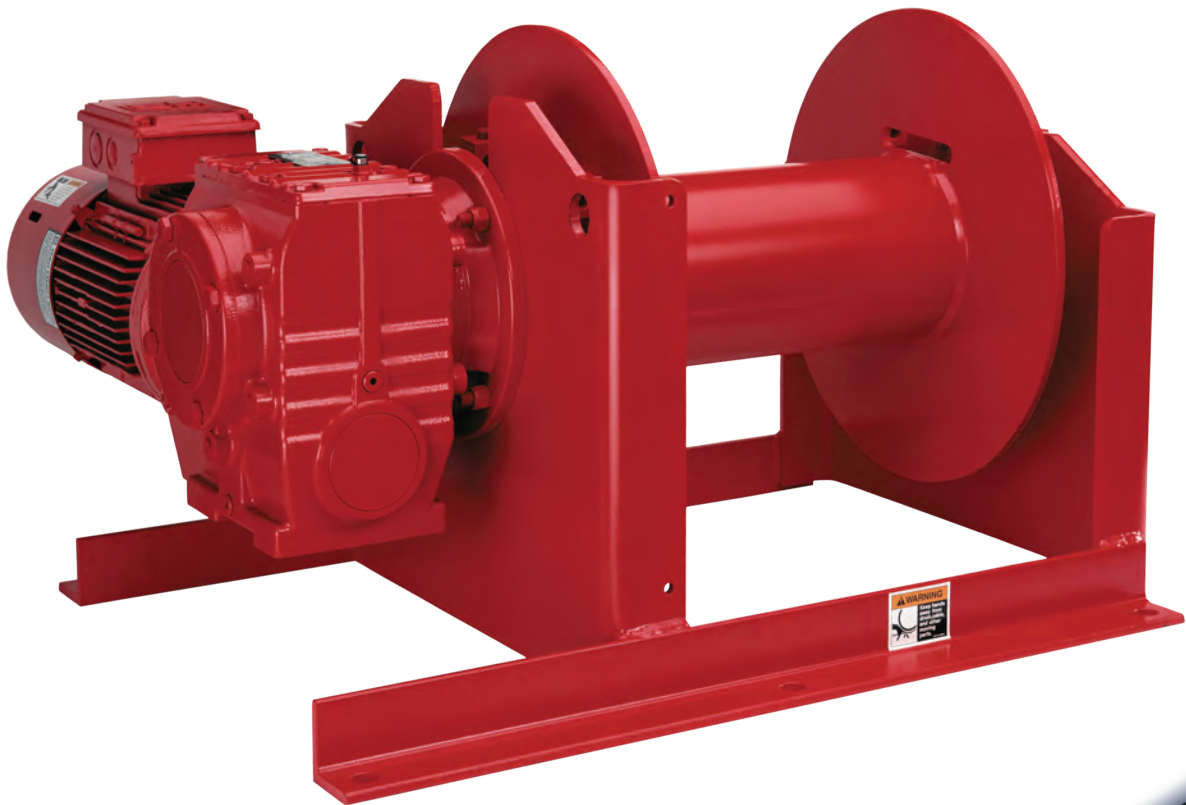




HEAVY DUTY ELECTRIC POWER WINCH

4HWF SERIES



thern.com
(507) 454-2996

4HWF SERIES

HEAVY DUTY ELECTRIC POWER WINCHES



HELICAL/WORM GEARS Enhance Load Control and Positioning Accuracy

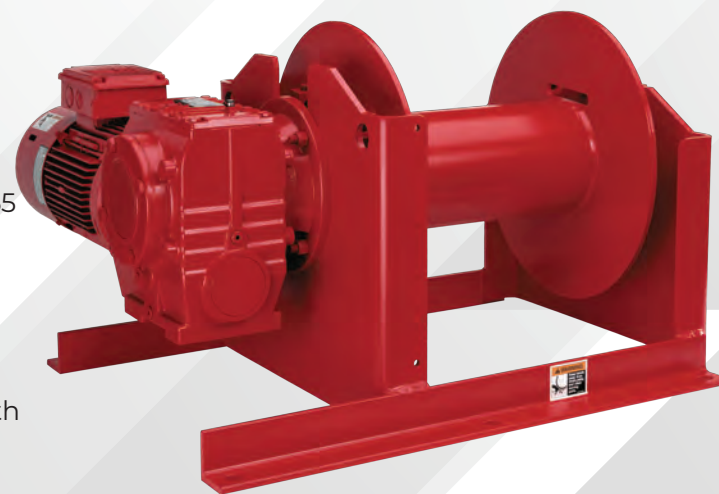
The 4HWF Series of power winches (1,500 to 8,000 pounds) is designed to lift, lower, pull or position heavy loads. A combination of directly driven, helical and worm gears, minimizes maintenance while delivering dependable operation. A modular design allows easy customization to exacting customer specifications. These winches are perfect for extreme environments, hard-to-reach locations and operations requiring high duty cycles/continuous use. Typical applications include shipboard winches, mining, construction, rail yards, wind turbines and cargo handling facilities.

Flange-Mounted Premium Motor and Enclosure

- Energy efficient 230/460 volt, reversible, three-phase, industrial-grade motor endures robust, continuous use
- A totally-enclosed, fan-cooled (TEFC) design featuring IP66 and F-class insulation resists debris and contamination for long service life
- Standard motors comply with industry standards: UL, CSA, IEC and NEMA MG1

Direct Drive Gear Reducers and Right-Angle Gearbox Design

- Right angle gearbox decreases overall product length for tight spaces
- Direct drive gear reducers, comprised of heat-treated helical/worm gears, deliver 65 to 76 percent efficiency and enhance load control and positioning
