

# 4WS SERIES

Thern 4WS series power winches feature dual stage gear reduction for economical handling of large loads. The combination of helical/worm and spur gearing make these winches ideal for applications requiring secure load control and accurate positioning. Our modular design also means we can quickly customize these winches to meet your specific requirements.



**FLANGE MOUNTED MOTOR** is a 230/460 volt 3 phase motor, 60 cycle, IP 54<sup>1</sup>, TEFC severe duty, reversible, class B or F insulated, continuous duty brakemotor.

Standard motors comply with relevant standards including NEMA, MG1, ANSI, CSA, IEC<sup>1</sup> and ABS.

**LOAD HOLDING MOTOR DISC BRAKE** is spring set, electrically released for positive load control.

**DUAL STAGE GEARING**, comprised of a worm or helical/worm and spur gears, make winches well suited for applications requiring secure load control and accurate positioning.

The heat treated worm or helical/worm gear set provides improved durability and operates in an oil bath, enclosed in a high strength cast iron gearcase, SAE class 30. Double-lip oil seals keep oil in and contaminants out. Large capacity bearings ensure long life. Speed reducers meet AGMA standards.

Guarded, heat treated spur gearing provides secondary reduction. Grease zerks allow for easy lubrication.

**ANSI B30.7 COMPLIANCE** is available. Please contact the factory.

**2 YEAR "MOVE IT WITH CONFIDENCE" LIMITED WARRANTY** leads the industry.

**FLANGE STYLE ROLLER BEARINGS** are self-aligning bearings with cast housing to maintain smooth drum rotation.

**WELDED STEEL DRUM** with outside flange anchors allow for uniform winding and help extend life of wire rope. Anchors allow cable to be over wound or under wound from either side of the drum.

**EXTENDED STEEL DRUM SHAFT** with both ends captured in fabricated steel frame for optimal strength and security.

**WIRE ROPE ASSEMBLIES** sold separately per customer request.

<sup>1</sup>Does not apply to 4WS9M18 Series winches.

# 4WS SERIES

	HP	Load Rating	Line Speed
4WS9M18	5 - 10	7,000 - 10,000 lb	10 - 30 fpm
4WS16M20	7.5 - 15	13,000 - 16,000 lb	15 - 35 fpm
4WS26M26	15 - 25	22,000 - 26,000 lb	10 - 35 fpm

## OPTIONS AND ACCESSORIES

**DRUM MODIFICATIONS (A)** include grooved drums, multiple compartment drums and modified drum widths and diameters.

**WINCH MOUNTING OPTIONS** include base, wall or under hung installation.

**CABLE PRESSURE BARS (B)** help maintain uniform winding of wire rope.

**LIMIT SWITCHES (A)** provide secondary shut-off for load travel in one or two directions.

**MOTOR OPTIONS** include air or hydraulic, voltage or phase changes, IP 55 or 65, class F or H insulated and multi-speed operation.

**DUTY RATINGS** include IEEE 45 marine duty, tropical duty, severe duty and explosion proof ratings.

**BRAKE OPTIONS** include over-speed, caliper style, band, and more.

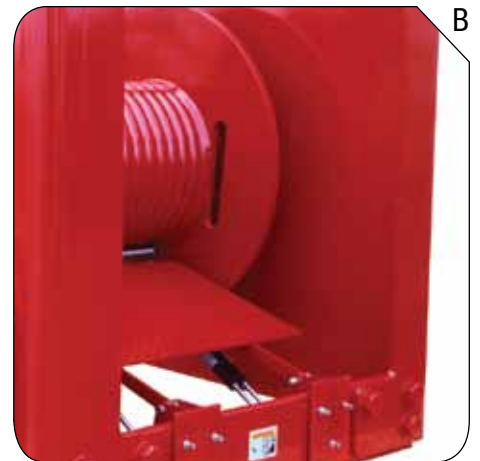
**CONTROLS (C)** are available in a wide range of standard and custom configurations for single or variable speed.

**CORROSION RESISTANT FINISHES (D)** for harsh or hazardous environments.

**MANUAL OVERRIDES** for winch operation in power loss situations.



Shown with double compartment and narrow drum width modifications and rotary limit switch.



Shown with cable pressure bar and grooved drum modification.



Shown with grooved drum modification and gray epoxy finish.



