HUSAR WINCH

BETTER STRONGER TOUGHER

Assembly & Operating Instructions
HYDRAULIC WINCHES

BST H 12000 Lbs
BST H 15000 Lbs
BST H 18000 Lbs
BST H 20000 Lbs
BST HS 12000 Lbs
BST HS 080 Lbs
BST H 35000 Lbs
BST 45000 Lbs

CONTENTS

INTRODUCTION 1
SAFETY WARNINGS AND PRECAUTIONS 2
WINCH WARNINGS AND PRECAUTIONS 3
UNPACKING 4
INSTALLATION 4
OPERATION 8
WINCH ACCESSORIES YOU WILL NEED 10
RIGGING TECHNIQUES 10
LUBRICATION 11
CABLE ASSEMBLY REPLACEMENT 11
TROUBLE SHOOTING 12
WINCH ASSEMBLY DRAWING(BST) 13
WINCH PARTS LIST(BST) 14
WINCH ASSEMBLY DRAWING(BST HS12000lb) 16
WINCH PARTS LIST(BST HS12000lb) 17
WINCH ASSEMBLY DRAWING(BST HS080 lb) 18
WINCH PARTS LIST(BST HS080 lb) 19
SPECIFICATION（BST H12000 lb） 20
SPECIFICATION（BST N15000 lb） 21
SPECIFICATION（BST N18000 lb） 22
SPECIFICATION（BST HS12000 lb） 23
SPECIFICATION（BST HS080 lb） 24
SPECIFICATION（BST H35000 lb） 25
SPECIFICATION（BST H45000 lb） 26

INTRODUCTION

Congratulations on your purchase of a high quality winch. We design and build winches to strict specifications and with proper use and maintenance should bring you years of satisfying service.

⚠ WARNING - Read, study and follow all instructions before operating this device. Failure to heed these instructions may result in personal injury and/or property damage.

Your winch can develop tremendous pulling forces and if used unsafely or improperly could result in property damage, serious injury or death. Throughout this manual you will find the following symbols for caution, warning and danger. Pay particular attention to the notes preceded by these symbols as they are written for your safety. Ultimately, safe operation of this device rests with you, the operator.

⚠ CAUTION	**This indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. This notation is also used to alert you against unsafe practices.**
⚠ WARNING	**This indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.**

SAFETY WARNINGS AND PRECAUTIONS

WARNING: When using the tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to the equipment. Read all this instructions before using this tool!

WARNING –Keep children away. Children must never be allowed in the work area Do not let them handle machines, tools, or extension cords.

WARNING –Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.

WARNING –Dress properly. Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.

WARNING –Use eye and ear protection. Always wear impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear a dust mask or respirator when working around metal, wood, and chemical dusts and mists.

WARNING –Maintain tools with care. Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.

WARNING –Disconnect switch. Unplug switch when not in use.

WARNING –Stay alert. Watch what you are doing, use common sense. Do not operate any tool when you are tired.

WARNING –Check for damaged parts. Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by

a qualified technician. Do not use the tool if any switch does not turn “On” and “Off” properly.

 **WARNING –Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use this tool.

 **WARNING –Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescription to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

WINCH WARNINGS AND PRECAUTIONS

 **WARNING –**Keeps hands and body away from Fairlead (cable intake slot) when operating.

 **WARNING –**Secure vehicle in position before using winch.

 **WARNING –**Be certain winch is properly bolted to a structure (or vehicle) that can hold the winch load.

 **WARNING –**Do not use inappropriate attachments to extend the length of the winch cable.

 **WARNING –**Never lift people or hoist loads over people.

 **WARNING –**Never come in between the winch and the load when operating.

 **WARNING –**Do not apply load to winch when cable is fully extended. Keep at least 5 full turns of cable on the reel.

 **WARNING –**After moving an item with the winch, secure the item. Do not rely on the winch to hold it for an extended period.

 **WARNING –**Examine winch before using. Components may be affected by exposure to chemicals, salts, and rust.

 **WARNING –**Never fully extend cable while under load. Keep 5 complete turns of cable around the winch drum.

 **WARNING –**Never operate winch if cable shows any signs of weakening, knotted or kinked.

WARNING –Winch does not have a locking mechanism. Secure load after moving.

WARNING –Do not cross over or under cable under load.

WARNING –Do not move vehicle with cable extended and attached to load to pull it. The cable could snap.

WARNING –Use gloves while handling cable.

WARNING –Apply blocks to vehicle when parked on an incline.

WARNING –Re-spool cable properly.

WARNING –Winch cable must be wound onto the drum under a load of at least 10% rated line pull or outer wraps will draw into inner wraps and damage winch cable

WARNING –Whenever before your winch start to working, please slightly test-run your winch in two direction each last one or two second, even if the winch drum only round a few degree of angle, ensure the winch is well-balanced, especially after you operated the clutch, test-running winch can make winch in gear.

UNPACKING

When unpacking, check to make sure all parts is included. Refer to Assembly Drawings and Parts List (bot

INSTALLATION

1. Your winch is designed with a bolt pattern that is standard in this class of winch. Many winch mounting kits are available that utilize this bolt pattern for the most popular vehicle and mounting channels. If you cannot find a kit locally, contact us and we will provide you with the name of a dealer near you. If you will utilize the mounting channel you must ensure that it is mounted on a flat surface so that the three major sections (motor, drum and gear housing) are properly aligned. Proper alignment of the winch will allow even distribution of the full rated load.
2. Start by connecting the roller fairlead to the winch using 2 each of the cap screw and lock washer; If your winch is with the mounting channel, then using 2 each of the cap screw, flat washer, lock washer and securing with locknut (Make sure the screw

is placed through the mounting channel and roller fairlead from inside the channel. This will allow enough clearance for the winch to be placed in the channel without obstruction.)

