
API Standard

547

First Edition, January 2005

General-purpose Form-wound Squirrel Cage
Induction Motors—250 Horsepower and Larger

Appendix A

Motor Data Sheets

API Monogram[®] Required

☐ Yes ☐ No

Appendix A—Motor Datasheets

API Standard **547** : First Edition, January 2005
 General-purpose Form-wound Squirrel Cage Induction
 Motors—250 Horsepower and Larger

Appendix A

	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS U.S. CUSTOMARY UNITS	JOB NO. _____ ITEM / TAG NO. _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE <u>1</u> OF <u>3</u>
1 FOR / USER _____ 2 SITE / LOCATION _____ 3 SUPPLIER _____	DRIVEN EQUIPMENT _____ QUANTITY _____ SUPPLIER PROJECT NO. _____	
4 Applicable To: ☐ Proposal ☐ Purchase ☐ As built 5 NOTE: (Excel code) ☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)		
MOTOR BASIC DATA		
6 Applicable Standards (1.4.2): ☒ NORTH AMERICAN (i.e., ANSI, NEMA) ☐ International (i.e., IEC, ISO)		
7 Nameplate Rating (1.1): _____ Hp _____ RPM (Synchronous) 8 _____ Volts (2.2.1) <u>3</u> Phase _____ Hertz		
9 Motor Power Source: ☒ SINE WAVE POWER ☐ ASD power (1.3.e, 2.2.1. Purchaser to advise details, see Page 2, lines 7 through 11)		
10 Usual Service Conditions (1.2.a, b, c, d, e, h):		
11 Ambient Temperature <u>-25 to +40 °C</u> ☐ Other: _____ Site Elevation: <u>LESS THAN 3300 FEET</u> ☐ Other: _____		
12 Motor Location: ☐ Indoor ☐ Outdoor ☐ Outdoor with roof ☐ Offshore 13 ☐ Dust ☐ Chemicals ☐ Corrosive Agents _____		
14 Mounting: HORIZONTAL ☐ Foot Mounted ☐ Flange Mounted ☐ Flange details _____ 15 Other: _____		
16 Area Classification: Class 1 Group _____ ☐ Division <u>2</u> or ☐ Zone <u>2</u> Autoignition Temp _____ °C 17 ☐ Nonclassified ☐ Other: _____		
18 Connection to load: DIRECT COUPLED		
19 Sound Pressure Level (2.1.2): <u>LESS THAN 85 dBA @ 3 ft., NO-LOAD, FULL VOLT/FREQ., SINE WAVE POWER</u> ☐ Other: _____		
20 Enclosure (2.4.1.1): ☐ TEFC (2.4.1.2)		
21 ☐ Weather Protected Type II (WP II) (2.4.1.3) WP II AIR FILTERS (2.4.1.3.f) ☐ Pressure switch ☐ Pressure gauge		
22 Bearings (2.4.7): HYDRODYNAMIC (2.4.7.1.1) ☐ Antifriction (2.4.7.1.6)		
23 Main Terminal Box (3.1.1): NEMA MG 1 PART 20 TYPE II		
24 ☐ Box Location _____ Conductor Size _____ Qty. Per Phase _____ Type/Insulation _____ Cable Entry: _____ 25 ☐ Space Heaters (3.1.5.f): Temp. Code T3C or ☐ T _____ Volts: _____ Phase: _____ ☐ kW		
26 Motor Starting (2.2.2.3) ACROSS-THE-LINE STARTING AT 80% OF RATED VOLTAGE		
27 ☐ Loaded ☐ Unloaded ☐ Partially Loaded _____ % Load Curve No. (2.2.2.5) _____ 28 ☐ Other Starting Method Type _____ Reduced Voltage _____ Volts		
29 Additional Information: _____ 30 _____		
ACCESSORIES:		
31 ☐ Motor space heaters (3.4): Temp. Code T3C or ☐ T _____ Volts: _____ Phase: _____ ☐ kW		
32 Winding Temperature Detectors (3.2): PLATINUM, 3 WIRE, 100 Ohms at 0°C, 2 per PHASE		
33 ☐ Stator RTD Box Location: _____ 34 ☐ Recommended Settings: Alarm _____ °F ☐ Shutdown _____ °F		
35 Hydrodynamic Bearing Temperature Detectors (3.3): PLATINUM, 3 WIRE, 100 Ohms at 0°C		
36 ☐ Bearing Temperature Sensor Wire Terminations: ☐ Terminal box at motor side ☐ In the Stator RTD T Box ☐ Conduit Head at Bearing 37 ☐ Recommended Settings: Alarm _____ °F ☐ Shutdown _____ °F		
38 ☐ Vibration Probes (Option, 2.4.5.1.2, per API 541) Details: _____ 39 Additional Information: _____ 40 _____		

