

GENERAL INFORMATION

A light small economical multi-purpose winch with an automatic brake system. No adjustments required.

OPERATION AND MAINTENANCE

Due to the automatic safety devices incorporated in the design of the range of safety winches the operation is extremely simple. Raising of the load is achieved by winding the handle in a clockwise direction and lowering by winding anti-clockwise.

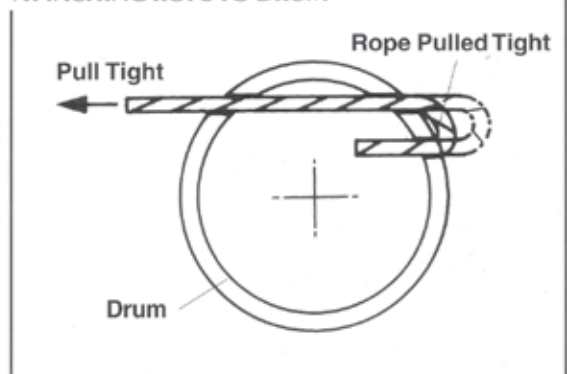
WARNING

The ratchet must never be disengaged.

The rope must be reeled onto the drum by winding the handle in a clockwise direction, and under no circumstances must this direction be reversed.

A minimum of 4 turns of rope must always be on the drum to ensure no slipping or releasing of the rope. The rope is threaded through the drum, doubled back into the locking hole and pulled tight. This tight bedding locks the rope to the drum.

