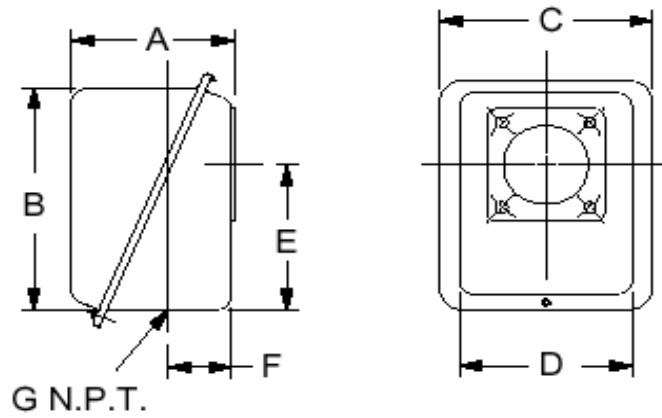


Section 6

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Application Manual for NEMA Motors

Standard Conduit Boxes -- TEFC-Standard Duty -- Type RGZP

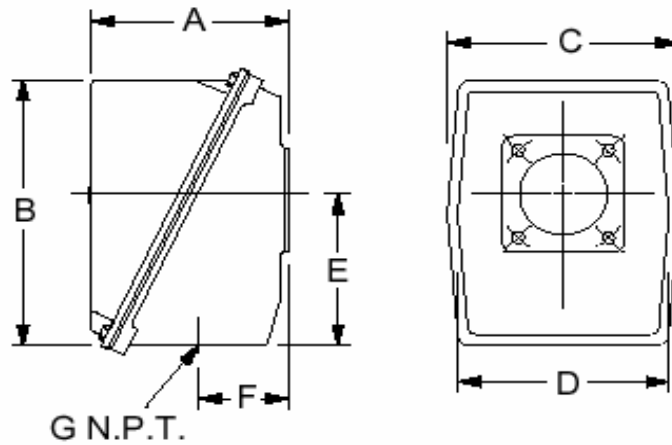


Frame	External Dimensions (in)								Approx. internal volume (in ³)	no. of cover bolts
	A	B	C	D	E	F	G			
							NPT	Max. Cond.		
140	2.60	4.21	4.10	3.40	2.17	0.96	0.75		19	2
180	2.60	4.21	4.10	3.40	2.17	0.96	0.75		19	2
210	3.60	6.10	5.00	4.80	2.90	1.34	1.00		58	2
250	3.60	6.10	5.00	4.80	2.90	1.34	1.25		58	2
280	5.12	7.69	6.50	5.50	5.00	2.00	-	2.00	189	1
320	5.12	7.69	6.50	5.50	5.00	2.00	-	2.50	189	1
360	7.19	9.38	7.00	6.00	6.25	3.38	-	3.00	350	1
400	7.19	9.38	7.00	6.00	6.25	3.38	-	3.00	350	1
444..447	8.06	12.31	10.50	9.50	7.00	3.50	3.00		762	4
449	10.19	15.70	13.50	12.50	8.50	5.00	3.00	-	1696	4

140-250 frames are cast aluminum, 280-400 frames have steel conduit boxes

Application Manual for NEMA Motors

Standard Conduit Boxes -- TEFC-Severe Duty -- Types RGZESD, RGZEESD(X)

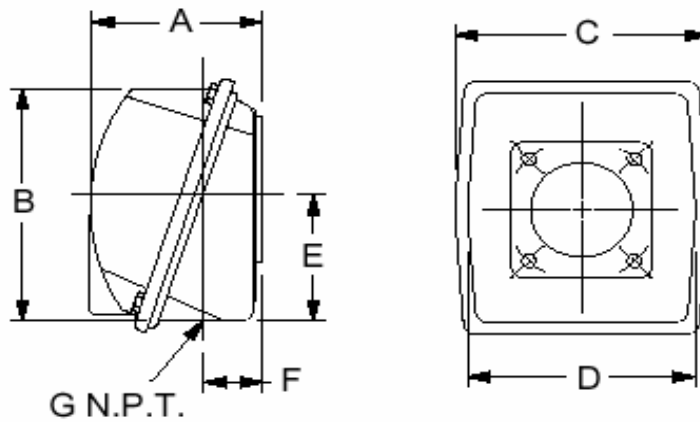


Frame	External Dimensions (in)							Approx. internal volume (in ³)	no. of cover bolts
	A	B	C	D	E	F	G		
140	2.68	4.60	4.15	3.58	2.36	1.00	0.75	27	4
180	3.07	4.76	4.49	3.92	2.48	1.24	0.75	36	4
210	3.86	7.05	5.49	4.90	3.66	1.56	1.00	85	4
250	3.86	7.05	5.49	4.90	3.66	1.56	1.25	85	4
280	5.50	8.31	7.12	6.38	4.75	2.44	1.50	226	4
320	6.44	10.00	8.50	7.62	5.50	3.00	2.00	380	4
360	8.06	12.31	10.50	9.50	7.00	3.50	3.00	762	4
400	8.06	12.31	10.50	9.50	7.00	3.50	3.00	762	4
444-447	8.06	12.31	10.50	9.50	7.00	3.50	3.00	762	4
449	10.19	15.70	13.50	12.50	8.50	5.00	3.00	1696	4
S449	10.19	15.70	13.50	12.50	8.50	5.00	4.00	1696	4

S449 is type RGZESD, RGZEESD(X) only

Application Manual for NEMA Motors

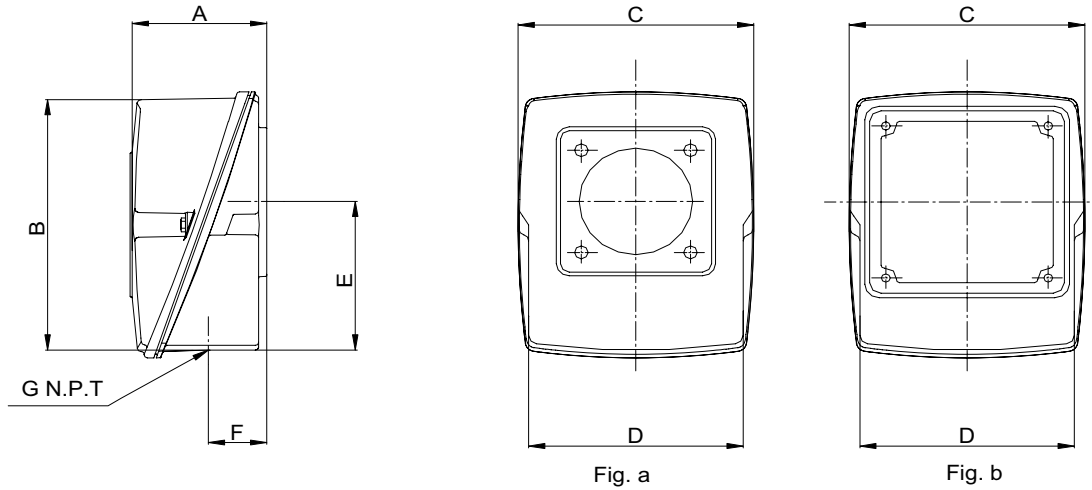
Standard Conduit Boxes -- TEFC Explosion Proof -- Type RGZZESD



