

Imperial Electric  
**ELEVATOR  
MOTORS**

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**Imperial Electric**

# A **PERFECT** MATCH TO YOUR QUALITY PROFILE

Selecting specialized key components dictates that their suppliers fit into your own overall quality scheme. In the elevator industry, it's imperative to begin with the finest endurance-oriented elements to help ensure extended trouble-free service. For rotating equipment, in particular, there can be no shortcuts taken in fabrication that could jeopardize your success.

The Elevator Division of Imperial Electric is your best choice in this important area because you're dealing with "elevator people." Knowledgeable and experienced, these are people that are singularly focused on your requirements. Imperial's rotating equipment is designed and built exclusively for elevator application-not an adaptation of other industrial drive systems. In addition, it's comforting to know that you're interfacing with people who are sensitive to your business. People who've been in the field "on the firing line" gaining first-hand exposure to the problems that make the elevator business so challenging.

# A TECHNOLOGY WITH A **HANDS-ON** APPROACH

Imperial began building electro-dynamic devices in 1889 and organized the Elevator Division as a dedicated entity in 1910. A recognized leader in the field even then, Imperial actually participated in establishing the earliest NEMA code of standards for AC motors as this form of current was rapidly gaining acceptance.

Our contemporary products are steeped in the hands-on-craftsmanship and expertise that only decades of design and manufacturing can produce. But, even more, today's Imperial motors provide increased reliability through application of new technologies that have been proven to influence quality and performance. These techniques encompass a total range-thorough raw material specification testing, verification of outsourced component quality, in-process assurances and documented testing of every finished product. The Imperial QA program may be the most stringent in this industry and helps ensure the years of trouble-free service our customers expect from our equipment.

Obviously, computer-aided machining comes into play in modern fabrication and this automated precision has further refined the Imperial line. More important, though, is the skill and know-how of our factory personnel. An important yet little noted aspect of modern electric motor manufacturing is, even today, there's still an extraordinary amount of hand assembly required. Every individual involved in production has been specially trained in the Imperial process. As a result, when the Imperial nameplate is attached, you know every detail has been checked by watchful, caring eyes-in essence, by the people who guard our reputation.

# ENGINEERING TO YOUR NEEDS

When special requirements of characteristics are called for, Imperial can get you there quickly. Through “computerized testing” of every alteration to standard designs-checking interactions and known electrical factors-our engineers can optimize your custom work prior to prototype production. Thus, you’re assured of the shortest response time possible from idea to reality, meeting specifications, addressing installation concerns and even cost projection development. Additionally, in every project of this nature, full testing against I.E.E.E., NEMA, CSA or other standards can be completed in-house.

When you call on Imperial, you’re tapping into a “team concept” of response to your needs. Beginning with the initial sales contact, continuing through engineering, scheduling and plan production, clear communication between departments pre-empts problems or misinterpretations. Because we’re oriented to flexibility in all aspects of operation, Imperial Electric can react without mega-corporate-style red tape. You are served as you would expect to be.

## EIGHT DECADES HAVE HONED OUR CRAFT

What we’ve learned in over 80 years of manufacturing elevator rotating equipment is an intangible value you can greatly benefit from today. It includes abilities you won’t find anywhere else. Ninety-seven percent of the components in an Imperial motor, gearless machine or motor generator set are produced in-house. Our quality reputation demands it. We choose our out-source suppliers by applying firm QA standards against their parts production-always working toward zero defects. This has resulted in an elite group of outside suppliers who share our concern for your total satisfaction.

Our Middleport, Ohio plant is exclusively dedicated to manufacturing elevator rotating equipment, including even the critically toleranced sheaves for our gearless machines. From its state-of-the-art CAM capabilities to the finest, delicate hand assembly areas; balancing; testing and finishing-unit workflow is optimized. Your delivery is jealously protected.

## WE WORK TO HELP BUILD YOUR **SUCCESS**

Choose Imperial and you’ve selected the leading producer of rotating equipment in the field, whether for new work or modernization projects. And since our success is so inherently linked to yours, you’ll find Imperial people are prepared to go the extra mile for your business and satisfaction: From the production line to servicing after the sale we remain ever sensitive to the competitive nature and immediacy of the elevator business. We’ve built integrity into more than just a product you can rely on-it pervades a company. Discover Imperial Electric today.

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## FEATURES

- Cast iron construction
- 600-1,800 rpm
- 5 through 60 HP high slip
- 5 through 100 HP low slip
- Drip-proof construction standard, TENV and TEFC available
- Dual ball bearing construction
- Re-greasable bearings
- Class F insulation standard (Class H available)
- Class A temperature rise for elevator duty
- Mounted encoder optional
- UL/CSA CUS Certified

## BENEFITS

- Stock availability
- Quiet operation
- Available through 100 HP
- Highly reliable
- Long service life
- Rugged construction

## APPLICATIONS

- Geared traction elevators
- VVVF with encoders, low slip 60 minute duty cycle
- Across the line high slip 30 minute duty cycle
- 2-speed, 60 minute duty cycle

# AC Hoist Motors (including VVVF) Frames 256T through 405T

Industry recognized performance and durability for all popular AC machine designs.

The Imperial Electric AC Hoist Motor is renowned for enduring dependability. Cast iron construction, hot rolled steel shaft, and re-greasable ball bearings contribute to a motor design that you can trust through long years of service.

A range of high and low slip single speed motor designs for VVVF drive applications are offered in rpm ranges from 600, 720, 900, 1,200 and 1,800. The motor is configured for foot mounting working with all popular machine designs.



**VVVF AC Hoist Motors 1,200 RPM duty table full load amps**

HP	5	7.5	10	12.5	15	20	25	30	40	50	60	75
Frame	256T	256T	256T	284T	284T	286T	324T	326T	365T	365T	405T	405T
200 V	15.4	24.5	30.8	34.1	43.8	58.3	70.0	80.4	113.0	132.2	152.0	189.0
208 V	14.8	23.5	29.6	32.7	41.9	55.2	67.0	78.4	108.0	129.3	147.0	182.0
220 V	14.2	21.5	26.6	30.9	39.3	52.4	65.8	72.5	104.0	122.0	139.0	172.0
230 V	13.5	21.6	26.4	29.5	39.0	49.8	61.0	70.4	98.2	116.2	132.2	164.0
240 V	13.6	20.4	26.5	28.9	36.0	47.6	58.6	68.6	95.4	114.2	127.0	156.8
440 V	7.1	10.8	13.3	15.6	19.7	26.2	32.9	36.7	52.0	61.0	69.3	86.0
460 V	6.75	10.8	13.2	14.8	19.5	24.9	30.5	35.2	49.1	58.1	66.1	82.0
480 V	6.8	10.2	13.3	14.2	18.0	23.8	29.3	34.3	47.7	57.1	63.5	78.4
575 V	11.2	8.5	10.5	11.9	15.2	20.1	24.8	28.4	38.6	46.5	53.0	65.5
Efficiency	87.1%	86.9%	88.0%	88.9%	89.0%	89.7%	89.5%	90.8%	90.0%	90.4%	91.4%	91.1%
P/F	79.8%	75.8%	72.4%	88.8%	83.1%	82.6%	85.9%	87.9%	85.1%	88.6%	92.7%	94.2%
BTU/HR	566	864	1,042	1,192	1,416	1,754	2,240	2,322	3,395	4,056	4,312	5,596

Consult Imperial Electric for additional ratings.

