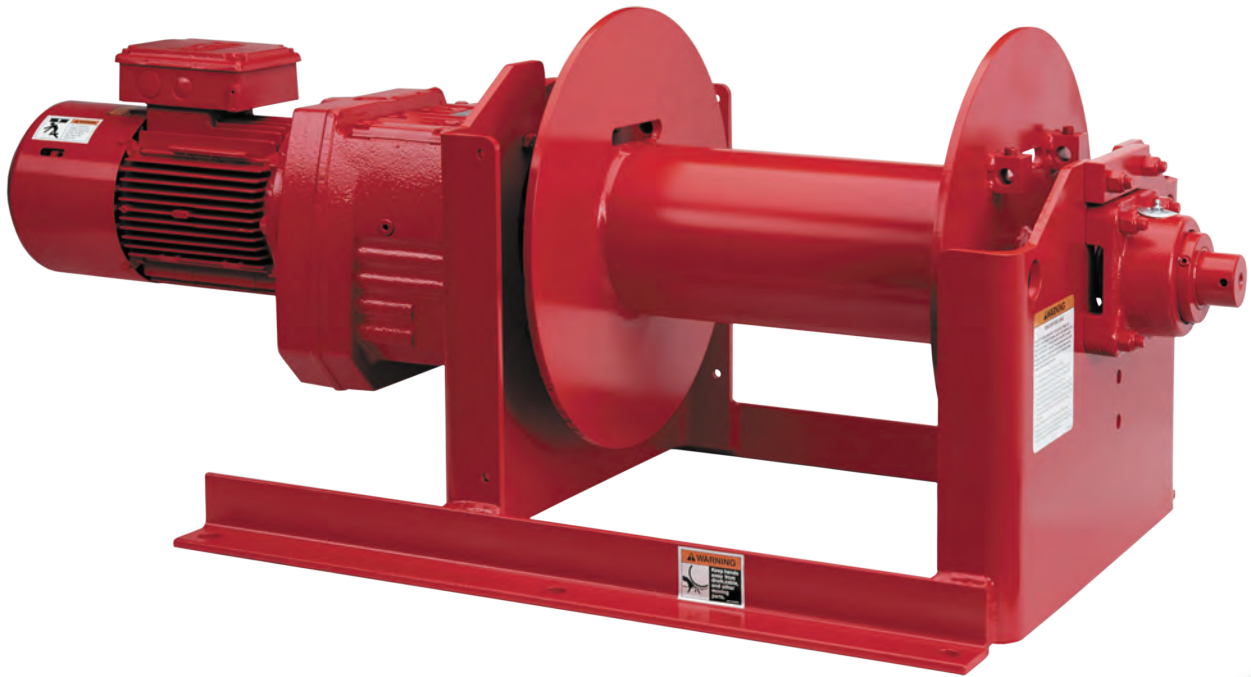




HEAVY-DUTY ELECTRIC POWER WINCH

4HPF SERIES



thern.com
(507) 454-2996

4HPF SERIES

HEAVY-DUTY ELECTRIC POWER WINCHES

HELICAL/PARALLEL IN-LINE GEARING for Highly Efficient Load Handling

The 4HPF Series of power winches (5,000 to 25,000 pounds) is designed for applications requiring long travel distances and fast line speeds. The heat-treated, helical/parallel gear set provides durability and high efficiency—up to 94 percent. A modular design allows configuration to a variety of customer specifications. These winches are ideal for harsh and hazardous environments, including hard-to-reach locations. Typical applications include ship winches, mining, construction, and rail yards.

