



QUOTATION

TO:

Monterey Bay Aquarium Research Inst.
7700 Sandholdt Rd
Moss Landing, CA 95039

DATE: 12 November, 2003

Attention: Jon Erickson

Facsimile: 831-775-1646

REF: RFQ for MOOS Mooring Winch

QUOTE No.: Q311775.MBR

ITEM	QTY	DESCRIPTION	TOTAL COST
1	1	Direct pull winch with Electro-Active Conventional Levelwind and 30HP Electro-Hydraulic Power Unit See Details Listed below	US\$ 148,000.00
2	1	Lebus Shell	US\$ 10,075.00
3	1	Spare Drum Assembly Excluding Lebus Shell	US\$ 27,500.00

TERMS: 30% Down Payment
30% upon Critical Design Review
30% at FAT acceptance
10% Net 30 Days

F.O.B. POINT: Ex-Factory, Bryan, Texas, USA, Freight Collect

DELIVERY: System can ship from Dynacon on Monday, 23 February, 2004 if PO is placed ASAP
and Cable specifications are provided by Dec 1, 2003. Ship Date can not be
guaranteed if cable specification are not provided by Dec 1, 2003.

QUOTE VALIDITY: Pricing is valid for 60 days.

Submitted by:

Wesley Keepers, Sales Engineer, Dynacon, Inc.



MOOS Mooring Winch:

The winch drum consist of a 46" diameter core and 84" between the flanges to accommodate 5250m of 1.125" diameter cable on 15 layers. A cut thru the intermediate flange allows for customer furnished equipment to pass to the second drum bay for storage during operation. This cut is in such a manor that it does not impart bending stress into the cable, and will allow for easy removal of the cable and termination. A low tension clamp will be provided in the second bay to secure the cable to the drum. In addition, the outer flange will be tapped to allow for installation of spacers to allow for different cables in the future.

The winch drum is driven by a variable displacement hydraulic motor coupled to a planetary gearbox. The motor has the capability for two displacement settings, which are utilized to obtain the high and low tension parameters. An electro active Conventional Levelwind is utilized to fairlead cable onto the drum. A lift frame is also provided to enable the winch frame to be lifted without the use of spreader bars. The conventional Levelwind mounts directly to the lift frame and its height can be varied to accommodate a variety of cable exit angles.

Performance Parameters:

High Tension Mode: 6000 lbs SWL at Bare Drum
100 fpm

Low Tension Mode 3000 lbs SWL at Bare Drum
200 fpm

Break Holding Capacity: 10,000 lbs Bare Drum

System Horsepower: 30

Dimensions:

Drum Core Diameter: 46"

Drum Width (Cable Bay): 84"

Drum Flange Diameter: 88"

Second Bay Width: 10"

Capacity: 5250 m of 1.125" diameter cable on 15 layers

Winch Footprint Dimensions: 92"W x 133.5"L x 105.5"T

HPU Footprint Dimensions: 32.75"W x 80"L x 54.25"T

System Weights:

Winch, Lift frame and Levelwind: 19,000 lbs without Lebus shell

Lebus Shell: 2600 lbs

Electro Hydraulic Power Unit: 2,500 lbs wet

Lebus Shell

Dynacon highly recommends the use of the Lebus shell with this application. We strongly believe that it will enhance the performance of the cable laying on the drum surface. The first layer is critical, especially with 15 layers proposed for your system. For this reason, Dynacon will offer the Lebus shells for this system only at our cost. Weight addition is 2600 lbs. The Lebus shells are typically welded on, but can be bolted on if a future requirement utilizes a different cable.



Spare Drum

A Spare drum assembly includes the drum, bearings and a bearing mount. The drive side does not include another gearbox or gearbox adapter. During a drum swap, the gearbox and gearbox adapter will have to be pulled from the original drum and installed into the second drum. This can be done with a small overhead crane and common hand tools. The bearing and bearing mount are provided to minimize installation alignment issues. The bearing and housing are aligned at Dynacon, so installation time in the field is minimized. A Lebus shell is highly recommended as an option for the spare drum.



DYNACON, Inc.
831 Industrial Blvd.
Bryan, Texas 77803
(979) 823-2690

Warranty Policy for MOOS Mooring Winch
as proposed in
DYNACON Quotation No. Q311775.MBR

Date: 12 November, 2003

1. DYNACON, Inc. warrants that:
 - 1.1 The Product(s) Covered shall be free from all defects resulting from faulty design, faulty material, faulty workmanship, improper assembly or incompatibility of components. Only equipment supplied by DYNACON as a part of this system is included under this warranty. The U.S. dollar amount covered by this warranty shall not exceed the total value of the DYNACON equipment supplied under the sales agreement.
 - 1.2 The Product(s) Covered will conform to such drawings and specifications as defined by the DYNACON, Inc. sales agreement with Buyer as applicable to said Product(s).
2. Subject to Paragraphs 4 and 5, the warranties referred to herein shall extend for each Product(s) Covered for a period of one (1) year from the date of shipment from DYNACON facility or six (6) months after commencement of system operation, whichever occurs first, of each Product(s) Covered.
3. The warranties provided for in this Warranty shall not apply to equipment or systems becoming defective or to equipment or systems failures, including failures in performance, which result from:
 - 3.1 The Buyer not complying with DYNACON's reasonable written instructions for the storage, operation, maintenance and repair of the Product(s) Covered;
 - 3.2 Alterations or replacements by the Buyer in the Product(s) Covered which are not approved in writing by DYNACON, provided that such approval shall not be unreasonably withheld;
 - 3.3 Normal wear and tear;
 - 3.3.1 Wear items excluded include, but not limited to items listed in Paragraph 13.
 - 3.3.2 Breakage and defects arising through the negligence or carelessness of any person on board a Vessel during the warranty period;



