



HAND WINCHES

# WORM GEAR



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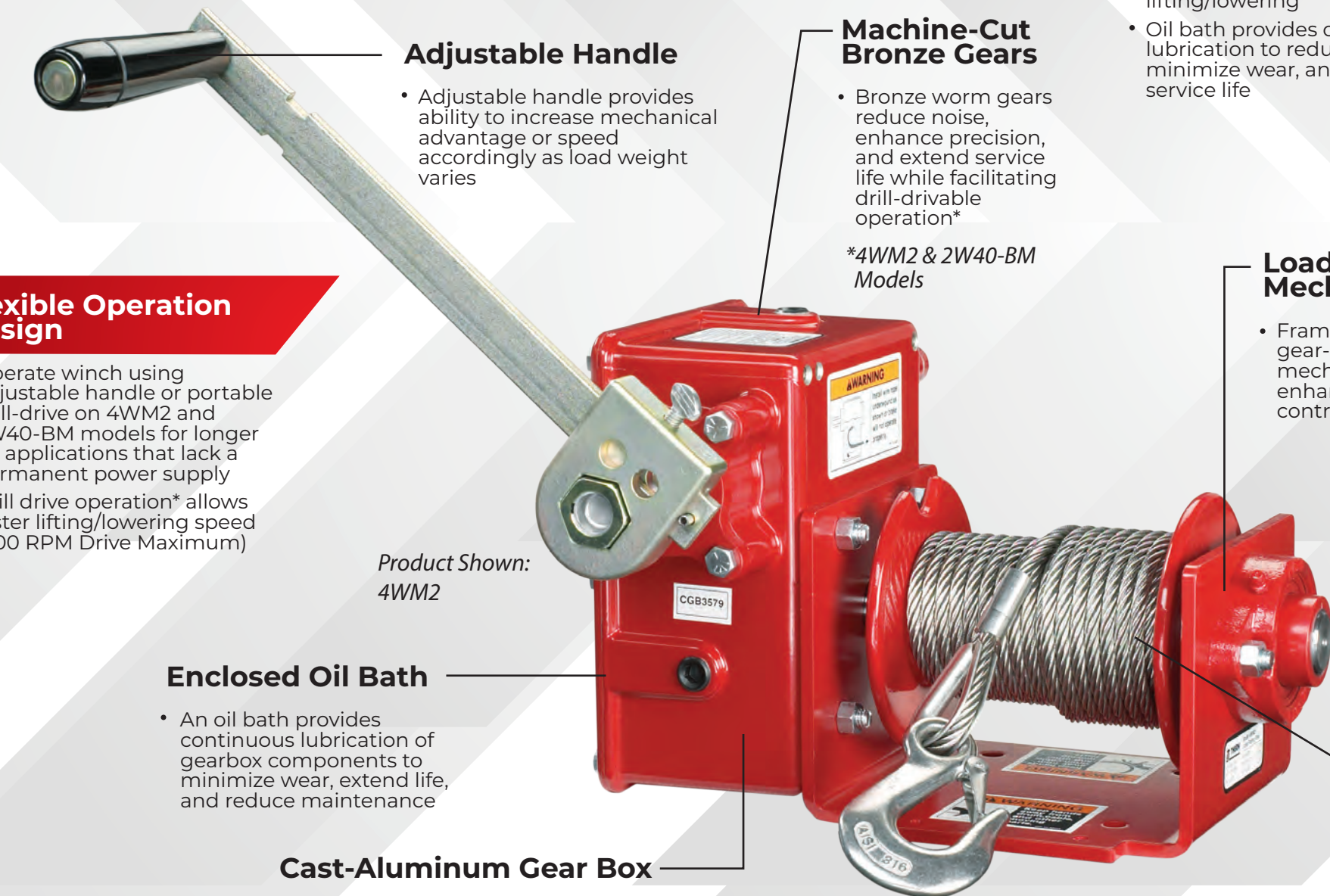
# WORM GEAR

## HAND WINCHES



### MEASURED, STEADY PRECISION with Less Force

The Worm Gear Series of hand winches (up to 4,600 lbs) is designed to lift and lower heavy loads quietly, with less effort. The worm-gear design allows for more precise positioning and extra load-holding power for secure control. Machine-cut bronze gearing and a cast aluminum gearbox enhance durability and resist the elements. Multiple configurations make it ideal for maritime, rail yards, construction, and manufacturing.



