

Electric Winches and Car Pullers

200 to 25000 lb (91 to 11364 kg) capacity



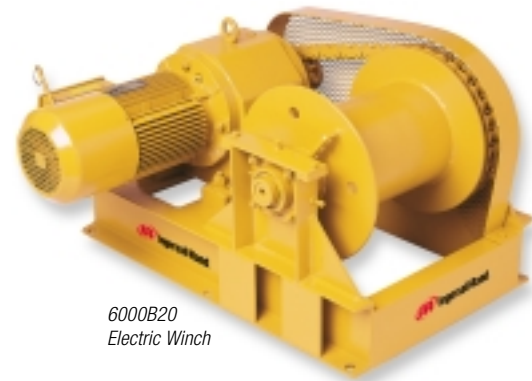
IR electric winches and car pullers offer maximum performance and reliability.

n Standard features:

- Totally enclosed fan cooled (TEFC) motors are high torque design, Nema "B" class with an average of 280 percent starting torque. Rated for continuous duty.
- Winches utilize an automatic disc brake rated at 200% motor torque
- Structural steel frames allow flexibility in installation
- Car pullers have a lever operated, jaw clutch that allows for:
 - disengagement of the drum for free spooling of wire rope
 - bi-directional rail car pulling
- Car pullers have an adjustable drag brake to control drum spinning and cable over-run during free spooling operation

n Options:

- Available in single or three phase motors (single phase through 3hp only)
- IEEE 45 marine grade motor (three phase only) and gear box available (specify by adding **M** to model; see **How to Order** information)
 - Three phase marine grade winch motors have a corrosion-resistant coating on motor windings to prevent corrosion due to condensation
 - Marine grade gear-boxes incorporate bronze filters and breather cover caps
- Longer or shorter drum sizes
- Drum divider flange and extra cable anchors
- Grooved drums



6000B20
Electric Winch

- Control packages consisting of:
 - NEMA 4 magnetic reversing starters (single and three phase)
 - NEMA 4 wall-mount pushbutton stations
 - NEMA 3R or NEMA 4 hand-held pushbutton pendants
 - NEMA 1 or NEMA 4 reversing drum switches (through 2hp only)
- Sandblast/carbozinc primer with a Marine 812 finish
- Heaters (in motor windings)
- Limit switch; 2 position; upper and lower; NEMA 4 class enclosure
- Adjustable torque limiting clutch
- Disengaging clutch
- Horizontal Load Reversing (HLR) designs for load movement in two directions. Includes grooved drum, two wire rope anchors and a drum length to spool all wire rope on the first layer
- Explosion-proof components
- Design and manufacturing expertise for special applications