API Standard 547 : First Edition, January 2005
General-purpose Form-wound Squirrel Cage Induction
Motors—250 Horsepower and Larger

Appendix A

	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS U.S. CUSTOMARY UNITS	JOB NO. _____ ITEM / TAG NO. _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE <u>2</u> OF <u>3</u>		
1	NOTE: (Excel code) ☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)			
MISCELLANEOUS:				
2	Shipment (4.4.1): SUITABLE FOR 6 MONTHS OUTDOOR STORAGE ☐ Auxiliary nameplate(s) with Purchaser information (2.4.11.4): Details: _____ Additional Information: _____			
3				
4				
5				
6				
SPECIAL CONDITIONS:				
7	Adjustable Speed Drive Operation (1.3.e, 2.2.1): ☐ ASD only ☐ ASD with DOL Start ☐ Bypass @ Utility Frequency			
8				
9	☐ Variable Torque Speed Range: Min Speed _____ RPM _____ ft.-lb Max. Speed _____ RPM _____ ft.-lb			
10	☐ Constant Torque Speed Range: Min Speed _____ RPM _____ Max. Speed _____ RPM _____ ft.-lb			
11	☐ Constant Power Speed Range: Max Speed _____ RPM _____ Hp			
12	Other Unusual Service Conditions (1.3): _____			
13				
DRIVEN EQUIPMENT INFORMATION				
14	Driven Equipment: Tag No. _____ Description _____ Location _____			
15	Type of Load: ☐ Centrifugal Compressor ☐ Pump ☐ Fan Manufacturer: _____ Type/Model No. _____ RPM _____			
16	Total Driven-Equipment WK ² (2.2.2.5) _____ lb-ft ² at _____ RPM Load Speed-Torque Curve No. (2.2.2.5) _____			
17	Rotation Viewed from Opposite Drive End of Motor: ☐ Clockwise ☐ Counterclockwise ☐ Bi-directional			
18	Coupling (2.4.9.2): Type _____ Mfr. _____ Type / Model _____			
19	Supplied By: ☐ Motor Mfr ☐ Driven Equipment Mfr ☐ Purchaser ☐ Others _____			
20	Mounted By: ☐ Motor Mfr ☐ Driven Equipment Mfr ☐ Purchaser ☐ Others _____			
21	Other: _____			
ANALYSIS, SHOP INSPECTION, AND TESTS				
22	Routine Test (4.1.2)			
23	No load current	Required ■	Observed ○	Witnessed ○
24	Locked rotor current	■	○	○
25	High-potential test (stator, heaters, RTDs)	■	○	○
26	Insulation resistance test	■	○	○
27	Stator resistance	■	○	○
28	Vibration measurement	■	○	○
29	Bearing insulation test	■	○	○
30	Bearing temperature rise	■	○	○
31	Stator Surge Test (4.1.4)	■	○	○
32	Special Tests (per API 541 as noted)			
33	Complete Test (541 Para 4.3.5.1)	○	○	○
34	Unbalance Response (541 Para 4.3.5.3)	○	○	○
35	Rated Rotor Temperature Vibration Test (541 Para 4.3.5.2)	○	○	○
36	Sealed Winding Conformance Test (541 Para 4.3.4.4)	○	○	○
37	Other _____	○	○	○
38	Other _____	○	○	○