- Large-capacity bearings enhance smooth operation and durability
- Sealed, cast iron gearbox with integral oil bath for rotating gears dissipates heat and provides continuous lubrication for enhanced service life
- Primary speed reducers meet AGMA and/or DIN standards



Product Shown: 4HWF1M

Integral Drum and Shaft Design

- Large-diameter welded-steel drum, featuring outside flange anchors, promotes uniform winding and life of wire rope
- Anchors allow cable to be over or under wound and provide multiple drum exit angles
- Flange-style, self-aligning roller bearings with cast iron housing maintain smooth drum rotation
- Continuous, solid steel drum shaft and steel frame provide optimal strength and security
- Complete wire rope assemblies available upon request

Modular Design

- Flexible winch design allows customization by Thern to meet specific customer requirements

Load-Holding Motor Disk Brake

- Spring-set, electrically-released brake helps control loads and facilitates safe operation

ASME B30.7 Certificate Available

- Contact Thern for details

PERFORMANCE

Series	Up To Load Rating	Motor Power Range	Line Speed Range (1st Layer)	Up to Drum Capacity	Clutch Option
4HWF1M	1,500 lbs.	1.5-2 hp	23-32 fpm	830 ft	No
4HWF2M	2,200 lbs.	2-3 hp	22-34 fpm	750 ft	No
4HWF4M	4,000 lbs.	3-5 hp	21-35 fpm	2,120 ft	No
4HWF6M	6,000 lbs.	5-7.5 hp	24-35 fpm	990 ft	No
4HWF8M	8,100 lbs.	7.5-10 hp	27-39 fpm	1,210 ft	No

