure was observed to have pneumatic hoses/tubing in the enclosure that has an electrical 480V feeder + control equipment	YES – NFPA 79 prohibits electrical enclosures from having any hoses, pneumatic equipment, fittings, etc in the enclosure. This equipment can not be connected to the enclosure or installed within the electrical cabinet. If this is intended to pressurize the enclosure / keep hazardous gases out, it must be listed for this application Corrected March 2026
9	NEC & NFPA 79	There were various cables observed to be leaving enclosures that did not have a UL listed bushing or grommet.	YES – NFPA 79 and NEC require wire to be protected from damage and have appropriate fitting to enter an enclosure. It is not acceptable to cut a hole & route cables through since sharp edges will likely cut the insulation over time with vibration / machine use Corrected March 2026
10	NFPA 79	The loader (tiny enclosure above) was observed to have broken wire duct / insufficient space for the equipment within the enclosure	YES – install a larger enclosure that is suitable for the intended equipment, so the wire duct is not damaged, the equipment doesn't have unnecessary torque on them Corrected March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: _____ Contact Person: _____

Tel: (_____) _____ - _____

Address: _____
STREET CITY STATE ZIP

Installation Address: : _____
STREET CITY ZIP

Yes No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

Name of Professional Engineer involved: _____ License No.: _____

Please answer the following questions:

- Yes No: The machinery as a packaged unit is available in a listed form.
- Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)
- Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.
- Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.
- Yes No: In the opinion of the Entity the machinery complies with NEC 670.
- Yes No: Entity accepts responsibility and liability for the machinery.
- Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: _____

Position: _____


SIGNATURE

_____/_____/_____
DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

Field Evaluation of Non-Listed Industrial Machinery

MPS-FEB-060022

MB MASCHINENBAU GMBH, ROBA Profile 1605.06.24



Showplace Cabinetry
 1 Enterprise St #2, Harrisburg
 Lincoln County, South Dakota

Revision	Description	Date
0.0	Initial Release - FAILED	2026-01-06
1.0	After Corrections - PASSED	2026-03-28

Muth Power Solutions

Summary:

MB MASCHINENBAU GMBH, ROBA PROFILE 1605.06.24 panel + connected equipment was installed without a recognized listing label. The panel + connected equipment was built solely for **Showplace Cabinetry** and will only be used in their production processes. South Dakota's Electrical Commission requires an application to be submitted when there is **"No Listing on Installation"**. The requirements for the machinery designation & to be approved by the commission and authority having jurisdiction (AHJ) is as follows:

- No Standard has been prepared or adopted
- Owner states machinery is safe for intended use
- The machinery is specific electrical equipment for use by applying entity and not a line as manufactured, stored, sold, installed, or attached
- Comply with Article 670 of NFPA 70
 - Nameplate Information
 - **Provide proof of compliance with NFPA 79 by licensed professional engineer**

The intent of this report is to show the findings of the evaluation by a professional engineer. If anything was discovered to be non-compliant, it'll be listed in the **Observations Log** at the end of the report. Any issues discovered that require corrective actions must be corrected before a final report will be sent to the South Dakota Electrical Commission and the Field Evaluation Body (FEB) label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

In compliance with NFPA 791, Muth Power Solutions (M.P.S) generated a unique serial number for the FEB label: **MPS-FEB-060022**. This serial number will be referenced on the machine label as well as in this evaluation report once the machinery is compliant with applicable standards.

Any performance testing is outside the scope and was not performed during this evaluation.

The following versions of codes / standards were used for this evaluation

- NFPA 70 National Electrical Code (2020)
- NFPA 79 Electrical Standard for Industrial Machinery (2024)
- NFPA 790 Competency of Third-Party Field Evaluation Bodies (2024)
- NFPA 791 Recommended Practice and Procedures for Unlabeled Electrical Equipment (2024)

Overall Result of Evaluation:

PASS

FAIL

Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of NFPA 70, Article 670:

Definition of Industrial Machinery [NFPA 70, Article 670.2]

A power-driven machine (or a group of machines working together in a coordinated manner), not portable by hand while working, that is used to process material by cutting; forming; pressure; electrical, thermal, or optical techniques; lamination; or a combination of these processes. It can include associated equipment used to transfer material or tooling, including fixtures, to assemble/disassemble, to inspect or test, or to package [The associated electrical equipment, including the logic controller(s) and associated software/logic together with the machine actuators and sensors, are considered as part of the industrial machine]

- The ROBA Profile Sander machine receives raw wood products and it automatically feeds it into a sander/cutting wheels/discs that finishes the wood to a smooth finish before sending it down the line on rollers/conveyors. This meets the definition of an industrial machine

Nameplate Data [NFPA 70, Article 670.3(A)]

The nameplate must be attached to the control equipment enclosure or machine with the following information

- Supply Voltage: **480VAC**
- Number of Phases: **3 PHASE**
- Frequency Rating: **60 Hz**
- Full-Load Current: **22 FLA**
- Short Circuit Current Rating: **25 KA**
- Largest Motor or Load: **10 kW / 13.4 HP**
- Electrical Drawing Number: **1605.06.24**
- A nameplate was observed on the machine that is compliant with NEC 670



Supply Conductors [NFPA 70, Article 670.4(A)]

The supply conductors must have an ampacity rating not less than

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The ROBA profile sander machine is supplied from panel H1A with a 3P 460V circuit. The panel's nameplate shows 22 FLA. After doing the above calculation, it results in ~ 34A. The supply conductors were replaced with #10 conductors in March 2026 & appropriate connectors were installed for disconnecting means.



Heating Loads							
Load	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]	
-	-	-	-	-	-	0	

Largest Motor							
Load	HP	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]
25MA1 (Brush 2 Top)	3	4.8	460	3	0.8	0.95	5.03

Other Loads							
Load	HP	Amps	Voltage	Phases	Power Factor	Efficiency	Apparent Power [kVA]
2TB1 (48VDC Power Supply)	-	20	48	1	1	0.96	1.00
4TB1 (24VDC Power Supply)	-	10	24	1	1	0.96	0.25
16MA1 (Feed 1)	0.75	1.15	460	3	0.72	0.834	1.53
16MA2 (Feed 2)	0.75	1.15	460	3	0.72	0.834	1.53
17MA1 (Unit 1 Side Fence)	0.75	1.15	460	3	0.72	0.834	1.53
18MA1 (Unit 2 Side Fence)	-	4	48	1	1	1	0.19
19MA1 (Unit 1 Top Pressure)	-	4	48	1	1	1	0.19
20MA1 (Unit 2 Top Pressure)	-	4	48	1	1	1	0.19
21MA1 (Unit 3 Top Pressure)	-	4	48	1	1	1	0.19
22MA1 (Brush 1 Left)	0.75	1.15	460	3	0.72	0.834	1.53
22MA2 (Brush 2 Left)	0.75	1.15	460	3	0.72	0.834	1.53
23MA1 (Brush 1 Right)	0.75	1.15	460	3	0.72	0.834	1.53
23MA2 (Brush 2 Right)	0.75	1.15	460	3	0.72	0.834	1.53
24MA1 (Brush 1 unit 3)	0.75	1.15	460	3	0.72	0.834	1.53
26MA1 (Y-Axis)	0.5	0.81	460	3	0.72	0.792	1.13
27MA1 (Z-Axis)	0.5	0.81	460	3	0.72	0.792	1.13
102MA1 (Outfeed Roller Conveyor)	0.5	0.81	460	3	0.72	0.792	1.13
103MA1 (Cross Conveyor)	0.5	0.81	460	3	0.72	0.792	1.13
104MA1 (Return Roller Conveyor 1)	0.5	0.81	460	3	0.72	0.792	1.13
105MA1 (Return Belt Conveyor 2)	0.5	0.81	460	3	0.72	0.792	1.13

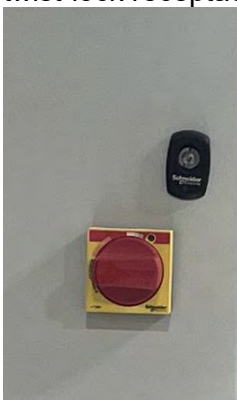
Supply Conductor Rating @ 75 Deg C	
#10 CU is rated 35A	

Calculated Amps (1.25 (heat + large motor) + Other Loads)	
34.27	

Disconnecting Means [NFPA 70, Article 670.4(B)]

The electrical enclosure must have a disconnecting means since the machine is considered an individual unit. It is not required to have integral overcurrent protection.

- The panel has single disconnecting means
 - The control panel itself has a single disconnect and the supply conductors to the panel have a twist-lock receptacle/plug



- The twist-lock receptacle/plug was replaced with a 30A rated plug assembly in March 2026. This is now compliant.



-
- The receptacle/plug was replaced & now meets the following requirements/ is compliant with NEC 670 and NFPA 79
 - Be rated for the FLA of the machine –The plug was replaced with a 30A, 4W plug rated for 277/480V
 - Have a load-break rating - **The Leviton Plug in the picture is rated for this**
 - Be listed as a switch-rated plug and receptacle rated greater than 20 amperes or 2 hp – The Leviton Plug is now rated for 30A
 - Be of such a type and be so installed to prevent unintended contact with live parts at any time, even during insertion or removal of the connectors – **the plug / connector is compliant with this**
 - Have a first-make, last-break electrical grounding contact – **the plug / connector is compliant with this**
 - Have a retaining means to prevent unintended or accidental disconnection where rated at more than 20 amperes – **the plug / connector is compliant with this since they're the locking type**
 - Be located within sight from the operator station and be readily accessible – **the plug / connector is compliant with this since it's located right next to the machine**

Overcurrent Protection [NFPA 70, Article 670.4(C)]

The electrical enclosure must have a single feeder circuit breaker or fuses when furnished as part of an industrial machine. The rating of the overcurrent device shall be sized on sum of

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

- The panel is supplied from H1A panelboard. The above calculation results in approximately 34A & the nameplate shows 22A FLA. The calculation doesn't take into account the sequencing / interlocking of the motors & assumes each one could all operate at the same time. The machine was fed from a 20A

FAULT CURRENT CALCULATION																						
Utility XFMR Rating:	1500 KVA	Transformer Phase:	3	Impedance (%Z):	5.32%	Fault Current (Inf. Bus):	33913.90 A	(Utility XFMR) Secondary Voltage:	480													
Panel or Transformer Name	Feder Length in Feet	Upstream Available Fault Current	Wire Material	Wire Size	Conduit Type	(Based on Wire and Conduit) %	Line-to-Line Voltage	Number of Conductors	$I = \frac{244.4 I_A}{\sqrt{3} \times C \times E}$	$M = \frac{1}{1 + I}$	Available Fault Current (Motor Full Load Amps) x 6	Motor Contribution (cont.)	Total Available Fault Current (Motor Full Load Amps) x 6	Transformer KVA	Transformer %Z	Transformer Phase	Transformer Primary Voltage	Transformer Secondary Voltage	System X ₀ & X ₂ (Ω)	M ₀ & M ₂ (KV/Phase)	Transformer Secondary Fault Current (I _{sc}) (kA) (Including Transformer)	
CT Cabinet	0	2234	COPPER	3/8" MCM	NONMAGNETIC	2076	480	3	0.07	0.93	2454	0	33454									
MUSH	85	32454	COPPER	3/8" MCM	NONMAGNETIC	2076	480	3	0.04	0.96	2046	0	32146									
HI	90	32446	ALUMINUM	3/8" MCM	STEEL	1076	440	1	0.61	0.62	2003	0	20013									
Panel HIA	0	2000	COPPER	2 AWG	STEEL	596	480	1	0.42	0.58	830	0	16911									
HIBA Profile Gender Cabinet	0	1030	COPPER	2 AWG	STEEL	601	480	1	0.64	0.73	756	0	2156									

Surge Protection [NFPA 70, Article 670.6]

The electrical enclosure shall have proper surge protection if the upstream supply circuit does not protect the enclosure

- An upstream surge protector was not observed during the evaluation that would protect the industrial machine. A 20kA surge protector was installed in March 2026 directly at the machine that exceeded the minimum Type 2 and 20 kA rated for 480VAC. The installation is now compliant with NFPA 670.6



NFPA 70, Article 670 Compliance Result:

- PASS
- FAIL
- Remediation Required (Refer to Observation Log)

Applicable Construction Requirements of UL508A:

Part 2 Enclosures

The enclosure shall have the proper rating for the environment it is installed in. It shall be constructed to support the weight within as well as the environmental forces such as wind & snow. It shall have appropriate markings to indicate manufacturer's intent.