Frame	External Dimensions (in)							Approx. internal volume (in ³)	no. of cover bolts
	A	B	C	D	E	F	G		
140	3.40	4.90	4.25	3.70	2.28	1.26	0.75	29	4
180	3.40	4.90	4.25	3.70	2.28	1.26	0.75	29	4
210	4.90	6.60	6.80	6.20	2.97	1.61	1.00	100	4
250	4.90	6.60	6.80	6.20	2.97	1.61	1.25	100	4
280	5.56	7.75	7.12	6.62	5.00	1.94	1.50	154	4
320	7.12	9.00	8.75	7.50	6.25	2.75	2.00	280	6
360	8.80	12.50	9.00	8.00	7.75	2.75	3.00	555	6
400	8.80	12.50	9.00	8.00	7.75	2.75	3.00	555	6
444-447	8.80	12.50	9.00	8.00	7.75	2.75	3.00	555	6
449	10.21	14.86	11.38	10.38	10.00	3.38	3.00	970	6

Application Manual for NEMA Motors

Standard Conduit Boxes -- TEFC-General Purpose Duty -- Types GP10A, GP100A, GP10, GP100



Frame	External Dimensions (in)								Approx. internal volume (in ³)	no. of cover bolts
	A	B	C	D	E	F	G			
							NPT	Max. Cond.		
140	2.79	5.31	4.41	4.02	2.69	0.95	-	0.75	37	2
180	2.79	5.31	4.41	4.02	2.69	0.95	-	0.75	37	2
210	3.30	6.89	5.71	5.20	3.82	1.18	-	1.00	87	2
250	3.30	6.89	5.71	5.20	3.82	1.18	-	1.25	87	2

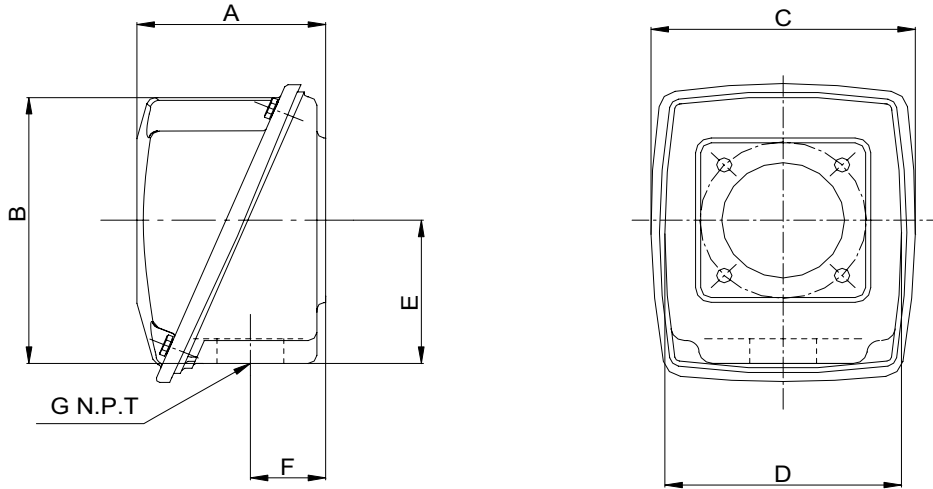
Aluminum conduit boxes

Fig. a, GP10 & G100, cast iron frames.

Fig. b, GP10A & G100A, cast aluminum frames.

Application Manual for NEMA Motors

Standard Conduit Boxes -- TEFC-Severe Duty -- Types SD10, SD100, SD100IEEE



Frame	External Dimensions (in)							Approx. internal volume (in ³)	no. of cover bolts
	A	B	C	D	E	F	G		
140	3.23	5.98	4.96	4.37	2.28	1.18	0.75	41	4
180	3.23	5.98	4.96	4.37	2.28	1.18	0.75	41	4
210	4.24	7.11	5.94	5.32	3.43	1.69	1.00	86	4
250	4.24	7.11	5.94	5.32	3.43	1.69	1.25	86	4

Cast iron conduit boxes

Application Manual for NEMA Motors

Standard Rotor Balance

The rotors of all motors are dynamically balanced in precision balancing machines to a degree that insures that the vibration measured on the bearing housing will be below the limits established by NEMA MG1-Part 7.

Speed RPM	NEMA Limits		Std. Siemens' Limits	
	Velocity in/sec	Displacement P-P Inches	Velocity in/sec***	Displacement P-P Inches
3600	0.15	0.001 **	0.08	.0005 *
1800	0.15	0.0015 **	0.08	.0005 *
1200	0.15	0.002 **	0.08	.0005 *
900	0.12	0.0025 **	0.08	.0005 *

* For roller bearing motors axial limit is 0.001.

** This is not a present NEMA standard (was in previous standard MG1.12.06), but can be calculated based upon velocity and speed by the following formula:

$$\text{Displacement (P-P mils)} = 1000 \times \text{Velocity (in/sec)} / \pi \times \text{frequency (Hz)} \quad \text{Note: } \pi = 3.1416.$$

*** Motors RGZESDX, RGZEESDX, and SD100IEEE841 feature vibration of 0.06 in/sec velocity.

The above limits apply to motors on an elastic mounting per NEMA MG1-Part 7.06.1.

When required, precision balance and extra precision balance are available. Refer to factory for vibration levels and pricing.

Application Manual for NEMA Motors

Rotor Endplay Limits

The Siemens motor line features wavy (spring) washer loading which causes perceived endplay to be zero under normal operating conditions.

Under conditions of excessive thrust loading, some limited endplay due to compression of the wavy washer may be observed.

Application Manual for NEMA Motors

Standard Shaft Material

The standard shaft material supplied on motors is AISI (or SAE) 1045. It is a hot rolled, medium carbon, fine grain steel formed in round bars of special quality and straightness.

Typical Composition (%)

Carbon .45, Manganese .70, Phosphorus .007, Sulfur .025, Silicone .27

Tensile strength (PSI) 82,000 min.

Yield strength (PSI) 45,000 min.

Brinell 163 min.

Special steels including high strength and stainless are available on request. Refer to factory for pricing.

Application Manual for NEMA Motors

Standard Bearings for NEMA Frames — Horizontal Motors Totally Enclosed Fan Cooled (TEFC) — General Purpose — Severe Duty

