

## Cormach Marine Crane Product Line – Specifications

### Basic Information

- The cranes design follows the DIN 15018 Standards.
- The compact basement fulfils the porpoise of their installation onto ship decks.
- One rotation system made out of one gearbox with brake and rotation motor assures smooth rotation to the crane.
- The crane twist jib (twin mast turret) is mounted onto slew bearing.
- Standard rotation angle is 355 degree (400 degree and continuous rotation are offered as an options) (continuous rotation standard, 34000E and larger models)
- Maximum working slope is 5 degree, the installation of a second rotation system (double swing control system) is offered as an option, which would increase the rotation power and the braking factor.
- All hydraulic cylinders are of double acting type and are protected with piloted check valves.
- The crane is equipped with one swivel hook of the appropriate capacity, which is located on the last extension.
- The control valve, which comes with the standard crane, is connected to the crane with 2 m. of rubber hoses, this permits to locate the control valve in an appropriate area around the crane itself.

### Available options

- Load limiting device ( 4000E thru 16,600E) (standard on larger models)
- Radio remote controls.
- Hydraulic winch.
- Operator's cab with heating and/or air conditioning systems.
- Personnel Baskets
- Second rotation system.
- Continuous rotation as well as 400 degree rotation.
- Electro-hydraulic power pack with pump.
- Certifications of different certification Agencies as( RINA, LLOYD'S, BSA, etc.,) are available on request, the price of the certification is based on the invoicing from the Agency and will be invoiced on the base of cost.
- Hazardous area protections, ie: explosion proof

### A: Steel structure

1. The crane structure is made out of high strength steel of first quality.
2. All components of the crane steel structure are shot blasted.
3. Painting consists in: 3 layers of primer coats with a zinc phosphate epoxy paint with a dry thickness of about 100 micron, and 2 layers of Polyurethane enamel for and additional thickness of 60 micron.

## B: Pins

1. All pins are treated with chemical nickel (Nicasil)
2. During the installation all pins are protected with water repellent grease.
3. If the pin housing is particularly long a greasing point is provided, bushing is made out of composite material (Steel-bronze-Teflon).

## C: Cylinders

1. The solid piston rods are made out of chromed stainless steel AISI 431.
2. The holed piston rods of the extension cylinders are protected with double layer of chrome,
3. The pin heads are subject to a nitriding procedure (nitrogen-hardening) and when installed they are protected with special water and oil repellent grease.

## D: Valves and hydraulic components

1. The aluminium body valves are anodised or galvanised, alternatively they will be painted after the installation onto the cylinder with all the fittings with a specific primer.
2. The valves with external breathers have all the springs and steel components zinc treated.
3. The valve throttle-valves are covered with plastic protections filled with water repellent grease.
4. The steel valves are painted as the steel components of the crane structure.

## E: Control valves

1. All the internal spools, of the control valve, are nickel treated or chromed, springs, plugs and screws are zinc treated.
2. All aluminium parts are anodised; alternatively they could be treated in the same way of valves.
3. The levers are zinc treated.
4. The painting is made after all fittings are connected.

## F: Steel pipes

1. All pipes are made out of stainless steel.
2. Standard fittings are zinc treated (8 micron) during assembling the inside of the fittings and the thread is protected with water repellent grease.
3. Stainless steel fitting can be supplied as an option.

## G: Fittings

1. All fittings included those of the rubber hoses are zinc treated with a thickness of 8 micron, threads are protected with water repellent grease.
2. Stainless steel fittings can be installed as an option.

## H: Flexible hoses

1. The stripped end, before being inserted in the fitting is going to be protected with a silicon application.
2. Stainless steel fitting are offered as an option.

## I: Base bearing (rotation slewing ring)

1. The roller bearing is protected with a seal, grease nipples (Zerks) are provided for the slew bearing greasing.
2. A grease filled protection is put outside the bearing if the bearing has external tooth.

## J: Gear boxes and brakes

1. The rotation components are filled with specific oil, considering the very low wearing they are lubricated for all the life.

## K: Rotation Collector (Continuous rotation)

1. The collector is protected with tight joint against water penetration.
2. The centrepiece (road) is chromed.
3. The extremities of jacket and road are protected with water repellent grease during the assembling.
4. The closing flange is zinc treated.
5. The cover of the electric collector (if any) is zinc treated and filled with specific grease.
6. If there is not electric collector the holes are closed with plugs.

## L: Nuts and washers

1. Except the slew bearing bolts which are made out of high strength steel (over 8.8) all bolts are zinc treated or are made of stainless steel or, in some case, of bronze.
2. All bolts are protected with water repellent grease during the assembling.

## **General protection:**

- The inside of the extensions and all other components, which are optically not important, are protected with specific wax.
- Pinion and slew bearing tooth are protected with the same substance before being greased.
- The head of pins and the nuts are sealed
- All fittings (particularly those of flex hoses), bolts head, nuts and all connections are protected with wax.

## **ELECTRIC SYSTEM:**

ALL ELECTRIC COMPONENTS (BINDING-CLAMPS, SOCKETS, PLUGS, SWITCHES, LEVER BOXES, PRESSURE SWITCHES, ETC.) ARE PROTECTED WITH A SPRAY AGAINST OXIDATION, THE BOXES ARE PROVIDED WITH CORROSION INHIBITOR.