

Earth-Friendly • Pollution-Free Compact Winches

# Portable Winches



**Fuji Mfg Co., Ltd.**  
(Fuji Seisakusyo)



# Sure, Safe and Designed in Consideration of the Global Environment

## Earth-Friendly • Pollution-Free Winches

Brake Discs are made of Aramid fiber, asbestos-free and pollution-free material with extreme durability. We are actively working on RoHS products in compliance with their environmental-friendly directives.

## Many Models • Reliable Brake Mechanism

Many models are available: the extreme-durable PNW.SS series with double brake pawls; the non-noise PSW series; the forwards-and-backwards-operable PRW series; and the stable-position LHW series with capstan drums. The brake areas in the PNW, SSW, PSW, PRW and PZW series are completely protected by brake covers, different from those of other makers with projecting brake pawl heads. Therefore, these winches are safe enough to use in parks, schools, and so on.

## Extremely Durable Dustproof and Waterproof Models

Gearwheels are set in robust cases, and the brake mechanism is sealed in protective plastic cases to shut out dust and water. Also, the brake mechanism, the most important part, is coated with complete-rust-prevention hard plating. Furthermore, in the SSW series, stainless steel is used for casings and drums. These are truly high-grade products.

## Useful Free-Wheeling Equipment (Patented)

With no load on the winches, only by manually turning the ratchet and removing the handle, the brake is easily released to pay out cable. (Possible only in the PNW, SSW and PRW series, but not in the PSW and PZW series) Furthermore, for safe operation, the brake is designed to function automatically in case of sudden additional loads on the winches during operation.



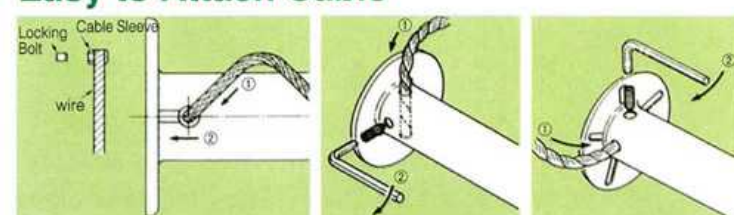
## Optional Brake for Lightweight Loads (Patent Pending)

The Mechanical brake structure functions automatically when loads are put on the winches. In case of weights lighter than for which the winches are preset, the brake sometimes functions improperly, dropping. The optional brake for lightweight loads was designed to solve this problem and to function stably even with lightweight loads. This brake can be used safely for adjusting belt conveyer elevation angles, opening/closing stage drop scenes and store shutters, and so on.

## Easy to Crank

The handle can be adjusted to desired length with a wing bolt, and the plastic grip is designed to turn smoothly without hurting operators' fingers while cranking. The mechanical brake enables cable to be wound by turning the handle clockwise and rewound by turning it counterclockwise. The brake begins functioning automatically from where the handle is stopped, and midair load-hanging is also possible. In the PRW series, forward-and-backwards operation of the handle is possible. (However, in the LHW series, a separate operation is required. Ref. Page 7.)

## Easy to Attach Cable



●2000-3000 Type

●100-1000 Type  
●QW 10-75-110-170  
●S S 10-65

●300-500 Type  
●QW-SS 25-40

## Reliable Stable Braking Mechanism

### Structure

The internal threads of the ratchet ① are cut and turn with the external threads of the pinion ②. (Both of them are clockwise screws.) The disc hub ③ is inserted into the pinion shaft and held with the hub pin and they rotate together. The brake disc ④ rotates freely along the ridge of the ratchet wheel ⑤, which is held with a brake pawl ⑥ and rotates only in a clockwise direction.

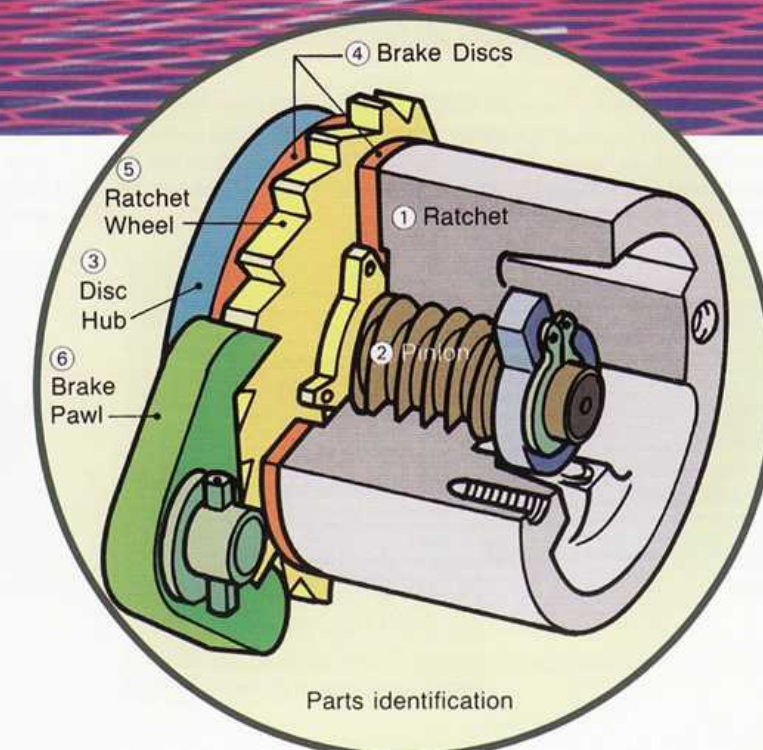
### Lifting Work

The winches are designed to wind cable only in a given direction, always requiring the pinion to rotate counterclockwise with loads. When the handle is turned clockwise, the ratchet turns along pinion threads. Then, the brake disk and the ratchet wheel are pressed against a disc

hub. These parts rotate with the pinion, lifting loads through drum rotation.