Frame	TEFC — General Purpose Type RGZ				TEFC — General Purpose High Efficient Type RGZP				TEFC — High Efficient Severe Duty Type RGZESD				TEFC — NEMA Prem. Efficient Severe Duty Type RGZEESD(X)			
	Drive End		Opposite Drive End		Drive End		Opposite Drive End		Drive End		Opposite Drive End		Drive End		Opposite Drive End	
	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size
143T - 145T	25BC02JEE3	6205	17BC02JEE3	6203	25BC02JP3	6205	17BC02JP3	6203	25BC02JP3	6205	25BC02JP3	6205	25BC02JP3	6205	25BC02JP3	6205
182T - 184T	30BC02JEE3	6206	20BC02JEE3	6204	30BC02JP3	6206	20BC02JP3	6204	30BC02JP3	6206	30BC02JP3	6206	30BC02JP3	6206	30BC02JP3	6206
213T - 215T	40BC02JEE3	6208	30BC02JEE3	6206	40BC02JP3	6208	30BC02JP3	6206	40BC02JP3	6208	40BC02JP3	6208	40BC02JP3	6208	40BC02JP3	6208
254T - 256T	45BC03JEE3	6209	40BC02JEE3	6208	45BC03JP3	6209	40BC02JP3	6208	45BC03JP3	6309	45BC03JP3	6309	45BC03JP3	6309	45BC03JP3	6309
284TS - 286TS	50BC03JPP3	6310	50BC02JPP3	6210	50BC03JP3	6310	50BC02JP3	6210	50BC03JP3	6310	50BC02JP3	6210	50BC03JP3	6310	50BC03JP3	6310
284T - 286T	50BC03JPP3	6310	50BC02JPP3	6210	50BC03JP3	6310	50BC02JP3	6210	50BC03JP3	6310	50BC02JP3	6210	50BC03JP3	6310	50BC03JP3	6310
324TS - 326TS	60BC03JPP3	6312	50BC02JPP3	6210	60BC03JP3	6312	50BC02JP3	6210	60BC03JP3	6312	50BC02JP3	6210	60BC03JP3	6312	60BC03JP3	6312
324T - 326T	60BC03JPP3	6312	50BC02JPP3	6210	60BC03JP3	6312	50BC02JP3	6210	60BC03JP3	6312	50BC02JP3	6210	60BC03JP3	6312	60BC03JP3	6312
364TS - 365TS	70BC03JPP3	6314	50BC02JPP3	6210	70BC03JP3	6314	50BC02JP3	6210	70BC03JP3	6314	50BC02JP3	6210	70BC03JP3	6314	70BC03JP3	6314
364T - 365T	70BC03JPP3	6314	50BC02JPP3	6210	70BC03JP3	6314	50BC02JP3	6210	70BC03JP3	6314	50BC02JP3	6210	70BC03JP3	6314	70BC03JP3	6314
404TS - 405TS	80BC03JPP3	6316	80BC03JPP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316
404T - 405T	80BC03JPP3	6316	80BC03JPP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316
444TS - 445TS	80BC03JPP3	6316	80BC03JPP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316
444T - 445T	90RU03M0	NU318	80BC03JPP3	6316	90RU03M0	NU318	80BC03JP3	6316	90RU03M0	NU318	80BC03JP3	6316	90RU03M0	NU318	80BC03JP3	6316
447TS - 449TS	80BC03JPP3	6316	80BC03JPP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316	80BC03JP3	6316
447T - 449T	100RU03M0	NU320	80BC03JPP3	6316	100RU03M0	NU320	80BC03JP3	6316	100RU03M0	NU320	80BC03JP3	6316	100RU03M0	NU320	80BC03JP3	6316
S449SS	-	-	-	-	-	-	-	-	75BC03JP3	6315	75BC03JP3	6315	75BC03JP3	6315	75BC03JP3	6315
S449LS	-	-	-	-	-	-	-	-	100RU03M0	NU320	75BC03JP3	6315	100RU03M0	NU320	75BC03JP3	6315

Application Manual for NEMA Motors

Grease and Relubricating Instructions

Grease and Relubricating Instructions

To assist our customers in securing trouble-free service from electric motors, Siemens uses shielded bearings on most NEMA size motors.

This type of bearing allows controlled migration of grease into the bearing, yet protects against overgreasing.

Replenishment grease for ball bearings should have a wide usable temperature range (-20°F to +350°F) and be made with a polyurea thickener and high quality oil with an NLGI #2 consistency. Polyrex EM meets these requirements.

Note: DP10 motors thru 400 frame use a lithium base grease - vs. polyurea thickened. These greases are not compatible!

Relubrication Frequency	Type of Service
6 months	normal-duty in relatively clean & dry environments
3 months	heavy-duty in dirty, dusty locations, high ambients, moisture laden atmosphere or increased vibration levels

Normal Lubrication Sequence

1. Stop the motor. Lock out the switch.
2. Thoroughly clean off and remove the grease inlet and drain pipe plugs from bearing housing.
3. Remove hardened grease from drains with stiff wire or rod.
4. Add grease to inlet until a small amount of new grease is forced out drain.
5. Remove excess grease from ports, replace inlet plugs and run motor 1/2 hour before replacing drain plugs.
6. Put motor back in operation.

Application Manual for NEMA Motors

Bearing Grease Capacity

Bearing Grease Capacity - TEFC Motors, Base Type RGZ

Frame	Shaft End Bearing		Opposite End Bearing
	Direct Connected	Belted	
140T	0.2 oz.	0.2 oz.	0.2 oz.
180T	0.3	0.3	0.3
210T	1.6	1.6	1.6
250T	2.3	2.3	2.3
280T(S)	2.6	2.6	2.6
320T(S)	5.5	5.5	5.5
360T(S)	7.5	7.5	7.5
400T(S)	7.5	7.5	7.5
440T(S)	7.5	14.5	7.5
S449	14.5	14.5	7.5

The grease capacity given is for that space in the bearing housing between the shield and the outside of the motor.

Application Manual for NEMA Motors

Bearing Grease Capacity

Bearing Grease Capacity for GP10(A), GP100(A), SD10, SD100(IEEE 841)

Frame	Shaft End Bearing		Opposite End Bearing
	Direct Connected	Belted	
140T	0.1 oz.	0.1 oz.	0.1 oz.
180T	0.2	0.2	0.2
210T	0.3	0.3	0.3
250T	0.5	0.5	0.5
280T(S)	-	-	-
320T(S)	-	-	-
360T(S)	-	-	-
400T(S)	-	-	-
440T(S)	-	-	-

The grease capacity given is for that space in the bearing housing between the shield and the outside of the motor.

Application Manual for NEMA Motors

Standard Ball Bearings for NEMA Frames “P” Base — Vertical Motors Totally Enclosed Fan Cooled (TEFC) and Explosion-Proof

Frame	Normal Thrust Types: RGZVESD, RGZZVESD				Medium Thrust Types: RGZVMTESD, RGZZVMTESD			
	Drive End		Opposite Drive End		Drive End		Opposite Drive End	
	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size	AFBMA no.	Size
143HP - 145HP	30BC02J3	6206	30BC02J3	6206	-	-	-	6203
182HP - 184HP	30BC02J3	6206	30BC02J3	6206	-	-	-	6204
213HP - 215HP	45BC02J3	6209	45BC03J3	6309	-	-	-	6206
254HP - 256HP	45BC03J3	6309	45BC03J3	6309	-	-	-	6208
284HP - 286HP	60BC03JP3	6312	50BC03JPP3	6310	60BC03JP3	6312	50BT03XXXDO 50BZ03K	7310 QJ310
324HP - 326HP	60BC03JP3	6312	60BC03JPP3	6312	60BC03JP3	6312	55BT03XXXDO 55BZ03K	7311 QJ311
364HP - 365HP	60BC03JP3	6312	70BC03JPP3	6314	60BC03JP3	6312	55BT03XXXDO 55BZ03K	7311 QJ311
404HP - 405HP	80BC03JPP3	6316	80BC03JPP3	6316	80BT03XXXD0	7316	80BC03JPP3	6316
444HP - 449HP (2 pole)	80BC03JPP3	6316	80BC03JPP3	6316	80BT03XXXD0	7316	80BC03JPP3	6316
444HP - 449HP (4 pole & slower)	90BC03JPP3	6318	80BC03JPP3	6316	90BT03XXXD0	7318	80BC03JPP3	6316

