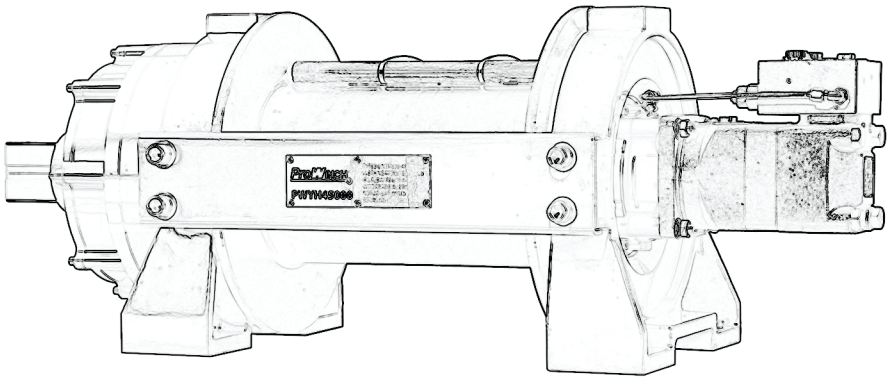
ProWINCH®

Reg. U.S. TM. Off.

PWYH Hydraulic Winches

User's Manual / Manual de usuario
Safety Warnings / Advertencias de Seguridad



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PWYH11000

PWYH18000

PWYH25000

PWYH45000

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PROWINCH® DISCLAIMER

Prowinch® LLC declares that it has made available to the Customer each and every one of the security warnings related to the purchased product and that, as a result, it does not assume any responsibility for any damages or losses that may be suffered by the client or third parties. cause or as a direct or indirect consequence of the breach or omission of any of the instructions or safety warnings contained in the User Manual and Security Warnings corresponding to the unit purchased.
In this sense, Prowinch® LLC will not be liable for accidents and / or damages to persons and / or property resulting from the negligent use of the product. In no case does Prowinch® LLC assume any liability arising from the use of these voluntary recommendations, and does not offer any guarantee in relation to them. These recommendations do not take precedence over the current safety regulations of the plant. For purposes of enforcing the Warranty of the product purchased, Prowinch® LLC, will only be liable for any damage when it is possible to prove that the user has followed each and every one of the warnings contained in the User Manual and Safety Warnings.

1. It is the sole responsibility of the Client / User to verify that the acquired equipment, products and accessories comply with the characteristics, capacities, requirements, components, accessories and other conditions for the use that the Client / user intends to give it.

2. It is also the sole responsibility of the Client / User to ensure that the equipment and products purchased are operated and maintained with adequate safety standards and by personnel duly trained in the use thereof. The Client / User is also responsible for implementing all the security measures necessary to prevent accidents or damages to people or property and for following the indications and warnings of the corresponding manual.

3. Any assistance provided by Prowinch® LLC in the selection of the equipment, the capacities and characteristics required by the clients is delivered free of charge and based on the information about the application, use and requirements indicated by the Client itself. It does not correspond to Prowinch® LLC to verify the accuracy of the given information. It is the sole and exclusive responsibility of the Client -or who will use the equipment and products acquired- to ensure that the specifications comply with the capabilities, characteristics, up-to-date maintenance and everything necessary for a correct and safe operation in relation to the intended use.

4. Prowinch® LLC recommends the use of winches with 4 brakes for personnel lifting. The use of winches of 3 brakes or less or safety features lower than the best available for personnel lifting, is the sole responsibility of the customer in order to guarantee the safety of the personnel and users of the equipment it is necessary to carry out the inspections and maintenance of the equipment according to the recommended frequency in relation to its work cycle. It is mandatory to keep record and evidence the written and photographic reports of: Maintenance, Start-up, Load Tests, Training, Certifications, Inspections and Reports of failures and accidents.

5. The aforementioned reports must be sent by email to registros@prowinch.com within the first 7 calendar days after the occurrence of an event.

6. Compliance with the timely implementation of the mandatory activities described in points 6 and 7 in addition to all the activities mentioned in the corresponding rules applied are the sole responsibility of the user. Failure to comply with the foregoing conditions releases Prowinch® LLC from any type of Liability and Warranty to the team, customer, staff or user, or any other liability that could be attributed to Prowinch® LLC.

7. The information contained in this manual may contain technical errors or inaccuracies. Prowinch® LLC is not responsible for typing errors, omission or incorrect information.

8. This manual is subject to change without prior notice. Download the latest version available at www.prowinch.com.

9. Always check www.prowinch.com for the latest information regarding this product.

3. GENERAL INFORMATION

The winch's standard equipments contain gear reducer, drum, hydraulic motor, the winch obtains its pressure from the vehicle's existing power steering pump or other hydraulic power.
There are several ways to supply the pressure for winch. The first way: use an individual pump for engineering use; the second way: the winch's pressure is from the vehicle's exiting power steering pump as installation illustration:

1. Use a suitable individual pump which has not oil valve. It supplies pressure for both steering box and winch.

2. Use a combined pump which integrate an oil valve together. The oil valve supplies two kinds of flow for difference demand, one with constant flow is for steering use, the other with higher power is for engineering use. Refer to installation. You can choice the best suitable way. If your winch installed as a simple working mode (standard supplied), NEVER POWER WINCH CABLE OUT WITH HEAVY LOAD, that will be serious dangerous.

3.1Trouble Shooting

SYMPTOM	POSSIBLE CAUSESUGGE	STED ACTION
Winch drum runs slowly or without	Hydraulic system failure. Hydraulic motor failure	Check if oil circuit error. Check system pressure.
Oil leakage	Winch overload.	Change hydraulic motor seals or change hydraulic motor. DO NOT overload during operation.
Winch stuck during Freespooling or hard to Freespool	Knob on the wire rope winch mounting bolts loose. Freespool knob rust.	Smooth wire rope. Tighten the mounting bolts. Disassemble Freespool knob in no load, lubricate it with lubrication oil.
Brake failure	Brake pad worn. Wrong wire rope winding direction.	Change brake assembly. See from motor side, counterclockwise winding should be cable in.

WARNING

Before installing, removing, inspecting, or performing any maintenance on the hoist, the main switch must be de-energized, locked out, and tagged out.
Do not use this equipment in hazardous locations.

3.2 Maintenance

It is highly recommended and that the winch be used regularly (once a month). Simply power the cable out 15m, free spool 5m and then power back in. This will keep all components in good working condition so that the winch can be relied on when needed. Contact your authorized outlet for technical assistance and repairs.

3.3 Lubrication

1. All moving parts within the winch having been lubricated using #2 lithium grease at the factory. No internal lubrication is required.
2. Lubricate cable assembly periodically using light penetrating oil.

3.4 Cable Assembly Replacement

1. Turning clutch to the "Clutch Out" position.
2. Extend cable assembly to its full length. Pay attention to how the existing cable isconnected to the drum.
3. Remove old cable assembly and attach new one.
4. Retract cable assembly onto drum, first five wraps being careful not to allow kinking then winch cable must be wound onto the drum under a load of at least 10% rate line pull.
5. The roller fairlead is to be mounted so as to guide the rope onto the drum evenly.

SPECIFICATIONS

3. Unpacking

When unpacking, check to make sure all parts is included. Refer to Winch Assembly Drawing and Parts List (both with respective item numbers) at the end of this manual.

3.1. Installation

Mount winch to the vehicle by using high strength cap screw. It should be aligned and secured to a solid part of the vehicle (front or rear) where the full rated load will be evenly distributed.

3.2 Mounting the directional solenoid valve assembly(Optional)

The valve should be mounted away from any areas where heat may be considered too extreme. Such as an exhaust manifold or turbo. Be sure all plumbing and wiring reaches from the area is selected without being stressed. It may be mounted by using the bracket and Allen screws supplied. Using the bracket as a guide, mark the location of where the mounting holes are going to be drilled, remove the plate and drill four 1/4" holes. Mount valve assembly using nuts, bolts.

Note: No need to mount directional solenoid valve if there is one manual directional valve on the vehicle already.

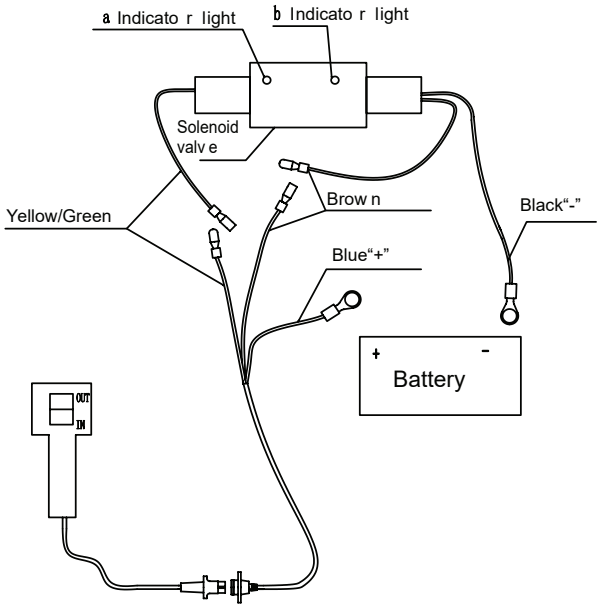
3.3 Electrical connections(Optional)

If winch's power supply is from the vehicle's exiting power steering pump, the solenoid valve system is designed default to the power steering box so power steering is always available even when the winch is in use.

The power source to the solenoid is not energized until the three-pole quick connector plug is plugged in. Each solenoid has two wires--either of which can be used as a ground or for electric power. The grounds are connected to each other at the factory.

The other will connect to the blue and yellow wire in the harness (see illustration). Determine a location on the front grill to mount the female 3 pole plug connector. Drill a hole and mount the female 3 pole plug connector using nuts, bolts and washers supplied. Connect all wiring as shown in illustration.