### Lowering Work

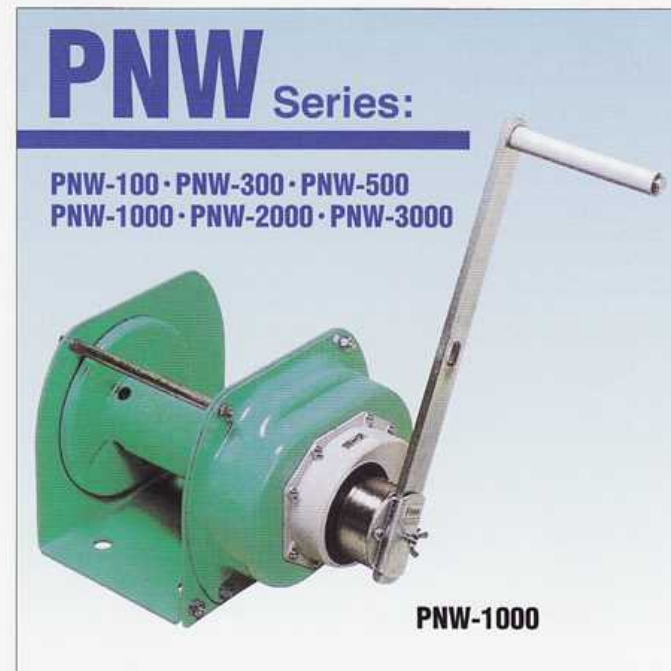
When the handle is turned counterclockwise, the load on the cable works to drive the pinion in the same direction. Simultaneously, the ratchet turns in the same direction slackening and giving clearance, releasing the pinion. Although the load is lowered with the rotation of the pinion, if the pinion rotates faster than the handle, both are pressed hard by the threads. Then, the brake begins functioning because of the ratchet disc, which is held back counterclockwise. In other words, the load is lowered at the same speed as the handle rotation speed and stopped when the handle stops rotating.



Parts identification



# Well Productive 5 Series Elective in Accordance with Users' Purpose



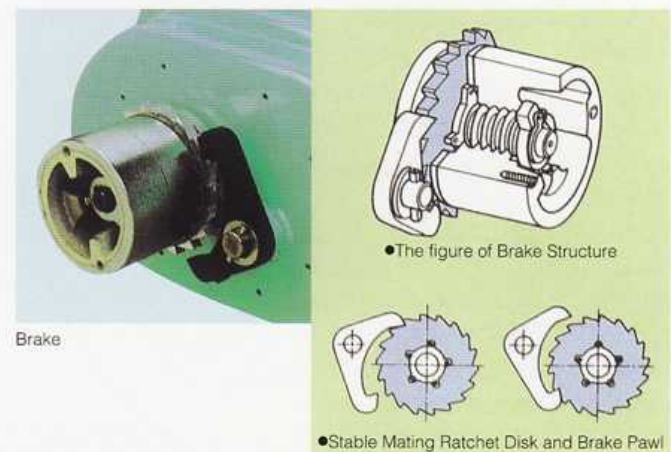
## Reliable Double Braking Pawls and Free-Wheeling Device

### ■ Installed stable and safe double brake pawls

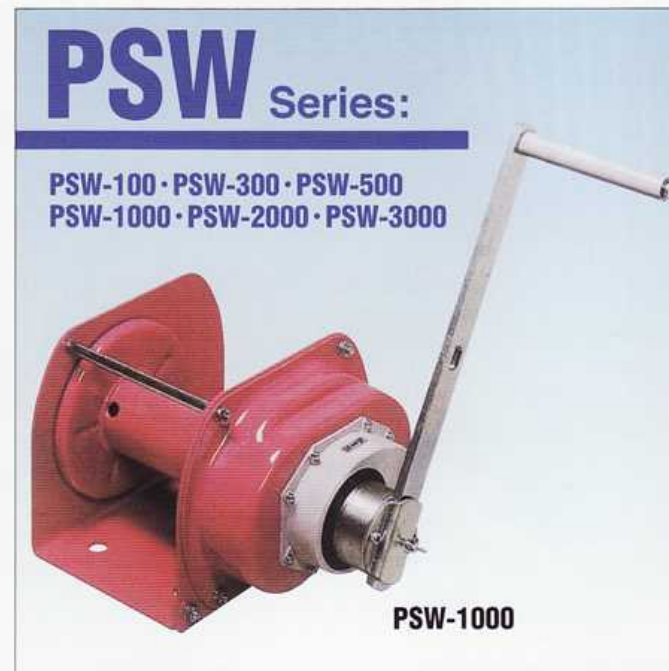
When one brake pawl is released, the other brake pawl engages the ratchet disc. Therefore, under all conditions, the brake pawls continue working maintaining winch safety. Because springs are not used, the brake structure is extremely durable with little wear and tear.