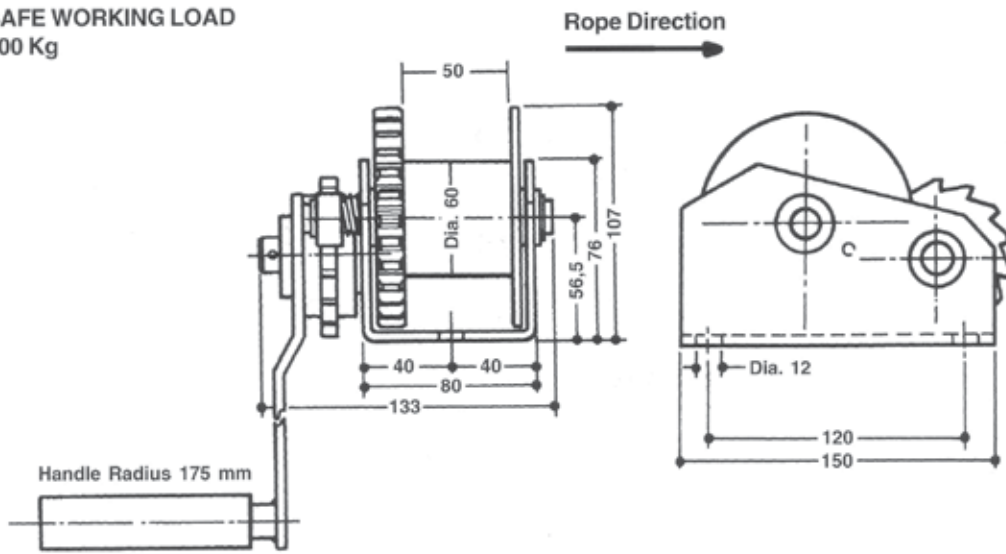
ATTACHING ROPE TO DRUM





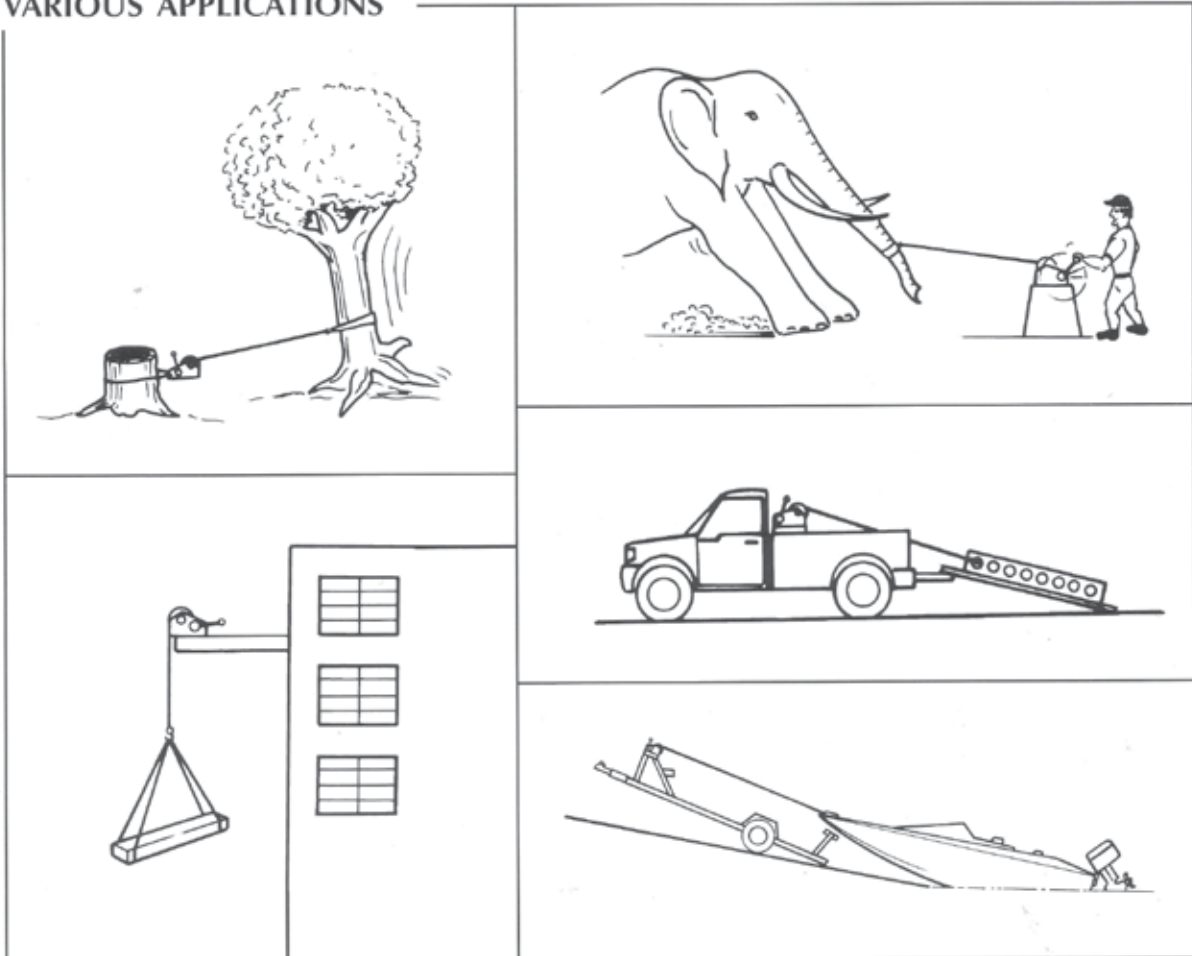
SPECIFICATIONS

SAFE WORKING LOAD
200 Kg



Rope Capacity: 11m x 5 Diameter Steel Wire Rope
Gear Ratio: 3,8:1

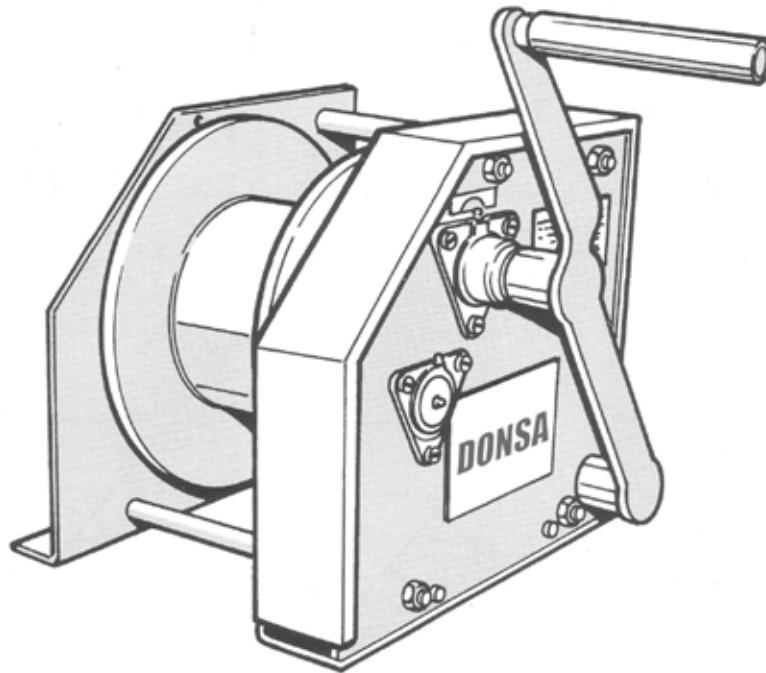
VARIOUS APPLICATIONS





HAND WINCH

7,5-30kN (750-3000kg) MARK II



GENERAL INFORMATION

The range of HEAVY LOAD SAFETY WINCHES have been specially developed to eliminate the danger found on normal ratchet held loads in hand winches. The principal danger being flying handles when the ratchet is disengaged to lower the load. This problem has been overcome with the use of an automatic clamping and ratchet type brake whereby the ratchets are never disengaged and load is moved up or down simply by winding the handle in the required direction. A further improvement which has been achieved in the new design is that it is now possible to fit effective dust covers over the gears thereby reducing maintenance and increasing the life of the winches. All lubrication points are external to the covers.