# 4WS SERIES POWER WINCHES

## 4WS Series Performance Characteristics

	Model Number Extensions			Motor hp	Load Rating						Line Speed				Motor Codes
	Load Rating (lb)	Line Speed (fpm)	Motor Codes <sup>1</sup>		1st Layer		Mid Drum		Full Drum		1st Layer		Full Drum		
				(lb)	(kg)	(lb)	(kg)	(lb)	(kg)	(fpm)	(mpm)	(fpm)	(mpm)		
4WS9M18	7000	20	D,E,F	5	7,300	3,312	5,000	2,268	3,800	1,724	21	6.4	41	12.5	D 230 volt 3 phase E 460 volt 3 phase F All other voltages please contact factory
4WS9M18	7000	30	D,E,F	7.5	7,500	3,402	5,200	2,359	4,000	1,815	32	9.8	61	18.6	
4WS9M18	10000	10	D,E,F	5	10,000	4,536	6,900	3,130	5,300	2,405	13	4.0	24	7.3	
4WS9M18	10000	20	D,E,F	7.5	10,000	4,536	6,900	3,130	5,300	2,405	21	6.4	41	12.5	D 230 volt 3 phase E 460 volt 3 phase F All other voltages please contact factory
4WS9M18	10000	30	D,E,F	10	10,000	4,536	6,900	3,130	5,200	2,359	32	9.8	61	18.6	
4WS16M20	13000	15	D,E,F	7.5	13,000	5,897	8,800	3,992	6,700	3,040	14	4.3	26	7.9	
4WS16M20	13000	20	D,E,F	10	13,300	6,033	9,100	4,128	6,900	3,130	18	5.5	35	10.7	D 230 volt 3 phase E 460 volt 3 phase F All other voltages please contact factory
4WS16M20	13000	35	D,E,F	15	13,000	5,897	8,900	4,038	6,700	3,040	35	10.7	68	20.7	
4WS16M20	16000	15	D,E,F	7.5	16,000	7,258	11,100	5,035	8,500	3,856	12	3.7	24	7.3	
4WS16M20	16000	20	D,E,F	10	16,000	7,258	11,100	5,035	8,500	3,856	16	4.9	31	9.4	D 230 volt 3 phase E 460 volt 3 phase F All other voltages please contact factory
4WS26M26	22000	20	D,E,F	15	22,800	10,343	16,700	7,576	13,200	5,988	18	5.5	31	9.4	
4WS26M26	22000	25	D,E,F	20	22,600	10,252	16,500	7,485	13,100	5,943	25	7.6	43	13.1	
4WS26M26	22000	35	D,E,F	25	22,200	10,070	16,300	7,394	12,900	5,852	36	11.0	63	19.2	D 230 volt 3 phase E 460 volt 3 phase F All other voltages please contact factory
4WS26M26	26000	10	D,E,F	10	26,200	11,885	19,400	8,800	15,400	6,986	10	3.0	17	5.2	
4WS26M26	26000	15	D,E,F	15	26,000	11,794	20,200	9,163	16,500	7,485	16	4.9	27	8.2	

Please contact factory or nearest Thern Distributor for firm fixed price and delivery.

## 4WS Series Drum Capacities

Wire Rope Dia.	Breaking Strength <sup>2</sup>		Drum Capacity	4WS9M18		4WS16M20		4WS26M26		
	(in)	(mm)		(lb)	(kg)	(ft)	(m)	(ft)	(m)	(ft)
7/16	11.2	20,400	9,254	1st	87	26.5	-	-	-	-
				Mid	670	204.2	-	-	-	-
				Full	1,500	457.2	-	-	-	-
1/2	12.7	26,600	12,066	1st	76	23.2	-	-	-	-
				Mid	520	158.5	-	-	-	-
				Full	1,170	356.6	-	-	-	-
9/16	14.2	33,600	15,240	1st	67	20.4	89	27.1	-	-
				Mid	420	128.0	690	210.3	-	-
				Full	930	283.5	1,530	466.3	-	-
5/8	16.0	41,200	18,688	1st	59	18.0	78	23.8	-	-
				Mid	340	103.6	560	170.7	-	-
				Full	760	231.6	1,250	381.0	-	-
3/4	19.1	58,800	26,671	1st	48	14.6	65	19.8	110	33.5
				Mid	240	73.2	400	121.9	670	204.2
				Full	540	164.6	880	268.2	1,480	451.1
7/8	22.4	79,600	36,106	1st	-	-	54	16.5	94	28.7
				Mid	-	-	290	88.4	480	146.3
				Full	-	-	640	195.1	1,070	326.1
1	25.4	103,400	46,902	1st	-	-	47	14.3	82	25.0
				Mid	-	-	220	67.1	370	112.8
				Full	-	-	490	149.4	830	253.0
1-1/8	28.7	130,000	58,968	1st	-	-	-	-	71	21.6
				Mid	-	-	-	-	300	91.4
				Full	-	-	-	-	660	201.2
1-1/4	31.8	159,800	72,485	1st	-	-	-	-	63	19.2
				Mid	-	-	-	-	240	73.2
				Full	-	-	-	-	530	161.5
1-3/8	34.9	192,000	87,090	1st	-	-	-	-	56	17.1
				Mid	-	-	-	-	200	61.0
				Full	-	-	-	-	440	134.1