#### Adjustable Handle

- Adjustable handle provides ability to increase mechanical advantage or speed accordingly as load weight varies

#### Machine-Cut Bronze Gears

- Bronze worm gears reduce noise, enhance precision, and extend service life while facilitating drill-drivable operation\*

\*4WM2 & 2W40-BM Models

#### Automatic Brake

- Adjustable brake provides positive load control for lifting/lowering
- Oil bath provides continuous lubrication to reduce heat, minimize wear, and extend service life

#### Load-Locking Mechanism

- Frame-based, gear-locking mechanism enhances load control

#### Flexible Operation Design

- Operate winch using adjustable handle or portable drill-drive on 4WM2 and 2W40-BM models for longer lift applications that lack a permanent power supply
- Drill drive operation\* allows faster lifting/lowering speed (400 RPM Drive Maximum)

Product Shown:  
4WM2

#### Enclosed Oil Bath

- An oil bath provides continuous lubrication of gearbox components to minimize wear, extend life, and reduce maintenance

#### Cast-Aluminum Gear Box

- Lightweight, corrosion-resistant design enhances portability and increases service life

#### Large-Diameter Drum

- Large diameter drum extends wire rope life and increases travel distance

### PERFORMANCE

Series	IMPERIAL			
	Load Rating	Brake	Drum Capacity	Force to Lift 1,000 lbs
4622PB	1,000 lbs	Yes	140 ft	26 lbs
4WM2	2,000 lbs	Yes	77 ft	14 lbs
2W40-BM	4,600 lbs	Yes	200 ft	11 lbs

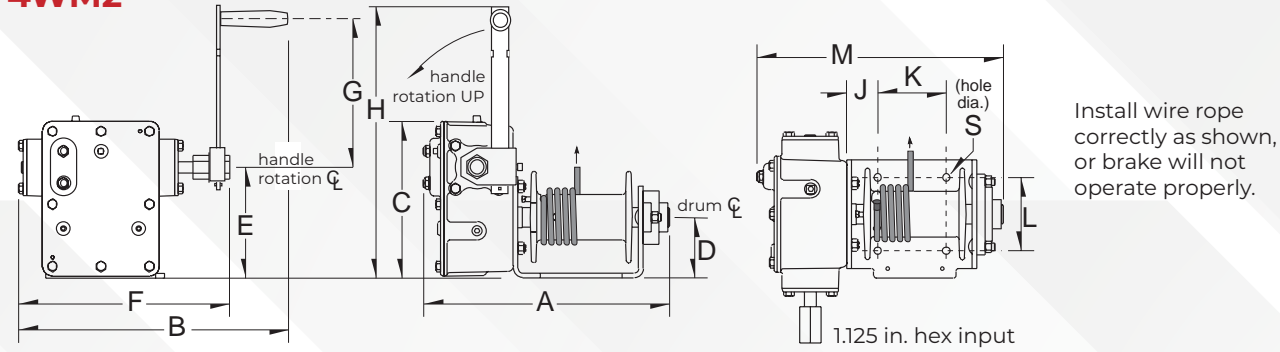
Series	METRIC			
	Load Rating	Brake	Drum Capacity	Force to Lift 1,000 lbs
4622PB	450 kg	Yes	42 m	12 kg
4WM2	905 kg	Yes	23 m	7 kg
2W40-BM	2,085 kg	Yes	60 m	5 kg

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

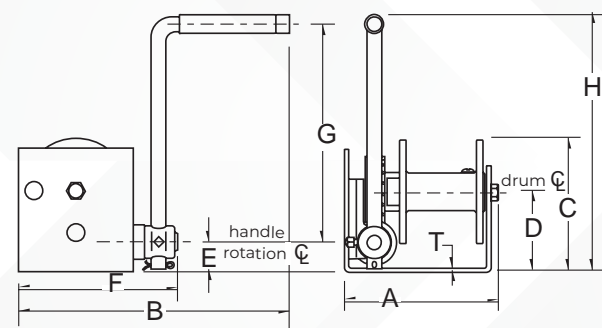
Refer to technical pages for detailed performance information.