API Standard **547** : First Edition, January 2005
 General-purpose Form-wound Squirrel Cage Induction
 Motors—250 Horsepower and Larger

Appendix A

	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS U.S. CUSTOMARY UNITS	JOB NO. _____ ITEM / TAG NO. _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE <u>3</u> OF <u>3</u>
1 NOTE: (Excel code) ☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)		
MOTOR DATA		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	☐ Manufacturer _____ ☐ Type / Model No. _____ ☐ Frame Size / Designation _____ Qty. _____ Hp _____ RPM (Syn.) _____ Poles _____ Volts _____ 3 Phase _____ Hz Service Factor 1. _____ Insulation Class CLASS F Temperature Rise CLASS B Enclosure _____ Full Load Speed _____ RPM Full-Load Torque (FLT) _____ ft-lb Rotor WK² _____ lb-ft² Locked-Rotor Torque (LRT) _____ % FLT Pull-Up Torque (PUT) _____ % FLT Breakdown Torque (BDT) _____ % FLT Load Point 50% 75% 100% ☐ Other: _____ % Efficiency _____ % _____ % _____ % _____ % ☐ Guar. Efficiency at _____ % Load = _____ % Power Factor _____ % _____ % _____ % _____ % ☐ Test Method: _____ Current _____ Amps _____ Amps _____ Amps _____ Amps Speed-Torque Curve No. _____ Speed-Current Curve No. _____ Speed-Power Factor Curve No. _____ Voltage Magnitude _____ 100% Other: _____ % Locked-Rotor Current _____ Amps _____ Amps Locked-Rotor PF _____ % Locked-Rotor Withstand Time, Cold _____ Sec. _____ Sec. Sound Pressure Level (2.1.2) _____ dBA @ 3', no-load Locked-Rotor Withstand Time, Rated Temp _____ Sec. _____ Sec. Weights: Net _____ lb Stator _____ lb Rotor _____ lb Shipping _____ lb Other: _____	
COMMENTS		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		

API Standard 547 : First Edition, January 2005
General-purpose Form-wound Squirrel Cage Induction
Motors—250 Horsepower and Larger

