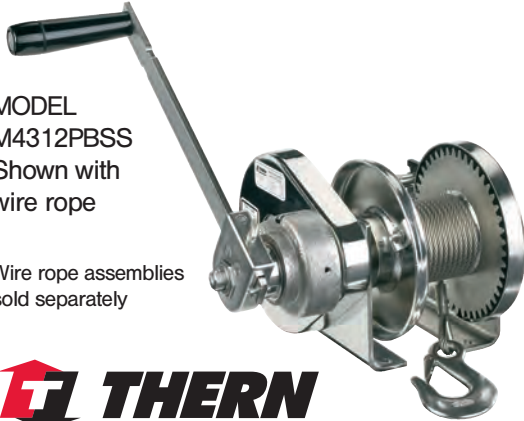


SPUR GEAR HAND WINCHES

MODEL M4022PB



MODEL M4312PBSS
Shown with wire rope



Wire rope assemblies sold separately



Spur Gear Hand Winches

Up to 2000 lb capacity

- **Machine Cut Spur Gears** for accurate and long lasting service.
- **Automatic Brake Models** provide positive load control for lifting and lowering operations. Brake models have PB suffix.
- **Corrosion Resistant** trivalent zinc plated finish protects against corrosion in harsh environments.
- **Quick Disconnect Anchor**¹ for quickly attaching or removing wire rope equipped with a swaged ball fitting.
- **Bronze and Radial Ball Bearings** provide smooth and efficient operation.
- **Large Diameter Drums** minimize wear to extend wire rope life.
- **Gear Covers** protect gears and help prevent injuries.
- **Stainless Steel Models Available** for harsh environments, see models with SS suffix. Stainless steel models are electro-polished for added corrosion resistance.
- **Two-year Limited Warranty**

Spur Gear Hand Winches – Configurations and Performance Characteristics – Section 1

model number	description	load rating (lb)			wire rope dia. (in)	drum capacity (ft) ²			single gear ratio	double gear ratio	force ³ to lift 1000 lb	approx. ship wt. (lb)
		1st layer	mid drum	full drum		1st layer	mid drum	full drum				
M401	500 lb – marine duty (for pulling only)	500	400	300	1/8 3/16	7 4	60 27	130 60	—	—	—	8
M4022	1000 lb – marine duty (for pulling only)	1000	700	500	1/8 3/16	4 3	52 26	130 57	2.85:1	—	40 lb	12
M4022PB	1000 lb – marine duty with brake (for lifting)	1000	700	500	1/8 3/16	4 3	52 26	130 57	2.85:1	—	41 lb	17
M4032	1000 lb – marine duty (for pulling only)	1000	700	500	1/8 3/16	11 7	110 51	250 110	2.85:1	—	40 lb	14
M4032PB	1000 lb – marine duty with brake (for lifting)	1000	700	500	1/8 3/16	11 7	110 51	250 110	2.85:1	—	41 lb	18
M4042PBSS	1000 lb – stainless steel with brake (for lifting)	1000	800	600	1/8 3/16 1/4	12 8 5	110 48 27	240 110 59	3.83:1	—	46 lb (single gear)	24
M4312	2000 lb – marine duty (for pulling only)	2000	1600	1200	3/16 1/4 5/16	8 5 4	48 27 17	110 59 39	3.83:1	14.7:1	20 lb (double gear)	23
M4312PB	2000 lb – marine duty with brake (for lifting)	2000	1600	1200	3/16 1/4 5/16	8 5 4	48 27 17	110 59 39	—	14.7:1	17 lb (double gear)	28
M4312PBSS	2000 lb – stainless steel with brake (for lifting)	2000	1600	1200	3/16 1/4 5/16	8 5 4	48 27 17	110 59 39	—	14.7:1	17 lb (double gear)	28
M4412	2000 lb – marine duty (for pulling only)	2000	1600	1200	3/16 1/4 5/16	18 14 11	97 52 35	210 120 77	3.83:1	14.7:1	20 lb (double gear)	25
M4412PB	2000 lb – marine duty with brake (for lifting)	2000	1600	1200	3/16 1/4 5/16	18 14 11	97 52 35	210 120 77	—	14.7:1	17 lb (double gear)	30

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

¹ For Models M4022, M4022PB, M4032, M4032PB ball end is available for 1/8 inch and 3/16 inch only.

For Models M4042PBSS, M4312, M4312PB, M4312PBSS, M4412, M4412PB ball end is available for 3/16 inch and 1/4 inch only.