Specifications

Model single/ three phase	Rated capacity at 2nd layer ⁽¹⁾		Appx line spd/min			Starting line pull				Running line pull				Rec'd wire rope in. mm	Drum capacity ⁽²⁾		Shipping weight				
	lbs	kg	ft	m	hp	1st layer lbs	kg	4th layer lbs	kg	1st layer lbs	kg	4th layer lbs	kg		2nd layer ft	m	full drum ft	m	lbs	kg	
200A40/B40	200	91	40	12.2	1/3	550	280	438	199	220	100	175	80	1/4	6	81	25	288	88	160	73
250A40/B40	250	114	20	6.1	1/4	688	313	538	245	275	125	215	98	1/4	6	81	25	288	88	160	73
500A20/B20	500	227	20	6.1	1/2	1375	625	1075	489	550	250	430	195	1/4	6	81	25	288	88	160	72
500A40/B40	500	227	40	12.2	3/4	1375	625	1075	489	550	250	430	195	1/4	6	81	25	288	88	160	72
700A40/B40	700	318	40	12.2	1	1938	881	1525	693	775	352	610	277	1/4	6	81	25	288	88	150	68
800A20/B20	800	364	20	6.1	2	2200	1000	1750	795	880	400	700	318	1/4	6	81	25	288	88	190	86
1300A20*/B20*(3)	1300	591	20	6.1	1	3240	1473	2550	1159	1410	641	1110	505	5/16	8	120	37	605	184	370	168
1400A40*/B40*(3)	1400	636	40	12.2	2	3540	1609	2780	1264	1540	700	1210	550	5/16	8	120	37	605	184	370	168
1600B90	1600	727	90	27.4	5	4400	2000	3350	1523	1760	800	1340	609	3/8	10	105	32	460	140	625	283
2000A20*/B20*(3)	2000	909	20	6.1	1 1/2	4950	2250	3750	1705	2150	977	1675	761	3/8	10	105	32	460	140	375	170
2000A40*/B40*(3)	2000	909	40	12.2	3	4970	2259	3770	1714	2160	982	1675	761	3/8	10	105	32	460	140	445	202
2000B60	2000	909	60	19.3	5	5400	2455	4175	1898	2160	982	1670	759	3/8	10	105	32	460	140	575	261
3000B40*(3)	3000	1364	40	12.2	5	7600	3455	5900	2682	3300	1500	2560	1164	7/16	12	119	36	422	129	575	261
3500B80	3500	1591	80	24.4	12	9450	4295	7450	3386	3780	1718	2980	1355	7/16	12	125	38	875	267	690	313
4000A20*/B20*(3)	4000	1818	20	6.1	3	9700	4409	7270	3305	4220	1918	3160	1436	1/2	13	107	33	309	94	525	239
4500B50*(3)	4500	2045	50	15.2	7 1/2	11200	5091	8450	3841	4840	2200	3680	1673	1/2	13	107	33	309	94	630	286
6000B20*(3)	6000	2727	20	6.1	5	15400	7000	11600	5273	6700	3045	5040	2291	5/8	16	146	45	422	129	930	422
6000B40*(3)	6000	2727	40	12.2	7 1/2	17200	7818	12950	5886	7480	3400	5630	2559	5/8	16	146	45	422	129	950	431
10000B20*	10000	4545	20	6.1	7 1/2	29670	13486	22200	10091	12900	5864	9650	4386	3/4	19	146	45	323	98	1525	692
10000B40*(3)	10000	4545	40	12.2	15	27150	12341	20350	9250	11800	5364	8850	4023	3/4	19	146	45	323	98	1740	789
15000B20*(3)	15000	6818	20	6.1	12	37500	17045	30000	13636	17200	7818	13000	5909	1	25	230	70	600	183	2750	1247
25000B25*(3)	25000	11363	25	7.6	20	62800	28545	48300	21955	27300	12409	21000	9545	1 1/4	32	240	73	860	262	3550	1614

*Chain drive from motor drum. Design factor 6:1 or more on chain at rated line pulls.

(1) Capacities rated at specified voltage with single line on second layer on drum, providing 5:1 design factor. Starting line pulls for reference only.

(2) Drum capacities shown represent tightly spooled wire rope. Recommended drum working capacity is 80% of value shown.

(3) Also available as car puller models. Add **CP** to model number when ordering. Example: **CP1300B20**

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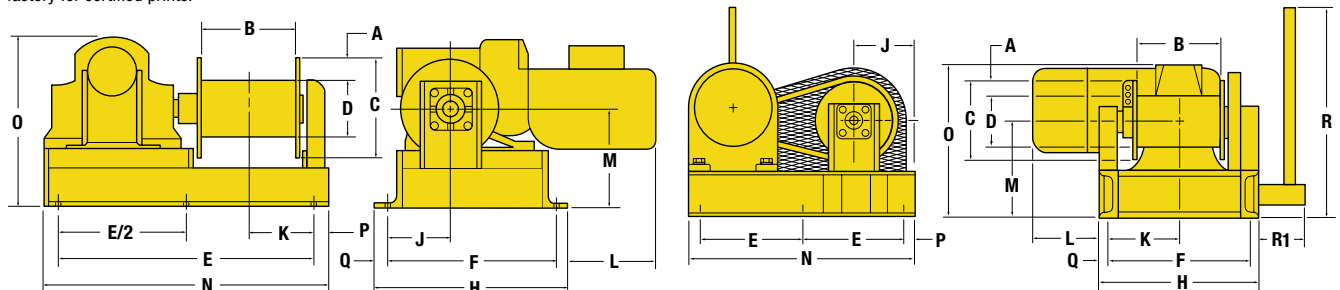