Part 2 Industrial Machinery

Shall comply with NFPA 79 and other standards listed in sections 65 to 67

UL508A Compliance Result:

- PASS
- FAIL
 - Remediation Required (Refer to Observation Log)

Construction Requirements of NFPA 79:

System must comply with sections 4 – 17 of NFPA 79. Some of the higher priority requirements are summarized below that are accompanied with onsite pictures of the actual gear. Other specific sections/requirements will be called out as needed, if it's applicable to the equipment being evaluated.

Electrical Supply

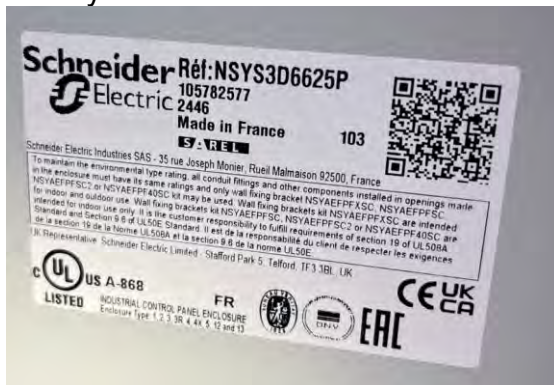
The system shall be able to operate within 90%-110% of voltage rating, 99%-101% frequency rating, and harmonic THD of 0%-10% for short periods of time.

- The supply circuit is 480V/3ph 60 Hz. It was measured to be within the tolerances listed in NFPA 79, so the supply circuit is compliant

Environmental

The system shall be protected from the environment it is installed within.

- The system is installed in an enclosure rated for the environment (sawdust / wood processing)



Available Fault Current

The system shall have a larger withstand short circuit rating than the maximum available fault current on the line terminals of the system's disconnecting means.

- See NEC 670 section above that shows compliance with NFPA 79

Disconnecting Means

The system shall have a single disconnecting means from the single supply circuit wherever possible. The line side must be protected from unintentional direct contact by users when the enclosure door is opened. A disconnecting means is not required for circuits less than 50VAC RMS or 60VDC.

- See NEC 670 section above that shows compliance with NFPA 79

Protection from Electrical Hazards

The system shall have live parts insulated from users and openings/windows must meet UL requirements. It must have integral fault protection for accidental connections to live parts. Any interlocked electrical supply circuits must be indicated on the enclosure with a warning placard. An arc flash hazard warning placard must be placed on the enclosures with live electrical present.

- The enclosure has integral fault protection for each circuit on the machine. There are not exposed parts, and the electrical supply is not interlocked. There are appropriate warning placards on the machine.



Protection of Equipment

The system may have some of the following protection in order to protect the equipment

- Overcurrent
 - Overloads for motors
 - Ground fault
 - Overvoltage
 - Abnormal temperature
 - Incorrect phases or loss of phases
 - Overspeed of machines
- Overcurrent
 - The downstream circuits are protected with circuit breakers that are appropriate for the FLA



- Overloads/Motor circuit protector
 - The motors have an overload/mcp that's appropriate for the FLA



- Overtoltage
 - The DC power supplies have overvoltage protection for all DC loads (48VDC & 24VDC)
 - The altivar VFDs have built-in overvoltage protection for all the motor loads connected to these VFDs
- Abnormal temperature
 - The altivar VFDs have built-in over-temperature protection for all the motor loads connected to these VFDs

- Incorrect phases or loss of phases
 - The altivar VFDs have built-in phase protection for all the motor loads connected to these VFDs

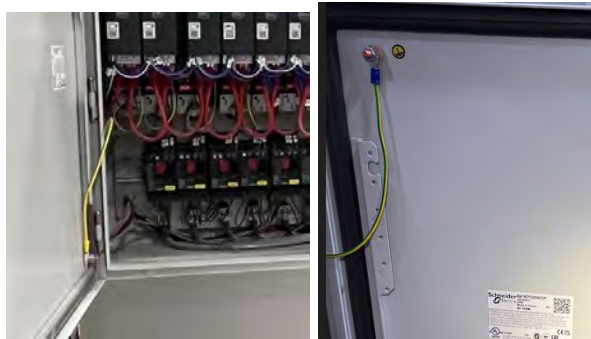


Grounding & Bonding

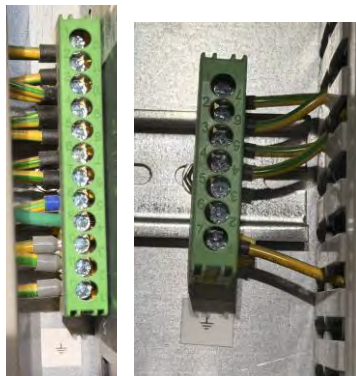
The system shall be installed in accordance with NFPA 70, Article 250 for grounding & bonding. The equipment grounding conductor must be identified with the word "GROUND" or be identified with the GND symbol.



- The panels are grounded appropriately with the supply conductors & field circuits. The doors are bonded



- The panels did not have appropriate ground symbols at every bond point. A sticker symbol was placed in March 2026 at every bond point and it is now compliant



Control Circuits & Control Functions

The AC control circuit must come from a control transformer must not exceed 120VAC & maximum 1kA available fault current. Any DC control circuit must be less than 250 VDC. All control circuits must have overcurrent protection. All safety/start/stop functions must work as intended. Interlocks shall be in place to ensure machine fails safely. Emergency stops shall keep the machinery de-energized until safety conditions are reset (shouldn't restart, but act as a permissive to the machinery).

- The safety circuits were tested and were fully working/functioning as intended. The E-stop circuits are all supplied from a 24VDC control circuit (Phoenix Contact Power Supply)
 - This power supply has integral protection for overvoltage, short circuit proof, surge, etc and it has appropriate overcurrent protection
- The DC power supplies feed the downstream equipment. Both the 24VDC & 48VDC supplies have protection against short circuits, overvoltage, and undervoltage

Short-circuit-proof	yes
Protection against overvoltage at the output (OVP)	≤ 60 V DC



Operator Interface and Control Devices

The operator interface must be readily accessible to the machine. Control devices must be mounted securely / installed in compliance with the manufacturer and they must be protected from accidental operation / false signal to the machine. Color indicators shall be the following colors for each function:

- **Start or Normal Conditions** (Green but Black, White, or Gray)
 - **Stop** (Red but Black, White, or Gray is permitted for non-emergencies)
 - **Emergency Stop or Emergency Conditions** (Red)
 - Must be RED with Mushroom-head Type & yellow background for pushbutton-operated switches. Pull-cord operated switches are also valid.
 - **Abnormal Conditions** (Yellow or Amber)
 - **Push-Button that Causes Movement** (Black, but White, Gray, Blue is permitted)
 - **Push-Button for Resets** (Blue, but Black, White, Gray, and RED if stop/emergency reset)
 - **Mandatory Conditions** (Blue)
 - **Neutral Conditions** (White)
-
- The panel has compliant control/interface devices
 - Blue PB : resets the system
 - Green PB : starts the system
 - Red PB : stops the system
 - Estop : stops the panel for emergency conditions & requires a twisting motion to engage, so it prevents accidental operation



- The machine has various safety control devices around it & they are compliant with NFPA 79
 - Estop : stops the panel for emergency conditions & requires a twisting motion to engage, so it prevents accidental operation



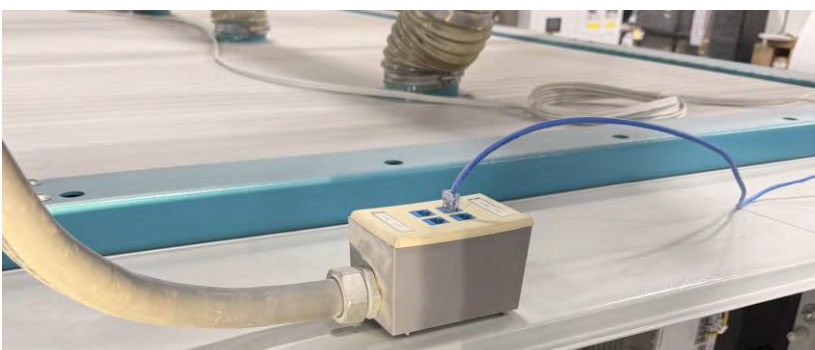
Control Equipment: Location, Mounting, and Enclosures

All enclosures must be mounted so it allows maintenance, protection against environmental influences, and allows normal operation of the machinery. Exposed, live electrical terminations must be protected. Mechanical tubing, piping, valves, etc to handle gas, liquid, or air must not be located within the enclosure. Electrical working spaces defined in NFPA 70, Article 110 shall be followed for the enclosure and its doors.

- The machine was installed so it allows proper maintenance & electrical terminations were done in compliance with NFPA 79



- It was observed that there was a hose + cord that was loosely stored. This loosely ran hose was corrected in March 2026 and it is compliant now. If the hose is to be used for blowing sawdust off the machine, the loose hose should have a permanent mount to coil it up when it is not being used



Conductors, Cables, and Flexible Cords

All cabling/conductors shall be identified and installed in accordance with their intended use. Conductors must be copper with appropriate insulation and ampacity rating not less than 125% of the full load current

$$1.25 * (\text{Heating Loads [Amps]} + \text{Largest Motor FLA [Amps]}) + \text{Other Motors \& Loads [Amps]}$$

The ampacity rating must take into account deration factors such as more than three current-carrying conductors in raceway, temperature, buried, etc. The wire's insulation shall be rated for all voltage levels present within the raceway.

