

MAXPULL WINCH®

Electric Winch Catalog

- BMW three-phase 200V series
- BMW three-phase 200V Dog Clutch series
- BMW three-phase 200V Capstan series
- EMX series ●EME series ●GME series · GLF series
- Special Electric Winch



MAXPULL MACHINERY & ENGINEERING CO., LTD.

マックスプル工業株式会社

MAXPULL Electric winch is working effectively. The harshest conditions in Antarctica.



Antarctic Research "Electric winch MAW-1100 for deep ice coring system"
for the 36th Japanese Antarctic Research Expedition

Global environmental preservation activities and research for resource development are being carried out in Antarctica. Advanced global technologies are assembling there and it competes for the results to bright future.

Winch is indispensable anywhere and in any work. Maxpull's electric winch manufactured to special specifications is working effectively in Antarctica. This is a special winch for "deep ice coring system" that excavates to the depth of 3,000 meters in the ice in Antarctica. Transportation to the research expedition has been halted for a year until the next replacement arrives.

The winches must continue to provide stable performance and durability under unimaginably cold temperatures and strong winds to support the work of the expedition members. Our winches have been used continuously in the region over the years and have contributed to the smooth execution of the project. These contributions have been made possible by the creative ideas, elaborate design, carefully selected materials and belief in the technology.

Various models of Maxpull electric winches that have been manufactured based on our broad experience and highlevel technology are favored in various fields for their efficiency to the lifting load, excellent cost performance and efficiency of various works.

Please contact us not only for standard products but also winches to manufactured to special specifications to meet the needs of different scene. Our winch used in Antarctica is one of such products.

Acknowledgment

We received a great deal of advice and assistance for our excavating test that was carried out using the snow ice surface layer mechanical drill and the development of the deep ice core drill system. We received very valuable advice from professor Yoshio Suzuki of the Institute of Low Temperature Science, Hokkaido University regarding conceptual design and testing of ice core drill for liquid-filled holes. We learned the basics about cutting theory from assistant professor Katsumi Sakakida of the Department of Mining at Akita University. Theoretical consideration presented here are based on the concept created by assistant professor Katsumi Sakakida. The member of Maxpull energetically engaged in manufacture of the surface layer mechanical drill and winches, and performed outdoor tests before lab tests. I appreciate their efforts and cooperation.

Prof. Yoshiyuki Fujii, Department of Snow and Ice, National Institute of Polar Research



"Shallow ice coring system" for the 29th and 30th
Japanese Antarctic Research Expedition

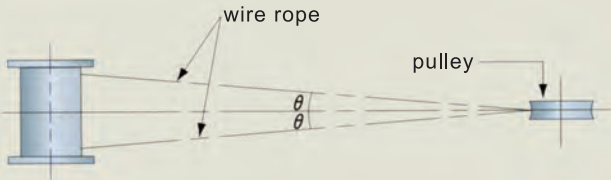
■ Precautions When Using Electric Winch

● Fleet Angle

The fleet angle is an angle (θ) formed with a perpendicular line from the pulley to the drum and the line between the center of the pulley and the drum plate.

- (a) When using a drum with groove, set this angle (θ) to 4 degrees or less.
- (b) When using a drum without groove, set this angle (θ) to 2 degrees or less.

※ If the angle is larger than above-mentioned, the wire rope is wound unevenly or overlapped when it approaches to the edge of the drum.

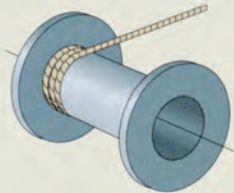


Note : When using a drum without groove, the distance between the winch and the pulley must be 15 times or more the width of the drum.

● Wind the extra maintenance winding of 3 wraps or more.

The extra maintenance winding is specified for 2 wraps or more by JIS (Japanese Industrial Standard), but it is necessary at least 3 wraps or more.

If possible, it is preferred 5 wraps or more. Insufficient extra maintenance winding may cause an accident due to inadequate frictional force.



Relationship between the number of times in extra maintenance winding and the force applied to the end of the wire rope anchored to the drum

| Number of times in extra maintenance winding | 0 | 1 | 2 | 3 | 4 |
|--|---|-------|-------|-------|-------|
| Force applied to the end of the wire rope anchored to the drum | 1 | 0.534 | 0.285 | 0.152 | 0.081 |

■ Calculation Method of Duty Factor

The duty factor of the motor is a percentage of the total load operating time and the total load operating time plus the total resting time (total cycle time).

Calculated by the following formula.

$$\text{Duty factor (\%ED)} = \frac{T_b}{T_b + T_s} \times 100 (\%)$$

T_b : Total load operating time

T_s : Total resting time

$T_b + T_s$ = Approximately 1 to 10 minutes should be set

■ Calculation Method of Allowable Length for Electric Wire

● Please note that the voltage drop due to the length and diameter of electric wire.

Note that voltage drop interferes with operation of electric winches. Select the electric wire of appropriate length and diameter in the following formula because voltage drop is affected by the length and diameter of it.

※ Maintain voltage drop 2% or less.

Effective length of electric wire: In the case of three-phase

$$L (m) = \frac{1000 \times A \times e}{30.8 \times I}$$

Effective length of electric wire: In the case of single-phase

$$L (m) = \frac{1000 \times A \times e}{35.6 \times I}$$

L : Effective length of electric wire (m)
 A : Sectional area of electric wire (mm²)
 e : Line voltage drop (V)
 I : Current (A)

■ Calculation of Wire Rope Tension by Using MAXPULL Winch

$P = \frac{W}{\eta}$
 $P = \frac{W}{2\eta^2}$
 $P = \frac{W}{4\eta^4}$

$P = \mu \cdot W$
 $P = W \cdot \sin \theta + W \cdot \mu \cdot \cos \theta$

P : Wire Rope Tension μ : Friction Factor
 W : Load θ : Gradient (Degree)
 η : Sheave Efficiency

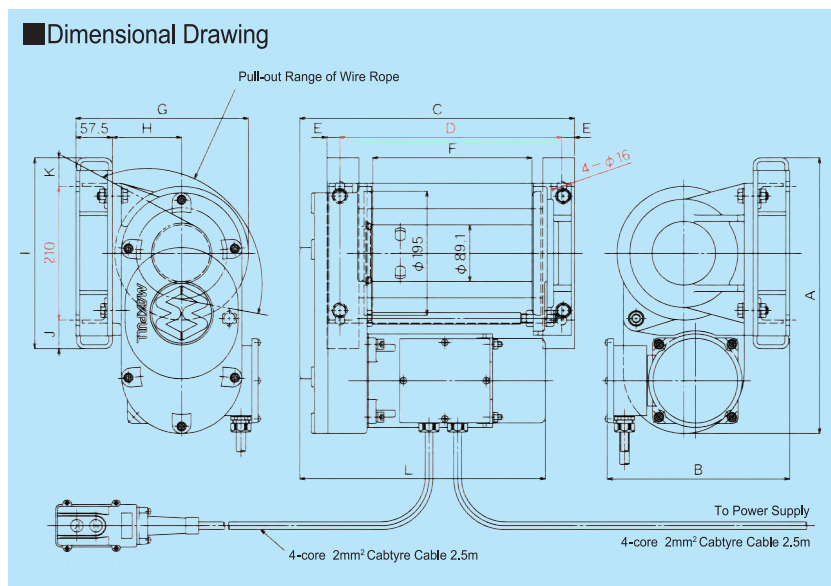
A parallel type winch with built-in motor

BMW Series

For lifting and lowering heavy loads as an industrial use

BMW Three-phase 200V Series

BMW-201 **BMW-401**
BMW-202 **BMW-402**
BMW-203 **BMW-403**
BMW-301 **BMW-501**
BMW-302 **BMW-502**
BMW-303 **BMW-503**



Dimension Table of Single-phase 200V Series

| Model | A | B | C | D | E | F | G | H | I | J | K | L |
|-----------------------------------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|
| BMW-201~BMW-203 • BMW-301~BMW-303 | 433.3 | 286.8 | 432.0 | 349.0 | 20.0 | 250.0 | 271.5 | 109.0 | 300.0 | 45.0 | 45.0 | 386.0 |
| BMW-401~BMW-403 • BMW-501~BMW-503 | 502.8 | 329.2 | 488.0 | 387.0 | 15.0 | 288.0 | 302.5 | 130.0 | 352.0 | 105.0 | 37.0 | 476.0 |

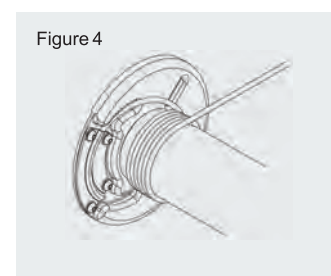
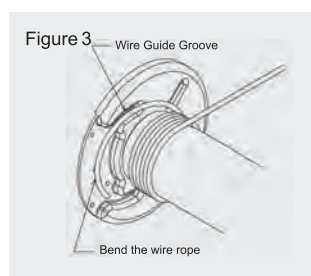
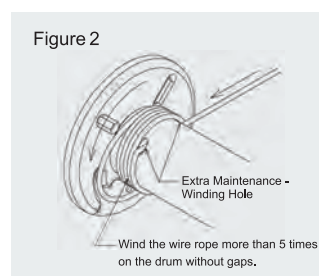
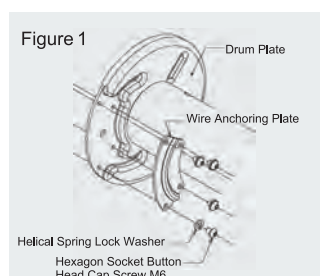


●Anchoring of the wire rope

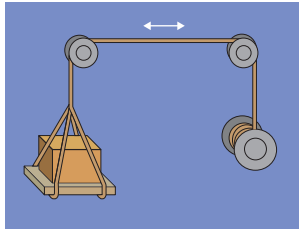
- (1) As shown in figure 1, loosen 4 hexagon socket button head cap screws M6 (with helical spring lock washer) and remove the wire anchoring plate.
- (2) As shown in figure 2, pass the end of the wire rope through a hole for the extra maintenance winding on the drum in the direction indicated by the arrow, and pull the wire rope. Wind the wire rope on the drum more than 5 times without gaps. It is expressed in "Extra maintenance winding".
- (3) As shown in figure 3, bend the end of the wire rope about 7cm by using pliers to fit the groove of the wire anchoring plate.
- (4) Cover the end of the wire rope with the wire anchoring plate after fitting the wire rope to the wire guide groove on the drum plate. Anchor it by 4 hexagon socket button head cap screws M6 (with helical spring lock washer) as before removing. (See Figure 4)

※ "Extra maintenance winding"···The status that wire rope still remains on the drum when the wire rope is unwound until the amount of the prescribed lifting height.

The purpose is reduction of the tensile force that is applied to the end of wire rope by the effect of winding.



Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.



BMW Type (Winding Type) Suitable for lifting and lowering the load

Application examples :

Crane, Hoist, Earthwork, Building construction, Electrical work, Painting, Plastering, Tile work, Forestry, Fishing, Shipping industry, Warehousing, Transportation industry, Horticulture, Signboard installation, Well digging, Roofing service, Plumbing, Dismantling and assembling of automotive, A variety of factories, Iron factory, etc.