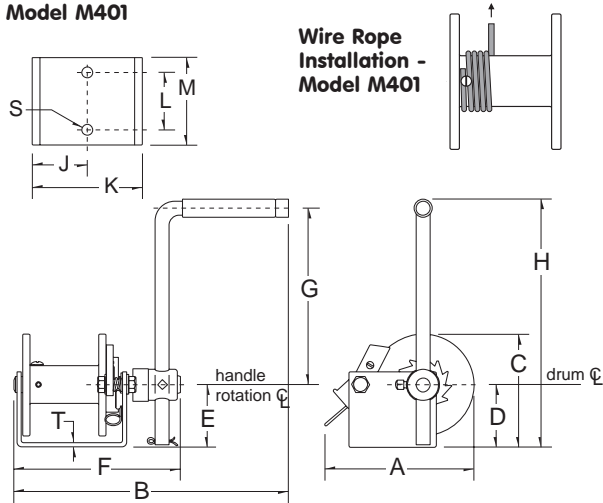
² Actual drum capacities may be 25-30% less, due to nonuniform winding. Wire rope tension will also affect drum capacity.

³ Approximate handle force required to lift 1000 lb with an empty drum, and maximum handle length.

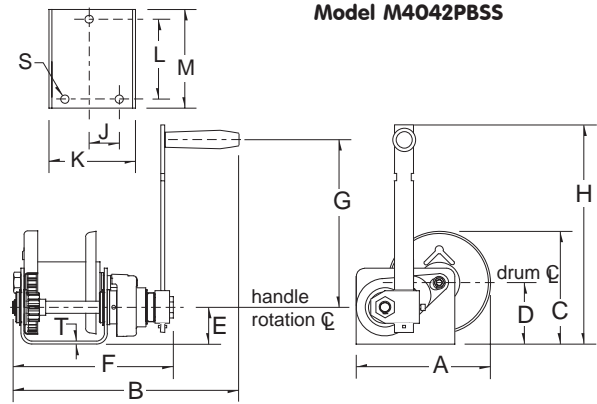
See Dimensions on Next Page

DIMENSIONS

Model M401



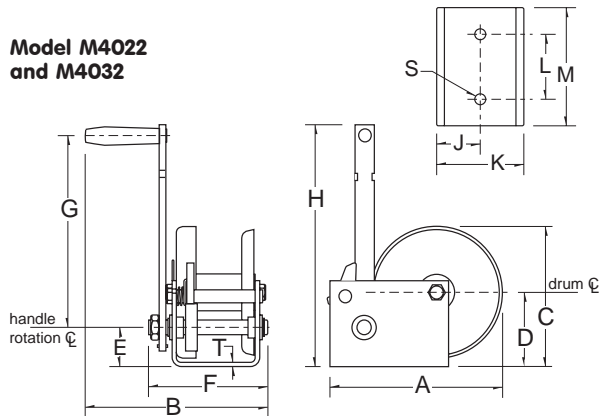
Model M4042PBSS



Wire Rope Installation - Models M4042PBSS

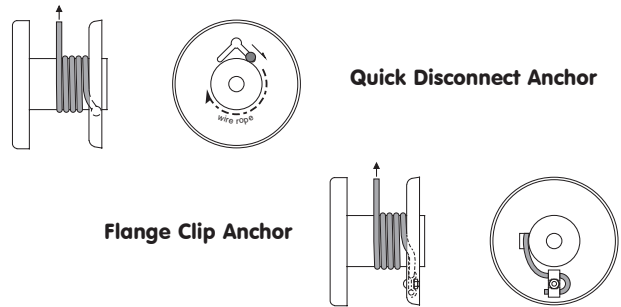
Model M4022 and M4022PB Base

Model M4022 and M4032



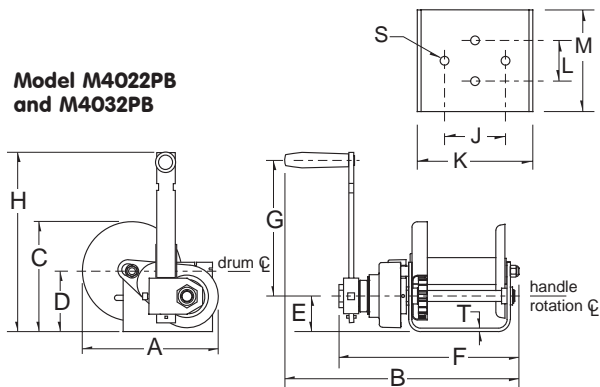
Quick Disconnect Anchor

Flange Clip Anchor



Model M4032 and M4032PB Base

Model M4022PB and M4032PB



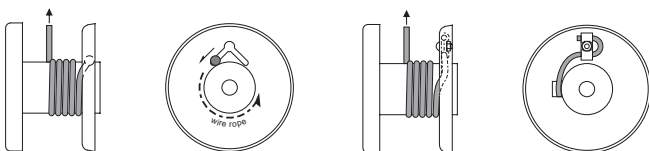
Spur Gear Hand Winches – Dimensions (in)