- 3.4 Operation or failure of any machinery or equipment or system not supplied by DYNACON.
4. Subject to Paragraph 5 in the event that there is a defect in any part of the Product(s) Covered resulting from faulty design, faulty material or faulty workmanship during the warranty period, the warranty on that part shall be extended for a period equal to the period of the breakdown but this extension shall only apply to the defective part or to such other equipments as are rendered inoperative during the duration of the breakdown as a direct result of the defective part, and in no event shall such period extend beyond one(1) year from shipment from DYNACON facility of such Product(s) Covered.
 5. Where the Product(s) Covered becomes inoperative while DYNACON corrects anything set out in Paragraph 1, the duration of DYNACON's warranty under this Warranty Policy shall be extended for a period of time equal to the period of time during which that the Product(s) Covered is inoperative, and in no event shall such period extend beyond one (1) year from shipment from DYNACON facility of such Product(s) Covered.
 6. DYNACON shall transfer and assign to the Buyer any and all warranties and the benefits thereof from any manufacturer or supplier extending beyond the duration of the warranties provided in this Warranty Policy, without in any way extending DYNACON's warranties. A list of any such warranties shall be provided to the Buyer by DYNACON.
 7. Subject to Paragraphs 2,4,5 and 8, DYNACON, if requested by the Buyer to do so at any time within the warranty periods specified in Paragraph 2 or extensions thereof, shall replace or make good at its own expense any Product(s) Covered, or any parts thereof which becomes defective or which fails to conform to the DYNACON, Inc. sales agreement with Buyer as a result of faulty design, faulty material or faulty workmanship; provided the Buyer has given written notice to DYNACON of such defect or failure within 60 Business Days of it becoming apparent and provided such defect or failure is covered by the warranties in Paragraph 1 and provided DYNACON is given the opportunity to correct such defect or failure after said notice.
 8. DYNACON shall bear all reasonable ground transportation costs for transporting any defective Product(s) Covered, or part thereof, between its location and DYNACON's facilities. Where, in the opinion of the Buyer, it is not expedient to remove such defective Product(s) Covered, or part thereof, from its location, DYNACON shall replace or make good the defective Product(s) Covered, or part thereof, at such location, and shall be paid the actual costs incurred in so doing (including reasonable traveling and living expenses) with no allowance thereon by way of profit, less a sum equivalent to the cost of making good the defective Product(s) Covered had it been made good at DYNACON's facilities.



9. DYNACON shall, for all warranty claims arising during the warranty period or periods as specified within Paragraph 2, at its expense,
 - 9.1 Replace any manuals or other documents or portions thereof as necessary that are not accurate or that otherwise do not meet the DYNACON, Inc. sales agreement with Buyer.
10. After delivery of the Product(s) Covered and with the prior written consent of DYNACON, the Buyer or its representatives may conduct repairs to the Product(s) Covered provided repairs are made by qualified personnel;
 - 10.1 The repairs referred to in paragraph (10), if carried out properly and in accordance with any specific instructions given by DYNACON in the consent referred to in (10) above, will not in any respect diminish or vitiate any of DYNACON's obligations under this Warranty;
 - 10.2 The repairs referred to in subparagraph (10) are considered to be pre-approved in writing by DYNACON to the extent and if included in the maintenance schedules delivered under this Warranty. Repairs and repair procedures not described in these schedules require prior written consent of DYNACON which consent shall not be unreasonably withheld.
11. In the event that the Buyer requests DYNACON to perform repair or correction work in respect of Product(s) Covered, or part thereof, which is subsequently shown not to be covered by the warranties stipulated or referred to in this Warranty, the Buyer shall reimburse DYNACON its reasonable cost of verifying conformity or for repair or correction of such Product(s) Covered, and in addition shall pay DYNACON a fair and reasonable profit thereon.
12. DYNACON shall appoint a representative to act as liaison with the Buyer to deal with any defects arising during the warranty period.
13. Subject to Paragraph 3.3.1, parts to be considered excluded wear items are as follows:
 - Fuses, Relays and light bulbs
 - ACME nuts and flanges
 - Caliper brake pads
 - Switch contact blocks
 - Hydraulic oil, gear oil, grease and lubricants in general
 - Fasteners required for bolting to ship's deck for installation
 - Protective boots for switches
 - Hydraulic hose assemblies - after six (6) months
 - Fluid disconnects - after six (6) months
 - Water/Oil heat exchanger - after six (6) months
 - Roller Chain - after six (6) months
 - Filter Elements (oil, other)