Energy-Efficient Premium Motor

- Energy-efficient 230/460 volt, reversible, three-phase, industrial-grade motor, endures 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

Durable Gears & Gearbox Design

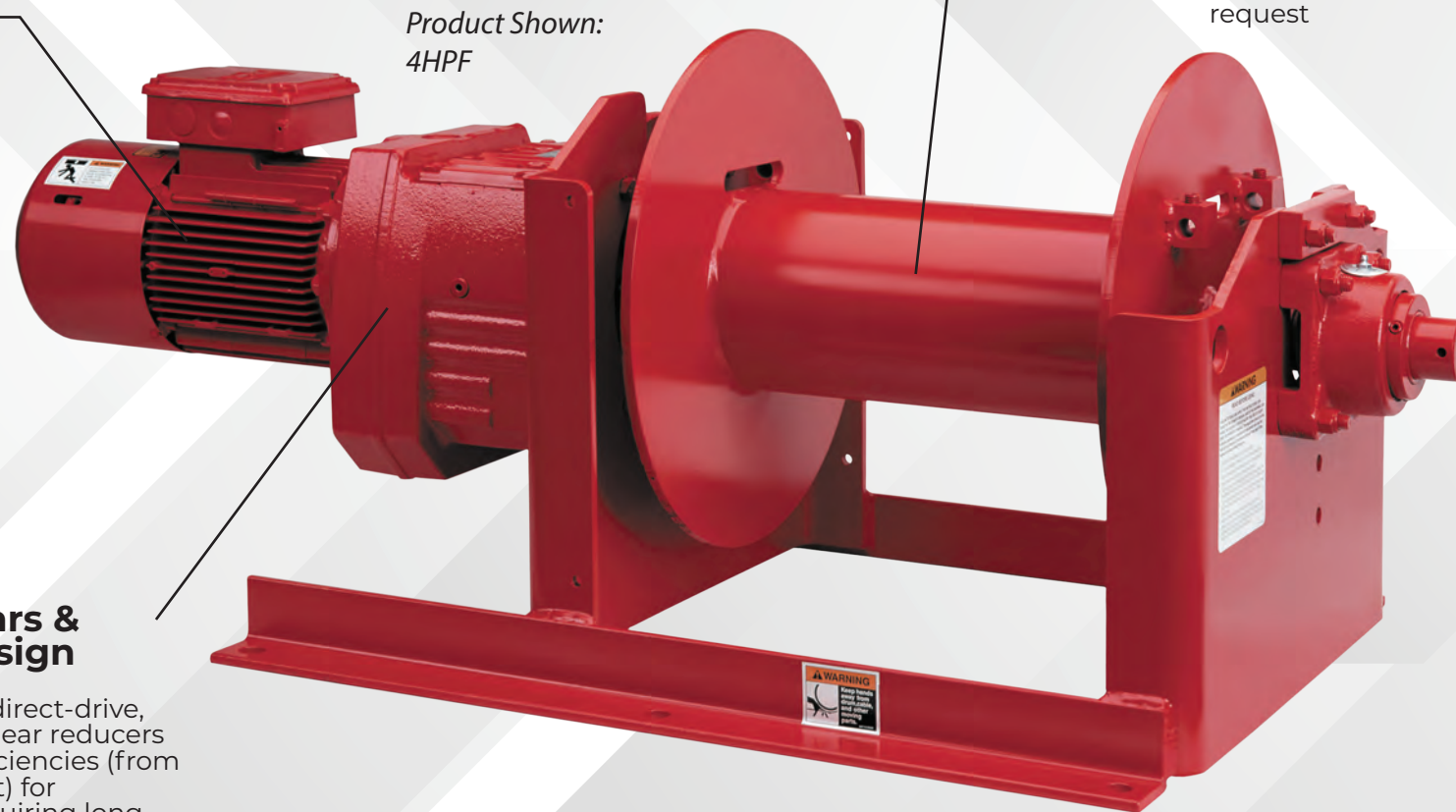
- Fully enclosed, direct-drive, helical/parallel gear reducers deliver high efficiencies (from 88 to 94 percent) for applications requiring long travel distances and fast line speeds
- Large-capacity bearings enhance smooth operation and durability
- Sealed, cast-iron gearbox with integral oil bath for rotating gears dissipates heat and provides continuous lubrication for enhanced service life
- Primary speed reducers meet AGMA and/or DIN standards

Modular Design

- Common componentry allows the winch to be easily configured to adapt to specific customer requirements