Dimensions

Model Single	Three phase	Dimensions in inches																
		A	B	C	D	E	F	H	J	K	L	M	N	O	P	Q	R	R ₁
200A40	200B40	1.75	8	8	4.50	18	13.50	15.50	6	5.75	7.50	7.50	20	13.63	1	1	-	-
250A20	250B20	1.75	8	8	4.50	8	13.50	15.50	6	5.75	7.50	7.50	20	13.63	1	1	-	-
500A20	500B20	1.75	8	8	4.50	18	13.50	15.50	6	5.75	9.31	7.50	20	14.63	1	1	-	-
500A40	500B40	1.75	8	8	4.50	18	13.50	15.50	6	5.75	9.31	7.50	20	14.63	1	1	-	-
700A40	700B40	1.75	8	8	4.50	18	13.50	15.50	6	5.75	9.31	7.50	20	14.63	1	1	-	-
800A20	800B20	1.75	8	8	4.50	18	13.50	15.50	6	5.75	9.31	7.50	20	14.63	1	1	-	-
1300A20	1300B20	2.69	12	12	6.63	12.63	18.50	20	8	9	5	9.50	27.25	16.75	1	0.75	44	2.50
1400A40	1400B40	2.69	12	12	6.63	12.63	18.50	20	8	9	8	9.50	27.25	16.75	1	0.75	44	2.50
	1600B90	2.69	12	12	6.63	28	18	20	7	8.13	15.81	9.13	30	17.25	1	1	-	-
2000A20	2000B20	2.69	12	12	6.63	12.63	18.50	20	8	9	6.25	9.50	27.25	16.75	1	0.75	44	2.50
2000A40	2000B40	2.69	12	12	6.63	12.63	18.50	20	8	9	6.25	9.50	27.25	16.75	1	0.75	44	2.50
	2000B60	2.69	12	12	6.63	28	18	20	7	8.13	15.81	9.13	30	17.25	1	1	-	-
	3000B40	2.69	12	14	8.63	15.50	20	21.50	9	9.50	9.50	12.50	33	20.25	1	0.75	51	4
	3500B80	4.69	12.75	18	8.63	32	20	22	10	8.19	30.81	13.50	34.50	20.25	1	1	-	-
4000A20	4000B20	2.69	12	14	8.63	15.50	20	21.50	9	9.50	9 1/2	12.50	33	23.81	1	0.75	51	4
	4500B50	2.69	12	14	8.63	15.50	20	21.50	9	9.50	14	12.50	33	21.38	1	0.75	51	4
	6000B20	3.63	16	18	10.75	18	25	27.25	11.50	12	8.50	13.50	38	25.50	1	1.13	58	6
	6000B40	3.63	16	18	10.75	18	25	27.25	11.50	12	11.63	13.50	38	22.75	1	1.13	58	6
	10000B20	3.63	16	20	12.75	22.50	28	31	12.63	13.19	8.88	14.75	47	28.25	1	1.50	58	6
	10000B40	3.63	16	20	12.75	22.50	28	31	12.63	13.19	11	14.75	47	26.25	1	1.50	58	6
	15000B20	6	24	30	18	3 at 18	34	37	19.88	15.06	7.25	20	60.75	39	1.88	1.50	58	6
	25000B25	8	24	40	24	4 at 17	37	40	22	15.50	15.75	26.25	72	48.25	2	1.50	58	6

