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FRAME 450, 460, 470, 500, 700, 800, 900 Series

Compact design, high efficiency and extreme reliability have confirmed the Imperial Electric Gearless ACPM Machines to be a favorite in the industry. Models available: Frame 450 Series, 460 Series, 470 Series, 500 Series, 700 Series, 800 Series and 900 Series.



Unlike traditional induction motors that lose efficiency at lower speeds, Imperial Electric gearless AC machines provide unusually capable low speed, high torque operation — and consume up to 40% less power than traditional asynchronous motors. Imperial Electric gearless AC machines are also noticeably quieter than the competition and are nearly maintenance-free.

Imperial Electric machines are known for durability and reliability. Imperial Electric gearless AC machines use rugged cast iron frames protecting a totally enclosed, self-cooling motor. Machine brake and sheave assemblies are removable and replaceable — features that will provide cost savings over long years of service.

Imperial Electric provides gearless AC machines in seven frame sizes — serving car capacity ranges from 1,250 to 8,000 lbs. at speeds from 100 to 2,000 fpm (fpm). The 470 series has the capacity to lift 1,375 to 4,000 lbs. at speeds up to 500 fpm with 2:1 roping. The 500 series has the capacity to lift 2,000 to 4,500 lbs. up to 700 fpm with 1:1 roping or 2,000 to 8,000 lbs. up to 700 fpm with 2:1 roping. The 700/800 series has the capacity to lift 2,000 to 5,350 lbs. up to 1,600 fpm with 1:1 roping or 3,000 to 10,000 lbs. up to 800 fpm with 2:1 roping. The 900 series has speeds up to 2000 foot per minute (10 m/s) for up to 8,000 lbs. car capacity for 1:1 roped applications and 1000 foot per minute (5 m/s) for up to 16,000 lbs. car capacity for 2:1 roped applications.

With the introduction of gearless AC machines to complement industry-leading, gearless DC machines, Imperial Electric boasts the most comprehensive gearless machine line in the elevator industry.

FRAME 450 Series: "Barrel" Style Machine

Single Wrap

Small diameter, lighter weight, very powerful. Can be 1:1 or 2:1 roped.



Frame 450 Series 1:1 Roping

FPM		200			250			350			400			500	
CAPACTIY	RPM	НР	AMPS	RPM	НР	AMPS	RPM	НР	AMPS	RPM	НР	AMPS	RPM	НР	AMPS
1500	44	5.1	16.0	55.0	6.3	16.0	77.0	8.8	16.0	88.0	10.1	16.0	N/A	N/A	N/A
2000	44	6.7	23.0	55.0	8.4	23.0	77.0	11.8	23.0	88.0	13.5	23.0	110.0	16.8	35.0
2500	44	8.4	29.0	55.0	10.5	29.0	77.0	14.7	29.0	88.0	16.8	29.0	110.0	21.0	43.0
3000	44	10.1	19.0	55.0	12.6	29.0	77.0	17.7	29.0	88.0	20.2	41.0	110.0	25.3	41.0
3500	44	11.8	22.0	55.0	14.7	34.0	77.0	20.6	34.0	88.0	23.6	47.0	110.0	29.5	47.0
Model 451	Model 453	Model 455	50% counte	erweight. Co	nsult Imper	ial Electric fo	or 40% and	45% counte	rweighting (data.					

Frame 450 Series 2:1 Roping

FPM		200			250			350			400			500	
CAPACITY	RPM	HP	AMPS	RPM	HP	AMPS	RPM	HP	AMPS	RPM	HP	AMPS	RPM	HP	AMPS
1500	88	5.3	9	110	6.7	14	154	9.4	14	176	10.7	19	221	13.4	19
2500	88	8.9	14	110	11.1	23	154	15.6	23	176	17.8	32	221	22.3	32
3500	88	12.5	20	110	15.6	32	154	21.8	32	176	25	45	221	31.2	45
4500	88	16	28	110	20.1	41	154	28.1	41	176	32.1	57	221	40.1	57
5000	88	17.8	31	110	22.3	46	154	31.2	46	176	35.7	64	221	44.6	64
Model 451	Mode	el 453	50% count	erweight. Co	nsult Imper	ial Electric fo	or 40% and	45% counte	rweighting o	lata.					

SPECIFICATIONS

- 2,000 to 5,000 lbs. capacity, 2:1 roped
- 3,500 lbs. 1:1 roped
- 2,500 lbs. capacity 1:1 roped, with 20 inch sheave for 1/2 ropes
- V-groove, 17 inch or 20 inch sheave diameter
- Up to 8 10 mm ropes or 6 1/2 inch ropes
- Sheave Shaft Load 20,000 lbs.
- Manual brake release available
- 451, 453 8-10 mm
- 455 10-10 mm

FEATURES

- Precise acceleration, deceleration, and contract speed control
- Low noise, highly efficient
- Compact and Green no oil lubricants
- Low speed direct drive (no gears)
- Cooler operation
- Independent brake system holds 125% rated capacity
- Weighs just under 2200 lbs.
- UL/CSA CUS Certified

APPLICATIONS

- New Construction, machine room less (MRL), or modernization geared machine replacement
- 1:1 or 2:1 roped

SPECIFICATIONS

- Range 1,000 lbs. up to 3,500 lbs. car capacity at 400 fpm
- Roped 2:1 for up to 7 10 mm ropes
- Sheave diameter is 15.75 inch-469, 17.32 inch-503
- Sheave shaft load: 8000 lbs-469, 10000 lbs-503
- Machine weight: 1,010 lbs-469, 1090 lbs-503

FEATURES

- Thin Style 12 inch long or deep,
 x 38 inch wide x 36 inch tall
- Precise acceleration, deceleration, and contract speed control
- · Low noise, highly efficient
- Compact and Green no oil lubricants
- Low speed direct drive (no gears)
- Cooler operation
- Independent brake system holds 125% rated capacity
- Weighs just under 1,200 lbs.
- UL/CSA CUS Certified

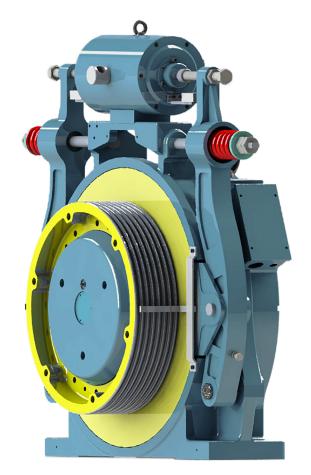
APPLICATIONS

- New Construction, machine room less (MRL), or modernization
- 2:1 roping only

FRAME 460 Series: "Pancake Thin" Style Machine

Single Wrap

Thin style, pancake frame, lighter weight, very powerful - 2:1 roped.



FRAME 460 Series 2:1 duty table

FPM		200			250			350			400	
CAPACITY	RPM	HP	AMPS	RPM	HP	AMPS	RPM	HP	AMPS	RPM	HP	AMPS
2000	86.0	7.1	19.6	108.0	8.9	19.6	151.0	12.5	19.6	173.0	14.3	19.6
2500	86.0	8.9	24.5	108.0	11.1	24.5	151.0	15.6	24.5	173.0	17.8	24.5
3000	86.0	10.7	29.4	108.0	13.4	29.4	151.0	18.7	29.4	173.0	21.4	29.4
3500	86.0	12.5	34.3	108.0	15.6	34.3	151.0	21.8	34.3	173.0	25.0	34.3
Model 469	Mode	el 503	50% counterw	eight. Consult	Imperial Electri	c for 40% and	45% counterw	eighting data.				

FRAME 470 Series: 472, 475, 478

Single Wrap

Frame 470 has the capacity to lift 1,375 to 4,000 lbs. at 100 to 500 fpm with 2:1 roping.



FRAME 470 Series 2:1 duty table

FPM	12	25	2	00	3	00	41	00	50	00
FREQ. (HZ)	10).1	16	5.2	24	1.3	32	2.3	40	0.4
RPM	6	i 1	9	7	14	46	19	94	24	43
CAPACITY	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
2000	4.5	10.0	7.1	10.0	10.7	17.0	14.3	22.0	17.8	22.0
2200	4.9	11.0	7.8	11.0	11.8	18.7	15.7	24.2	19.6	24.2
2500	5.6	11.1	8.9	11.1	13.4	17.8	17.8	27.5	22.3	27.5
2750	6.1	12.2	9.8	12.2	14.7	19.6	19.6	30.2	24.5	30.2
3000	6.7	13.4	10.7	13.4	16.0	21.4	21.4	33.0	26.7	33.0
3500	7.8	17.3	12.5	17.3	18.7	28.0	25.0	41.2	31.2	41.2
4000	8.9	19.8	14.3	19.8	21.4	32.0	28.5	47.0	35.7	47.0
Model 472		Mode	1 475			Mode	1 478			
50% counterweigh	nt. Consu	It Imperia	l Electric	for 40% a	and 45%	counterwe	eighting o	data.		

