# MARINE & OFFSHORE CRANES


AMCO VEBA MARINE HYVA GROUP

# CUSTOMER SATISFACTION THE CORE OF OUR DNA

## BUILT FOR MARINE ENVIRONMENT

**AMCO VEBA MARINE** is the dedicated marine crane brand of **Hyva Group**. It is recognized worldwide as a leader in the production foldable marine cranes.
We design, manufacture and support the most extensive range of f telescopic and articulated cranes expressly created for marine environments and destined for onshore, shipboard and offshore installations.
Founded in 1980, **AMCO VEBA MARINE** is based in Poviglio, Italy, in Reggio Emilia province, **AMCO VEBA MARINE** fully invested in the key success elements of Hyva Group including the quality and innovative nature of the company's solutions and the excellence of its customer support.


**LEAN**
MANUFACTURING

**WORLDWIDE**
PRESENCE

FAST DELIVERY
**TIMES**

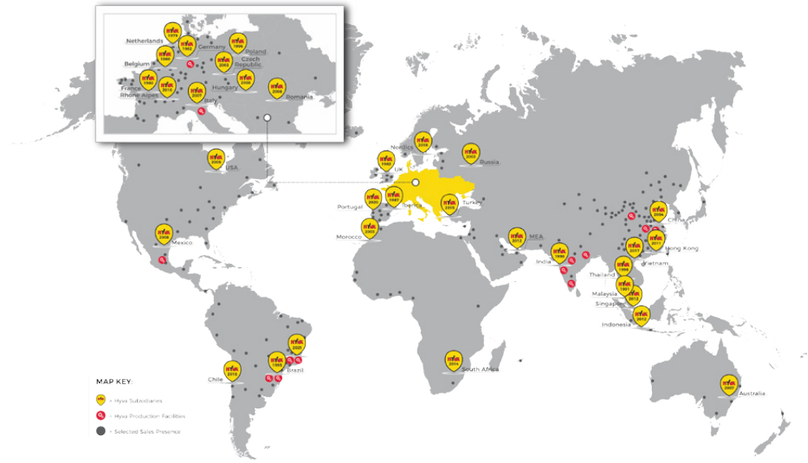
# BEING PART OF HYVA A WORLDWIDE SOLUTIONS PROVIDER

## WE MOVE YOUR WORLD

Service quality is a fundamental part of **Hyva's** business philosophy.
With operations in more than 110 countries, more than 30 subsidiaries, 14 production plants and over 3.500 employees worldwide, the company operates one of most extensive customer support networks in the industry. It has earned **Hyva** an international reputation for excellence in customer care.

Our entrepreneurial culture and commitment to innovation and quality has established **AMCO VEBA MARINE** as a well-known and respected brand around the world.

Personnel safety and respect for the environment are primary concerns for **AMCO VEBA MARINE**.
To this end, significant investments have been made in facilities and equipment to foster environmental sustainability.




# OUR CORE VALUES

### CUSTOMER EXCELLENCE
Hyva doesn't simply sell products; we sell a continued customer experience that sets us apart as the first choice for our partners. We add value to our customers' businesses by listening to their needs and prioritizing innovative solutions.

### TRUST & RESPECT
Trust and respect are the cornerstones of our relationships with partners and employees around the world. Our ongoing partnerships inspire trust and respect through open communication, authenticity and valuing diverse opinions.

### INTEGRITY
We are real, consistent, transparent and fair. Whether launching new initiatives or supporting proven strategies, our people take ownership and accountability for everything they do, following through on our promises without sacrificing quality.

### PASSION
At the root of everything we do is our passion to move boundaries and make a positive difference through our work.
We are dedicated, enthusiastic and proud of our energy and passion to connect communities worldwide.

### INNOVATIVE & ENTREPRENEURIAL SPIRIT
From our first steps to moving boundaries worldwide, experience and expertise is fueled by the innovation and entrepreneurial spirit we were founded upon and which makes us a global leader today.

### SOCIAL RESPONSIBILITY
We are committed to responsible manufacturing, adhering to global safety practices and building lasting partnerships in the communities we serve, within Amco Veba and anywhere our products are used.

# MARINE PLANT IN ITALY

# CREATORS OF INNOVATIVE SOLUTIONS

## RESEARCH & DEVELOPMENT IS OUR FORCE

Our in-house R&D team develops breakthrough, mechanically and electrically integrated cranes that change the way companies do business.

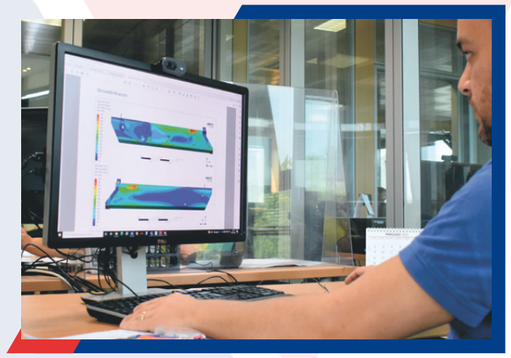
Every day, **AMCO VEBA MARINE** strives to exceed conventional limits and to deliver reliable and efficient solutions capable of supporting our customers' growth.