		Dimensions in millimeters																
200A40	200B40	1118	203	203	114	457	343	394	152	146	191	191	508	346	635	635	-	-
250A20	250B20	1118	203	203	114	203	343	394	152	146	191	191	508	346	635	635	-	-
500A20	500B20	1118	203	203	114	457	343	394	152	146	237	191	508	371	635	635	-	-
500A40	500B40	1118	203	203	114	457	343	394	152	146	237	191	508	371	635	635	-	-
700A40	700B40	1118	203	203	114	457	343	394	152	146	237	191	508	371	635	635	-	-
800A20	800B20	1118	203	203	114	457	343	394	152	146	237	191	508	371	635	635	-	-
1300A20	1300B20	68	305	305	168	321	470	508	203	229	127	241	692	425	635	19	1118	64
1400A40	1400B40	68	305	305	168	321	470	508	203	229	203	241	692	425	635	19	1118	64
	1600B90	68	305	305	168	711	457	508	178	206	402	232	762	438	635	635	-	-
2000A20	2000B20	68	305	305	168	321	470	508	203	229	159	241	692	425	635	19	1118	64
2000A40	2000B40	68	305	305	168	321	470	508	203	229	159	241	692	425	635	19	1118	64
	2000B60	68	305	305	168	711	457	508	178	206	402	232	762	438	635	635	-	-
	3000B40	68	305	356	219	394	508	546	229	241	241	318	838	514	635	19	1295	102
	3500B80	119	324	457	219	813	508	559	254	208	783	343	876	514	635	635	-	-
4000A20	4000B20	68	305	356	219	394	508	546	229	241	241	318	838	605	635	19	1295	102
	4500B50	68	305	356	219	394	508	546	229	241	356	318	838	543	635	19	1295	102
	6000B20	92	406	457	273	457	635	692	292	305	216	343	965	648	635	29	1473	152
	6000B40	92	406	457	273	457	635	546	292	305	295	343	965	578	635	29	1473	152
	10000B20	92	406	508	324	572	711	787	321	335	225	375	1194	718	635	38	1473	152
	10000B40	92	406	508	324	572	711	787	321	335	279	375	1194	667	635	38	1473	152
	15000B20	152	610	762	457	3 at 457	864	940	505	383	184	508	1543	991	48	38	1473	152
	25000B25	203	610	1016	610	4 at 432	940	1016	559	394	400	667	1829	1226	1295	38	1473	152

Bolt sizes: 200A40 through 800B20: 1/2" (13 mm); 1300A20 through 4500B50: 5/8" (16 mm); 6000B20 through 25000B25: 3/4" (19 mm). Dimensions are subject to change. Contact factory for certified prints.



Direct drive model – for model numbers 200A40/B40, 250A40/B40, 500A20/B20, 500A40/B40, 700A40/B40, 800A40/B40, 1600B90, 2000B60, and 3500B80
 Dimensions are subject to change. Contact factory for certified prints

Chain drive from motor drum; design factor 6:1 or more – for model numbers 1300A20/B20, 1400A40/B40, 2000A20/B20, 2000A40/B40, 3000B40, 4000A20/B20, 4500B50, 6000B20, 6000B40, 10000B20, 10000B40, 15000B20, and 25000B25

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Winch options	Code	Description
Drum divider	D	One steel flange is welded to the center of the drum. Includes second cable anchor. Standard is based on right lay rope for overwound rotation.
Grooved drum	G	Standard drum lengths only. Grooving is left hand spiral for overwind rope take-off. Recommended rope is right lay. Engineering review is required for units specified with longer drums and/or divider flanges.
Heater in motor	H	Recommended for extreme high or low temperature conditions, to eliminate condensation in the motor enclosure.
Marine duty	M	<p>Marine duty motor and gearboxes. Marine duty 3 phase electric winches are designed to meet the Institute of Electrical and Electronic Engineers (IEEE) specification number 45 for shipboard severe duty and washdown environments.</p> <p>To meet the requirements of such harsh operating conditions, all marine duty motors are built with cast iron end shields and special stators constructed of "Silafront-13," an aluminum-silicon alloy resistant to corrosive elements. All motor windings are treated with "Polane," a unique polyurethane coating which prevents corrosion due to condensation. Marine duty winch motors also incorporate class "F" electrical insulation and have a 1.15 service factor capable of delivering, if needed, 115% of the motor's rated horsepower during the entire duty cycle of that motor.</p> <p>Should the user so desire, each marine duty winch motor can be furnished with a 1/8" NPT drain plug rather than the standard 1/8" drain hole to prevent water damage should the motor be submerged. <i>This special option must be requested at the time of order.</i></p> <p>All marine duty 3 phase winches are supplied with gearboxes that incorporate protected breathers to equalize gearbox pressure without the risk of exposure to corrosive elements.</p> <p><i>Marine grade motor features apply to 3 phase motors only. Single phase motor manufacturers' interpretation of marine grade requirements vary. Therefore, motor features may vary. Please advise single phase motor requirements before ordering.</i></p>
Marine 812 finish	P	An excellent corrosion, chemical, and abrasive resistant alkyd enamel finish over a rust inhibitive primer.
Rotary limit switch	S	Rotary switch counts drum revolutions. Different ratios are available depending on actual rope travel. Specify rope travel distance between upper and lower limits so we may select the proper ratio. Please understand that rope spooling and rope stretch must be taken into account and final adjustments will be necessary.
Torque limiter	T	Adjustable clutch acts to limit pull by slipping when load exceeds setting. Mounted on the outboard side of drum.
Sandblast/carbozinc	Z	The best corrosion resistant primer available. Sandblast to "white" metal followed by an inorganic zinc primer. Marine 812 finish (P) recommended. Note: motors are chemically cleaned, not sandblasted.