	M401	M4022	M4022PB	M4032	M4032PB	M4042PBSS
drum dia.	1.50	1.50	1.50	1.50	1.50	2.50
flange dia.	4.06	4.56	4.56	4.56	4.56	5.50
drum width	2.75	2.00	2.00	4.00	4.00	3.00
A	6.56	7.27	7.27	7.27	7.27	8.21
B	10.56	9.00	12.12	11.00	14.12	13.77
C	4.56	6.12	6.12	6.12	6.12	6.90
D	2.50	3.31	3.31	3.31	3.31	3.75
E	2.50	2.00	2.00	2.00	2.00	2.25
F	5.81	5.25	8.12	7.25	10.12	9.76
G ¹	8.50	11.03	10.59	11.03	10.59	10.59
H ¹	11.28	13.56	13.12	13.56	13.12	13.50
J	2.19	1.84	1.84	3.00	3.00	1.44
K	4.38	3.68	3.68	5.68	5.68	5.26
L	2.50	2.82	2.82	2.00	2.00	5.00
M	3.50	5.00	5.00	5.00	5.00	6.00
S(hole dia.)	.40	.43	.43	.43	.43	.41
T	.18	.18	.18	.18	.18	.18

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

¹ Models M401, M4022PB, M4032PB and M4042PBSS handles are adjustable, dimension shown is for maximum handle length.

Wire Rope Installation - Models M4022, M4022PB, M4032 and M4032PB



Quick Disconnect Anchor

Flange Clip Anchor

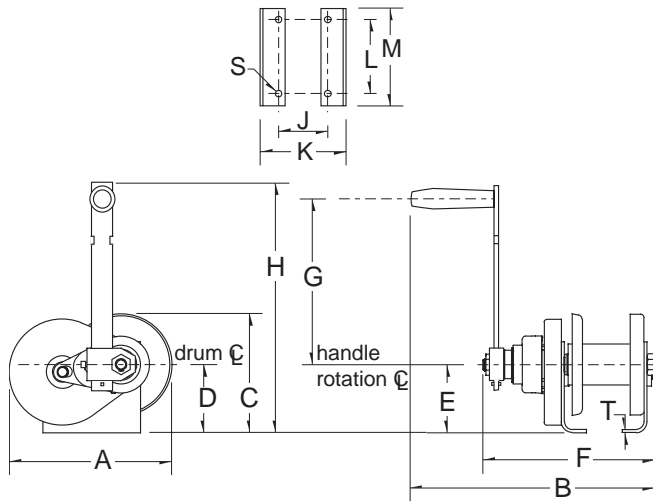
Important:

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.

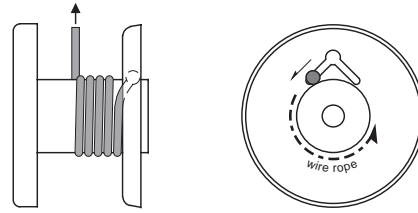
See Additional Dimensions on Next Page

DIMENSIONS

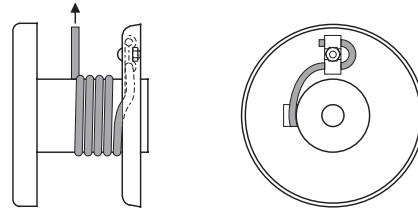
Models M4312PB, M4412PB and M4312PBSS



Wire Rope Installation - Models M4312, M4312PB, M4312PBSS, M4412 and M4412PB

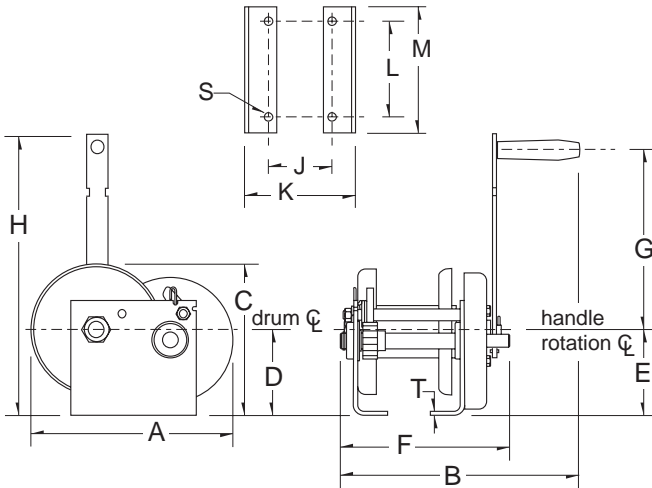


Quick Disconnect Anchor



Flange Clip Anchor

Models M4312 and M4412



Spur Gear Hand Winches – Dimensions (in)