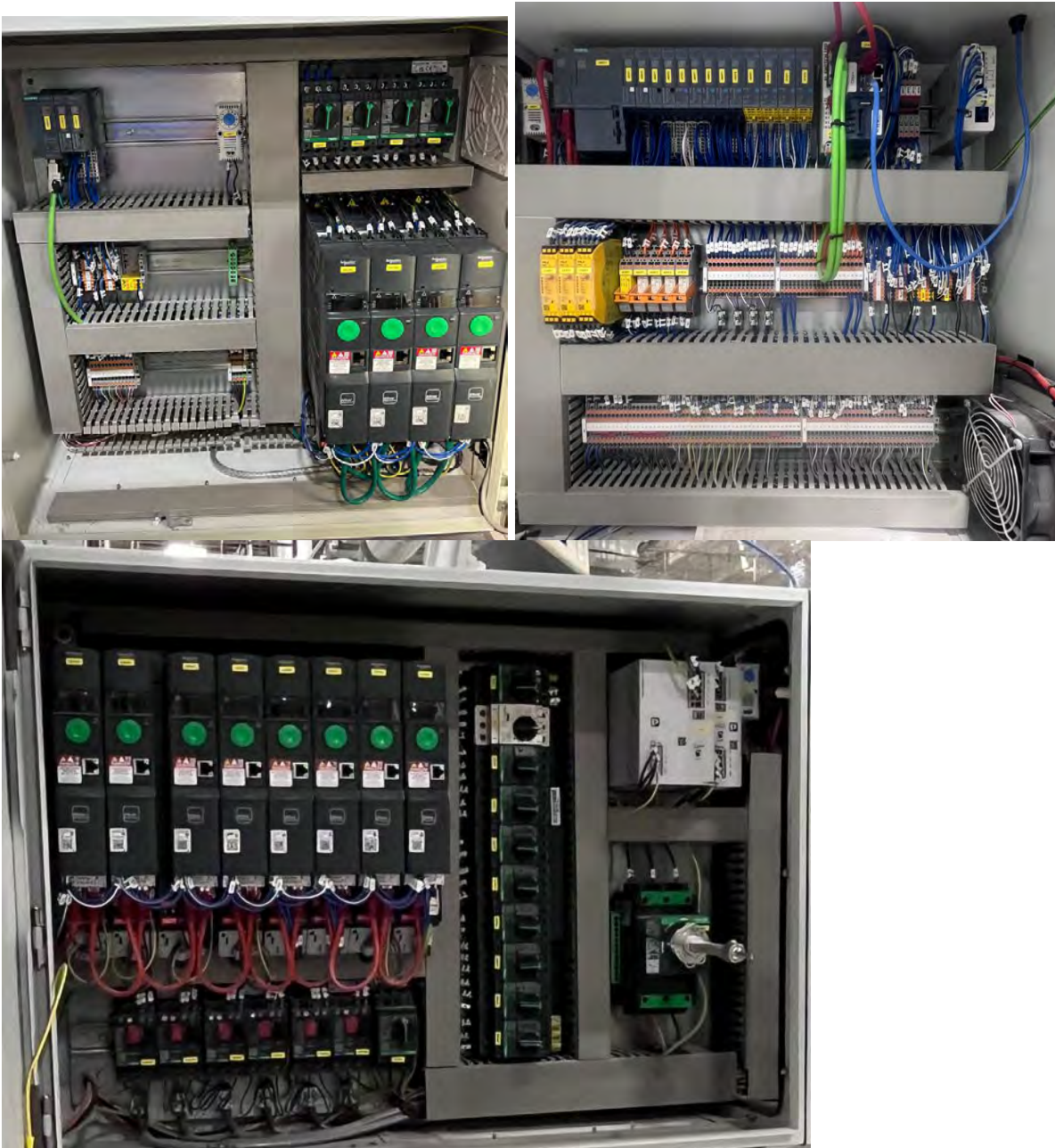
- The conductors were all observed to be appropriate sizes for their respective FLA and they're compliant with NPFA 79

Conductors					
Load	Full Load	Wire Size/Type	Wire Amp Rating	Overload/MCP	Overcurrent Trip
1QA1 Main Disconnect	22	#12 CU	25A	-	1QA1 : 20A
2TB1 (48VDC Power Supply)	2	#16 CU	18A	-	2FC1 : 2.5A-4A MCP set @ 3A
4TB1 (24VDC Power Supply)	0.5	#16 CU	18A	-	4FC1 : 1.0A-1.6A MCP set @ 1A
16MA1 (Feed 1)	1.15	#16 CU	18A	16FC2 : 1-1.6A Set @ 1.5A	16FC1 : 4.0A-6.3A MCP set @ 4A
16MA2 (Feed 2)	1.15	#16 CU	18A	16FC3 : 1-1.6A Set @ 1.5A	
17MA1 (Unit 1 Side Fence)	1.15	#16 CU	18A	-	2FC1 : 2.5A-4A MCP set @ 3.1A
18MA1 (Unit 2 Side Fence)	4	#16 CU	18A	-	-
19MA1 (Unit 1 Top Pressure)	4	#16 CU	18A	-	-
20MA1 (Unit 2 Top Pressure)	4	#16 CU	18A	-	-
21MA1 (Unit 3 Top Pressure)	4	#16 CU	18A	-	-
22MA1 (Brush 1 Left)	1.15	#16 CU	18A	22FC2 : 1-1.6A Set @ 1.5A	22FC1 : 4.0A-6.3A MCP set @ 4A
22MA2 (Brush 2 Left)	1.15	#16 CU	18A	22FC3 : 1-1.6A Set @ 1.5A	
23MA1 (Brush 1 Right)	1.15	#16 CU	18A	23FC2 : 1-1.6A Set @ 1.5A	22FC1 : 4.0A-6.3A MCP set @ 4A
23MA2 (Brush 2 Right)	1.15	#16 CU	18A	23FC3 : 1-1.6A Set @ 1.5A	
24MA1 (Brush 1 unit 3)	1.15	#16 CU	18A	24FC1 : 2.5-4A Set @ 2.5A	24FC1 : 2.5-4A Set @ 2.5A
25MA1 (Brush 2 Top)	4.8	#16 CU	18A	25FC1 : 6-10A Set @ 7A	25FC1 : 6-10A Set @ 7A
26MA1 (Y-Axis)	0.81	#16 CU	18A	26FC1 : 1.6-2.5A Set @ 1.8A	26FC1 : 1.6-2.5A Set @ 1.8A
27MA1 (Z-Axis)	0.81	#16 CU	18A	26FC1 : 1.6-2.5A Set @ 1.8A	26FC1 : 1.6-2.5A Set @ 1.8A
102MA1 (Outfeed Roller Conveyor)	0.81	#16 CU	18A	102FC1 : 1.6-2.5A Set @ 1.8A	102FC1 : 1.6-2.5A Set @ 1.8A
103MA1 (Cross Conveyor)	0.81	#16 CU	18A	103FC1 : 1.6-2.5A Set @ 1.8A	103FC1 : 1.6-2.5A Set @ 1.8A
104MA1 (Return Roller Conveyor 1)	0.81	#16 CU	18A	104FC1 : 1.6-2.5A Set @ 1.8A	104FC1 : 1.6-2.5A Set @ 1.8A
105MA1 (Return Belt Conveyor 2)	0.81	#16 CU	18A	105FC1 : 1.6-2.5A Set @ 1.8A	105FC1 : 1.6-2.5A Set @ 1.8A

Wiring Practices

All connections must be installed so it prevents accidental loosening. Terminals must be rated for the wire and labeled clearly. In no instance shall the wire cross over the terminals for panel/field wiring. Wires shall be run from source to destination without splices or joints within the enclosure. If an enclosure is supplied from more than one power source, the power wiring must be run in separate raceways for each disconnecting means. Exposed cables are permitted along machinery supports, but care should be taken to ensure the cabling doesn't inhibit maintenance (machine guards, grease ports, gauges, etc). Cabling must be supported adequately so sagging or damage doesn't occur. Cables subjected to damage must be protected and installed in compliance with NFPA 70. Grounding conductors must be identified by color green with or without yellow stripes.

- The control panels were terminated / installed in compliance with NFPA 79. The observed wire was installed in a professional manner, and in no instance were any wires loose, had exposed conductors on the termination, crossed over things, etc. The wire/raceway was installed in compliance with NFPA 79



- It was observed that wire was routed through a field-cut hole within the panel. Per the NEC 300, cable shall be protected by listed bushings or grommets that cover all metal edges / securely fastened around the hole prior to the cable being installed. This cable was pulled out in March 2026 & a proper grommet or bushing was installed to prevent the cable from getting damaged



- It was observed that a wire was cut off / not capped for the enclosure fan. This is not compliant with NEC / NFPA 79. The installation was corrected in March 2026, so, so accidental energization of the unused cable will not occur.



Electric Motors and Associated Equipment

All motors shall be mounted so they are adequately protected from damage, accessible for maintenance, have proper cooling, and can be easily replaced. Motors shall be selected to match the connected process conditions. Motors must have nameplate data marked in compliance with NFPA 70, Article 430, and they must have appropriate motor controllers and protection.

- The motor's nameplates are compliant with NFPA 79 & they are installed in a professional manner
- Feed Motors 1 & 2



- Brush #1 & #2 Motor

- X-Axis Motor



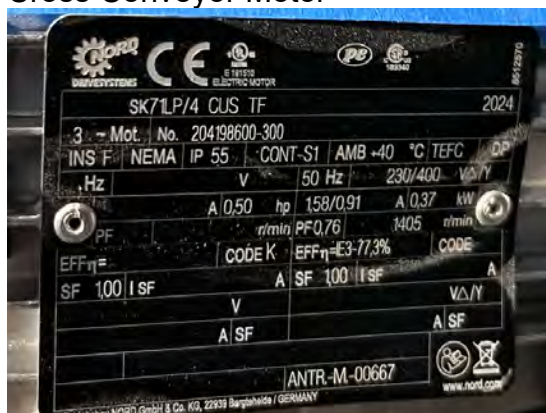
- Y-Axis Motor



- Return Conveyor Belt #2 Motor



- Cross Conveyor Motor



- Outfeed Roller Conveyor Motor



- Return Roller Conveyor Motor



Receptacles and Lighting

Receptacles for machinery must be GFCI-protected, supplied from grounded 120V source, have proper overcurrent protection, and be rated to withstand the environment it is installed in. Only lighting systems designed for use greater than 150V may be permitted; otherwise, lighting systems should be 120V for machinery. Lighting must have overcurrent protection, must not exceed 15 Amps, and must be rated for the physical environment.

- There were not any receptacles or lighting supplied from the machine's 480V control panel, so this is not applicable
- There were receptacles dropped from the ceiling that were being used by some of the machine's ancillary equipment (monitor, camera, etc). These receptacles did not allow the ancillary equipment's plugs to be fully plugged in & could cause arcing in the future as the cord's weight continues to pull the plug downward. This was corrected in March 2026 and is now compliant



Marking and Safety Signs

The equipment must be marked with supplier's name, trademark, and identifying symbol. Safety placards and markings must be permanent.

- Warning Label – *Potential Electric Shock and Arc Flash Hazard*
 - Place visibly on Enclosure when Voltage is greater than 50VAC or 60VDC
 - The machine has appropriate safety placards and a proper lockout / tagout procedure was posted on the equipment



- Nameplate
 - Required by manufacturer
 - Name of Supplier
 - Model, Serial Number, etc
 - Rated voltage, phase, frequency, and full-load current for each supply
 - Largest Motor or Load
 - Max Protective Device Threshold
 - Short Circuit Current Rating
 - Electrical Diagram Number(s) or Drawing Index
 - See NEC 670 section above for nameplate information

Technical Documentation

The machinery must have necessary information present for installation, operation, maintenance, and storage of the machine. This can be in the form of drawings, diagrams, charts, tables, etc. It must be stored onsite with the machine.