ASME B30.7 Compliance Available

- Contact Thern for details



Integral Drum & 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



PERFORMANCE

Series	IMPERIAL				
	Load Rating	Power Supply	Line Speed	Drum Capacity	Clutch
4HPF2M	2,100 lbs	1-2 hp	17-34 fpm	830 ft	Yes
4HPF3M	3,300 lbs	1.5-3 hp	17-34 fpm	750 ft	Yes
4HPF5M	5,000 lbs	3-5 hp	21-37 fpm	2,120 ft	Yes
4HPF7M	7,300 lbs	5-7.5 hp	24-38 fpm	990 ft	Yes
4HPF9M	9,000 lbs	5-10 hp	21-41 fpm	1,210 ft	Yes
4HPF15M	15,200 lbs	10-15 hp	22-36 fpm	940 ft	Yes
4HPF20M	20,100 lbs	10-25 hp	17-43 fpm	2,070 ft	Contact Factory
4HPF25M	25,200 lbs	15-30 hp	20-42 fpm	1,050 ft	Contact Factory

Series	METRIC				
	Load Rating	Power Supply	Line Speed	Drum Capacity	Clutch
4HPF2M	950 kg	.75-1.5 kW	5-10 mpm	253 m	Yes
4HPF3M	1,495 kg	1.1-2.2 kW	5-10 mpm	228 m	Yes
4HPF5M	2,265 kg	2.2-3.7 kW	6-11 mpm	646 m	Yes
4HPF7M	3,310 kg	3.7-5.5 kW	7-11 mpm	301 m	Yes
4HPF9M	4,080 kg	3.7-7.5 kW	6-12 mpm	368 m	Yes
4HPF15M	6,890 kg	7.5-11 kW	6-10 mpm	286 m	Yes
4HPF20M	9,115 kg	7.5-18.5 kW	5-13 mpm	630 m	Contact Factory
4HPF25M	11,430 kg	11-22 kW	6-12 mpm	320 m	Contact Factory



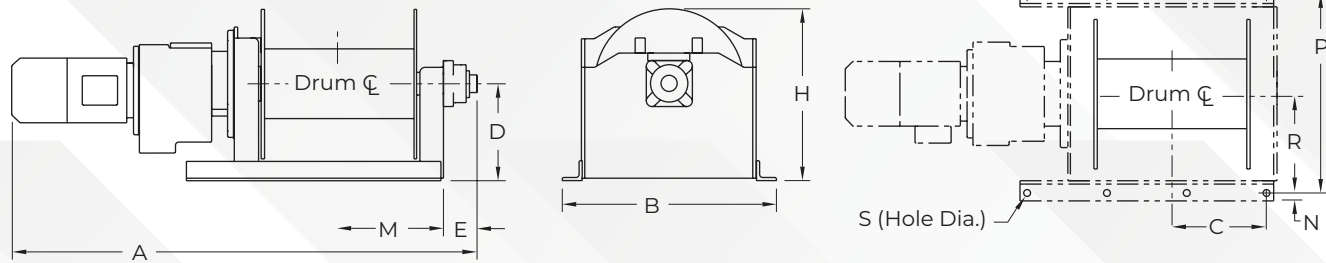
NOTICE: These products are not for lifting people or things over people.

Refer to technical pages for detailed performance information.