	M4312	M4312PB	M4312PBSS	M4412	M4412PB
drum dia.	2.50	2.50	2.50	2.50	2.50
flange dia.	5.50	5.50	5.50	5.50	5.50
drum width	3.00	3.00	3.00	6.00	6.00
A	10.00	10.00	10.00	10.00	10.00
B	12.70	14.50	14.50	15.70	17.50
C	7.15	7.15	7.15	7.15	7.15
D	4.00	4.00	4.00	4.00	4.00
E	4.00	4.00	4.00	4.00	4.00
F	8.00	10.78	10.78	11.00	13.78
G ¹	8.75	10.59	10.59	8.75	10.59
H ¹	13.35	15.19	15.19	13.35	15.19
J	3.34	3.34	3.34	6.34	6.34
K	5.31	5.31	5.31	8.31	8.31
L	5.00	5.00	5.00	5.00	5.00
M	6.00	6.00	6.00	6.00	6.00
S (hole dia.)	.40	.40	.41	.40	.40
T	.18	.18	.18	.18	.18

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

¹ Models M4312PB, M4312PBSS and M4412PB handles are adjustable, dimension shown is for maximum handle length.



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.

M452 / M492 SERIES SPECS

MODEL M452B
Shown with brake and wire rope



Wire rope assemblies sold separately

MODEL M492



Spur Gear Hand Winches Double Reduction

Up to 10,000 lb capacity

- **Machine Cut Spur Gears** for accurate and long lasting service.
- **Automatic Brake Models** provide positive load control for lifting and lowering operations. Brake models have B suffix.
- **Corrosion Resistant** durable paint finish combined with trivalent zinc plating protects against corrosion.
- **Bronze and Radial Ball Bearings** provide smooth and efficient operation.
- **Large Diameter Drums** minimize wear to extend wire rope life.
- **Spring Loaded Ratchets** for positive engagement with gear.
- **Steel Gear Covers** protect gears and help prevent injuries.
- **Handles Adjust** in length to change force required to move load.
- **Two-year Limited Warranty**

Spur Gear Hand Winches – Configurations and Performance Characteristics – Section 1

model number	description	load rating (lb)			wire rope dia. (in)	drum capacity (ft) ¹			single gear ratio	double gear ratio	force ² to lift 1000 lb	approx. ship wt. (lb)
		1st layer	mid drum	full drum		1st layer	mid drum	full drum				
M452	4000 lb – marine duty (for pulling only)	4000	3300	2500	1/4 5/16 3/8	23 18 14	130 89 64	300 200 140	4.42:1	19.54:1	10 lb (double gear)	83
M452B	4000 lb – marine duty with brake (for lifting)	4000	3300	2500	1/4 5/16 3/8	23 18 14	130 89 64	300 200 140	—	19.54:1	10 lb (double gear)	91
M452B-A	4000 lb – marine duty with brake (for lifting) 4 inch drum width	4000	3300	2500	1/4 5/16 3/8	13 9 7	83 56 40	190 120 89	—	19.54:1	10 lb (double gear)	83
M492	10,000 lb – marine duty (for pulling only)	10,000	7400	5400	5/16 3/8 1/2	27 21 15	240 170 100	540 390 230	5.00:1	25.00:1	8 lb (double gear)	166
M492B	10,000 lb – marine duty with brake (for lifting)	10,000	7400	5400	5/16 3/8 1/2	27 21 15	240 170 100	540 390 230	—	25.00:1	8 lb (double gear)	173
M492-12	10,000 lb – marine duty (for pulling only) 12 inch drum width	10,000	7400	5400	5/16 3/8 1/2	46 37 27	380 270 160	850 610 360	5.00:1	25.00:1	8 lb (double gear)	175
M492B-12	10,000 lb – marine duty with brake (for lifting) 12 inch drum width	10,000	7400	5400	5/16 3/8 1/2	46 37 27	380 270 160	850 610 360	—	25.00:1	8 lb (double gear)	190
MB451	disc brake only for M452 (for lifting)											13
MB491	disc brake only for M492 and M492-12 (for lifting)											15
HW452	hand wheel only for M452 (for pulling only)											19
HW492	hand wheel only for M492 and M492-12 (for pulling only)											20

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

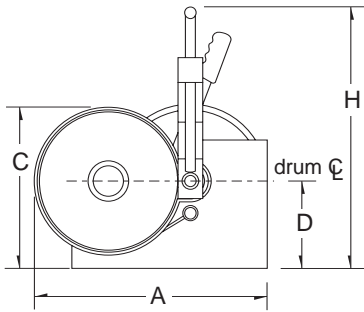
¹ Actual drum capacities may be 25-30% less, due to nonuniform winding. Wire rope tension will also affect drum capacity.