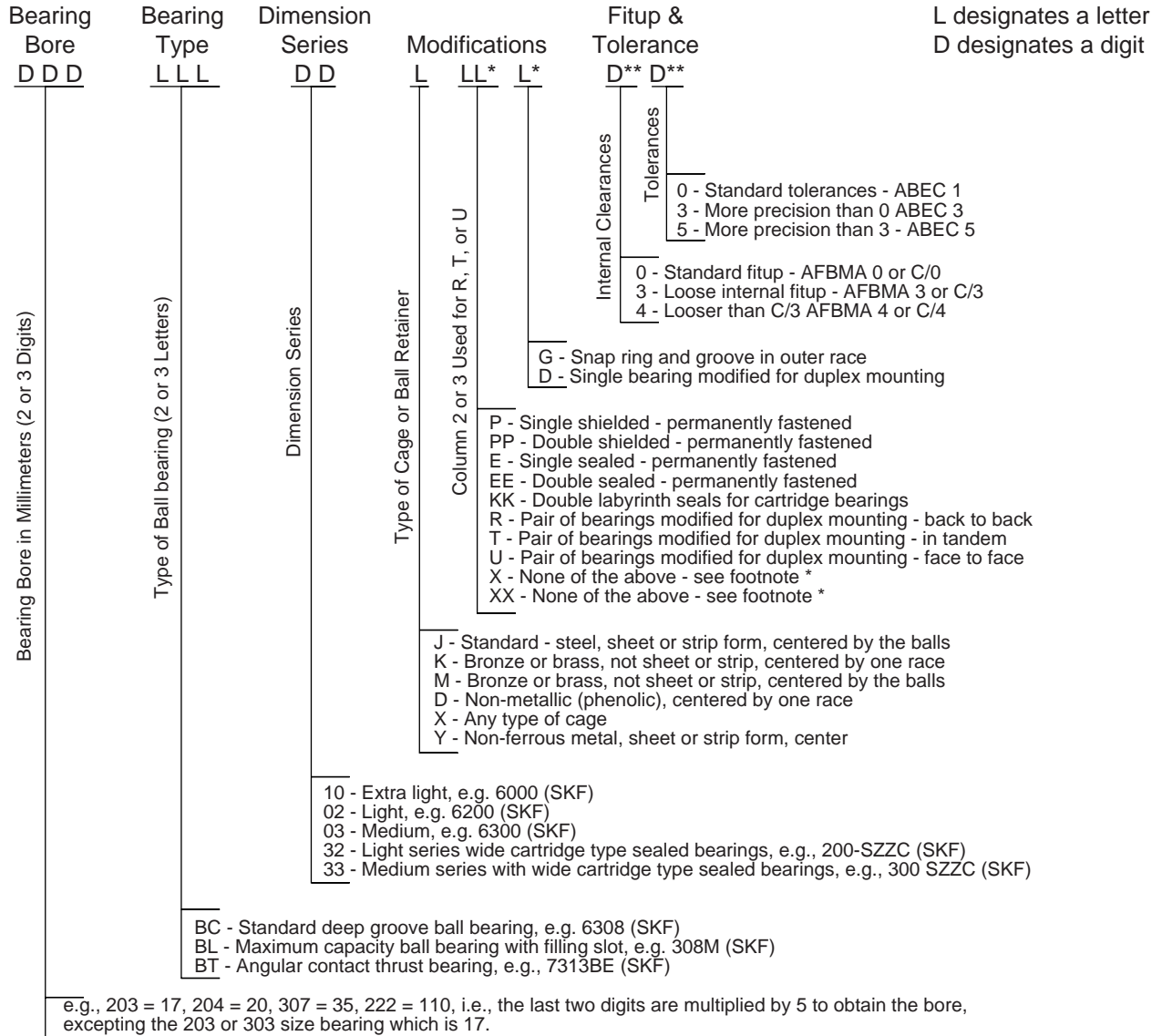
Application Manual for NEMA Motors

Standard Ball Bearings for NEMA Frames “P” Base — Vertical Motors Totally Enclosed Fan Cooled (TEFC) and Explosion-Proof

Frame	Vertical In-Line Types: RGZVILESD, RGZZVILESD			
	Drive End		Opposite Drive End	
	AFBMA no.	Size	AFBMA no.	Size
143LP - 145LP	30BC02J3	6206	35BT03MR (duplex)	7306
182LP - 184LP	30BC02J3	6206	30BT03MR (duplex)	7306
213LP - 215LP	45BC02J3	6209	45BT03MR3 (duplex)	7309
254LP - 256LP	45BC03J3	6309	45BT03MR3 (duplex)	7309
284LP(H) - 286LP(H)	60BC03JP3	6312	50BT03JR (duplex)	7310
324LP - 326LP	60BC03JP3	6312	55BT03JR (duplex)	7311
364LP - 365LP	60BC03JP3	6312	55BT03JR (duplex)	7311
404LP - 405LP	80BC03JPP3	6316	55BT03JR (duplex)	7311
444LP - 445LP	80BC03JPP3	6316	55BT03JR (duplex)	7311

Application Manual for NEMA Motors

ABMA Nomenclature — Ball Bearings



Example: 35BC02JPP3 - Standard deep groove, light series, standard steel cage, double shielded, loose fitup and standard tolerances 6207ZZC3 (SKF) or equivalent.

Example: SSBTO3JR - This is a pair of 7313BECB (SKF) angular contact bearings mounted back to back, standard fitup.

* The letters for columns 2, 3 and 4 of modifications are omitted if none are applicable. If column 4 is applicable but not 3, or 2 and 3, an X or XX is used in column 3, or 2 and 3, e.g., 35 BC02J03 or 35 BT03MXXD03

** If these three columns are omitted, standard fitup, tolerances, and greases are implied

Application Manual for NEMA Motors

Belted Service Sheave Limitations for Standard Bearings and Shaft

Frame	Horsepower at Synchronous Speed, RPM				V-belt Sheave			
					Conventional A,B,C,D and E		Narrow 3V, 5V and 8V	
	3600	1800	1200	900	Min. Pitch Dia., in.	Max. Width	Min. Outside Dia., in.	Max. Width
143T	1 1/2	1	3/4	1/2	2.2	4 1/4	2.2	2 1/4
145T	2-3	1 1/2	1	3/4	2.4	4 1/4	2.4	2 1/4
182T	3	3	1 1/2	1	2.4	5 1/4	2.4	2 3/4
182T	5	-	-	-	2.6	5 1/4	2.4	2 3/4
184T	-	-	2	1 1/2	2.4	5 1/4	2.4	2 3/4
184T	5	-	-	-	2.6	5 1/4	2.4	2 3/4
184T	7 1/2	5	-	-	3.0	5 1/4	3.0	2 3/4
213T	7 1/2-10	7 1/2	3	2	3.0	6 1/2	3.0	3 3/8
215T	10	-	5	3	3.0	6 1/2	3.0	3 3/8
215T	15	10	-	-	3.8	6 1/2	3.8	3 3/8
254T	15	-	7 1/2	5	3.8	7 3/4	3.8	4
254T	20	15	-	-	4.4	7 3/4	4.4	4
256T	20-25	-	10	7 1/2	4.4	7 3/4	4.4	4
256T	-	20	-	-	4.6	7 3/4	4.4	4
284T	-	-	15	10	4.6	9	4.4	4 5/8
284T	-	25	-	-	5.0	9	4.4	4 5/8
286T	-	30	20	15	5.4	9	5.2	4 5/8
324T	-	40	25	20	6.0	10 1/4	6.0	5 1/4
326T	-	50	30	25	6.8	10 1/4	6.8	5 1/4
364T	-	-	40	30	6.8	11 1/2	6.8	5 7/8

Information based upon the following:

1. Drive service factor of 1.6 maximum (using nameplate horsepower and speed) with the belts tightened to belt manufacturers' recommendations.
2. Maximum speed reduction of 5:1.
3. Center distance between sheaves approximately equal to the diameter of the larger sheave.
4. Sheave mounted 0.5" maximum from BA shaft shoulder.

For longer bearing life, minimum sheave diameters should be avoided, especially for fluctuating type loads.

Note: For limitations on flat belt pulley, spur and helical pinion and sprocket for chain drive, refer to NEMA Standards MG 1-14.07.2.

REFER TO FACTORY IF LIMITS EXCEED VALUES IN TABULATION.