■ Three-phase 200V 0.4kW · 0.75kW Specification

| Model | | BMW - 201 | | BMW - 202 | | BMW - 203 | | BMW - 301 | | BMW - 302 | | BMW - 303 | |
|---|----------------------------|--|-------------------|---|--------------------|---|--------------------|--|------------|---|------------|---|-----------|
| Frequency | | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz |
| Wire Rope Tension Indicated in kg (lbs) | 1st Layer | 130(280) | 110(240) | 210(460) | 180(390) | 330(720) | 270(590) | 250(550) | 210(460) | 400(880) | 330(720) | 580(1,200) | 480(1000) |
| | 3rd Layer | 130(280) | 110(240) | 210(460) | 180(390) | 330(720) | 270(590) | 250(550) | 210(460) | 400(880) | 330(720) | 580(1,200) | 480(1000) |
| | 5th Layer | 110(240) | 90(190) | 180(390) | 150(330) | 280(610) | 230(500) | 210(460) | 170(370) | 330(720) | 280(610) | 470(1,000) | 390(850) |
| Line Speed m/min (ft/min) | 1st Layer | 10.8(35.4) | 12.9(42.3) | 6.7(22.0) | 8.0(26.2) | 4.4(14.4) | 5.2(17.1) | 10.6(34.8) | 12.7(41.7) | 6.6(21.7) | 7.9(25.9) | 4.4(14.4) | 5.3(17.4) |
| | 3rd Layer | 13.5(44.3) | 16.1(52.8) | 8.4(27.6) | 10.1(33.1) | 5.5(18.0) | 6.6(21.7) | 13.3(43.6) | 15.9(52.2) | 8.3(27.2) | 9.9(32.5) | 5.9(19.4) | 7.0(23.0) |
| | 5th Layer | 16.2(53.1) | 19.4(63.6) | 10.1(33.1) | 12.1(39.7) | 6.6(21.7) | 7.9(25.9) | 16.0(52.5) | 19.1(62.7) | 10.0(32.8) | 11.9(39.0) | 7.3(24.0) | 8.7(28.5) |
| Drum Capacity (Wire rope diameter × Length) | 1st Layer | φ6mm×11.0m | | φ6mm×11.0m | | φ6mm×11.0m | | φ6mm×11.0m | | φ6mm×11.0m | | φ8mm×8.5m | |
| | 3rd Layer | φ6mm×37.3m | | φ6mm×37.3m | | φ6mm×37.3m | | φ6mm×37.3m | | φ6mm×37.3m | | φ8mm×29.7m | |
| | 5th Layer | φ6mm×69.0m | | φ6mm×69.0m | | φ6mm×69.0m | | φ6mm×69.0m | | φ6mm×69.0m | | φ8mm×56.6m | |
| Wire rope diameter | | φ6mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ8mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | |
| Gear ratio | | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 0.4kW | | | | | | 0.75kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | Three-phase AC200V 50Hz 2.2A Three-phase AC200V 60Hz 1.9A Three-phase AC220V 60Hz 1.9A | | | | | | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | | 150% or over | | | | | | | | | | | |
| Duty factor | | 40%ED | | | | | | | | | | | |
| Control method | | Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m · Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | |
| Weight kg (lbs) | | 44.8 kg(98.8 lbs) | 45.1 kg(99.4 lbs) | 47.0 kg(103.6 lbs) | 45.9 kg(101.2 lbs) | 46.2 kg(101.9 lbs) | 47.5 kg(104.7 lbs) | | | | | | |

• 2-push button pendant switch, cable 2.5m (8.2 ft) and power.cable 2.5m (8.2 ft) are attached on this product.as accessories.

• Motors used above may correspond to a change in voltage. (Example : AC380V, AC400V, AC440Vetc.)

• Please consult our company when performing inverter control.

■ Three-phase 200V 1.5kW · 2.2kW Specification

| Model | | BMW - 401 | | BMW - 402 | | BMW - 403 | | BMW - 501 | | BMW - 502 | | BMW - 503 | |
|---|----------------------------|--|--------------------|---|--------------------|---|--------------------|--|------------|--|--------------|--|--------------|
| Frequency | | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz |
| Wire Rope Tension Indicated in kg (lbs) | 1st Layer | 640(1,400) | 530(1,100) | 900(1,900) | 770(1,600) | 1,000(2,200) | 900(1,900) | 900(1,900) | 750(1,600) | 1,200(2,600) | 1,000(2,200) | 1,300(2,800) | 1,150(2,500) |
| | 3rd Layer | 640(1,400) | 530(1,100) | 900(1,900) | 770(1,600) | 1,000(2,200) | 900(1,900) | 900(1,900) | 750(1,600) | 1,200(2,600) | 1,000(2,200) | 1,300(2,800) | 1,150(2,500) |
| | 5th Layer | 510(1,100) | 430(940) | 710(1,500) | 610(1,300) | 790(1,700) | 710(1,500) | 710(1,500) | 590(1,300) | 930(2,000) | 780(1,700) | 1,000(2,200) | 900(1,900) |
| Line Speed m/min (ft/min) | 1st Layer | 7.8(25.6) | 9.3(30.5) | 5.1(16.7) | 6.1(20.0) | 4.3(14.1) | 5.1(16.7) | 7.7(25.3) | 9.2(30.2) | 5.1(16.7) | 6.1(20.0) | 4.3(14.1) | 5.2(17.1) |
| | 3rd Layer | 10.6(34.8) | 12.7(41.7) | 6.9(22.6) | 8.3(27.2) | 5.9(19.4) | 7.0(23.0) | 10.5(34.4) | 12.6(41.3) | 7.1(23.3) | 8.5(27.9) | 6.0(19.7) | 7.2(23.6) |
| | 5th Layer | 13.5(44.3) | 16.1(52.8) | 8.8(28.9) | 10.5(34.4) | 7.4(24.3) | 8.9(29.2) | 13.4(44.0) | 16.0(52.5) | 9.2(30.2) | 11.0(36.1) | 7.8(25.6) | 9.3(30.5) |
| Drum Capacity (Wire rope diameter × Length) | 1st Layer | φ9mm×8.9m | | φ9mm×8.9m | | φ9mm×8.9m | | φ9mm×8.9m | | φ10mm×7.8m | | φ10mm×7.8m | |
| | 3rd Layer | φ9mm×31.5m | | φ9mm×31.5m | | φ9mm×31.5m | | φ9mm×31.5m | | φ10mm×28.3m | | φ10mm×28.3m | |
| | 5th Layer | φ9mm×60.7m | | φ9mm×60.7m | | φ9mm×60.7m | | φ9mm×60.7m | | φ10mm×55.1m | | φ10mm×55.1m | |
| Wire rope diameter | | φ9mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | | φ10mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | | φ10mm (6×Fi(29)) <small>(Japanese Industrial Standards)</small> | |
| Gear ratio | | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 1.5kW | | | | | | 2.2kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | Three-phase AC200V 50Hz 6.4A Three-phase AC200V 60Hz 5.9A Three-phase AC220V 60Hz 5.7A | | | | | | Three-phase AC200V 50Hz 9.3A Three-phase AC200V 60Hz 8.5A Three-phase AC220V 60Hz 8.2A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | | 150% or over | | | | | | | | | | | |
| Duty factor | | 40%ED | | | | | | | | | | | |
| Control method | | Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m · Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | |
| Weight kg (lbs) | | 61.7 kg(136.0 lbs) | 63.2 kg(139.3 lbs) | 64.5 kg(142.2 lbs) | 65.9 kg(145.3 lbs) | 66.2 kg(145.9 lbs) | 67.5 kg(148.8 lbs) | | | | | | |

• 2-push button pendant switch, cable 2.5m (8.2 ft) and power cable 2.5m (8.2 ft) are attached on this product as accessories.

• Motors used above may correspond to a change in voltage. (Example : AC380V, AC400V, AC440Vetc.)

• Please consult our company when performing inverter control.

IMPORTANT! Be sure to confirm regulations in your country or region to determine the suitability of the winch to intended use and read the Instruction Manual supplied with the equipment before operating winch.

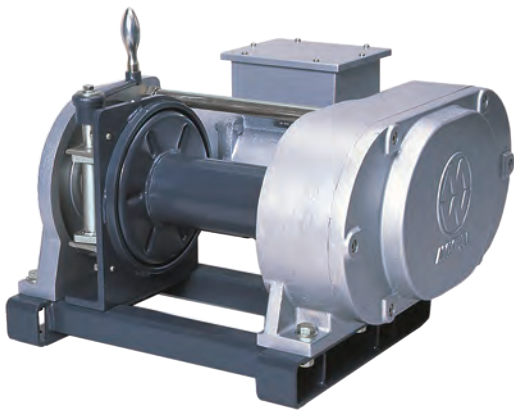
Easy to wind and unwind a wire rope

BMW Dog Clutch Series

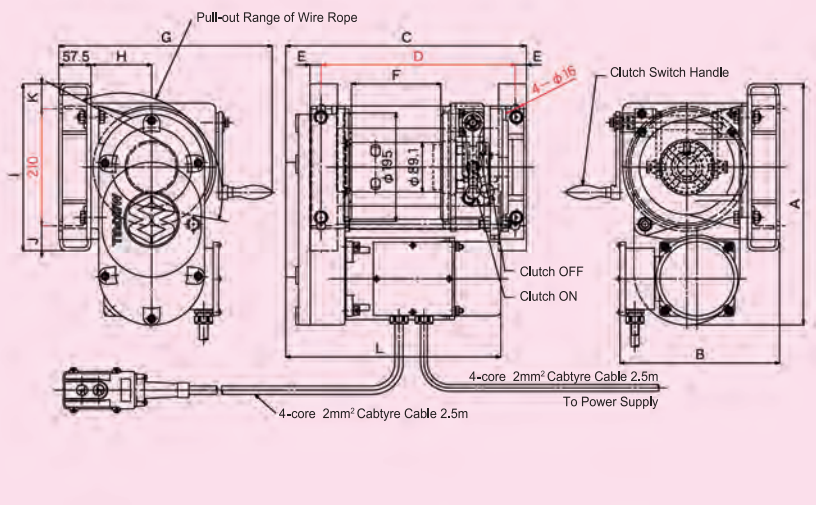
For construction facility and large construction site

BMW Dog Clutch Three-phase 200V Series

- BMW-201-SC BMW-401-SC
- BMW-202-SC BMW-402-SC
- BMW-203-SC BMW-403-SC
- BMW-301-SC BMW-501-SC
- BMW-302-SC BMW-502-SC
- BMW-303-SC BMW-503-SC



■ Dimensional Drawing



■ Dimension Table of Dog Clutch Three-phase 200V Series

| Model | A | B | C | D | E | F | G | H | I | J | K | L |
|---|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|
| BMW-201-SC~BMW-203-SC • BMW-301-SC~BMW-303-SC | 433.3 | 286.8 | 432.0 | 349.0 | 20.0 | 160.0 | 382.8 | 109.0 | 300.0 | 45.0 | 45.0 | 386.0 |
| BMW-401-SC~BMW-403-SC • BMW-501-SC~BMW-503-SC | 502.8 | 329.2 | 488.0 | 387.0 | 15.0 | 197.0 | 403.8 | 130.0 | 352.0 | 105.0 | 37.0 | 476.0 |



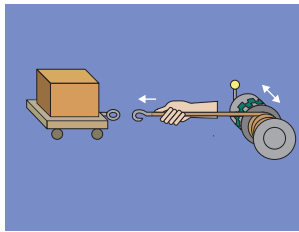
▲ Control Panel for Electric Winch

- Prevent the overload due to obstruction.

It may occur the abnormal tensile force to the wire rope because the obstruction catch the pulling object during the horizontal pulling work. This may result in winch failures and motor burnout. Start the working after performing the electrical solution.

- ※ The control panel with built-in shock relay is recommended for protecting the motor and dog clutch. The shock relay shuts off the circuit immediately, stops the operation and protect the motor and dog clutch when error occurs during the work and heavy load is applied.

Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.



Dog Type (Clutch Type)

Suitable for winding and unwinding the wire rope frequently.

Application examples :

Luggage transportation, Unloading a ship, Wrecker, Lumber, etc.