### ■ Easy to rotate Free-Wheeling Device (patented)

When there is no load on the winch, only by turning the ratchet located at the bottom of the handle, the brake can be released and cable can be quickly paid out. Additionally, for safety purposes, with some loads the brake starts working again automatically.



Brake



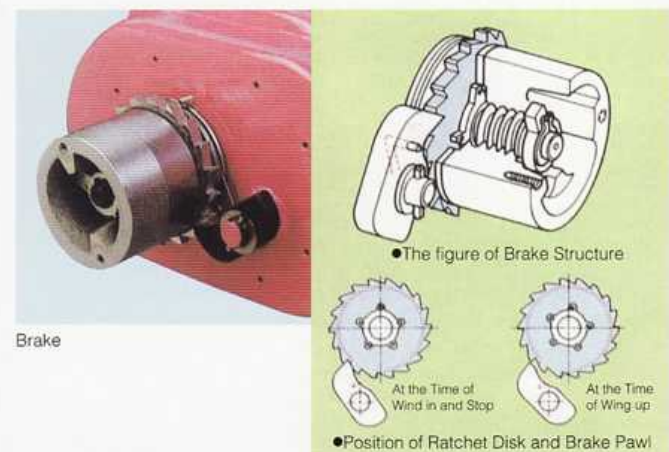
## Special Non-Noise Brake, Appropriate for Night Work and Theaters

### ■ Non-noise Brake Structure

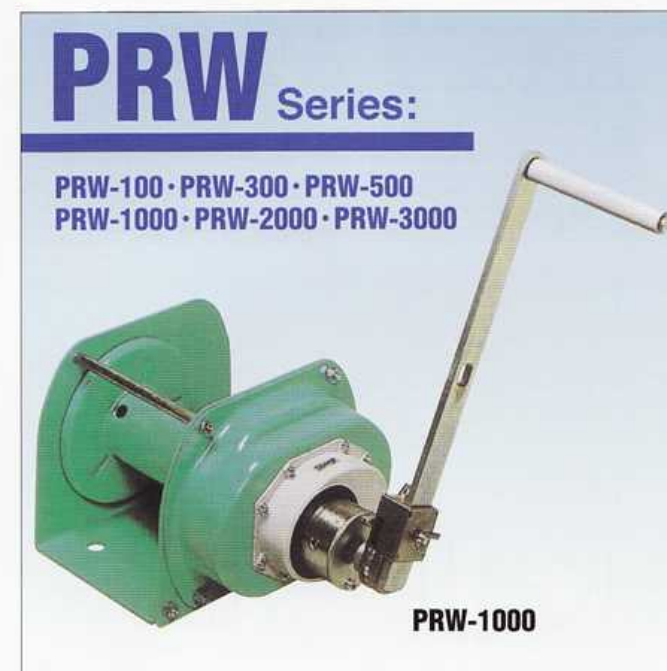
Using a special horseshoe-shape spring, because of the function in which brake pawls are released when wound up, this non-noise brake structure has been successfully designed to make almost noiseless brake pawls. This series is the most appropriate for use in places with noise regulations such as theaters, hospitals, and night construction sites.

### ■ Free-Wheeling Devices Not Installed

Free-wheeling devices have not been installed in this series to prevent wear on the special horseshoe-shape spring when there is excessive disk hub rotation. This will lengthen the life span of the horseshoe-shape spring.



Brake



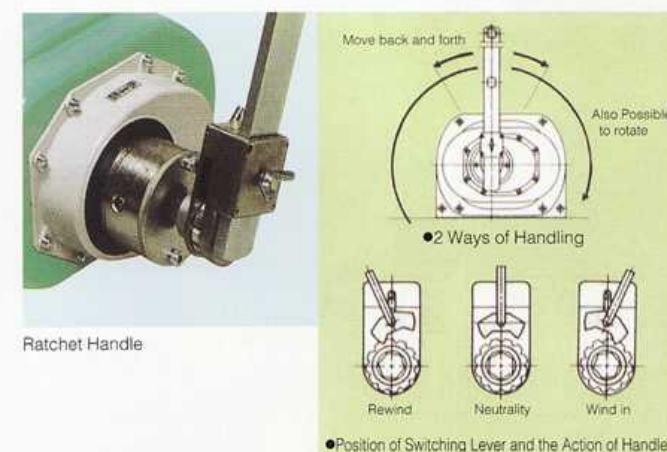
## Moving Back and Forth + Rotating Handle, for Powerful Work in Narrow Spaces

### ■ Ratchet Handle both for Operating Back and Forth and Rotating

In the PRW series, the handle is designed in the ratchet style. Therefore, winding and rewinding cable is possible only by repeatedly moving the handle from side to side. Even in narrow spaces where it is impossible to rotate handles, the work can be done with the winches fixed directly to walls or floors. As with the SSW, PNW, PSW, PZW series, rotating handle operation is also possible. Thus, these winches are very user friendly.