USES

All load raising and lowering operations in mines, industry and agriculture and especially suited to conveyor tensioning.

FEATURES

- Safety with power.
- Highest quality alloy steel used for all gears and shafts.
- Economically priced.
- High factors of safety.
- Design parameters to B.S. 3701.

SPECIFICATION

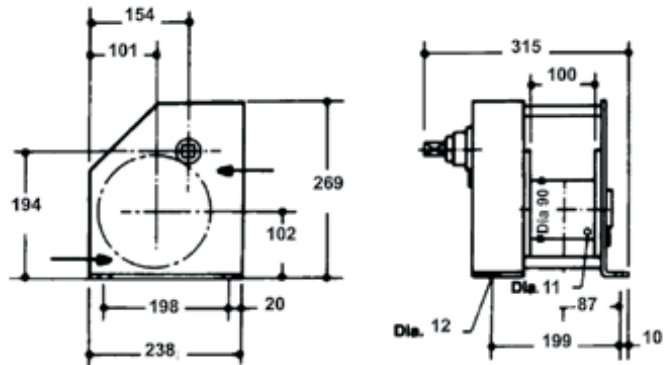
MODEL 750S II WINCH

GEAR RATIO
4,5/1

ROPE CAPACITY
24 METERS

ROPE SIZE
Dia. 8X6X36 cons

HANDLE RADIUS
443 max. 228 min.



MASS
26kg

SAFE WORKING LOAD
0,5 Tons.

OPTIONAL ELECTRIC MOTOR

NOTE: 1 Rope must enter winch as shown by arrows
 2 Safe working load calculated on full drum
 3 For working length multiply drum full rope length by 0.7
 4 Model no. denotes test load
 specification subject to change without prior notice

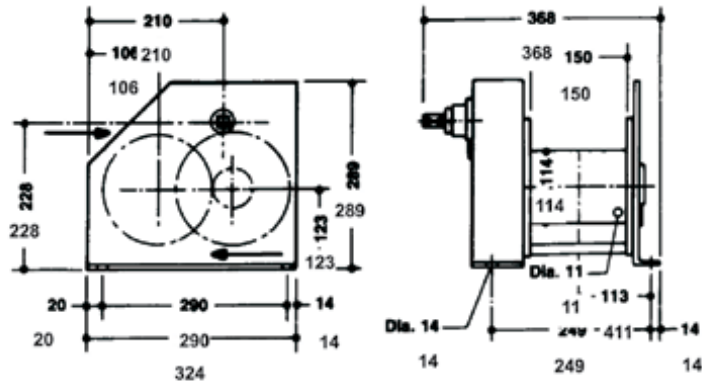
MODEL 1500S II WINCH

GEAR RATIO
12,6/1

ROPE CAPACITY
35 METERS

ROPE SIZE
Dia.10X6X36 cons

HANDLE RADIUS
443 max. 228 min.



MASS
42kg

SAFE WORKING LOAD
1 Tons.

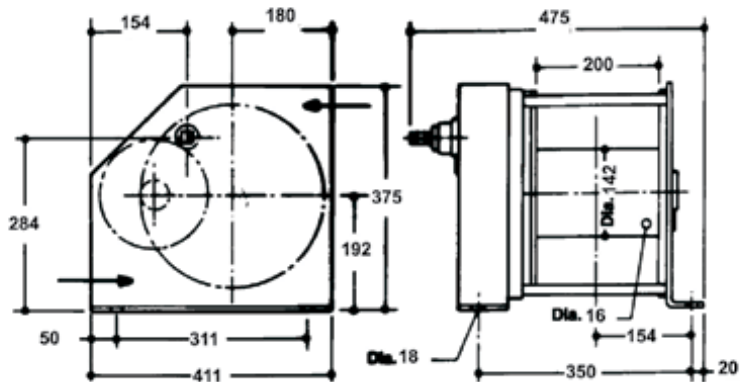
MODEL 750S II WINCH

GEAR RATIO
29,25/1

ROPE CAPACITY
75 METERS

ROPE SIZE
Dia.13X6X36 cons

HANDLE RADIUS
443 max. 228 min.