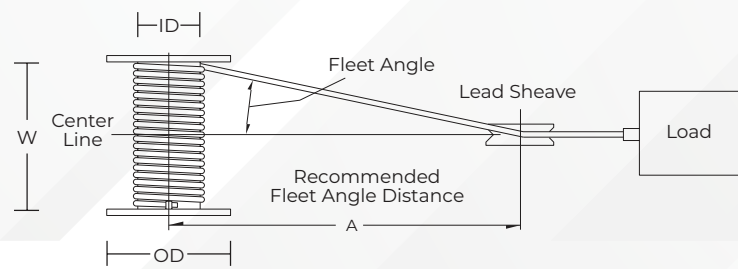
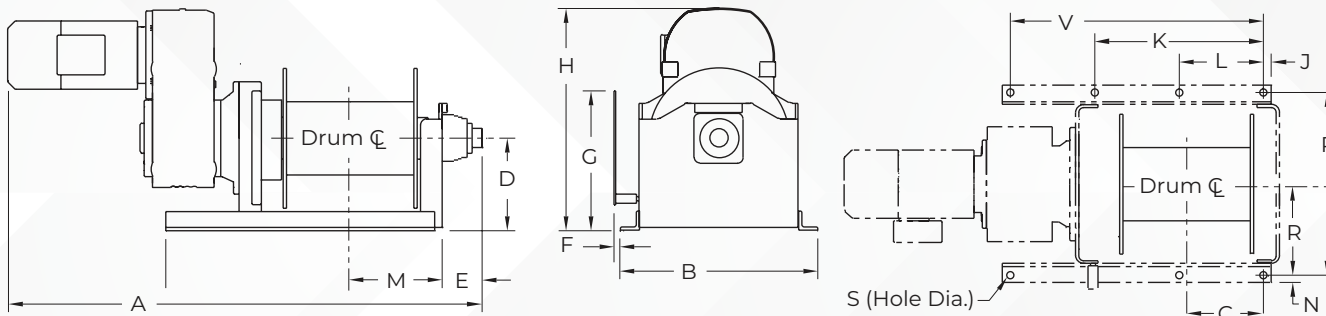
4HPF SERIES

HEAVY-DUTY ELECTRIC POWER WINCHES

4HPF Series



4HPFC Series



4HPF 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)
4HPF2M	4.5	114	12	305	10	254	16	4.9
4HPF3M	5.5	140	12	305	10	254	16	4.9
4HPF5M	7	178	18	457	16	406	26	7.9
4HPF7M	9	229	18	457	16	406	26	7.9
4HPF9M	10.75	273	22	559	20	508	32	9.8
4HPF15M	11.5	292	22	559	20	508	32	9.8
4HPF20M	14	356	30	762	30	762	48	14.6
4HPF25M	16	406	30	762	30	762	48	14.6

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
10S20D4	electric motor controls 230/3/60 to 20 hp	28	13
10S30D4	electric motor controls 230/3/60 to 30 hp	60	28
10S7E4	electric motor controls 460/3/60 to 7.5 hp	25	12
10S15E4	electric motor controls 460/3/60 to 15 hp	25	12
10S20E4	electric motor controls 460/3/60 to 20 hp	28	13
10S40E4	electric motor controls 460/3/60 to 40 hp	60	28

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.