■ Dog Clutch Three-phase 200V 0.4kW • 0.75kW Specification

| Model | | BMW-201-SC | | BMW-202-SC | | BMW-203-SC | | BMW-301-SC | | BMW-302-SC | | BMW-303-SC | |
|---|----------------------------|--|------------|---|------------|---|-----------|--|------------|---|------------|---|-----------|
| Frequency | | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz |
| Wire Rope Tension Indicated in kg (lbs) | 1st Layer | 130(280) | 110(240) | 210(460) | 180(390) | 330(720) | 270(590) | 250(550) | 210(460) | 400(880) | 330(720) | 580(1,200) | 480(1000) |
| | 3rd Layer | 130(280) | 110(240) | 210(460) | 180(390) | 330(720) | 270(590) | 250(550) | 210(460) | 400(880) | 330(720) | 580(1,200) | 480(1000) |
| | 5th Layer | 110(240) | 90(190) | 180(390) | 150(330) | 280(610) | 230(500) | 210(460) | 170(370) | 330(720) | 280(610) | 470(1,000) | 390(850) |
| Line Speed m/min (ft/min) | 1st Layer | 10.8(35.4) | 12.9(42.3) | 6.7(22.0) | 8.0(26.2) | 4.4(14.4) | 5.2(17.1) | 10.6(34.8) | 12.7(41.7) | 6.6(21.7) | 7.9(25.9) | 4.4(14.4) | 5.3(17.4) |
| | 3rd Layer | 13.5(44.3) | 16.1(52.8) | 8.4(27.6) | 10.1(33.1) | 5.5(18.0) | 6.6(21.7) | 13.3(43.6) | 15.9(52.2) | 8.3(27.2) | 9.9(32.5) | 5.9(19.4) | 7.0(23.0) |
| | 5th Layer | 16.2(53.1) | 19.4(63.6) | 10.1(33.1) | 12.1(39.7) | 6.6(21.7) | 7.9(25.9) | 16.0(52.5) | 19.1(62.7) | 10.0(32.8) | 11.9(39.0) | 7.3(24.0) | 8.7(28.5) |
| Drum Capacity (Wire rope diameter × Length) | 1st Layer | φ6mm × 7.0m | | φ6mm × 7.0m | | φ6mm × 7.0m | | φ6mm × 7.0m | | φ6mm × 7.0m | | φ8mm × 5.5m | |
| | 3rd Layer | φ6mm × 23.6m | | φ6mm × 23.6m | | φ6mm × 23.6m | | φ6mm × 23.6m | | φ6mm × 23.6m | | φ8mm × 19.2m | |
| | 5th Layer | φ6mm × 43.8m | | φ6mm × 43.8m | | φ6mm × 43.8m | | φ6mm × 43.8m | | φ6mm × 43.8m | | φ8mm × 36.5m | |
| Wire rope diameter | | φ6mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ6mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ8mm (6×37) <small>(Japanese Industrial Standards)</small> | |
| Gear ratio | | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 0.4kW | | | | | | 0.75kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | Three-phase AC200V 50Hz 2.2A Three-phase AC200V 60Hz 1.9A Three-phase AC220V 60Hz 1.9A | | | | | | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | | 150% or over | | | | | | | | | | | |
| Duty factor | | 40%ED | | | | | | | | | | | |
| Control method | | Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m • Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | |
| Weight kg (lbs) | | 47.3 kg(104.3 lbs) | | 47.6 kg(104.9 lbs) | | 49.5 kg(109.1 lbs) | | 48.4 kg(106.7 lbs) | | 48.7 kg(107.4 lbs) | | 50.4 kg(111.1 lbs) | |

■ Dog Clutch Three-phase 200V 1.5kW • 2.2kW Specification

| Model | | BMW-401-SC | | BMW-402-SC | | BMW-403-SC | | BMW-501-SC | | BMW-502-SC | | BMW-503-SC | |
|---|----------------------------|--|------------|---|------------|---|------------|--|------------|--|--------------|--|--------------|
| Frequency | | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz |
| Wire Rope Tension Indicated in kg (lbs) | 1st Layer | 640(1,400) | 530(1,100) | 900(1,900) | 770(1,600) | 1,000(2,200) | 900(1,900) | 900(1,900) | 750(1,600) | 1,200(2,600) | 1,000(2,200) | 1,300(2,800) | 1,150(2,500) |
| | 3rd Layer | 640(1,400) | 530(1,100) | 900(1,900) | 770(1,600) | 1,000(2,200) | 900(1,900) | 900(1,900) | 750(1,600) | 1,200(2,600) | 1,000(2,200) | 1,300(2,800) | 1,150(2,500) |
| | 5th Layer | 510(1,100) | 430(940) | 710(1,500) | 610(1,300) | 790(1,700) | 710(1,500) | 710(1,500) | 590(1,300) | 930(2,000) | 780(1,700) | 1,000(2,200) | 900(1,900) |
| Line Speed m/min (ft/min) | 1st Layer | 7.8(25.6) | 9.3(30.5) | 5.1(16.7) | 6.1(20.0) | 4.3(14.1) | 5.1(16.7) | 7.7(25.3) | 9.2(30.2) | 5.1(16.7) | 6.1(20.0) | 4.3(14.1) | 5.2(17.1) |
| | 3rd Layer | 10.6(34.8) | 12.7(41.7) | 6.9(22.6) | 8.3(27.2) | 5.9(19.4) | 7.0(23.0) | 10.5(34.4) | 12.6(41.3) | 7.1(23.3) | 8.5(27.9) | 6.0(19.7) | 7.2(23.6) |
| | 5th Layer | 13.5(44.3) | 16.1(52.8) | 8.8(28.9) | 10.5(34.4) | 7.4(24.3) | 8.9(29.2) | 13.4(44.0) | 16.0(52.5) | 9.2(30.2) | 11.0(36.1) | 7.8(25.6) | 9.3(30.5) |
| Drum Capacity (Wire rope diameter × Length) | 1st Layer | φ9mm × 5.8m | | φ9mm × 5.8m | | φ9mm × 5.8m | | φ9mm × 5.8m | | φ10mm × 5.3m | | φ10mm × 5.3m | |
| | 3rd Layer | φ9mm × 20.7m | | φ9mm × 20.7m | | φ9mm × 20.7m | | φ9mm × 20.7m | | φ10mm × 19.2m | | φ10mm × 19.2m | |
| | 5th Layer | φ9mm × 39.8m | | φ9mm × 39.8m | | φ9mm × 39.8m | | φ9mm × 39.8m | | φ10mm × 37.4m | | φ10mm × 37.4m | |
| Wire rope diameter | | φ9mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ9mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ10mm (6×37) <small>(Japanese Industrial Standards)</small> | | φ10mm (6×37) <small>(Japanese Industrial Standards)</small> | |
| Gear ratio | | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 1.5kW | | | | | | 2.2kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | Three-phase AC200V 50Hz 6.4A Three-phase AC200V 60Hz 5.9A Three-phase AC220V 60Hz 5.7A | | | | | | Three-phase AC200V 50Hz 9.3A Three-phase AC200V 60Hz 8.5A Three-phase AC220V 60Hz 8.2A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | | 150% or over | | | | | | | | | | | |
| Duty factor | | 40%ED | | | | | | | | | | | |
| Control method | | Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m • Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | |
| Weight kg (lbs) | | 64.2 kg(141.5 lbs) | | 65.7 kg(144.8 lbs) | | 67.0 kg(147.7 lbs) | | 68.4 kg(150.8 lbs) | | 68.7 kg(151.5 lbs) | | 70.0 kg(154.3 lbs) | |

• 2-push button pendant switch, cable 2.5m (8.2 ft) and power cable 2.5m (8.2 ft) are attached on this product as accessories.

• Motors used above may correspond to a change in voltage. (Example : AC380V, AC400V, AC440Vetc.)

• Please consult our company when performing inverter control.

IMPORTANT! Be sure to confirm regulations in your country or region to determine the suitability of the winch to intended use and read the Instruction Manual supplied with the equipment before operating winch.

Effective in the work of pulling in both directions

BMW Capstan Series

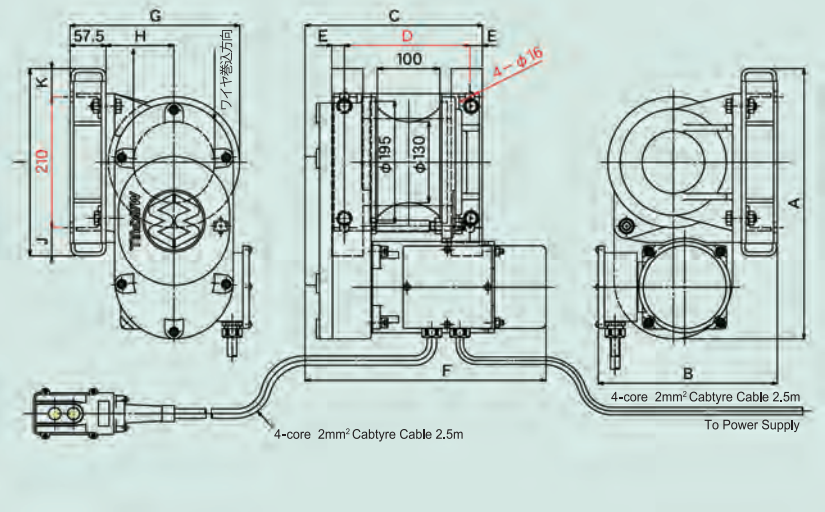
For professional pulling work and facility

BMW Capstan Three-phase 200V Series

- BMW-201-ED BMW-401-ED
- BMW-202-ED BMW-402-ED
- BMW-203-ED BMW-403-ED
- BMW-301-ED BMW-501-ED
- BMW-302-ED BMW-502-ED
- BMW-303-ED BMW-503-ED



■ Dimensional Drawing



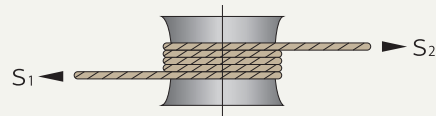
■ Dimension Table of Capstan Three-phase 200V Series

| Model | A | B | C | D | E | F | G | H | I | J | K |
|---|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|
| BMW-201-ED~BMW-203-ED・BMW-301-ED~BMW-303-ED | 433.3 | 286.8 | 284.0 | 201.0 | 20.0 | 386.0 | 271.5 | 109.0 | 300.0 | 45.0 | 45.0 |
| BMW-401-ED~BMW-403-ED・BMW-501-ED~BMW-503-ED | 502.8 | 329.2 | 302.0 | 201.0 | 15.0 | 476.0 | 302.5 | 130.0 | 352.0 | 105.0 | 37.0 |

■ Calculation Method of Hauling Tension for Capstan Winch

Tension required to hauling side is calculated by the following expression.

$$S_2 = \frac{S_1}{e^{\mu\alpha}} = \frac{S_1}{e^{\mu 2\pi n}}$$



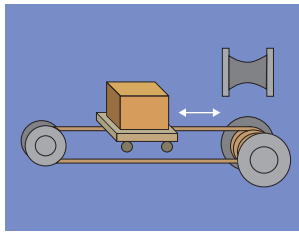
- S₁ : Tension on winding side (receiving a load)
- n : Winding number onto the drum
- α : Total angle of winding wire rope = 2πn
- μ : Coefficient of friction between wire rope and drum
- S₂ : Tension required to hauling side
- e : 2.718

| | | | |
|-------------------------------------|--------|--------|--------|
| n = | 5 | 6 | 7 |
| α = | 2π × 5 | 2π × 6 | 2π × 7 |
| e ^{μα} = | 23.14 | 43.37 | 81.30 |

※ μ = 0.13 Value of e^{μ α} (in case of iron and iron)

※ Calculate as 1 wrap of wire rope is 2π [Radian] (= 360°)

Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.



Capstan Type (Both Directions Pulling Type)

Tension is not required

Suitable for typical both directions pulling

Application examples :

Round-trip rail guided vehicle, Gate, Door of a warehouse, Mobile rack, Opening and closing arcade, Skylight window, Greenhouse roof, Ferryboat, Tram, Upper door of ship's hold, Fish farming aquarium cover, Safety nets for fire department training etc.