<sup>2</sup> Values based on 6x37 IWRC EIPS wire rope.

**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.

## Electric Motor Controls

	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.**

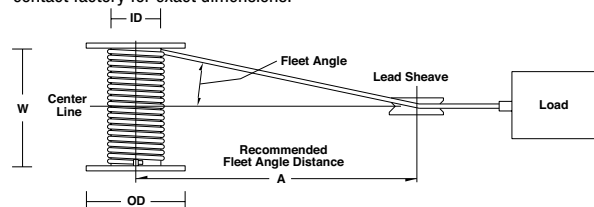
**Please contact factory or nearest Thern Distributor for firm fixed price and delivery.**

**All prices include mounting and wiring to motor.**

## 4WS Series Drum Dimensions

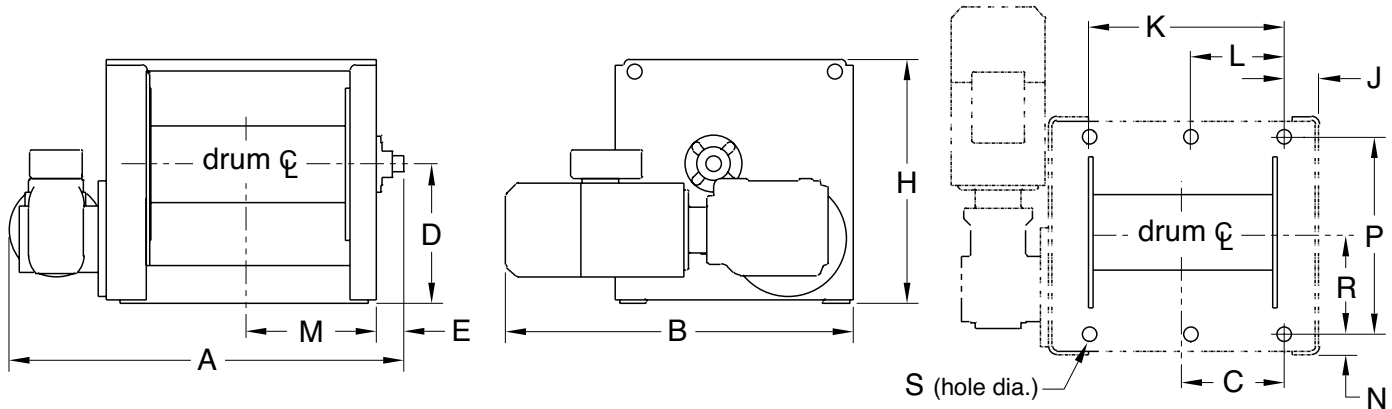
	Drum Diameter (ID)		Flange Diameter (OD)		Drum Width (W)		Fleet Angle Dist (A) <sup>3</sup>	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(ft)	(m)
4WS9M18	9.00	229	20.00	508	18.00	457	29	8.8
4WS16M20	10.75	273	24.00	610	20.00	508	32	9.8
4WS26M26	14.00	356	28.00	711	26.00	660	42	12.8

<sup>3</sup> Recommended minimum distance between drum and lead sheave for smooth drum. Dimensions are for reference only and subject to change without notice. Please contact factory for exact dimensions.