### ■ Easy Switching Method of Winding/Rewinding and Free-Wheeling

In the PRW series, change of lever position determines operation functions. Positioning the lever to the right winds cable and to the left rewinds them. The middle position is for free-wheeling.



Ratchet Handle



## Authentic Rust-Resistant Stainless Steel Winches

### ■ Stainless Steel Used as Much as Possible

To increase durability, high-grade rust-resistant SUS304 stainless steel is used in the casing, drum, gear cover, and other parts such as ball bearings, screws, and bolts.



## Rust Resistant Zinc Plating

### ■ Effective in Adverse Weather Conditions such as Salty Air, Rain and Wind, and High Humidity

The casing, drum and gear cover are zinc plated. Therefore, these winches are very effective for use on salty-air beaches, gulf coast facilities such as marinas, rainy and windy roads, in recreational facilities, pasture and agricultural facilities, indoor pools, and also high humidity hothouses.

### ■ Rust Resistance at Reasonable Prices

The winches in this series combine the rust-resistant qualities of the SSW series with the low prices of the PNW series.



# Specification/Dimension

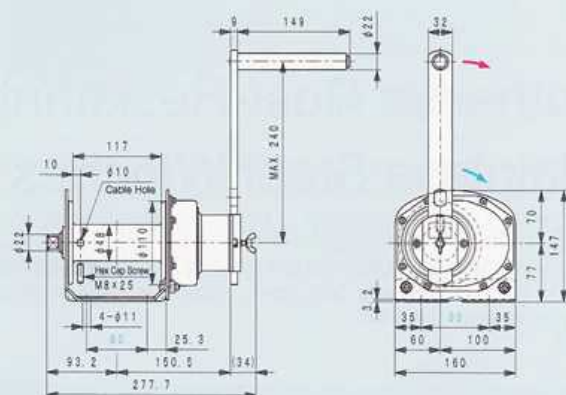
☆PNW does not have the  $\phi 22$  protrusion shown in the left of the diagram.  
Regarding the details, please refer to the official drawing separately provided.

## PNW-100

(PSW-100)  
(SSW-100)  
(PZW-100)



Rated Load (1 Drum Layer)	100 kg
Manual Pressure Load	116 N
Winding Length per Turn	166.5 mm
Cable Diameter	$\phi 5$ mm
Drum Winding Capacity	30 m
Winch Weight	7 kg
Gear Ratio	1:1

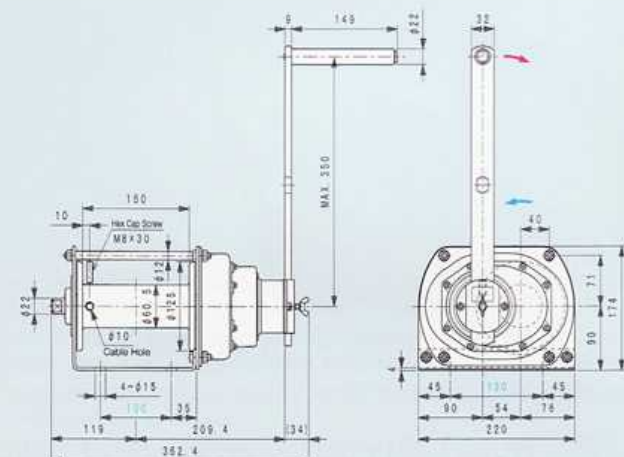


## PNW-300

(PSW-300)  
(SSW-300)  
(PZW-300)



Rated Load (1 Drum Layer)	300 kg
Manual Pressure Load	110 N
Winding Length per Turn	72.5 mm
Cable Diameter	$\phi 6$ mm
Drum Winding Capacity	30 m
Winch Weight	12 kg
Gear Ratio	1:2.88

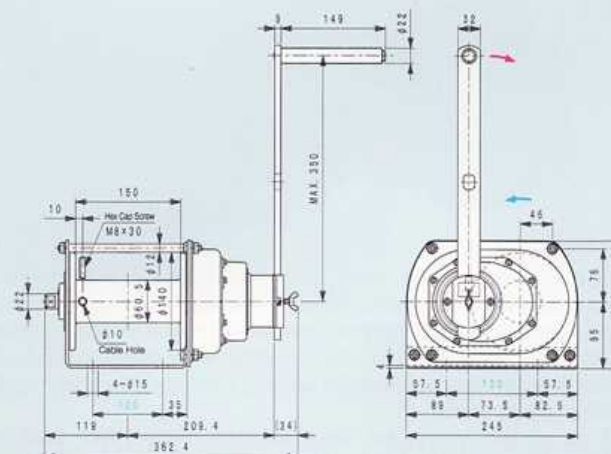


## PNW-500

(PSW-500)  
(SSW-500)  
(PZW-500)



Rated Load (1 Drum Layer)	500 kg
Manual Pressure Load	122 N
Winding Length per Turn	48.2 mm
Cable Diameter	$\phi 6$ mm
Drum Winding Capacity	40 m
Winch Weight	13.5 kg
Gear Ratio	1:4.33

