









# Woodfield Abatross

The Woodfield Albatross structurally supported double counterweighted marine loading arm designed around the latest requirements of OCIMF (Design and Construction Specification for Marine Loading Arms), uses a rigid pantograph link system for accurate balance, smooth operation and minimal maintenance.

The Albatross is specifically designed to be used for cryogenic applications along with the additional safety requirements of an Emergency Release System.

Controlled Electro/hydraulically using either a trailing lead or radio pendant the control system can be custom designed to meet the client's requirements.

The Albatross is available in sizes from 6" to 16" diameter with pressure ratings up to 300lbs and operating temperatures from -196°C to +200°C.



#### Standard design features:

- Stainless steel structurally supported product pipe
- Rigid pantograph link
- Minimal maintenance required
- Electro-hydraulic control system
- Radio remote control or trailing lead pendant
- Fully counterbalanced and OCIMF compliant
- Available in sizes 6"- 16" and 150lb or 300lb pressure rating



#### **Optional design features:**

- Emergency release system (ERS)
- Manual or hydraulic quick connect / disconnect coupler (QC/DC)
- Triple swivel support jack
- Ladders and platforms

- Remote lubrication
- Range alarms
- Nitrogen purge
- Vapour recovery
- Product stripping system
- Heat tracing / insulation
- Temperature monitoring
- Constant position monitoring
- Mobile trailer mounted

All of Woodfield's products are designed with the full lifecycle of the equipment in mind.

The Woodfield Albatross requires minimal maintenance and has the ability to replace all product seals without the need for cranes, saving both time and money.

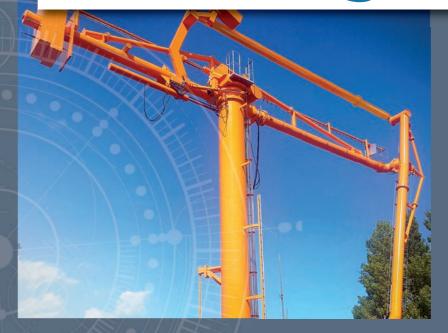


# Woodfield Sea Eagle

The Woodfield Sea Eagle double counterweighted marine loading arm designed around the latest requirements of OCIMF (Design and Construction Specification for Marine Loading Arms), uses a rigid pantograph link system for accurate balance, smooth operation and minimal maintenance.

The Sea Eagle is specifically designed to be used where additional safety requirements of an Emergency Release System is required. Controlled Electro/hydraulically using either a trailing lead or radio pendant the control system can be custom designed to meet the client's requirements.

The Sea Eagle is available in sizes from 6" to 20" diameter with pressure ratings up to 300lbs and operating temperatures from -50°C to +200°C.



#### **Standard design features:**

- Rigid pantograph link
- Minimal maintenance required
- Electro-hydraulic control system
- Radio remote control or trailing lead pendant
- Fully counterbalanced and OCIMF compliant
- Available in sizes 6"- 20" and 150lb or 300lb pressure rating







#### **Optional design features:**

- Emergency release system (ERS)
- Manual or hydraulic quick connect / disconnect coupler (QC/DC)
- Triple swivel support jack
- Ladders and platforms

- Remote lubrication
- Range alarms
- Nitrogen purge
- Vapour recovery
- Product stripping system
- Heat tracing / insulation
- Temperature monitoring
- Constant position monitoring
- Mobile trailer mounted

All of Woodfield's products are designed with the full lifecycle of the equipment in mind.

The Woodfield Sea Eagle requires minimal maintenance and has the ability to replace all product seals without the need for cranes, saving both time and money.



The Woodfield Osprey double counterweighted marine loading arm designed around the latest requirements of OCIMF (Design and Construction Specification for Marine Loading Arms), uses a rigid pantograph link system for accurate balance, smooth operation and minimal maintenance.

The Osprey can be either manually or hydraulically operated using lever hydraulic, trailing lead or radio pendant's.

If the manual version is selected, brackets can be fitted for upgrade to hydraulic operation at a later date. The Osprey is available in sizes from 6" to 20" diameter with pressure ratings up to 300lbs and operating temperatures from -50°C to +200°C.