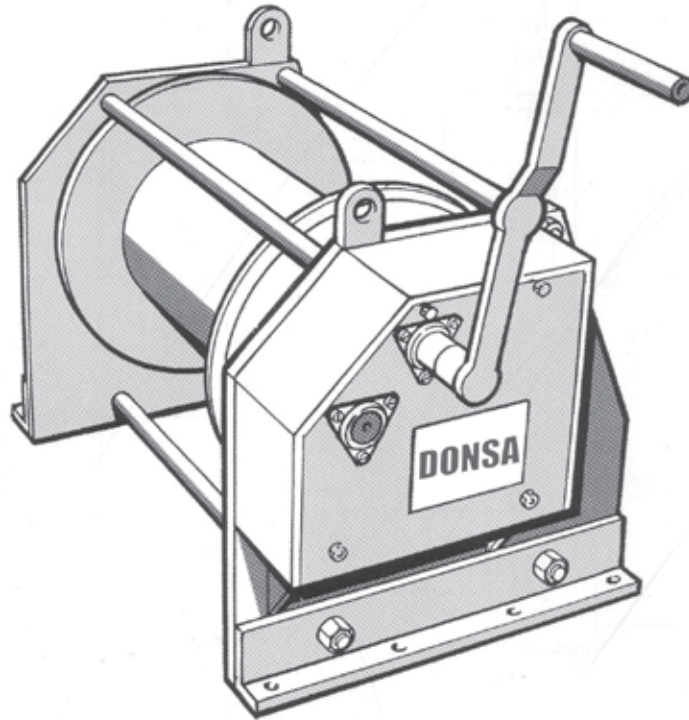
MASS
80kg

SAFE WORKING LOAD
2,2 Tons.



HEAVY DUTY HAND WINCHES

50 - 130KN (5000 - 13000 KG) MARK II SERIES



GENERAL INFORMATION

The range of HEAVY LOAD SAFETY WINCHES have been specially developed to eliminate the danger found on normal ratchet held loads in hand winches. The principal danger being flying handles when the ratchet is disengaged to the lower load. This problem is overcome with the use of an automatic clamping and ratchet type brake whereby the ratchets are never disengaged and the load is moved up or down simply by winding the handle in the required direction.

A further improvement which has been achieved in the new design is that it is now possible to fit effective dust covers over the gears thereby reducing maintenance and increasing the life of the winches. All lubrication points are external to the covers.

FEATURES

- Safety with power.
- Highest quality alloy steels used for all gears and shafts for rugged durability.
- These winches can be safely modified to accept power drives.
- Economically priced.
- High factors of safety.
- Design parameters to B.S. 3701.

SPECIFICATION

MODEL 5000S II WINCH

GEAR RATIO

76,8/1

ROPE CAPACITY

63 METERS (DRUM FULL)

ROPE SIZE

Dia. 16X6X36 cons

HANDLE RADIUS

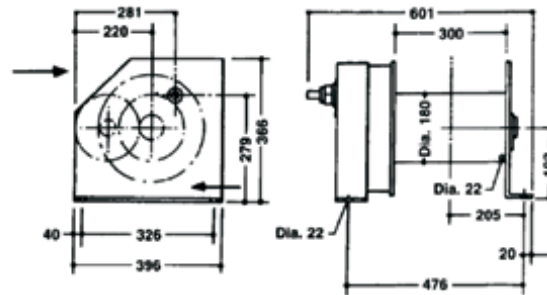
443 max. 228 min.

MASS

112kg

SAFE WORKING LOAD

3,5 Tons.



OPTIONAL ELECTRIC MOTOR

NOTE: 1 Rope must enter winch as shown by arrows

2 Safe working load calculated on full drum

3 For working length multiply drum full rope length by 0.7

4 Model no. denotes test load

specification subject to change without prior notice

MODEL 8000S II WINCH

GEAR RATIO

152/1

ROPE CAPACITY

94 METERS (DRUM FULL)

ROPE SIZE

Dia. 20X6X36 cons

HANDLE RADIUS

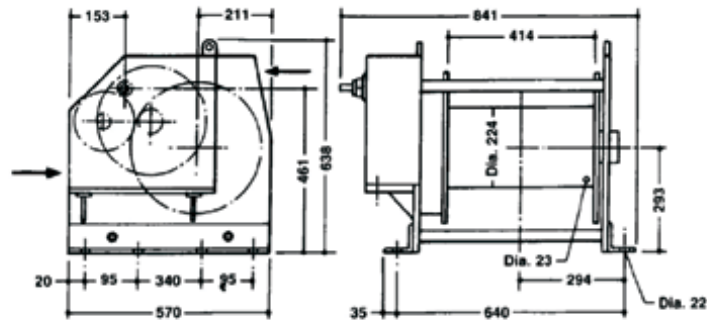
443 max. 228 min.