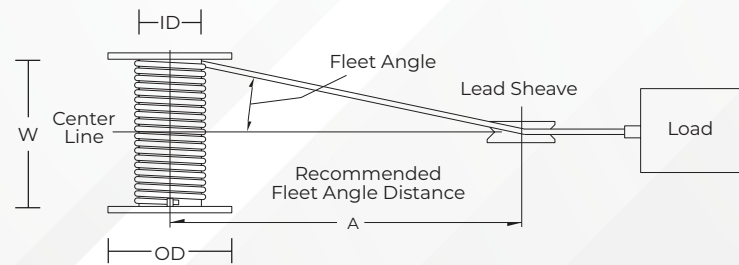
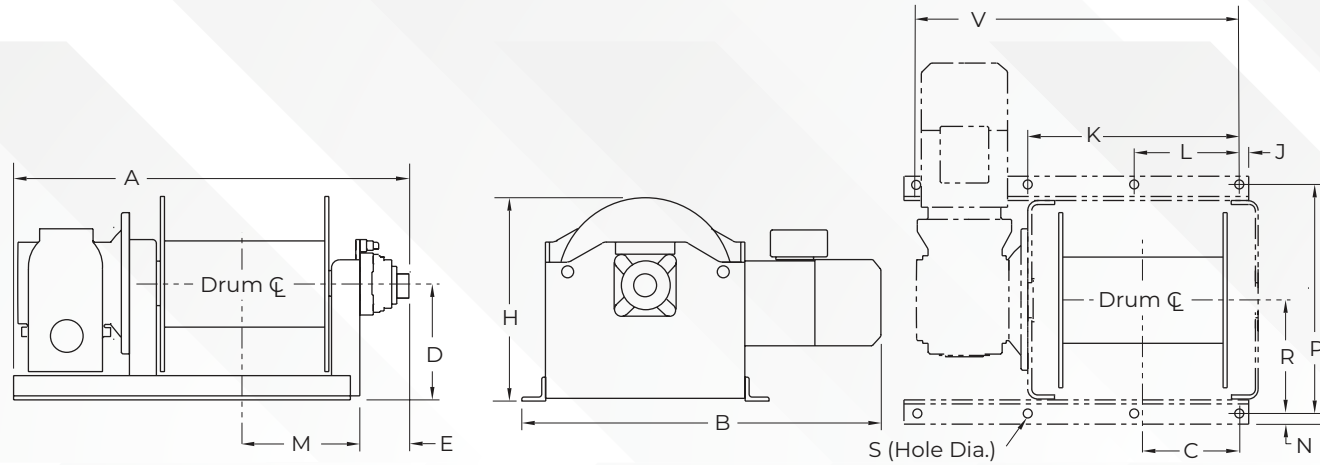
METRIC

Series	Up to Load Rating	Motor Power Range	Line Speed Range (1st Layer)	Up to Drum Capacity	Clutch Option
4HWF1M	680 kg	1.1-1.5 kW	7-9 mpm	253 m	No
4HWF2M	995 kg	1.5-2.2 kW	6-10 mpm	228 m	No
4HWF4M	1,810 kg	2.2-3.7 kW	6-10 mpm	646 m	No
4HWF6M	2,721 kg	3.7-5.5 kW	7-10 mpm	301 m	No
4HWF8M	3,670 lbs.	5.5-7.5 hp	8-11 fpm	368 ft	No

4HWF SERIES

HEAVY-DUTY ELECTRIC POWER WINCHES

4HWF Series



4HWF Series Drum Dimensions

Model	Drum Diameter (ID)		Flange Diameter (OD)		Drum Width (W)		Fleet Angle Distance (A) ¹	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(ft)	(m)
4HWF1M	4.5	114	12	305	10	254	16	4.9
4HWF2M	5.5	140	12	305	10	254	16	4.9
4HWF4M	7	178	18	457	16	406	26	7.9
4HWF6M	9	229	18	457	16	406	26	7.9
4HWF8M	10.75	273	22	559	20	508	32	9.8

¹ Recommended minimum distance between drum and lead sheave for smooth drum.

Dimensions are for reference only and subject to change without notice. Please contact Thern for exact dimensions.

