

Beach winch #2 (West) for Brighton Sailing Club

DRAFT

Specification for supply and installation

Paul Tofts August 1st 2021

1. The winch will be a yacht mooring winch, with a vertical capstan, designed to pull a rope. 12v supply, power consumption about 1100W (90A). Line speed at least 20 metres/min. Maximum pulling force to be about 450 kg. (thus similar to the existing East beach winch #1 – see note 1 below). Other suppliers offer similar winches (note 4). Supply may not be straightforward, and will depend on availability.
2. Mechanical installation on the beach will be similar to existing #1 (to be supervised by Jim Parrot). To include concrete post fixing into the shingle beach, a fixed concrete cover, a removable cover (to expose the winch and foot control), vertical rope guide posts. Height to be determined. A foot switch will operate the winch. Location South West of the rescue station.
3. Power to winch using suitable high-capacity cable (see note 3), using existing underground conduit from rescue station. Within rescue station, cable to run at Westwards at ceiling level from office, then down inside of West wall.
4. Winch to be powered by high capacity power supply approximately 1 kW (note 2) located in office on East wall, on a shelf (to keep the floor clear). This will power both winches and have an inbuilt current overload protection. Each winch could demand 1 kW at maximum load; however with normal running their consumption would be well below this (typically 28A = 340 Watt each).
5. Existing winch #1 to be rewired so as to be powered by power supply in office, and current overload protection in East winch box to be removed. Existing battery in office will not be used.

Notes:

1. Existing winch is a South Pacific EC1000J mooring winch, designed to pull a rope. Spec is: 12v 1100W line speed 20m/min. Pulls up to 450kg, typical pull 72kg, typical current draw 28A. It is wired with a foot switch and a current limiting circuit breaker (cutout) (currently 50A). http://www.southpacific.com.tw/in_index/electric-capstan.html
2. For example a 12v 1kW supply costs under £250. It has current overload protection. On Amazon:
 - a. Seasonic SSR-1000GD PRIME 1000 80 PLUS Gold ATX 12 V Power Supply Unit £221.
 - b. DC 12V 83.3A 1000W LED Driver Switching Power Supply 110/220V AC to DC 12V Transformer Monitoring Power Supply Industrial Power Universal Type £67 (or 1200W £70).
3. 24v operation requires a lower capacity cable; however 12v operation allows the existing winch to be run from the same supply.
4. Winches similar to what we have (some may offer a line speed more like 30 metres/min). A fast winch may want more than 1kW.:

- a. See for example the range from Lofrans (T700 upwards); T1000 is £977 from waveinn.com.
- b. Quick Tumbler TB2 500w from Chas Newens is £757. Search '12v boat electric capstan winch'.
- c. Also Andersen C1000 E1 (£2000 from force4, unknown performance). Force4 told me it is discontinued.