3. Assemble the winch to the mounting channel or vehicle bump base by first pulling and releasing the clutch knob to the “CLUTCH OUT” position (free spooling). Pull out a few inches of cable from the drum and feed the wire loop through the opening in the front of the mounting channel and roller fairlead. Now, using the remaining cap screws and lock washer secure the winch to the mounting channel.
4. Please refer to installation illustration.

Mounting The Directional Solenoid Valve Assembly:

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.

If your winch is U type, the directional solenoid valve is combined to hydraulic motor already.

Note: On some vehicles grill may have to be removed to install plumbing and wiring for the winch.

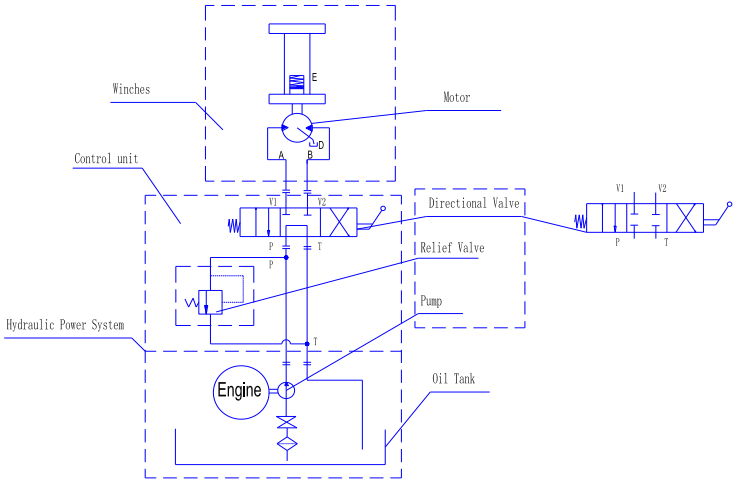
Electrical Connections:

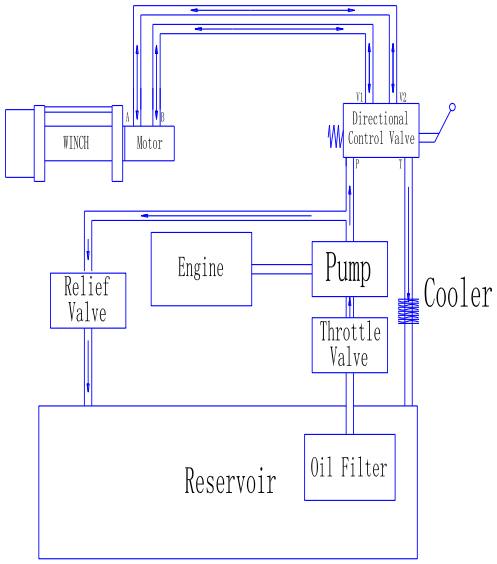
If winch’s power supply is from the vehicle’s exiting power steering pump, the solenoid valve system is designed default to the power steering box so power steering is always available even when the winch is in use. The power source to the solenoid is not energized until the three or four pole quick 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 . Connect all wiring to the battery as shown in illustration. Then test hand control unit, solenoids will make a slight “click” sound if connected properly.

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, 90°fittings on the directional valve and motor or balance valve are necessary to make hose mounting more flexible. After plumbing has been laid out on vehicle, install o-ring fittings supplied to valve. Torque tight. Do not over tighten any fittings. Install o-ring fittings on Winch Motor. Torque tight. Connect any hose port A on motor to port A on directional valve, port B on motor to port B on directional valve, port P on directional valve to pump's high pressure port, port T on valve to reservoir, if necessary connect any hose port S on valve to steering box. Attach any o-ring or seal from vehicles original tube fitting to tube fitting.

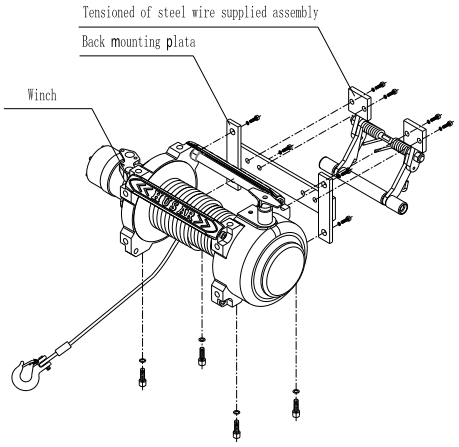
Working hydraulic principle chart and installation illustration（YD）:



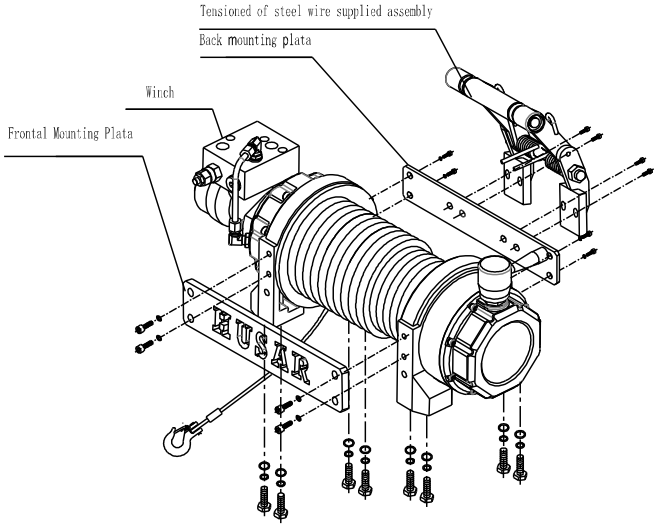


Below is installation illustration with mounting channel:

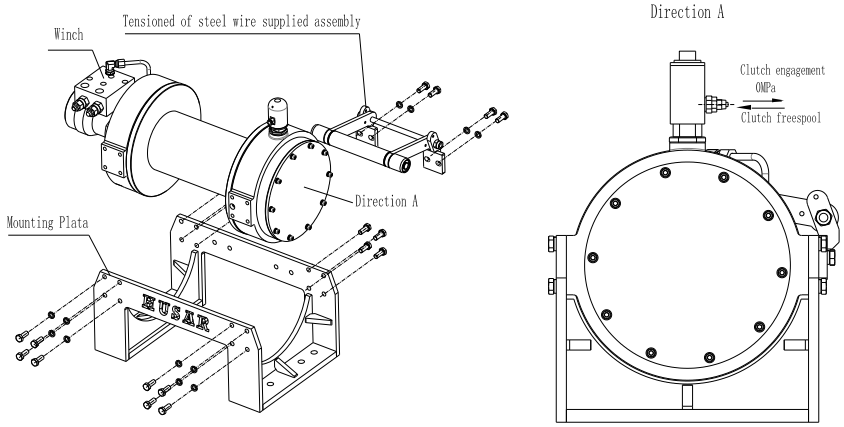
1. HWH12000 lb / HWH15000 lb / HWH18000 lb :



2. HWHS12000 lb :



3. HWHS080 lb :



⚠Caution:

Hydraulic system needs a relief valve to make sure the system is safe; If there is not relief valve in the system; it would be serious danger and the system can't operation. If your winch drived by an existing hydraulic power system, the relief valve is also existing.

Battery cables should not be drawn taut leave slack for some cable movement.

If your application is supplied with an added cooler, Please refer to illustration.

Check fluid level. Replace lost fluid to system. System will need to be purged. Start engine. Power winch cable in 5 feet. Shut engine off. Check fluid level. Add fluid until full. Start engine. Power winch cable out 5 feet. Shut engine off. Check fluid level. Add fluid until full if necessary. Start engine. Power wrings cable into desired position. Turn vehicle wheels from lock to lock position 5 times. This will aid in bleeding out any air the may have got into the system.

If the hand control unit is working backwards, simply exchange the brown and white wire connectors in valve.

Test Winch for proper operation. Refer to the Operation section, below.

OPERATION

⚠WARNING

1 Make sure clutch is totally engaged before starting any winch operation;

2 Stay clear and away from raised loads;

3 Stay clear of cable while pulling do not try to guide cable;

4 A min. of 5 wraps of cable around the drum barrel.

General information:

The Winch's standard equipments contain gear reducer、drum、hydraulic motor、solenoid valve、switch assembly、female connector and plumbing fittings. The winch obtains its pressure from the vehicle's existing power steering pump or other hydraulic power. The winch is totally sealed, can be used underwater.

For your reference there are several other ways to supply power 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 supply pressure for both steering box and winch. ②: Use a combined pump which integrate an oil valve together, the oil valve supply two kinds of flow for difference demand, one with constant flow is for steering use, the other with higher power is for engineering use.

⚠Caution:

Hydraulic system needs an relief valve to make sure the system is safe; If there is not relief valve in the system; it would be serious danger and the system can't operation. If your winch drived by an existing hydraulic power system, the relief valve is also existing.

Winch working demonstration:

1. Disengage the clutch by turning the clutch to the "CLUTCH OUT" position.
2. Grab the cable assembly and pull the cable to the desired length, then attach to item being pulled.

Caution: Always leave at least five turns of cable on the drum; Review Winch Safety Warnings and Precautions on page 2、3 before continuing.

3. Reengage the clutch by turn the clutch assembly to the “CLUTCH IN” position, if the clutch is not engaged, the winch drum must be turned by hand, until the clutch is totally engaged.
4. Insert the switch assembly connector onto the directional valve
5. Test-run winch in two directions, each direction last one or two seconds, to test whether winch working normally in two directions, meantime make sure the clutch totally engaged.
6. While standing aside of the tow path, hold and operate the Switch Assembly supplied by your choice. To reverse directions. Wait until the motor stops before reversing directions.
7. When the towing is complete, remove the switch assembly. From the female connector of the directional valve and replace the female connector cover.

WINCH ACCESSORIES YOU WILL NEED

NOT INCLUDED WITH YOUR WINCH

Gloves – For handling the wire rope and hook strap.

Anchor Strap/Chain – Tree saver anchor straps are made of high quality nylon with high tensile strengths up to 15000lbs.

Heavy Blanket – place on the cable to absorb energy should the wire rope break.

RIGGING TECHNIQUES

Self-Recovery

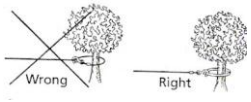


Fig 3.1

Locate a suitable anchor such as a strong tree trunk or boulder. Always use a sling as an anchor point. **CAUTION** Do not attach the clevis hook back onto the cable as this could cause damage to the cable.As shown in Fig 3.1

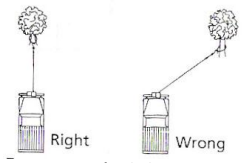


Fig 3.2

⚠**CAUTION** Do not winch from an acute angle as the wire rope will pile up on one side of the drum causing damage to wire rope and the winch. Fig 3.2

Short pulls from an angle can be used to straighten the vehicle. Long pulls should be done with the wire rope at a 90° angle to the winch/vehicle.

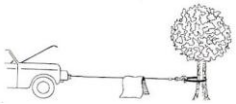


Fig 3.3

When pulling a heavy load, place a blanket or jacket over the wire rope five or six feet from the hook. In the event of a broken cable it will dampen the snap back. For additional protection open the hood of the vehicle as shown in Fig 3.3

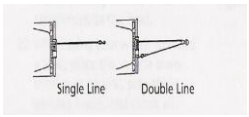


Fig 3.4

For pulls over 70% rated line pull, we recommend the use of the snatch block/pulley block to double line the wire rope. Fig 3.4

This reduces the load on the winch and the strain on the rope by up to 50% depending on the included angle.