How to Order Classic Electric Winches and Car Puller Models

Specify complete model code as shown below. Electric winches and car pullers exclude winch control and starter options.

Control options: A control package consists of magnetic reversing starter and controls. Starter and control options may be ordered in two ways:

1. When specified in the model code, starters and controls will be mounted on the winch and tested. Installation charge additional.
2. By specifying part numbers, controls may be ordered separately for customer installation by a qualified electrician. Starter and control option packages consist of the following items:
 - A. Magnetic reversing starter, sized according to winch hp and voltage. Magnetic reversing starters with internal 110 volt control transformer are now standard. These starters are available in single and three phase models and are intended for use with either two motion control stations or pendants used in remote control applications.
 - B. Remote pendant or wall mount pushbutton control (requires the use of a magnetic reversing starter)
 - C. Reversing drum switch to be used when winch power supply is:
 Single phase: 115 volt to 1.5 hp, 230 volt to 2 hp. Three phase: 230/460 volt to 2 hp.

To use a reversing drum switch, a magnetic reversing starter is not required. Drum switches should only be mounted directly to the winch itself. Drum switches when used in this manner have a control voltage equal to the operating voltage of the winch. Drum switches are intended for mounting on the unit itself and must have their enclosures grounded to the electrical system ground.

Example: CP2000B40M2-12-8G-M4P3-50

Series	Line pull ⁽¹⁾ 2nd layer (lbs)	Phase ⁽²⁾	Speed (fpm)	Motor type	Voltage	-	Drum length (in.)	-	Wire rope size	Winch options	-	Starter options	Control options
CP	2000	B	40	M	2	-	12	-	8	G	-	M4	P3-50
CP = Carpuller model prefix		A = Single phase B = Three phase		1 = 115-1-60 2 = 230-1-60 230-3-60 3 = 380-3-50 4 = 460-3-60 5 = 575-3-60 6 = 208-3-60 7 = 415-3-50					Wire rope in sixteenths (e.g. $\frac{8}{16}$ = $\frac{1}{2}$ inch)	D = Drum divider flange G = Grooved drum H = Heater in motor P = Marine 812 finish Q = Special paint; please specify R = Press roller S = Rotary limit switch T = Torque limiter clutch Y = Electronic overload* Z = Sandblast/carbozinc primer		M4 = Mag. rev. starter NEMA 4	D1 = Drum switch NEMA 1 D4 = Drum switch NEMA 4 P3-XX = Pushbutton pendant NEMA 3R P4-XX = Pushbutton pendant NEMA 4 W4 ⁽³⁾ = Wall mount pushbutton station NEMA 4 XX = Specify hand held pendent control cord (ft)

* Requires the purchase of a magnetic reversing starter (see control options)

Drum extensions (see dim. B on previous page)		Drum width in. (mm)							
Model		8 (203)	12 (305)	16 (406)	20 (508)	24 (610)	30 (762)	36 (915)	42 (1067)
200	- 800	Standard	yes	yes	yes	no	no	no	no
1300	- 4500	no	Standard	yes	yes	yes	no	no	no
6000	- 10000	no	no	Standard	yes	yes	yes	no	no
15000	- 25000	no	no	no	no	Standard	yes	yes	yes

Drum extensions over standard require engineering approval to confirm design acceptability. For delivery on units with non-standard drum lengths please contact Customer Service.

- (1) Please refer to specification chart for line pull information.
- (2) Please specify voltages when ordering "A" models 115/230-1-60; "B" models 230/460-3-60, and for 380-3-50, 415-3-50 and 575-3-60.
- (3) Wall mount pushbutton controls will be shipped loose for customer installation. The National Electrical Code requires wall mount control stations to be installed with conduit enclosed wiring.

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