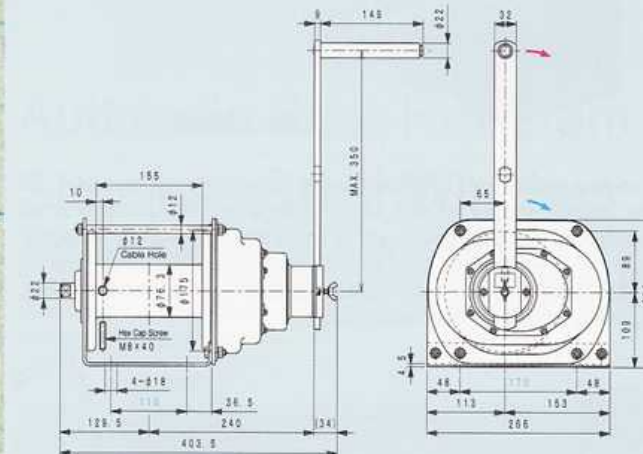


## PNW-1000

(PSW-1000)  
(SSW-1000)  
(PZW-1000)



Rated Load (1 Drum Layer)	1000 kg
Manual Pressure Load	115 N
Winding Length per Turn	21.7 mm
Cable Diameter	$\phi 8$ mm
Drum Winding Capacity	40 m
Winch Weight	18.5 kg
Gear Ratio	1:12.19

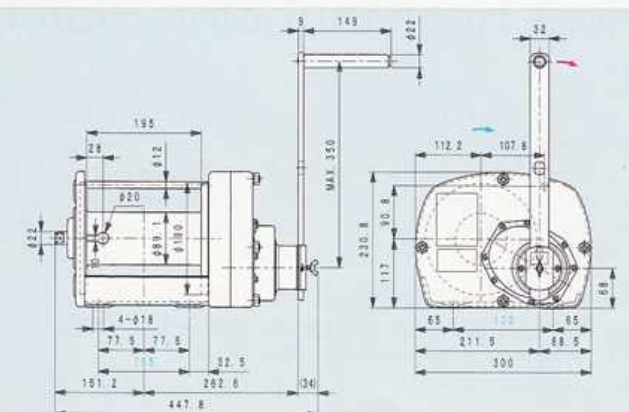


## PNW-2000

(PSW-2000)



Rated Load (1 Drum Layer)	2000 kg
Manual Pressure Load	144 N
Winding Length per Turn	13.5 mm
Cable Diameter	$\phi 9$ mm
Drum Winding Capacity	40 m
Winch Weight	25 kg
Gear Ratio	1:22.68

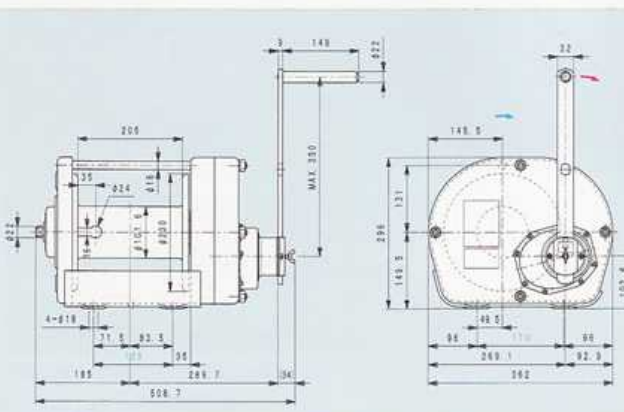


## PNW-3000

(PSW-3000)



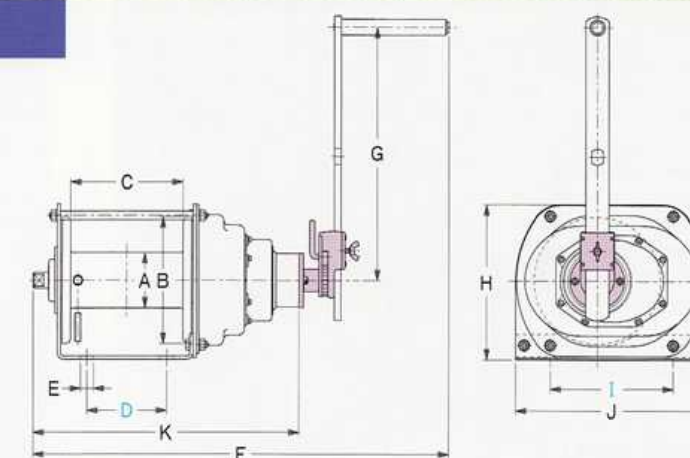
Rated Load (1 Drum Layer)	3000 kg
Manual Pressure Load	195 N
Winding Length per Turn	12.2 mm
Cable Diameter	$\phi 12$ mm
Drum Winding Capacity	40 m
Winch Weight	44 kg
Gear Ratio	1:29.16



## PRW Series



PRW-1000



★The main PRW body shown in the detailed diagram is the same as that of PNW, except the handle parts

PRW	A	B	C	D	E	F	G	H	I	J	K
100	48.0	110	117	80	11	448.7	240	147	90	160	241.7
300	60.5	125	150	100	15	533.4	350	174	130	220	326.4
500	60.5	140	150	100	15	533.4	350	182	130	245	326.4
1000	76.3	175	155	110	18	574.5	350	214	170	266	367.5
2000	89.1	190	195	155	18	618.8	350	231	170	300	411.8
3000	101.6	230	205	155	18	679.7	350	296	170	362	472.7

## Attention

- ★The photo shows PNW Series, but the each dimension of SSW · PSW Series is the same.
- ★The dimension colored blue shows the setting pitch of winches.
- ★ shows the rotating direction of the handle at the time of winding up and
- shows the rotating direction of the drum.