- Technical documentation/drawings were observed within the machine



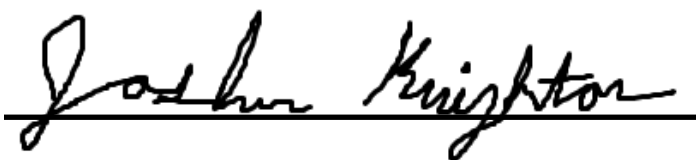
NFPA 79 Compliance Result:

PASS

FAIL

Remediation Required (Refer to Observation Log)

I hereby certify that I am a professional engineer, registered in the State of South Dakota and I do not benefit financially by the sale/manufacturing of the equipment evaluated within this report, I did not impose excessive financial preconditions to evaluate the equipment, and there were not any conflicts of interests in performing the evaluation. I attest that the evaluation and report was performed by me personally and is to the best of my knowledge complete and accurate.



Joshua J. Knighton
Professional Engineer

March 28, 2026

Date:

Observation Log:

During the evaluation, differences between the observed installation and the governing standards are logged here with recommended actions to correct the issue (if required).

Any issue discovered that requires corrected actions must be corrected and re-evaluated before a final report will be sent to the Electrical Commission and the FEB label placed on the equipment showing compliance with UL standards, NFPA 79, and NFPA 70 Article 670.

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
1	NEC 670	The supply conductors are undersized for the FLA of the machine	YES – replace the conductors with #10 CU, so the conductors are rated appropriately for the machines FLA of 22A. Corrected in March 2026
2	NFPA 79	The plug/connector for the supply disconnecting means is only rated for 20A and the machine's FLA is 22A	YES – replace the plug/connector with in-kind brand / specs, but increase the ampacity rating to 30A Corrected in March 2026
3	NEC 300	Wire passing through field-cut hole without proper grommet or bushing per NEC article 300	YES – pull out existing cables & install proper grommet/ bushing before placing the conductors back through the hole Corrected in March 2026
4	NFPA 79	The supply power cable & pneumatic hoses are not secured/supported well & could be snagged accidentally	YES – secure all loose cables, cords, and hoses so they can not be accidentally snagged Corrected in March 2026
5	NFPA 79	The dropped receptacles from the ceiling being utilized by the machine did not allow the plugs to be fully plugged into it because of the internal plastic / guards around the receptacle. This could cause arcing in the future as the cord's weight continues to pull the plug out of the receptacle	YES – install proper extension cord / surge protector & install down where the ancillary equipment is at, so they can be plugged in fully to the receptacle Corrected in March 2026
6	NFPA 79	The ground bonds do not have the sticker symbol showing earth/bond	YES – Place ground symbol stickers at every bond point Corrected in March 2026
7	NEC 670	The machine does not have surge protection	YES – Install type 2, min. 20 kA surge protector at the machine or the panelboard directly feeding the machine. SPD must be UL listed & intended for this application Corrected in March 2026

Observation Log			
Non-Compliance Issue No.	Standard/Code Reference	Issue	Corrective Action Required
8	NEC 670, NFPA 79	The supply circuit's overcurrent protection to the machine is a 20A & the nameplate shows 22A. NFPA 79's calculation shows it being up to 34A. It is not recommended to supply a machine with a smaller breaker than the machine's nameplate FLA	YES – Replace upstream 20A breaker with 30A breaker. Make sure SCCR is in-kind Corrected in March 2026
9	NEC 670, NFPA 79	The machine's integral supply overcurrent protection is 20A & the nameplate shows 22A. NFPA 79's calculation shows it being up to 34A. It is not recommended to use a smaller breaker than the machine's nameplate FLA rating	YES – Replace machine's 20A breaker with 30A breaker. Make sure SCCR is in-kind. Replace all load wire directly connected to the breaker with #10 AWG CU. Re-use wire labels & match existing insulation colors. The equipment GND shall also be up-sized to #10 AWG. Corrected in March 2026

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: Sioux Falls Kitchen & Bath Contact Person: Brian Klinghagen
Tel: (605) 214 - 6601
Address: 27063 Henry Pl Sioux Falls SD 57108
STREET CITY STATE ZIP
Installation Address: : 27174 470th Ave Tea 57064
STREET CITY ZIP

Yes/No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

HOLZ-HER 1329 EDGE BANDER
SER # 2079/2-506

Name of Professional Engineer involved: Bruce L Palmer License No.: South Dakota 9017

Please answer the following questions:

Yes No: The machinery as a packaged unit is available in a listed form.

Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)

Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.

Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.

Yes No: In the opinion of the Entity the machinery complies with NEC 670.

Yes No: Entity accepts responsibility and liability for the machinery.

Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: Brian Klinghagen Position: Production Manager

Brian Klinghagen 1, 8, 2020
SIGNATURE DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

- Signature and Date
- Attach Stamped Engineering plans

**BRUCE PALMER
CONSULTING ELECTRICAL ENGINEER
2304 W 9th STREET
ALBERT LEA, MN 56007
(507) 383 6290**

**EQUIPMENT EVALUATION REPORT
Page 1 of 7**

MANUFACTURER: Holz-Her USA, 124 Crosslake Park Dr, Moorsville, NC 28117

MODEL NUMBER: 1329 Edgebander

SERIAL NUMBER: 2079/2-506

DESCRIPTION: Holz-Her (FEB # V-BK110525)

DATE EXAMINED: Nov 28, 2025

CAB SCCR: 5KA

1. General conditions. The subject equipment (“equipment”) was supplied to Sioux Falls Kitchen & Bath, Att: Brian Klinghagen (605)-214-6601, 27063 Henry Pl, Sioux Falls, SD 57108 to be used in their production process.
 - 1.1 This evaluation applies to only the Holz-Her Model 1329 Edgebander serial # 2079/2-506 field inspected.
2. Standards Applied in the Evaluation. The construction requirements of Underwriters Laboratories’ Standards for Robots and Robotic Equipment, UL 1740, 2007 Edition, dated 12/07, NFPA 79 Electrical Standards for Industrial Machinery 2015 Edition, Underwriters Laboratories’ Standards for Safety for Industrial Control Equipment, UL 508a, 2013 Edition, dated 12/20/13 (“the standard”), were employed in evaluating the equipment.
3. Compliance with the Standard. I have found that the equipment is in compliance with all applicable construction requirements of the Standard, as listed in this report.

Bruce Palmer – Electrical Engineer
Description: Holz-Her
Model: 1329 Edgebander
FEB #: V-BK110525
Date: Nov 28, 2025
Page: 3 of 7

Applicable Constructions Requirements of NFPA 79 (2015 Addition)

79.1.1.1 Thru 79.18.10.2, Annex A Thru Annex I

Applicable Construction Requirements of UL 508a (12/20/13)

Part 1- General

Construction

All Panels	Sections 7-17
Enclosed Panels	Sections 18-27
Power Circuits	Sections 28-36
Control Circuits	Sections 37-48
Rating	Sections 49-51

Markings	Sections 52-61
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Part 2- Specific

Enclosures	Sections 62-64
Industrial Machinery	Sections 65-67
Service Equip Use	Sections 73-77
Elevator Control	Sections 80
Flame Control	Sections 81-83
Air Cond & Refrig	Sections 88-92

Supplement SA- Specific

Component Require	Sections SA1-SA10
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Supplement SB- Short Circuit Ratings

Short Circuit	Sections SB1-SB6
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Appendix A

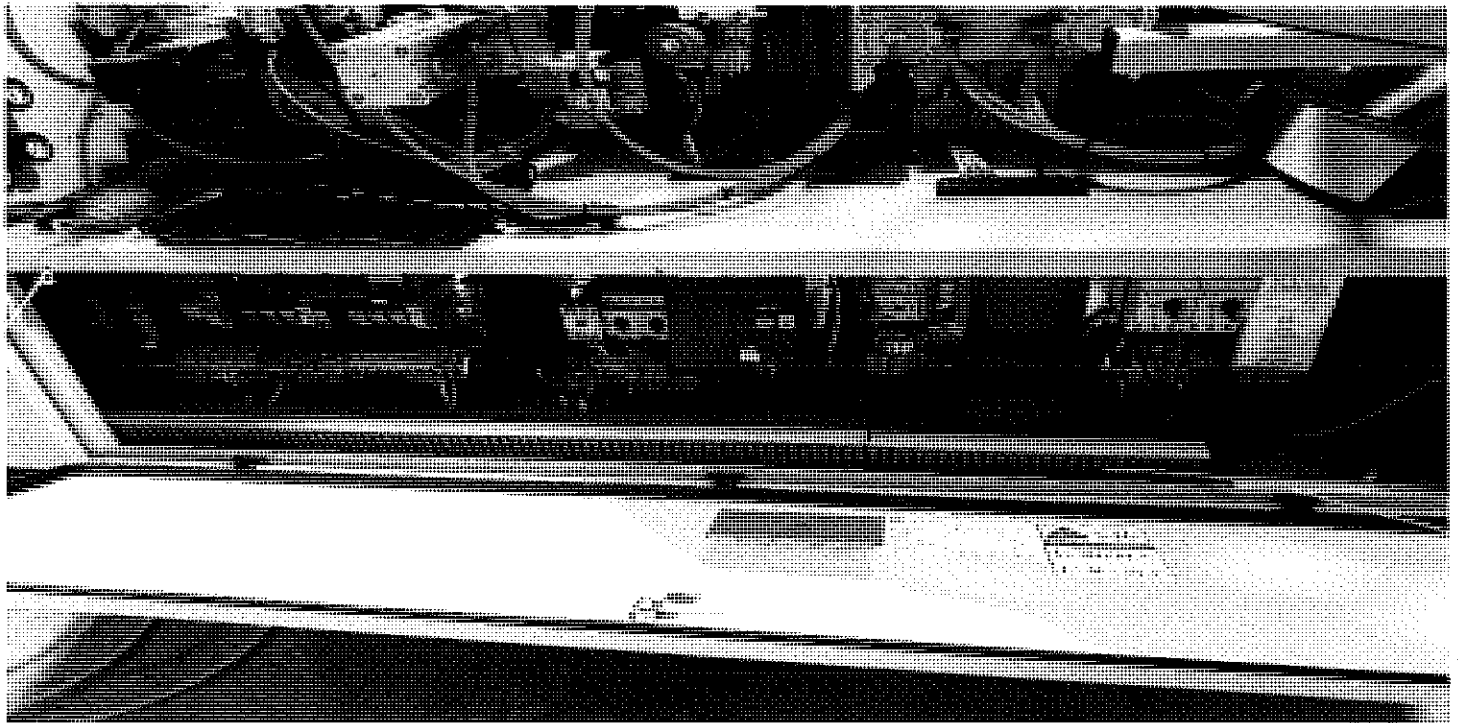
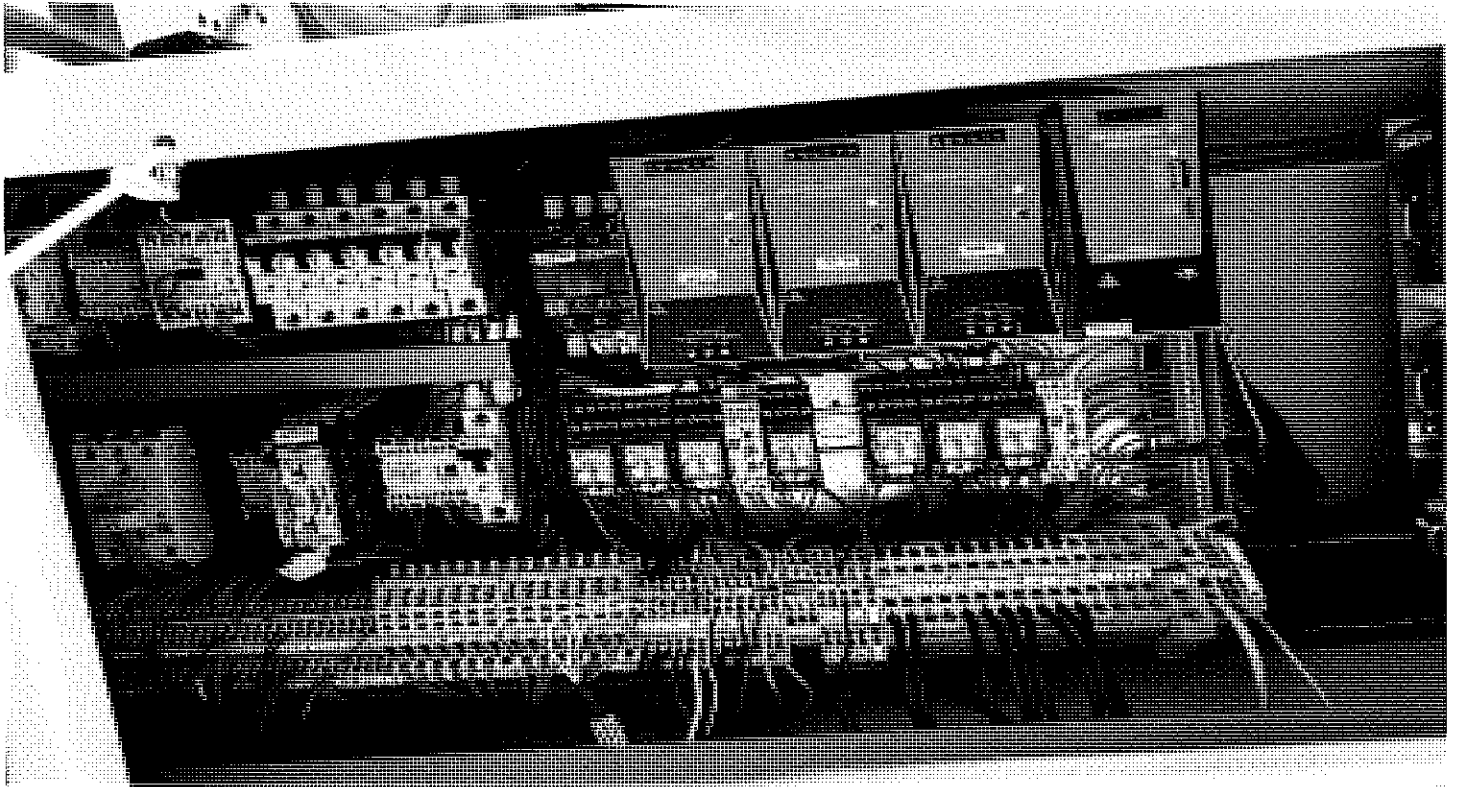
Appendix B