MODEL 472

- Machine weight: 900 lbs.
- 6.600 lbs. maximum sheave shaft load
- 15.75 inch drive sheave
- 5–10mm undercut U-grooves for single wrap
- 682 ft.-lbs. brake torque per shoe

MODEL 475

- Machine weight: 1,050 lbs.
- 11,000 lbs. maximum sheave shaft load
- 15.75 drive sheave
- 6-10mm undercut U-grooves single wrap
- 734 ft.-lbs. brake torque per shoe

MODEL 478

- Machine weight: 1,350 lbs.
- 11,000 lbs. maximum sheave shaft load
- 15.75 inch drive sheave
- 8-10 mm undercut U-grooves single wrap
- 1,400 ft.-lbs. brake torque per shoe

MODEL 478 WITH 20 INCH SHEAVE

- · Machine weight: 1,400 lbs.
- 12,000 lbs. maximum sheave shaft load
- 5-1/2 inch V-grooves single wrap
- 1,150 ft.-lbs. brake torque per shoe

BENEFITS

- High efficiency
- Reduced power consumption
- Quieter operation
- Smoother start up
- Compact design
- Improved electrical precision at very low speed
- · Nearly maintenance-free

FEATURES

- AC synchronous permanent magnet design
- Machine, traction sheave, brake and encoder provided
- Totally enclosed, self-cooling motor no fan needed
- Electronically activated double-action brake solenoid
- Heavy duty components and construction
- Sub base with secondary sheave options
- UL/CSA CUS Certified
- Re-greasable bearings

MODEL 522

- Machine weight: 2,600 lbs.
- 17,600 lbs. maximum sheave shaft load
- 20 inch drive sheave
- 7-1/2 inch V-grooves single wrap
- 1,868 ft.-lbs. brake torque per shoe
- UL/CSA CUS Certified
- Capacity up to 2200 lbs. 1:1, 4000 lbs. 2:1

MODEL 525

- Machine weight: 3,350 lbs.
- 22,000 lbs. maximum sheave shaft load
- 25 inch drive sheave
- 7-1/2 inch or 6-5/8 inch V-grooves single wrap
- 3,190 ft-lbs. brake torque per shoe
- UL/CSA CUS Certified
- Capacity up to 3500 lbs. 1:1, 6500 lbs. 2:1

MODEL 527

- Machine weight: 3,500 lbs.
- 22,000 lbs. maximum sheave shaft load
- 25 inch drive sheave
- 7-1/2 inch or 6-5/8 inch V-grooves single wrap
- 3,190 ft-lbs. brake torque per shoe
- UL/CSA CUS Certified
- Capacity up to 4500 lbs. 1:1, 8500 lbs. 2:1

FRAME 500 Series: 522, 525, 527

Single Wrap

Frame 500 has the capacity to lift 2,000 to 4,500 lbs. at speeds to 700 fpm with 1:1 roping or 2,200 to 8,000 lbs. at speeds to 700 fpm with 2:1 roping.



Frame 500 Series 1:1 duty table

FPM	20	00	25	50	35	50	41	00	50	00	6	00	70	00
FREQ. (HZ)	5	.1	6	.4	8.	.9	10	1.2	12	2.7	15	i.3	17	7.8
RPM	3	1	3	8	5	3	6	1	7	6	9	2	10	07
CAPACITY	HP	AMPS	HP AMPS		HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
2200	7.4	20	8.4	20	11.8	20	13.5	20	16.8	31	20.2	31	23.6	31
2500	8.4	25	10.5	25	14.7	25	16.8	25	21	39	25.3	39	29.5	39
3000	10.1	30	12.6	30	17.7	30	20.2	30	25.3	47	30.3	47	35.4	47
3500	11.8	35	14.7	35	20.6	35	23.6	35	29.5	55	35.4	55	41.2	55
4000	13.5	44	16.8	44	23.6	44	26.9	44	33.7	71	40.4	71	47.1	71
4500	15.2	50	18.9	50	26.5	50	30.3	50	37.9	80	45.5	80	53	80
Model 522	Model 525	Model 527	50% counte	rweight. Con	sult Imperial	Electric for	40% and 45%	% counterwe	ighting data.					

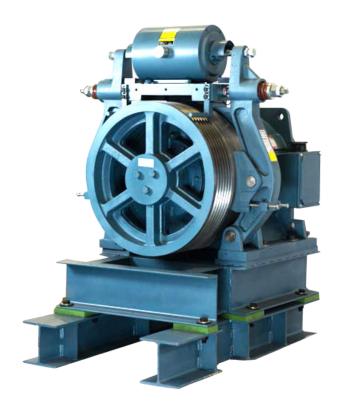
Frame 500 Series 2:1 duty table

FPM	30	00	35	50	40	00	50	00	60	00	70	00
FREQ. (HZ)	19).1	22	2.3	25	i.5	31	.8	38	3.2	44	.6
RPM	1	15	13	34	19	53	19	91	2:	29	26	67
CAPACITY	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
2000	10.7	19.0	12.5	19.0	14.3	19.0	17.8	23.7	21.4	32.3	25.0	32.3
2500	13.4	23.7	15.6	23.7	17.8	23.7	22.3	29.7	26.7	40.3	31.2	40.3
3000	16.0	28.5	15.6 23.7 18.7 28.5		21.4	28.5	26.7	35.6	32.1	48.4	37.4	48.4
4000	18.7	33.2	21.8	33.2	25.0	33.2	31.2	41.5	37.4	56.4	43.7	56.4
4500	24.1	40.1	28.1	40.1	32.1	40.1	40.1	51.5	48.1	70.5	56.1	70.5
5000	26.7	46.8	31.2	46.8	35.7	46.8	44.6	57.1	53.5	80.2	62.4	80.2
5500	29.4	51.5	34.3	51.5	39.2	51.5	49.0	62.8	58.8	88.3	68.6	88.3
6500	34.8	60.8	40.6	60.8	46.3	60.8	57.9	74.2	69.5	104.3	81.1	104.3
Model 522	Model 525	Model 527	50% counterv	veight. Consult	Imperial Electr	ic for 40% and	45% counterv	veighting data.	Consult Imper	ial for higher ra	tings.	

FRAME Low Speed (LS) Series: 478-LS, 522-LS, 525-LS, 527-LS

Single Wrap

Frame LS Series has the capacity to lift 1,000 to 4,500 lbs. at traditional geared speeds from 100 to 450 fpm with 1:1 roping.



MODEL 478-LS

- 1,750 lbs. package weight
- 12.000 lbs. maximum sheave shaft load
- 20 inch drive sheave
- 5-1/2 inch V-grooves single wrap
- 1,111 ft.-lbs. brake torque per shoe
- UL/CSA CUS Certified

MODEL 522-LS

- 2,875 lbs. package weight
- 17,600 lbs. maximum sheave shaft load
- · 20 inch drive sheave
- 7-1/2 inch V-grooves single wrap
- 1,868 ft lbs. brake torque per shoe
- UL/CSA CUS Certified

MODEL 525-LS/527-LS

- 3,830 lbs. (525-LS)/3,980 lbs. (527-LS) package weight
- · 22,000 lbs. maximum sheave shaft load
- 25 inch drive sheave
- 527-LS requires rope brake over 4,000 lbs. capacity
- 7-1/2 inch or 6-5/8 inch V-grooves single wrap
- 3,190 ft.-lbs. brake torque per shoe
- UL/CSA CUS Certified

LS PACKAGE INCLUDES:

- Moto
- Dual Coil Brake Independent brake system holds 125% rated capacity
- Drive Sheave
- Endat Encoder
- · Single Tier Base
- · Blocking beams
- Dynamic Isolation
- Hardware for bolting the machine to the blocking
- Sheave guard
- Rope retainer

FRAME LS Series 1:1 duty table

FPM	10	00	2	00	3	00	40	00	4:	50
CAPACITY	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS	HP	AMPS
1000	1.7	12.2	3.4	12.2	5.9	12.2	6.7	12.2	17.8	22.0
1500	2.5	18.3	5.1	18.3	8.8	18.3	10.1	18.3	17.0	17.0
1800	3.0	20.0	6.1	20.0	10.6	20.0	12.1	20.0	22.3	20.0
2200	3.7	22.0	7.4	22.0	13.0	22.0	14.8	22.0	24.5	22.0
2500	4.2	25.0	8.4	25.0	14.7	25.0	16.8	25.0	18.9	25.0
3000	5.1	30.0	10.1	30.0	17.7	30.0	20.2	30.0	22.7	30.0
3500	5.9	35.0	11.8	35.0	20.6	35.0	23.6	35.0	26.5	35.0
4000	6.7	43.0	13.5	43.0	20.2	43.0	26.9	43.0	30.3	43.0
4500	7.6	48.0	15.2	48.0	22.7	48.0	30.3	48.0	34.1	48.0
Model	478-LS	Model	522-LS	Model	525-LS			Model 527-LS		
50% counterwei	ght. Consult Impe	rial Electric for 40	% and 45% count	erweighting data.						

SPECIFICATIONS

- Capacity: 2,750 lbs. (1:1) or 5,000 lbs. (2:1)
- Speeds ranging from 100 to 800 fpm
 1:1 roping
- Speeds ranging from 100 to 700 fpm 2:1 roping
- U-groove, 20 inch drive sheave
- 12, 1/2 inch grooves for up to 6, 1/2 inch ropes, double wrap

FEATURES

- Precise acceleration, deceleration, and contract speed control
- · Low noise, highly efficient
- Compact and Green no oil lubricants
- Direct drive (no gears)
- Totally enclosed, self-cooling, no fan required
- Independent brake system holds 125% rated capacity
- Complete hardware package eliminates on-site engineering calculation and fabrication of heavy base and beam structures
- Sub-base with secondary sheave options
- Machine weight: 3,000 lbs.
- Heidenhain ECN1313, 2048 ppr encoder provided
- UL/CSA CUS Certified

APPLICATIONS

- Modernization and new construction
- 1:1 and 2:1 roped installations, double wrap
- Sheave shaft load in 40,000 lbs
- Suspended load is 20,000 lbs double wrap

FRAME 500 Series: 570-OB

Double Wrap

Imperial Electric Frame 570 machines feature an extended chassis and a heavy duty outboard bearing support to easily accommodate the special load characteristics required for double-wrap roping configurations. With a maximum sheave shaft load of up to 40,000 lbs., power ratings to 55HP, and dual-coil, independent brakes applying Ft-lbs brake torque per side, these machines offer 2,750 lbs. capacity roped 1:1 or 5,000 lbs. capacity roped 2:1 with maximum speeds of 800 and 700 fpm respectively.