Fig 3.5

WARNING - Never use your winch for overhead hoisting or for lifting people or moving people.

LUBRICATION

1. All moving parts within the Winch having been Lubricated using high temperature lithium grease at the factory. No internal lubrication is required.
2. Lubricate Cable Assembly periodically using a light penetrating oil.

CABLE ASSEMBLY REPLACEMENT

If the wire rope has become worn or is beginning to show signs of strands breaking, it must be replaced before being used again.

1. Turning clutch to the “CLUTCH OUT” position.

2. Extend cable assembly to its full length. Note how the existing cable is connected to the drum.
3. Remove old cable assembly and attach new one as the ld cable connected to the drum. Insert the end of the new rope and secure the screw M8x10 being tightly screwed
4. Turning clutch to the “CLUTH IN” position.
5. 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% rated line pull.

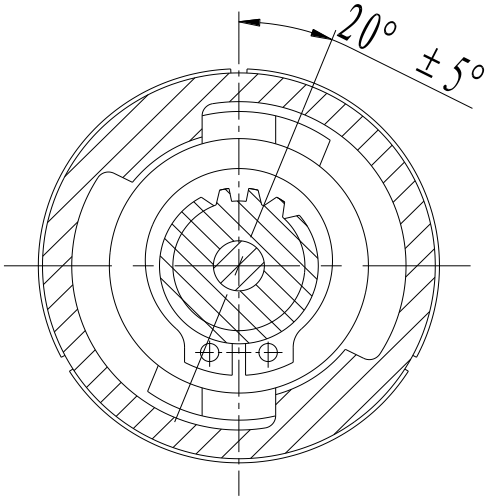
WARNING - Only replace the wire rope with the identical replacement part recommended by the manufacturer.

TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Winch does not turn	-Electrical connections have not connected properly	-Insert Switch Assembly all the way into connector. -Tighten nuts on all cable connections.
Motor runs but Cable drum does not turn	- The clutch is Not engaged	-Turn the clutch to the high or lows peed position. If problem still persists, a qualified technician needed to check and repair.
Winch drum runs slowly or without normal power.	-Insufficient pressure or oil flow - Insufficient fluid in the system	-Bump is not suitable or defective. Change a new one or a suitable one -Check fluid level. Add fluid until full.

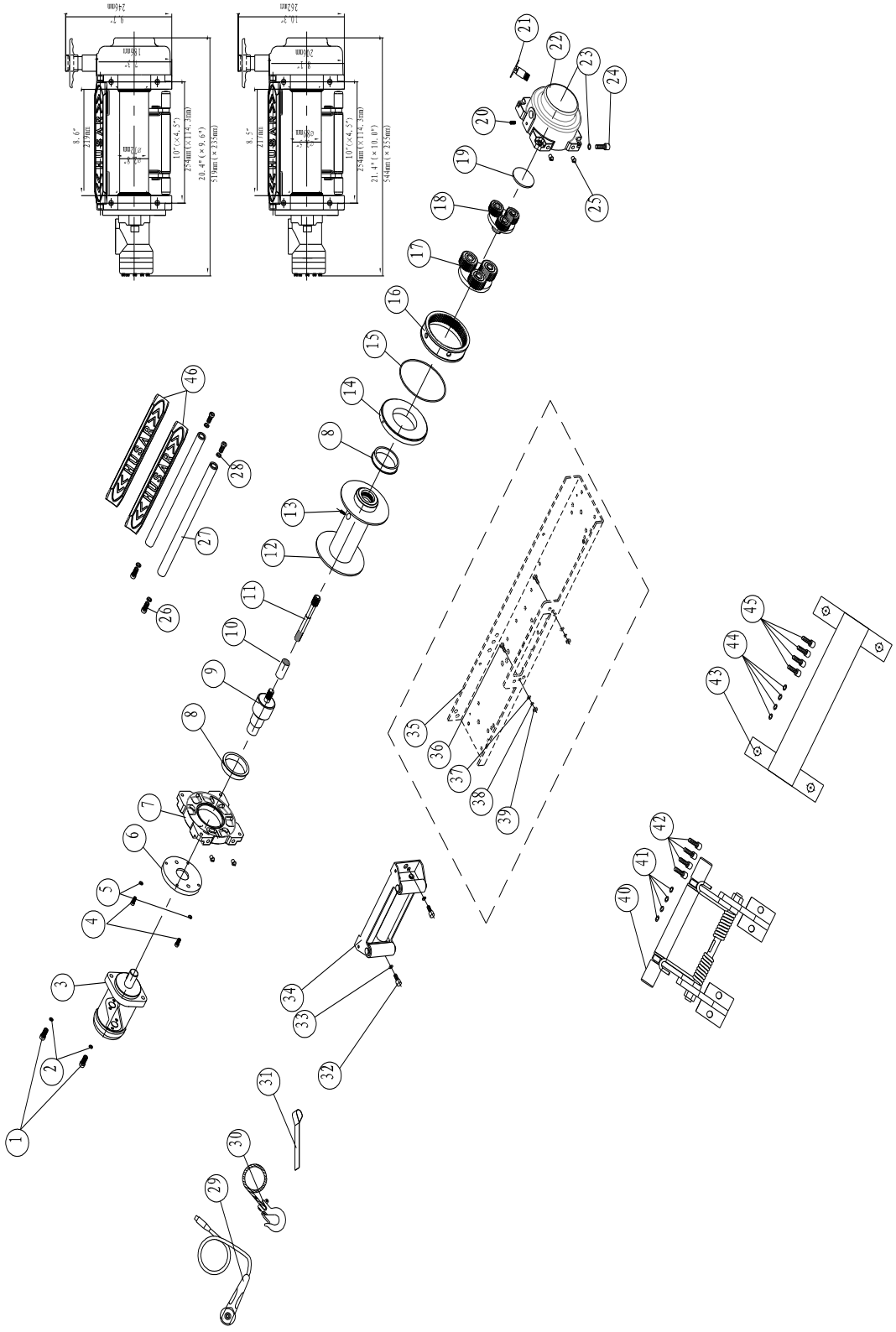
Winch working direction is in backwards of the switch assembly.	-Electrical connections are in wrong direction in the valve solenoid.	-Simply exchange the blue and yellow wire connectors at the solenoid of directional valve, or change the oil pipe between the valve and motor.
Winch braking malfunction.	-Winch working in wrong direction. -Brake slice worn or worn not.	-Change winch working direction looking is to clockwise look at the motor end - Simply readjusted the braking angle or replaces the new brake slice.