4HPF Series Drum Capacities

Wire Rope Diameter	Breaking Strength ²	Drum Capacity	4HPF2M		4HPF3M		4HPF5M		4HPF7M		4HPF9M		4HPF15M		4HPF20M		4HPF25M				
			(in)	(mm)	(lb)	(kg)	(ft)	(m)	(ft)	(m)	(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	253.0	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	289.6	-	-	-	-	-	-	-	-	-		
				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	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	66	20.1	-	-	-	-	-	-			
				Mid	-	-	-	-	400	121	350	106.7	-	-	-	-	-	-	-		
				Full	-	-	-	-	890	271	770	234.7	-	-	-	-	-	-	-		
5/8	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	-	-	-	-	-		
3/4	19.1	58,800	26,671	1st	-	-	-	-	-	-	51	15.5	78	23.8	84	25.6	-	-			
				Mid	-	-	-	-	-	230	70.1	440	134.1	420	128	-	-	-	-		
				Full	-	-	-	-	-	510	155.5	990	301.8	940	286.5	-	-	-	-		
7/8	22.4	79,600	36,106	1st	-	-	-	-	-	-	-	65	19.8	69	21	130	39.6	-			
				Mid	-	-	-	-	-	-	310	94.5	300	91.4	930	283.5	-	-	-		
				Full	-	-	-	-	-	-	700	213.4	660	201.2	2,070	630.9	-	-	-		
1	25.4	103,400	46,902	1st	-	-	-	-	-	-	-	54	16.5	57	17.4	110	33.5	-			
				Mid	-	-	-	-	-	-	230	70.1	210	64	670	204.2	-	-	-		
				Full	-	-	-	-	-	-	500	152.4	480	146.3	1,490	454.2	-	-	-		
1-1/8	28.7	130,000	58,968	1st	-	-	-	-	-	-	-	47	14.3	57	17.4	97	29.6	110	33.5		
				Mid	-	-	-	-	-	-	-	180	54.9	210	64	520	158.5	470	143.3		
				Full	-	-	-	-	-	-	-	390	118.9	480	146.3	1,160	353.6	1,050	320		
1-3/8	31.8	159,800	72,485	1st	-	-	-	-	-	-	-	-	-	-	-	85	25.9	96	29.3		
				Mid	-	-	-	-	-	-	-	-	-	-	-	-	420	128	380	115.8	
				Full	-	-	-	-	-	-	-	-	-	-	-	-	920	280.4	840	256	
1-3/4	34.9	192,000	87,090	1st	-	-	-	-	-	-	-	-	-	-	-	76	23.2	86	26.2		
				Mid	-	-	-	-	-	-	-	-	-	-	-	-	330	100.6	300	91.4	
				Full	-	-	-	-	-	-	-	-	-	-	-	-	740	225.6	670	204.2	
1-7/8	38.1	228,000	103,420	1st	-	-	-	-	-	-	-	-	-	-	-	68	20.7	76	23.2		
				Mid	-	-	-	-	-	-	-	-	-	-	-	-	280	85.3	250	76.2	
				Full	-	-	-	-	-	-	-	-	-	-	-	-	610	185.9	560	170.7	
2	44.5	312,000	141,000	1st	-	-	-	-	-	-	-	-	-	-	-	-	69	21	-		
				Mid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	64	-
				Full	-	-	-	-	-	-	-	-	-	-	-	-	-	-	470	143.3	-

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.

4HPF 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)
4HPF2M-2000-20	37.50	953	17	432	6.56	167	8	203	2.38	60	14.50	368	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.86	200	1 ⁹ / ₃₂	15	-	-	170	78
4HPF2M-2000-35	39	991	17	432	6.56	167	8	203	2.38	60	14.50	368	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.86	200	1 ⁹ / ₃₂	15	-	-	200	91
4HPF3M-3000-20	42	1,067	17	432	6.56	167	8	203	2.38	60	14.50	368	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.86	200	1 ⁹ / ₃₂	15	-	-	250	114
4HPF3M-3000-35	42	1,067	17	432	6.56	167	8	203	2.38	60	14.50	368	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.86	200	1 ⁹ / ₃₂	15	-	-	260	118
4HPF5M-5000-20	54.50	1,384	26	660	9.63	245	12	305	5.13	130	21	533	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12	305	7/8	22	-	-	500	227
4HPF5M-5000-35	54.50	1,384	26	660	9.63	245	12	305	5.13	130	21	533	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12	305	7/8	22	-	-	500	227
4HPF7M-7000-25	56	1,422	26	660	9.63	245	12	305	5.13	130	21	533	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12	305	7/8	22	-	-	650	295
4HPF7M-7000-40	59	1,499	26	660	9.63	245	12	305	5.13	130	21	533	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12	305	7/8	22	-	-	760	345
4HPF9M-9000-20	64.50	1,638	31	787	12	305	14.50	368	6.25	159	25.50	648	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,000	454
4HPF9M-9000-40	69.50	1,765	31	787	12	305	14.50	368	6.25	159	25.50	648	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,120	509
4HPF15M-15000-25	71.50	1,816	31	787	12	305	14.50	368	6.25	159	25.50	648	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,340	608
4HPF15M-15000-35	74	1,880	31	787	12	305	14.50	368	6.25	159	25.50	648	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,370	622
4HPF20M-20000-20	90	2,286	43	1,092	18.88	480	19.50	495	6.75	171	34.50	876	1.50	38	32	813	16	406	21	533	1.50	38	40	1,016	20	508	1-3/8	35	48	1,219	2,400	1,089
4HPF20M-20000-40	97	2,464	43	1,092	18.88	480	19.50	495	6.75	171	34.50	876	1.50	38	32	813	16	406	21	533	1.50	38	40	1,016	20	508	1-3/8	35	48	1,219	2,620	1,189
4HPF25M-25000-20	94	2,388	43	1,092	18.88	480	19.50	495	6.75	171	34.50	876	1.50	38	32	813	16	406	21	533	1.50	38	40	1,016	20	508	1-3/8	35	48	1,219	3,190	1,447
4HPF25M-25000-40	100	2,540	43	1,092	18.88	480	19.50	495	6.75	171	34.50	876	1.50	38	32	813	16	406	21	533	1.50	38	40	1,016	20	508	1-3/8	35	48	1,219	3,440	1,561