Appendix A

	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS METRIC UNITS	JOB NO. _____ ITEM / TAG NO. _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE 1 OF 3
1 FOR / USER _____ 2 SITE / LOCATION _____ 3 SUPPLIER _____	DRIVEN EQUIPMENT _____ QUANTITY _____ SUPPLIER PROJECT NO. _____	
4 Applicable To: ☐ Proposal ☐ Purchase ☐ As built 5 NOTE: (Excel code) ☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)		
MOTOR BASIC DATA		
6 Applicable Standards (1.4.2): ☒ International (i.e., IEC, ISO) ☐ NORTH AMERICAN (i.e., ANSI, NEMA)		
7 Nameplate Rating (1.1): _____ kW _____ RPM (Synchronous) 8 _____ Volts (2.2.1) 3 Phase _____ Hertz		
9 Motor Power Source: ☒ SINE WAVE POWER ☐ ASD power (1.3.e, 2.2.1. Purchaser to advise details, see Page 2, lines 7 through 11)		
10 Usual Service Conditions (1.2.a, b, c, d, e, h):		
11 Ambient Temperature -25 to +40 °C ☐ Other: _____ Site Elevation: LESS THAN 1000 meters ☐ Other: _____		
12 Motor Location: ☐ Indoor ☐ Outdoor ☐ Outdoor with roof ☐ Offshore 13 ☐ Dust ☐ Chemicals ☐ Corrosive Agents _____		
14 Mounting: HORIZONTAL ☐ Foot Mounted ☐ Flange Mounted ☐ Flange details _____ 15 Other: _____		
16 Area Classification: Class 1 Group _____ ☐ Zone 2 Autoignition Temp _____ °C 17 ☐ Nonclassified ☐ Other: _____		
18 Connection to load: DIRECT COUPLED		
19 Sound Pressure Level (2.1.2): LESS THAN 85 dBA @ 1m., NO-LOAD, FULL VOLT/FREQ., SINE WAVE POWER ☐ Other: _____		
20 Enclosure (2.4.1.1): ☐ TEFC (2.4.1.2)		
21 ☐ Weather Protected Type II (WP II) (2.4.1.3) WP II AIR FILTERS (2.4.1.3.f) ☐ Pressure switch ☐ Pressure gauge		
22 Bearings (2.4.7): HYDRODYNAMIC (2.4.7.1.1) ☐ Antifriction (2.4.7.1.6)		
23 Main Terminal Box (3.1.1): NEMA MG 1 PART 20 TYPE II		
24 ☐ Box Location _____ Conductor Size _____ Qty. Per Phase _____ Type/Insulation _____ Cable Entry: _____ 25 ☐ Space Heaters (3.1.5.f): Temp. Code T3C or ☐ T _____ Volts: _____ Phase: _____ ☐ kW _____		
26 Motor Starting (2.2.2.3) ACROSS-THE-LINE STARTING AT 80% OF RATED VOLTAGE		
27 ☐ Loaded ☐ Unloaded ☐ Partially Loaded _____ % Load Curve No. (2.2.2.5) _____ 28 ☐ Other Starting Method Type _____ Reduced Voltage _____ Volts		
29 Additional Information: _____ 30 _____		
ACCESSORIES:		
31 ☐ Motor space heaters (3.4): Temp. Code T3C or ☐ T _____ Volts: _____ Phase: _____ ☐ kW _____		
32 Winding Temperature Detectors (3.2): PLATINUM, 3 WIRE, 100 Ohms at 0°C, 2 per PHASE		
33 ☐ Stator RTD Box Location: _____ 34 ☐ Recommended Settings: Alarm _____ °C ☐ Shutdown _____ °C		
35 Hydrodynamic Bearing Temperature Detectors (3.3): PLATINUM, 3 WIRE, 100 Ohms at 0°C		
36 ☐ Bearing Temperature Sensor Wire Terminations: ☐ Terminal box at motor side ☐ In the Stator RTD T Box ☐ Conduit Head at Bearing 37 ☐ Recommended Settings: Alarm _____ °C ☐ Shutdown _____ °C		
38 ☐ Vibration Probes (Option, 2.4.5.1.2, per API 541) Details: _____		
39 Additional Information: _____ 40 _____		

API Standard 547 : First Edition, January 2005
General-purpose Form-wound Squirrel Cage Induction
Motors—250 Horsepower and Larger