Test hand control unit, solenoids will make a slight "click" sound if connected properly. Note: No need to do the wiring if there is one manual directional valve on the vehicle already.



3.4 Plumbing connections

Keep all hoses away from any areas where heat may be considered too extreme such as an exhaust manifold or turbo. Lines should not be allowed to rub on any abrasive or vibrating surfaces. In some applications, right angle fittings on the directional valve and motor or balance valve are necessary to make hose mounting more flexible. After plumping has been laid out on vehicle, install o-ring fittings supplied to valve. Torque tight. DO NOT OVERTIGHTEN ANY FITTINGS. Install o-ring fittings on winch motor. Torque tight. Connect any hose port A on motor or port C1 on balance valve to port A on directional valve, pot B on motor or port C2 on balance valve toport B on directional valve, port P on directional valve to pump's high pressure port, port T on valve to reservoir. Attach any o-ring or seal from vehicles original tube fitting to tube fitting.

3.5 Cautions

Battery cables should not be drawn taut leave slack for some cable movement. If your application is supplied with an added cooler, please check and follow the steps.

1. Check fluid level.
2. Replace lost fluid to system.(System will need to be purged).
3. Start engine. (Power winch cable in 5 feet).
4. Shut engine off.
5. Check fluid level. (Add fluid until full, start engine, power winch cable, Out 5 feet, Shut engine off and Check fluid level.) Add fluid until full if necessary.
6. Start engine. Power winch cable into desired position. Turn vehicle wheels from lock to lock position 5 times. This will aid in bleeding out any air that may have got into the system.

WARNING

Make sure the clutch is totally engaged before starting any winch operation.
Stay clear and away from raised loads.
Stay clear of cable while pulling do not try to guide cable.
A min. of wraps of cable around the drum.

Thank you for purchasing a Prowinch® winch. This manual describes the operation and maintenance of the winch. All information in this publication is based on the newest production information is available at print time.

1. SAFETY PRECAUTIONS

Prowinch®'s winches are designed for delivering a safe and trustable service if they are operated according to this manual.

This manual contains important information to help you properly install, operate and maintain your winch for maximum performance, economy and safety. Please study its contents thoroughly before putting your winch into operation. By practicing correct operating procedures and by carrying out the recommended preventive maintenance suggestions, you will experience long, dependable and safe service.

After you have completely familiarized yourself with the contents of this manual, we recommend that you carefully file it for future reference.

Applications for PWTR Prowinch® winches

Choose the Prowinch® winch that is right for you: PWTR series offers you top of the line models from 9500 lb up to 17000 lbs, featuring standard and optional accesories for recovery applications. We offer you lightweight, durable and affordable winches. Specially design for recovery applications, our winches are equiped of a durable wound motor for long life and extra pulling power, featuring a tough 3 stage planetary gear box delivering power and reliability. The body and frame of your winch are corrosion resistant stainless steel to provide a long life.

Mandatory use of:

Hard Hat

Safety Glasses

Safety Gloves

Safety Shoes

1.1. Safety Precautions

WARNING:
This symbol indicates unsafe practices or situations which may cause damage to the property and even injuries to the personnel.

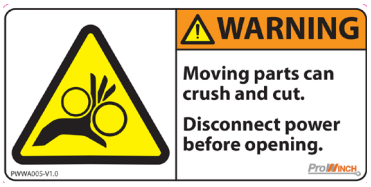
DANGER:
This symbol indicates a potentially dangerous situation which if not avoided may cause severe injuries or death

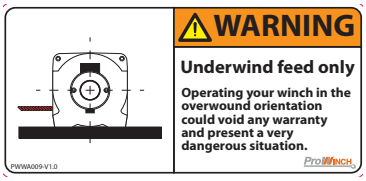
DANGER

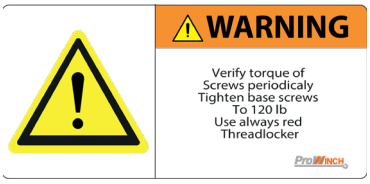
All operators and other users who are near the steel chain or its load must wear required safety equipment: gloves, safety helmet / hard hat, safety shoes and eye protection.

WARNING

Before installing, removing, inspecting, or performing any maintenance on the winche, the unit must be unplugged, locked out, and tagged out. Do not use this equipment in hazardous locations.







Read and understand the contents of this User Manual thoroughly before handling the product. Practicing correct and safe operating procedures and carrying out the recommended preventative maintenance will ensure a long, reliable, and safe service.
After carefully reading and understanding the User Manual, store it for future reference.

2. GENERAL SAFETY PRECAUTIONS

1. Take time to fully read the instructions from this User's Manual, in order to understand your winch and its operations.

2. Do not exceed winch or winch wire rope rated capacity. Double line using a snatch block to reduce winch load.

3. Do not use winch or winch wire rope for towing. Shockoads can damage, overload and break wire rope.

4. Do not use a winch to secure a load.

5. Don not operate this winch when under the influence of drugs, alcohol or medication.

6. Always wear heavy leather gloves when handling winch wire rope.

7. Always remove jewelry and wear eye protection.

8. Always be aware of possible hot surfaces at winch motor, drum or wire rope during or after winch use.

9. Inspect equipment regularly, replace damaged or worn parts, and keep appropriate records of maintenance.

10. Use only PROWINCH®'s recommended parts for replacement. Any modifications or repairs without the approval from PROWINCH® will void to warranty.

2.1. SAFETY INSTALLATION

1. Choose a mounting location that is sufficiently strong to withstand the maximum pulling capacity of your winch.

2. Use class 8.8 metric (grade 5) or better hardware.

3. Do not weld mounting bolts.

4. Use factory approved mounting hardware, components, and accessories.

5. Do not use bolts that are too long.

6. required bolt length to ensure proper thread engagement.

7. Complete the winch installation and hook attachmentbefore installing the wiring.

8. Always keep hands clear of winch wire rope, hook loop, hook and fairlead opening during installation, operation, and when spooling in or out.

9. Always position fairlead with warning readily visible on top.

DANGER:
Failure to observe these instructions could lead to serious injury or death.

10. Prestrech wire rope and respool under load before use. Tightly wound wire rope reduces chances of binding, which can damage the wire rope.

11. Insulate and protect all exposed wiring and electrical terminals.

12. Do not route electrical cables across sharp edges, near parts that get hot and/or through or near moving parts.

13. Always place the supplied terminal boots on wires and terminals as directed by the installation instructions.

14. Do not lean over battery while making connections.

15. Do not route electrical cables over battery terminals.

16. Do not short battery terminals with metal objects.

17. Battery Recommendations A fully charged conventional automotive battery with a minimum rating of 650 cold cranking amps is recommended to obtain peak performance from your winch. Make sure all electrical connections are clean and tight.

18. Consult this User's Manual for proper wiring details.

2.2. SAFETY OPERATION

1. Inspect winch wire rope, hook, and slings before operating winch. Frayed, kinked or damaged winch wir rope must be replaced immediately. Damaged components must be replaced before operation. Protect parts fromdamage.

2. Remove any element or obstacle that may interfere with safe operation of the winch.

3. Always be certain the anchor you select will with stand the load and the strap will not slip.

4. Always use supplied hook strap whenever spoolingwinch wire rope in or out, during installation and during operation.

5. Always require operators and bystanders to be aware of vehicle and or load.

6. Be aware of stability of vehicle and load during winching, keep others away. Alert all bystanders of an unstablecondition.

7. Always unspool as much winch wire rope as possiblewhen rigging. Double line or pick distant anchor point.

8. Take time to use appropriate rigging techniques for a winch pull.

9. Do not touch winch wire rope or hook while someone else is at the control switch or during winching operation.

10. Do not engage or disengage clutch if winch is underload, winch wire rope is in tension or drum is moving.

11. Do not touch winch wire rope or hook while undertension or under load.

12. Stand clear of winch wire rope and load and keep other away while winching.

13. Do not use vehicle to pull load on winch wire rope.Combined load or shock load can damage, overload and break wire rope.

14. Do not wrap winch wire rope back onto itself. Use a choker chain or tree trunk protector on the anchor.

15. Do not operate winch with less than 5 wraps of winch wire rope or 10 wraps of synthetic rope around the drum. Wire rope could come loose from the drum, as the wire rope attachment to the drum is not designed to hold a load.

16. Do not use winch as a hoist or to suspend a load.

17. Always be certain anchor will withstand load, use appropriate rigging and take time to rig correctly.

18. Do not use winch to lift or move persons.

19. Do not use excessive effort to freespool winch wire rope.

20. Always use proper lifting technique or get lifting assistance while handling and installing.

21. Always wind the winch wire rope on bottom (mountside) of drum.

22. Do not wind wire rope over top of drum. Always spool the winch wire rope onto the drum in the direction in this manual.

23. Do not leave remote control where it can be activated during free spooling, rigging, or when the winch is not being used.

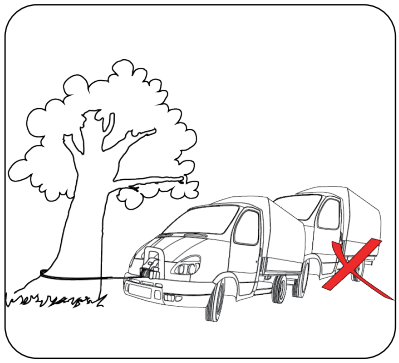
24. Do not leave the winch remote control plugged in when installing, freespooling, rigging, servicing or when the winch is not being used.

25. Do not operate any equipment on which the safetyplacards or decals are missing or illegible.

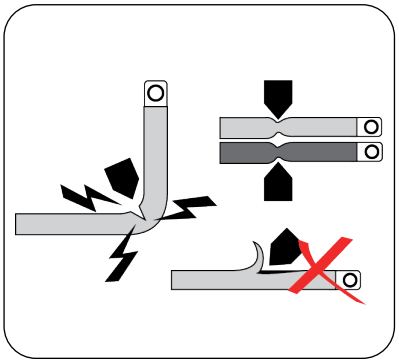
26. Report any malfunction or irregular operation of the equipment.