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

4HPFC Series Winch Dimensions

Model	A		B		C		D		E		F		G		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)	(in)	(mm)	(lb)	(kg)		
4HPF2MC-2000-20	38.50	978	17	432	6	152	8	203	2.38	60	0.88	23	19.88	505	17	432	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	270	123
4HPF2MC-2000-35	40	1,016	17	432	6	152	8	203	2.38	60	0.88	23	19.88	505	17	432	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	300	137
4HPF3MC-3000-20	41	1,041	17	432	6	152	8	203	2.38	60	0.88	23	19.88	505	18.25	464	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	280	128
4HPF3MC-3000-35	43	1,092	17	432	6	152	8	203	2.38	60	0.88	23	19.88	505	18.25	464	1	25	20	508	10	254	7.56	192	0.63	16	15.75	400	7.88	200	1 ⁹ / ₃₂	15	-	-	300	137
4HPF5MC-5000-20	55	1,397	26	660	9.63	245	12	305	5.13	130	-	-	22.25	565	24.25	616	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12.00	305	7/8	22	-	-	550	250
4HPF5MC-5000-35	55	1,397	26	660	9.63	245	12	305	5.13	130	-	-	22.25	565	24.25	616	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12.00	305	7/8	22	-	-	550	250
4HPF7MC-7000-25	56	1,422	26	660	9.63	245	12	305	5.13	130	-	-	22.25	565	27	686	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12.00	305	7/8	22	-	-	700	318
4HPF7MC-7000-40	58.50	1,486	26	660	9.63	245	12	305	5.13	130	-	-	22.25	565	27	686	1	25	30.50	775	15.25	387	11.50	292	1	25	24	610	12.00	305	7/8	22	-	-	760	345
4HPF9MC-9000-20	66	1,676	31	787	12	305	14.50	368	6.25	159	-	-	22	559	32	813	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,250	567
4HPF9MC-9000-40	71	1,803	31	787	12	305	14.50	368	6.25	159	-	-	22	559	32	813	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,360	617
4HPF15MC-15000-25	72.50	1,842	31	787	12	305	14.50	368	6.25	159	-	-	22	559	35	889	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,580	717
4HPF15MC-15000-35	74.50	1,892	31	787	12	305	14.50	368	6.25	159	-	-	22	559	35	889	1.25	32	26.50	673	13.25	337	14.50	368	1.13	29	28.75	730	14.38	365	1-1/8	29	39.75	1,010	1,620	735

