

1.0 Scope

- 1.1 To define the requirements for the single-phase voltage SNER, Model EP1A electric chain hoists.

2.0 Codes and Standards

- 2.1 ASME B30.16 "Overhead Hoists (Underhung)
- 2.2 ASME HST-1M "Performance Standard for Electric Chain Hoists"
- 2.3 FEM 9.682 "Rules for the Design of Serial Lifting Equipment – Selection of Lifting Motors"
- 2.4 ISO 4301 "Cranes and Lifting Appliance – Classification"
- 2.5 JIS B 8815 "Electric Chain Hoists"
- 2.6 IEC 34-5 "Rotating Electrical Machines – Classification of Degrees of Protection Provided by Enclosures of Rotating Electrical Machines (IP Code)"
- 2.7 IEC 529 "Degrees of Protection Provided by Enclosures (IP Code)"
- 2.8 NFPA 70 "National Electric Code"

3.0 Design

- 3.1 The electric chain hoists shall be model EP1A as supplied by Harrington Hoists, Inc. The hoists shall be rated 1/4 US Ton through 3 US Ton.
- 3.2 The electric chain hoists shall meet the specifications and dimensions of EDOC0228, "Technical Information, SNER Electric Chain Hoist".
- 3.3 The electric chain hoists shall meet the design and construction criteria of paragraph 2.1 above.
- 3.4 The hoists' enclosure ratings shall provide protection against water jets from any direction in accordance with IP55 of paragraph 2.7 above.
- 3.5 The electric chain hoist shall be equipped with a two-button pendant control station with a rating of IP65 per item 2.7 above. The pendant shall connect to the hoist via direct wire connections and shall be equipped with integral strain relief.
- 3.6 The hoists' motor shall be of the totally enclosed fan-cooled squirrel cage induction type. It shall be compatible for 115/230 volt single-phase power at 60 Hertz. The

motor’s insulation shall meet Class B requirements. The hoists’ motor shall be rated in accordance with paragraph 2.3 above and shall carry the following ratings:

Single Speed Motor

Short Time Rating: 60 minutes
Intermittent Rating: 60% ED, 360 starts/hr.

- 3.7 The electric chain hoists shall be classified with a duty rating of H4 per item 2.2 above.
- 3.8 In addition to the duty-rating requirement of item 3.7 above, the electric chain hoists shall carry rating classifications in accordance with items 2.3, 2.4, and 2.5 above, as per the following charts.

Capacity (US Tons)	Product Code	Classification	
		JIS/ISO	FEM
1/4	SNER003S	M5	2m
1/2	SNER005S	M5	2m
1/2	SNER005L	M4	1Am
1	SNER010S	M5	2m
1	SNER010L	M4	1Am
2	SNER020L	M4	1Am
3	SNER030C	M4	1Am

- 3.9 The electric chain hoists shall be equipped with the Pull Rotor type brake with at least 200% braking capacity, and rated for at least 500,000 brake operations before adjustment.
- 3.10 The electric chain hoists shall be equipped with a friction clutch in the transmission between the hoists’ electric motor and the load sheave. The friction clutch shall prevent the motor from turning the load sheave when the load exceeds the friction clutch setting.

- 3.11 The electric chain hoists shall be equipped with a fixed, non-adjustable over-travel limit switch for the Up direction of hoist operation. The limit switch, when activated, shall interrupt the Up control circuit to prevent additional lifting.
- 3.12 The electric chain hoists shall be equipped with case-hardened Grade 80 load chain.
- 3.13 The electric chain hoists shall be equipped with hooks that are drop forged from carbon steel, and which are designed for ductile mode failure upon overload. The hooks shall be equipped with spring loaded latch type throat closures. The bottom hook shall be equipped with a thrust ball bearing for 360 degree swivel.
- 3.14 The electric chain hoists shall employ a transmission comprised of spur and helical gearing operating in an oil bath. The oil compartment shall be equipped with a pressure relief vent plug.
- 3.15 The electric chain hoists shall be equipped with a warning tag per item 2.1 above. The warning tag shall be attached to the pendant cord, it shall be made of durable plastic laminated construction, and it shall give comprehensive information for the safe operation of the hoist.
- 3.16 The electric chain hoists shall have a single fall of load chain for all models except the double fall 3 Ton (030C) models.

4.0 Documentation

- 4.1 Each electric chain hoist shall be supplied with an Owner's Manual that includes the following information.
 - a) Important Information and Warnings
 - b) Installation and Operation
 - c) Inspection
 - d) Lubrication, Maintenance and Handling, and Troubleshooting.
- 4.2 Each electric chain hoist shall be supplied with a Parts List.

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