² Approximate handle force required to lift 1000 lb with an empty drum, and maximum handle length.

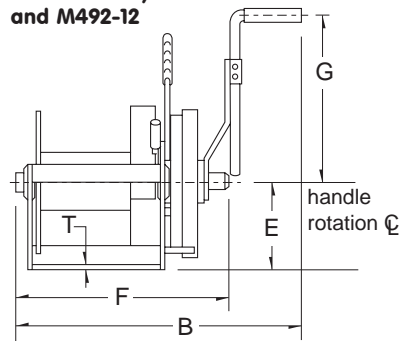
See Dimensions on Next Page

M452 / M492 DIMENSIONS

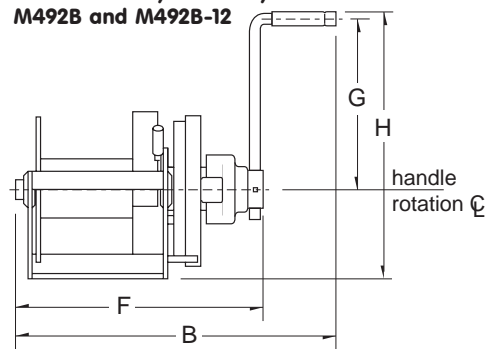
All Models



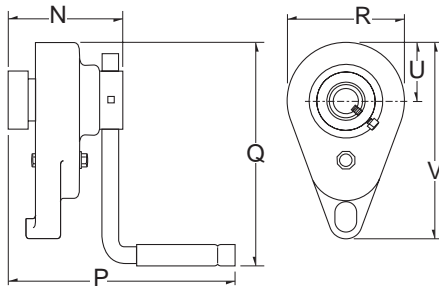
Models M452, M492 and M492-12



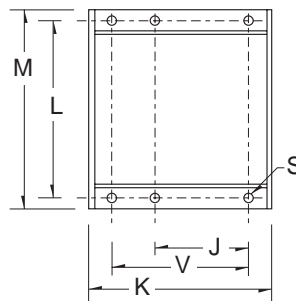
Models M452B, M452B-A, M492B and M492B-12



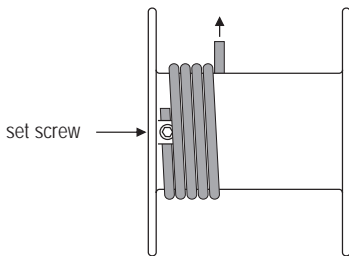
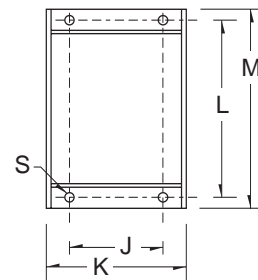
Models MB451 and MB491



Base for M492-12 and M492B-12



Base for M452, M452B, M452B-A, M492 and M492B Models



Wire Rope Installation - All Models



Disc Brakes – Dimensions (in)

	MB451	MB491
N	4.97	5.15
P	10.44	10.62
Q ¹	21.25	21.38
R	4.87	4.87
U	2.44	2.44
V	8.62	10.56

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

¹ Handles are adjustable, dimension shown is for maximum handle length.

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.

Spur Gear Hand Winches – Dimensions (in)

	M452	M452B	M452B-A	M492	M492B	M492-12	M492B-12
drum dia.	4.00	4.00	4.00	5.00	5.00	5.00	5.00
flange dia.	8.50	8.50	8.50	12.38	12.38	12.38	12.38
drum width	6.38	6.38	4.00	7.62	7.62	12.00	12.00
A	15.25	15.25	15.25	20.38	20.38	20.38	20.38
B	22.00	21.90	19.62	25.12	25.00	29.50	29.38
C	10.69	10.69	10.83	14.00	14.00	14.00	14.00
D	5.81	5.81	5.81	7.50	7.50	7.50	7.50
E	5.81	5.81	5.81	7.50	7.50	7.50	7.50
F	14.81	16.43	14.06	18.44	19.53	22.82	23.90
G ¹	18.62	18.38	18.38	22.50	18.50	22.50	18.50
H ¹	24.44	24.19	24.19	30.00	26.00	30.00	26.00
J	6.75	6.75	4.50	8.00	8.00	8.00	8.00
K	9.50	9.50	7.12	12.00	12.00	16.38	16.38
L	11.25	11.25	11.25	15.50	15.50	15.50	15.50
M	12.50	12.50	12.50	17.00	17.00	17.00	17.00
S (hole dia.)	.56	.56	.56	.81	.81	.81	.81
T	.25	.25	.25	.38	.38	.38	.38
V	-	-	-	-	-	12.38	12.38