WARNING - Adjustment braking angle method: The spring according to the spring gyrotropic pre-tight two laps, then shows the spline tooth set according to following braking cutaway view the adjustment angle for 20°±5°.



WINCH ASSEMBLY DRAWING(BST H)

HWN12000YD/HWN15000YD HWN18000YD

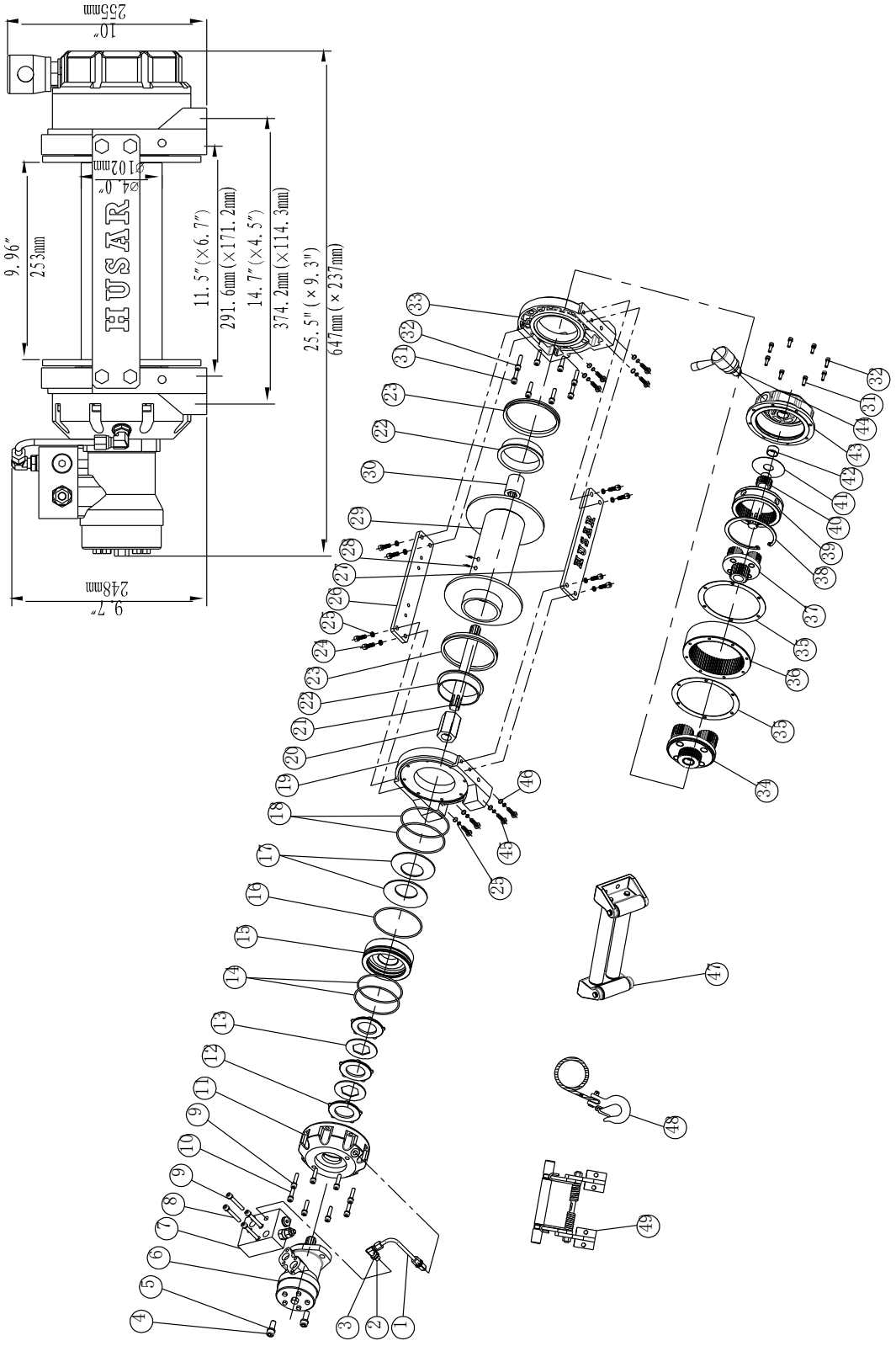


WINCH PARTS LIST(BST H)