# Flange Motors

## (including AC VVVF and DC) Frames 256TYZ through 405TYZ

Heavy duty, replacement motors for your existing machines.

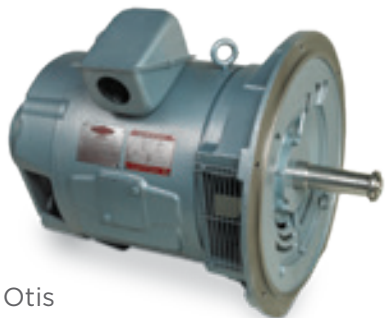
Imperial Electric's line of AC and DC Flange Hoist Motors directly replace existing motors on virtually all popular machines. Imperial Electric motors are the definition of heavy duty construction, designed to provide reliable service year after year.



NEMA C



Armor/Northern



Otis

Direct replacement motors for most popular machines.

### BENEFITS

- Long life expectancy
- Heavy duty construction
- Drop in replacement availability
- Quiet operation
- Available through 100 HP
- Mounts for Flexible Couplings (see page 18)

### FEATURES

- Drip-proof enclosure
- 600-1,800 rpm
- Single and two bearing designs
- Encoder and encoder mounting options
- Hot rolled steel shafts
- UL/CSA CUS Certified

### APPLICATIONS

- Geared traction elevators
- AC VVVF with encoders, low slip
- AC across-the-line, high slip
- AC 2-speed, high slip
- DC shunt or compound wound

Direct mounts for:

- Titan 1
- KONE MR26, MR35
- Armor #2, #2 & 3, #3
- Otis 17CT, 22CT, 29CT
- Westinghouse 28, 38
- Northern TW151 through TW340
- Serge
- Renold
- Schindler

Optional Flex Coupling mounts (see page 10):

- Gurney
- Dover GD105
- Westinghouse - all models

Consult Imperial Electric for additional ratings.

## BENEFITS

- Quiet operation
- Available through 100 HP
- Highly reliable
- Proven performance
- Broad compatibility 240V DC, at 1,150 rpm

## FEATURES

- Drip-proof enclosure
- 60 minute duty
- 10 through 100 HP
- 600-1,750 rpm
- Drip-proof construction standard, TENV available
- Dual ball bearing construction
- Re-greasable bearings
- Class A temperature rise for elevator duty
- UL/CSA CUS Certified

## APPLICATIONS

- Geared traction elevators
- Shunt wound standard
- Compound wound available
- Special wound available

# DC Hoist Motors

## Frames 284AT through 409AT



Rugged and dependable, Imperial Electric DC hoist motors enjoy a well deserved reputation for quality and durability.

# Motor Generator Sets

## Frames 284A/280T through 409A/360T

### BENEFITS

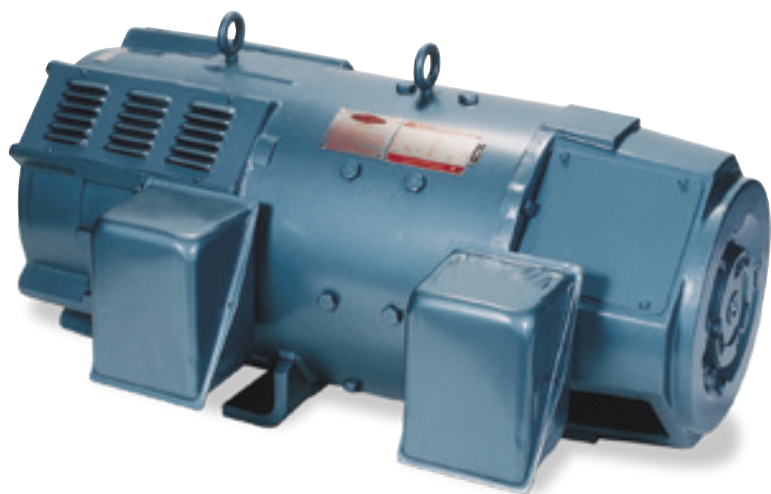
- Long life expectancy
- Heavy duty construction
- Drop in replacement availability
- Quiet operation

### FEATURES

- Drip-proof enclosure
- Two bearing designs
- Hot rolled steel shafts
- UL/CSA CUS Certified

### APPLICATIONS

- Geared traction elevators
- Shunt wound standard
- Compound wound available
- Special wound available



Imperial Electric motor generator sets are proven performers.



## BENEFITS

- Long life expectancy
- Heavy duty construction
- Drop in replacement availability
- Quiet operation

## FEATURES

- Drip-proof enclosure
- 600-1,800 rpm
- Single and two bearing designs
- Encoder and encoder mounting options
- Hot rolled steel shafts
- UL/CSA CUS Certified

## APPLICATIONS

- Elevator Door operator
- Flange mounted
- Foot mounted

# Door Operator Motors

## Frames 2.0 through 6.1 inch diameter gear drive with motor/gearbox and PM motors

Light duty, self-contained worm gear drive with motor and gearbox.

Imperial door operator motors are designed to replace existing motors on a wide range of door operators from various manufacturers. These motors offer heavy duty construction and superior quality, employing hardened steel and bronze gearing, lifetime lubrication bearings, and Viton output seals.

Replacement motors for:

- Courion
- Dover
- ECI
- GAL
- Haughton
- KONE
- Otis



6.1 inch diameter PM



4.0 inch diameter PM



3.25 inch diameter PM



MC 137 Gearmotor

# AC Submersible Hydraulic Motors Frame 217Z

Compact, open-frame construction delivers a light weight, high performance, submersible solution.

More than dependable, the Imperial Electric AC Submersible Hydraulic Motors are ruggedly built, highly efficient units. Open-construction, asynchronous motors are perfectly suited for wet operations. Hydraulic fluid cools the motors as they work. Motor leads are extra length, non-wicking for flexible unit positioning.

The Imperial Electric submersible motors are compatible with pump units from all major manufacturers. The motors offer the advantages of small size and light weight coupled with high starting torque and low starting current.

## BENEFITS

- High performance
- Stock availability
- Drop-in replacement
- Available through 50 HP

## FEATURES

- Rolled steel construction
- Submersible enclosure
- Stock motors dual rated for 80 or 120 starts per hour
- 10 through 50 HP
- 3,600 rpm
- Voltages: 200, 230/460, 575 AC 3-phase, 60 Hz
- Single ball bearing
- High starting torque
- Adapter kits available for alternate pumps
- UL/CSA CUS Certified