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

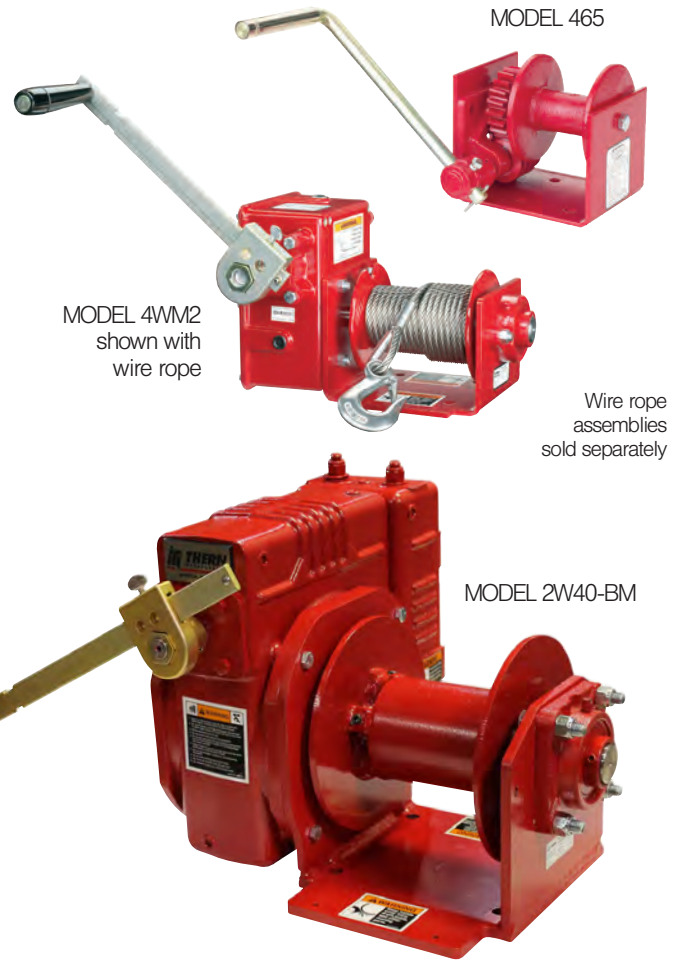
¹ Handles are adjustable, dimension shown is for maximum handle length.

Worm Gear Hand Winches

Up to 4000 lb Capacity

- **Machine Cut Worm Gears** provide accurate operation and long lasting service.
- **Enclosed Oil Bath** provides continuous lubrication of gears to minimize wear, except on Model 465. On Models 4WM2 and 2W40, oil seals keep oil in and dirt out.
- **Hex Drive** and handle are included. Models 4WM2 and 2W40* can be power driven with a maximum 300 rpm drill-motor.
- **Automatic Brake Models** provide positive load control for lifting. Brake models have a PB or B suffix. Models 4WM2 and 2W40-B feature an internal mechanical brake.
- **Corrosion Resistant** durable paint finish protects against corrosion in harsh environments.
- **Bronze Bearings** on most models for smooth operation.
- **Large Diameter Drums** minimize wire rope wear.
- **Handles Adjust** in length to change force required to move the load.
- **Mounting Options** include floor, wall, or ceiling. Adapter plate may be required, contact factory.
- **Two-year Limited Warranty**

*See Drill Drive performance chart on page 11.



Worm Gear Hand Winches – Configurations and Performance Characteristics

Model	Description	LOAD RATING						Wire Rope Dia.		DRUM CAPACITY ¹				Gear Ratio	Force ² to lift 1000 lbs		Approx. Ship Wt.							
		1st Layer		Mid Drum		Full Drum		(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	1000 lb – enclosed gearing (recommended for pulling only)	1000	453	700	317	500	226	3/16	4.8	4	1	27	8	59	17	15:1	34	15.4	15	7				
462PB	1000 lb – enclosed gearing with brake (for lifting)	1000	453	700	317	500	226	1/8	3.2	7	2	61	18	140	42						28	8	61	18
472	2000 lb – enclosed gearing (recommended for pulling only)	2000	907	1700	771	1300	589	3/16	4.8	15	4	65	19	140	42	24:1	24	10.9	32	15				
4WM2	2000 lb – enclosed gearing with brake (for lifting) Drill Driveable	2000	907	1500	680	1200	544	1/4	6.4	11	3	35	10	77	23						23	7	52	15
2W40-L	4000 lb – enclosed gearing (recommended for pulling only)	4000	1814	2800	1270	2200	997	5/16	7.9	18	5	91	27	200	60						26:1	18	8.2	140
2W40-BL	4000 lb – enclosed gearing with brake (for lifting)	4000	1814	2800	1270	2200	997	3/8	9.5	14	4	65	19	140	42	5/16	7.9	18	5	91				
2W40-M	4600 lb – enclosed gearing (recommended for pulling only) Drill Driveable*	4600	2086	3300	1496	2500	1133	3/8	9.5	14	4	65	19	140	42	31:1	11	5.0	150	69				
2W40-BM	4600 lb – enclosed gearing with brake (for lifting) Drill Driveable*	4600	2086	3300	1496	2500	1133	5/16	7.9	18	5	91	27	200	60						3/8	9.5	14	4