Contact Imperial Electric - single wrap is available

FRAME 570-OB Series 1:1 duty table

FPM		300			400			500			600			700			800	
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS
2000	10.1	56.0	23.0	13.5	75.0	23.0	16.8	93.0	23.0	20.2	112.0	36.0	23.6	131.0	36.0	26.9	149.0	36.0
2500	12.6	56.0	29.0	16.8	75.0	29.0	21.0	93.0	29.0	25.3	112.0	45.0	29.5	131.0	45.0	33.7	149.0	45.0
2750	13.9	56.0	31.0	18.5	75.0	31.0	23.1	93.0	31.0	27.8	112.0	49.0	32.4	131.0	49.0	37.0	149.0	49.0
Mode	1 570-0B		50% cour	nterweight	t. Consult	Imperial E	lectric for	40% and	45% coun	terweighti	ng data.							

FRAME 570-OB Series 2:1 duty table

FPM		300			350			400			500			600			700	
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS
3000	16.0	112.0	34.0	18.7	131.0	34.0	21.4	149.0	34.0	26.7	187.0	34.0	32.1	224.0	55.5	37.4	261.0	55.5
3500	18.7	112.0	39.7	21.8	131.0	39.7	25.0	149.0	39.7	31.2	187.0	39.7	37.4	224.0	64.8	43.7	261.0	64.8
4500	24.1	112.0	51.0	28.1	131.0	51.0	32.1	149.0	51.0	40.1	187.0	51.0	48.1	224.0	83.3	56.1	261.0	83.3
5000	26.7	112.0	56.7	31.2	131.0	56.7	35.7	149.0	56.7	44.6	187.0	56.7	53.5	261.0	92.6	62.4	261.0	92.6
Mode	I 570-0B	,	50% cour	nterweight	t. Consult	Imperial E	lectric for	40% and	45% coun	terweighti	ng data.							,

FRAME 700 Series: 705-OB

Double Wrap

Imperial Electric Frame 700 machines feature an extended chassis and a heavy duty outboard bearing support to easily accommodate the special load characteristics required for double-wrap roping configurations. With a maximum sheave shaft load of up to 45,000 lbs., power ratings to 115HP, and dual-coil, independent brakes applying 6000 N-m torque per side, these machines offer up to 5,000 lbs. capacity roped 1:1 or 9,000 lbs. capacity roped 2:1 with maximum speeds of 1400 and 700 fpm respectively.



SPECIFICATIONS

- Capacity: 5,000 lbs., 1:1 or 9,000 lbs. 2:1
- Speeds ranging from 100 to 1400 FPM
- U-groove, 25 inch drive sheave
- 12-5/8 inch grooves for up to 6-5/8 inch ropes, double wrap

FEATURES

- Precise acceleration, deceleration, and contract speed control
- · Low noise, highly efficient
- Compact and Green no oil lubricants
- Direct drive (no gears)
- Totally enclosed, self-cooling, no fan required
- Independent brake system holds 125% rated capacity
- Complete hardware package eliminates on-site engineering calculation and fabrication of heavy base and beam structures
- Sub-base with secondary sheave options
- Machine weight: 5,780 lbs.
- Heidenhain ECN1313, 2048 ppr encoder provided
- UL/CSA CUS Certified

APPLICATIONS

- Modernization and new construction
- 1:1 and 2:1 roped installations, double-wrap
- High rise or heavy load
- Disassembly options available
- Overhead basement and sidepull applications

FRAME 705-OB Series 1:1 duty table

FPM		700			800			900			1000			1200			1400	
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS
3500	41.2	107.0	58.0	47.1	122.2	82.0	53.0	137.5	82.0	58.9	152.8	82.0	70.7	183.3	117.0	82.5	213.9	117.0
4000	47.1	107.0	66.0	53.9	122.2	94.0	60.6	137.5	94.0	67.3	152.8	94.0	80.8	183.3	133.0	94.3	213.9	133.0
4500	53.0	107.0	75.0	60.6	122.2	106.0	68.2	137.5	106.0	75.8	152.8	106.0	90.9	183.3	150.0	106.1	213.9	150.0
5000	58.9	107.0	83.0	67.3	122.2	118.0	75.8	137.5	118.0	84.2	152.8	118.0	101.0	183.3	167.0	117.8	213.9	167.0
Mode	1 705-0B		50% cou	nterweight	t. Consult	Imperial E	lectric for	40% and	45% coun	terweighti	ing data.							

FRAME 705-OB Series 2:1 duty table

FPM		400			500			600			700	
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS
5000	35.7	122.2	62.0	44.6	152.8	62.0	53.5	183.3	88.0	62.4	213.9	88.0
5500	39.2	122.2	69.0	49.0	152.8	69.0	58.8	183.3	97.0	68.6	213.9	97.0
6000	42.8	122.2	75.0	53.5	152.8	75.0	64.2	183.3	106.0	74.9	213.9	106.0
6500	46.3	122.2	81.0	57.9	152.8	81.0	69.5	183.3	115.0	81.1	213.9	115.0
7000	49.9	122.2	87.0	62.4	152.8	87.0	74.9	183.3	124.0	87.3	213.9	124.0
7500	53.5	122.2	93.0	66.8	152.8	93.0	80.2	183.3	132.0	93.6	213.9	132.0
8000	57.0	122.2	100.0	71.3	152.8	100.0	85.6	183.3	141.0	99.8	213.9	141.0
ı	/lodel 705-0B		50% counterw	eight. Consult	Imperial Electri	c for 40% and	45% counterwe	eighting data.				

SPECIFICATIONS

- 66,000 lbs. sheave shaft load
- 1:1 or 2:1 roping
- U-groove for double wrap traction
- Up to 5/8 or 1/2 inch rope diameter
- 1,600 fpm (8 m/s) for up to 5,350 lbs.
 (2,430 kg) car capacity for 1:1 roped applications
- 800 foot per minute (4 m/s) for up to 10,000 lbs. (4,550 kg) car capacity for 2:1 roped applications
- 26.5 inch drive sheave
- Machine weight: 6,800 lbs.

FEATURES

- Precise acceleration, deceleration, and contract speed control
- Low noise
- Highly efficient
- Green no oil lubricants
- Direct drive DC gearless replacement
- Cooler operation
- Dual, independent brakes eliminate external rope brake (each brake set will hold 125% of rated capacity)
- UL/CSA CUS Certified
- Heidenhain ECN 1313 encoder

APPLICATIONS

- Modernization and new construction
- 1:1 or 2:1 roped installations
- · High rise or heavy load
- Disassembly options available
- Overhead basement and sidepull applications

FRAME 800 Series: 808-0B

Double Wrap

Frame 800 has the capacity to lift 2,000 to 5,350 lbs. at speeds to 1,600 fpm with 1:1 roping or 3,000 to 10,000 lbs. at speeds to 800 fpm with 2:1 roping.



FRAME 800 Series 1:1 duty table

FPM		700			800			900			1000			1200			1400			1600	
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS									
3000	35.4	100.9	43	40.4	115.3	87	45.5	129.7	87	50.5	144.1	87	60.6	173	87	70.7	201.8	108	80.8	230.6	108
3500	41.2	100.9	51	47.1	115.3	101	53	129.7	101	58.9	144.1	101	70.7	173	101	82.5	201.8	127	94.3	230.6	127
4000	47.1	100.9	58	53.9	115.3	116	60.6	129.7	116	67.3	144.1	116	80.8	173	116	94.3	201.8	145	107.7	230.6	145
4500	53	100.9	65	60.6	115.3	130	68.2	129.7	130	75.8	144.1	130	90.9	173	130	106.1	201.8	163	121.2	230.6	163
5000	58.9	100.9	72	67.3	115.3	145	75.8	129.7	145	84.2	144.1	145	101	173	145	117.8	201.8	181	134.7	230.6	181
5350	63	100.9	77	72.1	115.3	155	81.1	129.7	155	90.1	144.1	155	108.1	173	155	126.1	201.8	193	144.1	230.6	193
Model 808-0B 50% Counterweight. Consult Imperial Electric for lower capacity ratings.																					

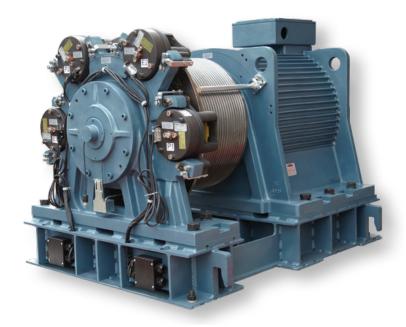
FRAME 800 Series 2:1 duty table

FPM	400		500			600			700			800			
CAPACITY	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS	HP	RPM	AMPS
7000	49.9	115.3	107	62.4	144.1	107	74.9	173	107	87.3	201.8	134	99.8	230.6	134
7500	53.5	115.3	115	66.8	144.1	115	80.2	173	115	93.6	201.8	144	107	230.6	144
8000	57	115.3	122	71.3	144.1	122	85.6	173	122	99.8	201.8	153	114.1	230.6	153
8500	60.6	115.3	130	75.8	144.1	130	90.9	173	130	106.1	201.8	163	121.2	230.6	163
9000	64.2	115.3	138	80.2	144.1	138	96.3	173	138	112.3	201.8	172	128.3	230.6	172
9500	67.7	115.3	145	84.7	144.1	145	101.6	173	145	118.5	201.8	182	135.5	230.6	182
10000	71.3	115.3	153	89.1	144.1	153	107	173	153	124.8	201.8	191	142.6	230.6	191
Model 808-OB 50% Counterweight. Consult Imperial Electric for lower capacity ratings.															