## APPLICATIONS

- Submersible hydraulic elevators



440 Series



80 Series



AC Submersible

## AC Submersible Hydraulic Motors duty table, 80 starts per hour

HP	Imperial Electric Part Number	Motor Loss BTU/HR	FL EFF (%)	FL PF (%)	FL RPM	Volts	Amps (A)				
							Delta				WYE
							Full Load	No Load	Locked Rotor	KVA Code	Locked Rotor
15	217EAS015C001	14,120	73	87	3400	200	51.0	27.0	242	F	82
	217EAS015C015	14120	73	87	3400	230	44.6	23.0	204	F	68
	217EAS015C020	14,120	73	87	3400	460	22.3	11.5	102	F	34
20	217EAS020C001	16,074	76	89	3395	200	65.4	31.2	311	F	104
	217EAS020C015	16,074	76	89	3395	230	56.2	25.5	270	F	90
	217EAS020C020	16,074	76	89	3395	460	28.1	12.8	135	F	45
25	217EAS025C001	17,946	78	91	3400	200	78.2	34.5	391	F	130
	217EAS025C015	17,946	78	91	3400	230	67.8	30.0	340	F	113
	217EAS025C020	17,946	78	91	3400	460	33.9	15.0	170	F	57
30	217EAS030C001	20,296	79	91	3390	200	90.0	36.0	471	F	157
	217EAS030C015	20,296	79	91	3390	230	78.2	31.0	410	F	136
	217EAS030C020	20,296	79	91	3390	460	39.1	15.5	205	F	68
40	217EAS040C001	23,879	81	91	3410	200	120.0	46.0	671	G	224
	217EAS040C015	23,879	81	91	3410	230	104.0	40.0	584	G	195
	217EAS040C020	23,879	81	91	3410	460	52.0	20.0	292	G	97
50	217EAS050C001	29,861	81	91	3380	200	142.0	42.7	920	G	307
	217EAS050C010	29,861	81	91	3380	230	123.0	37.5	800	G	268
	217EAS050C020	29,861	81	91	3380	460	61.5	18.8	400	G	133
						575	49.4	15.0	320	G	106

200 volt motors are designed for operation at 208 volts

## BENEFITS

- Long life expectancy
- Heavy duty construction
- Drop in replacement availability
- Quiet operation
- Available through 100 HP

## FEATURES

- Drip-proof enclosure
- 600-1,800 rpm
- Single and two bearing designs
- Encoder and encoder mounting options
- Hot rolled steel shafts
- UL/CSA CUS Certified

## APPLICATIONS

- Dry hydraulic elevators

# AC Dry Hydraulic Motors

## Frames 215T through 365T

Quiet, efficient AC dry hydraulic motors.

Designed for use with belted hydraulic pump systems, Imperial Electric AC Dry Hydraulic Motors are exceptionally quiet, highly efficient and built for rugged duty. Totally Enclosed Fan Cooled (TEFC) designs are available for most ratings.

Rated for 80 or 120 starts per hour, the AC Dry Hydraulic Motor is a drop-in replacement for existing motors, making any elevator modernization project more efficient.

The AC Dry Hydraulic Motor is just one of many highly engineered products developed for the elevator industry by Imperial Electric. Imperial Electric has more than 100 years experience in electrodynamic devices. Learn how Imperial Electric can benefit your next project. Call your representative today for more information.

**AC Dry Hydraulic Motors duty table, 80 starts per hour**

HP	Full Load RPM	Frame	Voltage	Amps (A)					Elevator Duty BTU Per Hour
				Delta			KVA Code	WYE Locked Rotor	
				Full Load	No Load	Locked Rotor			
15	1740	215T	200	46	23	270	G	89	1859
	1735	215T	230/460	39.2/19.6	19/9.5	230/115	G	76/38	1859
	1735	215T	575	15.7	7.6	92	G	31	1859
20	1750	254T	200	62	31	340	G	112	2263
	1750	254T	230/460	54/27	27/13.5	296/148	G	98/49	2263
	1750	254T	575	22	11	120	G	40	2263
25	1755	256T	200	73	31	420	G	139	2360
	1755	256T	230/460	62/31	26.4/13.2	366/183	G	120/60	2360
	1755	256T	575	25	10.6	146	G	48	2360
30	1760	284T	200	87	36	500	G	165	2774
	1760	284T	230/460	74/37	31/15.5	430/215	G	142/71	2774
	1760	284T	575	30	12.4	172	G	57	2774
40	1760	286T	200	112	42	670	G	221	3282
	1760	286T	230/460	98/49	37/18.5	580/290	G	192/96	3282
	1760	286T	575	39	14.5	230	G	76	3282
50	1760	324T	200	138	70	850	G	281	3869
	1760	324T	230/460	118.8/59.4	62/31	740/370	G	244/122	3869
	1760	324T	575	49	25	310	G	102	3869
60	1760	326T	200	162	70	1000	G	330	4477
	1760	326T	230/460	143.2/71.6	64/32	920/460	G	304/152	4477
	1760	326T	575	58	26	370	G	122	4477
75	1770	364T	200	210	87	1320	G	436	5253
	1770	364T	230/460	180/90	72/36	1120/560	G	370/185	5253
	1770	364T	575	72	29	450	G	149	5253
100	1780	365T	230/460	228/114	76/38	1590/795	G	524/262	6015
	1780	365T	575	91	30	636	G	210	6015



AC dry hydraulic motors are available across a wide range of horsepower ratings, including 80 or 120 starts per hour.

# Industrial Encoders for AC Hoist / Elevator Motors Style Machine

Our AC Hoist motors are available with an Imperial Electric encoder. This provides an extra feature to make the elevator package easier to assemble and install in the field.



## FEATURES

- Shaft Mounted
- 1024 PPR
- Positive D-Sub 9 pin Male connector
- Optional 35, 50, 75 feet cables available
- 1.000" Shaft Size
- Temperature: -4° to 158°F (-20° to 70°C)
- Output Channels: A+, B+, O+, and Compliments
- 5-30 Volt DC Supply Voltage
- Encoder Protective Guard
- 0850915 Replaces 0850466 and 0850354

## ELECTRICAL SPECIFICATIONS

- Supply Voltage: 4.75-30VDC
- Current consumption: 40 mA Max.
- Output Circuit: Push-Pull
- Impulse Frequency: 300 kHz (max.)
- Logic level (high): Vcc-.7Volt
- Logic level (low): 0.25 Volt (max.)
- Pulses per revolution: 1024
- Output Signals: A+B+O+Compliments
- Output Connector: D-Sub 9 pin

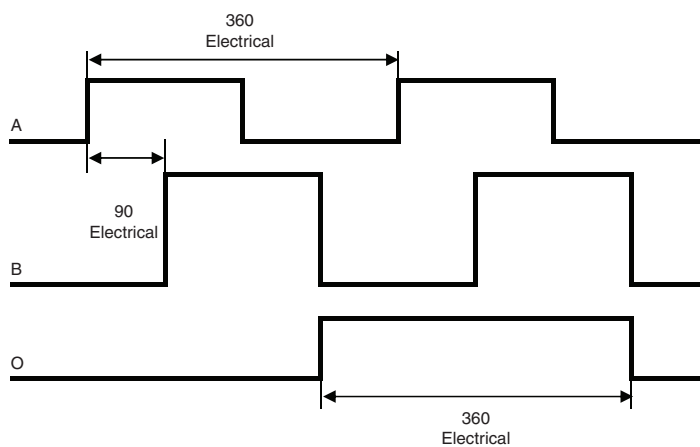
## MECHANICAL SPECIFICATIONS

- Speed: 6000 RPM max.
- Protection: IP65
- Temperature: -20C to +70C (-4F to +158F)

## Connections

Function	Pin Number	Imperial Cable Part Number		
		0850357	0850489	0850490
		35 Feet	50 Feet	75 Feet
0 Volt	1	Black	Black	Black
+ Volt	2	Red	White	White
A	3	White	Purple	Purple
B	4	Blue	Green	Green
O	5	Orange	-----	-----
A compliment	6	White/Black	Gray	Gray
B compliment	7	Red/Black	Blue	Blue
O compliment	8	Green	-----	-----

## Output Signals



Note:

1. Connect Encoder leads to 9-pin connector and control as shown in diagram and table.

# Elevator Motor Accessories

## Submersibles

## Encoders



80 Series Flange Kit



440 Series Flange Kit



Incremental hollow shaft encoder for hoist motors



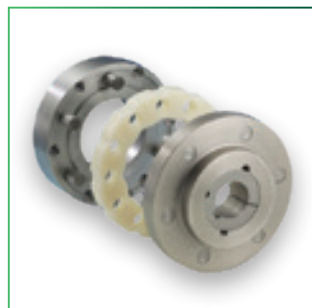
Encoder Cables

## Flexible Couplings and Adapters

Imperial Electric offers flexible couplings and adapters with its heavy-duty line of AC & DC Elevator Duty Motors for geared traction machines. The couplings and adapters are also available for both flange or foot-mount machines manufactured by companies such as Armor, Dover, Gurney, Montgomery, Otis, Schindler-Haughton, Serge and Westinghouse. Other couplings are available upon request.