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

4HPF Series Performance Characteristics

Model	Model Number Extensions			Motor	Load Rating						Line Speed			
	Load Rating	Line Speed	Motor Codes ⁵		1st Layer		Mid Drum		Full Drum		1st Layer		Full Drum	
	(lb)	(fpm)			(lb)	(kg)	(lb)	(kg)	(lb)	(kg)	(fpm)	(mpm)	(fpm)	(mpm)
4HPF2M	2,000	20	D, E, F	1	2,100	953	1,300	590	1,000	454	17	5.2	38	11.6
4HPF2M	2,000	35	D, E, F	2	2,100	953	1,300	590	1,000	454	34	10.4	76	23.2
4HPF3M	3,000	20	D, E, F	1.5	3,000	1,361	2,100	953	1,600	726	19	5.8	33	10.1
4HPF3M	3,000	35	D, E, F	3	3,300	1,497	2,300	1,044	1,800	817	33	10.1	59	18.0
4HPF5M	5,000	20	D, E, F	3	5,000	2,268	3,100	1,407	2,300	1,044	22	6.7	49	14.9
4HPF5M	5,000	35	D, E, F	5	5,000	2,268	3,100	1,407	2,300	1,044	37	11.3	81	24.7
4HPF7M	7,000	25	D, E, F	5	7,300	3,312	5,400	2,450	4,300	1,951	24	7.3	40	12.2
4HPF7M	7,000	40	D, E, F	7.5	7,300	3,312	5,400	2,450	4,300	1,951	38	11.6	64	19.5
4HPF9M	9,000	20	D, E, F	5	9,000	4,083	6,500	2,949	5,100	2,314	21	6.4	37	11.3
4HPF9M	9,000	40	D, E, F	10	9,000	4,083	6,500	2,949	5,100	2,314	41	12.5	73	22.3
4HPF15M	15,000	25	D, E, F	10	14,300	6,487	10,900	4,945	8,800	3,992	26	7.9	41	12.5
4HPF15M	15,000	35	D, E, F	15	15,100	6,850	11,500	5,217	9,300	4,219	36	11.0	59	18.0
4HPF20M	20,000	20	D, E, F	10	20,100	9,118	14,100	6,396	10,800	4,899	17	5.2	31	9.4
4HPF20M	20,000	40	D, E, F	25	20,100	9,118	14,000	6,351	10,800	4,899	43	13.1	81	24.7
4HPF25M	25,000	20	D, E, F	15	25,200	11,431	19,200	8,710	15,500	7,031	20	6.1	32	9.8
4HPF25M	25,000	40	D, E, F	30	25,000	11,340	19,000	8,619	15,500	6,986	42	12.8	68	20.7
4HPF2MC ⁴	2,000	20	D, E, F	1	2,100	953	1,300	590	1,000	454	17	5.2	38	11.6
4HPF2MC ⁴	2,000	35	D, E, F	2	2,100	953	1,300	590	1,000	454	34	10.4	75	22.9
4HPF3MC ⁴	3,000	20	D, E, F	1.5	3,300	1,497	2,300	1,044	1,800	817	17	5.2	60	18.3
4HPF3MC ⁴	3,000	35	D, E, F	3	3,300	1,497	2,300	1,044	1,800	817	34	10.4	61	18.6
4HPF5MC ⁴	5,000	20	D, E, F	3	5,000	2,268	3,100	1,407	2,300	1,044	21	6.4	45	13.7
4HPF5MC ⁴	5,000	35	D, E, F	5	5,000	2,268	3,100	1,407	2,300	1,044	36	11.0	80	24.4
4HPF7MC ⁴	7,000	25	D, E, F	5	7,300	3,312	5,400	2,450	4,300	1,951	25	7.6	42	12.8
4HPF7MC ⁴	7,000	35	D, E, F	7.5	7,300	3,312	5,400	2,450	4,300	1,951	36	11.0	61	18.6
4HPF9MC ⁴	9,000	20	D, E, F	5	9,000	4,083	6,500	2,949	5,100	2,314	21	6.4	37	11.3
4HPF9MC ⁴	9,000	40	D, E, F	10	9,000	4,083	6,500	2,949	5,100	2,314	41	12.5	73	22.3
4HPF15MC ⁴	15,000	20	D, E, F	10	15,100	6,850	11,500	5,217	9,300	4,219	22	6.7	36	11.0
4HPF15MC ⁴	15,000	35	D, E, F	15	15,200	6,895	11,600	5,262	9,400	4,264	35	10.7	57	17.4

Please contact Thern or nearest Thern distributor for firm, fixed price and delivery.
⁴ Manual clutch models.

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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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