# Capstan Drum Winches

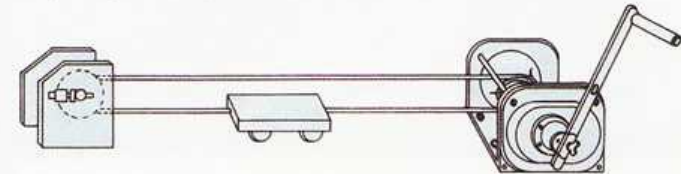
For Non-Stop Sliding  
(with Handle-Lock)

## LHW-CP



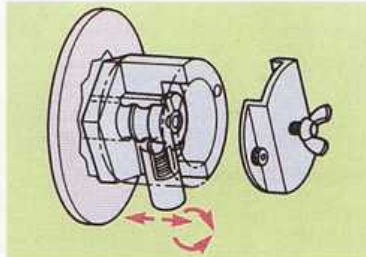
LHW-1000CP

In non-stop sliding work, the mechanical brake will stop operation due to the load weight put on both sides of the drum. The portable winch with a handle-lock was developed to solve this problem and designed to stop movement of the load in both directions. This winch can be used for moving dollies, opening/closing tents, curtains and arcades, and putting up/taking down safety nets.



### Manner of Operation

Insert the handle into the main body and fit the screw cap into the twelve-cornered ratchet hole, and apply the brake. When the handle is pulled out, the ratchet is simultaneously pulled out to make the handle turn right and left.



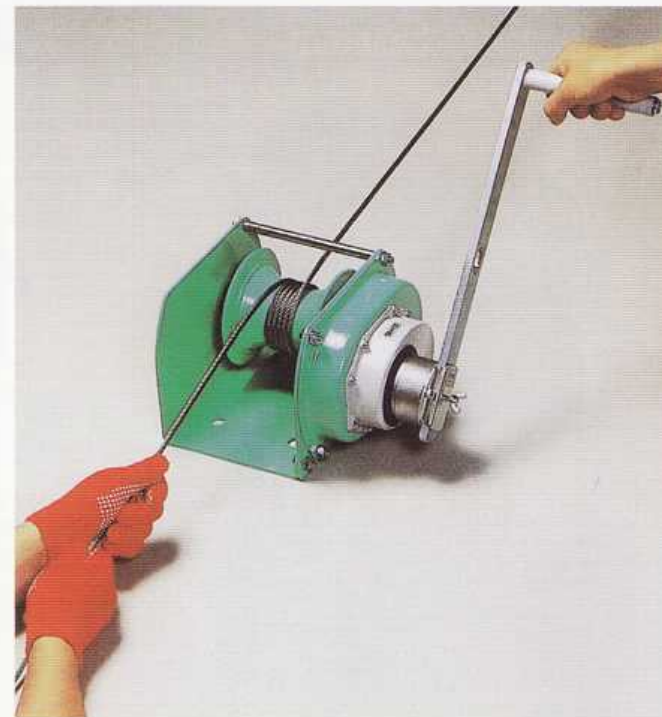
For Cable-Winding Work  
(Altered Capstan Drum)

## PNW-CP • PSW-CP PRW-CP • SSW-CP PZW-CP



PNW-500CP

First, operators wind the cable five or six times around the center of the drum. While one operator operates the handle, the other pulls the cable. With extremely little force, operators can wind cable of unlimited length. Also it is possible to wind out cable when applying the brake. These winches can be used for winding electric cable, cleaning the inside of pipes, and so on.  
(5 kinds of main frames are available: PNW, PSW, PRW, SSW and PZW series.)



★The main frame dimensions are the same as those of the PNW, PSW, SSW, PZW series. Only the drum is the same as that of the LHW series.

★The detailed drawing is the same as PNW (P.5-P.6), except

Dimension and Drawing											
LHW-CP	A	B	C	D	E	F	G	H	I	J	K
100	48.6	110	55	80	11	80	248	240	147	90	160
300	48.6	125	55	80	15	100	330.5	350	174	130	220
500	70	140	70	96	15	100	330.5	350	182	130	245
1000	70	138.6	70	96	18	110	369.8	350	214	170	266
2000	89.1	180.4	70	110	18	155	414.8	350	231	170	300
3000	101.6	190	95	145	18	155	477.5	350	296	170	362

# HANDY WINCH

## Handy Winch with Compact Mechanical Brakes

### Double brake pawls used

1. Either of the brake pawls always engage with the ratchet wheel.
2. With operation of a handle for winding in, the double brake pawls are forced to work automatically. The brake pawls therefore are activated always correctly.
3. Because the brake pawls are not forced against the ratchet wheel, there is very little brake pawl noise and very little wear, increasing brake life span.