The three-part coupling consists of a drum-mount flange, polyurethane disc and a motor adapter plate for flange motors. When assembled and properly installed, the poly disc reduces vibration and noise carry-through to the car due to any misalignment. End thrusting of motor shafts and overloading of bearings are also reduced.

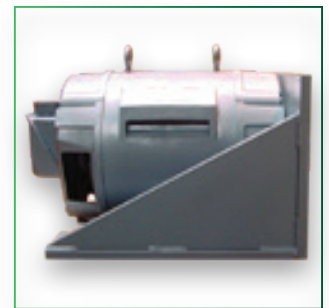
Flexible couplings are also available in kit form for field modifications. The couplings with Taper-Lock™ fittings have flange bolt patterns that are identical to the rigid couplings they replace which allows for motor replacement within a few hours.



Flexible Coupling



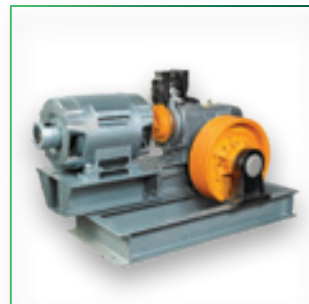
Dover Flange



Otis Belly Mount Replacement Motor



Gurney Flange



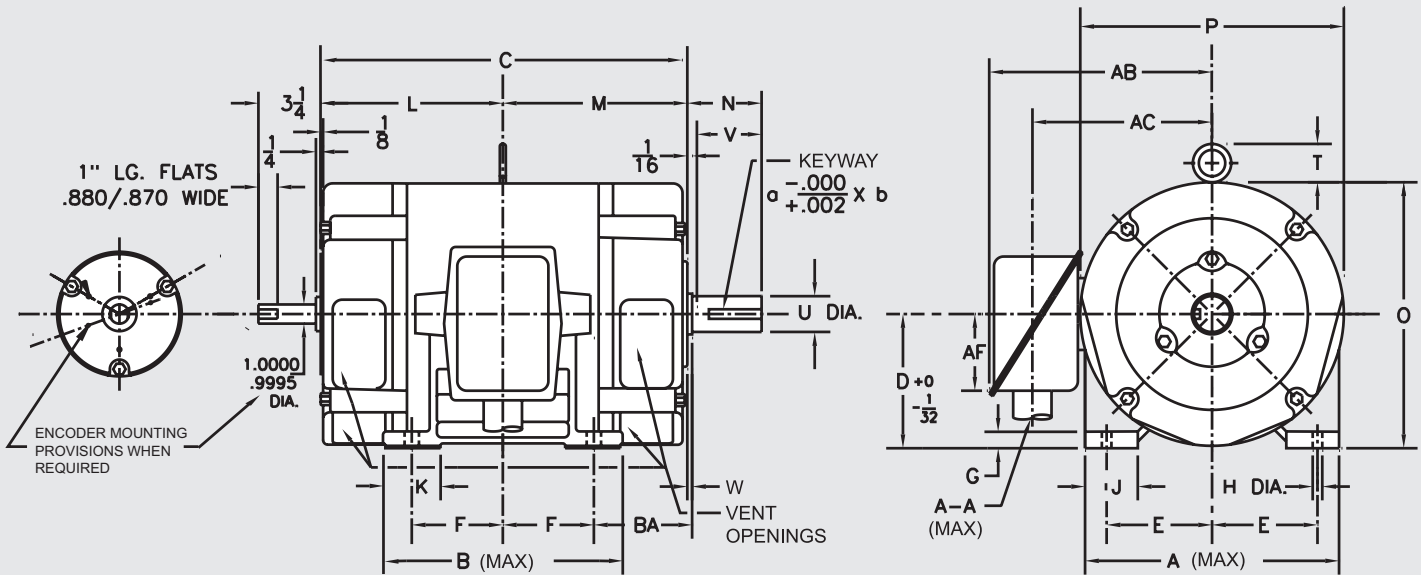
Foot Mounted



Armor/Northern Flange

# AC Hoist or AC Dry Hydraulic Motors

## Frames 215T through 405T dimensional diagram

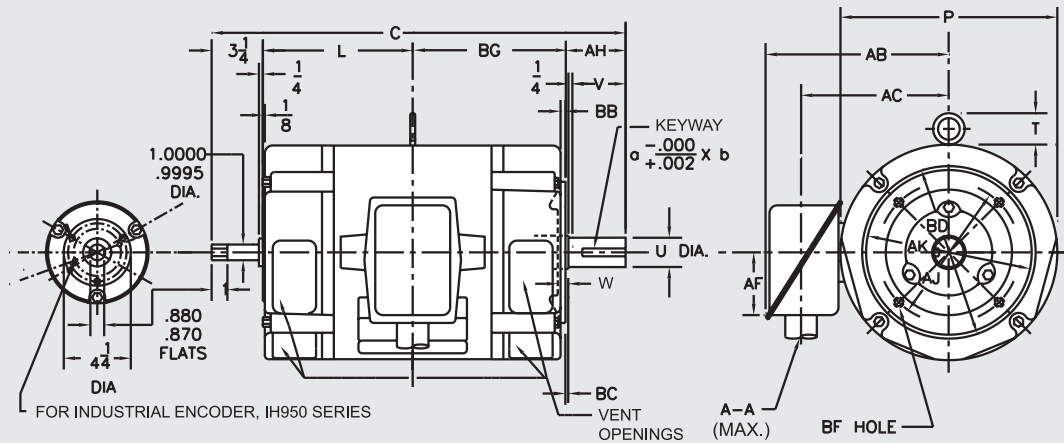


### AC Hoist and AC Dry Hydraulic Motor dimensions

Frame	A	B	BA	C	D	E	F	G	H	J	K	L <sub>1</sub>	M	N	O	P	T	U	V	W	a	b	AA	AB	AC	AF	Appr. Wt.
215T	10.5	9	3.5	17.312	5.25	4.25	3.5	.625	.406	1.75	2	6.937	6.875	3.5	10.312	10.125	—	1.375	3.125	.125	.312	.156	1	8.562	6.937	2.75	125
254T	12.5	10.75	4.25	20.75	6.25	5	4.125	.75	.531	2.25	2.5	8.375	8.25	4.125	12.312	12.125	2.375	1.625	3.75	.125	.375	.187	1.5	11	8.75	4	200
256T	12.5	12.5	4.25	22.5	6.25	5	5	.75	.531	2.25	2.5	9.25	9.125	4.125	12.312	12.125	2.375	1.625	3.75	.125	.375	.187	1.5	11	8.75	4	225
284T	14	12.5	4.75	23.625	7	5.25	4.75	.875	.531	2.75	3	9.5	9.375	4.75	13.812	13.75	2.375	1.875	4.375	0	.5	.25	1.5	11.75	9.5	4	300
286T	14	14	4.75	25.125	7	5.25	5.5	.875	.531	2.75	3	10.25	10.125	4.75	13.812	13.75	2.375	1.875	4.375	0	.5	.25	1.5	11.75	9.5	4	325
324T	16	14	5.25	26.25	8	6.25	5.25	1	.656	3.25	3.5	10.5	10.375	5.375	15.812	15.625	2.375	2.125	5	.125	.5	.25	2	12.75	10.5	4	400
326T	16	15.5	5.25	27.75	8	6.25	6	1	.656	3.25	3.5	11.25	11.125	5.375	15.812	15.625	2.375	2.125	5	.125	.5	.25	2	12.75	10.5	4	450
364T	18	15.25	5.875	28.75	9	7	5.625	1	.656	2.5	3	11.375	11.375	6	17.812	18.625	2.75	2.375	5.625	.25	.625	.312	3	15.875	12.812	4.5	550
365T	18	16.25	5.875	29.75	9	7	6.125	1	.656	2.5	3	11.875	11.875	6	17.812	18.625	2.75	2.375	5.625	.25	.625	.312	3	15.875	12.812	4.5	610
405T	20	17.75	6.625	34.25	10	8	6.875	1	.812	3	3.5	13.5	13.375	7.375	19.812	19.25	2.75	2.875	7	.125	.75	.375	3	15.875	12.875	4.5	885

# Flange Motors (including AC VVVF and DC)

Frame 256TYZ through 405TYZ dimensional diagram  
(256TC through 405TC shown)



## Flange Motor dimensions

Frame	C	L	P	T	U	V	W	a	b	AA	AB	AC	AF	AH	AJ	AK	BB	BC	BD	BF	BF Tap Size	BF Depth	BG	Appr. Wt.
256TC	25.625	9.25	12.125	2.375	1.625	3.75	0.125	0.375	0.187	1.5	11	8.75	4	3.75	7.25	8.5	.25	-0.25	10	4	1/2-13	0.75	9.5	225
284TC	26.875	9.5	13.75	2.375	1.875	4.375	0.125	0.5	0.25	1.5	11.75	9.5	4	4.375	9	10.5	.25	-0.25	11.25	4	1/2-13	0.75	9.75	300
286TC	28.375	10.25	13.75	2.375	1.875	4.375	0.125	0.5	0.25	1.5	11.75	9.5	4	4.375	9	10.5	.25	-0.25	11.25	4	1/2-13	0.75	10.5	325
324TC	29.5	10.5	15.625	2.375	2.125	5	0.125	0.5	0.25	2	12.75	10.5	4	5	11	12.5	.25	-0.25	14	4	5/8-11	0.9375	10.75	400
326TC	31	11.25	15.625	2.375	2.125	5	0.125	0.5	0.25	2	12.75	10.5	4	5	11	12.5	.25	-0.25	14	4	5/8-11	0.9375	11.5	450