# 4WS SERIES POWER WINCHES

## 4WS Series



**4WS Series Winch Dimensions**

	A		B		C		D		E		H		J		K	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
4WS9M18-7000-20	44.00	1,118	33.75	857	8.50	216	17.75	451	5.13	130	31.00	787	4.00	102	18.00	457
4WS9M18-7000-30	45.50	1,156	38.50	978	8.50	216	17.75	451	5.13	130	31.00	787	4.00	102	18.00	457
4WS9M18-10000-10	44.00	1,118	33.75	857	8.50	216	17.75	451	5.13	130	31.00	787	4.00	102	18.00	457
4WS9M18-10000-20	45.50	1,156	38.50	978	8.50	216	17.75	451	5.13	130	31.00	787	4.00	102	18.00	457
4WS9M18-10000-30	45.50	1,156	40.00	1,016	8.50	216	17.75	451	5.13	130	31.00	787	4.00	102	18.00	457
4WS16M20-13000-15	48.00	1,219	34.75	883	9.50	241	20.00	508	6.25	159	34.00	864	4.00	102	20.00	508
4WS16M20-13000-20	48.00	1,219	37.00	940	9.50	241	20.00	508	6.25	159	34.00	864	4.00	102	20.00	508
4WS16M20-13000-35	48.00	1,219	39.50	1,003	9.50	241	20.00	508	6.25	159	34.00	864	4.00	102	20.00	508
4WS16M20-16000-15	48.00	1,219	34.75	883	9.50	241	20.00	508	6.25	159	34.00	864	4.00	102	20.00	508
4WS16M20-16000-20	48.00	1,219	37.00	940	9.50	241	20.00	508	6.25	159	34.00	864	4.00	102	20.00	508
4WS26M26-22000-20	60.50	1,537	43.50	1,105	12.38	314	25.38	645	8.06	205	44.50	1,130	5.88	149	26.00	660
4WS26M26-22000-25	60.50	1,537	47.00	1,194	12.38	314	25.38	645	8.06	205	44.50	1,130	5.88	149	26.00	660
4WS26M26-22000-35	60.50	1,537	50.00	1,270	12.38	314	25.38	645	8.06	205	44.50	1,130	5.88	149	26.00	660
4WS26M26-26000-10	60.50	1,537	42.00	1,067	12.38	314	25.38	645	8.06	205	44.50	1,130	5.88	149	26.00	660
4WS26M26-26000-15	60.50	1,537	43.50	1,105	12.38	314	25.38	645	8.06	205	44.50	1,130	5.88	149	26.00	660

	L		M		N		P		R		S (Hole Dia.)		Ship Wt.	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lb)	(kg)
4WS9M18-7000-20	-	-	12.50	318	2.75	70	22.00	559	12.50	318	1-3/16	30	1,100	499
4WS9M18-7000-30	-	-	12.50	318	2.75	70	22.00	559	12.50	318	1-3/16	30	1,100	499
4WS9M18-10000-10	-	-	12.50	318	2.75	70	22.00	559	12.50	318	1-3/16	30	1,100	499
4WS9M18-10000-20	-	-	12.50	318	2.75	70	22.00	559	12.50	318	1-3/16	30	1,100	499
4WS9M18-10000-30	-	-	12.50	318	2.75	70	22.00	559	12.50	318	1-3/16	30	1,160	527
4WS16M20-13000-15	10.00	254	13.50	343	2.75	70	27.50	699	16.25	413	1-3/16	30	1,550	704
4WS16M20-13000-20	10.00	254	13.50	343	2.75	70	27.50	699	16.25	413	1-3/16	30	1,610	731
4WS16M20-13000-35	10.00	254	13.50	343	2.75	70	27.50	699	16.25	413	1-3/16	30	1,650	749
4WS16M20-16000-15	10.00	254	13.50	343	2.75	70	27.50	699	16.25	413	1-3/16	30	1,550	704
4WS16M20-16000-20	10.00	254	13.50	343	2.75	70	27.50	699	16.25	413	1-3/16	30	1,610	731
4WS26M26-22000-20	13.00	330	18.25	464	3.00	76	36.00	914	21.75	552	1-3/8	35	3,110	1,411
4WS26M26-22000-25	13.00	330	18.25	464	3.00	76	36.00	914	21.75	552	1-3/8	35	3,290	1,493
4WS26M26-22000-35	13.00	330	18.25	464	3.00	76	36.00	914	21.75	552	1-3/8	35	3,350	1,520
4WS26M26-26000-10	13.00	330	18.25	464	3.00	76	36.00	914	21.75	552	1-3/8	35	3,070	1,393
4WS26M26-26000-15	13.00	330	18.25	464	3.00	76	36.00	914	21.75	552	1-3/8	35	3,110	1,411

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

**IMPORTANT:**  
It is the owner's or operator's responsibility to determine the suitability of the equipment to its intended use. Study all applicable codes, manuals, and regulations. Be sure to read the Owner's Manual supplied with the equipment before operating it.