■ Capstan Three-phase 200V 0.4kW • 0.75kW Specification

| Model | BMW-201-ED | | BMW-202-ED | | BMW-203-ED | | BMW-301-ED | | BMW-302-ED | | BMW-303-ED | | |
|---|--|--|---|-------------|---|------------|---|--|---|-------------|--|------------|--|
| Frequency | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | |
| Wire Rope Tension Indicated in kg (lbs) | 120 (260) | 100 (220) | 200 (440) | 160 (350) | 300 (660) | 240 (520) | 220 (480) | 190 (410) | 360 (790) | 300 (660) | 530 (1,100) | 440 (970) | |
| Line Speed (m/min) Line Speed (ft/min) | 15.7 (51.5) | 18.7 (61.4) | 9.8 (32.2) | 11.7 (38.4) | 6.4 (21.0) | 7.6 (24.9) | 15.4 (50.5) | 18.4 (60.4) | 9.6 (31.5) | 11.5 (37.7) | 6.5 (21.3) | 7.7 (25.3) | |
| Wire rope diameter | φ 6 mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ 6 mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ 6 mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ 6 mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ 6 mm (6×24) <small>(Japanese Industrial Standards)</small> | | φ 8 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | |
| Gear ratio | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | | 40.3 : 1 | | 64.5 : 1 | | 99.0 : 1 | | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 0.4kW | | | | | | 0.75kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | Three-phase AC200V 50Hz 2.2A Three-phase AC200V 60Hz 1.9A Three-phase AC220V 60Hz 1.9A | | | | | | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | 150% or over | | | | | | | | | | | | |
| Duty factor | 40%ED | | | | | | | | | | | | |
| Control method | Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m • Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | | |
| Weight kg (lbs) | 48.3 kg(106.5 lbs) | | 48.6 kg(107.1 lbs) | | 50.5 kg(111.3 lbs) | | 49.4 kg(108.9 lbs) | | 49.7 kg(109.6 lbs) | | 51.0 kg(112.4 lbs) | | |

• 2-push button pendant switch, cable 2.5m (8.2 ft) and power cable 2.5m (8.2 ft) are attached on this product as accessories.

• Motors used above may correspond to a change in voltage. (Example : AC380V, AC400V, AC440Vetc.)

• Please consult our company when performing inverter control.

⚠ DANGER These Capstan drum winches are designed only for pulling horizontally. Never use these winches for lifting vertically.

■ Capstan Three-phase 200V 1.5kW • 2.2kW Specification

| Model | BMW-401-ED | | BMW-402-ED | | BMW-403-ED | | BMW-501-ED | | BMW-502-ED | | BMW-503-ED | | |
|---|--|---|--|-------------|--|-------------|--|---|---|---------------|---|---------------|--|
| Frequency | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | |
| Wire Rope Tension Indicated in kg (lbs) | 600 (1,300) | 500 (1,100) | 920 (2,000) | 760 (1,600) | 1,000 (2,200) | 900 (1,900) | 900 (1,900) | 750 (1,600) | 1,300 (2,800) | 1,100 (2,400) | 1,400 (3,000) | 1,300 (2,800) | |
| Line Speed (m/min) Line Speed (ft/min) | 11.4 (37.4) | 13.7 (44.9) | 7.5 (24.6) | 8.9 (29.2) | 6.3 (20.7) | 7.6 (24.9) | 11.3 (37.1) | 13.6 (44.6) | 7.5 (24.6) | 9.0 (29.5) | 6.4 (21.0) | 7.6 (24.9) | |
| Wire rope diameter | φ 9 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | φ 9 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | φ 9 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | φ 9 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | φ 10 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | φ 10 mm (6×Fi (29)) <small>(Japanese Industrial Standards)</small> | | |
| Gear ratio | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | | 57.2 : 1 | | 87.5 : 1 | | 103.3 : 1 | | |
| Motor | Type | Totally Enclosed Non-Ventilated : Built-in Motor | | | | | | | | | | | |
| | Output power | 1.5kW | | | | | | 2.2kW | | | | | |
| | Number of poles | 4P | | | | | | 4P | | | | | |
| | Voltage Current | 3相 AC200V 50Hz 6.4A 3相 AC200V 60Hz 5.9A 3相 AC220V 60Hz 5.7A | | | | | | 3相 AC200V 50Hz 9.3A 3相 AC200V 60Hz 8.5A 3相 AC220V 60Hz 8.2A | | | | | |
| | Insulation | B Class | | | | | | | | | | | |
| Brake | Spring Actuated Type Brake | | | | | | | | | | | | |
| Braking ratio | 150% or over | | | | | | | | | | | | |
| Duty factor | 40%ED | | | | | | | | | | | | |
| Control method | 2 Direct operation by 2-push button pendant switch (Cable 2mm ² × 4core × 2.5m • Power Cable 2mm ² × 4core × 2.5m) | | | | | | | | | | | | |
| Weight kg (lbs) | 65.2 kg(143.7 lbs) | | 66.7 kg(147.0 lbs) | | 68.0 kg(149.9 lbs) | | 69.4 kg(153.0 lbs) | | 69.7 kg(153.7 lbs) | | 71.0 kg(156.5 lbs) | | |

• 2-push button pendant switch, cable 2.5m (8.2 ft) and power cable 2.5m (8.2 ft) are attached on this product as accessories.

• Motors used above may correspond to a change in voltage. (Example : AC380V, AC400V, AC440Vetc.)

• Please consult our company when performing inverter control.

⚠ DANGER These Capstan drum winches are designed only for pulling horizontally. Never use these winches for lifting vertically.

EMX Series

Winch Specifications



This winch can be used for horizontal as well as vertical pulling.

Use Outside

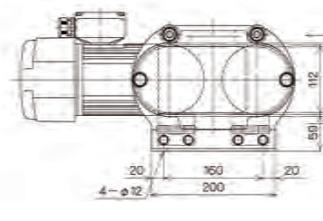
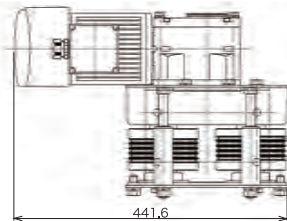
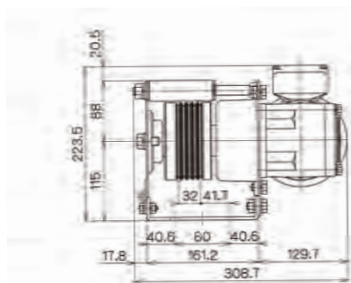
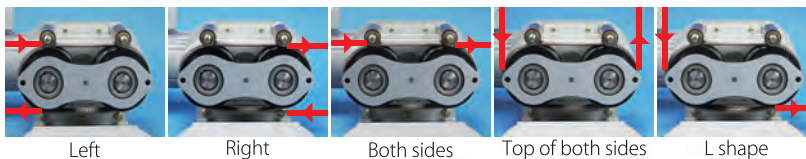
The motor has IP65 rated protection which makes it possible to use it not only indoors, but outdoors as well.

Strokes

Unlimited strokes! There are no lifting limits.

Adjustable Layout

Install the wire rope as you see fit.
The winch can be installed 360° at any angle.



| | | | | | | | |
|-------------------|------------------|----------------|----------------------------|----------------------|-------------------------------------|--------------------|-----------------------|
| Model | EMX-150 | Wire Rope Used | φ6 mm | Power Supply | 50 Hz / 60 Hz AC 100 V Single-phase | Gear Ratio | 106.7 : 1 |
| Wire Rope Tension | 150 kg (330 lbs) | Line Speed | 6.0 m/min (19.7 ft/min) | Motor Specifications | 0.2 kW 4P Continuous Rating | Weight (Main Unit) | 34.0 kg (75.0 lbs) |

Two Drums

Installing the Wire Rope

The side frame opens and closes to easily replace the wire rope.

Because this electric winch employs an opening and closing side frame, it is easy to wind the wire rope around the two drums from the side in any location.

Wire Holding Rollers

This prevents the wire rope from becoming loose.

The wire holding rollers are a standard item on our winches that prevents the wire rope from becoming loose. The wire rope will not come out of the drum grooves, even if the wire rope stretches or lacks tension.

Special Wire Rope Grooves

Prevents slipping and reduces friction.

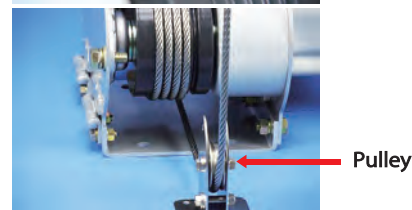
The special wire rope grooves create a high level of friction resistance which prevents the wire rope from slipping.

This in turn also prevents the wire ropes from rubbing against each other and creating contact friction.

Fleet Angle

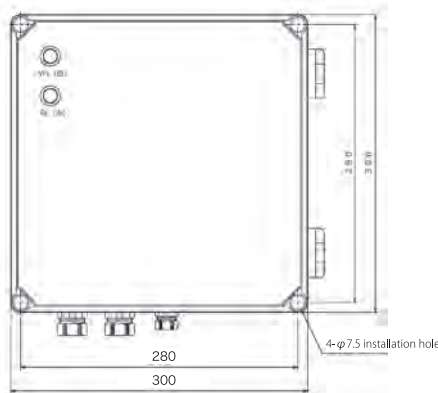
Prevents irregular winding.

The wire rope will not wind in an irregular way, even if there is a pulley directly in front of the winch because the position where the wire rope exits the winch never changes.



Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.

Wireless Switchbox



Water-Resistant and Dustproof

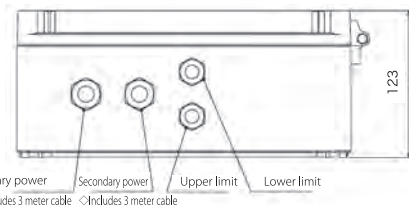
IP65 Level Protection for Peace of Mind.
Our switchbox utilizes a lightweight ABS plastic. A radio receiver is installed inside the box.

Built-in Inverter

Complete protection of the motor thanks to an electric thermal inverter. The speed can be changed to 0.6 m/min~6.0 m/min (2 ft/min~19.7 ft/min) as you like. (Actual operating speed is subject to conditions such as the wire rope tension and the voltage)

External Limit

Includes two external limit terminals. Includes two external limit terminals to limit raising and lowering limits and left and right movement.



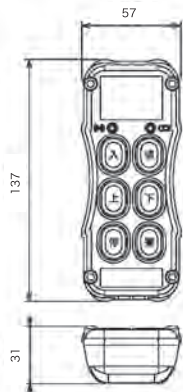
- Standard 3 meter primary power cable
- Standard 3 meter secondary power cable

※Not included for 200 V specifications.

※Three-phase AC 200 V supported.
Please let us know if you would like to use this specification.

Wireless Transmitter

IMPORTANT! Please check in advance to see if it is necessary to obtain permission or a license for radio usage in your country or region.



※Wireless operation by the transmitter can be changed to 3-push button pendant switch with 3m cable as made-to-order.



Includes protective bumper

Reception Distance

Operates the winch remotely.
The winch can be operated at distances up to 30 meters. The reception distance will be shorter if there are any objects in the way that will obstruct the reception.



Transmitter

The winch will automatically stop if the signal from the receiver is blocked.
When the power is ON the Power/LINK indicator will light up green. The Power/LINK indicator will turn red if the signal from the transmitter is blocked which will stop the winch. When the transmitter can communicate with the winch again the Power/LINK indicator will turn green and the winch can once again be operated. The OFF switch also acts as a wireless emergency stop feature.