4. Identification of components.

- 1) All components of the subject equipment are included in the following list.

All components are major testing laboratory listed, field listed or component recognized. Copies of the manufacturer's product literature and evidence of listing are available. In the case of non-disclosure agreements with the manufacturer, all component information cannot be printed.

Bruce Palmer – Electrical Engineer
Description: Holz-Her
Model: 1329 Edgebander
FEB #: V-BK110525
Date: Nov 28, 2025
Page: 5 of 7



Bruce Palmer – Electrical Engineer
Description: Holz-Her
Model: 1329 Edgebander
FEB #: V-BK110525
Date: Nov 28, 2025
Page: 7 of 7

I hereby certify that I am a professional electrical engineer, registered in the State of South Dakota, that I have no financial or other interest in the sale or manufacturer of the subject equipment, and that the foregoing evaluation was performed by me personally, and is to the best of my knowledge complete and accurate.



11-28-2025

Bruce L. Palmer, P.E.
South Dakota Registration No. 9017

Date:



SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 West Missouri Avenue, Pierre, SD 57501
Tel: 605.773.3573 Toll-Free: 1.800.233.7765 Fax: 605.773.6213 dlr.sd.gov/electrical

MACHINERY DESIGNATION APPLICATION

Entity Name: Sioux Falls Kitchen & Bath Contact Person: Brian Klinghagen
Tel: (605) 214 - 6601
Address: 27063 Henry Pl Sioux Falls SD 57108
STREET CITY STATE ZIP
Installation Address: : 27174 470th Ave Tea 57064
STREET CITY ZIP

Yes/No: Entity presents application as official notice that Entity is designating the following equipment at the installation address as machinery.

Description of Machinery:

KOMO - FUSION XL S10 ROUTER
SER# - 01581-25

Name of Professional Engineer involved: Bruce L Palmer License No.: South Dakota 9017

Please answer the following questions:

Yes No: The machinery as a packaged unit is available in a listed form.

Yes No: Has an electrical standard been prepared or adopted to which the machinery should conform. (e.g. NRTL or NFPA 79: Electrical Standard for Industrial Machinery)

Yes No: The machinery is specific electrical equipment for use by the applying entity and not a line as manufactured, stored, sold, installed, or attached.

Yes No: A label indicating the installation complies with nationally recognized standards or tests determining suitable usage for said installation in manner utilized has been adhered to machinery by 3rd party conducting field listing.

Yes No: In the opinion of the Entity the machinery complies with NEC 670.

Yes No: Entity accepts responsibility and liability for the machinery.

Yes No: Entity is of the opinion the machinery is safe for the use intended.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. Completion of this application does not guarantee approval.

Name: Brian Klinghagen Position: Production Manager

Brian Klinghagen 1, 8, 2026
SIGNATURE DATE

To Submit: Mail or fax to the South Dakota Electrical Commission (contact information at the top of this form).

Ensure your application includes:

Signature and Date

Attach Stamped Engineering plans

**RUCE PALMER
CONSULTING ELECTRICAL ENGINEER
2304 W 9th STREET
ALBERT LEA, MN 56007
(507) 383 6290**

**EQUIPMENT EVALUATION REPORT
Page 1 of 5**

MANUFACTURER: KOMO Machine Inc, One Komo Drive, Lakewood, NJ 08701
MODEL NUMBER: Fusion XL 510 Router
SERIAL NUMBER: 01581-25
DESCRIPTION: KOMO (FEB # V-BK110525)
DATE EXAMINED: Nov 28, 2025
CAB SCCR: 5KA

1. General conditions. The subject equipment (“equipment”) was supplied to Sioux Falls Kitchen & Bath, Att: Brian Klinghagen (605)-214-6601, 27063 Henry Pl, Sioux Falls, SD 57108 to be used in their production process.
 - 1.1 This evaluation applies to only the KOMO Model Fusion XL 510 Router serial # 01581-25 field inspected.
2. Standards Applied in the Evaluation. The construction requirements of Underwriters Laboratories’ Standards for Robots and Robotic Equipment, UL 1740, 2007 Edition, dated 12/07, NFPA 79 Electrical Standards for Industrial Machinery 2015 Edition, Underwriters Laboratories’ Standards for Safety for Industrial Control Equipment, UL 508a, 2013 Edition, dated 12/20/13 (“the standard”), were employed in evaluating the equipment.
3. Compliance with the Standard. I have found that the equipment is in compliance with all applicable construction requirements of the Standard, as listed in this report.

Any performance testing is outside the scope of this investigation, and was not performed.

Applicable Construction Requirements of UL 1740 (07-Dec-2007)

Construction

Bruce Palmer – Electrical Engineer
Description: KOMO Router
Model: Fusion XL 510 Router
FEB #: V-BK110525
Date: Nov 28, 2025
Page: 3 of 5

79.1.1.1 Thru 79.18.10.2, Annex A Thru Annex I

Applicable Construction Requirements of UL 508a (12/2013)

Part 1- General

Construction

All Panels	Sections 7-17
Enclosed Panels	Sections 18-27
Power Circuits	Sections 28-36
Control Circuits	Sections 37-48
Rating	Sections 49-51

Markings	Sections 52-61
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Part 2- Specific

Enclosures	Sections 62-64
Industrial Machinery	Sections 65-67
Service Equip Use	Sections 73-77
Elevator Control	Sections 80
Flame Control	Sections 81-83
Air Cond & Refrig	Sections 88-92

Supplement SA- Specific

Component Require	Sections SA1-SA10
-------------------	-------------------

Supplement SB- Short Circuit Ratings

Short Circuit	Sections SB1-SB6
---------------	------------------

Appendix A

Appendix B

4. Identification of components.

- 1) All components of the subject equipment are included in the following list.

All components are major testing laboratory listed, field listed or component recognized. Copies of the manufacturer's product literature and evidence of listing are available. In the case of non-disclosure agreements with the manufacturer, all component information cannot be printed.

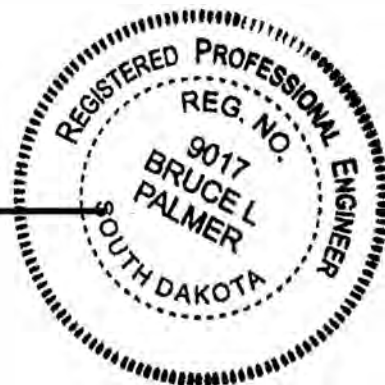
Bruce Palmer – Electrical Engineer
Description: KOMO Router
Model: Fusion XL 510 Router
FEB #: V-BK110525
Date: Nov 28, 2025
Page: 5 of 5



Also, the electrical schematics and BOM consist of 45pages and 226pages, therefore, I will keep them on file on my computer for any questions which might come-up.

I hereby certify that I am a professional electrical engineer, registered in the State of South Dakota, that I have no financial or other interest in the sale or manufacturer of the subject equipment, and that the foregoing evaluation was performed by me personally, and is to the best of my knowledge complete and accurate.

Bruce L. Palmer, P.E.
South Dakota Registration No. 9017



11-28-2025

Date:

SOUTH DAKOTA DEPARTMENT OF LABOR AND REGULATION
SOUTH DAKOTA ELECTRICAL COMMISSION

217 W Missouri, Pierre, SD 57501 | Tel: 605.773.3573 | Fax: 605.773.6213 | Email: Electrical@state.sd.us

THIRD-PARTY INSPECTOR APPLICATION

INSTRUCTIONS: This application must be filled out legibly in ink. Complete all spaces. If the question does not apply, write "none" in the blank space. Failure to answer all questions will result in an incomplete application and the application will be discarded. Add additional pages for any information that does not fit in the provided space.