Appendix A

 American Petroleum Institute	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS METRIC UNITS	JOB NO. _____ ITEM / TAG NO. _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE <u>2</u> OF <u>3</u>		
1 NOTE: (Excel code) ☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)				
MISCELLANEOUS:				
2 Shipment (4.4.1): SUITABLE FOR 6 MONTHS OUTDOOR STORAGE 3 ☐ Auxiliary nameplate(s) with Purchaser information (2.4.11.4): 4 Details: _____ 5 Additional Information: _____ 6 _____				
SPECIAL CONDITIONS:				
7 Adjustable Speed Drive Operation (1.3.e, 2.2.1): 8 ☐ ASD only ☐ ASD with DOL Start ☐ Bypass @ Utility Frequency 9 ☐ Variable Torque Speed Range: Min Speed _____ RPM _____ Nm Max. Speed _____ RPM _____ Nm 10 ☐ Constant Torque Speed Range: Min Speed _____ RPM _____ Nm Max. Speed _____ RPM _____ Nm 11 ☐ Constant Power Speed Range: Max Speed _____ RPM _____ kW 12 Other Unusual Service Conditions (1.3): _____ 13 _____				
DRIVEN EQUIPMENT INFORMATION				
14 Driven Equipment: Tag No. _____ Description _____ Location _____ 15 Type of Load: ☐ Centrifugal Compressor ☐ Pump ☐ Fan Manufacturer: _____ Type/Model No. _____ RPM _____ 16 Total Driven-Equipment GD ² (2.2.2.5) _____ kg-m ² at _____ RPM Load Speed-Torque Curve No. (2.2.2.5) _____ 17 Rotation Viewed from Opposite Drive End of Motor: ☐ Clockwise ☐ Counterclockwise ☐ Bi-directional 18 Coupling (2.4.9.2): Type _____ Mfr. _____ Type / Model _____ 19 Supplied By: ☐ Motor Mfr ☐ Driven Equipment Mfr ☐ Purchaser ☐ Others _____ 20 Mounted By: ☐ Motor Mfr ☐ Driven Equipment Mfr ☐ Purchaser ☐ Others _____ 21 Other: _____				
ANALYSIS, SHOP INSPECTION, AND TESTS				
		Required	Observed	Witnessed
22	Routine Test (4.1.2)			
23	No load current	■	○	○
24	Locked rotor current	■	○	○
25	High-potential test (stator, heaters, RTDs)	■	○	○
26	Insulation resistance test	■	○	○
27	Stator resistance	■	○	○
28	Vibration measurement	■	○	○
29	Bearing insulation test	■	○	○
30	Bearing temperature rise	■	○	○
31	Stator Surge Test (4.1.4)	■	○	○
32	Special Tests (per API 541 as noted)			
33	Complete Test (541 Para 4.3.5.1)	○	○	○
34	Unbalance Response (541 Para 4.3.5.3)	○	○	○
35	Rated Rotor Temperature Vibration Test (541 Para 4.3.5.2)	○	○	○
36	Sealed Winding Conformance Test (541 Para 4.3.4.4)	○	○	○
37	Other _____	○	○	○
38	Other _____	○	○	○

API Standard **547** : First Edition, January 2005
 General-purpose Form-wound Squirrel Cage Induction
 Motors—250 Horsepower and Larger

Appendix A

	INDUCTION MOTOR API 547 1st Edition -- DATA SHEETS METRIC UNITS	JOB NO. _____ ITEM / TAG NO _____ PURCHASE ORDER NO. _____ REQ. / SPEC. NO. _____ REVISION NO. _____ DATE _____ BY _____ PAGE <u>3</u> OF <u>3</u>
1 NOTE: (Excel code)	☐ TO BE COMPLETED BY PURCHASER (m or l) ☐ BY MANUFACTURER WITH PROPOSAL (o or n) ☐ BY MANUFACTURER AFTER ORDER (s or q) ☐ BY MANUFACTURER OR PURCHASER (w or u)	
MOTOR DATA		
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	☐ Manufacturer _____ Qty. _____ kW _____ RPM (Syn.) _____ Poles _____ Volts _____ 3 Phase _____ Hz Service Factor 1. _____ Insulation Class CLASS F Temperature Rise CLASS B Enclosure _____ Full Load Speed _____ RPM Full-Load Torque (FLT) _____ Nm Rotor GD² _____ kg-m² Locked-Rotor Torque (LRT) _____ % FLT Pull-Up Torque (PUT) _____ % FLT Breakdown Torque (BDT) _____ % FLT Load Point 50% 75% 100% ☐ Other: _____ % Efficiency _____ % _____ % _____ % _____ % ☐ Guar. Efficiency at _____ % Load = _____ % Power Factor _____ % _____ % _____ % _____ % ☐ Test Method: _____ Current _____ Amps _____ Amps _____ Amps _____ Amps Speed-Torque Curve No. _____ Speed-Current Curve No. _____ Speed-Power Factor Curve No. _____ Voltage Magnitude _____ 100% Other: _____ % Locked-Rotor Current _____ Amps _____ Amps Locked-Rotor PF _____ % Locked-Rotor Withstand Time, Cold _____ Sec. _____ Sec. Sound Pressure Level (2.1.2) _____ dBA @ 1m, no-load Locked-Rotor Withstand Time, Rated Temp _____ Sec. _____ Sec. Mass Net _____ kg Stator _____ kg Rotor _____ kg Shipping _____ kg Other: _____ ☐ Type / Model No. _____ ☐ Frame Size / Designation _____	
COMMENTS		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		