■The brake disc is made of a copper alloy and has a long life span with little wear.

■Because the main frame and other parts are made of pressed metal, the winch is light and wears well.

■Gears are used with inner gears to avoid wear. (only HD-300)

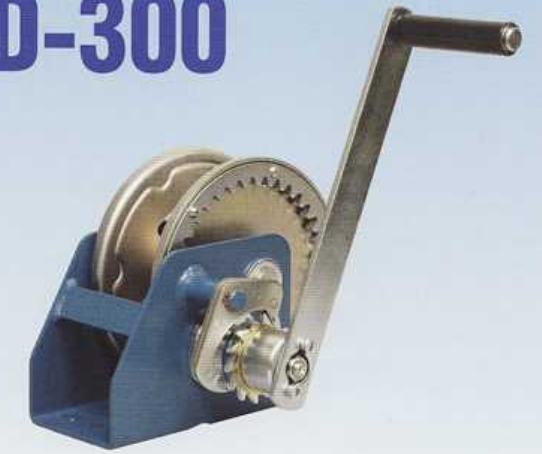


## HD-100

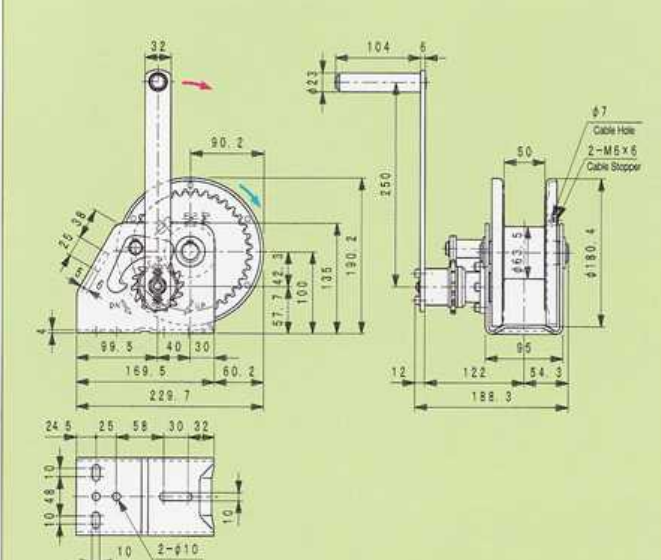
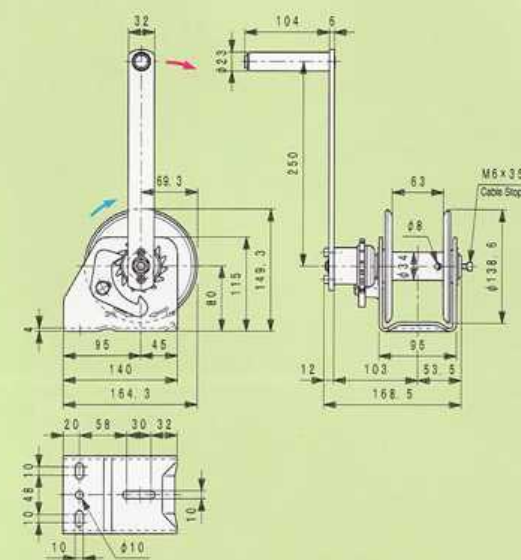


Rated Load (1 Drum Layer)	100 kg	Drum Winding Capacity	15 m
Manual Pressure Load	85 N	Winch Weight	4.5 kg
Winding Length per Turn	125.6 mm	Gear Ratio	1:1
Cable Diameter	φ6 mm		

## HD-300



Rated Load (1 Drum Layer)	300 kg	Drum Winding Capacity	15 m
Manual Pressure Load	85 N	Winch Weight	6.6 kg
Winding Length per Turn	36.3 mm	Gear Ratio	1:6
Cable Diameter	φ6 mm		



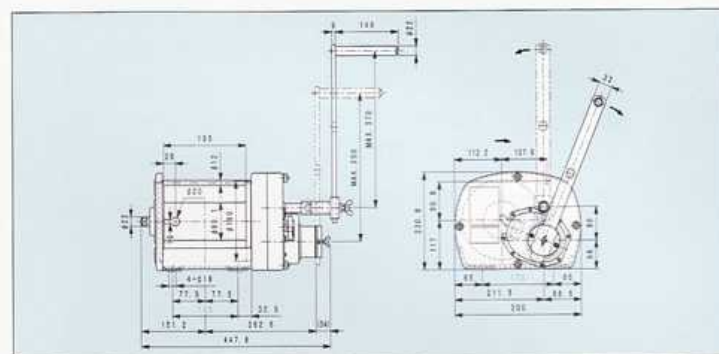
→ shows the rotating direction of the handle at the time of winding up. → shows the rotating direction of the drum.



## Winch for Operation in 2 Layers

### PW-2000II

This winch is designed with a middle gear shaft for quick winding. Its two-speed function can conveniently be used depending on different conditions.



Rated Load (1 Drum Layer)	2000 kg	390 kg	Drum Winding Capacity	40 m	
Manual Pressure Load	144 N	144 N	Winch Weight	25 kg	
Winding Length per Turn	13.5 mm	72.9 mm	Gear Ratio	1:22.68	1:4.2
Cable Diameter	φ9.0 mm			For quick winding	

\*Model 3000 is also available at clients' special orders.