Name: _____ EIN (if applicable): 33-0820000

Mailing Address: _____

City: _____ State: _____ Zip: _____

Mobile (Personal): 818-233-6585 Business: _____ Home: _____

Email address: _____

MANUFACTURERS

Please list all manufacturers who ship into South Dakota and are under a contract with the 3rd party inspection applicant.

Manufacturer	Manufacturer
Name _____ Address _____ City, State, Zip _____ Email Address: _____	Name _____ Address _____ City, State, Zip _____ Email Address: _____
Name _____ Address _____ City, State, Zip _____ Email Address: _____	Name _____ Address _____ City, State, Zip _____ Email Address: _____
Name _____ Address _____ City, State, Zip _____ Email Address: _____	Name <u>-MAXIMUM SECURITY SYSTEMS INC</u> Address <u>1861 MAIN STREET</u> City, State, Zip <u>FYFFE, AL 35971</u> Email Address: <u>kathy@mssi.u</u>
Name _____ Address _____ City, State, Zip _____ Email Address: _____	Name _____ Address _____ City, State, Zip _____ Email Address: _____

Please list any other states you have been certified to inspect (attach certifications if listed)

INSPECTORS: Please provide the name and qualifications of any person who will be doing inspections. Attach another page if necessary.

	QUALIFICATIONS
Name _____ Address <u>3820 WILLOWOOD DRIVE.</u> City, State, Zip <u>CLEMMONS, NC 27012</u> Email Address: <u>stibbit@radcoinc.com</u>	Residential Mechanical Inspector (expires 07/10/2025) Commercial Energy Inspector (expires 07/08/2025) Residential Building Inspector (expires 07/10/2025) Residential Electrical Inspector (expires 07/10/2025) Commercial Electrical Inspector (expires 07/08/2025) Commercial Building Inspector (expires 07/10/2025) Residential Plumbing Inspector (expires 07/10/2025)
Name _____ Address <u>1375 PARK 33 BLVD. APT #1014</u> City, State, Zip <u>GOSHEN, IN 46526</u> Email Address: <u>jhozey@radcoinc.com</u>	12 years of experience, and is an ICC Certified Combination Inspector, Commercial Cor Inspector, Residential Combination Inspector, Electrical Inspector, Building Inspector. Inspector, Plumbing Inspector, Commercial Building Inspector, Commercial Electrical I Commercial Mechanical Inspector, Certified Commercial Energy Inspector, Commercial Inspector, Residential Building Inspector, Residential Energy Inspector/ Plans Examiner Electrical Inspector, Residential Plumbing Inspector, Residential Mechanical Inspector, Industrialized Interstate Building Commission (IIBC) Accreditations (MN, ND, RI), In
Name _____ Address <u>640 MIMMS ROAD</u> City, State, Zip <u>KNOX, PA 16232</u> Email Address: <u>cagnew@radcoinc.com</u>	11+ years of experience, ICC Residential Building Inspector. Commercial Mechanical Inspector (expires 05/03/2028)
Name _____ Address <u>1696 171ST STREET.</u> City, State, Zip <u>HOLLAND, MN 56139</u> Email Address: <u>gvanbockel@radcoinc.com</u>	Residential Building Inspector (expires 03/05/2027) Residential Plumbing Inspector (expires 07/30/2027) Residential Electrical Inspector (expires 01/29/2028) Commercial Building Inspector (expires 02/16/2026) Building Inspector (expires 02/17/2026) Fire Inspector II (expires 07/18/2026) Mechanical Inspector (expires 08/24/2026)
Name _____ Address <u>W3196 COUNTY ROAD D</u> City, State, Zip <u>PHILLIPS, WI 54555</u> Email Address: <u>takinpections@pctcnet.net</u>	State of Wisconsin UDC Electrical Inspector-Expires 6-30-2028 UDC HVAC Inspector-Expires 6-30-2028 UDC Plumbing Inspector-Expires 6-30/2028 UDC Construction Inspector-Expires 6-30-2025
Name _____ Address <u>333 OTONO LOOP</u> City, State, Zip <u>KYLE, TX 78640</u> Email Address: <u>mfeighner@radcoinc.com</u>	Residential Energy Inspector/Plans Examiner (expires 04/22/2028) Commercial Plumbing Inspector (expires 04/22/2028) Residential Combination Inspector (expires 04/22/2028) Commercial Energy Inspector (expires 04/22/2028) Residential Plumbing Inspector (expires 08/28/2027) Plumbing Inspector (expires 12/18/2025)
	Commercial Mechanical Inspector (expires 08/28/2027) Mechanical Inspector (expires 08/28/2027)

To Submit: Mail to the Electrical Commission at the address on Page 1. Be sure to include a certificate of liability insurance of at least one million dollars, a copy of accreditation with a nationally recognized testing laboratory, and a surety bond of one hundred thousand dollars. The surety bond should be made out to the South Dakota Electrical Commission and cover electrical inspection of modular homes.

By my signature below, I do solemnly swear the statements made herein are true and correct to the best of my knowledge and belief. I do solemnly swear I have the authority to apply on behalf of the business represented. I also certify that I understand:

- If this application is not complete, signed and dated, I will receive notice of deficiency and my application will be discarded in compliance with the deficiency notice.
- All individuals listed on this application will follow all South Dakota rules and laws and comply with the National Electrical Code as adopted by the commission.
- Completion of this application does not guarantee approval as a third party inspector.
- Whether this application is approved or disapproved, the Electrical Commission will notify me.

Signature: Jackie Kilson Date: _____

COMMISSION OFFICE USE ONLY	Date of Review _____	
Approved <input type="checkbox"/>	Disapproved <input type="checkbox"/>	Reviewer(s)



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/19/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).


PRODUCER AssuredPartners Design Professionals Insurance Services, LLC 3697 Mt. Diablo Blvd Suite 230 Lafayette CA 94549	CONTACT NAME: Thi Grinwald PHONE (A/C. No. Ext): 714-427-3481 E-MAIL ADDRESS: CertsDesignPro@AssuredPartners.com	FAX (A/C. No):
	INSURER(S) AFFORDING COVERAGE	
License#: 6003745 TWININC-01	INSURER A: Hartford Fire Insurance Company INSURER B: HARTFORD INSURANCE COMPANY INSURER C: Sirius Point Insurance Company INSURER D: Travelers Casualty and Surety Co of America INSURER E: Hartford Casualty Insurance Company INSURER F:	NAIC # 19682 38288 38776 31194 29424
INSURED Twining Consulting, Inc. dba: RADCO 18071 Mount Washington Street, Unit A Fountain Valley CA 92708		

COVERAGES **CERTIFICATE NUMBER:** 1683211636 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:	Y	Y	57UUNOK8H2F	2/1/2026	2/1/2027	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	57UENOZ0037	2/1/2026	2/1/2027	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
E	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000	Y	Y	57XHUOK8H2R	2/1/2026	2/1/2027	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	57WEOK8H18	2/1/2026	2/1/2027	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D C	Professional Liab & Poll. Liab Excess Professional Liability Claims Made Form			108418137 PROVXS00000802	2/1/2026 2/1/2026	2/1/2027 2/1/2027	per claim/Agg \$ 2,000,000 per Claim/agg \$ 3,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 No Residential Exclusions apply. The following policies are included in the underlying schedule of insurance for umbrella/excess liability: General Liability/Auto Liability/Employers Liability. *NOTE: Professional Liability includes Pollution Liability for a total of \$2,000,000 per claim/Agg. Prof. Liability Excess is in addition to Professional Liability \$3,000,000 = total of \$5,000,000/\$5,000,000 per Claim/Agg. See page 2 of 22 on blanket GL policy form HG 00 01 09 16 which states Contractual Liability applies. See page 2 of 5 on the blanket Auto policy Form HA 99 16 12 21 which states Primary non-contributory applies.
 Project: Third Party Inspection
 South Dakota Division of Insurance is named as an additional insured as respects general liability and auto liability as required per written contract. Insurance coverage includes waiver of subrogation per the attached endorsement(s).

CERTIFICATE HOLDER South Dakota Division of Insurance 124 South Euclid Avenue, 2nd Floor Pierre SD 57501	CANCELLATION 30 Day Notice of Cancellation SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	--

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This is to attest that

TWINING CONSULTING INC DBA RADCO

18071 MT. WASHINGTON STREET
FOUNTAIN VALLEY, CALIFORNIA 92780, U.S.A.

Testing Laboratory TL-209

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date October 16, 2023



A handwritten signature in black ink that reads "Raj Nathan".

President

TWINING CONSULTING INC DBA RADCO

radcoinc.com

Contact Name Andrew Falkenburg

Contact Phone +1-9495530371

Accredited to ISO/IEC 17025:2017

Effective Date October 16, 2023

Conformity Specifications	
ASTM E 329	Standard specification for agencies engaged in construction inspection, testing, or special inspections (Sections 5-12, excluding section 6.3, pertaining to testing only)
ASTM E699	Standard specification for agencies involved in testing, quality assurance, and evaluating of manufactured building components (part A only)
Gas-Fired Appliances	
AGA Requirement 8-96	Requirement for gas-fired decorative illuminating appliances for outdoor installation
ANSI Z21.60	Decorative gas appliances for installation in solid-fuel burning fireplaces
ANSI Z21.84	Standard for manually lighted, natural gas, decorative gas appliances for installation in solid-fuel burning fireplaces
ANSI Z21.88	Vented gas fireplace heaters
ANSI Z21.97	Outdoor decorative gas appliances
Thermal	
ASTM C518	Standard test method for steady-state thermal transmission properties by means of the heat flow meter apparatus
Physical	
AATCC 127	Water resistance: hydrostatic pressure test
AISI TS-4	Standard test methods for determining the tensile and shear strength of screws
ASTM A90/A90M	Standard test method for weight (mass) of coating on iron and steel articles with zinc or zinc-alloy coatings
ASTM B117	Standard practice for operating salt spray (fog) apparatus
ASTM C97/C97M	Standard test methods for absorption and bulk specific gravity of dimension stone
ASTM C109/C109M	Standard test method for compressive strength of hydraulic cement mortars (using 2-in. or (50-mm) cube specimens)

ASTM C203	Standard test methods for breaking load and flexural properties of block-type thermal insulation
ASTM C209	Standard test method for cellulosic fiber insulating board
ASTM C272	Standard test method for water absorption of core materials for sandwich constructions
ASTM C273/C273M	Standard test method for shear properties of sandwich core materials
ASTM C297	Standard test method for flatwise tensile strength of sandwich constructions
ASTM C303	Standard test method for dimensions and density of preformed block and board-type thermal insulation
ASTM C348	Standard test method for flexural strength of hydraulic-cement mortars
ASTM C365	Standard test method for flatwise compressive properties of sandwich cores
ASTM C473	Standard test methods for physical testing of gypsum panel products
ASTM C481	Standard test method for laboratory aging of sandwich constructions
ASTM C482	Standard test method for bond strength of ceramic tile to Portland cement paste
ASTM C567/C567M	Standard test method for determining density of structural lightweight concrete
ASTM C578	Standard specification for rigid, cellular polystyrene thermal insulation
ASTM C591	Standard specification for unfaced preformed rigid cellular polyisocyanurate thermal insulation
ASTM C794	Standard test method for adhesion-in-peel of elastomeric joint sealants
ASTM C1185	Standard test methods for sampling and testing non-asbestos fiber-cement flat sheet, roofing and siding shingles, and clapboards
ASTM C1186	Standard specification for flat fiber-cement sheets
ASTM C1289	Standard specification for faced rigid cellular polyisocyanurate
ASTM C1386	Standard specification for precast autoclaved aerated concrete (AAC) wall construction units
ASTM D256	Standard test methods for determining the izod pendulum impact resistance of plastics
ASTM D570	Standard test method for water absorption of plastics
ASTM D618	Standard practice for conditioning plastics for testing
ASTM D624	Standard test method for tear strength of conventional vulcanized rubber and thermoplastic elastomers
ASTM D635	Standard test method for rate of burning and/or extent and time burning of plastics in a horizontal position