365TC	33	11.875	18.625	2.75	2.375	5.625	0.125	0.625	0.312	3	15.875	12.812	4.5	5.625	11	12.5	.25	-0.25	14	8	5/8-11	1	12.25	610
405TC	37.5	13.5	19.625	2.75	2.875	7	0.125	0.75	0.375	3	15.875	12.875	4.5	7	11	12.5	.25	-0.25	15.5	8	5/8-11	1	13.75	865

## Compatibility Table 1,200 RPM, low slip, 200V-575V, 3-phase, 60 Hz

Machine	Flange	Horsepower																						
		5	10	12.5	15	20	25	30	40	50	60	75	100											
Armor	#2&3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	#2 (Serge)*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Dover	GD1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Houghton	NEMA C	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	NEMA D	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
KONE	MR26-35	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Montgomery	207E	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NEMA	C	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	D	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Northern	TW151*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	TW160*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	TW280*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	TW340*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Otis	17CT	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	22CT	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	29CT	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Renold	NEMA C	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Schindler	NEMA D	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Titan	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Westing-house	28	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	38	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Motors are 2 ball bearing designs unless otherwise noted (\*single ball bearing design). Consult Imperial Electric for other ratings.  
All flange mounted requirements need customer review of dimension sheets.

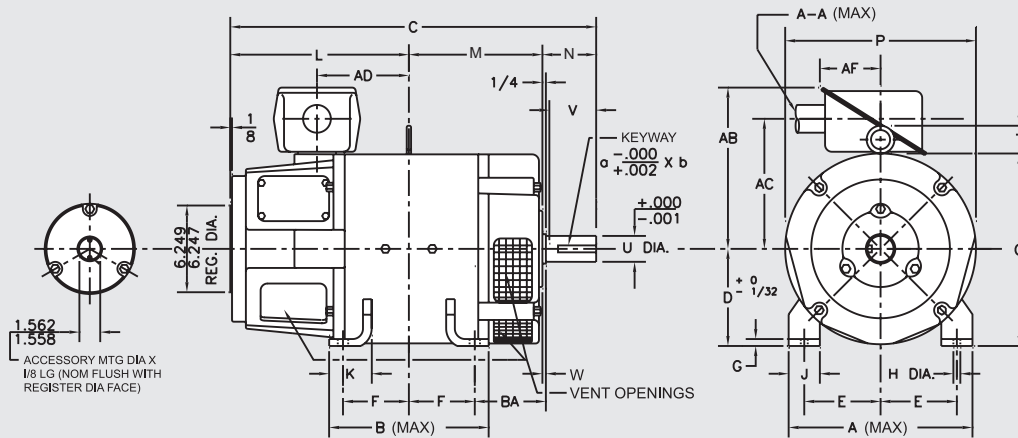
# DC Hoist Motors

Frames 284AT through 409AT

## DC Hoist Motors standard ratings at 240V DC

HP	Full Load RPM	Frame	Amps (A)		Resistance (Ω)		Hot Field Volts (V)			Heat Loss (BTU/HR)
			Full Load Armature	Hot Field	Cold Field 25°C	Hot Field 75°C	Level Max	Run & Hold Max	Hold Prefer	
10	1150	284AT	37.7	1.00	138.0	166.0	240	166	141	1626
	850	286AT	37	1.76	85.0	102.0	240	180	153	
12.5	1150	386AT	46.5	1.12	126.0	151.0	240	170	144	1819
	850	324AT	46	1.85	81.6	96.9	240	179	152	
15	1150	324AT	53	2.18	70.5	84.6	240	183	155	2182
	850	326AT	54	2.23	68.5	82.2	240	183	148	
20	1150	326AT	71	2.20	65.0	78.0	240	172	148	2696
	850	366AT	73	2.25	63.4	76.0	240	171	146	
25	1150	366AT	90	2.33	63.4	76.0	240	177	150	3165
	850	367AT	90	2.67	56.6	68.0	240	180	153	
30	1150	367AT	105	2.68	56.6	68.0	240	182	155	3635
	850	368AT	106	3.00	47.0	56.4	240	169	143	
40	1150	368AT	140	3.00	47.0	56.4	240	170	145	4369
	850	368AT	138	4.40	31.6	40.5	240	180	145	
50	1150	368AT	175	4.14	31.6	39.2	240	162	138	4926
	850	407AT	175	4.94	28.2	36.0	240	178	150	
60	1150	407AT	208	4.92	26.8	33.1	240	163	138	6477
	850	S409AT	208	6.30	28.8	29.8	240	188	160	
75	1150	S409AT	257	5.75	23.6	29.5	240	170	145	7027
	850	409AT	264	7.60	17.4	22.1	240	168	126	
100	1150	409AT	273	7.15	19.2	24.8	240	178	150	7475