Application Manual for NEMA Motors

Belted Service

RECOMMENDED SHEAVE DIAMETERS - TEFC MOTORS

HP	RPM	Frame	Narrow V1 Min. Dia.	Std. V2 Min. Dia.
50	900	404T	8.4	9
60	1800	364T	7.4	7.4
60	1200	404T	8	9
60	900	405T	10	10
75	1800	365T	8.6	9
75	1200	405T	10	10
75	900	444T	9.5	13
100	1800	405T	8.6	10
100	1200	444T	10	11.8
100	900	445T	12	15
125	1800	444T	10.5	12
125	1200	445T	12.4	15.2
125	900	447T	14	18.5
150	1800	445T	10.5	13.2
150	1200	447T	11.6	16.1
150	900	447T	14.6	24.7
200	1800	447T	13.2	15.8
200	1200	449T	14.6	25
200	900	449T	18	-
250	1800	449T	13	18.4
250	1200	449T	18.2	-
250	900	S449LS	19.8	-
300	1800	449T	15.4	24.8
300	1200	S449LS	18.4	-
350	1800	S449LS	15.8	-
350	1200	S449LS	21	-
400	1800	S449LS	18	-

Notes:

1. Example: 3V, 5V, 8V. Sheave face cannot overhand end of shaft.
2. Example: A, B, C, D section. Center of sheave width cannot overhang end of shaft.
3. Do not exceed belt service factor of 1.6. Follow manufacturer's instructions for alignment and belt tensioning. Position sheaves as close to the drive end bearing as possible. (Maximum 1/2" from shaft shoulder).
4. Maximum speed reduction of 5:1.
5. Shaft center distance approximately equal to diameter of largest sheave.
6. All dimensions in inches.

Application Manual for NEMA Motors

Rotor Weights and Inertias

HP	RPM	Frame	High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZP, RGZPSD		High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZE, RGZESD, RGZZESD		High Efficient Open Drip-Proof (ODP) Type RGE1	
			Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
0.75	1200	143T	7.4	0.05	8.0	0.06	11	0.11
0.75	900	145T	10	0.08	11	0.09	-	-
1	1800	143T	7.4	0.05	8.7	0.06	7.7	0.07
1	1200	145T	9.7	0.07	10	0.08	11	0.11
1	900	182T	12	0.11	14	0.14	-	-
1.5	3600	143T	7.4	0.05	8.9	0.07	11	0.11
1.5	1800	145T	7.5	0.05	9.1	0.06	11	0.11
1.5	1200	182T	12	0.11	14	0.14	18	0.28
1.5	900	184T	16	0.16	18	0.18	24	0.62
2	3600	145T	9.6	0.07	10	0.08	11	0.11
2	1800	145T	9.7	0.07	10	0.08	11	0.12
2	1200	184T	14	0.14	17	0.18	16	0.28
2	900	213T	23	0.32	23	0.32	30	0.76
3	3600	145T	-	-	-	-	12	0.13
3	3600	182T	10	0.09	12	0.11	-	-
3	1800	182T	12	0.11	14	0.14	15	0.23
3	1200	213T	22	0.28	27	0.39	24	0.45
3	900	215T	29	0.43	29	0.43	36	0.91
5	3600	182T	-	-	-	-	15	0.13
5	3600	184T	13	0.12	16	0.16	-	-
5	1800	184T	16	0.16	17	0.18	20	0.37
5	1200	215T	28	0.40	34	0.54	35	0.70
5	900	254T	46	0.94	50	1.1	53	1.8
7.5	3600	184T	-	-	-	-	18	0.19
7.5	3600	213T	27	0.32	32	0.43	-	-
7.5	1800	213T	27	0.39	31	0.50	30	0.56
7.5	1200	254T	44	0.95	60	1.4	59	2.2
7.5	900	256T	59	1.3	64	1.5	64	2.1
10	3600	213T	-	-	-	-	31	0.26
10	3600	215T	29	0.43	31	0.49	-	-
10	1800	215T	32	0.51	36	0.58	35	0.70
10	1200	256T	56	1.2	71	1.7	68	2.9
10	900	284T	81	2.6	86	2.8	83	3.6
15	3600	215T	-	-	-	-	38	0.38
15	3600	254T	56	1.2	56	1.2	-	-
15	1800	254T	46	0.9	57	1.3	59	1.3
15	1200	284T	73	2.2	81	2.6	97	5.0
15	900	286T	97	3.4	105	3.8	100	4.4

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Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZP, RGZPSD		High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZE, RGZESD, RGZZESD		High Efficient Open Drip-Proof (ODP) Type RGE1	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
20	3600	254T	-	-	-	-	59	0.63
20	3600	256T	57	1.2	58	1.3	-	-
20	1800	256T	59	1.3	71	1.7	68	1.7
20	1200	286T	86	2.8	97	3.3	115	6.1
20	900	324T	130	5.4	136	5.5	123	7.3
25	3600	256T	-	-	-	-	73	0.91
25	3600	284TS	59	1.3	75	1.9	-	-
25	1800	284T	76	2.4	86	2.8	73	2.5
25	1200	324T	110	4.1	121	4.9	137	9.1
25	900	326T	147	6.4	153	6.5	147	9
30	3600	284TS	-	-	-	-	64	1.6
30	3600	286TS	66	1.6	85	2.3	-	-
30	1800	286T	86	2.8	97	3.3	86	3.1
30	1200	326T	122	4.9	137	5.8	146	9.7
30	900	364T	189	11	192	11	180	17
40	3600	286TS	-	-	-	-	75	1.9
40	3600	324TS	90	2.6	105	3.3	-	-
40	1800	324T	111	4.2	119	4.7	117	5.7
40	1200	364T	184	11	184	11	176	14
40	900	365T	228	14	231	14	205	20
50	3600	324TS	-	-	-	-	95	3
50	3600	326TS	102	3.2	121	4.1	-	-
50	1800	326T	130	5.4	136	5.8	141	7.2
50	1200	365T	199	12	213	13.1	213.8	18
50	900	404T	299	25	304	26	299	25
60	3600	326TS	-	-	-	-	104	3.4
60	3600	364TS	120	4.3	130	5.0	-	-
60	1800	364T	156	8.3	173	9.6	161	10
60	1200	404T	263	21	284	23	263	21
60	900	405T	331	29	340	30	331	29
75	3600	364TS	-	-	-	-	132	5.2
75	3600	365TS	139	5.5	157	6.6	-	-
75	1800	365T	185	11	199	12	122	10
75	1200	405T	307	26	331	29	307	26
75	900	444T	400	40	400	40	400	40

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Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZP, RGZPSD		High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZE, RGZESD, RGZZESD		High Efficient Open Drip-Proof (ODP) Type RGE1, RGE	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
100	3600	365TS	-	-	-	-	150	6.3
100	3600	405TS	216	11	232	12	-	-
100	1800	404T	-	-	-	-	243	18
100	1800	404TS	-	-	-	-	232	17
100	1800	405T	266	19	302	23	-	-
100	1200	444T	397	39	416	42	437	46
100	900	445T	487	53	487	53	487	53
125	3600	404TS	-	-	-	-	168	8.8
125	3600	444TS	263	17	281	19	-	-
125	1800	405TS	-	-	-	-	272	22
125	1800	405T	-	-	-	-	284	22
125	1800	444TS	348	32	375	35	-	-
125	1800	444T	367	32	390	36	-	-
125	1200	445T	465	49	503	54	518	58
125	900	447T	583	64	583	64	583	64
150	3600	405TS	-	-	-	-	185	10
150	3600	445TS	297	21	319	23	-	-
150	1800	445T	416	38	446	43	-	-
150	1800	444TS	-	-	-	-	336	32
150	1800	444T	-	-	-	-	357	32
150	1800	445TS	397	38	430	42	-	-
150	1200	445T	-	-	-	-	518	58
150	1200	447T	550	59	587	64	-	-
150	900	447T	626	70	626	70	619	70
200	3600	444TS	-	-	-	-	260	18
200	3600	447TS	371	28	392	30	-	-
200	1800	445TS	-	-	-	-	385	38
200	1800	447TS	501	50	529	54	-	-
200	1800	445T	-	-	-	-	407	38
200	1800	447T	526	51	549	54	-	-