No.	Part #	Qty	Description	Remark
1	HWH1200001	2	Screw M12×30	Used in HWH12000/HWH15000 /HWH18000lb
2	HWH1200002	2	Lock Washer Ø12	Used in HWN12000/HWH15000 /HWH18000lb
3	HWH1200100	1	Hydraulic Motor	Used in HWH12000/ HWH15000lb
	HWH1800100	1	Hydraulic Motor	Used in HWH18000lb
4	HWH1200003	4	Screw M8×25	Used in HWH12000/HWH15000 /HWH18000lb
5	HWH1200004	4	Lock Washer Ø8	Used in HWH12000/HWH15000 /HWH18000lb
6	HWH1200005	1	Coupling plate	Used in HWH12000/HWH15000 /HWH18000lb
7	HWH1200006	1	Front Bearing	Used in HWH12000/ HWH15000lb
	HWH1800006			Used in HWH18000lb
8	HWH1200007	2	Bushing-Drum	Used in HWH12000/ HWH15000lb
	HWH1800007			Used in HWH18000lb
9	HWH1200200	1	Break/Shift Assembly	Used in HWH12000/ HWN15000lb
	HWH1800200			Used in HWN18000lb
10	HWH1200008	1	Transition Shaft	Used in HWH12000/ HWH15000lb
	HWH1800008			Used in HWH18000lb
11	HWH1200009	1	Transmission Shaft	Used in HWH12000/ HWN15000lb
	HWH1800009			Used in HWH18000lb
12	HWH1200300	1	Drum Assembly	Used in HWH12000/ HWN15000lb
	HWH1800300			Used in HWH18000lb
13	HWH1200010	1	Screw M8×10	Used in HWH12000/HWH15000/HWH18000lb
14	HWH1200011	1	Inner supporting	Used in HWH12000/ HWH15000lb
	HWH1800011			Used in HWH18000lb
15	HWH1200012	1	“O” Ring Seals	Used in HWH12000/ HWH15000lb
	HWH1800012			Used in HWH18000lb
16	HWH1200013	1	Gear-Ring	Used in HWH12000/ HWH15000lb
	HWH1800013			Used in HWN18000YD
17	HWH1200400	1	Gear Carrier Assembly(Output)	Used in HWH12000/ HWN15000lb
	HWH1800400			Used in HWH18000lb
18	HWH1200500	1	Gear Carrier Assembly (Input)	Used in HWH12000/ HWN15000lb
	HWH1800500			Used in HWH18000lb
19	HWH1200014	1	Antifriction Pad	Used in HWH12000/ HWH15000lb
	HWH1800014			Used in HWH18000lb
20	HWH1200015	1	Screw M8×10	Used in HWH12000/HWH15000 /HWH18000lb
21	HWH1200600	1	Clutch handle Assembly	Used in HWH12000/HWH15000 /HWH18000lb

22	HWH1200016	1	Gear-Housing	Used in HWH12000/ HWH15000lb
	HWH1800016			Used in HWH18000lb
23	HWH1200002	4	Lock Washer Ø12	Used in HWH12000/HWH15000 /HWH18000lb
24	HWH 1200001	4	Screw M12×35	Used in HWH12000/HWH15000 /HWH180000lb
25	HWH 1200017	4	Tamper	Used in HWH12000/HWH15000 /HWH180000lb
26	HWH 1200018	4	Screw M10×35	Used in HWH12000/HWH15000 /HWH180000lb
27	HWH 1200019	2	Tie Bar	Used in HWH12000/HWH15000 /HWH180000lb
28	HWH 1200020	4	Lock Washer Ø10	Used in HWH12000/HWH15000 /HWH180000lb
29	HWH 1200700	1	Remote Control Switch（RCH）	Used in HWH12000/HWH15000 /HWH180000lb
30	HWH 1200800	1	Cable Assembly	Used in HWH12000/HWH15000
	HWH 1800800			Used in HWH18000lb
31	HWH 1200021	1	Strap	Used in HWH12000/HWH15000 /HWH180000lb
32	HWH 1200002	4	Lock Washer Ø12	Used in HWH12000/HWH15000 /HWH180000lb
33	HWH 1200022	4	Screw M12×20	Used in HWH12000/HWH15000 /HWH180000lb
34	HWH 1200900	1	Roller Fairlead	Used in HWH12000/HWH15000 /HWH180000lb
35	HWH 1201000	1	Mounting Channel	Used in HWH12000/ HWH15000lb (By Choice)
	HWH 1801000			Used in HWN18000lb (By Choice)
36	HWH 1200023	2	Cap Screw M12×35	By Choice
37	HWH 1200024	2	Think Flat Washer Ø12	By Choice
38	HWH 1200002	2	Lock Washer Ø12	By Choice
39	HWH 1200025	2	Locknut M12	By Choice
40	HWH 1201300	1	Tensioned Of Steel Wire Supplied Assembly	Used in HWH12000/ HWH15000lb
	HWH 1801300			Used in HWH18000YD
41	HWH 1200026	4	Lock Washer Ø10	By Choice
42	HWH 1200027	4	Screw M10×25	By Choice
43	HWH 1200028	1	Back Mounting Plata	By Choice
44	HWH 1200029	4	Lock Washer Ø12	By Choice
45	HWH 1200030	4	Screw M12×30	By Choice
46	HWH 1200031	2	Tie Bar	Used in HWH12000/ HWH15000lb
	HWH 1800031			Used in HWH18000lb