#### Standard design features:

- Rigid pantograph link
- Minimal maintenance required
- Manual, hydraulic or electro-hydraulic control options
- Fully counterbalanced and OCIMF compliant
- Available in sizes 6" 20" and 150lb or 300lb pressure rating





#### **Optional design features:**

- Manual or hydraulic quick connect disconnect coupler (QC/DC)
- Triple swivel support jack
- Ladders and platforms
- · Remote lubrication

- Range alarm
- Nitrogen purge
- Vapour recovery
- Heat tracing/Insulation
- Constant position monitoring
- Product stripping system
- Mobile trailer mounted

All of Woodfield's products are designed with the full lifecycle of the equipment in mind. The Woodfield Osprey requires minimal maintenance and has the ability to replace all product seals without the need for cranes, saving both time and money.



## Woodfield Fulmar

The Woodfield Apex Counter Weight marine loading arm designed around the latest requirements of OCIMF (Design and Construction Specification for Marine Loading Arms) is manually operated to give easy operation via ropes that enable the operator to connect the marine loading arm to the ship.

This style of marine loading arm is ideal where the client either requires a simple low cost solution or has no power available for a control system.

The Fulmar is available in sizes from 4" to 12" diameter with pressure ratings up to 300lbs and operating temperatures from -50°C to +200°C.



#### Standard design features:

- Simple low cost solution
- No electrical or hydraulic controls required
- Available in sizes 4" 12" and 150lb or 300lb
- Fully balanced and OCIMF compliant
- Low maintenance costs

#### **Optional design features:**

- Manual quick connect disconnect coupler (QC/DC)
- Triple Swivel Support jack
- Ladders and access step
- Remote lubrication
- Range alarm
- Nitrogen purge
- Product Stripping system
- · Mobile trailer mounted





All of Woodfield's products are designed with the full lifecycle of the equipment in mind.

The Woodfield Fulmar requires minimal maintenance and has the ability to replace all product seals without the need for cranes, saving both time and money.





Woodfield Systems Ltd design and supply control systems designed to meet the latest requirements of OCIMF (Design and Construction Specifications for Marine Loading Arms) and client's specific requirements along with local and international regulations.

We offer a range of solutions from simple range alarm monitoring to full electro hydraulic radio control with PLC redundancy incorporating communications to the clients DCS.

- Lever hydraulic control
- Range alarm monitoring
- Electro hydraulic control using the latest PLC technology
- Radio Control system upgrades
- Constant Position Monitoring
- Control system upgrades

**Upgrades & Modifications** 

The requirements of the industry are ever changing, with increasing focus on safety, the environment and efficiency, as well as the need to adapt to changing markets and customer demands.

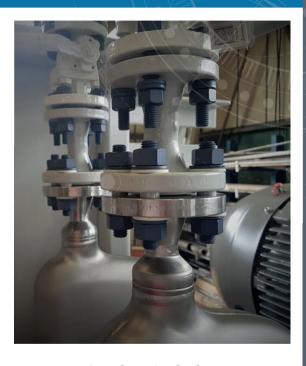
Woodfield systems Ltd understand this and work with our existing customers to find innovative solutions to adapt, modify and upgrade existing equipment to meet these requirements. Possible modifications / services include:

- Engineering Design Study to assess customer requirements
- Installation of radio remote control
- Control system upgrade / modernisation
- Design and supply of modern range alarm system
- Fitting of manual Quick Connect / Dis-connect Coupler (QC/DC)
- Upgrade to hydraulic Quick Connect / Dis-connect Coupler (QC/DC)
- Addition of vapour recovery system
- Addition of Emergency Release System (ERS)
- Addition of modern safety interlocks
- Addition of ladders and inspection platforms



### **Engineering Services**

With many years experience supplying engineering solutions to the Oil & Gas Industry Woodfield Systems Ltd are able to offer a wide range of services to customers



#### **Services Include:**

- Fabrication
- Welding
- Machining
- Painting
- Assembly
- NDE
- Instrumental and Electrical hook up
- Compex Installation and Inspection
- Hydrotesting



#### **Skid Packages**

Working closely with our clients we are able to offer fabrication of bespoke and complex skid and pipework packages, manufactured to client designs and specifications for the Oil and Gas (onshore and offshore), Petrochemical and wider industrial and manufacturing sectors.