# WORM GEAR SERIES HAND WINCHES

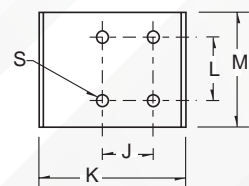
## Model 4WM2



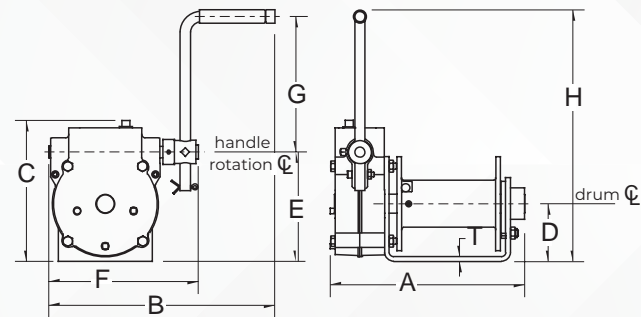
## Model 465



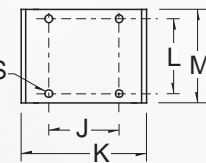
Base Model 465



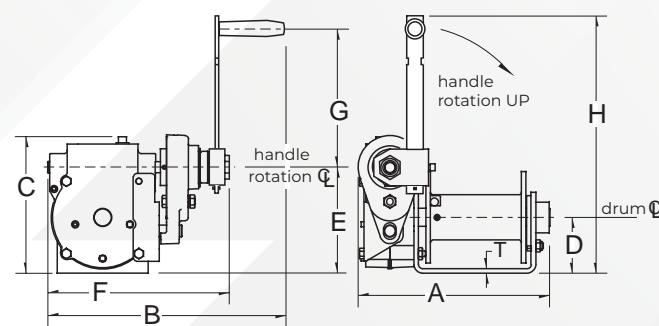
## Models 462 and 472



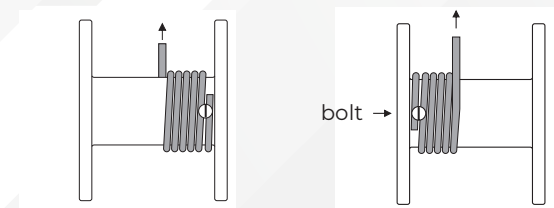
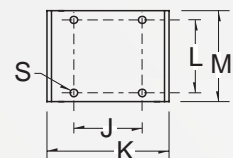
Base Models 462 and 472



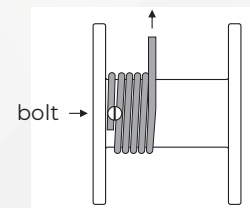
## Model 4622PB



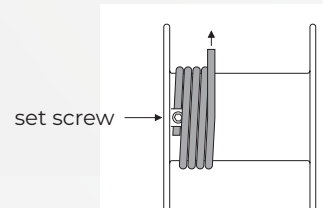
Base Model 4622PB



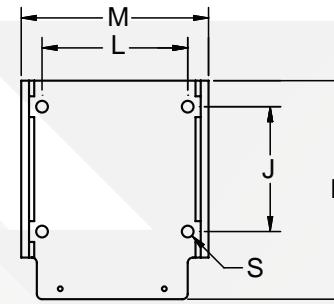
Wire Rope Installation  
Model 465



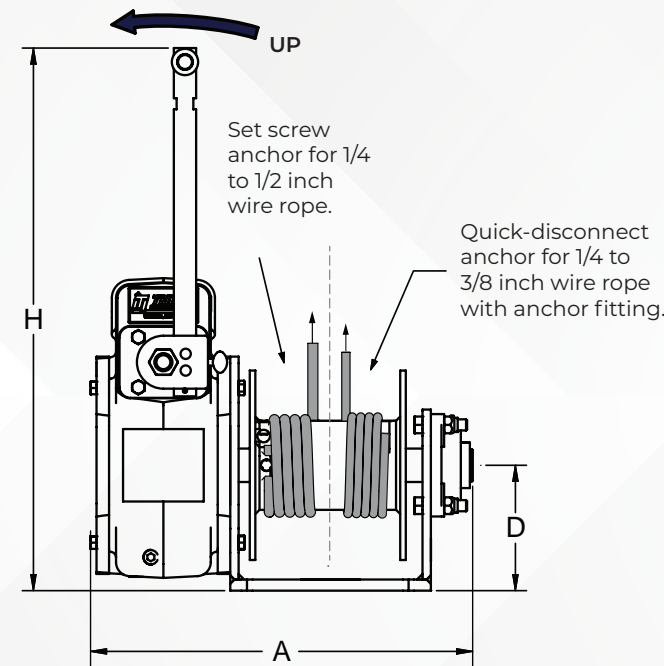
Wire Rope Installation  
Models 462 and 4622PB