## DC Hoist Motors dimensional diagrams



Frame	A	B	BA	C	D	E	F	G	H	J	K	L1	M	N	O	P	T	U	V	W	a	b	AA	AB	AC	AD	AF	Appr. Wt.
284AT	14	12.5	4.75	26.625	7	5.5	4.75	.531	.531	2.25	3.062	13.375	9.375	3.875	13.875	13.75	2.375	1.875	3.5	.125	.5	.25	2	11.625	9.375	6.625	4	375
286AT	14	14	4.75	28.125	7	5.5	5.5	.531	.531	2.25	3.062	14.125	10.125	3.875	13.875	13.75	2.375	1.875	3.5	.125	.5	.25	2	11.625	9.375	7.375	4	410
324AT	16	14	5.25	28.25	8	6.25	5.25	.656	.656	2.5	3.625	13.5	10.375	4.375	15.875	15.75	2.75	2.125	4	.125	.5	.25	2	12.625	10.375	6.75	4	600
326AT	16	15.5	5.25	29.75	8	6.25	6	.656	.656	2.5	3.625	14.25	1.125	4.375	15.875	15.75	2.75	2.125	4	.125	.5	.25	2	12.625	10.375	7.5	4	675
366AT	18	18	5.875	34.125	9	7	7	.781	.812	3	4.25	16.5	12.75	4.875	17.875	17.688	3	2.375	4.5	.125	.625	.313	3	14.813	11.75	7.875	4.5	840
367AT	18	20	5.875	35.875	9	7	8	.781	.812	3	4.25	17.25	13.75	4.875	17.875	17.688	3	2.375	4.5	.125	.625	.313	3	14.813	11.75	8.625	4.5	930
368AT	18	22	5.875	37.875	9	7	9	.781	.812	3	4.25	18.25	14.75	4.875	17.875	17.688	3	2.375	4.5	.125	.625	.313	3	14.813	11.75	9.625	4.5	1060
407AT	20	22	6.625	42.625	10	8	9	.781	.812	3	4.25	21.75	15.438	5.438	20	19.875	3	2.625	5	.188	.625	.313	3	15.313	12.875	11.25	4.5	1390
S409AT	20	26	6.625	46.625	10	8	11	.781	.812	3	4.25	23.75	17.438	5.438	20	19.875	3	2.625	5	.188	.625	.313	3	15.313	12.875	13.25	4.5	1540

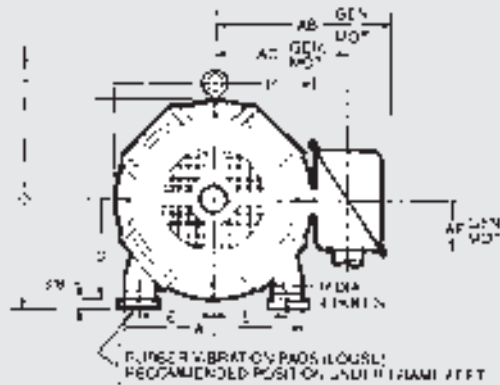
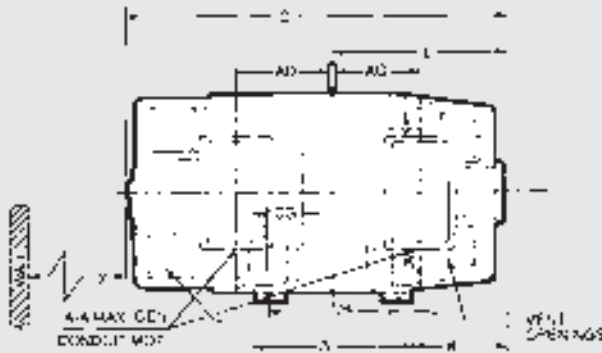


# Motor Generator Sets

Frames 284A/280T through 409A/360T

## Motor Generator Sets standard ratings

DC Generator Data			AC Motor Data								Heat Loss (BTU/HR)	Use with Hoist Motor
KW	Curve	Frame	HP	3Ø 60Hz Volts	Delta			KVA Code	WYE			
					N.L. Amps	F.L. Amps	L.R. Amps		L.R. Amps	KVA Code		
7.5	S11557	284A/280T	12.5	200	18.7	37.0	280	J	84	A	2548	10 and 12.5
				230/460	16.2/8.1	32.4/16.2	244/122		72/36			
10	S11624	286A/280T	15	200	22.0	45.0	330	J	97	A	3269	15
				230/460	18.8/9.4	38.4/19.2	282/141		84/42			
12.5	S12686	286A/280T	20	200	24.0	55.5	480	K	142	A	4721	20
				230/460	21.4/10.7	48.4/24.2	426/213		126/63			
15	S11611A	324A/320T	25	200	31	71	500	H	149	A	4843	20 and 25
				230/460	28/14	62/31	440/220		132/66			
20	S11630	326A/320T	30	200	35	83	630	J	187	A	6164	30
				230/460	31/15.5	72/36	560/260		156/78			
25	S11714	366A/360T	40	200	44	109	810	H	240	A	7172	40
				230/460	38/19	94/47	700/350		210/105			
30	S11680	367A/360T	50	200	49	133	1000	H	300	A	8486	50
				230/460	42/21	116/58	880/440		260/130			
40	S11935	368A/360T	60	200	52	156	1220	H	360	A	10115	60
				230/460	44/22	136/68	1060/530		316/158			
50	S12465	407A/360T	75	200	68	197.5	1412	H	415	A	12549	75
				230/460	58/29	172/86	1220/610		364/182			
60	S12997	S409A/360T	100	200	80	257	1956	J	575	A	14945	100
				230/460	70/35	224/112	1720/860		510/255			