Active signal



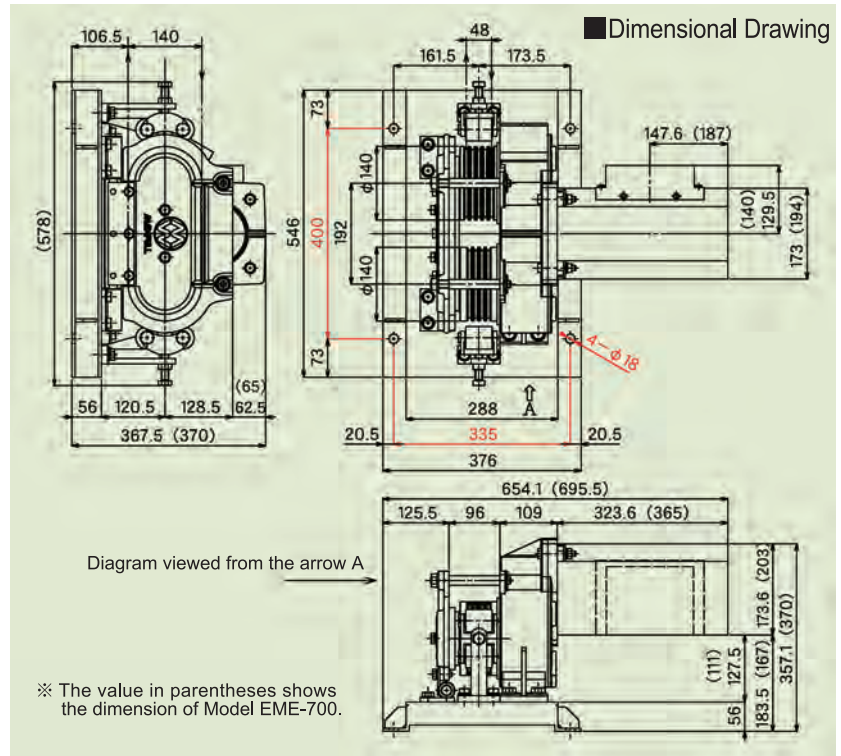
No active signal

Both Directions Pulling Endless Winch

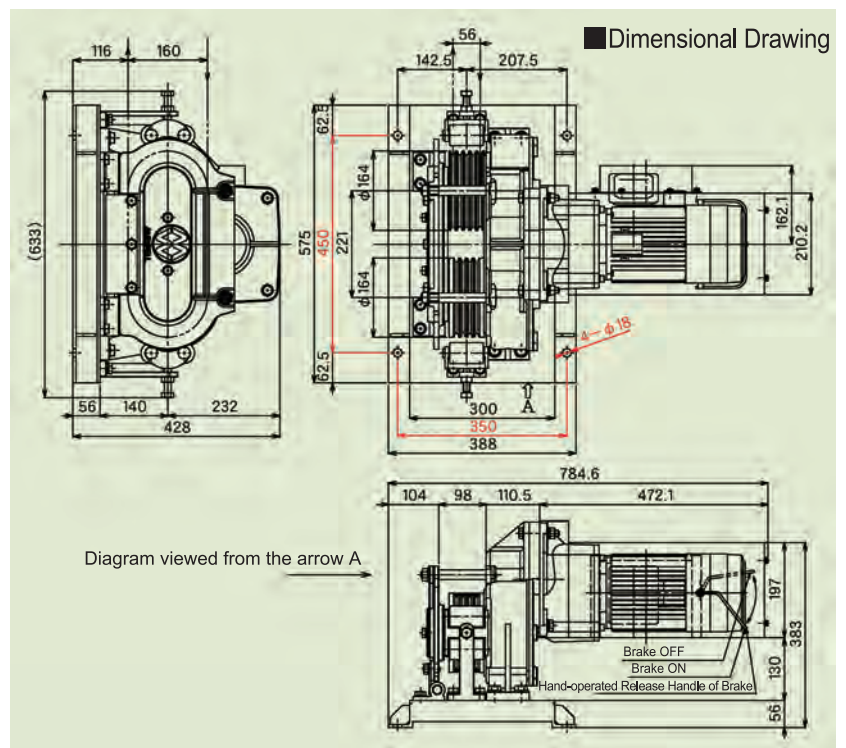
EME Series

This is an epochal endless winch for dual direction pulling equipped with unique functions. This winch have two drums that rotate the same direction at the same time with several special wire rope groove and two wire rope press rollers attached on the each drum. It provides a stable dual direction pulling power and prevention of wire rope loosing by itself. Users can easily wind a wire rope onto the drum from any portion of the endless wire rope. The winch provides a selection of dual direction pulling in not only one direction but also various directions depending on the purpose of use. In addition, it is also capable of one-way pulling. Thanks to its light weight and small size, users can use it in a wide range of locations.

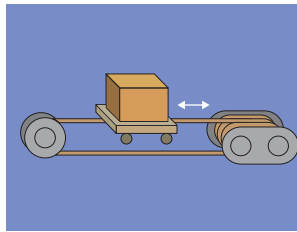
EME-400 EME-700



EME-1300



Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.



EME Type (Endless Type) Tension is not required
Suitable for both directions pulling stably and reliably

Application examples :

Golf practice net, Studio lighting, Moving stage, Mobile seat, Safety nets for fire department training, Carriage for maintenance of moving walkways, Water flow measuring device, Running surface maintenance equipment of the ski jump ramp, Roundtrip rail vehicle, Gate, Warehouse door, Mobile rack, Opening and closing arcade, Skylight window, Greenhouse roof, Upper door of ship's hold, Fish farming aquarium cover, etc.

Various new features

- Users can start winding a wire rope from any portion because a side frame is opening and closing type. Therefore, there is no need to process the end of the wire rope.
- Several special wire rope grooves that are designed based on an optimum friction factor are inscribed on two drums. This prevents the uneven winding and fits appropriately to the tolerance of wire rope.
- The wire rope press rollers in sets of two is installed on each drum, it prevents securely wire rope loosening.
- This winch does not require a special wire rope. A commercially available steel core wire rope (Japanese Industrial Standards) can be used on it.
- Users can select the control method either of current control or limit control. (Sold separately)

Both Directions Pulling Endless Winch EME Series 0.4kW ~1.5kW Specification

| Model | EME - 400 | | EME - 700 | | EME - 1300 | | |
|---|---|-----------------------------------|---|-----------------------------------|--|-----------------------------------|-------------------------------|
| | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | |
| Wire Rope Tension Indicated in kg (lbs) | 360 (790) | 300 (660) | 670 (1,400) | 550 (1,200) | 1,300 (2,800) | 1,100 (2,400) | |
| Line Speed m/min (ft/min) | 5.3(17.4) | 6.4(21.0) | 5.7(18.7) | 6.8(22.3) | 5.33(17.5) | 6.38(20.9) | |
| Wire rope diameter | φ8mm (6×Fi(29)) (Japanese Industrial Standards) | | φ9mm (6×Fi(29)) (Japanese Industrial Standards) | | φ10mm (6×Fi(29)) (Japanese Industrial Standards) | | |
| Gear ratio | 114.0 : 1 | | 108.0 : 1 | | 134.0 : 1 | | |
| Motor | Type | Totally Enclosed Fan Cooled Motor | | Totally Enclosed Fan Cooled Motor | | Totally Enclosed Fan Cooled Motor | |
| | Output power | 0.4kW | | 0.74kW | | 1.5kW | |
| | Number of poles | 4P | | 4P | | 4P | |
| | Voltage Current | Three-phase AC 200V 50Hz 2.4A | Three-phase AC 200V 60Hz 2.1A | Three-phase AC 200V 50Hz 3.9A | Three-phase AC 200V 60Hz 3.4A | Three-phase AC 200V 50Hz 6.6A | Three-phase AC 200V 60Hz 6.1A |
| | Insulation | E Class | | E Class | | B Class | |
| Brake | Spring Actuated Type Brake | | Spring Actuated Type Brake | | Spring Actuated Type Brake | | |
| Braking ratio | 150% or over | | 150% or over | | 150% or over | | |
| Duty factor | Continuous | | Continuous | | S 2 10min | | |
| Weight kg (lbs) | 77.0 kg(169.8 lbs) | | 81.0 kg(178.6 lbs) | | 120.0 kg(264.6 lbs) | | |
| Painting | Baked Enamel (Two Coats) Munsell No. N-3 | | | | Aluminum parts are silver color | | |

※Structure of the wire rope is recommended by manufacturer.



▲ Raising and Lowering the Nets at Golf Driving Range



▲ Opening and Closing the Roof Tent

It is very easy to wind a wire rope onto the drum.

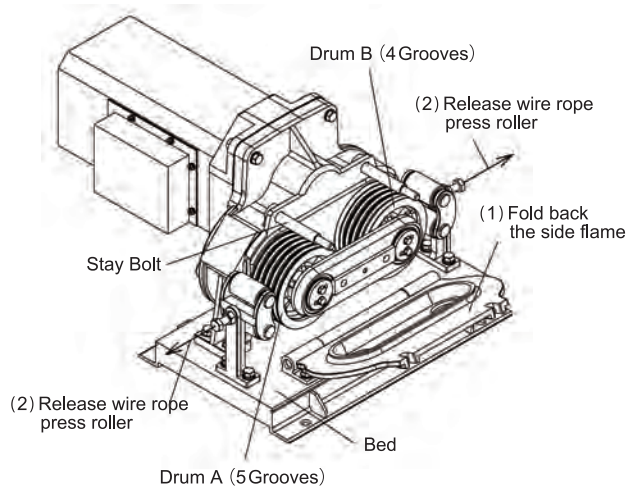
Conventional endless winches require the use of special wire ropes, and processing the end of the wire rope and winding it from the end when installing it.

Maxpull's endless winch supports use of commercially available steel core wire rope, and the wire rope can be wound from any portion onto two opened drums by opening the side frame.

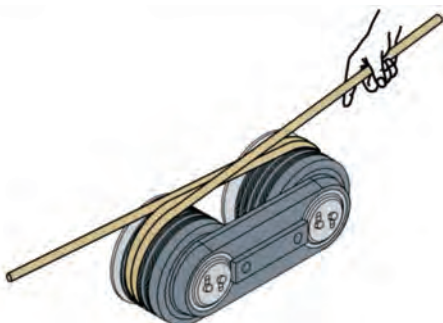


1 Remove the bolt of the side frame and open the frame.

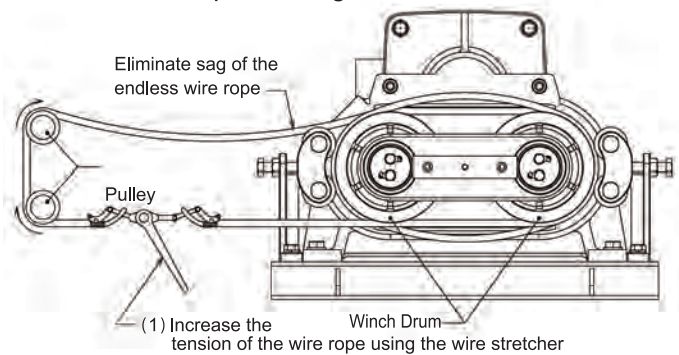
2 Loosen each bolt of the press roller located at the end of the right and left, and release the wire rope press roller from the drum.



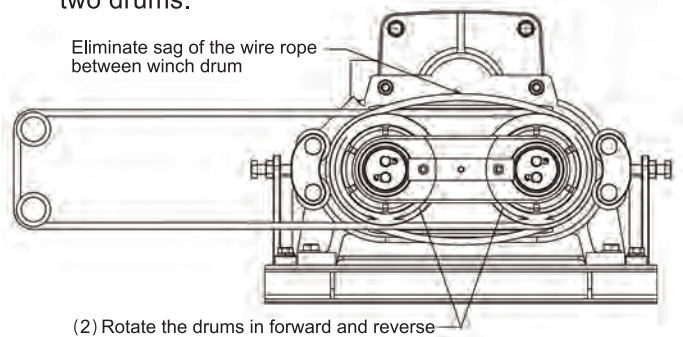
3 Set the wire rope in any groove behind the drum and wind it in sequentially to your side.