Electric Motor Controls

Model	Description	Approx. Ship Wt.	
		(lb)	(kg)
10S3D4	electric motor controls 230/3/60 to 3 hp	25	12
10S7D4	electric motor controls 230/3/60 to 7.5 hp	25	12
10S10D4	electric motor controls 230/3/60 to 10 hp	28	13
10S7E4	electric motor controls 460/3/60 to 7.5 hp	25	12
10S15D4	electric motor controls 460/3/60 to 15 hp	25	12

Controls include NEMA 4 rated enclosure and NEMA 4X rated pendant control on 50-foot cord.

Motor controls sold separately. Please contact Thern or nearest Thern Distributor for firm, fixed price and delivery. All prices include mounting and wiring to motor.

4HWF Series Drum Capacities

Wire Rope Diameter	Breaking Strength ²	Drum Capacity	4HWF1M		4HWF2M		4HWF4M		4HWF6M		4HWF8M			
			(in)	(mm)	(lb)	(kg)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)
1/4	6.4	7,000 ³	3,175	1st	43	13.1	51	15.5	-	-	-	-	-	-
				Mid	370	112.8	340	103.6	-	-	-	-	-	-
				Full	830	253	750	228.6	-	-	-	-	-	-
5/16	7.9	9,800 ³	4,445	1st	34	10.4	41	12.5	87	26.5	-	-	-	-
				Mid	250	76.2	230	70.1	950	289.5	-	-	-	-
				Full	560	170.7	500	152.4	2,120	646.2	-	-	-	-
3/8	9.7	15,100	6,849	1st	27	8.2	33	10.1	70	21.3	-	-	-	-
				Mid	180	54.9	160	48.8	680	207.3	-	-	-	-
				Full	400	121.9	360	109.7	1,520	463.3	-	-	-	-
7/16	11.2	20,400	9,254	1st	23	7.0	28	8.5	60	18.3	76	23.2	-	-
				Mid	130	39.6	120	36.6	510	155.4	450	137.2	-	-
				Full	300	91.4	270	82.3	1,140	347.5	990	301.8	-	-
1/2	12.7	26,600	12,066	1st	-	-	-	-	52	15.8	66	20.1	-	-
				Mid	-	-	-	-	400	121.9	350	106.7	-	-
				Full	-	-	-	-	890	271.3	770	234.7	-	-
9/16	14.2	33,600	15,240	1st	-	-	-	-	46	14.0	58	17.7	89	27.1
				Mid	-	-	-	-	320	97.5	280	85.3	540	164.6
				Full	-	-	-	-	710	216.4	620	189	1,210	368.8
5/8	16.0	41,200	18,688	1st	-	-	-	-	-	-	51	15.5	78	23.8
				Mid	-	-	-	-	-	-	230	70.1	440	134.1
				Full	-	-	-	-	-	-	510	155.4	990	301.8
3/4	19.1	58,800	26,671	1st	-	-	-	-	-	-	42	12.8	65	19.8
				Mid	-	-	-	-	-	-	160	48.8	310	94.5
				Full	-	-	-	-	-	-	360	109.7	700	213.4
7/8	22.4	79,600	36,106	1st	-	-	-	-	-	-	-	-	54	16.5
				Mid	-	-	-	-	-	-	-	-	230	70.1
				Full	-	-	-	-	-	-	-	-	500	152.4
1	25.4	103,400	46,902	1st	-	-	-	-	-	-	-	-	47	14.3
				Mid	-	-	-	-	-	-	-	-	180	54.9
				Full	-	-	-	-	-	-	-	-	390	118.9

² Values based on 6x37 IWRC EIPS wire rope.

³ Values based on 7x19 galvanized aircraft cable.

Actual drum capacities 25-30% less due to nonuniform winding. Wire rope tension will also affect drum capacity.

Wire rope should be selected based on the breaking strength to load rating ratio and application parameters. Industry standards suggest a 5:1 breaking strength to load rating ratio for lifting and a 3:1 ratio for pulling.