27. Do not operate an equipment that has been modified without previous PROWINCH® approval.

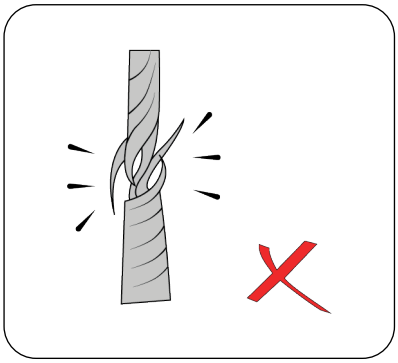
28. Winch damper helps to prevent wire rope recoil in the event of a wire rope failure. Do not approach or move the damper once tension is applied. Do not allow it to get pulled into the fairlead.



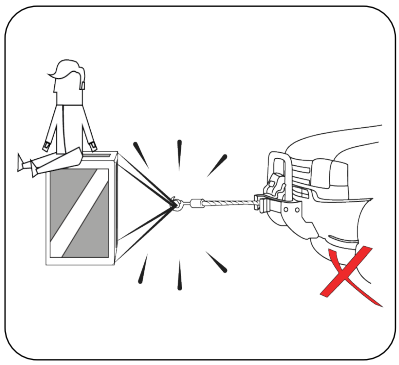
1. Do not exceed winch or winch rope rated capacity.



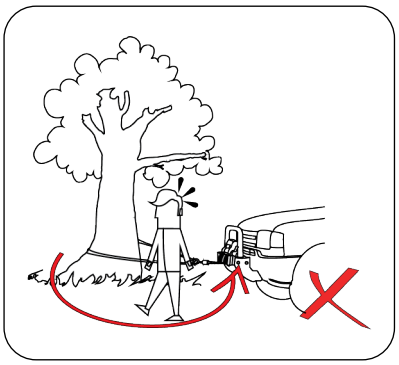
2. Do not route electrical cables across sharp edges, near parts that get hot and/ or through or near moving parts.



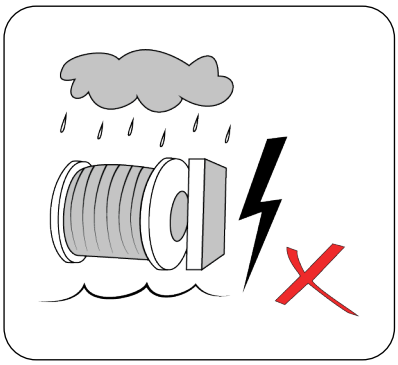
3. Always inspect winch rope, hook, and slings before operating winch. Frayed, kinked or damaged winch rope must be replaced immediately.



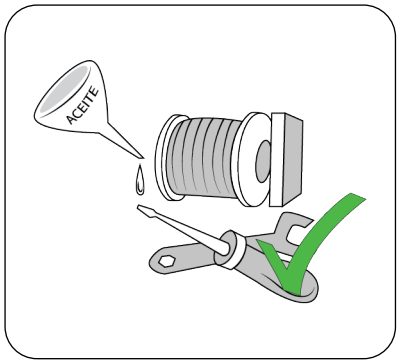
4. Do not use the equipment to lift or move people.



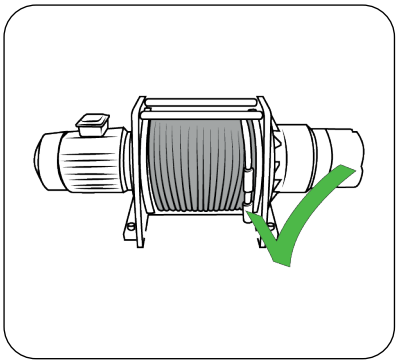
5. During winching operation always be aware of stability of vehicle and load during winching, keep others away. Alert all bystanders of an unstable condition.



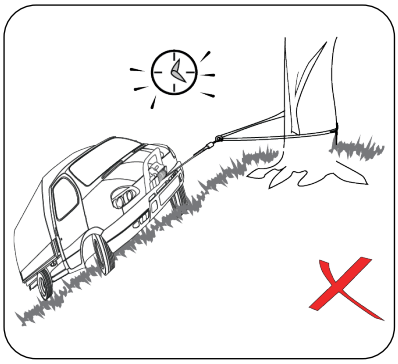
6. Do not submerge winch in water. Always store the remote control in aprotected, clean, dry area.



7. Perform preventive checks as part of a regular maintenance schedule to keep your winch operating properly.



8. Always verify installation before operating.



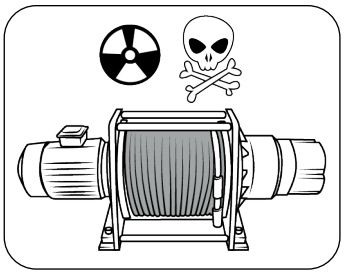
9. Do not leave loads unattended, wire rope could come loose from the drum, as the wire rope attachment to the drum is not designed to hold a load.

2.3. GENERAL ENVIROMENTAL PRECAUTIONS

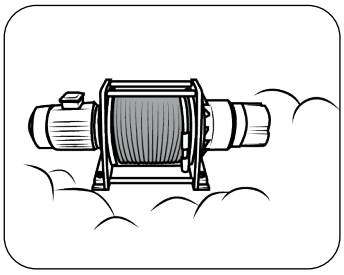
DANGER:

The following environmental conditions can cause malfunction of the winch.

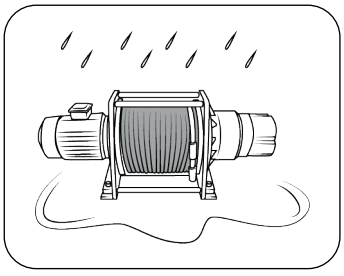
The following environmental conditions may cause malfunctions in the equipment. When operated outdoor, a shelter should be used for extreme weather conditions: below -10º C or above 40º C



If used near chemicals, corrosive gas or explosives may cause an explosion.
Exposure to salt or acids may cause malfunctioning.



Exposure to sand may cause malfunctioning.

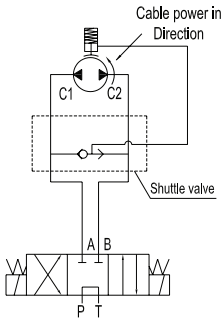


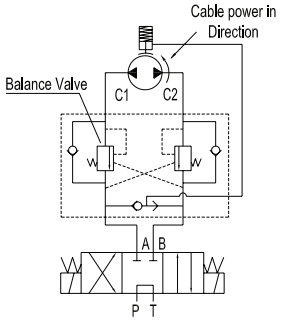
Avoid exposure to rain or extreme humidity. It may cause rusting of the equipment.

WARNINGS

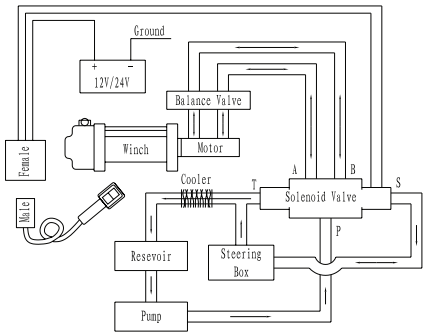
PWYH11000

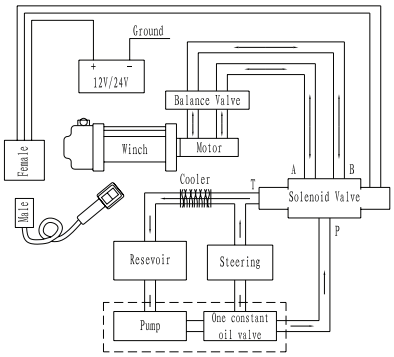
Working hydraulic principle chart



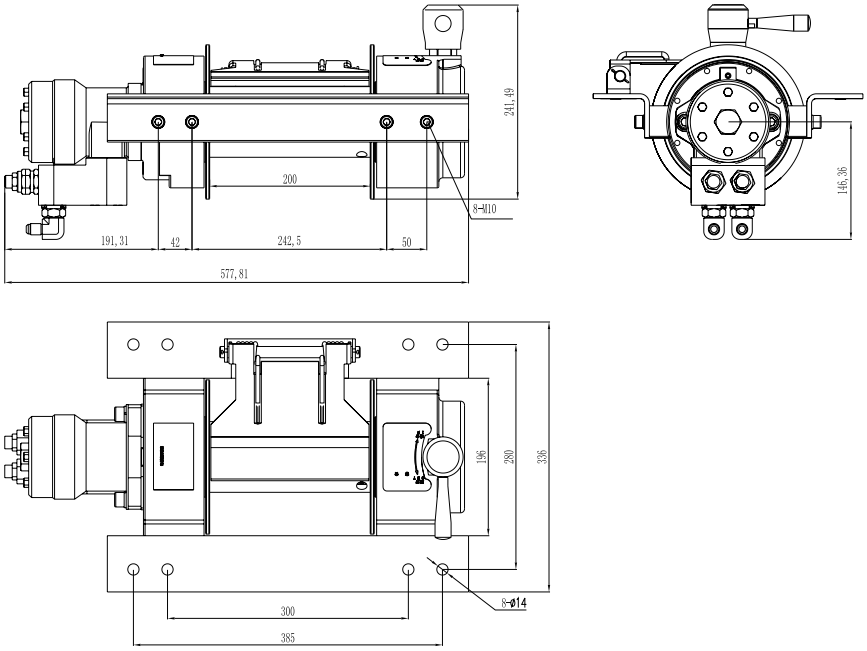


Installation illustration (Complete working mode)