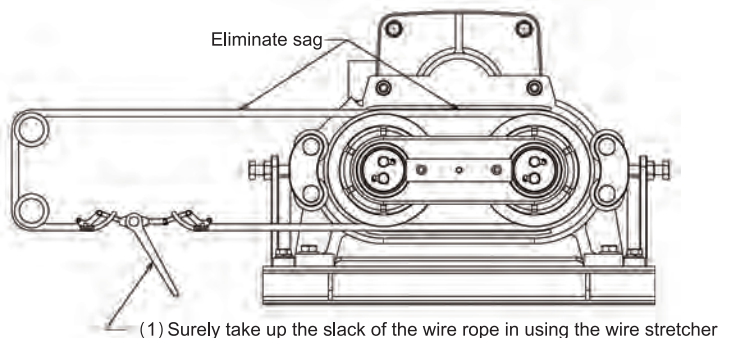
4 After winding the wire rope onto the drum, return the side frame and wire press roller to their original positions. Then tighten the bolts, set both ends of the wire rope to the wire stretcher, and take up the slack of the wire rope in using the wire stretcher.



5 Operate the winch, and rotate the drums in forward and reverse to take up the slack of the wire rope between two drums.



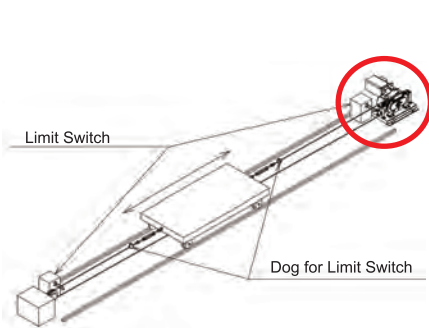
6 Use the wire stretcher again to take up the slack of the entire wire rope coming out between the drums.



Applications

We have the control panel for each model.
Please feel free to contact us.

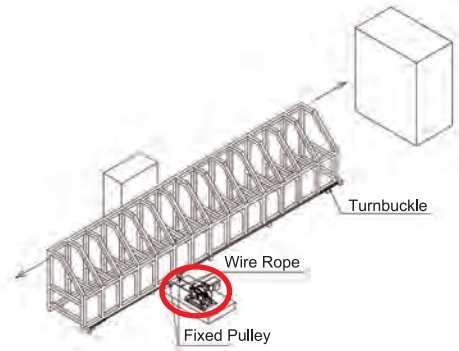
- Inverter Control Panel
- Wireless control panel



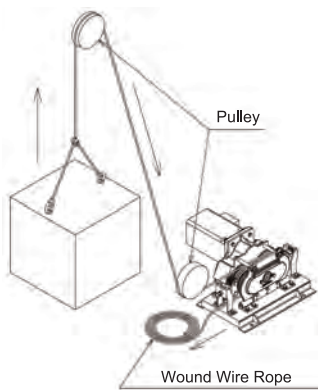
▲ Truck Horizontal Pulling



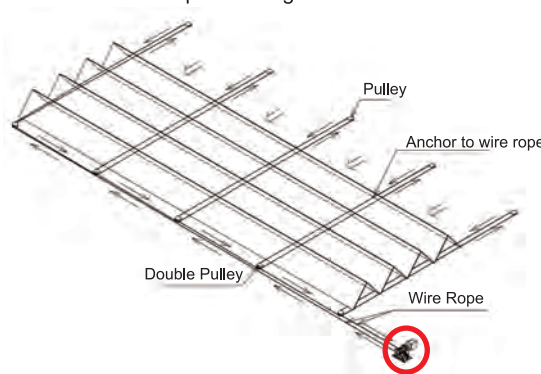
▲ Opening and Closing the Door in Airplane Hangar



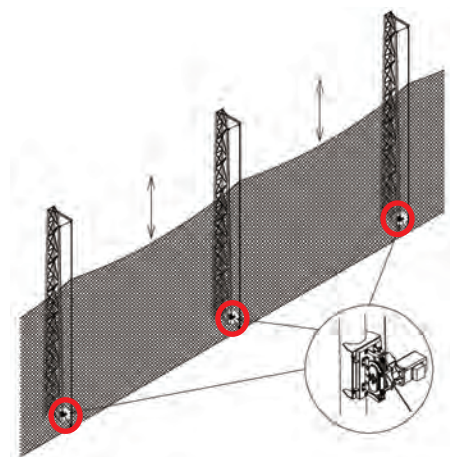
▲ Opening and Closing the Gate



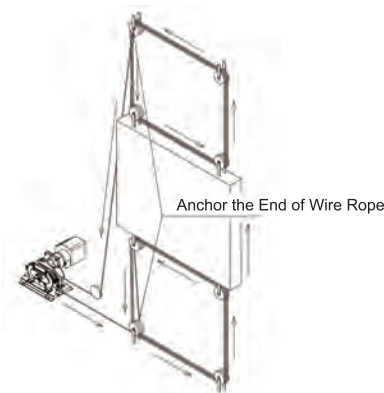
▲ Hanging



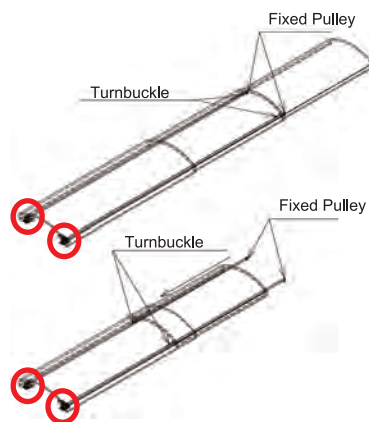
▲ Opening and Closing the Tent



▲ Raising and Lowering the Net at Golf Driving Range



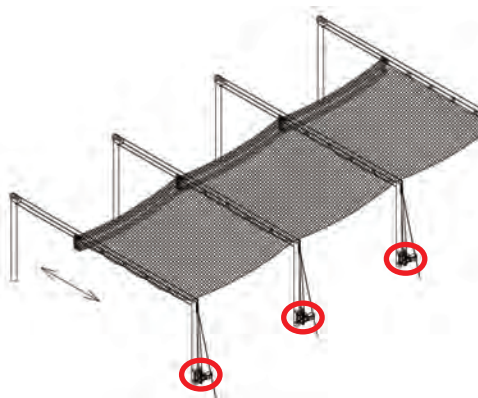
▲ Lifting and Lowering the Damper



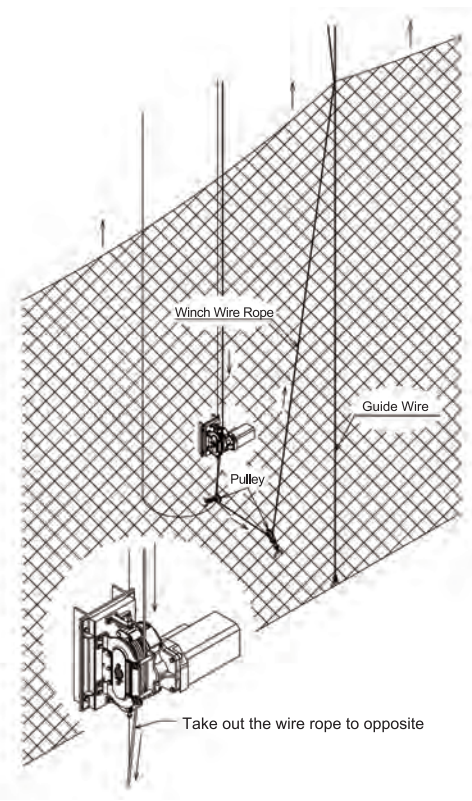
▲ Opening and Closing the Dome



▲ Raising and Lowering the Vertical Banner



▲ Opening and Closing the Safety Nets for Overhead



▲ Raising and Lowering the Net

IMPORTANT! Be sure to confirm regulations in your country or region to determine the suitability of the winch to intended use and read the Instruction Manual supplied with the equipment before operating winch.

Winch with motor placed in line

GME·GLF Series

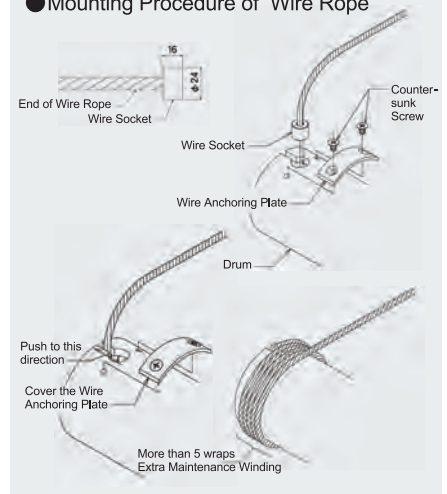
Golf nets control system that adopted the integrated control system with the anemometer for raising and lowering safety nets



Centralized Control Panel

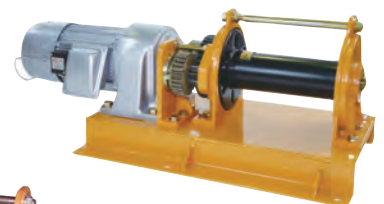
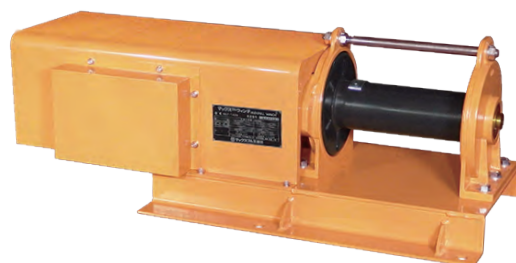
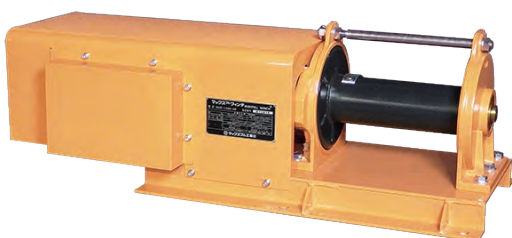
Raising and lowering a wide range of nets at golf driving ranges against strong wind and fallen snow is hard work. We have developed a golf net control system of the centralized control method to raise and lower the net safer, easier and quicker. This is a new control system for raising and lowering the net only at golf driving ranges, and it has been created by experience and technology accumulated over many years that it made top sales performance in industry as a winch manufacture. This system is configured with the electric winch (GME · GLF series) that can adequately withstand tough outdoor environments and a centralized control system interlocked with the anemometer. The electric winch of this system incorporates various unique designs, and it is lightweight and downsize. The reducer which is the most important device of the winch (GME · GLF series) demonstrates the superior durability even in continuous use for a long time because of using the spur gear by our unique dislocation method that is given special heat treatment. In addition, the electromagnetic brake that adopts to special electromagnetic circuit allows instantaneous braking and releasing while the winch is operating. Its high reliability has been verified through a million times durability tests and long-term field tests. This system allows the net to be lowered stably using the brake release lever even when power failure.