MASS

243kg

SAFE WORKING LOAD

5,4 Tons.



MODEL 13000S II WINCH

GEAR RATIO

392/1

ROPE CAPACITY

103 METERS (DRUM FULL)

ROPE SIZE

Dia. 26X6X36 cons

HANDLE RADIUS

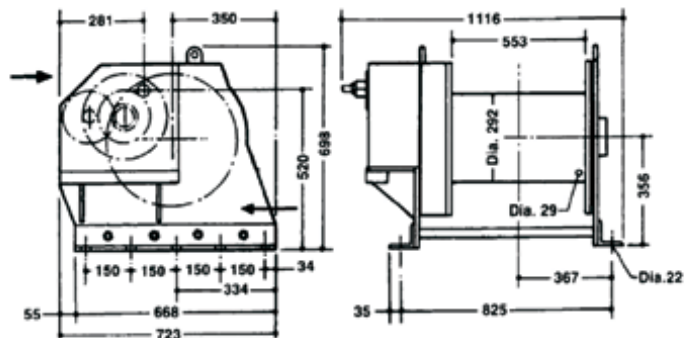
443 max. 228 min.

MASS

397kg

SAFE WORKING LOAD

8,2 Tons.





CRAB WINCHES

These general purpose, robust designed winches comprise of open type, inline helical gears. The manual winches feature dual speed take up, a heavy duty brake system as well as a ratchet and pawl system for manual winches. The motorized units are supplied with AC disc type brakes mounted at the rear of the motor.

Optional fail safe braking can be provided in the form of hydraulic caliper type brakes mounted on the side of the rope drum. Standard voltages are 220v single phase or 380V / 525V three phase.

Safe working loads range from 1 ton to 15 tons with drum capacities up to 1000 meters of steel wire rope. Units can be supplied with hydraulic or pneumatic motors



ENGINEERED WINCHES

Have consistently assisted clients with specialized projects, where **out-of-the-box** thinking is required, and provides a unique situation. Our engineers will work with you to custom design the right solution for your specific application and provide an efficient and dependable solution to your winching needs.

Some of our custom engineered winches:

- . 25 passenger tourist cable car system in Zambia (design, manufacture and commissioning of the winch and structure)
- . 75 kW hydraulic man riding winch
- . 10 ton Shaft Sinking Winch Sets c/w fail-safe hydraulic brake calipers
- . Light mast winches
- . 10 ton Portable hydraulic winches with rope capacity for 1000 metres of wire rope.
- . 15 ton Ball Mill rotation /installation winches
- . 10 ton safe working load Man Riding Winch



HEAVY DUTY WORM WINCHES

The heavy duty worm winch is robust in construction with an automatic braking ability via the worm gear. These low maintenance inexpensive winches are used extensively by the mines and industry.

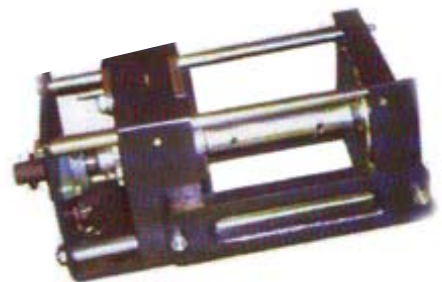
Safe working loads are 1 ton and 2 ton single line pull.



LIGHT INDUSTRIAL WINCHES

Light industrial range of winches are available in manual or motorized units. Voltages – 220v, 380v, 525v. Safe working loads are 1,5 ton and 3 ton single line pull. These winches are robust, fully plated and have a fully enclosed gearbox. They are being successfully used in many industries such as agriculture and mining.

These winches are not designed for vertical lifting



Mathematical method of calculating the effort required to move a given load.

On a slope: $E = W (\mu \cos \alpha + \sin \alpha)$

Horizontally: $E = \mu W$

Where E is the effort required to pull a load lying on the ground
 W is the weight of the load
 μ is the friction between load and ground which depends upon the area of contact of the load with the ground and the nature of the ground (presence of wheels, rollers, sand, mud, concrete, etc...)
 α is the angle of the slope

The value of μ , the coefficient of friction, must be known or estimated.

We give hereafter some general values of this coefficient μ :

- steel on steel	0,4 - 0,6	- iron on stone	0,3 - 0,7
- leather on metal	0,6	- continuously lubricated surfaces	0,15
- wood on stone	0,4	- loads on wheels	0,02 - 0,05