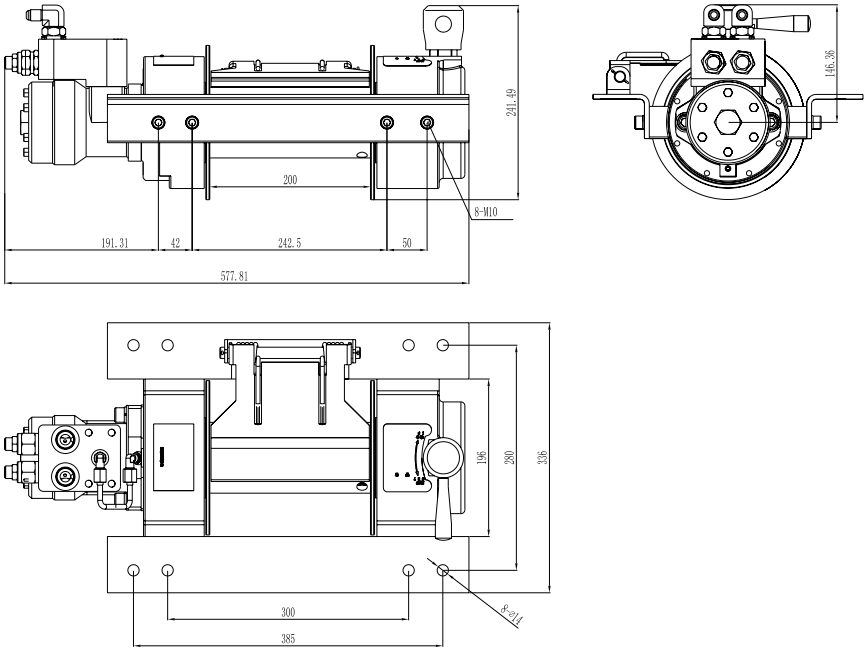




PWYH11000 With Balance Valve Downwards



PWYH11000 With Balance Valve Upwards



PWYH11000 With Balance Valve Winch Performance Specification

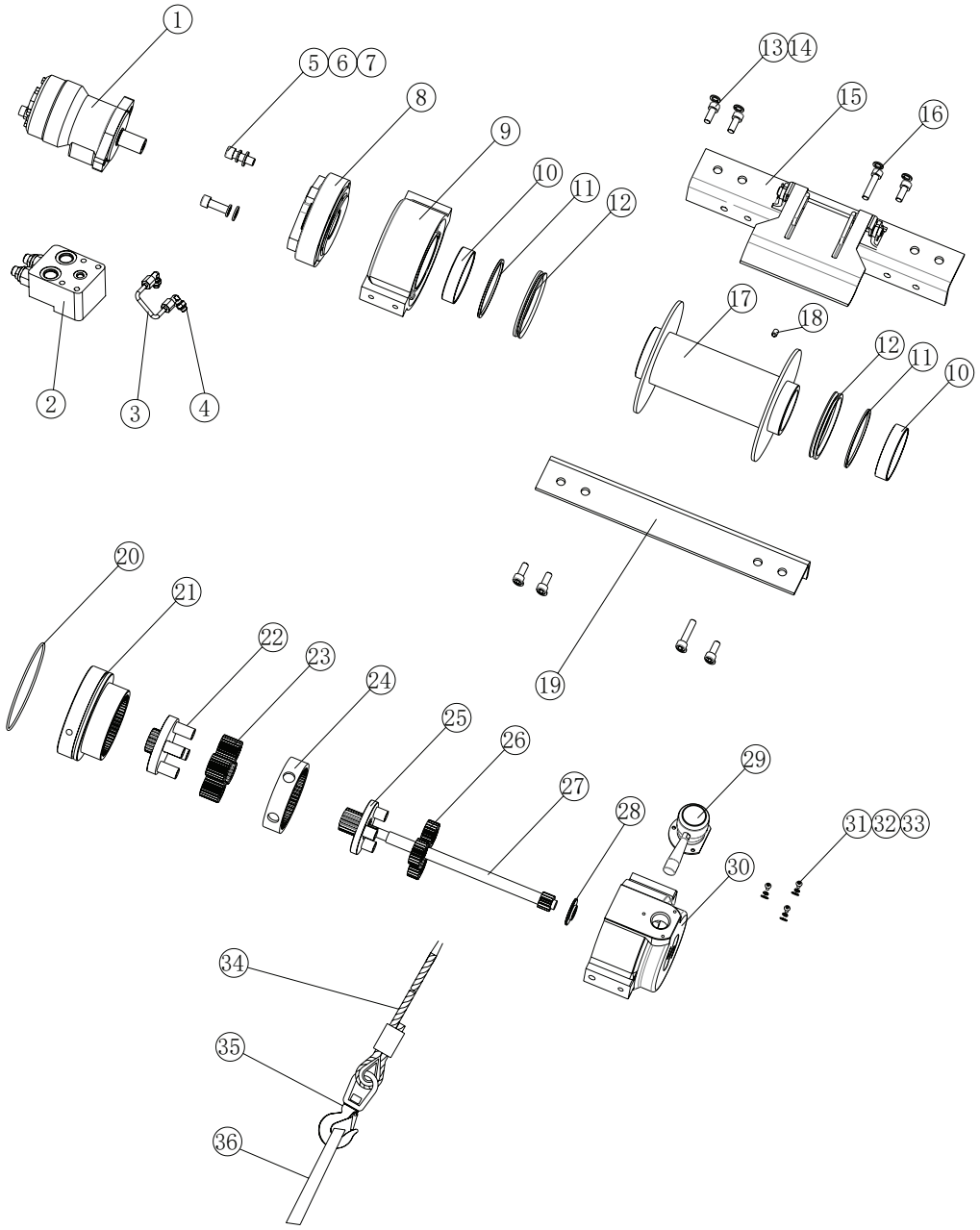
PWYH11000	
Rated line pull	11000 lbs single line
Motor displacement	80 ml/rev
Max. flow	30-60 l/min
Max pressure	14Mpa
Gear Train	2 stage planetary gear
Gear Ratio	23:1
Clutch	Cam Clutch
Braking Action	Automatic Hydraulic Brake
Fairlead	4-way roller fairlead (Optional)
Wire rope	15/32: x 82’
Drum Size	3.46” x 7.56”
Dimensions	22.75” x 13.23” x 11.5”
Bolt pattern	11.81” x 11.02”
Net Weight	128lbs

11000lb winch line pull and pressure difference	
Single line pull	Pressure difference
0/0	2
2750/1248	5
5500/2495	7
8250/3742	10
11000/4990	13

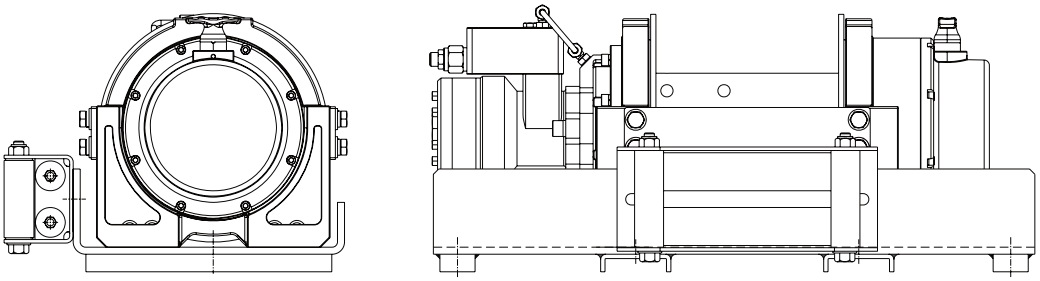
11000lb winch line pull and pressure difference		11000lb Winch Line pull and cable capacity			
Single line pull	Pressure difference	Layer	Rated line pull	Line Speed	Cable Capacity
0/0	2	1	11000	9	17.06
2750/1248	5	2	8250	11.2	37.07
5500/2495	7	3	5500	13	59.71
8250/3742	10	4	2750	15	82

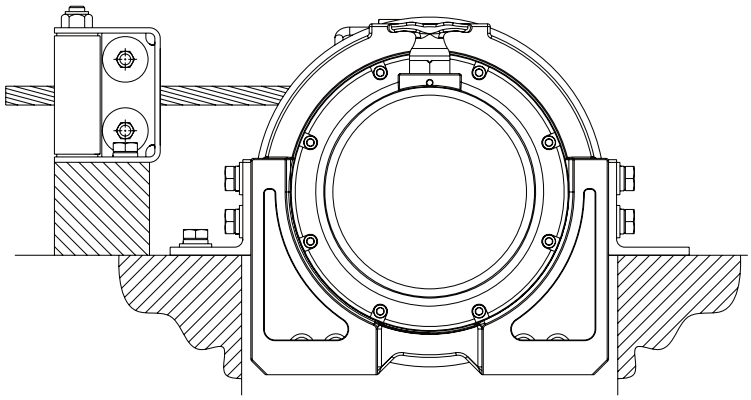
No.	Part Name	Qty.
1	Hydraulic motor	1
2	Valve block	2
3	Brake u-shape oil pipe	2
4	Flaring type adjustable right-angle connector	2
5	Spring washer 12	1
6	Hexagon socket cap screw M12×35	2
7	Flat washer 12	2
8	Brake assembly	2
9	Motor support	1
10	Drum shaft sleeve	1
11	Drum retaining ring	1
12	A shape seal ring	1
13	Hexagon socket cap screw M10×25	6
14	Spring washer 10	8
15	Wire rope tensioner assembly	1
16	Hexagon socket cap screw M10×45	2
17	Drum	1
18	Hexagonal socket screw M8×12	1
19	Right angle iron	1
20	O-ring	1
21	Output ring gear assembly	4
22	2rd stage planetary gear carrier assembly	1
23	2rd stage planetary gear	1
24	1st stage ring gear	3
25	1st stage planetary gear carrier assembly	1
26	1st stage planetary gear	1
27	Sun gear axle	1
28	Gearbox nylon retaining ring	1
29	Freespool knob assembly	3
30	Gearbox housing	1
31	Allen at round head screw M5×12	1
32	Flat washer 5	1
33	Spring washer 5	3
34	Wire rope assembly 12	3
35	Rotatable 3/8” hook	1
36	Hand saver	1