WINCH ASSEMBLY DRAWING
BST HS 12000



WINCH PARTS LIST BST HS 12000

No.	Part #	Qty	Description	Remark
1	HS1200001	1	High-pressure oil tube	
2	HS1200002	2	Oil connection	
3	HS1200003	2	Combination Washer 14	
4	HS1200004	2	Cap Screw M12 x 30	
5	HS1200005	2	Lock Washer Φ12	
6	HS1200100	1	Hydraulic Motor	
7	HS1200006	1	Blanced valve	
8	HS1200007	4	Cap Screw M8 x 55	
9	HS1200008	12	Lock Washer Φ8	
10	HS1200009	8	Screw M8 x 30	
11	HS1200010	1	Brake stents	
12	HS1200011	3	Brake block	
13	HS1200012	2	Friction plate	
14	HS1200013	2	O-ring seal 100*3.55	
15	HS1200014	1	Piston	
16	HS1200015	1	O-ring seal 140*2.65	
17	HS1200016	2	Disk spring	
18	HS1200017	2	O-ring seal 118*3.55	
19	HS1200018	1	Motor bracket	
20	HS1200019	1	Coupling	
21	HS1200020	1	Transmission shaft	
22	HS1200021	2	Bearing bush	
23	HS1200022	2	Ring Seals	
24	HS1200023	8	Screw M10 x 25	
25	HS1200024	16	Lock Washer Φ10	
26	HS1200025	1	Stand bar（b）	
27	HS1200026	1	Stand bar（a）	
28	HS1200027	2	Screw M8 x 15	
29	HS1200200	1	Drum Assembly	
30	HS1200028	1	Coupling Ⅰ	
31	HS1200029	16	Cap Screw M6 x 20	
32	HS1200030	16	Lock Washer Φ6	
33	HS1200031	1	End Bearing	
34	HS1200300	1	Gear Carrier Assembly （Output）	
35	HS1200032	2	Gasket	
36	HS1200033	1	Gear-Ring（Output）	
37	HS1200400	1	Gear Carrier Assembly （Input）	
38	HS1200034	1	Circlip for hole Φ125	
39	HS1200035	1	Gear-Ring（Input）	
40	HS1200036	1	Gear—Input Sun	
41	HS1200037	1	Trust Washer	
42	HS1200038	1	Axle sleeve	
43	HS1200039	1	Cover-Gear Housing	
44	HS1200500	1	Clutch Assembly	
45	HS1200040	8	Screw M10 x 35	
46	HS1200041	8	Think Flat Washer Φ10	
47	HS1200600	1	Roller Fairlead	
48	HS1200700	1	Cable Assembly	
49	HS1200800	1	Tensioned Of Steel Wire Supplied Assembly	

WINCH ASSEMBLY DRAWING
BST HS 080

No.	Part #	Qty	Description	Remark
1	HS1000001	2	Combination WasherΦ14	
2	HS1000002	1	High-pressure oil tube	
3	HS1000003	2	Oil connection	
4	HS1000004	2	Cap Screw M12 x 35	
5	HS1000005	2	Lock Washer Φ12	
6	HS1000006	1	Blanced valve	
7	HS1000007	4	Cap Screw M8 x 55	
8	HS1000008	12	Lock Washer Φ8	
9	HS1000100	1	Hydraulic Motor	
10	HS1000009	8	Screw M8 x 25	
11	HS1000010	1	Brake stents	
12	HS1000011	3	Brake block	
13	HS1000012	2	Friction plate	
14	HS1000013	2	O-ring seal 100*3.55	
15	HS1000014	1	Piston	
16	HS1000015	2	Disk spring	
17	HS1000016	2	O-ring seal 118*3.55	
18	HS1000017	1	O-ring seal 140*2.65	
19	HS1000018	1	Motor bracket	
20	HS1000019	2	Bearing bush	
21	HS1000020	1	Coupling	
22	HS1000021	1	Transmission shaft	
23	HS1000022	1	Coupling Ⅰ	
24	HS1000200	1	Drum Assembly	
25	HS1000023	1	Screw M8 x 20	
26	HS1000300	1	Gear Carrier Assembly （Output）	
27	HS1000400	1	Gear Carrier Assembly （Input）	
28	HS1000024	1	Gear—Input Sun	
29	HS1000500	1	Clutch Assembly	
30	HS1000600	1	Gear Housing Assembly	
31	HS1000025	1	Cover-Gear Housing Assembly	
32	HS1000026	10	Lock Washer Φ6	
33	HS1000027	10	Think Flat Washer Φ6	
34	HS1000028	10	Cap Screw M6 x 16	
35	HS1000029	4	Cap Screw M10 x 25	
36	HS1000030	4	Lock Washer Φ10	
37	HS1000700	1	Tensioned Of Steel Wire Supplied Assembly	
38	HS1000031	1	Connecting plate	
39	HS1000032	16	Screw M10 x 25	
40	HS1000033	16	Lock Washer Φ10	
41	HS1000800	1	Cable Assembly	

SPECIFICATION(HWH12000lb)

BST H 12000lbs	Technical specifications
Pulling rate	12000 lbs (5443kg)
Motor displacement	65ml/r
Oil flow	5～45L/min
Pressure	14Mpa
Gear	2 -stage planetary
Gear ratio	25,5:1
Rope	25,5m x Ø 10,2mm
Fairlead	4-ways rollers fairlead
Net weight	53 kg
Mounting bolt pattern	254mm×114.3mm
Dimensions	(L x W x H) 519mm × 235mm × 246mm

Line speed and motor current (first layer)

Line pull	Lbs	0	3000	6000	9000	12000
	Kgs	0	1361	2722	4082	5443
Line speed	m/min	0,7	1,4	2,7	4,6	5,1
Pressure	PSI	290,1	652,7	986,2	1305,3	1812,9
Oil flow	l/min	5.0	10.0	20.0	35.0	40.0

Line pull and cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	12000	9000	6000	3000
	Kgs	5543	4082	2722	1362
Cable capacity per layer	M	5	11,3	18,6	25,5

SPECIFICATION(HWHS12000lb)

BST HS 12000lbs	Technical specifications
Pulling rate	12000 lbs (5443kg)
Motor displacement	100ml/r
Oil flow	5～60L/min
Pressure	15Mpa
Gear	2 -stage planetary
Gear ratio	17.6:1
Rope	25,5m x Ø 10,2mm 8-M10
Fairlead	4 rolki
Net weight	51 kg
Mounting bolt pattern	374.2mm×114.3mm
Dimensions	(L x W x H) 519mm × 235mm × 246mm

Line speed and motor current (first layer)