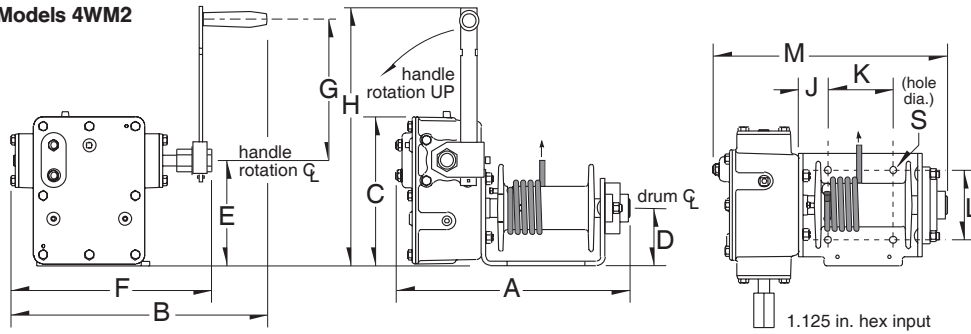
Please contact factory or nearest Thern Distributor for firm fixed price and delivery.

¹ Actual drum capacities may be 25-30% less, due to nonuniform winding. Wire rope tension will also affect drum capacity.

² Approximate handle force required to lift 1000 lb with an empty drum, and maximum handle length.

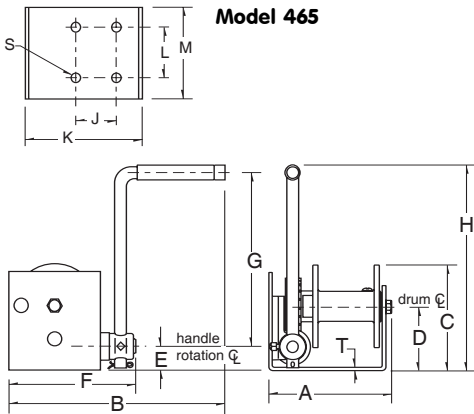
WORM GEAR HAND WINCHES

Models 4WM2

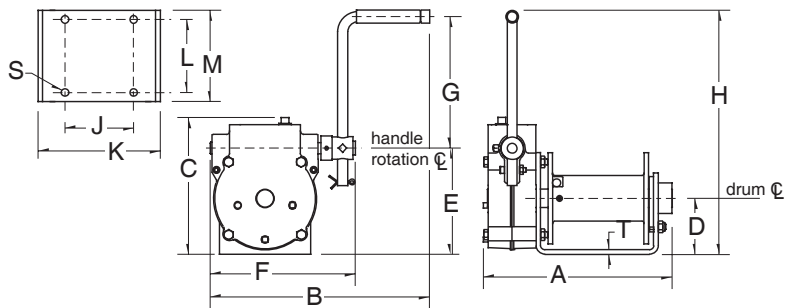


Install wire rope correctly as shown, or brake will not operate properly.

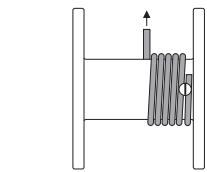
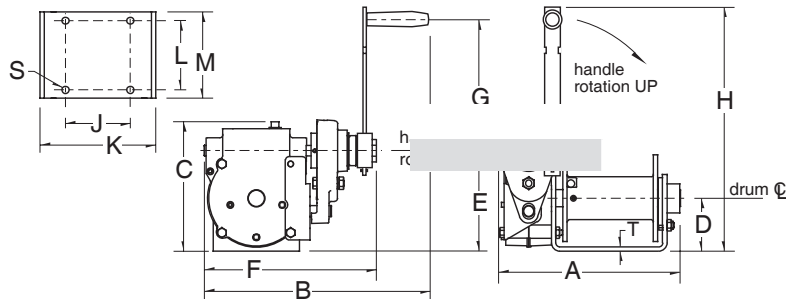
Model 465