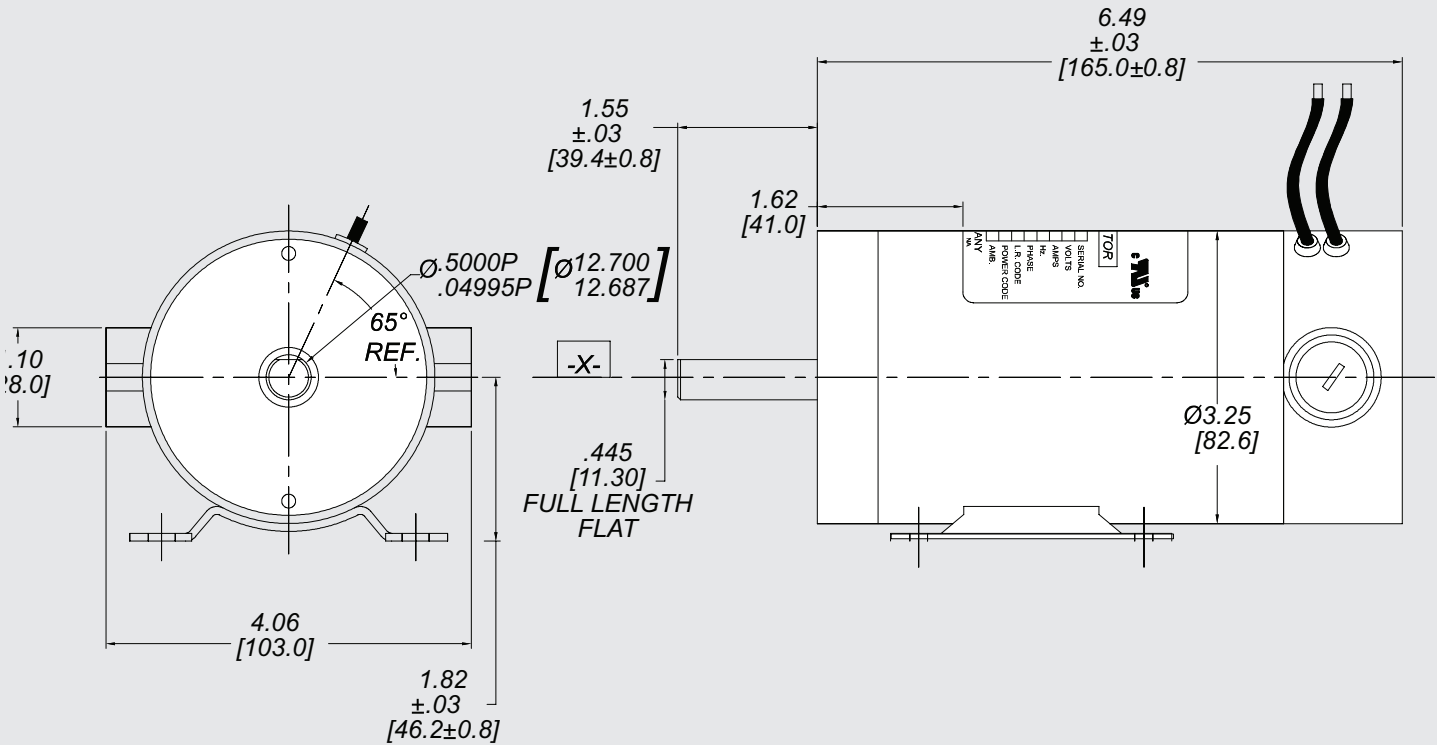


Frame	C	L	O	P	T	X	AB		AC		AD	AF		AG	AA		A	B	D	E	2F	H	J	K	Appr. Wt.	CG
							GEN	MOT	GEN	MOT		GEN	MOT		GEN	MOT										
284A/280T	30.937	13.75	14.25	13.75	2.375	18.125	11.75	10.187	9.5	8.562	6.625	4	2.75	7	1.5	1	13.25	11.25	7	5.5	9.5	.531	1	8.25	590	1.6
286A/280T	32.437	14.5	14.25	13.75	2.375	19.625	11.75	10.187	9.5	8.562	7.375	4	2.75	7.75	1.5	1	13.25	13	7	5.5	11	.531	1	8.25	635	1.8
324A/320T	34.062	14.75	16.25	15.75	2.75	20	12.375	12.375	9.375	9.375	7.375	4	4	7.75	2	2	14.25	12.875	8	6.25	10.5	.656	1.187	8.625	785	1.75
366A/320T	35.562	15.5	16.25	15.75	2.75	21.5	12.375	12.375	9.375	9.375	8.125	4	4	8.5	2	2	14.25	14.375	8	6.25	12	.656	1.187	8.625	870	2.08
366A/360T	41.562	18.5	18.25	17.647	3	24.75	14.375	14.375	11.75	11.75	8.5	4.5	4.5	9.625	3	3	16.75	16.75	9	7	14	.812	1.187	10.125	1175	2.0
367A/360T	43.312	19.5	18.25	17.647	3	27.25	14.375	14.375	11.75	11.75	9.25	4.5	4.5	10.625	3	3	16.75	18.75	9	7	16	.812	1.187	10.125	1250	2.23
368A/360T	45.312	20.5	18.25	17.647	3	29.25	14.375	14.375	11.75	11.75	10.25	4.5	4.5	11.625	3	3	16.75	20.75	9	7	18	.812	1.187	10.125	1325	2.5
407A/360T	56.062	21.75	20.375	19.875	3	28.125	15.312	15.875	12.875	12.812	22.312	4.5	4.5	11.25	3	3	19	20	10	8	18	.937	1	11.75	1940	2.5