PWYH11000 With Balance Valve
Winch Assembly Drawing



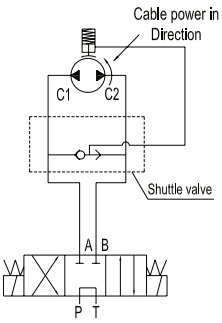
MOUNTING

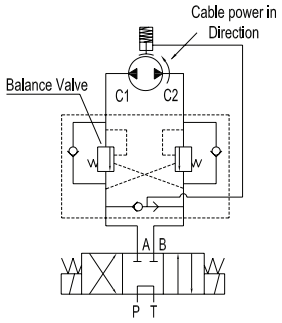




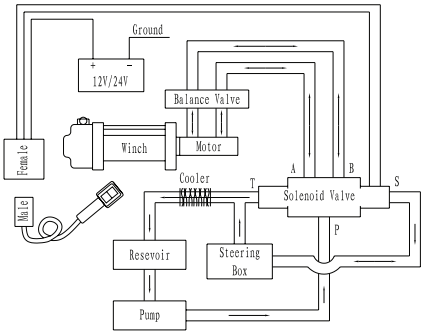
The diagrams show the mounting dimensions for the 8000 - 18000LB. The side and feet mounting hole positions are designed to allow the winch to be interchangeable with the most popular 8000 - 18000LB units currently available. The diagram below shows the 8000-18000LB mounted on a flatbe mounting kit, shown with roller fairlead. If a mounting plate is not used, the surface must be flat within 0.5mm and sufficient stiff to prevent fixing. A minimum of 6.0mm tick steel plate should be used.
The ticker the plate, the better the alingment between motor mounting, drum and gearbox housing.
It is important that the winch is mounted securely so that the motor mounting, drum and gearbox housing are accurately aligned. Be sure the winch will not move under load, otherwise you may cause misalignment in the winch, causing the drum to bind up.
The tie bars supplied with the winch must remain attached when the winch is foot mounted.
Angle mounting is possible and recommended for maximum flexibility in mounting. These mounts allow the winch to be low-mounted.

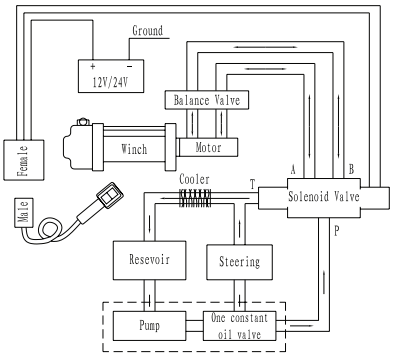
PWYH18000





PWYH11000 With Balance Valve Upwards





PWYH18000 Winch Performance Specification

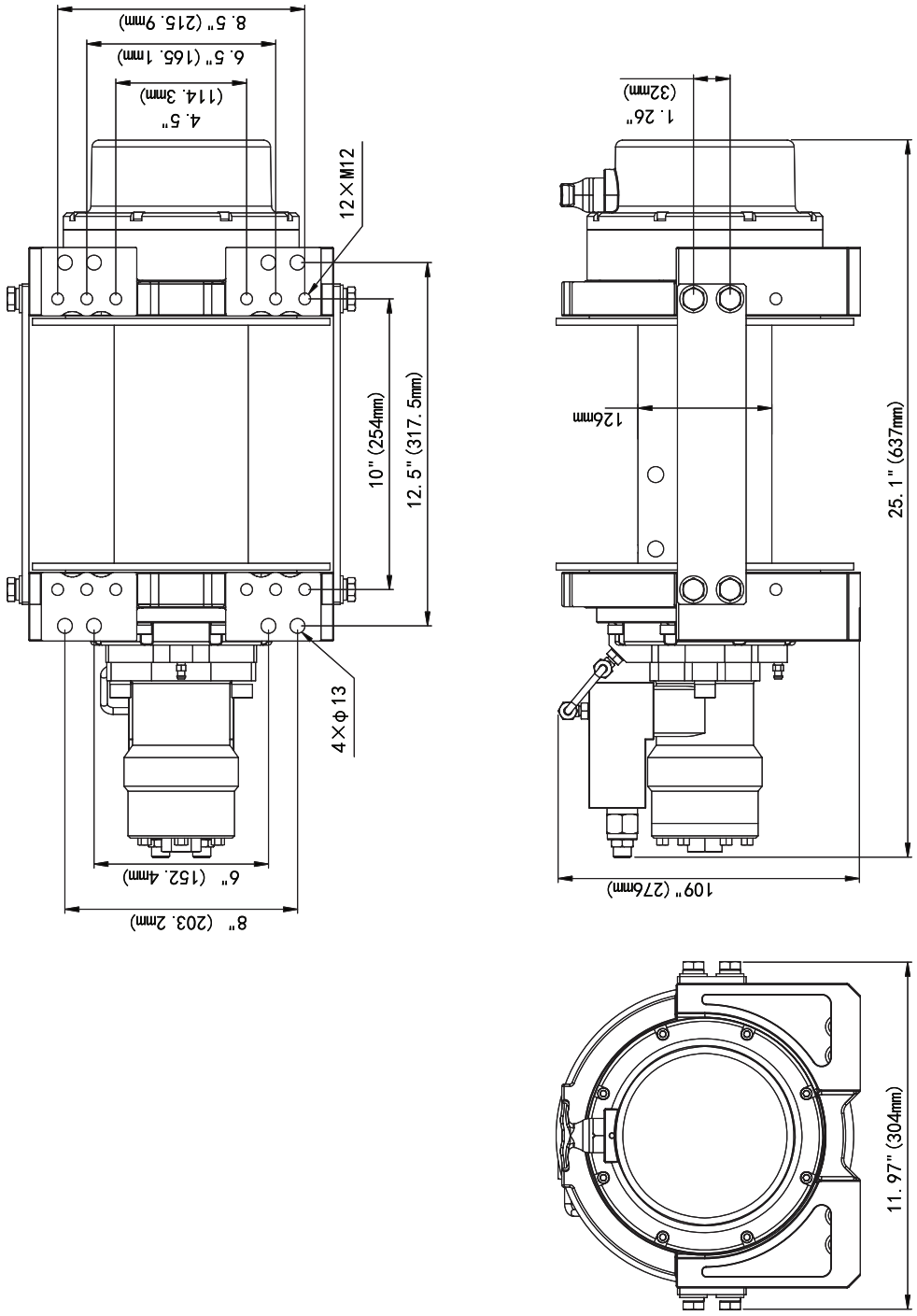
PWYH18000	
Rated line pull	18000 lbs single line
Motor displacement	200 ml/rev
Max. flow	75 l/min
Max pressure	17.5Mpa
Gear Train	2 stage planetary gear
Gear Ratio	17.3:1
Clutch	Cam Clutch
Braking Action	Automatic Hydraulic Brake
Fairlead	4-way roller fairlead (Optional)
Wire rope	35/64: x 98.4′
Drum Size	5″ x 8.2″
Dimensions	25.1″ x 12″ x 10.87″
Bolt pattern	10″ x 4.5″
Net Weight	167.4lbs

18000lb winch line pull and pressure difference	
Single line pull	Pressure difference
0/0	8
8000/3632	9
12000/5448	11
15000/6810	14
18000/8172	17

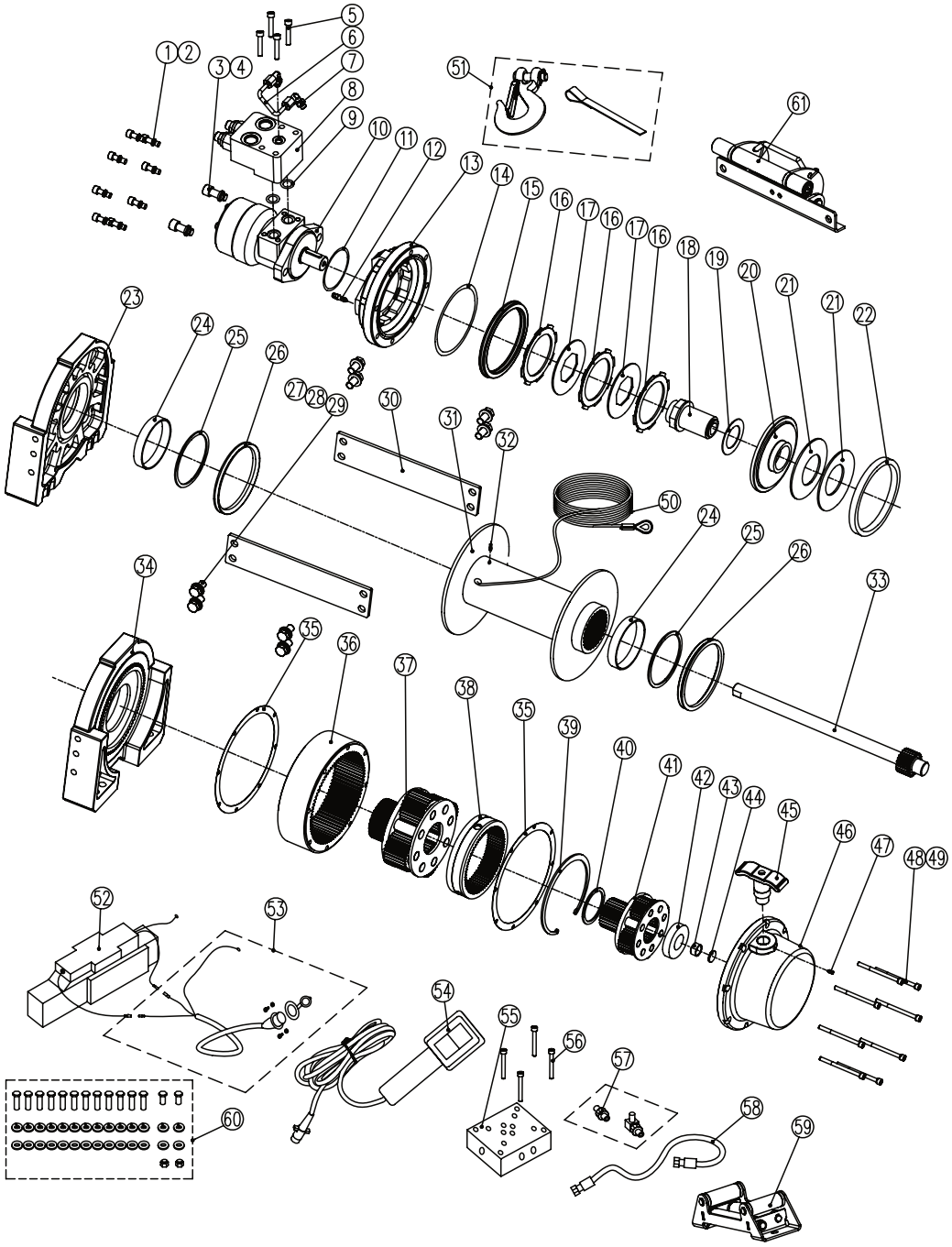
18000lb Winch Line pull and cable capacity			
Layer	Rated line pull	Line Speed	Cable Capacity
1	18000	23	21
2	15000	27	45
3	12875	32	71
4	11250	36	98