ASTM D638	Standard test method for tensile properties of plastics
ASTM D648	Standard test method for deflection temperature of plastics under flexural load in the edgewise position
ASTM D779	Standard test method for determining the water vapor resistance of sheet materials in contact with liquid water by the dry indicator method
ASTM D781	Method of test for puncture and stiffness of paperboard, corrugated and solid fiberboard
ASTM D790	Standard test methods for flexural properties of unreinforced and reinforced plastics and electrical insulating materials
ASTM D792	Standard test methods for density and specific gravity (relative density) of plastics by displacement
ASTM D816	Standard test methods for rubber cements
ASTM D828	Standard test method for tensile properties of paper and paperboard using constant-rate-of-elongation apparatus
ASTM D882	Standard test method for tensile properties of thin plastic sheeting
ASTM D896	Standard practice for resistance of adhesive bonds to chemical reagents
ASTM D903	Standard test method for peel or stripping strength of adhesive bonds
ASTM D1037	Standard test methods for evaluating properties of wood-base fiber and particle panel materials
ASTM D1621	Standard test method for compressive properties of rigid cellular plastics
ASTM D1622	Standard test method for apparent density of rigid cellular plastics
ASTM D1623	Standard test method for tensile and tensile adhesion properties of rigid cellular plastics
ASTM D1761	Standard test methods for mechanical fasteners in wood
ASTM D1876	Standard test method for peel resistance of adhesives (t-peel test)
ASTM D1970	Standard specification for self-adhering polymer modified bituminous sheet materials used as steep roofing underlayment for ice dam protection
ASTM D2126	Standard test method for response of rigid cellular plastics to thermal and humid aging
ASTM D2247	Standard practice for testing water resistance of coatings in 100% relative humidity
ASTM D2863	Standard test method for measuring the minimum oxygen concentration to support candle-like combustion of plastics (oxygen index)
ASTM D3679	Standard specification for rigid poly (vinyl chloride) (PVC) siding

	Exclude: 5.6 – 5.10, 5.12
ASTM D3801	Standard Test Method for Measuring the Comparative Burning Characteristics of Solid Plastics in a Vertical Position
ASTM D4533	Standard test method for trapezoid tearing strength of geotextiles
ASTM D4541	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D5034	Standard test method for breaking strength and elongation of textile fabrics (grab test)
ASTM D5420	Standard test method for impact resistance of flat, rigid plastic specimen by means of a striker impacted by a falling weight (gardner impact)
ASTM D5733	Standard test method for tearing strength of nonwoven fabrics by the trapezoid procedure
ASTM D5795	Standard test method for determination of liquid water absorption of coated hardboard and other composite wood products via “cobb ring” apparatus
ASTM D6817/D6817M	Standard specification for rigid cellular polystyrene geof foam
ASTM E8/E8M	Standard test methods for tension testing of metallic materials
ASTM E96/E96M	Standard test methods for water vapor transmission of materials
ASTM E2098/2098M	Standard Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to a Sodium Hydroxide Solution
ASTM E2134/E2134M	Standard test method for evaluating the tensile-adhesion performance of an exterior insulation and finish system (EIFS)
ASTM E2485/E2485M	Standard test method for freeze/thaw resistance of exterior insulation and finish systems (EIFS) and water resistive barrier coatings
ASTM E2486/E2486M	Standard test method for impact resistance of class PB and PI exterior insulation and finish systems (EIFS)
ASTM E2568	Standard specification for pb exterior insulation and finish systems
ASTM E2570/E2570M	Standard test methods for evaluating water-resistive barrier (WRB) coatings used under exterior insulation and finish systems (EIFS) or EIFS with drainage
ASTM F1575	Standard test method for determining bending yield moment of nails
ASTM G154	Standard practice for operating fluorescent ultraviolet (UV) lamp apparatus for exposure of nonmetallic materials
ASTM G155	Standard practice for operating xenon arc light apparatus for exposure of non-metallic materials
CAN/ULC-S701	Standard for thermal insulation, polystyrene, boards and pipe covering

ICC ES AC38	Water-resistive barriers (test methods referenced in sections 3.0 and 4.0)
ICC ES AC59	Direct-applied exterior finish systems (DEFS) (flexural test, water absorption, freeze-thaw, bond test and environmental cycling only) (test method referenced in sections 3.1.2.1, 3.1.2.3, 3.1.2.7, 5.2, 5.3 and 5.4.3)
ICC ES AC212	Water-resistive coatings used as water-resistive barriers over exterior sheathing (test methods referenced in sections 3.0 and 4.0)
Structural/Assemblies/Systems Performance	
ACI 355.2	Qualification of post-installed mechanical anchors in concrete and commentary (except chapter 4 and sections 8.6, 9.6 and 9.7)
ACI 355.4	Qualification of post-installed adhesive anchors in concrete (except sections 7.15, 7.16, 8.6, 8.12 and 8.13)
ASTM D4226	Standard test methods for impact resistance of rigid poly (vinyl chloride) (PVC) building products
ASTM D4632/D4632M	Standard test method for grab breaking load and elongation of geotextiles
ASTM D5206	Standard test method for windload resistance of rigid plastic siding
ASTM D5420	Standard test method for impact resistance of flat, rigid plastic specimen by means of a striker impacted by a falling weight (gardner impact)
ASTM D6117	Standard test methods for mechanical fasteners in plastic lumber and shapes
ASTM E72	Standard test methods of conducting strength tests of panels for building construction
ASTM E488/E488M	Standard test methods for strength of anchors in concrete elements
ASTM E564	Standard practice for static load test for shear resistance of framed walls for buildings
ASTM E661	Standard test method for performance of wood and wood-based floor and roof sheathing under concentrated static (test method referenced in section 6.1)
ASTM E695	Standard test method of measuring relative resistance of wall, floor, and roof construction to impact loading
ASTM E1190	Standard test methods for strength of power-actuated fasteners installed in structural members
ASTM E2126	Standard Test Methods for Cyclic (Reversed) Load Test for shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings
ASTM E2273	Standard test method for determining the drainage efficiency of exterior insulation and finish systems (EIFS) clad wall assemblies
ASTM E2322	Standard Test method for Conducting Transverse and Concentrated Load Tests on Panels used in Floor and Roof Construction

CAN/CSGB 51.32-M77	Sheathing, membrane, breather type
ICC ES AC01	Expansion anchors in masonry elements (test methods referenced in section 5.0)
ICC ES AC04	Sandwich panels (test methods referenced in section 4.0)
ICC ES AC11	Cementitious exterior wall coatings (test methods referenced in sections 4.2, 4.3 and 4.8)
ICC ES AC51	Precast stone veneer (test methods referenced in sections 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.1.5, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7)
ICC ES AC58	Adhesive anchors in masonry elements (test methods referenced in section 4.0)
ICC ES AC106	Predrilled fasteners (screw anchors) in masonry (test methods referenced in section 4.0)
ICC ES AC193	Mechanical anchors in concrete elements (test methods referenced in section 4.0, tables 4.1, 4.2 and 4.3, except method B embrittlement tests)
ICC ES AC308	Post-installed adhesive anchors in concrete elements (test methods referenced in tables 4.1, 4.2, 4.3 and 4.4 (except sections 8.16 - table 4.2 (test no.5), table 4.3 (test no. 5), table 4.4 (test no.5), 9.12 - table 4.2 (test no.17), table 4.3 (test no. 17) and tables 4.4 (test no. 16) and 9.13 - table 4.2 (test no.18), table 4.3 (test no. 18) and table 4.4 (test no.17))
ICC ES AC310	Water-resistive membranes factory-bonded to wood-based structural sheathing, used as water-resistive barriers (test methods referenced in section 4.0)
Fenestration	
AAMA/WDMA/CSA 101/I.S.2/A44-17	North American Fenestration Standard/Specification for windows, doors, and skylights, (Sections 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6.2, 9.3.6.3, 9.3.6.4, and 9.3.6.5)
AAMA 501.2	Quality assurance and diagnostic water leakage field check of installed storefronts, curtain walls, and sloped glazing systems
AAMA 910	Voluntary "Life Cycle" Specifications and Test Methods for AW Class Architectural Windows and Doors (except cl. 3.1.13)
AAMA 920	Specification for Operating Cycle Performance of Active Side-Hinged Exterior Door Slabs
ANSI/AAMA 711	Voluntary specification for self-adhering flashing used for installation of exterior wall fenestration products
ASTM E283	Standard test method for determining rate of air leakage through exterior windows, curtain walls, and doors under specified pressure differences across the specimen
ASTM E330/E330M	Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM E331	Standard test method for water penetration of exterior windows, skylights, doors, and curtain walls by uniform static air pressure difference
ASTM E547	Standard test method for water penetration of exterior windows, skylights, doors, and curtain walls by cyclic static air pressure difference
ASTM E783	Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
ASTM E987	Standard Test Methods for Deglazing Force of Fenestration Products
ASTM E1105	Field Determination of water penetration of installed exterior windows, skylights, curtain walls by uniform or cyclic air pressure differences (May also be in conjunction with ASTM E 329)
ASTM E1186	Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
ASTM E1677	Standard specification for air barrier (AB) material or system for low-rise framed building walls
ASTM E1233/E1233M	Standard test method for structural performance of exterior windows, doors, skylights, and curtain walls by cyclic air pressure differential
ASTM E2068	Standard Test Method for determining the Operational Force of Sliding Windows and Doors
ASTM E2178	Standard test method for air permeance of building materials
ASTM E2357	Standard test method for determining air leakage of air barrier assemblies
ASTM F588	Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact
ASTM F842	Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact
Roofing Materials/Assemblies	
ASTM C1167	Standard specification for clay roof tiles
ASTM C1568	Standard test method for wind resistance of concrete and clay roof tiles (mechanical uplift resistance method)
ASTM D2523	Standard practice for testing load-strain properties of roofing membranes
ASTM D4869/D4969M	Standard specification for asphalt-saturated organic felt underlayment used in steep slope roofing
ASTM D5147	Standard test methods for sampling and testing modified bituminous sheet material
FM 4473	Impact Resistance Testing of Rigid Roofing materials by Impacting with Freezer Ice Balls
ICC ES AC48	Self-adhered roof underlayments for use as ice barriers (test methods referenced in sections 3.0 and 4.0)

SBCCI SSTD 11	Test standard for determining wind resistance of concrete or clay roof tiles
TAS 102	Test procedure for static uplift resistance of mechanically attached, rigid roof systems
TAS 102A	Test procedure for static uplift resistance of mechanically attached, clipped, rigid, roof systems
UL 1897	Standard for Safety, Uplift Tests for Roof Covering Systems
Transportation	
FMSVV 217	Bus emergency exits and window retention and release

AAMA: American Architectural Manufacturers Association

AATCC: American Association of Textile Chemists and Colorists

ACI: American Concrete Institute

AGA: American Gas Association

AISI: American Iron and Steel Institute

API: American Petroleum Institute

ASSE: American Society of Safety Engineers

AWPA: American Wood Protection Association

CSGB: Canadian General Standards Board

FMVSS: Federal Motor Vehicle Safety Standards

NFPA: National Fire Protection Association

NSF: National Sanitation Foundation

SBCCI: Southern Building Code Congress International

TAS: Testing Application Standards

UBC: Uniform Building Code

UL: Underwriters Laboratories

ULC: Underwriters Laboratories



LIST OF MANUFACTURERS FOR SOUTH DAKOTA

Britten, Inc.