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Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZ, RGZSD, RGZZSD		High Efficient Totally Enclosed Fan Cooled (TEFC) Types RGZE, RGZESD, RGZZESD		High Efficient Open Drip-Proof (ODP) Type RGE	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
200	1200	447T	-	-	-	-	619	70
200	1200	449T	710	79	739	85	-	-
200	900	449T	764	88	764	88	710	82
250	3600	445TS	-	-	-	-	302	23
250	3600	449TS	456	35	486	38	-	-
250	1800	445TS	-	-	-	-	385	38
250	1800	445T	-	-	-	-	407	38
250	1800	449TS	623	64	645	67	-	-
250	1800	449T	648	64	670	67	-	-
250	1200	449T	701	79	739	85	758	88
300	3600	447TS	-	-	-	-	347	26
300	3600	449TS	456	35	484	38	-	-
300	1800	447TS	-	-	-	-	508	52
300	1800	447T	-	-	-	-	531	53
300	1800	449TS	623	64	645	67	-	-
300	1800	449T	648	64	670	67	591	61
350	3600	447TS	-	-	-	-	347	26
350	1800	447TS	-	-	-	-	-	-
350	1800	447T	-	-	-	-	531	53
400	3600	447TS	-	-	-	-	347	26
400	1800	449TS	-	-	-	-	-	-
400	1800	449T	-	-	-	-	569	58
450	3600	449TS	-	-	-	-	411	31
450	1800	449TS	-	-	-	-	-	-
450	1800	449T	-	-	-	-	-	-

Application Manual for NEMA Motors

Rotor Weights and Inertias

High Efficient Super 449 Totally Enclosed Fan Cooled (TEFC)				
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)
350	3600	S449SS	527	43
400	3600	S449SS	561	48
350	1800	S449SS	684	74
400	1800	S449SS	684	74
350	1800	S449LS	711	75
400	1800	S449LS	711	75
300	1200	S449LS	839	106
350	1200	S449LS	839	106

Application Manual for NEMA Motors

Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) Types GP10(A), SD10		NEMA Premium Efficient Totally Enclosed Fan Cooled (TEFC) RGZEESD, GP100(A), SD100(IEEE841)		High Efficient Open Drip-Proof (ODP) Type DP10	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
0.75	1200	143T	-	-	-	-	9.4	0.115
1	3600	143T	10	0.05	11	???	-	-
1	1800	143T	7.4	0.13	8.7	0.24	6.8	0.029
1	1200	145T	9.7	0.14	10	0.2	9.4	0.115
1	900	182T	12	0.22	14	0.22	-	-
1.5	3600	143T	7.4	0.05	8.9	0.11	5.8	0.053
1.5	1800	145T	7.5	0.14	9.1	0.24	8.6	0.106
1.5	1200	182T	12	0.2	14	0.34	19.6	0.379
1.5	900	184T	16	0.3	18	0.3	-	-
2	3600	145T	9.6	0.06	10	0.12	7.8	0.070
2	1800	145T	9.7	0.15	10	0.24	9.4	0.115
2	1200	184T	14	0.26	17	0.4	24	0.474
2	900	213T	23	0.48	23	0.48	-	-
3	3600	145T	-	-	-	-	11.6	0.155
3	3600	182T	10	0.14	12	0.24	-	-
3	1800	182T	12	0.22	14	0.37	19.6	0.379
3	1200	213T	22	0.48	27	0.77	33	0.96
3	900	215T	29	0.6	29	0.6	-	-
5	3600	182T	-	-	-	-	13.6	0.183
5	3600	184T	13	0.17	16	0.25	-	-
5	1800	184T	16	0.25	17	0.4	24.5	0.474
5	1200	215T	28	0.6	34	0.9	46	1.36
5	900	254T	46	1.36	50	1.36	-	-
7.5	3600	184T	-	-	-	-	21.5	0.417
7.5	3600	213T	27	0.45	32	0.81	-	-
7.5	1800	213T	27	0.6	31	1.03	35	0.96
7.5	1200	254T	44	1.34	60	2.88	48	1.97
7.5	900	256T	59	1.75	64	1.75	-	-
10	3600	213T	-	-	-	-	26	0.51
10	3600	215T	29	0.54	31	0.86	-	-
10	1800	215T	32	0.67	36	1.11	43	1.18
10	1200	256T	56	1.5	71	2.88	69	2.83
10	900	284T	81	-	86	-	-	-
15	3600	215T	-	-	-	-	40	1.11
15	3600	254T	56	0.98	56	1.71	-	-
15	1800	254T	46	1.38	57	2.25	51	1.81
15	1200	284T	73	-	81	-	90	5.33
15	900	286T	97	-	105	-	-	-

Application Manual for NEMA Motors

Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) GP10(A), SD10		NEMA Premium Efficient Totally Enclosed Fan Cooled (TEFC) RGZEESD(X)*, GP100(A), SD100(IEEE841)**		High Efficient Open Drip-Proof (ODP) DP10	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
0.75	1200	143T	-	-	-	-	9.4	0.115
1	3600	143T	10	0.05	11	-	-	-
1	1800	143T	7.4	0.13	8.7	0.24	6.8	0.029
1	1200	145T	9.7	0.14	10	0.2	9.4	0.115
1	900	182T	12	0.22	14	0.22	-	-
1.5	3600	143T	7.4	0.05	8.9	0.11	5.8	0.053
1.5	1800	145T	7.5	0.14	9.1	0.24	8.6	0.106
1.5	1200	182T	12	0.2	14	0.34	19.6	0.379
1.5	900	184T	16	0.3	18	0.3	-	-
2	3600	145T	9.6	0.06	10	0.12	7.8	0.070
2	1800	145T	9.7	0.15	10	0.24	9.4	0.115
2	1200	184T	14	0.26	17	0.4	24	0.474
2	900	213T	23	0.48	23	0.48	-	-
3	3600	145T	-	-	-	-	11.6	0.155
3	3600	182T	10	0.14	12	0.24	-	-
3	1800	182T	12	0.22	14	0.37	19.6	0.379
3	1200	213T	22	0.48	27	0.77	33	0.96
3	900	215T	29	0.6	29	0.6	-	-
5	3600	182T	-	-	-	-	13.6	0.183
5	3600	184T	13	0.17	16	0.25	-	-
5	1800	184T	16	0.25	17	0.4	24.5	0.474
5	1200	215T	28	0.6	34	0.9	46	1.36
5	900	254T	46	1.36	50	1.36	-	-
7.5	3600	184T	-	-	-	-	21.5	0.417
7.5	3600	213T	27	0.45	32	0.81	-	-
7.5	1800	213T	27	0.6	31	1.03	35	0.96
7.5	1200	254T	44	1.34	60	2.88	48	1.97
7.5	900	256T	59	1.75	64	1.75	-	-
10	3600	213T	-	-	-	-	26	0.51
10	3600	215T	29	0.54	31	0.86	-	-
10	1800	215T	32	0.67	36	1.11	43	1.18
10	1200	256T	56	1.5	71	2.88	69	2.83
10	900	284T	81	-	86	-	-	-
15	3600	215T	-	-	-	-	40	1.11
15	3600	254T	56	0.98	56	1.71	-	-
15	1800	254T	46	1.38	57	2.25	51	1.81
15	1200	284T	73	-	95.3	3.94	90	5.33
15	900	286T	97	-	105	-	-	-