No.	Part Name	Qty.
1	Hexagon socket screw	8
2	Spring Washer	8
3	Hexagon socket screw M12X35	2
4	Spring washer 12	2
5	Hexagon socket screw	4
6	U Tube	1
7	Adaptor	2
8	Block Load Control	1
9	O-ring Φ17 x Φ2.65	2
10	Hydraulic Motor	1
11	O-Ring Φ82 x Φ2.65	1
12	M7 bleeding nipple	1
13	Motor Mounting Plate	1
14	O-ring Φ155 x Φ3.1	3
15	U-Seal	2
16	Stationary Disc	1
17	Rotary Disc	1
18	Rotor	1
19	Trust Washer	2
20	Preassure Plate	1
21	Disc Spring	1
22	Supporting ring	2
23	Motor Frame	2
24	Gasket	2
25	Nylon Washer	8
26	Seal Ring	8
27	Screw M12 x 25	8
28	Spring Washer 12	2
29	Plain Washer 12	1
30	Tie Bar	1
31	Drum	1
32	Hexagon socket set screws with fat point, M8 x 8	1
33	1st Stage gear shaft	2
34	Gearbox housing	1
35	Seal II	1
36	2nd stage gear ring	1

No.	Part Name	Qty.
37	2nd planetary gear assembly	1
38	1st stage gear ring	1
39	Retaining ring for bore 145	1
40	Nylon thrust washer I	1
41	1st planetary gear assembly	1
42	nylon trust washer II	1
43	Slide bearing	1
44	Thrust Washer	1
45	Clutch Assembly	1
46	Gear box frame	1
47	Hexagon socket set screws with fat point M4 x 8	1
48	Hexagon socket screw	8
49	Spring washer 6	8
50	Cable	1
51	Hook Assembly and Hand Saver	1
52	Electromagnetic directional valve	1
53	Connector	1
54	Switch	1
55	Valve plate (with block up, seal assembly)	1
56	Hexagon socket screw	4
57	Fittings	1
58	Plumbing Fixtures (1m long)	4
59	Fairlead	1
60	Fastener	1
61	Wire rope tensioner	1


8.5" (215.9mm)
6.5" (165.1mm)
4.5" (114.3mm)
12×M12
10" (254mm)
12.5" (317.5mm)
4×φ13
6" (152.4mm)
8" (203.2mm)
1.26" (32mm)
126mm
25.1" (637mm)
109" (276mm)
11.97" (304mm)

PWYH18000
Winch Assembly Drawing



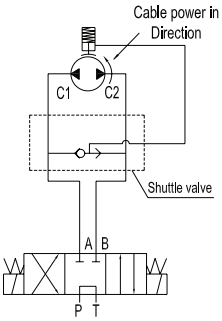
PWYH25000

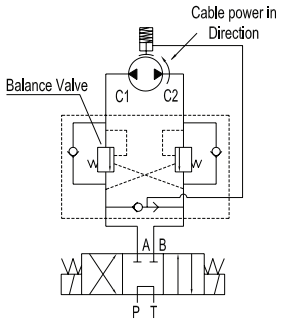
Working hydraulic principle chart

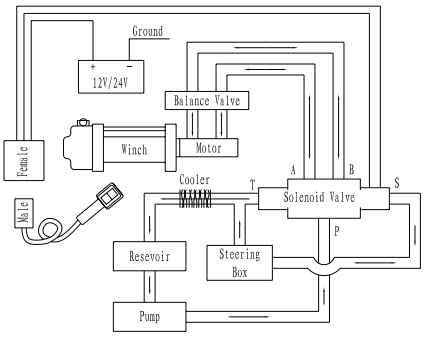
PWYH25000

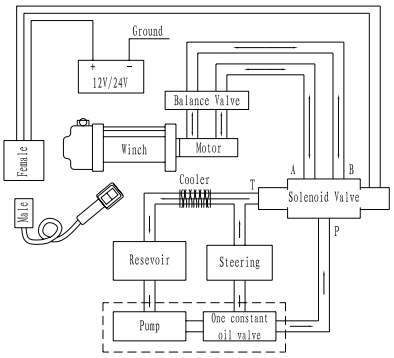
SYSTEM REQUIREMENTS:
2000 PSI RELIEF VALVE SETTING
15 G.P.M. FLOW RATE *
10 MICRON NORMAL FILTRATION

*Caution: Do not exceed G.P.M. 15 If exceeded, motor and winch may be damaged.

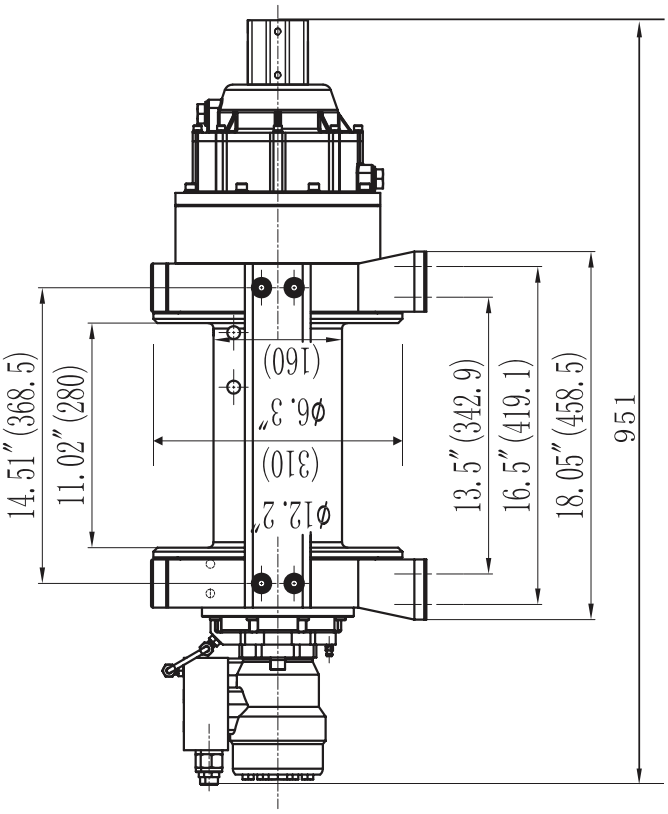


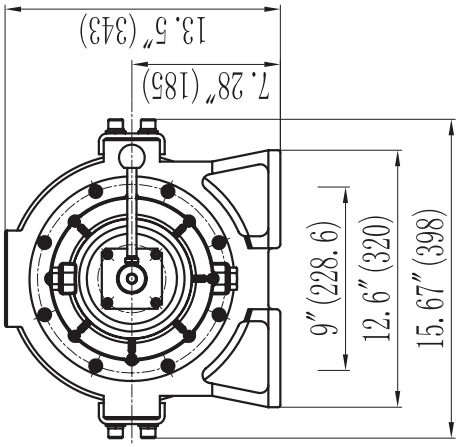






PWYH25000


14.51″(368.5)
11.02″(280)
(160)
ø6.3″
(310)
ø12.2″
13.5″(342.9)
16.5″(419.1)
18.05″(458.5)
951


13.5″(343)
7.28″(185)
9″(228.6)
12.6″(320)
15.67″(398)