4HWF Series Winch Dimensions

Model	A		B		C		D		E		H		J		K		L		M		N		P		R		S (hole dia.)		V		Ship Weight	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lb)	(kg)
4HWF1M-1500-25	25.5	648	27	686	6	152	8	203	2.38	60	14	356	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	190	87
4HWF1M-1500-35	25.5	648	27	686	6	152	8	203	2.38	60	14	356	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	190	87
4HWF2M-2000-25	26.25	667	28	711	6	152	8	203	2.38	60	14	356	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	240	109
4HWF2M-2000-35	26.25	667	29.75	756	6	152	8	203	2.38	60	14	356	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	240	109
4HWF4M-4000-25	39	991	35	889	9.63	245	12	305	5.13	130	21	533	1	25	30.5	775	15.25	387	11.5	292	1	25	24	610	12.00	305	7/8	22	-	-	480	218
4HWF4M-4000-35	39	991	35	889	9.63	245	12	305	5.13	130	21	533	1	25	30.5	775	15.25	387	11.5	292	1	25	24	610	12.00	305	7/8	22	-	-	480	218
4HWF6M-6000-25	41	1,041	36	914	9.63	245	12	305	5.13	130	21	533	1	25	30.5	775	15.25	387	11.5	292	1	25	24	610	12.00	305	7/8	22	-	-	650	295
4HWF6M-6000-35	41	1,041	39	991	9.63	245	12	305	5.13	130	21	533	1	25	30.5	775	15.25	387	11.5	292	1	25	24	610	12.00	305	7/8	22	-	-	710	323
4HWF8M-8000-25	50	1,270	43.5	1,105	12	305	14.5	368	6.25	159	25.5	648	1.25	32	26.5	673	13.25	337	14.5	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,120	509
4HWF8M-8000-35	50	1,270	43.5	1,156	12	305	14.5	368	6.25	159	25.5	648	1.25	32	26.5	673	13.25	337	14.5	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,180	536

Dimensions are for reference only and subject to change without notice. Please contact Thern for exact dimensions.

4HWF Series Performance Characteristics

Model	Model Number Extensions				Load Rating						Line Speed			
	Load Rating	Line Speed	Motor Codes ⁴	Motor	1st Layer		Mid Drum		Full Drum		1st Layer		Full Drum	
					(lb)	(kg)	(lb)	(kg)	(lb)	(kg)	(fpm)	(mpm)	(fpm)	(mpm)
4HWF1M	1,500	25	D,E,F	1.5	1,500	681	900	409	700	318	23	7.0	52	15.8
4HWF1M	1,500	35	D,E,F	2	1,500	681	900	409	700	318	32	9.8	73	22.3
4HWF2M	2,000	25	D,E,F	2	2,200	998	1,500	681	1,200	545	22	6.7	40	12.2
4HWF2M	2,000	35	D,E,F	3	2,200	998	1,500	681	1,200	545	34	10.4	63	19.2
4HWF4M	4,000	25	D,E,F	3	4,000	1,815	2,500	1,134	1,800	817	21	6.4	47	14.3
4HWF4M	4,000	35	D,E,F	5	4,000	1,815	2,500	1,134	1,800	817	35	10.7	78	23.8
4HWF6M	6,000	25	D,E,F	5	6,000	2,722	4,400	1,996	3,400	1,543	24	7.3	42	12.8
4HWF6M	6,000	35	D,E,F	7.5	6,000	2,722	4,400	1,996	3,400	1,543	35	10.7	61	18.6
4HWF8M	8,000	25	D,E,F	7.5	8,100	3,675	5,800	2,631	4,500	2,042	27	8.2	47	14.3
4HWF8M	8,000	35	D,E,F	10	8,100	3,675	5,800	2,631	4,500	2,042	39	11.9	64	19.5

Please contact Thern or nearest Thern distributor for firm, fixed price and delivery.

Motor Codes		
D	230 volt	3 phase
E	460 volt	3 phase
F	All other voltages, please contact Thern.	



MADE IN USA 

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