*284 Frame and larger

** 256 Frame and larger

Application Manual for NEMA Motors

Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) GP10(A), SD10		NEMA Premium Efficient Totally Enclosed Fan Cooled (TEFC) RGZEESD(X)*, GP100(A), SD100(IEEE841)**		High Efficient Open Drip-Proof (ODP) DP10	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
20	3600	254T	-	-	-	-	49	1.34
20	3600	256T	57	1.07	58	1.95	-	-
20	1800	256T	59	1.59	71	2.83	58	2.06
20	1200	286T	-	-	105	4.52	114	6.75
20	900	324T	-	-	-	-	-	-
25	3600	256T	-	-	-	-	69	2.83
25	3600	284TS	-	-	61.2	1.45	-	-
25	1800	284T	-	-	102.8	4.36	90	4.63
25	1200	324T	-	-	159.0	9.35	133	10.31
25	900	326T	-	-	-	-	-	-
30	3600	284TS	-	-	-	-	79	3.26
30	3600	286TS	-	-	70.5	1.75	-	-
30	1800	286T	-	-	110.5	4.83	98	5.04
30	1200	326T	-	-	169.0	10.20	157	12.13
30	900	364T	-	-	-	-	-	-
40	3600	286TS	-	-	-	-	90	4.63
40	3600	324TS	-	-	98.1	2.99	-	-
40	1800	324T	-	-	160.7	9.39	125	8.14
40	1200	364T	-	-	202.7	14.83	179	16.29
40	900	365T	-	-	-	-	-	-
50	3600	324TS	-	-	-	-	103	5.29
50	3600	326TS	-	-	110.2	3.61	-	-
50	1800	326T	-	-	175.9	10.66	151	9.85
50	1200	365T	-	-	216.2	16.25	220	20.05
50	900	404T	-	-	-	-	-	-
60	3600	326TS	-	-	-	-	145	9.42
60	3600	364TS	-	-	128	4.74	-	-
60	1800	364T	-	-	223.3	16.9	188	14.56
60	1200	404T	-	-	280.7	21.33	281	34.06
60	900	405T	-	-	-	-	-	-
75	3600	364TS	-	-	-	-	164	10.71
75	3600	365TS	-	-	145	5.8	-	-
75	1800	365T	-	-	250.2	19.74	211	16.38
75	1200	405T	-	-	303.6	23.77	342	41.46
75	900	444T	-	-	-	-	-	-

*284 Frame and larger

** 256 Frame and larger

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Rotor Weights and Inertias

			High Efficient Totally Enclosed Fan Cooled (TEFC) GP10(A), SD10		NEMA Premium Efficient Totally Enclosed Fan Cooled (TEFC) RGZEESD(X)*, GP100(A), SD100(IEEE841)**		High Efficient Open Drip-Proof (ODP) DP10	
HP	RPM	Frame	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)	Weight (lb)	Inertia (lb-ft ²)
100	3600	365TS	-	-	-	-	239	21.72
100	3600	405TS	-	-	203.8	12.67	-	-
100	1800	404T	-	-	-	-	283	28.75
100	1800	404TS	-	-	-	-	-	-
100	1800	405T	-	-	301.3	23.4	-	-
100	1200	444T	-	-	435.7	45.95	424	65.96
100	900	445T	-	-	-	-	-	-
125	3600	404TS	-	-	-	-	283	28.75
125	3600	444TS	-	-	291.1	20.85	-	-
125	1800	405TS	-	-	-	-	-	-
125	1800	405T	-	-	-	-	362	49.84
125	1800	444TS	-	-	-	-	-	-
125	1800	444T	-	-	489.7	39.25	-	-
125	1200	445T	-	-	520.7	58.45	581	90.39
125	900	447T	-	-	-	-	-	-
150	3600	405TS	-	-	-	-	308	31.36
150	3600	445TS	-	-	330.3	25.06	-	-
150	1800	445T	-	-	468.5	44.97	-	-
150	1800	444TS	-	-	-	-	-	-
150	1800	444T	-	-	-	-	473	65.17
150	1800	445TS	-	-	-	-	-	-
150	1200	445T	-	-	-	-	-	-
150	1200	447T	-	-	606.4	68.56	707	109.93
150	900	447T	-	-	-	-	-	-
200	3600	444TS	-	-	-	-	421	42.86
200	3600	447TS	-	-	399.1	31.3	-	-
200	1800	445TS	-	-	-	-	-	-
200	1800	447TS	-	-	-	-	-	-
200	1800	445T	-	-	-	-	668	92.01
200	1800	447T	-	-	574.2	56.59	-	-

*284 Frame and larger

** 256 Frame and larger

Application Manual for NEMA Motors

Paint Process Standard — Little Rock Plant

Surface Preparation and Primer

1. Ferrous castings are blast cleaned in accordance with standard specification SSPC-SP-6.
2. Castings are immediately primed with a lead free alkyd base primer to a thickness of 2 to 3 mils.
3. Exterior surfaces are solvent cleaned as required to remove oil or other contaminants resulting from manufacturing or assembly operations.

Paint

Siemens standard finish paint consists of the following:

Epoxy modified acrylic air dry enamel.
Viscosity: 5--55 seconds No. 2 Zahn cup @ 77°F.
Fineness: 7 N.S. units Hegeman gage:
Adhesion: 90% Cross-hatch test (tape)
Impact resistance: 40 inch pounds direct - No cracks
Composition: Lead and Chromate free

Color

Motor finish color is RAL 7030 stone gray.

An optional paint system for extremely corrosive atmospheres is available.
Refer to your Siemens Representative.

Exposed Metal Surfaces

Exposed metal surfaces such as shafts are coated with rust preventative.

Application Manual for NEMA Motors

Packaging

A. Standard Domestic Packing - Horizontal Motors

Frames 140 - 180 - Motor packed in corrugated carton.

Frame 210 - 250 - Motor feet bolted to wooden base in corrugated carton with double wall corrugated liner. 250 frame RGZZESD motors are skid packed.

Frames 280 - 440 -

Motor feet bolted to wooden skid:	Frames	Skid Sizes
	280	26" X 33"
	320	26" X 33"
	360	31" X 37"
	400	36" X 45"
	444-445	54" X 40"
	447-449	60" X 40"
	Super 440	72" X 42"

Vertical P Base Motors (all Frames) - Bolted to wooden skids of sufficient height to clear shaft.

Round Frame Motors 140 - 250 Frames are boxed. 280 Frames are flat on a skid; motors are banded to secure to the skid and then shrink wrapped.

B. Motor shafts and exposed finished surfaces coated with an oil-type rust preventive (Exxon Rust-Ban 343 or equal).

C. Pallet Packing - Individually boxed motors 140 through 280 Frames on pallets 44" X 51".

140 Frames	-	10 per layer, 4 layers high
180 Frames	-	8 per layer, 3 layers high
210 Frames	-	6 per layer, 3 layers high
250 Frames	-	4 per layer, 2 layers high
280 Frames	-	4 per layer, 2 layers high

D. Export Packing when specified:

Shipments to Canada or Mexico same as Standard Domestic Packing per Item A.

Ocean and Air Shipment "Export Boxing" (charge per modification section of price book) is one motor per box wrapped in plastic and foamed in place in a solid wooden box.