2294 Cass Road

Traverse City, MI 49684

Champion Homes

1660 Rowe Avenue

Worthington MN 56187

Commodore Homes of Indiana

1902 Century Drive

Goshen, IN 46528

Crown Technical Systems, Inc.

13470 Philadelphia Avenue

Fontana, California 92337

Northstar Systembuilt

203 Industrial Road

Redwood Falls Mn 56283

Midcountry Homes – Cavco-Dorchester

337 Liberty St

Dorchester WI 54425

Maximum Security Systems - MSSI

1861 Main Street

Fyffe, AL 35971

CREREDENTIALS FOR TWINING CONSULTING INC DBA RADCO EMPLOYEES

. Shawn Tibbits

Residential Mechanical Inspector (expires 07/10/2025)
Commercial Energy Inspector (expires 07/08/2025)
Residential Building Inspector (expires 07/10/2025)
Residential Electrical Inspector (expires 07/10/2025)
Commercial Electrical Inspector (expires 07/08/2025)
Commercial Building Inspector (expires 07/10/2025)
Residential Plumbing Inspector (expires 07/10/2025)
Commercial Mechanical Inspector (expires 07/10/2025)
Residential Energy Inspector/Plans Examiner (expires 07/08/2025)
Commercial Plumbing Inspector (expires 07/10/2025)
Plumbing Inspector (expires 07/08/2025)
Electrical Inspector (expires 07/08/2025)
Building Inspector (expires 07/08/2025)
Mechanical Inspector (expires 07/08/2025)
Residential Combination Inspector (expires 07/08/2025)
Combination Inspector (expires 07/08/2025)
Commercial Combination Inspector (expires 07/08/2025)

• MARK FEIGNER

Residential Energy Inspector/Plans Examiner (expires 04/22/2028)
Commercial Plumbing Inspector (expires 04/22/2028)
Residential Combination Inspector (expires 04/22/2028)
Commercial Energy Inspector (expires 04/22/2028)
Residential Plumbing Inspector (expires 08/28/2027)
Plumbing Inspector (expires 12/18/2025)
Commercial Mechanical Inspector (expires 08/28/2027)
Mechanical Inspector (expires 08/28/2027)

• GLEN VAN BOCKEL

Residential Building Inspector (expires 03/05/2027)
Residential Plumbing Inspector (expires 07/30/2027)
Residential Electrical Inspector (expires 01/29/2028)
Residential Mechanical Inspector (expires 03/25/2028)
Residential Combination Inspector (expires 03/25/2028)
Commercial Building Inspector (expires 02/16/2026)
Building Inspector (expires 02/17/2026)
Fire Inspector I (expires 06/07/2026)
Fire Inspector II (expires 07/18/2026)
Commercial Mechanical Inspector (expires 08/23/2026)
Mechanical Inspector (expires 08/24/2026)
Commercial Plumbing Inspector (expires 01/16/2027)
Plumbing Inspector (expires 01/17/2027)

. JOSH HOZEY

12 years of experience, and is an ICC Certified Combination Inspector, Commercial Combination Inspector, Residential Combination Inspector, Electrical Inspector, Building Inspector, Mechanical Inspector, Plumbing Inspector, Commercial Building Inspector, Commercial Electrical Inspector, Commercial Mechanical Inspector, Certified Commercial Energy Inspector, Commercial Plumbing Inspector, Residential Building Inspector, Residential Energy Inspector/ Plans Examiner, Residential Electrical Inspector, Residential Plumbing Inspector, Residential Mechanical Inspector, Industrialized Interstate Building Commission (IIBC) Accreditations (MN, NJ, ND, RI), Industrialized Buildings Inspector, State of CA QAI, State of KY Level II Inspector, State of LA Inspector, State of MI Inspector, State of NC approved inspector, State of NM Inspector, State of OH IU Inspector, State of TX IHB Inspector, and Certification Team Member for the TDLR IHB program assisting the State of Texas with In-Plant certifications.

. TROY KEDLECEK

State of Wisconsin
UDC Electrical Inspector-Expires 6-30-2028
UDC HVAC Inspector-Expires 6-30-2028
UDC Plumbing Inspector-Expires 6-30-2028
UDC Construction Inspector-Expires 6-30-2025

.Corey Agnew

Residential Building Inspector (expires 12/30/2026)
Mechanical Inspector (expires 05/03/2028)



Effective Date: January 15th, 2026

Western Surety Company

LICENSE AND PERMIT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

Bond No. 73783069

That we, Twining Consulting, Inc. dba RADCO

of Fountain Valley, State of CA, as Principal,
and WESTERN SURETY COMPANY, a corporation duly licensed to do surety business in the State of
South Dakota, as Surety, are held and firmly bound unto the

South Dakota Electrical Commission, State of South Dakota, as Obligee, in the penal
sum of One Hundred Thousand and 00/100 DOLLARS (\$100,000.00),
lawful money of the United States, to be paid to the Obligee, for which payment well and truly to be made,
we bind ourselves and our legal representatives, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, That whereas, the Principal has been
licensed Third Party Electrical Inspector - Modular Structure
by the Obligee.

NOW THEREFORE, if the Principal shall faithfully perform the duties and in all things comply
with the laws and ordinances, including all amendments thereto, pertaining to the license or permit
applied for, then this obligation to be void, otherwise to remain in full force and effect until
January 15th, 2027, unless renewed by Continuation Certificate.

This bond may be terminated at any time by the Surety upon sending notice in writing, by First Class
U.S. Mail, to the Obligee and to the Principal at the address last known to the Surety, and at the expiration
of thirty-five (35) days from the mailing of said notice, this bond shall ipso facto terminate and the Surety
shall thereupon be relieved from any liability for any acts or omissions of the Principal subsequent to said
date. Regardless of the number of years this bond shall continue in force, the number of claims made
against this bond, and the number of premiums which shall be payable or paid, the Surety's total limit of
liability shall not be cumulative from year to year or period to period, and in no event shall the Surety's total
liability for all claims exceed the amount set forth above. Any revision of the bond amount shall not be
cumulative.

Dated this 15th day of January, 2026.

Twining Consulting, Inc. dba RADCO

Principal

WESTERN SURETY COMPANY

By Larry Kasten
Larry Kasten, Vice President

Western Surety Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That WESTERN SURETY COMPANY, a corporation organized and existing under the laws of the State of South Dakota, and authorized and licensed to do business in the States of Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and the United States of America, does hereby make, constitute and appoint

Larry Kasten of Sioux Falls,
State of South Dakota, its regularly elected Vice President,
as Attorney-in-Fact, with full power and authority hereby conferred upon him to sign, execute, acknowledge and deliver for and on its behalf as Surety and as its act and deed, the following bond:

One Third Party Electrical Inspector - Modular Structure

bond with bond number 73783069

for Twining Consulting, Inc. dba RADCO

as Principal in the penalty amount not to exceed: \$ 100,000.00

Western Surety Company further certifies that the following is a true and exact copy of Section 7 of the by-laws of Western Surety Company duly adopted and now in force, to-wit:

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys-in-Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.

This Power of Attorney may be signed by digital signature and sealed by a digital or otherwise electronic-formatted corporate seal under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 27th day of April, 2022:

"RESOLVED: That it is in the best interest of the Company to periodically ratify and confirm any corporate documents signed by digital signatures and to ratify and confirm the use of a digital or otherwise electronic-formatted corporate seal, each to be considered the act and deed of the Company."

In Witness Whereof, the said WESTERN SURETY COMPANY has caused these presents to be executed by its Vice President with the corporate seal affixed this 15th day of January, 2026.

ATTEST

L. Bauder
L. Bauder, Assistant Secretary



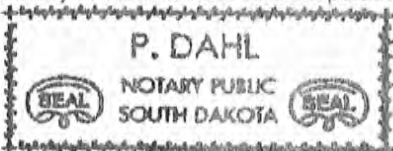
WESTERN SURETY COMPANY

By Larry Kasten
Larry Kasten, Vice President

STATE OF SOUTH DAKOTA }
COUNTY OF MINNEHAHA } ss

On this 15th day of January, 2026, before me, a Notary Public, personally appeared Larry Kasten and L. Bauder

who, being by me duly sworn, acknowledged that they signed the above Power of Attorney as Vice President and Assistant Secretary, respectively, of the said WESTERN SURETY COMPANY, and acknowledged said instrument to be the voluntary act and deed of said Corporation.



My Commission Expires June 18, 2031

P. Dahl
Notary Public

To validate bond authenticity, go to www.cnasurety.com > Owner/Obligee Services > Validate Bond Coverage.

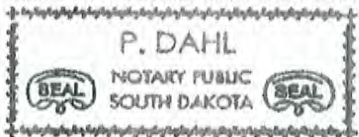


STATE OF SOUTH DAKOTA }
COUNTY OF MINNEHAHA } ss

ACKNOWLEDGMENT OF SURETY
(Corporate Officer)

On this 15th day of January, 2026, before me, the undersigned officer, personally appeared Larry Kasten, who acknowledged himself to be the aforesaid officer of WESTERN SURETY COMPANY, a corporation, and that he as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the corporation by himself as such officer.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.



P Dahl
Notary Public — South Dakota

My Commission Expires June 18, 2031

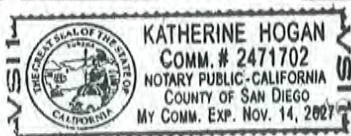
ACKNOWLEDGMENT OF PRINCIPAL
(Individual or Partners)

STATE OF California }
COUNTY OF San Diego } ss

On this February 7, 2026 day of February, 2026, before me personally appeared Benito Caban known to me to be the individual described in and who executed the foregoing instrument and acknowledged to me that he executed the same.

My commission expires November 14, 2027

[Signature]
Notary Public



STATE OF _____ }
COUNTY OF _____ } ss

ACKNOWLEDGMENT OF PRINCIPAL
(Corporate Officer)

On this _____ day of _____, before me personally appeared _____ who acknowledged himself/herself to be the _____ of _____, a corporation, and that he/she as such officer being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as such officer.

My commission expires _____

Notary Public



License or Permit No. _____

LICENSE AND PERMIT
BOND
As

of _____

State of _____

Name of Applicant _____

Address _____

Filed _____

Approved this _____

day of _____