

GP 16-09-01	Low Voltage AC Motors Up to 200 HP (150 kW)	July 2004
-------------	---	-----------

Low Voltage AC Motors Up to 200 HP (150 kW)

GP 16-09-01

Scope

- 1) [I] This Global Practice (GP) covers design and testing of low voltage squirrel cage induction motors rated up to and including 200 hp (150 kW). Low voltage motors larger than 200 hp (150 kW), motors rated above 660 V and all synchronous motors are covered by [GP 16-09-02](#).
 - 2) [I] An asterisk (*) indicates that additional information is required. If a job is contracted, this additional information is furnished in the Job Specification.
-

Downstream, Chemical	For ExxonMobil Use Only	Version 2.1.0
Page 1 of 11	©ExxonMobil Development Company	



Documents

Document Sharing Hub

GP 16-09-01	Low Voltage AC Motors Up to 200 HP (150 kW)	July 2004
-------------	---	-----------

Table of Contents

1. Additional Requirements	3
1.1. Global Practices–ExxonMobil Engineering Practices	3
1.2. ExxonMobil Data Sheets.....	3
1.3. API–American Petroleum Institute	3
1.4. IEC–International Electrotechnical Commission	3
2. Additional Requirements for Use in the US	3
2.1. ABMA–American Bearing Manufacturers Association.....	4
2.2. IEEE–Institute of Electrical and Electronics Engineers.....	4
2.3. NEMA–National Electrical Manufacturers Association	4
2.4. UL–Underwriters' Laboratories	4
3. Documentation.....	4
4. General Requirements	5
4.1. Insulation, Conductors and Leads	5
4.2. Bearings and Lubrication	6
4.3. Lifting Provisions.....	6
4.4. Nameplate.....	6
4.5. Terminal Boxes	6
5. Enclosure Requirements	7
6. Additional Requirements for Vertical Motors	7
6.1. Belt-connected, Foot Mounted Motors Installed Vertically for Air-cooler Applications	8
7. Rotor Balance and Vibration	8
8. Performance Requirements.....	9
9. Testing	9
Record of Change	11
Attachment: Purpose Codes Definitions	13

DNST, CHEM	For ExxonMobil Use Only	Version 2.1.0
Page 2 of 11	©ExxonMobil Development Company	



Documents

Document Sharing Hub

GP 16-09-01	Low Voltage AC Motors Up to 200 HP (150 kW)	July 2004
-------------	---	-----------

1. Additional Requirements

[I] The following Practices and Standards shall be used with this Practice as specified by Purchaser.

1.1. Global Practices–ExxonMobil Engineering Practices

GP 02-01-01	Plant Noise Design Criteria
-----------------------------	-----------------------------

1.2. ExxonMobil Data Sheets

ExxonMobil Data Sheets	ExxonMobil Data Sheet Home Page
T160901C01	Low Voltage AC Motors Up to 200 HP (150 kW) - Specification Sheet for Electric Motors - Customary/Metric Units

1.3. API–American Petroleum Institute

API STD 610	Centrifugal Pumps for Petroleum, Heavy Duty Chemical, and Gas Industry Services
API STD 670	Machinery Protection Systems

1.4. IEC–International Electrotechnical Commission

IEC 60034	Rotating Electrical Machines
IEC 60072	Dimensions and Output Series for Rotating Electrical Machines
IEC 60085	Thermal Evaluation and Classification of Electrical Insulation

2. Additional Requirements for Use in the US

* [I] Motors shall be manufactured in accordance with the applicable national and local authority standards and certified as such by approved testing agency recognized in the location where installed. The following standards shall be used for a-c motors purchased in the U.S. for use in the U.S.

* [I] For other conditions of purchase and use, the applicable standards of manufacture and test shall be specified by Purchaser.

DNST, CHEM	For ExxonMobil Use Only	Version 2.1.0
Page 3 of 11	©ExxonMobil Development Company	



Documents

Document Sharing Hub

GP 16-09-01	Low Voltage AC Motors Up to 200 HP (150 kW)	July 2004
-------------	---	-----------

2.1. ABMA–American Bearing Manufacturers Association

ABMA 9	Load Ratings and Fatigue Life for Ball Bearings
ABMA 11	Load Ratings and Fatigue Life for Roller Bearings

2.2. IEEE–Institute of Electrical and Electronics Engineers

IEEE 1	Recommended Practice - General Principles for Temperature Limits in the Rating of Electrical Equipment and for the Evaluation of Electrical Insulation
IEEE 43	Recommended Practice for Testing Insulation Resistance of Rotating Machinery (ANSI/IEEE)
IEEE 112	Standard Test Procedure for Polyphase Induction Motors and Generators (ANSI/IEEE)
IEEE 841	Standard for Petroleum and Chemical Industry - Severe Duty Totally Enclosed Fan-Cooled (TEFC) Squirrel Cage Induction Motors - Up to and Including 370 kW (500 hp)

2.3. NEMA–National Electrical Manufacturers Association

NEMA MG 1	Motors and Generators
NEMA MG 2	Safety Standard and Guide for Selection, Installation, and Use of Electric Motors and Generators

2.4. UL–Underwriters' Laboratories

<u>UL 674</u>	<u>UL Standard for Safety Electric Motors and Generators for Use in Division 1 Hazardous (Classified) Locations</u>
---------------	---

3. Documentation

- 1) * [I] Motor data specified in [T160901C01](#) shall be furnished by Purchaser and Vendor with all proposals. All the same data shall be furnished with final drawings and data corrected to apply to the actual motor furnished. Guaranteed or published values are acceptable for motors that do not require certified test reports.
- 2) * [I] When specified, test reports (5 certified copies) shall be submitted to Purchaser.

DNST, CHEM	For ExxonMobil Use Only	Version 2.1.0
Page 4 of 11	©ExxonMobil Development Company	



Documents

Document Sharing Hub