Application Manual for NEMA Motors

Packaging Dimensions

Frame	Motor Type	Carton Dimensions (in)			Pallet Dimensions (in)	
		Height	Width	Depth	Width	Depth
143 - 145	Horizontal	14.5	11.5	9		
182 - 184	Horizontal	17	13.5	11.5		
213 - 215	Horizontal	21.5	16.5	15.25		
254 - 256	Horizontal	19	19.5	26		
284 - 286	Horizontal	—	—	—	26	33
324 - 326	Horizontal	—	—	—	26	33
364 - 365	Horizontal	—	—	—	31	37
404 - 405	Horizontal	—	—	—	36	45
444 - 445	Horizontal	—	—	—	54	40
447 - 449	Horizontal	—	—	—	60	40
Super 440	Horizontal	—	—	—	72	42
182 - 256	In-line Vertical	—	—	—	28	32
284 - 365	In-line Vertical	—	—	—	28	32
404 - 445	Vertical	—	—	—	40	40

Application Manual for NEMA Motors

1200 RPM - TEFC Enclosure - (See Note 1)

RGZE(E)SD Motors										
HP	Frame	Overall Sound		A-Weighted Sound Pressure Levels [dB(A)] @ 1 Meter						
		Pressure dBA	Power dBA	Octave Band Center Frequencies [HZ]						
				125	250	500	1000	2000	4000	8000
	140	57	67	40	48	48	49	50	50	50
	180	68	78	40	48	50	68	56	52	50
	210	62	72	41	48	51	59	54	53	51
	250	67	77	46	50	64	61	57	46	39
	280	63	73	48	56	58	60	53	46	35
	320	68	78	36	47	55	65	64	48	36
	360	65	76	39	51	60	61	60	50	39
	400	66	77	48	58	61	62	57	48	39
	444	65	76	48	58	59	60	58	55	42
	445	66	77	46	58	61	61	59	56	41
150	447	64	75	45	55	59	60	57	50	42
200	449	64	76	48	56	59	59	57	53	41
250	449	79	90	54	64	68	69	71	76	68
300	S449	74	87	57	65	69	71	66	61	56
350	S449	75	87	59	66	71	70	65	61	55

Note 1 - IEEE 841 2001 specifies 90 dBA sound power
- Contact factory on specific rating

RGZP Motors										
HP	Frame	Overall Sound		A-Weighted Sound Pressure Levels [dB(A)] @ 1 Meter						
		Pressure dBA	Power dBA	Octave Band Center Frequencies [HZ]						
				125	250	500	1000	2000	4000	8000
	140	50	58	28	32	45	47	38	34	28
	180	57	66	33	33	47	54	53	36	31
	210	60	69	32	39	53	58	52	41	31
	250	68	78	44	50	63	65	59	51	42
	280	61	71	38	47	58	56	53	45	34
	320	65	76	45	55	62	59	57	50	38
	360	64	75	39	53	61	59	58	47	41
	400	68	78	47	59	60	66	59	49	38
	444	70	81	59	64	66	63	60	60	46
	445	70	80	49	60	65	65	60	60	46
150	447	69	80	50	58	64	64	60	53	47
200	449	67	78	49	57	63	61	59	50	43

Application Manual for NEMA Motors

Severe Duty - TEFC Enclosure – (See Note 1)

Type RGZEESD(X) - 1800 RPM										
HP	Frame	Overall Sound		A-Weighted Sound Pressure Levels [dB(A)] @ 1 Meter						
		Pressure dBA	Power dBA	Octave Band Center Frequencies [HZ]						
				125	250	500	1000	2000	4000	8000
	140	61	71	40	50	51	57	55	53	51
	180	63	73	41	51	57	59	56	51	50
	210	65	75	43	54	59	61	57	54	51
	250	67	77	45	54	60	61	62	55	55
	280	65	76	43	51	55	55	62	59	51
	320	64	75	45	52	59	59	57	53	50
	360	64	75	42	52	56	58	58	57	52
	400	67	77	44	57	61	62	60	59	48
	444	75	86	53	64	73	68	66	61	51
	445	73	84	54	64	70	67	66	59	49
200	447	74	85	51	63	70	67	68	60	50
250	449T	76	87	53	64	72	70	68	61	55
300	449T	*	*	*	*	*	*	*	*	*
300	S449LS	*	*	*	*	*	*	*	*	*
400	S449LS	*	*	*	*	*	*	*	*	*

Type RGZEESD(X) - 1200 RPM										
HP	Frame	Overall Sound		A-Weighted Sound Pressure Levels [dB(A)] @ 1 Meter						
		Pressure dBA	Power dBA	Octave Band Center Frequencies [HZ]						
				125	250	500	1000	2000	4000	8000
	140	57	67	40	48	48	49	50	50	50
	180	68	78	40	48	50	68	56	52	50
	210	62	72	41	48	51	59	54	53	51
	250	61	71	41	47	50	52	54	56	55
	280	61	72	42	49	55	52	54	56	50
	320	63	73	43	51	57	58	56	51	50
	360	60	71	40	48	53	54	53	52	50
	400	66	77	48	58	61	62	57	48	39
	444	65	76	48	58	59	60	58	55	42
	445	66	77	46	58	61	61	59	56	41
200	447	64	75	45	55	59	60	57	50	42
250	449	64	76	48	56	59	59	57	53	41
200	449T	74	86	57	65	69	70	65	61	52
300	S449LS	75	87	58	65	71	71	65	62	53
400	S449LS	75	87	59	66	71	70	65	61	55

Note 1 - IEEE 841-2001 specifies 90 dBA sound power

* Contact factory for specific rating

Application Manual for NEMA Motors

General Purpose - TEFC Enclosure – (See Note 1)

3600 RPM

Frame	GP10A		GP100A		GP10		GP100	
	Overall Sound		Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	64	76	64	76	74	83	74	83
180	67	79	67	79	82	90	82	90
210	72	84	72	84	81	90	81	90
250	74	86	74	86	83	93	83	93

1800 RPM

Frame	GP10A		GP100A		GP10		GP100	
	Overall Sound		Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	52	64	52	64	55	64	55	64
180	57	69	57	69	63	72	63	72
210	66	78	66	78	67	77	67	77
250	70	82	70	82	72	83	72	83

1200 RPM

Frame	GP10A		GP100A		GP10		GP100	
	Overall Sound		Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	47	59	47	59	50	58	50	58
180	51	63	52	64	54	63	54	63
210	67	79	67	79	64	73	64	73
250	70	82	70	82	67	77	67	77

Note 1 - IEEE 841-2001 specifies 90 dBA sound power

- Contact factory for specific rating

Application Manual for NEMA Motors

Severe Duty - TEFC Enclosure – (See Note 1)

3600 RPM

Frame	SD10		SD100		SD100IEEE841	
	Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	74	83	74	83	74	83
180	82	90	82	90	82	90
210	81	90	81	90	81	90
250	83	93	83	93	83	93

1800 RPM

Frame	SD10		SD100		SD100IEEE841	
	Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	55	64	55	64	55	64
180	63	72	63	72	63	72
210	67	77	67	77	67	77
250	72	83	72	83	72	83

1200 RPM

Frame	SD10		SD100		SD100IEEE841	
	Overall Sound		Overall Sound		Overall Sound	
	Pressure dBA	Power dBA	Pressure dBA	Power dBA	Pressure dBA	Power dBA
140	50	58	50	58	50	58
180	54	63	54	63	54	63
210	64	73	64	73	64	73
250	67	77	67	77	67	77

Note 1 - IEEE 841-2001 specifies 90 dBA sound power

- Contact factory for specific rating

Application Manual for NEMA Motors

Mechanical Modifications for Low Temperature TEFC Motors Only

Mechanical Modifications for Low temperature TEFC Motors Only

Min. Temp.		Grease Bearing & Housing	Anti-Friction Bearings	Shaft Material	Bearing Housing & Yoke
°F	°C				
80	27				
40	4	Standard Polyrex EM	Standard Materials	Standard	Standard
0	-18			Hot-Rolled C-1045 Steel	Cast Iron
-20	-29				
-40	-40	Mobil #28	Standard Materials		
-65	-54		Special Grease	Special Steel	
-90	-68	Silicone Grease	Special Materials	Special Steel	
			Special Grease		

Note: Below -65°F (-54°C) each application to be considered separately - Contact Factory.

Carbon steel eyebolts are used to -25°F (-32°C), below -25°F (-32°C) Austenitic Stainless Steel Eyebolts must be used.

Application Manual for NEMA Motors

Typical Outline Drawing