Line pull	Lbs	0	4000	6000	8000	12000
	Kg	0	1814	2722	3629	5443
Line speed	m/min	0,9	1,8	3,6	7,2	9,5
Pressure	PSI	435,1	986,2	1334,3	1740,4	2175
Oil flow	l/min	5.0	10.0	20.0	40.0	60.0

Line pull and cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	12000	8000	6000	4000
	Kg	5543	3629	2722	1814
Cable capacity per layer	m	7	15	18,6	25,5

SPECIFICATION(HWH15000lb)

BST H 15000lbs	Technical specifications
Pulling rate	15000 lbs (56804kg)
Motor displacement	65ml/r
Oil flow	5～45L/min
Pressure	14Mpa
Gear	2 -stage planetary
Gear ratio	26:1
Rope	25,5m x Ø 11 mm
Fairlead	4-ways rollers fairlead
Net weight	65 kg
Mounting bolt pattern	254mm×114.3mm
Dimensions	(L x W x H) 519mm × 226mm × 262mm

Line speed and motor current (first layer)

Line pull	Lbs	0	5000	10000	12000	15000
	Kgs	0	1361	2722	4536	5443
Line speed	m/min	0,7	1,4	2,7	4,6	5,3
Pressure	PSI	290,1	623,7	1261,8	1450,3	1885,4
Oil flow	l/min	5	10	20	35	50

Line pull and cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	15000	12120	10168	8757
	Kgs	6804	5498	4612	3972
Cable capacity per layer	M	5	11,3	18,6	25,5

SPECIFICATION(HWH18000lb)

BST H 18000lbs	Technical specifications
Pulling rate	8165 kg
Motor displacement	80ml/r
Oil flow	5～60L/min
Pressure	13Mpa
Gear	2 -stage planetary
Gear ratio	34:1
Rope	26,5m x Ø 12 mm
Fairlead	4-ways rollers fairlead
Net weight	69 kg
Mounting bolt pattern	254mm×114.3mm
Dimensions	(L x W x H) 541mm ×390mm ×320mm

Line speed and motor current (first layer)

Line pull	Lbs	0	10000	12000	15000	18000
	Kgs	0	4536	5443	6843	8165
Line speed	m/min	0,5	2,0	3,0	5,5	6,0
Pressure	PSI	290,1	1261,8	1450,3	1775,2	1885,4
Oil flow	l/min	5	10	20	30	60

Line pull and cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	18000	12120	10168	8757
	Kgs	8165	5498	4612	3972
Cable capacity per layer	M	5,5	12,4	20,1	26,5

SPECIFICATION(HWHS080lb)

BST HS 080Lb	Technical specifications
Motor displacement	17637 lbs (8000kg)
Oil flow	15～50L/min
Pressure	15Mpa
Gear	2 -stage planetary
Gear ratio	38:1
Rope	32m x Ø 14 mm 8-M14
Fairlead	4-ways rollers fairlead
Net weight	138 kg
Mounting bolt pattern	254mm×114.3mm
Dimensions	(L x W x H) 541mm ×226mm ×262mm

Line speed and motor current (first layer)

Line pull	Lbs	0	4409	8818	1328	17637
	Kg	0	2000	4000	6000	8000
Line speed	m/min	1,8	2,5	3,2	4	
Pressure	PSI	290,1	609,2	1131,3	1508	1885,4
Oil flow	l/min	5	10	20	30	60

Line pull and cable capacity

Layer of cable		1	2	3
Rated line pull per layer	Lbs	17637	1498	1302
	Kg	8000	6795	5906,0
Cable capacity per layer	m	9	20	32

SPECIFICATION(HWH35000lb)

BST H 35000lbs	Technical specifications
Pulling rate	15875 kg
Rope (Dia.× L)	50 m, Ø22 mm,
Hydraulic Operating Pressure	16 Mpa
Free Spooling Clutch	Pneumatic
Pneumatic Clutch Pressure	0.4 ~ 0.8 MPa
Oil	Industrial Gear Oil 220
Oil Capacity	0.8 Liter
Mounting Bolts	8×M20, Class 10.9
Gross Weight	320 kg
Drum size (Dia.× L)	Ø210mm×340 mm
Mounting bolt pattern	522mm ×180/280mm 8- Ø22
Overall dimensions (L×W×H)	1077mm ×640mm ×420mm

Line pull and cable capacity

Layer of Cable	1	2	3	4	5
Rated Line Pull Per Layer	35000 LBS	28000 LBS	24500 LBS	21000 LBS	19000 LBS
	15875 kg	12700 kg	11113 kg	9525 kg	8618 kg
Maximum Line Speed Per Layer	8.17 m/min	9.45 m/min	10.85 m/min	12.19 m/min	13.56 m/min

SPECIFICATION(HWH45000lb)

BST H 45000lbs	Technical specifications
Pulling rate	20400 kg
Rope (Dia.× L)	Ø26 mm, 50m
Hydraulic Operating Pressure	17 Mpa
Free Spooling Clutch	Pneumatic
Pneumatic Clutch Pressure	0.4 ~ 0.8 MPa
Oil	Industrial Gear Oil 220
Oil Capacity	0.8 Liter
Mounting Bolts	8×M24, Class 10.9
Gross Weight	370 kg
Drum size (Dia.× L)	Ø210mm×340 mm
Mounting bolt pattern	522mm ×180/280mm 8- Ø22
Overall dimensions (L×W×H)	1077mm ×640mm ×420mm

Line pull and cable capacity

Layer of Cable	1	2	3	4	5
Rated Line Pull Per Layer	45000 LBS	28000 LBS	24500 LBS	21000 LBS	19000 LBS
	20411 kg	16329 kg	14061 kg	12247 kg	10886 kg
Maximum Line Speed Per Layer	8.17 m/min	9.45 m/min	10.85 m/min	12.19 m/min	13.56 m/min