FRAME 900 Series: 908-OB

Double Wrap

Frame 900 ACPM Gearless Machines - model 908. Speeds up to 2000 foot per minute (10 m/s) for up to 8,000 lbs. car capacity for 1:1 roped applications and 1000 foot per minute (5 m/s) for up to 16,000 lbs. car capacity for 2:1 roped applications.



SPECIFICATIONS

- 120,000 lbs. sheave shaft load, 60,000 lbs. suspended load
- 1:1 or 2:1 roping
- U-groove for double wrap traction
- Up to 3/4 inch rope diameter
- 2000 fpm (10 m/s) for up to 8,000 lbs.
 (3,636 kg) car capacity for 1:1 roped applications
- 1000 fpm (5 m/s) for up to 16,000 lbs.
 (7,272 kg) car capacity for 2:1 roped applications
- 30 inch drive sheave
- · Machine weight: 14,200 lbs.

FEATURES

- Precise acceleration, deceleration, and contract speed control
- Low noise
- · Highly efficient
- Green no oil lubricants
- Direct drive DC gearless replacement
- Cooler operation
- Dual, independent brakes eliminate external rope brake (each brake set will hold 125% of rated capacity), 2 caliper set for primary brake and 2 caliper set for emergency brake, 4 calipers total
- UL/CSA CUS Certified

APPLICATIONS

- Modernization and new construction
- 1:1 or 2:1 roped installations
- · High rise or heavy load
- Overhead, Basement and Sidepull Applications

^{*} Consult Imperial Electric for duty ratings

SPECIFICATIONS

- 50,000 lbs. sheave shaft load, 25,000 lbs. suspended load
- 1:1 or 2:1 roping
- U-groove for double wrap traction or V-groove for single wrap traction
- Up to 3/4 inch rope diameter
- 1000 fpm (5 m/s) for up to 4,500 lbs.
 (2,036 kg) car capacity for 1:1 roped applications
- 500 fpm (2.5 m/s) for up to 8,500 lbs.
 (3,864 kg) car capacity for 2:1 roped applications
- 26, 30 and 33 inch drive sheave

FEATURES

- Precise acceleration, deceleration, and contract speed control
- Low noise
- · Highly efficient
- Green no oil lubricants
- Direct drive DC gearless replacement
- Cooler operation
- UL/CSA CUS Certified

APPLICATIONS

- Modernization
- 1:1 or 2:1 roped installations
- · High rise or heavy load
- Overhead, Basement and Sidepull Applications

FRAME 590 Series: 591, 593, 596, 598

Single or Double Wrap

Quiet operation, heavy duty construction, and extreme reliability have confirmed the Imperial Electric Gearless DC Machines to be a favorite in the industry. Models available: 591, 593, 596, and 598.



Typical Rating Requir	Sheave Data			
ROPING	2:1	1:1	DIAMETER	WK ²
Counter Weight (%)	40	40	(In) 26	(Lb-Ft²) 762
Acceleration Rate (Ft/s²)	4	4	30	1,012
, , ,			33	1,332
Live Loads (Lb)	2,000 to 8,500	2,000 to 4,500	- 55	1,002
Speeds (F.P.M.)	400 to 700	500 to 1,000		
Total Suspended Weight (Lb)	15,400 to 32,000	15,400 to 19,000		

Frame 590 Series Basic Ratings

IMPERIAL FRAME SIZE	RATED TORQUE (FT-LB)	WK ² ARMATURE & 26 INCH SHEAVE (LB-FT ²)	ARMATURE VOLTS PER RPM (V/RPM)	ARMATURE AMPS (A)	ARMATURE RESISTANCE HOT (Ω)	ARMATURE CIRCUIT INDUCTANCE (ひ-3)	FIELD VOLTAGE (V)	FIELD AMPS (A)	FIELD RESISTANCE (Ω)	L/R FIELD TIME CONSTANT (S)	TOTAL WEIGHT (LBS.)
591	1,725	1,149	1.346	180	0.117	7.17	195	8.35	23.41	0.94	6,579
593	2,300	1,232	1.790	180	0.132	9.56	183	10.50	17.40	1.08	7,467
596	2,875	1,315	2.236	180	0.138	11.79	195	11.00	17.73	1.16	8,358
598	3,250	1,438	2.915	180	0.146	15.53	198	13.20	15.02	1.29	9,759

MODELS TM21, TM26 AND TM35

Single Wrap

The streamlined design of the TM Series allows significant weight reduction without sacrificing durability or frame rigidity. The TM Series slow shaft uses tapered roller bearings that require no periodic grease lubrication, assuring reliable performance over time without the risk of efficiency loss or failure that can occur on other machines when bearing lubrication is overlooked. The TM Series worm shaft, using the recommended geared machine oil, employs a unique design that protects the shaft. The TM Series traction sheave is fitted with shrink-fit sheaves.



APPLICATIONS

- Modernization and new construction
- · Overhead machine room
- 2000 lbs. (900kg) to 6000 lbs. (2700kg) capacity at speeds from 100 to 400 fpm (0.5 to 2.0 m/s)
- TM35 can handle higher load in some cases, contact our office

BENEFITS

- Three machine family for optimum match to speed and capacity
- Compact design and reduced weight make handling and installation easier
- Machine sleeve bushings and tapered roller bearings require no periodic lubrication
- Flexible style coupling minimizes vibration and enables fast motor alignment
- Designed for maintainability
- Rope guard included with every machine

FEATURES

- ASME A17.1/CSA-B44, EN81-1
- Oil bath worm gear unit, high strength cast iron case
- Alloy steel worm, case hardened, stress relieved, with anti-wear bronze bushings
- Tough nickel based, bronze worm wheel for extended durability
- Alloy steel worm wheel shaft, case hardened, tempered
- High-strength grade, ductile iron sheave
- Electrically released, independently acting brakes
- · Motor is UL/CSA CUS Certified

Geared Traction Machines Performance Comparisons

	TM21	TM26	TM35
CAPACITY (LBS)	2500	4500	6000
SPEED (FPM)	400	400	350
WIDTH (IN.)	30	31 3/4	36
WEIGHT (LBS.) W/O MOTOR	1550	2380	3000

Machine Components and Accessories

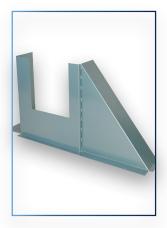
Gearless



Sub-Base/ Sub-Structure/ Up-Stand



Deflector/ Secondary Sheave



Sheave Guard



Absolute taper shaft encoder for frame 400 and 500 series gearless AC machines



Dead-End Hitch Plate



Rope Guard/ Rope Retainer



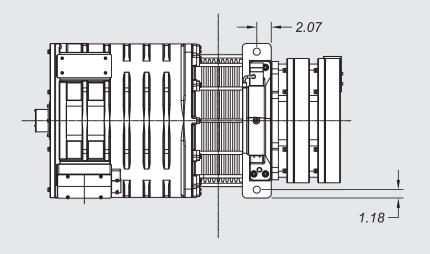
Isolation Pads



Threaded Mounting Plate

Frame 450 series dimensional diagrams

Model 450 - Barrel Style

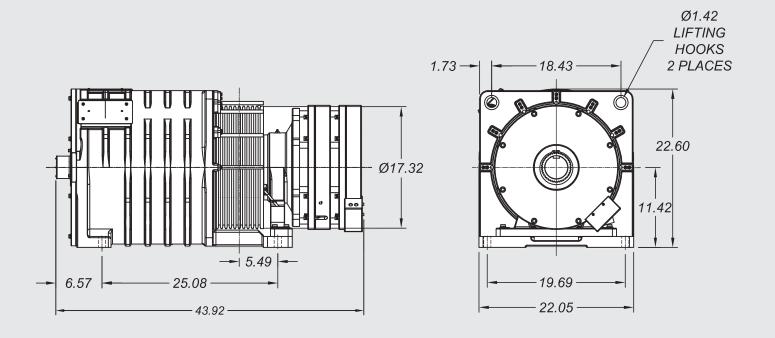


Model 455

NOTE:

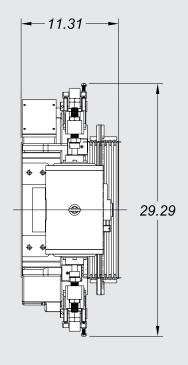
FRAME: 455

DRIVE SHEAVE: Ø17.32" WITH (8)-10mm GROOVES MOTOR WEIGHT: 2100 LBS



Frame 460 series dimensional diagrams

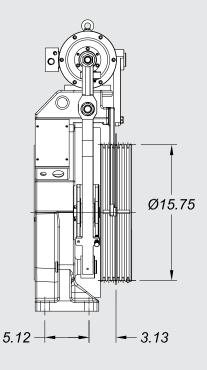
Model 469 - Pancake Thin

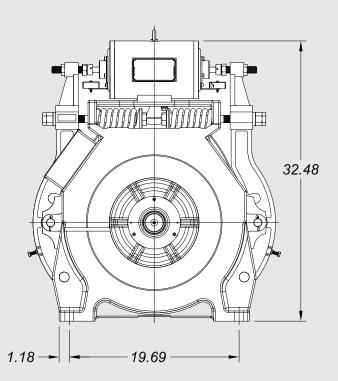


NOTE:

FRAME: 469
DRIVE SHEAVE: 15.75" WITH
(6)-10mm GROOVES

MOTOR WEIGHT: 1010 LBS

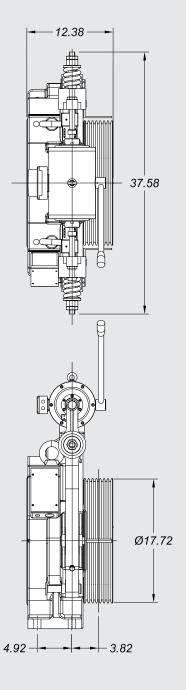




Frame 460 series dimensional diagrams

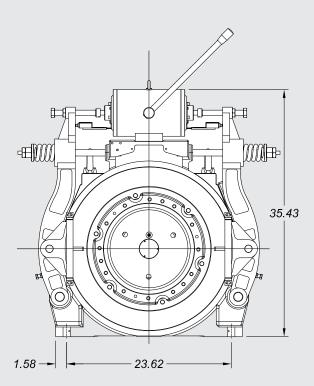
Model 503 - Pancake Thin

Model 503



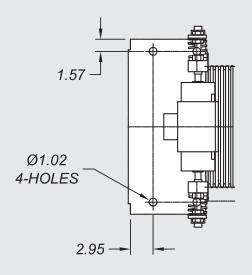
NOTE:

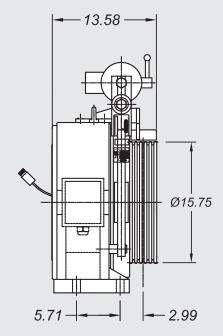
FRAME: 503
DRIVE SHEAVE: 17.72" WITH
(7)-10mm GROOVES
MOTOR WEIGHT: 1090 LBS



Frame 470 series dimensional diagrams

Model 472





Model 472

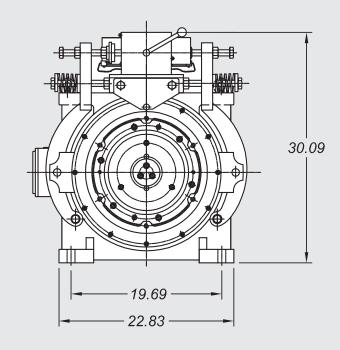
NOTE:

FRAME: 472

DRIVE SHEAVE:15.75" WITH

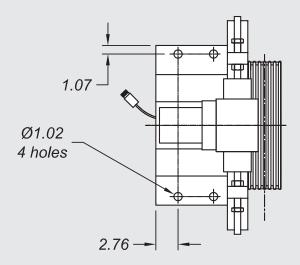
(5)-10mm GROOVES

MOTOR WEIGHT: 904 LBS



Frame 470 series dimensional diagrams

Model 475



Model 475

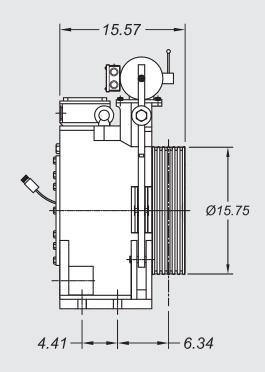
NOTE:

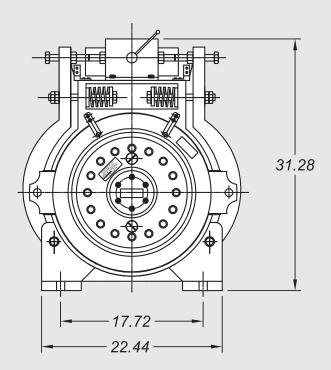
FRAME: 475

DRIVE SHEAVE:15.75" WITH

(6)-10mm GROOVES

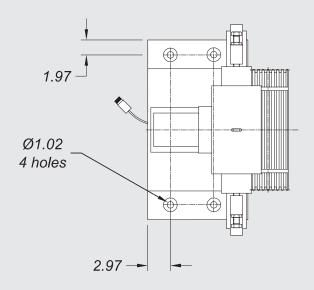
MOTOR WEIGHT: 948 LBS





Frame 470 series dimensional diagrams

Model 478



Model 478

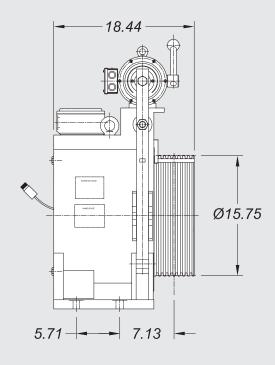
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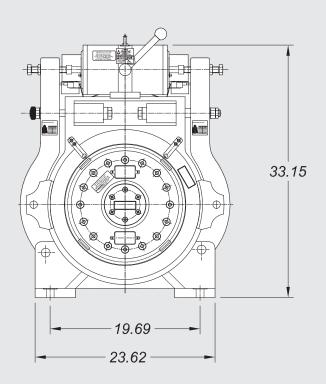
FRAME: 478

DRIVE SHEAVE:15.75" WITH

(8)- 10mm " GROOVES

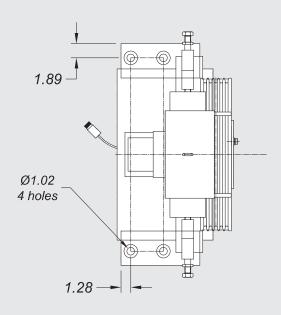
MOTOR WEIGHT: 1367 LBS





Frame LS series dimensional diagrams

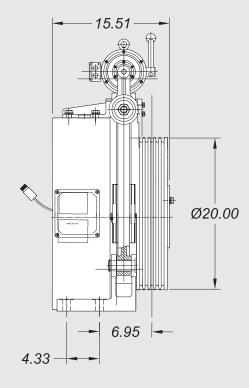
Model 478-LS

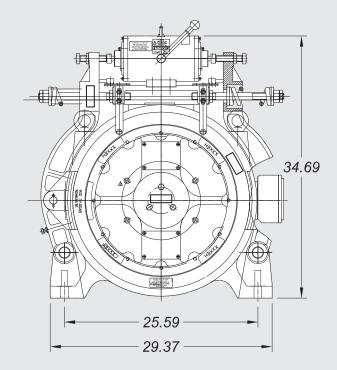


Model 478LS

NOTE:

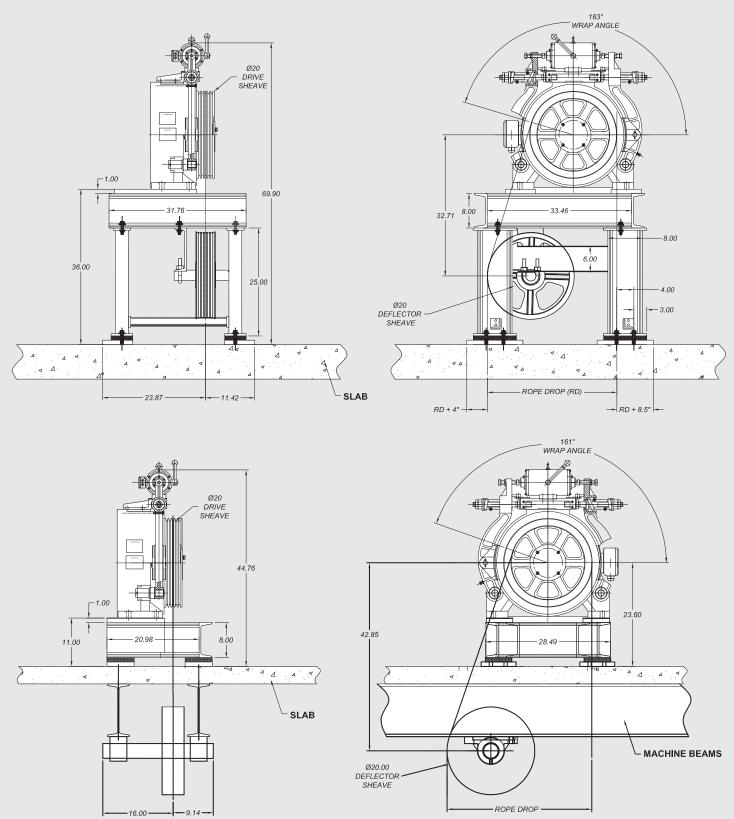
FRAME: 478LS DRIVE SHEAVE:20" WITH (5)-1/2" GROOVES MOTOR WEIGHT: 1367 LBS





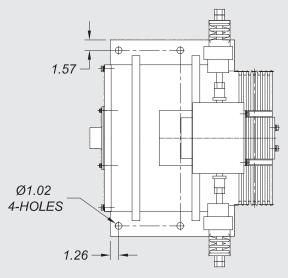
Frame LS series dimensional diagrams

Model 478-LS with base



Frame 500 series dimensional diagrams

Model 522



Model 522/522LS

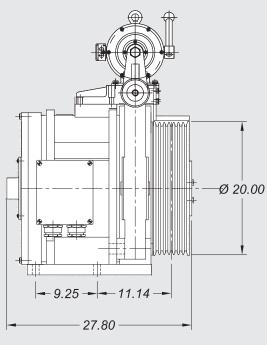
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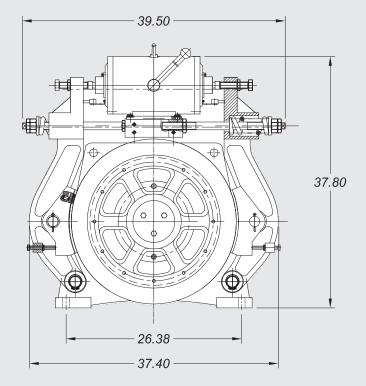
FRAME: 522/522LS