● Mounting Procedure of Wire Rope



GME-700-NP
GME-1300-NP

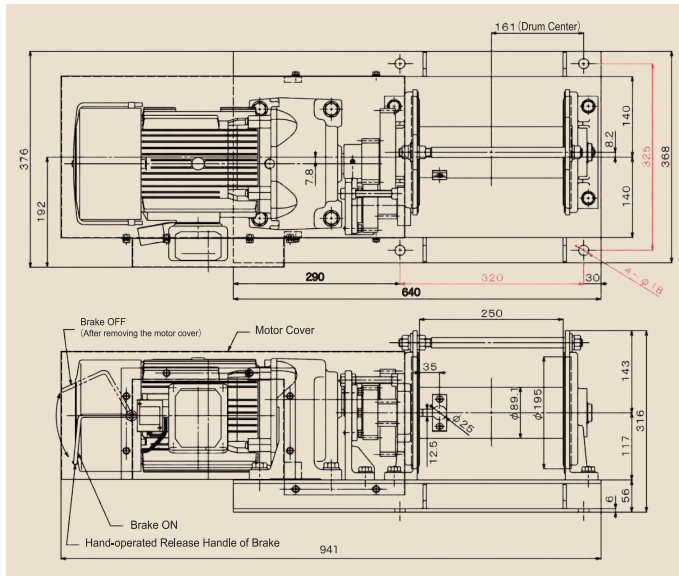
GLF-750
GLF-1400



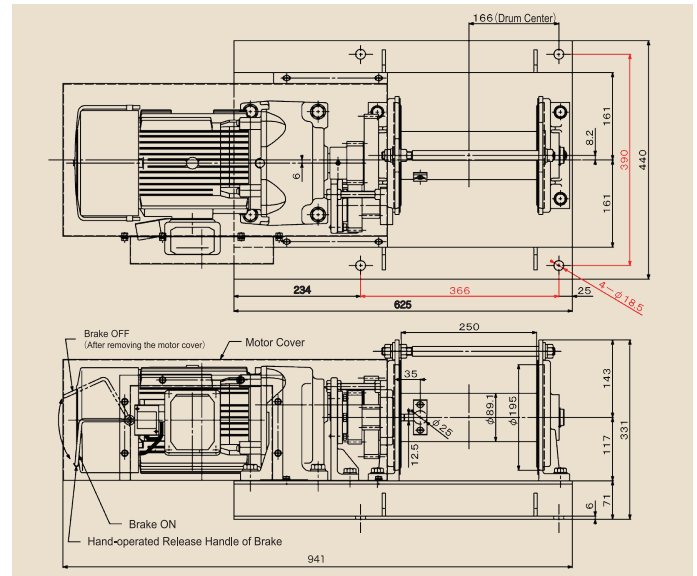
▲The gear and motor can be reached easily with removing the motor cover. It is easy to repair.

Different power voltage motors are also available, please contact us or nearest maxpull distributor for help.

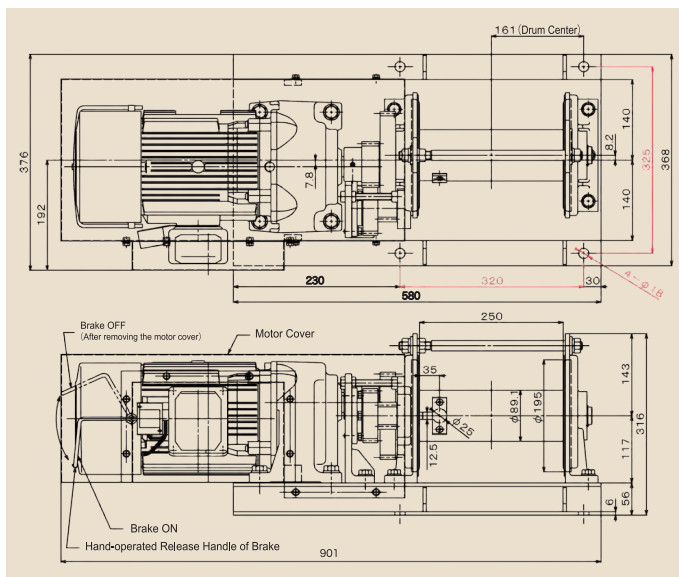
GME-1300-NP



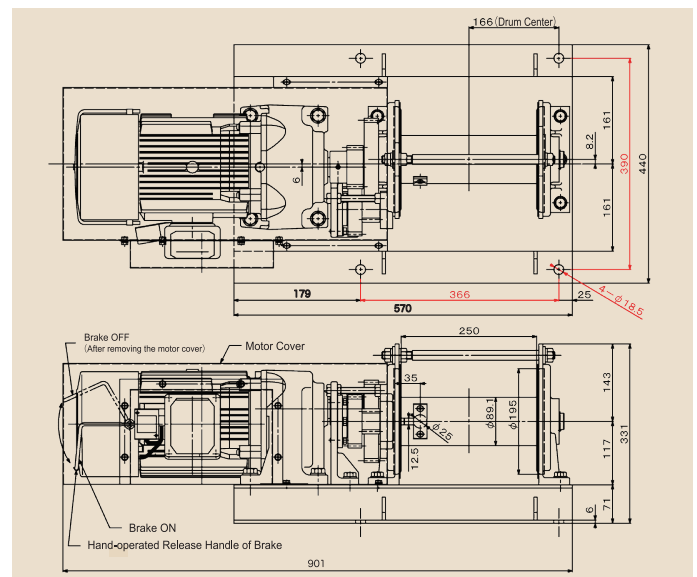
GLF-1400



GME-700-NP



GLF-750



Winches for Raising and Lowering the Golf Nets GME·GLF Series

| Model | | GME - 700 - NP | | GLF - 750 | | GME - 1300 - NP | | GLF - 1400 | |
|---|----------------------------|--|--|--|--|--|--|--|--|
| Frequency | | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz | 50Hz | 60Hz |
| Wire Rope Tension Indicated in kg (lbs) | | 680 (1,400) | 560 (1,200) | 710 (1,500) | 600 (1,300) | 1,300 (2,800) | 1,100 (2,400) | 1,400 (3,000) | 1,200 (2,600) |
| Line Speed m/min (ft/min) | 3rd Layer | 4.2(13.8) | 5.0(16.4) | 4.0(13.1) | 4.8(15.7) | 4.4(14.4) | 5.2(17.1) | 4.2(13.8) | 5.0(16.4) |
| | 5th Layer | 5.3(17.4) | 6.4(21.0) | 5.1(16.7) | 6.1(20.0) | 5.5(18.0) | 6.6(21.7) | 5.3(17.4) | 6.4(21.0) |
| Drum Capacity | | φ9mm×50m | | φ9mm×50m | | φ9mm×50m | | φ9mm×50m | |
| Wire rope diameter | | φ9mm(6×Fi(29)) Japanese Industrial Standards | | φ9mm(6×Fi(29)) Japanese Industrial Standards | | φ9mm(6×Fi(29)) Japanese Industrial Standards | | φ9mm(6×Fi(29)) Japanese Industrial Standards | |
| Gear ratio | | 142.6 : 1 | | 148.5 : 1 | | 140.0 : 1 | | 145.7 : 1 | |
| Motor | Type | Totally Enclosed Fan Cooled Motor | | Totally Enclosed Fan Cooled Motor | | Totally Enclosed Fan Cooled Motor | | Totally Enclosed Fan Cooled Motor | |
| | Output power | 0.75kW | | 0.75kW | | 1.5kW | | 1.5kW | |
| | Number of poles | 4P | | 4P | | 4P | | 4P | |
| | Voltage Current | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | Three-phase AC200V 50Hz 3.6A Three-phase AC200V 60Hz 3.2A Three-phase AC220V 60Hz 3.1A | Three-phase AC200V 50Hz 6.9A Three-phase AC200V 60Hz 6.1A Three-phase AC220V 60Hz 5.9A | Three-phase AC200V 50Hz 6.9A Three-phase AC200V 60Hz 6.1A Three-phase AC220V 60Hz 5.9A | Three-phase AC200V 50Hz 6.9A Three-phase AC200V 60Hz 6.1A Three-phase AC220V 60Hz 5.9A | Three-phase AC200V 50Hz 6.9A Three-phase AC200V 60Hz 6.1A Three-phase AC220V 60Hz 5.9A |
| | Insulation | B Class | | B Class | | F Class | | F Class | |
| Brake | Spring Actuated Type Brake | | Spring Actuated Type Brake | | Spring Actuated Type Brake | | Spring Actuated Type Brake | | |
| Braking ratio | | 150% or over | | 150% or over | | 150% or over | | 150% or over | |
| Duty factor | | S2 10min | | S2 10min | | Continuous | | Continuous | |
| Weight kg (lbs) | | 80.0 kg(176.4 lbs) | | 71.0 kg(156.5 lbs) | | 83.0 kg(183.0 lbs) | | 86.0 kg(189.6 lbs) | |
| Painting | | Baked Enamel (Munsell No. 7.5 YR6/11) | | | | | | | |

IMPORTANT! Dimensions are in metric and subject to change without notice. Be sure to confirm regulations in your country or region to determine the suitability of the winch to intended use and read the Instruction Manual supplied with the equipment before operating winch.

Please contact us for your special demand.
 We will manufacture the most suitable winch with
 the capacity, type, size and uses of your desired.

Special Electric Winches

In addition to the standard products, our unique custom-made products are used in various fields. The uses, capacity, method and size are many and varied. Our unique design responds adequately to customer expectations.

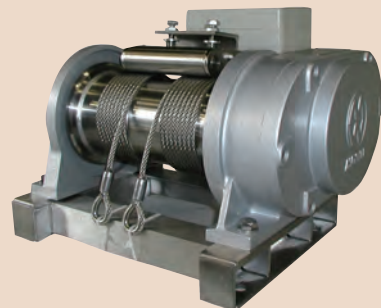
We are manufacturing various winches according to the number of demands.

For example, there are some winch such as for Deep Ice Coring in Antarctica, laying submarine cable, inclined shaft at mine and lifting the stage setting.

Please contact us if your business idea requires that something be "moved".

Winch for lifting the cargo of pharmaceutical experiment

Stainless steel body, with wire holding unit pulling by two wire ropes in synchronous
 Capacity : 150 kg(330 lbs) × 2 Speed : 5.9 m/min(19.4 ft/min)



Winch for pulling the shaft of submarine cable

High & Low 2-speed by Pole-changing, dog clutch, with control panel
 Capacity : 3,000 kg(6,600 lbs)
 Low speed : 2.0 m/min(6.6 ft/min) High speed : 10.0 m/min(32.8 ft/min)



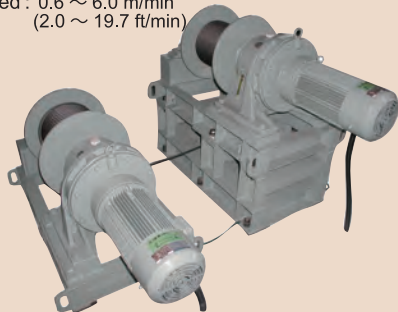
Winch for both directions pulling of the truck for landing in the yacht harbor

Forcibly pulling for rising and falling
 Capacity : 3,000 kg(6,600 lbs)
 Speed : 0.5 ~ 5.0 m/min(1.6 ~ 16.4 ft/min)



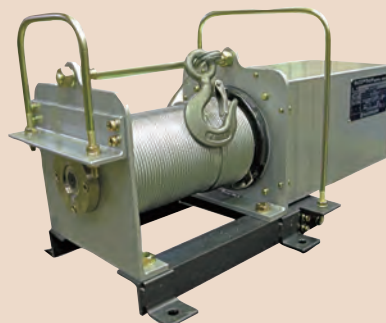
Winch for destructive testing of concrete pole

Speed change by inverter
 Capacity : 1,500 kg(3,300 lbs)
 Speed : 0.6 ~ 6.0 m/min
 (2.0 ~ 19.7 ft/min)



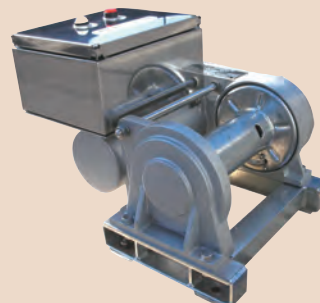
Winch for maintenance of cell phone towers

Lightweight portable type
 Capacity : 100 kg(220 lbs)
 Speed : 14.2 m/min(46.6 ft/min)



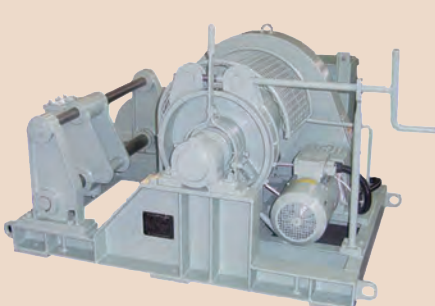
Winch for lifting the gangway

Control panel SUS box
 Winch drum and bed are plated with hot dip galvanizing
 Capacity : 280 kg(610 lbs) Speed : 5.2 m/min(17.1 ft/min)