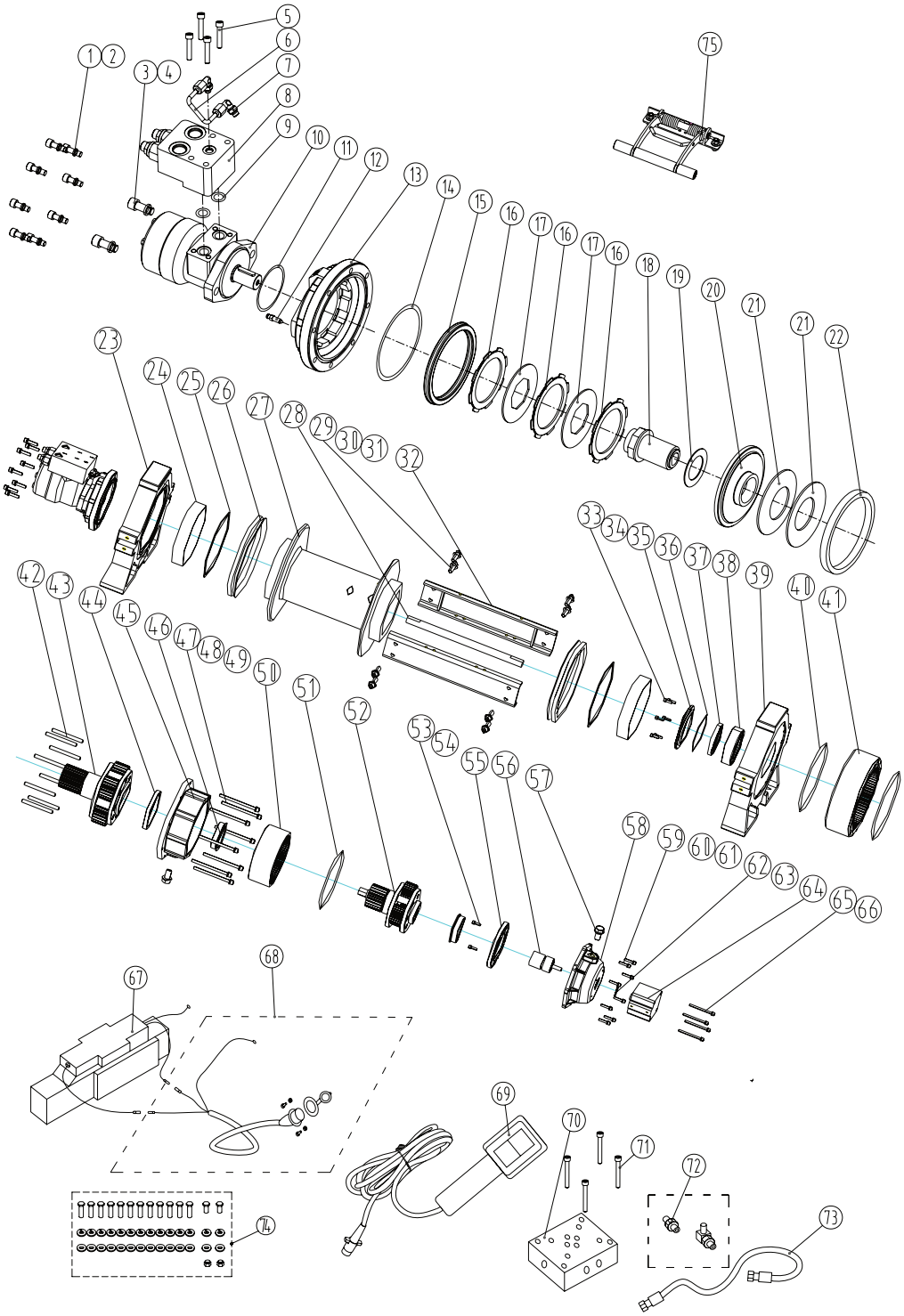
PWYH11000 With Balance Valve Winch Performance Specification

PWYH25000	
Rated line pull	25000 lbs single line
Motor displacement	315ml/rev
Max. flow	75 l/min
Max pressure	16 Mpa
Gear Train	2 stage planetary gear
Gear Ratio	20:1
Clutch	Cam Clutch
Braking Action	Automatic Hydraulic Brake
Fairlead	4-way roller fairlead (Optional)
Wire rope	35/64” x 223’
Drum Size	6.3” x 12.2”
Dimensions	37.1” x 15.67” x 13.5”
Bolt pattern	13.5” x 9”
Net Weight	370lbs

25000lb Winch Line pull and cable capacity			
Layer	Rated line pull	Line Speed	Cable Capacity
1	25000	18	30.8
2	21153	21.3	67.2
3	18333	24.6	109.2
4	16174	27.8	157

25000lb winch line pull and pressure difference	
Single line pull	Pressure difference
0/0	3.5
9341/4237	7
12884/5844	9
17531/7952	12
21856/9914	14.5
25000/11340	17.5

No.	Part Name	Qty.
1	Hydraulic motor	1
2	Valve block	2
3	Brake u-shape oil pipe	2
4	Flaring type adjustable right-angle connector	2
5	Spring washer 12	1
6	Hexagon socket cap screw M12×35	2
7	Flat washer 12	2
8	Brake assembly	2
9	Motor support	1
10	Drum shaft sleeve	1
11	Drum retaining ring	1
12	A shape seal ring	1
13	Hexagon socket cap screw M10×25	6
14	Spring washer 10	8
15	Wire rope tensioner assembly	1
16	Hexagon socket cap screw M10×45	2
17	Drum	1
18	Hexagonal socket screw M8×12	1
19	Right angle iron	1
20	O-ring	1
21	Output ring gear assembly	4
22	2rd stage planetary gear carrier assembly	1
23	2rd stage planetary gear	1
24	1st stage ring gear	3
25	1st stage planetary gear carrier assembly	1
26	1st stage planetary gear	1
27	Sun gear axle	1
28	Gearbox nylon retaining ring	1
29	Freespool knob assembly	3
30	Gearbox housing	1
31	Allen at round head screw M5×12	1
32	Flat washer 5	1
33	Spring washer 5	3
34	Wire rope assembly 12	3
35	Rotatable 3/8” hook	1
36	Hand saver	1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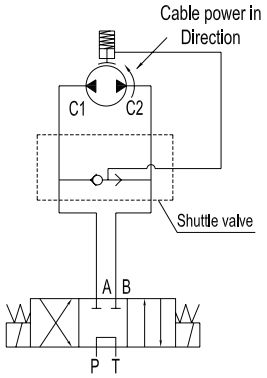
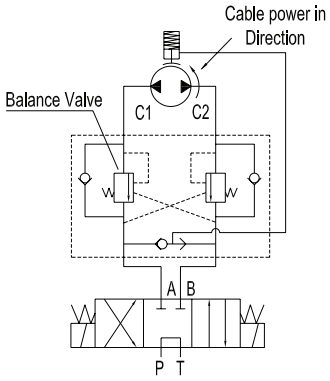
PWYH45000