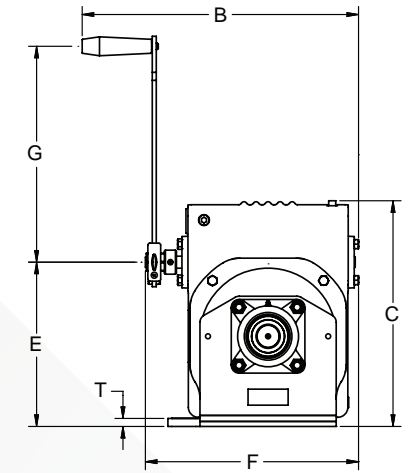
Wire Rope Installation  
Model 472



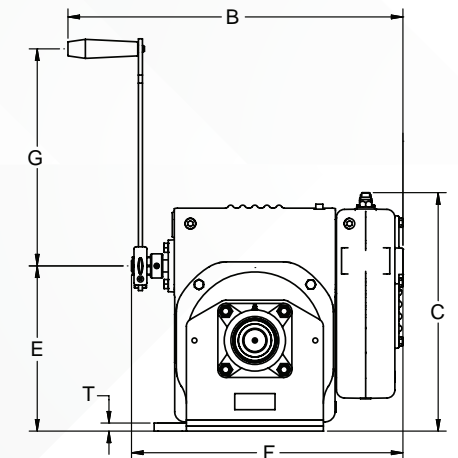
Install wire rope correctly as shown, or brake will not operate properly.  
Underwound: set screw or quick-disconnect anchors



## Models 2W40-L and 2W40-M



## Models 2W40-BM and 2W40-BL



## Worm Gear Hand Winches—Dimensions

	465		462		4622PB		472		4WM2	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
Drum Diameter	1.50	38.1	1.50	38.1	1.50	38.1	2.50	63.5	2.50	63.5
Flange Diameter	4.00	101.6	4.06	103.1	4.06	103.1	5.00	127	5.00	127
Drum Width	2.81	71.3	2.81	71.3	2.81	71.3	5.00	127	5.00	127
A	6.50	165.1	7.75	196.8	7.50	190.5	10.12	257.0	13.50	342.9
B	10.50	266.7	10.25	260.3	11.81	299.9	12.00	304.8	15.56	395.2
C	5.44	138.1	5.63	143.0	5.62	142.7	7.12	180.8	8.56	217.4
D	3.40	86.3	2.38	60.4	2.40	60.9	3.06	77.7	3.31	84.0
E	1.40	35.5	4.38	111.2	4.38	111.2	5.81	147.5	6.04	153.4
F	6.38	162.0	5.88	149.3	7.60	193.0	7.94	201.6	11.56	293.6
G	8.75	222.2	9.00	228.6	10.59	268.9	7.25	184.1	10.59	268.9
H	10.59	268.9	13.38	339.8	15.59	395.9	13.38	339.8	17.30	439.4
J	2.00	50.8	2.00	50.8	2.00	50.8	3.75	95.2	1.75	44.4
K	5.75	146.0	4.44	112.7	4.44	112.7	6.69	169.9	3.75	95.2
L	2.50	63.5	2.50	63.5	2.50	63.5	4.00	101.6	4.00	101.6
M	4.50	114.3	3.50	88.90	3.50	88.90	5.00	127	13.50	342.9
S (hole diameter)	.40	10.1	.40	10.1	.40	10.1	.40	10.1	.41	10.4
T	.19	4.8	.19	4.8	.19	4.8	.25	6.3	—	—

Dimensions are for reference only and subject to change without notice.