DRIVE SHEAVE: 20" WITH

(7) $-\frac{1}{2}$ " V GROOVES

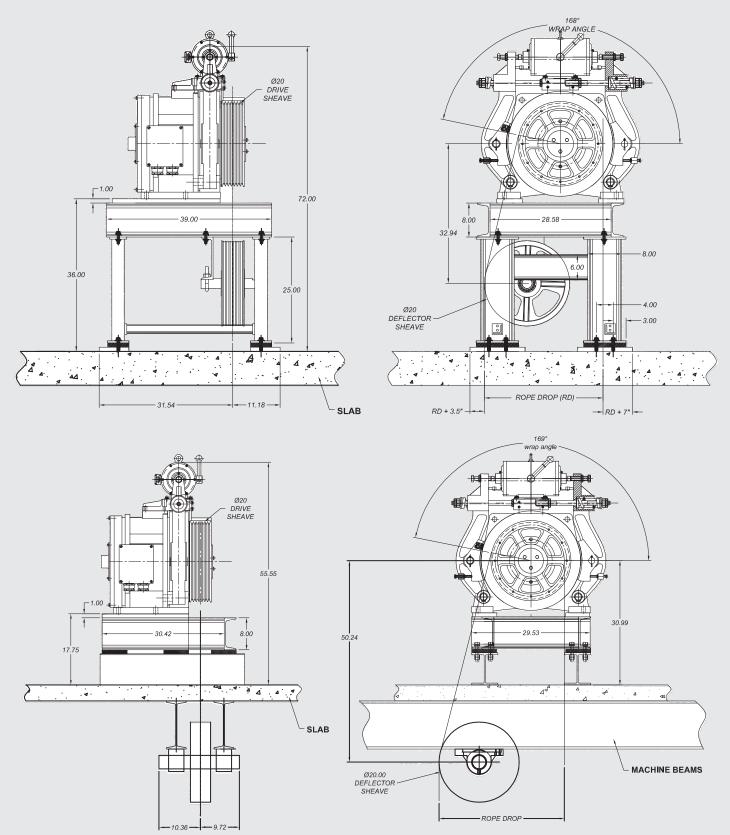
MOTOR WEIGHT: 2469 LBS





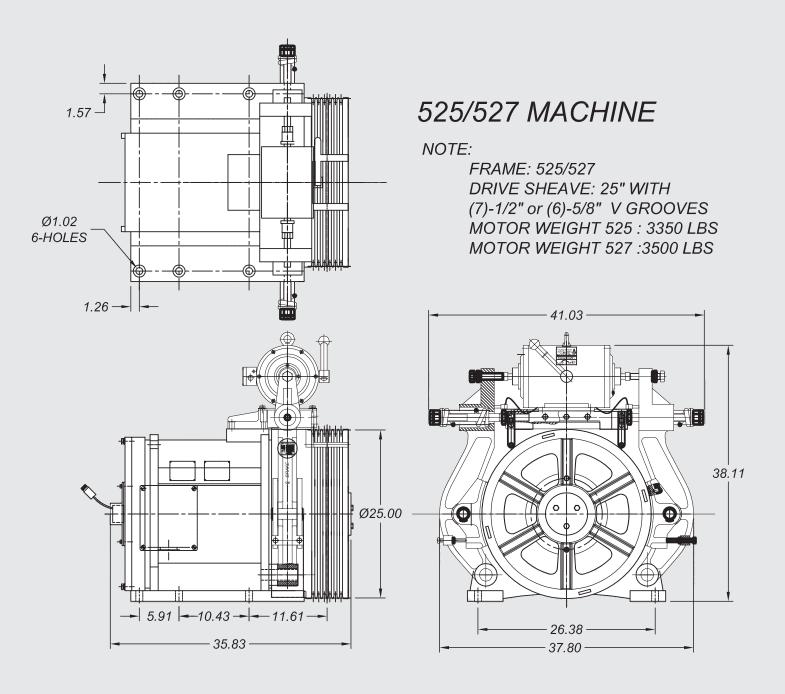
Frame 500 series dimensional diagrams

Model 522 with base



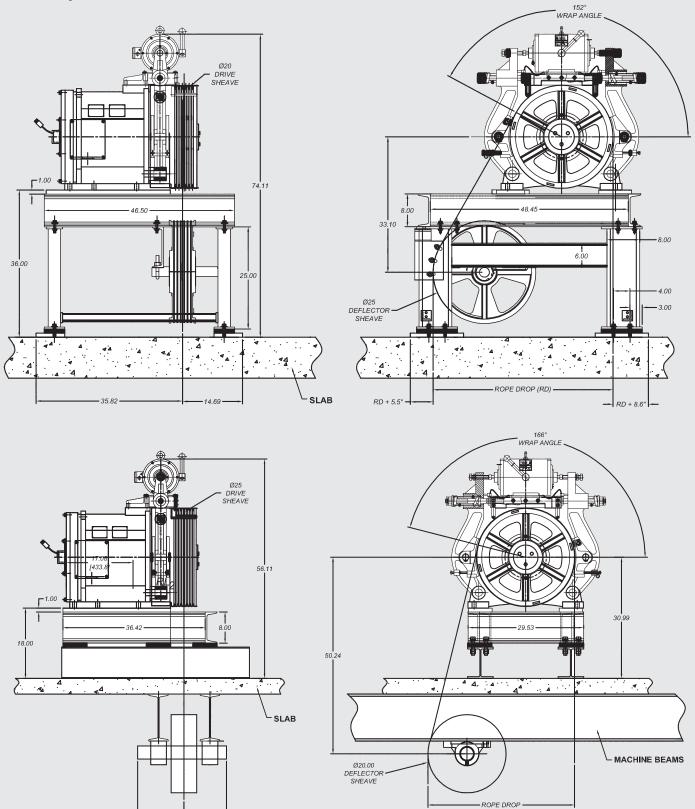
Frame 500 series dimensional diagrams

Model 525/527



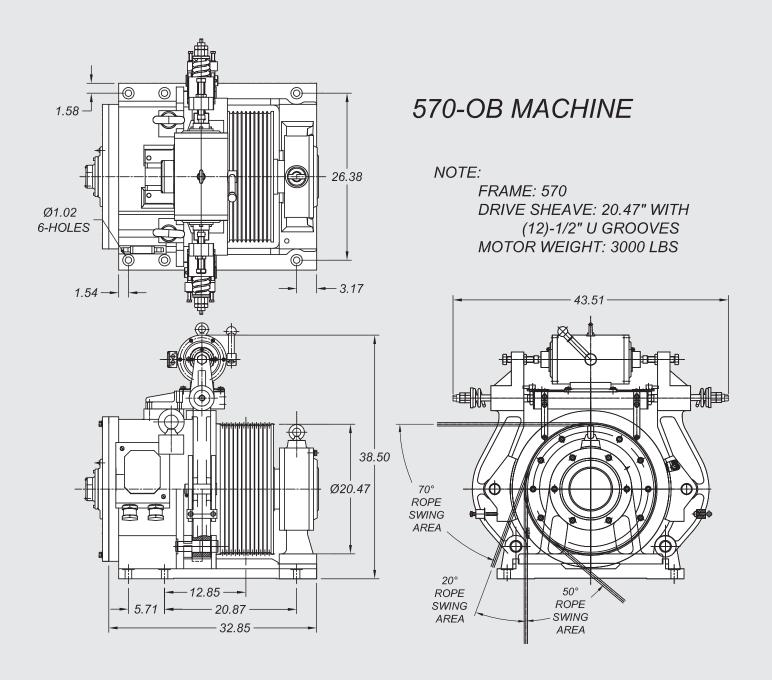
Frame 500 series dimensional diagrams

Model 525/527 with base



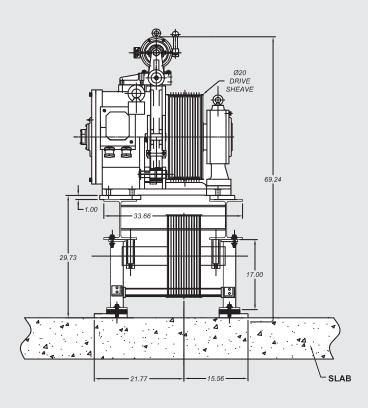
Frame 500 series dimensional diagrams

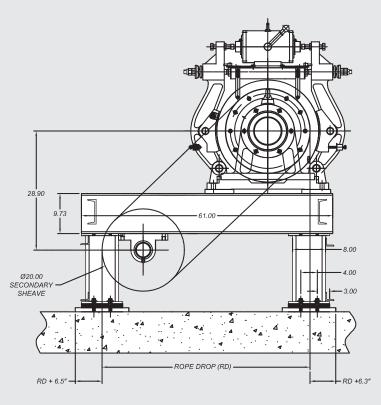
Model 570-OB

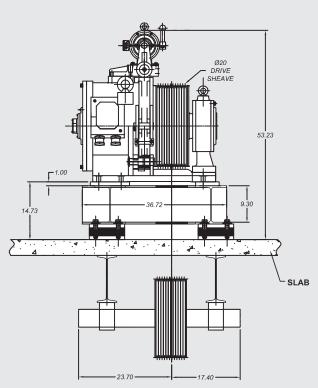


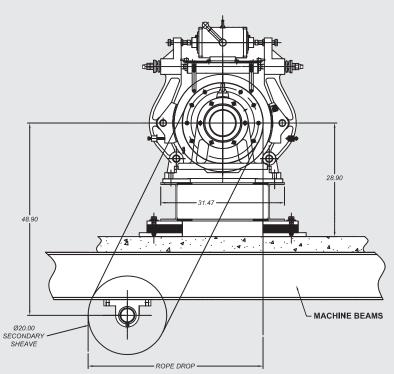
Frame 500 series dimensional diagrams

Model 570-OB with base



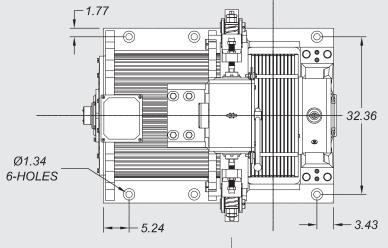






Frame 700 series dimensional diagrams

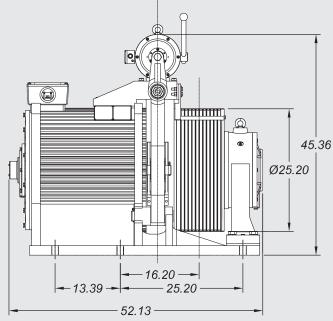
Model 705-OB

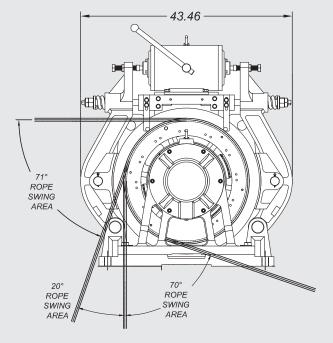


705- OB MACHINE

NOTE:

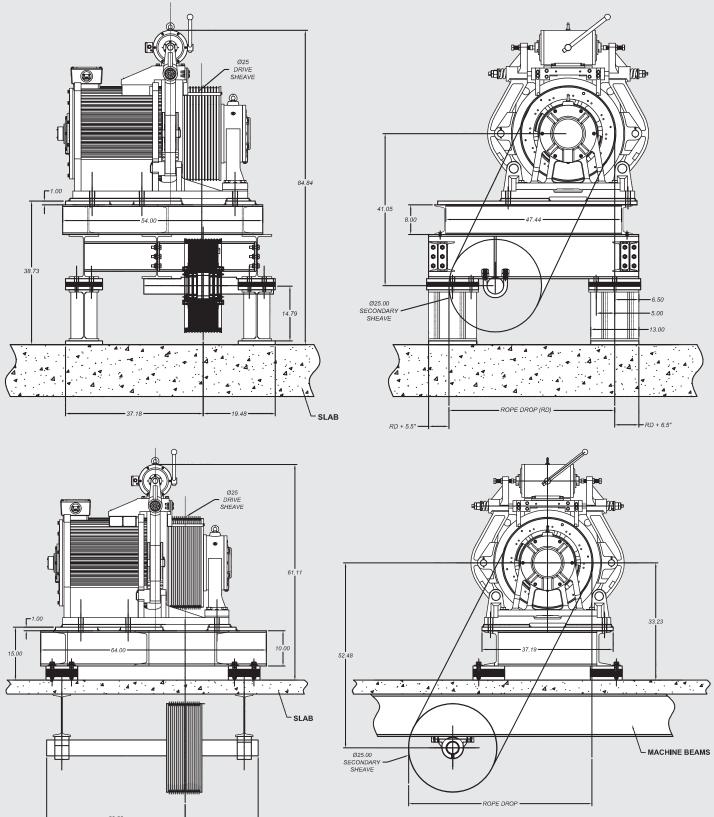
FRAME: 705 OB DRIVE SHEAVE:25.20" WITH (14)-1/2" or(12)-5/8" U GROOVES MOTOR WEIGHT: 5780 LBS





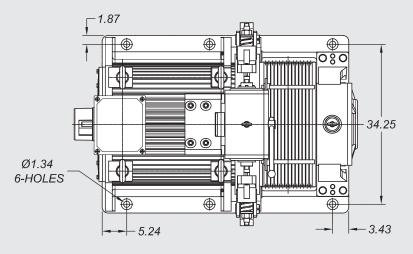
Frame 700 series dimensional diagrams

Model 705-OB with base



Frame 800 series dimensional diagrams

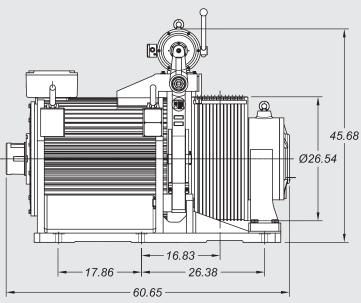
Model 808-OB

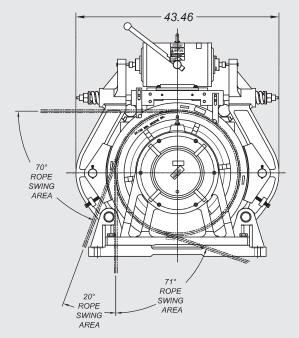


808 OB MACHINE

NOTE:

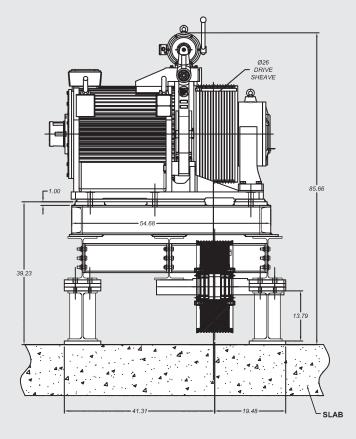
FRAME: 808 OB DRIVE SHEAVE: Ø 26.54" WITH (16)-1/2" or (14)-5/8" U GROOVES MOTOR WEIGHT: 6750 LBS

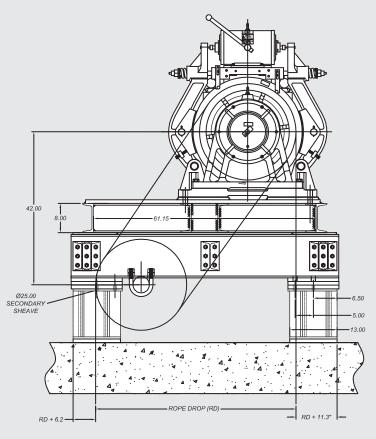


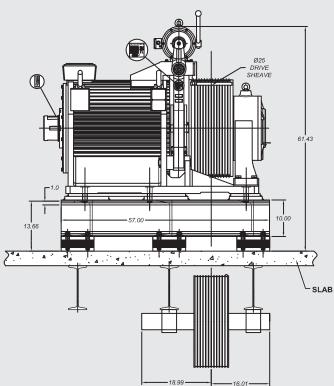


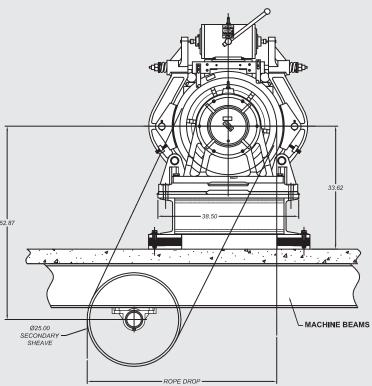
Frame 800 series dimensional diagrams

Model 808-OB with base



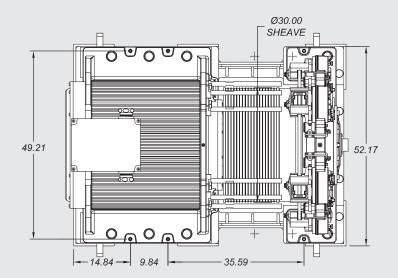






Frame 900 series dimensional diagrams

Model 908-OB

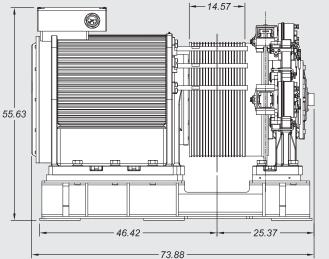


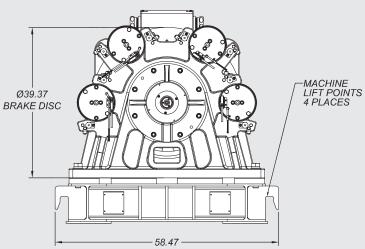
908 OB MACHINE

NOTE:

FRAME: 908 OB

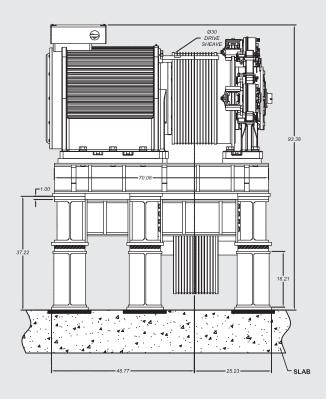
DRIVE SHEAVE: Ø30.0" WITH (14)-3/4" or (18)-5/8" U GROOVES MOTOR WEIGHT: 14,200 LBS