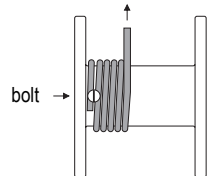
Models 462 and 472



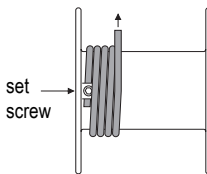
Model 4622PB



Wire Rope Installation Model 465



Wire Rope Installation Models 462 and 4622PB



Wire Rope Installation Model 472

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	-	-

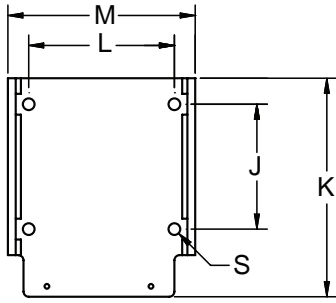
Dimensions are for reference only and subject to change without notice.

IMPORTANT:

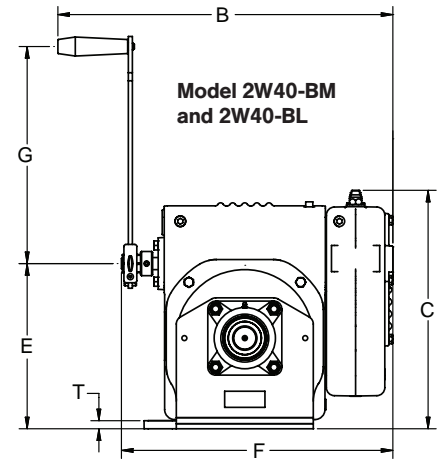
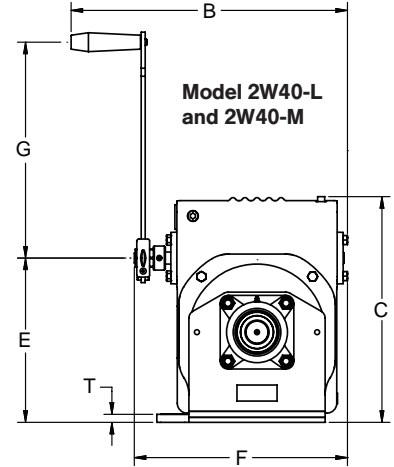
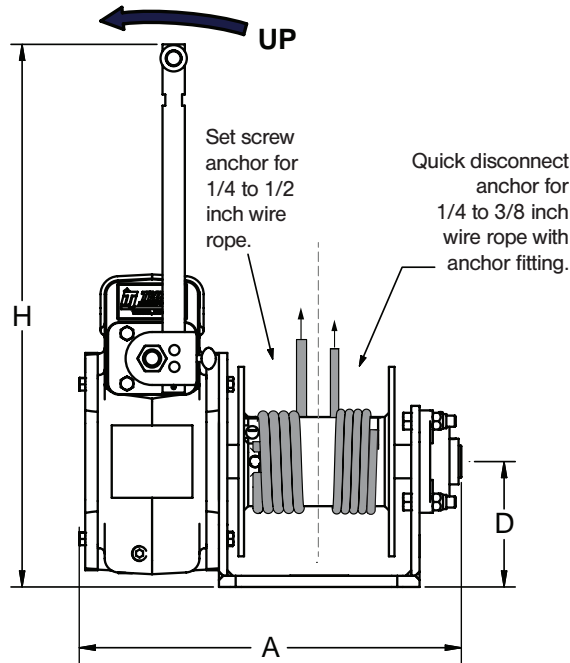
It is the owner or operator's responsibility to determine the suitability of the equipment to its intended use. Study all applicable codes, manuals and regulations. Be sure to read the Owner's Manual supplied with the equipment before operating it.



HAND WINCHES WORM GEAR



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



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

FLCL-0416

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.

2W40 Series Performance Characteristics - Drill Drive¹

Model	Load Rating						Drill Model: ED300-DW11		
	1st Layer		Mid Drum		Full Drum		RPM	Volts	Duty Cycle ²
	(lb)	(kg)	(lb)	(kg)	(lb)	(kg)		Maximum	
2W40-M	2300	1043	1650	748	1250	566	300	120	40 ft of life or 5 min of operation
2W40-BM	2300	1043	1650	748	1250	566	300	120	40 ft of life or 5 min of operation

¹ Performance Characteristics refer to standard products. Non-standard products may vary from the original design. Contact Them for this information.

² Duty cycle includes lifting and lowering and may vary depending on load or application. Allow components to cool between cycles. Dimensions are for reference only and subject to change without notice.



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