## Worm Gear Hand Winches—Configurations and Performance Characteristics

Model	Description	Load Rating						Wire Rope Dia.		Drum Capacity <sup>1</sup>						Gear Ratio	Force <sup>2</sup> to lift 1,000 lbs		Approx. Ship Weight	
		1st Layer		Mid Drum		Full Drum				1st Layer		Mid Drum		Full Drum						
		(lb)	(kg)	(lb)	(kg)	(lb)	(kg)	(in)	(mm)	(ft)	(m)	(ft)	(m)	(ft)	(m)		(lb)	(kg)	(lb)	(kg)
465	750 lb—open gears (recommended for pulling only)	750	340	600	272	400	181	1/8	3.2	7	2	58	17	130	39	20:1	21	9.5	12	5
462	1,000 lb—enclosed gearing (recommended for pulling only)	1,000	453	700	317	500	226	1/8	3.2	7	2	61	18	140	42	15:1	34	15.4	15	7
4622PB	1,000 lb—enclosed gearing with brake (for lifting)	1,000	453	700	317	500	226	1/8	3.2	7	2	61	18	140	42	15:1	26	11.8	21	10
472	2,000 lb—enclosed gearing (recommended for pulling only)	2,000	907	1,700	771	1,300	589	3/16	4.8	15	4	65	19	140	42	24:1	24	10.9	32	15
4WM2	2,000 lb—enclosed gearing with brake (for lifting) <b>Drill Driveable*</b>	2,000	907	1,500	680	1,200	544	1/4	6.4	11	3	35	10	77	23	32:1	14	6.4	41	19
2W40-L	4,000 lb—enclosed gearing (recommended for pulling only)	4,000	1,814	2,800	1,270	2,200	997	5/16	7.9	18	5	91	27	200	60	26:1	18	8.2	126	58
2W40-BL	4,000 lb—enclosed gearing with brake (for lifting)	4,000	1,814	2,800	1,270	2,200	997	5/16	7.9	18	5	91	27	200	60				145	66
2W40-M	4,600 lb—enclosed gearing (recommended for pulling only) <b>Drill Driveable*</b>	4,600	2,086	3,300	1,496	2,500	1,133	5/16	7.9	18	5	91	27	200	60	31:1	11	5.0	123	56
2W40-BM	4,600 lb—enclosed gearing with brake (for lifting) <b>Drill Driveable*</b>	4,600	2,086	3,300	1,496	2,500	1,133	5/16	7.9	18	5	91	27	200	60				141	64
								3/8	9.5	14	4	65	19	140	42					

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

<sup>1</sup>Actual drum capacities may be 25–30% less due to nonuniform winding. Wire rope tension will also affect drum capacity.

<sup>2</sup>Approximate handle force required to lift 1,000 lb with an empty drum and maximum handle length.

## 2W40 Series Worm Gear Hand Winches—Dimensions

Model	A	B	C	D	E	F	G	H	J	K	L	M	S (hole dia.)	T	Flange Dia.	Drum Width	Drum Dia.
	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)
2W40-L	17.25	19.75	14.25	5.63	10.25	14.5	18.5	29.25	6	10.5	7	9	9/16	.5	8.5	6.5	4
2W40-M	17.25	17.25	14.25	5.63	10.25	13.5	13.5	24.50	6	10.5	7	9	9/16	.5	8.5	6.5	4
2W40-BL	17.25	23.5	15	5.63	10.25	18.25	18.5	29.25	6	10.5	7	9	9/16	.5	8.5	6.5	4
2W40-BM	17.25	21	15	5.63	10.25	17	13.5	24.50	6	10.5	7	9	9/16	.5	8.5	6.5	4

Dimensions are for reference only and subject to change without notice.

## Drill Drive Performance Characteristics

	Winch Model	Wire Rope Diameter	Load (lbs)	Distance (ft)	Lift Time (minutes)
ED330-DW11 and ED300-DW06	4WM2	1/4"	500	135*	15
			1,000	75	10
			1,500	45	7
ED400-DW09	2W40	5/16"	500	200	15
			1,000	100	9
			1,800	50	5
ED400-DW09	4WM2	1/4"	800	200*	15
			1,200	90	9
			1,500	45	5
ED400-DW09	2W40	5/16"	1,000	200	12
			2,000	100	7
			2,500	50	4

\*Long lift model



**MADE IN USA** 

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