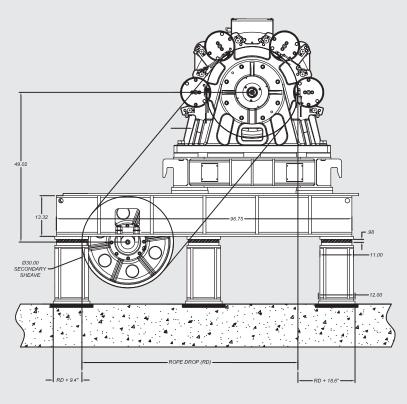


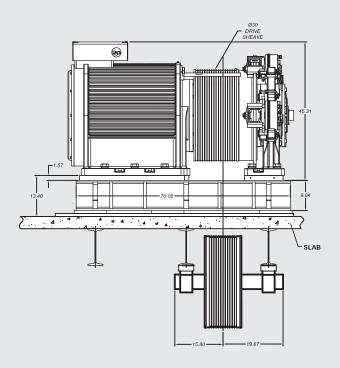


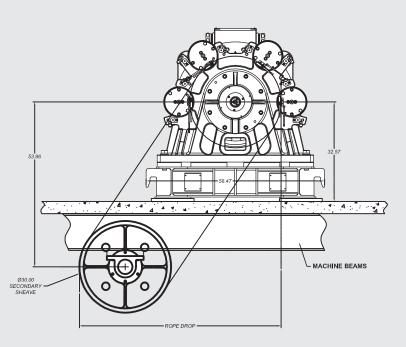
Frame 900 series dimensional diagrams

Model 908-OB with base





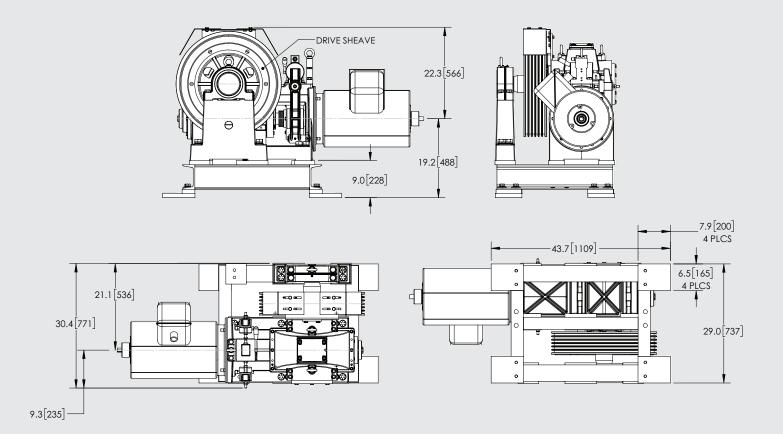




Geared Machines

TM series dimensional diagrams

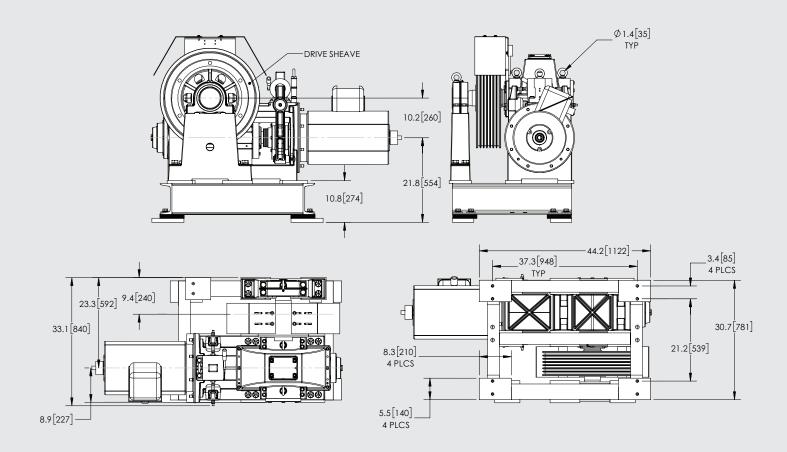
TM21



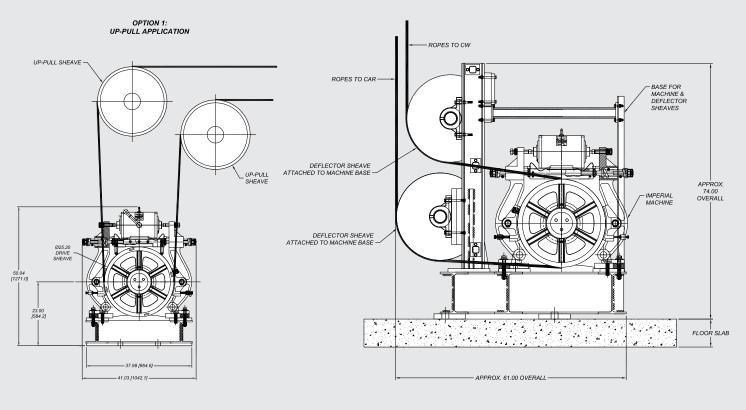
Geared Machines

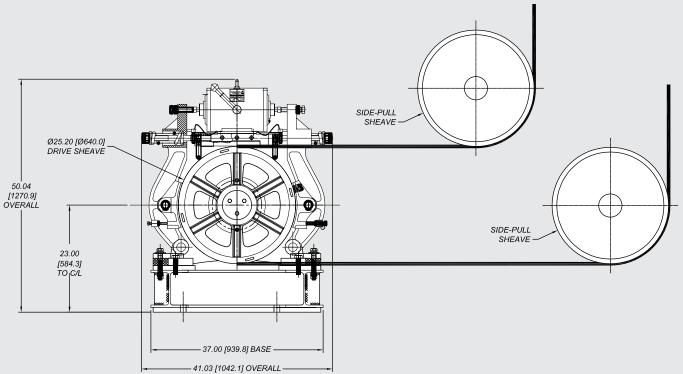
TM series dimensional diagrams

TM26



Gearless Machines Applications Dimensional diagrams





OPTION 2: SIDE-PULL APPLICATION

WARRANTY POLICY

The Company warrants that the products manufactured by the Company will be free from defects in material and workmanship for a period of twelve (12) months from the date of manufacture of the affected product. THE FOREGOING ARE THE SOLE AND EXCLUSIVE WARRANTIES GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCTS AND ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHETHER OR NOT THE PURPOSE OR USE HAS BEEN DISCLOSED TO THE COMPANY, AND WHETHER OR NOT THE PRODUCTS ARE SPECIFICALLY DESIGNED AND/OR MANUFACTURED BY THE COMPANY FOR BUYER'S USE OR PURPOSE.

The foregoing warranties do not extend to any losses or damages due to misuse, accident, abuse, neglect, normal wear and tear, negligence (other than the Company's), unauthorized modification or alteration, improper installation, repair, handling, maintenance or application or any other cause not the fault of the Company.

Warranties are contingent upon inspection proving the claims and the Buyer providing to the Company immediate written notice of such defects. The Company shall, at its option and as Buyer's exclusive remedy, repair, correct or replace the products found by the Company to be defective. The correction of such defects by repair or replacement shall constitute the complete fulfillment of all Company obligations to the Buyer under the warranties provided above.

Buyer assumes all other responsibility and liability for any loss, damage, or injury to persons or property arising out of, connected with, or resulting from the use of the products, either alone or in combination with other products/components. The Company neither assumes nor authorizes any person to assume for it any other liability in connection with the sale or use of the products sold hereunder, and there are no oral agreements or warranties collateral to or affecting this agreement.

THE COMPANY SHALL NOT BE LIABLE FOR DAMAGES CAUSED BY DELAY IN PERFORMANCE. IN NO EVENT, REGARDLESS OF THE FORM OF THE CLAIM OR CAUSE OF ACTION (WHETHER BASED IN CONTRACT, INFRINGEMENT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE), SHALL THE COMPANY'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXCEED THE PRICE PAID BY BUYER FOR THE SPECIFIC PRODUCTS PROVIDED BY THE COMPANY GIVING RISE TO THE CLAIM OR CAUSE OF ACTION. BUYER AGREES THAT IN NO EVENT SHALL THE COMPANY'S LIABILITY TO BUYER AND/OR ITS CUSTOMERS EXTEND TO INCLUDE INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES. The term "consequential damages" shall include, but not be limited to, loss of anticipated profits, business interruption, loss of use, revenue, reputation and data, costs incurred, including without limitation, for capital, fuel, power and loss or damage to property or equipment.

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NOTE: The technical information in this product catalog has been reviewed and approved by Imperial Electric technical and engineering staff. Performance data and dimensions are for reference only and are subject to change. It is the responsibility of the purchaser to ensure that the specific data for the product they are purchasing is properly confirmed for their specific application. This analysis should be performed only by individuals with appropriate technical expertise related to elevator machines and motors. Contact Imperial Electric directly for certified data. Imperial Electric is not responsible for providing financial remedy for products that were incorrectly specified by the purchaser.





IMPERIAL ELECTRIC ELEVATOR

With over 100 years of experience, Imperial Electric Elevator continues to provide the best quality of services to keep our customers satisfied. With this, we offer a broad collection of elevator motor and machine supplies with full line of Gearless and Geared Traction Machines, AC and DC Elevator Motors, Hydraulic Submersible and Dry (under the tank) Motors, Motor Generator Sets, Door Operator Motors, Custom and Universal Machine Bases, car slings and platforms.

In addition to our services, we persevere to exceed expectations, with recently completing a multi-million dollar modernization and accumulation of automated equipment for winding, machining, and plant streamlining. At the same time, our motor and machine stock is maintained for fast and timely delivery to meet customer needs.



As part of Nidec Corporation, Imperial Electric Elevator is based in the heart of America with our offices and modernized factory centrally located in Ohio—in Akron and Middleport respectively.

NIDEC ELEVATOR

Nidec Elevator provides flexible quality products and services, outstanding engineering capabilities, and a definite assurance to security and wellbeing of customers. Considered as a highly-qualified elevator manufacturer in the industry, Nidec Elevator continues to deliver top-notch products, most of which are currently installed in different iconic structures in the world such as airports, public buildings, residential, industrial and many more.

Nidec Elevator is a part of Nidec America, Appliance, Commercial and Industrial Motor (ACIM Group).

Major company partners include:

- Motion Control Engineering (MCE), manufacturer of Controllers
- 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.

With 240 companies in 45 countries worldwide, Nidec also offers a culture of excellence and definite international career opportunities to over 120,000 employees, with the goal of helping our counterparts in achieving exceptional business' strategic initiatives.



o Imperial Electric

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APPLES TO APPLES APPLES TO ORANGES

IMPERIAL ELECTRIC

Can do it all!

Comparing apples to apples in this industry is very effective for long lasting elevator installations and modifications. Imperial Electric understands the benefits of keeping installations just like they were apples to apples.

Imperial Electric also understands there is time for change by replacing apples with oranges. Suitable long lasting equipment for the application with new innovated concepts. Whichever direction you decide to go, Imperial Electric has the right product for you - today, tomorrow and beyond.

- Geared to Gearless
- 2:1 to 1:1
- Single Wrap to Double Wrap
- Machine Field Assembly
- Custom bases
- Overhead, Basement, Side Mount Machines
- Secondary and Deflector Sheaves