Multi purpose winch for horizontal pulling with traverser, dog clutch and control panel

Capacity : 1,000 kg(2,200 lbs) Speed : 9.0 m/min(29.5 ft/min)



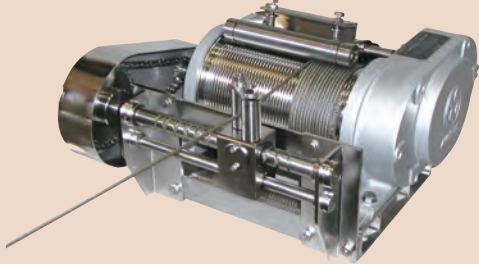
Winch for pulling the nozzle of rocket with inverter control panel

Capacity : 500 kg(1,100 lbs)
 Speed : 0.3 ~ 5.3 m/min(1.0 ~ 17.4 ft/min)



Winch for cleaning the water intake in thermal power plant

Stainless steel body
with traverser and wire holding unit
Capacity : 250 kg(550 lbs)
Speed : 0.23 ~ 3.06 m/min(0.8 ~ 10.0 ft/min)



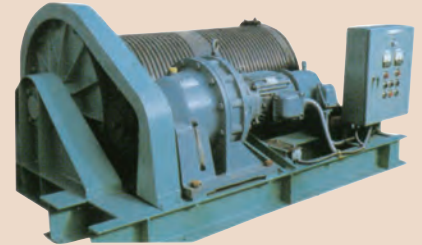
Electric winch for clean room

Model : BMW-203-SDGR-II

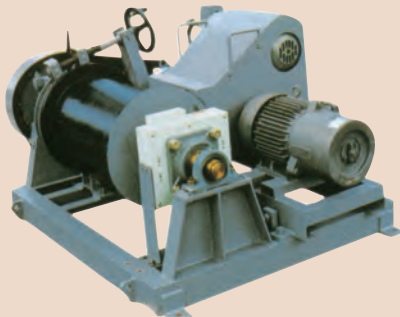


Electric winch for winding the 25T bridge crane

Capacity : 6,000 kg(13,200 lbs)
Speed : 5 m/min(16.4 ft/min)

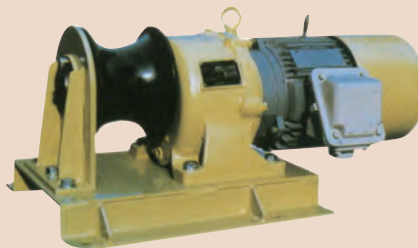


Winch for lifting the drill for liquid-filled holes used in deep ice coring in Antarctica (National Institute of Polar Research)



Winch for moving the golf cart

Model : GME-300-CD22



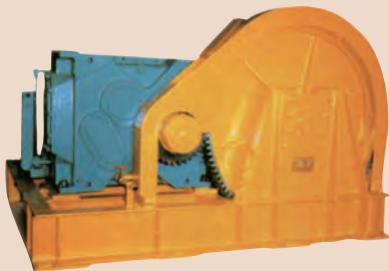
Single drum winch for pulling the dolly

Capacity : 5,000 kg(11,000 lbs)
Speed : 5 m/min(16.4 ft/min)



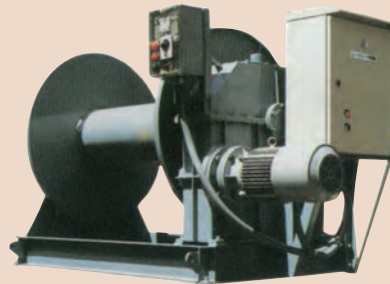
Winch for lifting the boom of pneumatic unloader

Capacity : 3,500 kg(7,700 lbs)
Speed : 10 m/min(32.8 ft/min)



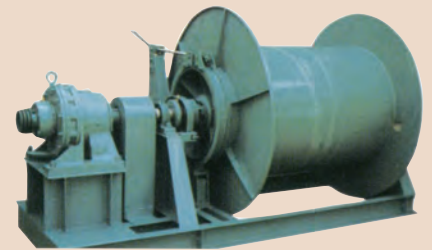
Winch for winding Kevlar rope

Capacity : 200 kg(440 lbs)
Speed : 10 m/min(32.8 ft/min)
Drum Capacity : 4,000 m(13,100 ft) Inverter control



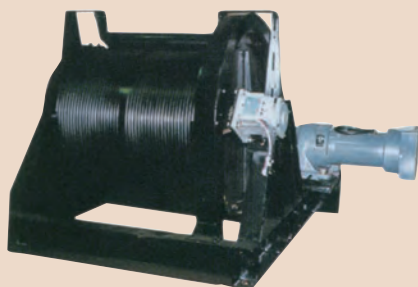
Winch for laying submarine cable

Capacity : 1,500 kg(3,300 lbs)



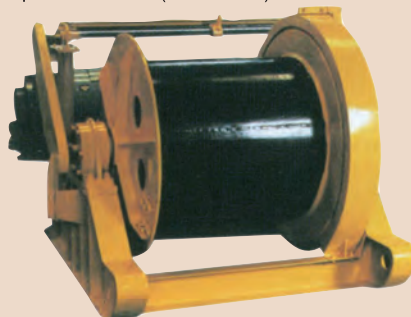
Winch for lifting the panel of stage set

Capacity : 2,500 kg(5,500 lbs)
Speed : 5 m/min(16.4 ft/min)



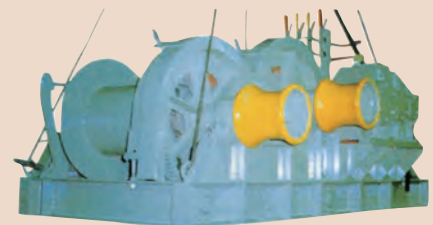
Winch for inclined shaft

Capacity : 6,000 kg(13,200 lbs)
Speed : 0.5 m/min(1.6 ft/min)
Capacity : 1,200 kg(2,600 lbs)
Speed : 50 m/min(164.0 ft/min)

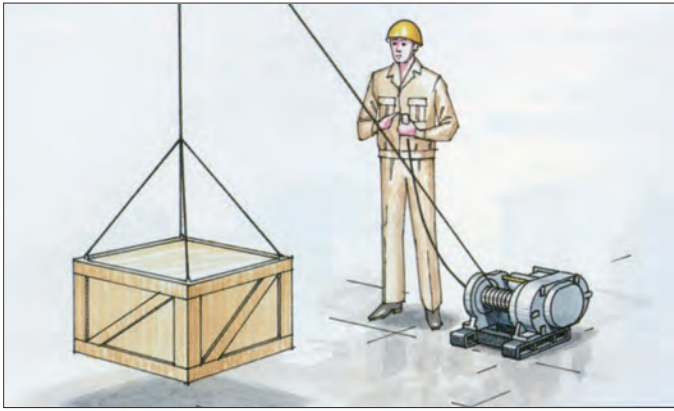


Double drum winch

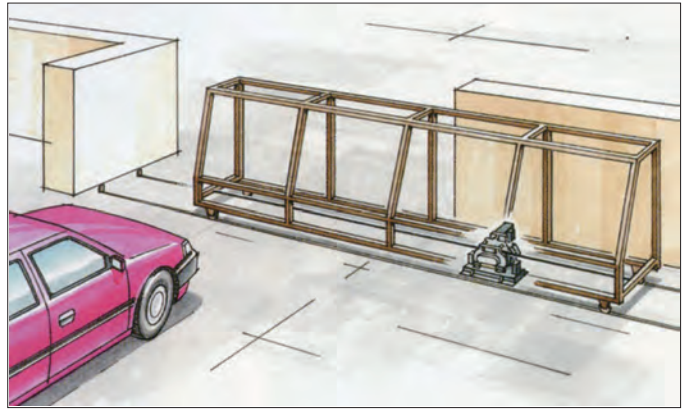
Capacity : 3,000 kg(6,600 lbs)
Speed : 20 m/min(65.6 ft/min)



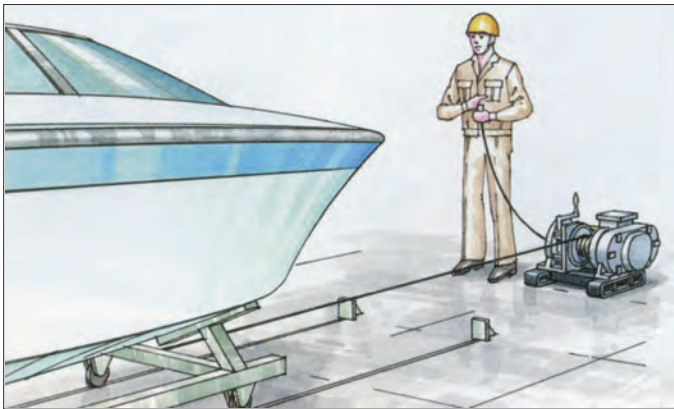
Some examples of thousand ways to use MAXPULL winches for each series.



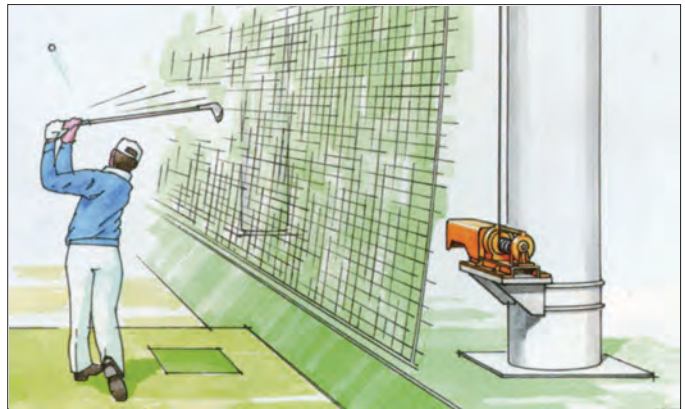
BMW series
Useful for lifting parts, apparatus, equipment and materials, etc. safely.



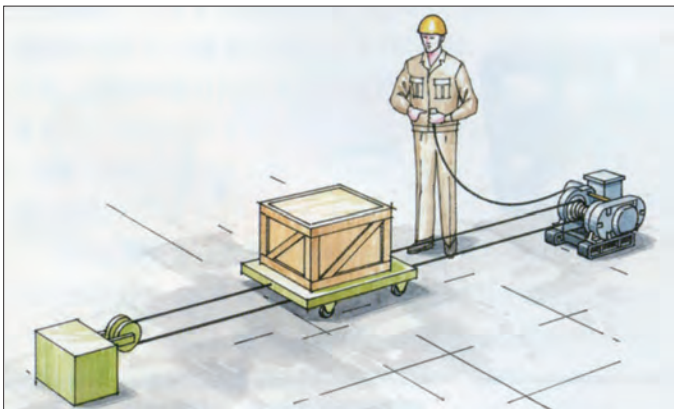
EMX·EME series
Often used for stable reciprocating movement such as opening and closing of the door or moving the stage equipment.



BMW dog clutch series
Ideal for landing the ship at yacht harbor, moorings, etc.



GME series·GLF series
Control system for raising and lowering the wide nets at the golf driving range.



BMW capstan series
Suitable for moving the conveyance carriage in the factory or construction site.



GMT series
For raising and lowering the radio tower.

WARNING Read the manual before using these products in order to use correctly and safety.

Manufacturer

MAXPULL MACHINERY & ENGINEERING CO., LTD.
マックスプル工業株式会社
 1296-22, Nakaya, Nishifukai, Nagareyama-shi, Chiba
 270-0107, JAPAN
 TEL:+81-4-7186-6797 FAX:+81-4-7186-6798
 E-mail: info@maxpull.co.jp

Quality Certificate **CE**



Web Site: www.maxpull.co.jp

● Because of continued product improvement, we change the specifications, dimension and appearance without notice.

MAXPULL winches are not for lift or move people. Also do not lift loads over people.

rev.2. 2018/08, WEB