## SPECIAL MODEL WINCHES



### Compartment Drum

Useful when it is necessary to move two ropes up and down equally for lifting and lowering dumpers, hoisting hanging batons, and so on.



### Accordion Handle

Useful in the wing-body of trucks in order to protect and stabilize projecting handles.



PW80-I



PW80-III

### Overload Prevention Lever (patented)

With manual control, overloading and wire-cutting accidents can be prevented.



### For Chain Wheel Operation

Useful when winches are used in high places for hoisting basketball-boards, opening and closing blackout netting and so on.



### Sprocket Winch

Useful when connecting roller chains to hydraulic motors.



### Small Size Winder

A miniature-size winder with a default load weight of 80 kg that can fit into the palm of your hand. Can be used for lifting and lowering screens, belt conveyers, etc.



### Lift Height Control Device

Very convenient for moving loads a specific distance.



### Grooved Drum for Large Diameter Wire

Because of the grooves, very long lengths of wire can be wound efficiently per drum turn. Drums for winding multiple wires are also available.



### Wire Stopper

Prevents cable slackening no load is attached.



### Fitting Base

Various kinds of fitting base designed for different purposes and places can be produced matching client specifications.



### SUS Buff Polished

Effective for use in rust-conductive places, such as chemical factories, beach environs, and high humidity places.



### Narrow Width Drum

This small narrow drum is ideal for use in tight places for small work.



### Multi-Grooved Drum

With just this winch, multiple loads can be hoisted different distances at different speeds.



### Sprocket Model

With the sprocket attached to the drum shaft and with the use of roller chains, heavy-duty machinery can be moved.

Please do not hesitate to contact us about the design and production of other models in compliance with your requests.





# QW • SS Series CE Marked

## Specifications

Type Nos.	CE Marked	QW-10 S S-10	QW-25 S S-25	QW-40 S S-40	QW-75 S S-65	QW-110	QW-170
Cable BS302 Dia. Suggested to Use		4.0 mm	5.0 mm	6.0 mm	8.0 mm	10.0 mm	12.0 mm
Cable Breaking Load		890 kgs	1,390 kgs	2,000 kgs	3,810 kgs	5,950 kgs	8,570 kgs
Cable Safety Factor		8.9	5.5	5.0	5.0	5.4	5.0
Rated Maximum Capacity		100 kgs	250 kgs	400 kgs	750 (650) kgs	1,100 kgs	1,700 kgs
2nd Layer		86 kgs	216 kgs	345 kgs	643 (558) kgs	924 kgs	1,467 kgs
3rd Layer		76 kgs	191 kgs	304 kgs	564 (488) kgs	825 kgs	1,291 kgs
4th Layer		68 kgs	171 kgs	271 kgs	501 (434) kgs	733 kgs	
5th Layer		61 kgs	155 kgs	245 kgs	452 (391) kgs		
6th Layer		56 kgs	141 kgs				
7th Layer		51 kgs					
Drum Diameter		48.0 mm	60.5 mm	70.0 mm	89.1 mm	110.0 mm	139.8 mm
D/d		13.0	13.1	12.6	12.1	12.0	12.6
Manual Pressure Load		11.5 kgs	9.0 kgs	11.0 kgs	10.0 (8.5) kgs	10.0 kgs	15.0 kgs
Drum Winding Capacity		40 m	40 m	30 m	30 m	30 m	20 m
Winding Length per Turn		163.3 mm	71.4 mm	55.1 mm	25.0 mm	16.9 mm	16.5 mm
Working Handle Length		240 mm	350 mm	350 mm	350 mm	350 mm	350 mm
Gear Ratio		1 : 1	2.88 : 1	4.33 : 1	12.2 : 1	22.2 : 1	28.8 : 1
Overall Dimensions H		147.0 mm	174.0 mm	182.0 mm	214.0 mm	231.0 mm	296.0 mm
W		276.5 mm	362.5 mm	362.5 mm	403.5 mm	448.0 mm	509.0 mm
D		160.0 mm	220.0 mm	245.0 mm	266.0 mm	300.0 mm	362.0 mm
Net Weight		6.9 kgs	11.8 kgs	13.4 kgs	19.1 kgs	25.5 kgs	45.8 kgs
Gross Weight		7.6 kgs	12.9 kgs	14.7 kgs	20.7 kgs	27.3 kgs	48.5 kgs

\* Rated capacity is the maximum capacity based on the first layer of cable.

Capacity drops approximately 10% for each layer of added cable.

\* D/d Ratio = Pitch Diameter at first cable layer ÷ Cable Diameter.

\* Suggested Cable BS302 is 6X19 or 6X36 fiber-cored.

\* Maximum Capacities in parentheses indicate the capacities of SS-65 with 8.5 kg Manual Pressure Loads.

\* Drum Winding Capacity indicates the overall possible drum-winding length.

\* With the ratchet handle assembly at option, the repeated moving of the handle is possible. (Ref. PRW Series.)

**Attention: Please read operator manuals before use of products and use the products in accordance with the manuals.**

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