Working hydraulic principle chart

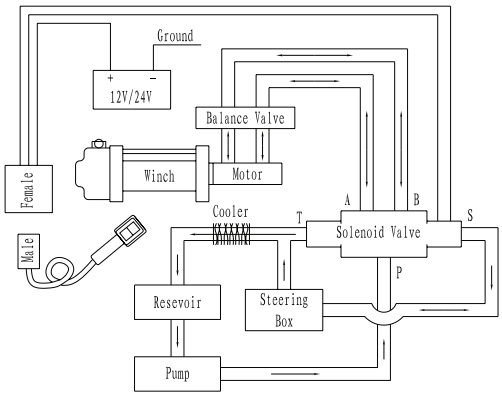
WITHOUT LOAD CONTROL

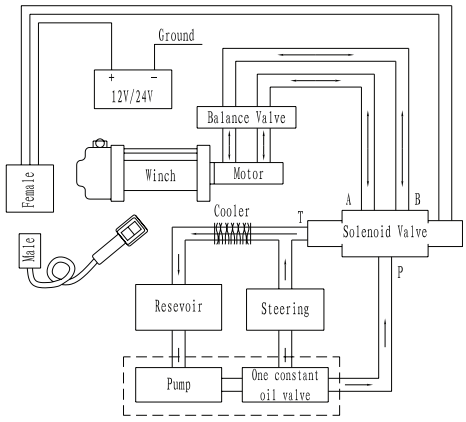


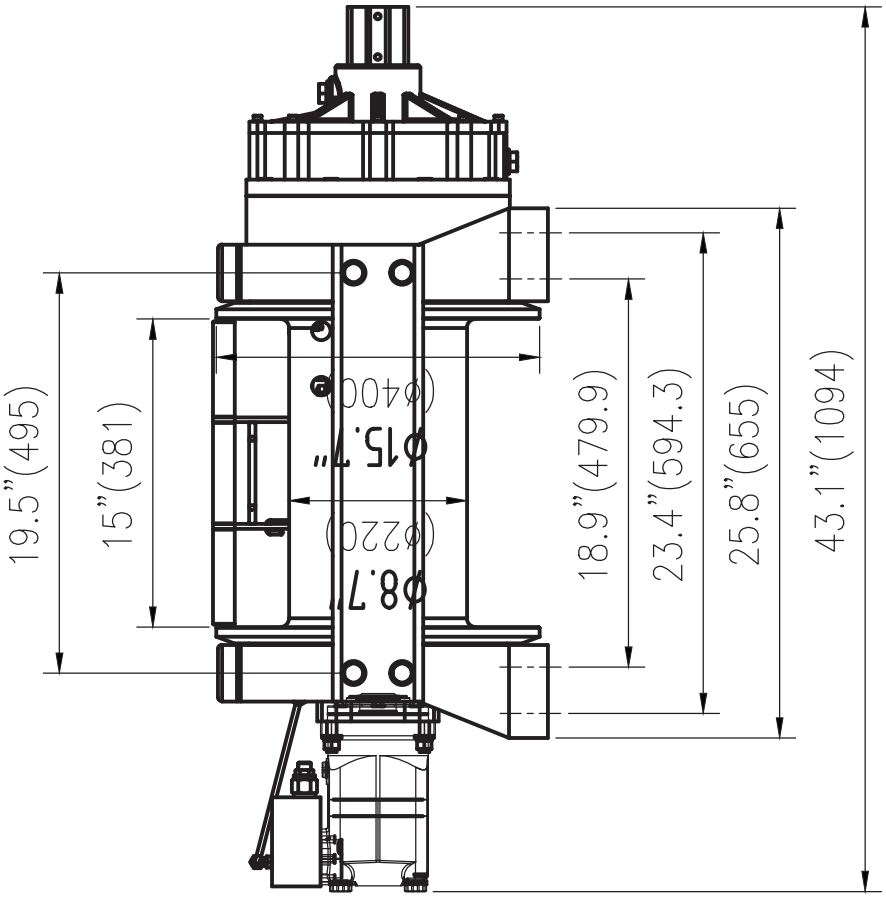
WITH LOAD CONTROL

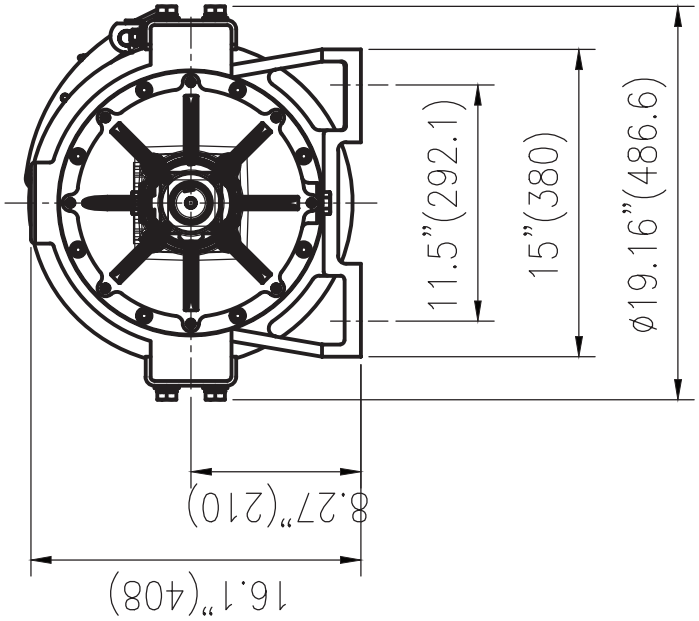


TYPICAL LAYOUT

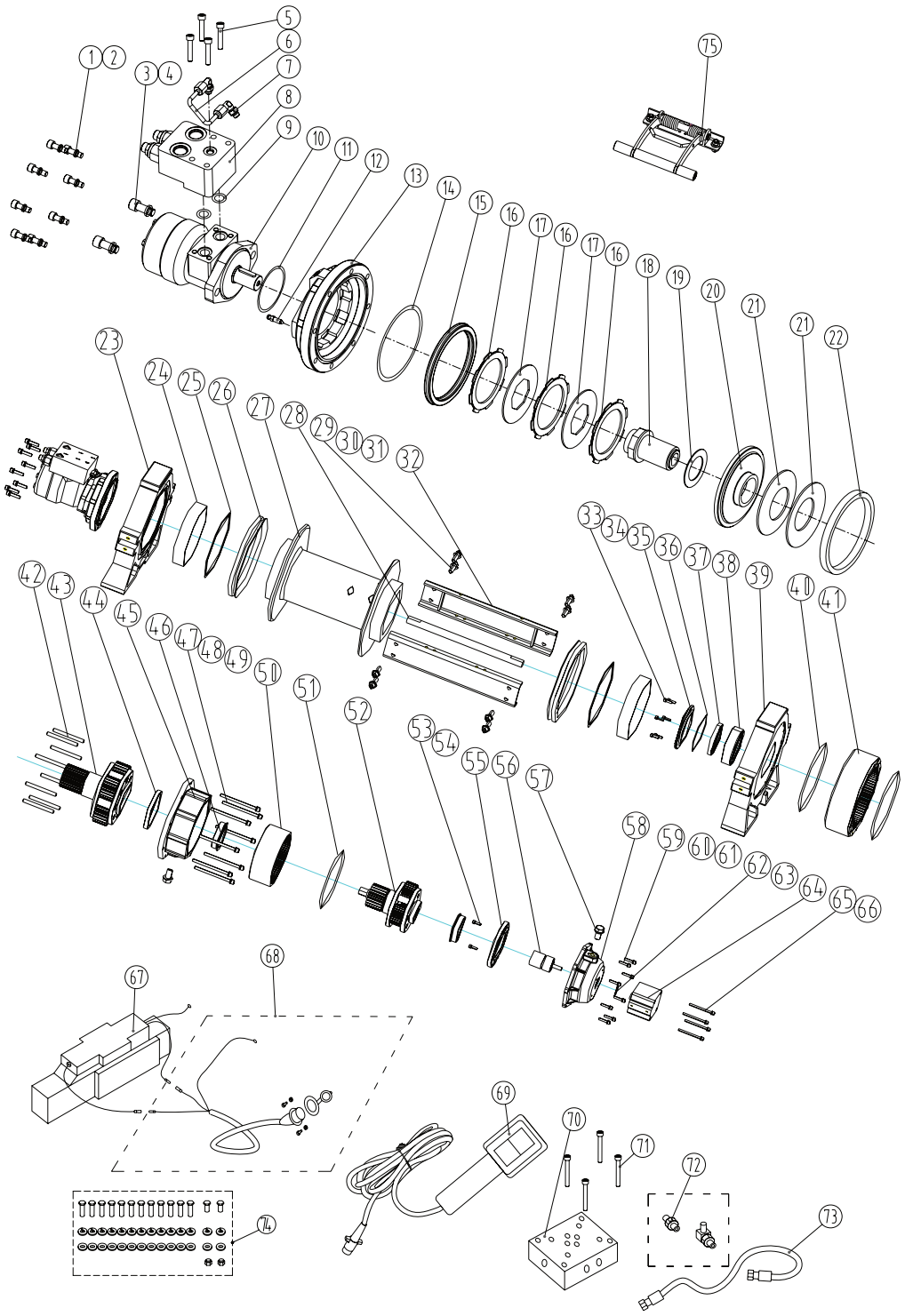





19.5"(495)
15"(381)
Ø15.7"
(Ø400)
Ø8.7"
(Ø220)
18.9"(479.9)
23.4"(594.3)
25.8"(655)
43.1"(1094)


11.5"(292.1)
15"(380)
ø19.16"(486.6)
8.27"(210)
16.1"(408)

PWYH45000
Winch Assembly Drawing



PWYH11000 Winch Performance Specification

PWYH45000	
Rated line pull	45000 lbs single line
Motor displacement	500ml/rev
Max. flow	75 l/min
Max pressure	14 Mpa
Gear Train	2 stage planetary gear
Gear Ratio	30.39:1
Clutch	Cam Clutch
Braking Action	Automatic Hydraulic Brake
Fairlead	4-way roller fairlead (Optional)
Wire rope	4/5” x 213’
Drum Size	8.66” x 15”
Dimensions	46.94” x 19.16” x 15.75”
Bolt pattern	18.9” x 11.5”
Net Weight	660lbs

45000lb winch line pull and pressure difference	
Single line pull	Pressure difference
0/0	3
18046/8185	8
30603/13881	10
40000/18144	12
45000/20412	14

45000lb Winch Line pull and cable capacity			
Layer	Rated line pull	Line Speed	Cable Capacity
1	45000	12.4	46.9
2	38571	14.4	101.7
3	33750	16.4	164.3
4	30000	18.7	213

No.	Part Name	Qty.
1	Hexagon socket screw	8
2	Spring washer 8	8
3	Hexagon socket screw M12X35	2
4	Spring washer 12	2
5	Hexagon socket screw	4
6	Utube	1
7	Adaptor	2
8	Block load control	1
9	O-ring Φ17 x Φ2.65	2
10	Hydraulic motor	1
11	O-ring Φ82 x Φ2.65	2
12	M7 bleed nipple	1
13	Motor mounting plate	1
14	O-ring Φ155 x Φ3.1	1
15	U-seal	1
16	Stationary disc	3
17	Rotating disc	2
18	Rotor	1
19	Thrust washer	1
20	Pressure plate	1
21	Disc spring	2
22	Supporting ring	1
23	Hydraulic motor support	1
24	Drum Slide bearing	2
25	V-seal VA-300-N60	2
26	Nylon washer	2
27	Drum assembly	1
28	Hexagon socket set screw with flat point, M8×20	3
29	Hexagon socket cap screws M12×30	8
30	Sring washer ϕ12	8
31	Flat washer ϕ12	8
32	Drive shaft II	1
33	Tie bar	2
34	Hexagon socket cap screws M8×25	8
35	Sring washer ϕ8	8
36	Seals cover plate	1

No.	Part Name	Qty.
37	O-ringϕ155 × ϕ2.55	1
38	Lip seal B71	1
39	Double row cylindrical roller bearing NN 3019	1
40	Gearbox support	1
41	O-ring ϕ272×ϕ5.3	2
42	2nd stage ring gear	1
43	Cylindrical pin ϕ12 × 90	8
44	2nd planetary gear assembly	1
45	2nd stage slide bearing	1
46	1st gear box housing	1
47	Cooper gasket 16	2
48	Hexagon headed bolt M16×1.5×20	2
49	1st Slide bearing	2
50	Hexagon socket cap screws M8×100	8
51	Spring washer ϕ8	8
52	Flat washer ϕ8	8
53	O-ring ϕ265×ϕ2.65	1
54	1st stage ring gear	1
55	Drive Shaft I	1
56	1st planetary gear assembly	1
57	1st sun wheel assembly	1
58	Back cover	1
59	Hexagon socket cap screw M6×35	8
60	Spring washer ϕ6	8
61	Flat washer ϕ6	8
62	O-ring ϕ30×ϕ2.65	1
63	Cylinder ϕ63×40	1
64	Hexagon socket cap screws M6×75	4
65	Spring washer 6	4
66	Electromagnetic directional valve	1
67	Connector	1
68	Switch	1
69	Valve plate(with block up,seal assemble)	1
70	Hexagon socket screw	4
71	Fttings	1ST
72	Plumbing fxtures (1mlong)	4
73	Fastener	1ST
74	Wire rope tensioner	1

Index