Our facility, with 15+ tons of lifting capacity (mobile and overhead), enables the specialist manufacture, welding and assembly of the packages to a high quality, overseen by quality checks throughout the process.

Woodfield are able to support the majority of client welding requirements through coded welder procedures and an in-house European Welding technologist in a wide variety of materials including Carbon Steel, Stainless Steels including Duplex's, Cupro-Nickel, Aluminium, Titanium and other exotic metals.





### **Precision Engineering**

With over 50 years of experience, Woodfield Systems are able to offer machined components for electronic, oil & gas, mechanical, pharmaceutical sectors to name but a few. Using our comprehensive range of horizontal and vertical borers, CNC turning, milling, single spindle and multi-axis sliding head auto machines for complete components, combined with extensive 2nd operation facilities.





We can work with an extensive range of materials including: Stainless Steel, Aluminium, Brass, Steel, Plastics, Nickel Silver and Bronze.

Batch quantities can vary from a single large unit to 1000's of very small units and all are subject to the same thorough quality control, fast turnaround and competitive prices. With the focus on supporting our client, Woodfield Systems Ltd can also offer call off or Kanban systems.















### Refurbishment

Refurbishment of a Marine Loading Arm carried out using Woodfield genuine spare parts and undertaken by Woodfields experienced engineers can greatly extend the life and reliability of the equipment.

Woodfield are able to carry out overhauls of loading arms at customers site, using our network of partners or at Woodfield Systems dedicated loading arm workshop in the UK.

#### **Before**



#### **After**













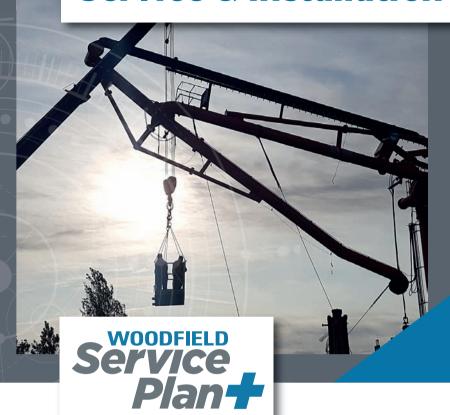
### Service & Installation

Regular maintenance is essential to ensure the reliability of the Marine Loading Arms.

Woodfield have a team of experienced and highly skilled engineers supporting clients around the world to Install, maintain and repair their Marine Loading Arms.







Our Service Plan+ package is tailored to each sites unique requirements and can include:

- Visual inspection of Loading arms / booms and control system
- Lubrication / greasing of swivel joints
- Lubrication of wire ropes (where applicable)
- Insulation test
- Hydraulic oil quality and level check

- Hydraulic oil and filter change
- Function test (inc range alarms)
- Hydrostatic test
- ERS / PERC simulated release
- Compex Installation and Inspection



### **Training**

Woodfield Systems Ltd offers 3 levels of operator and maintenance training to provide site personnel with a good understanding of the safe operation and basic maintenance of their Marine Loading Arm.

Training can be hands on operations training or a fully bespoke package with both practical and classroom training. For more details about our training packages visit our website.



### **Spare Parts**





Woodfield genuine spare parts are recommended to maintain the quality and life of the equipment. As part of our Global Lifecycle Support philosophy we try to ensure that all equipment supplied over years is supported.

Many parts are held in stock and are available for quick deliveries. Our dedicated sales team will be happy to discuss your site requirements, whether this an enquiry for a single part or to discuss management of spare parts and call off systems.

Woodfield Systems Ltd ambient and cryogenic swivels are well proven within the industry and are fully compliant with OCIMF Design and Construction Specifications for Marine Loading Arms.

The swivels utilise a single ball track for most applications with an internal line contact fluid seal and external dust/environmental seal. The design enables ease of servicing, reduces the need for full swivel replacement and limits equipment downtime. Available in flanged or cassette type

In addition to being used within Marine Loading Arms, the swivels can also be used for onshore or offshore loadings systems.



#### Features:

- Suitable for applications from -196°C to +200°C
- Ambient available from 3" to 47"
- Cryogenic available from 6" to 16"
- Different styles to suit all applications