

PART 1 - GENERAL

- 1.1 REFERENCES
- .1 American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE)
 - .1 ASHRAE 90.1-Latest Edition, Energy Standard for Buildings Except Low-Rise Residential Buildings (IESNA cosponsored; ANSI approved; Continuous Maintenance Standard).
 - .2 Electrical Equipment Manufacturers' Association Council (EEMAC)
 - .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- 1.2 ACTION AND INFORMATIONAL SUBMITTALS
- .1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 33 00 - Submittal Procedures. Include product characteristics, performance criteria, and limitations.
 - .2 Shop Drawings: submit drawings stamped and signed by professional engineer registered or licensed in Province of Newfoundland and Labrador, Canada.
 - .3 Quality Control: in accordance with Section 01 45 00 - Quality Control.
 - .1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
 - .2 Instructions: submit manufacturer's installation instructions.
 - .4 Closeout Submittals
 - .1 Provide maintenance data for motors, drives and guards for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.
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1.3 QUALITY ASSURANCE .1 Regulatory Requirements: work to be performed in compliance with applicable Provincial /Territorial regulations.

.2 Health and Safety Requirements: do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 DELIVERY, STORAGE, AND HANDLING .1 Packing, shipping, handling and unloading:

.1 Deliver, store and handle in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Waste Management and Disposal:

.1 Construction/Demolition Waste Management and Disposal: separate waste materials for reuse and recycling.

PART 2 - PRODUCTS

2.1 GENERAL .1 Motors: high efficiency, in accordance with local Hydro company standards and to ASHRAE 90.1.

2.2 MOTORS .1 Provide motors for mechanical equipment as specified.

.2 Motors under 373 W: speed as indicated, continuous duty, built-in overload protection, resilient mount, single phase, 120 V, unless otherwise specified or indicated.

.3 Motors 373 W and larger: EEMAC Class B, squirrel cage induction, speed as indicated, continuous duty, drip proof, ball bearing, maximum temperature rise 40 degrees C, 3 phase, 600 V, unless otherwise indicated.

- 2.3 TEMPORARY MOTORS .1 If delivery of specified motor will delay completion or commissioning work, install motor approved by Departmental Representative for temporary use. Work will only be accepted when specified motor is installed.
- 2.4 BELT DRIVES .1 Fit reinforced belts in sheave matched to drive. Multiple belts to be matched sets.
- .2 Use cast iron or steel sheaves secured to shafts with removable keys unless otherwise indicated.
- .3 For motors under 7.5 kW: standard adjustable pitch drive sheaves, having plus or minus 10% range. Use mid-position of range for specified r/min.
- .4 For motors 7.5 kW and over: sheave with split tapered bushing and keyway having fixed pitch unless specifically required for item concerned. Provide sheave of correct size to suit balancing.
- .5 Correct size of sheave determined during commissioning.
- .6 Minimum drive rating: 1.5 times nameplate rating on motor. Keep overhung loads within manufacturer's design requirements on prime mover shafts.
- .7 Motor slide rail adjustment plates to allow for centre line adjustment.
- .8 Supply one set of spare belts for each set installed in accordance with Section 01 78 00 - Closeout Submittals.
- 2.5 DRIVE GUARDS .1 Provide guards for unprotected drives.
- .2 Guards for belt drives;
.1 Expanded metal screen welded to steel frame.
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- 2.5 DRIVE GUARDS (Cont'd) .2 (Cont'd)
- .2 Minimum 1.2 mm thick sheet metal tops and bottoms.
 - .3 38 mm dia holes on both shaft centres for insertion of tachometer.
 - .4 Removable for servicing.
- .3 Provide means to permit lubrication and use of test instruments with guards in place.
- .4 Install belt guards to allow movement of motors for adjusting belt tension. -
- .5 Guard for flexible coupling:
- .1 "U" shaped, minimum 1.6 mm thick galvanized mild steel.
 - .2 Securely fasten in place.
 - .3 Removable for servicing.
- .6 Unprotected fan inlets or outlets:
- .1 Wire or expanded metal screen, galvanized, 19 mm mesh.
 - .2 Net free area of guard: not less than 80% of fan openings.
 - .3 Securely fasten in place.
 - .4 Removable for servicing.

PART 3 - EXECUTION

- 3.1 MANUFACTURER'S INSTRUCTIONS .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.
- 3.2 INSTALLATION .1 Fasten securely in place.
- .2 Make removable for servicing, easily returned into, and positively in position.
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- 3.3 CLEANING .1 Proceed in accordance with Section 01 74 11 -
Cleaning.
- .2 Upon completion and verification of
performance of installation, remove surplus
materials, excess materials, rubbish, tools
and equipment.