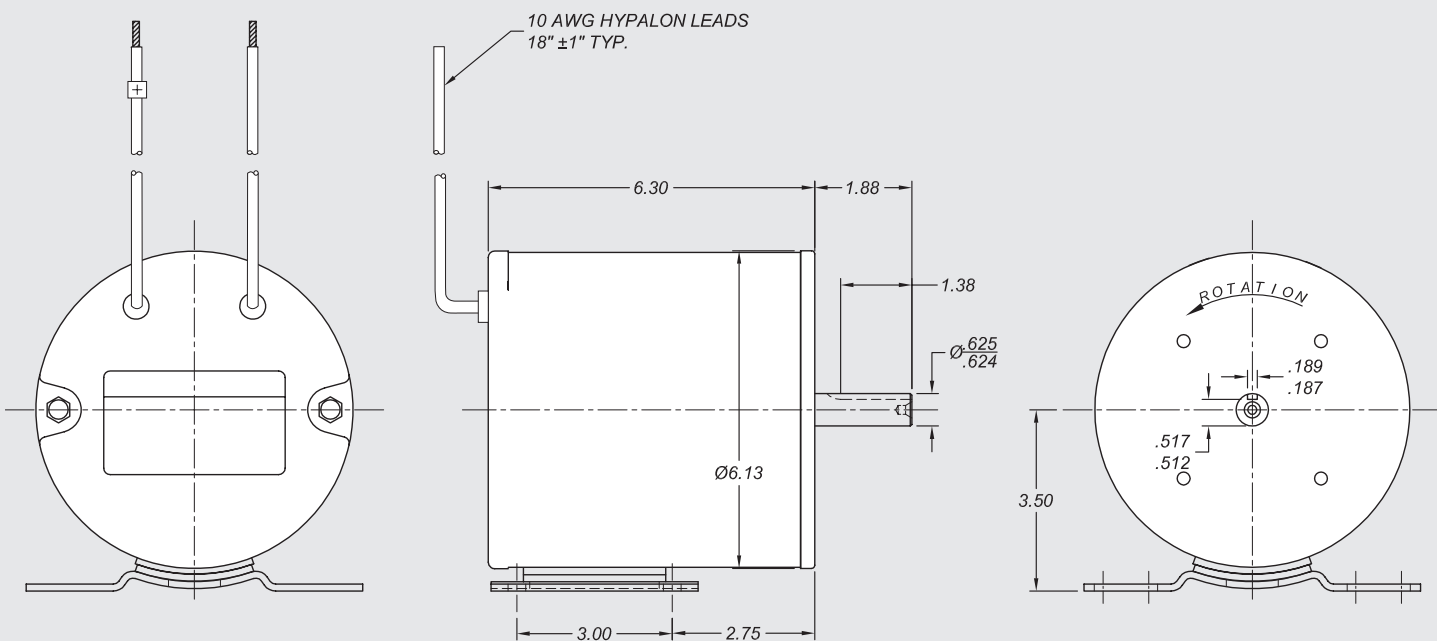
# Door Operator Motors

## Frame 2.0 through 6.1 inch diameter dimensional diagrams

### 3.25 inch diameter PM Motor



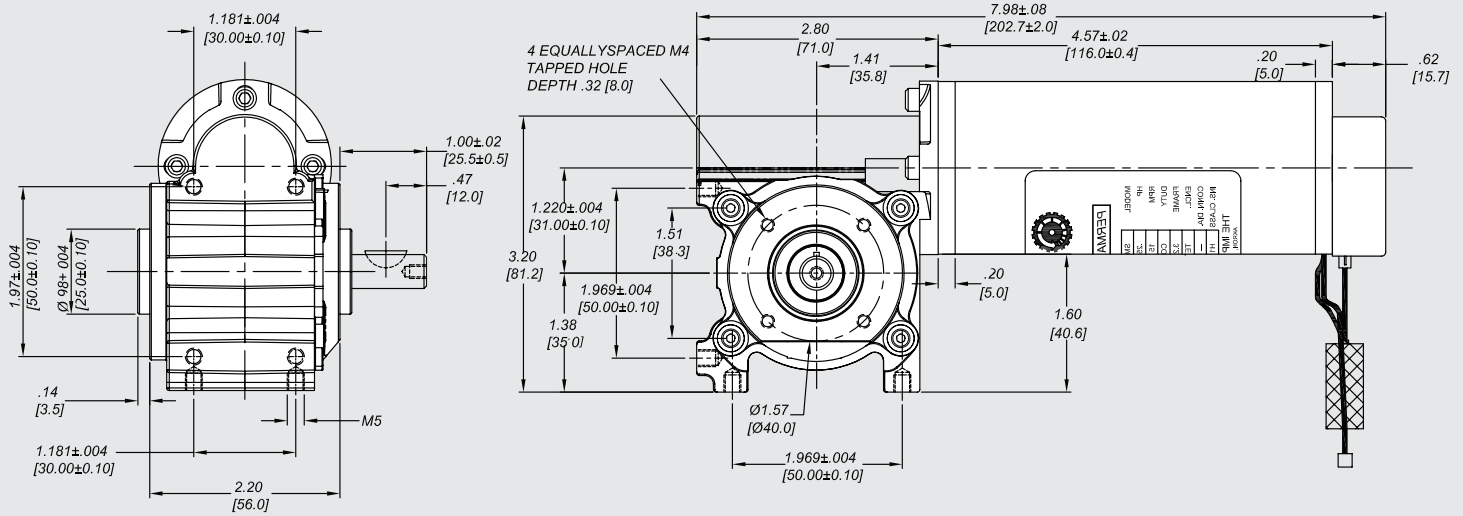
### 6.1 inch diameter PM Motor - 56 Frame



# Door Operator Motors

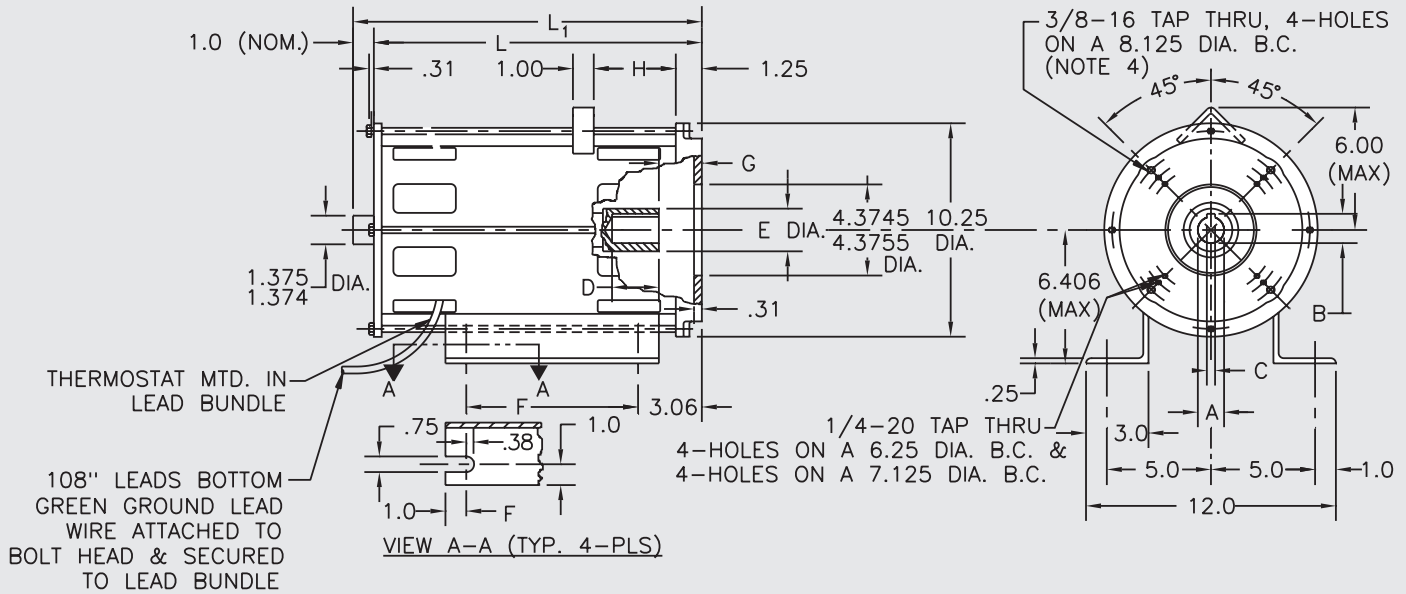
## Frame 2.0 through 6.1 inch diameter dimensional diagrams

### 2.0 inch diameter PM Gearmotor



# AC Submersible Hydraulic Motors

## Frame 217Z dimensional diagram



### AC Submersible Hydraulic Motor dimensions

Frame	A	B	C	D	E	F	G	H	L	L <sub>1</sub>	Ref. HP	(lbs.)
217Z	1.260	1.396	.394	2.25	2.050	8.25	2.06	3.94	13.72	14.63	15,20,25,30	100
	1.261	1.406	.395		2.045							
L217Z	1.260	1.396	.394	2.25	2.050	8.25	2.06	3.94	15.72	—	40,50	130
	1.261	1.406	.395		2.045							

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- Kinetek De Sheng (KDS), manufacturer of ACPM Gearless Machines and AC Motors.
- Canton Elevator, manufacturer of Hydraulic Packages and Power Units

# NIDEC CORPORATION



**Headquarters**  
Kyoto, Japan

Nidec Corporation was originally founded in 1973 by CEO Shigenobu Nagamori, with its headquarters currently located in Kyoto, Japan. As an international corporate manufacturer centering around an expansive product line of motors, Nidec specializes on motor application products and services based on “everything that spins and moves”. These include development, manufacturing and sales of Small Precision motors, IT/ Consumer electronics, Automotive motors, Home Appliance motors, Commercial and Industrial motors, motors for Machinery, Electronic and Optical components, and other related products. Because of its continuous growth and success, Nidec has been publicly traded at the Tokyo Stock Exchange since 1988.

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- Dover
- Montgomery
- Northern
- Otis
- Schindler
- Titan
- Westinghouse

**Direct Replacement Foot Mount  
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- Armor
- Dover
- Hollister Whitney
- Montgomery
- Otis
- Schindler
- Titan