Our engineering group partners with customers to develop products that limit downtime, increase efficiency and reduce failure risk with a view to growing their businesses"

Collaboration with universities and research centers gives us the opportunity to work with brilliant young minds on new approaches to product development and improvement.

Each crane component is designed using state-of-the-art 3D CAD Systems and verified with ANSYS Software FEM technique (Finite Element Analysis) to verify structural integrity.

Our cranes are designed in accordance with European standards such as EN12999/EN13001. We also offer a wide range of products designed according to major International norms and marine Classification Society Regulations like ABS, BV, DNV, and GL.



**FLEXIBLE** APPROACH

LEADING **MARKET** TRENDS

**CREATING** SOLUTIONS FOR TOMMORROW

# NEW PRODUCT DEVELOPMENT

Our concept to field approach assures that every solution is expertly designed with cutting-edge technology and extensive structural verification techniques to meet precise specifications, while prototypes are rigorously field-tested in real, day-to-day operating conditions to guarantee operational durability and effectiveness. Our commitment to your success extends beyond delivery through a series of comprehensive training and feedback programs that prepare your team to make the most of our purpose-built solutions.

### 3D DEVELOPMENT

Our research and development department uses a state-of-the-art 3D CAD system to model each individual component of the crane and assess adequate functional geometry for all movements.

### FINITE ELEMENT METHOD (FEM)

Finite Element Method (FEM) facilitates the detailed analysis of the crane's structure as well as loading conditions and helps achieve strength-to-weight optimisation at the design stage.

### PROTOTYPE PRODUCTION

All components are thoroughly assessed for compliance with design specifications before the prototype is assembled in a dedicated area. The entire process is documented so that it can be optimised for the production phase.

### FIELD TESTS

Expert users test the crane in real, day-to-day operating conditions, directly communicating any feedback to our team for further enhancements. Cranes are only launched once the extensive field testing programme is complete.

### TESTED IN ALL CONDITIONS

The prototype is fatigue-tested in different positions and working conditions for up to 600,000 loading cycles, simulating 10 years of regular use, while being computer-monitored to detect any operational inconsistencies.





# EVOLUTE AND SUSTAINABLE MANUFACTURING

**Hyva** produces globally.
To serve customers most effectively we operate in 14 manufacturing plants around the world. Our plants in the Nederland, Germany, Italy, Brazil, India and China produce a wide array of products and employ a truly efficient distribution network.

**AMCO VEBA MARINE** cranes are produced at our Hyva Capital Equipment location in Northern Italy

We have made huge investments in all our production lines utilizing the most advanced equipment, assuring safety for our employees exceptional product reliability for our customers. Processes are guided by LEAN manufacturing management systems like KANBAN methodology and Kaizen.

**AMCO VEBA MARINE** is fully committed to a more sustainable world and it's ISO 14001:2015 certified.

Every employee pays the closest attention to even the smallest details to ensure that our customers benefit from our unrivaled dedication.


# SHARING THE VALUE OF OUR WORK WITH YOU

Our team is fully dedicated to continuous improvement in the fields of quality, safety and the environment, across the entire value chain, from the smallest supplier to the end customer.

**AMCO VEBA MARINE** management systems are certified to ISO 9001:2015 and ISO 14001:2015 while our products are covered with international certifications.
The demonstrated superior quality is the result of more than 40 years of technical expertise, development and production to the highest quality standards in components and process.

Designed for on-and off-shore marine applications including general loading/ unloading operations, fishing, aquaculture, marine equipment supply, crew transfer vessels, emergency & rescue, energy, aquatic research and many more.

Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

H.C.E SRL

Via A. Einstein 4, 42028 Poviglio - RE, Italy

has been approved by Lloyd's Register to the following standards:

ISO 14001:2015

Approval number(s): ISO 14001 – 0029011

The scope of this approval is applicable to:
Design, Manufacture and Service of hydraulic powered loader cranes for trucks and for trucks and marine applications. Manufacture and Service of hoist/loader and roller crane.

Daniel Oliva Marcilio de Sousa
Area Operations Manager - South Europe
Issued by: Lloyd's Register Quality Assurance Italy Srl
for and on behalf of: Lloyd's Register Quality Assurance Limited

Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

Amco Veba Marine
(H.C.E. S.r.l. Unico Socio)

Via Einstein, 4/6, 42028 Poviglio, Italy

has been approved by Lloyd's Register to the following standards:

ISO 9001:2015

Approval number(s): ISO 9001 – 0023911-001

This certificate forms part of the approval identified by approval number: 0023911

The scope of this approval is applicable to:
Design, manufacture, sales, trade under own brand name and after-sales service for hydraulic-powered loader cranes for marine applications.

Paul Graaf
Area Operations Manager, Europe
Issued by: Lloyd's Register Nederland B.V.
for and on behalf of: Lloyd's Register Quality Assurance Limited

# MULTI LEVEL PROTECTION PROGRAM: MLP

**Amco Veba's MLP** Program ensures all electrical and structural components, including crane carpentry, hydraulic cylinder rods, fittings, hoses and piping, pins, hydraulic fittings, bolts, junction boxes are able to meet the rigorous demands of our customer's marine applications.

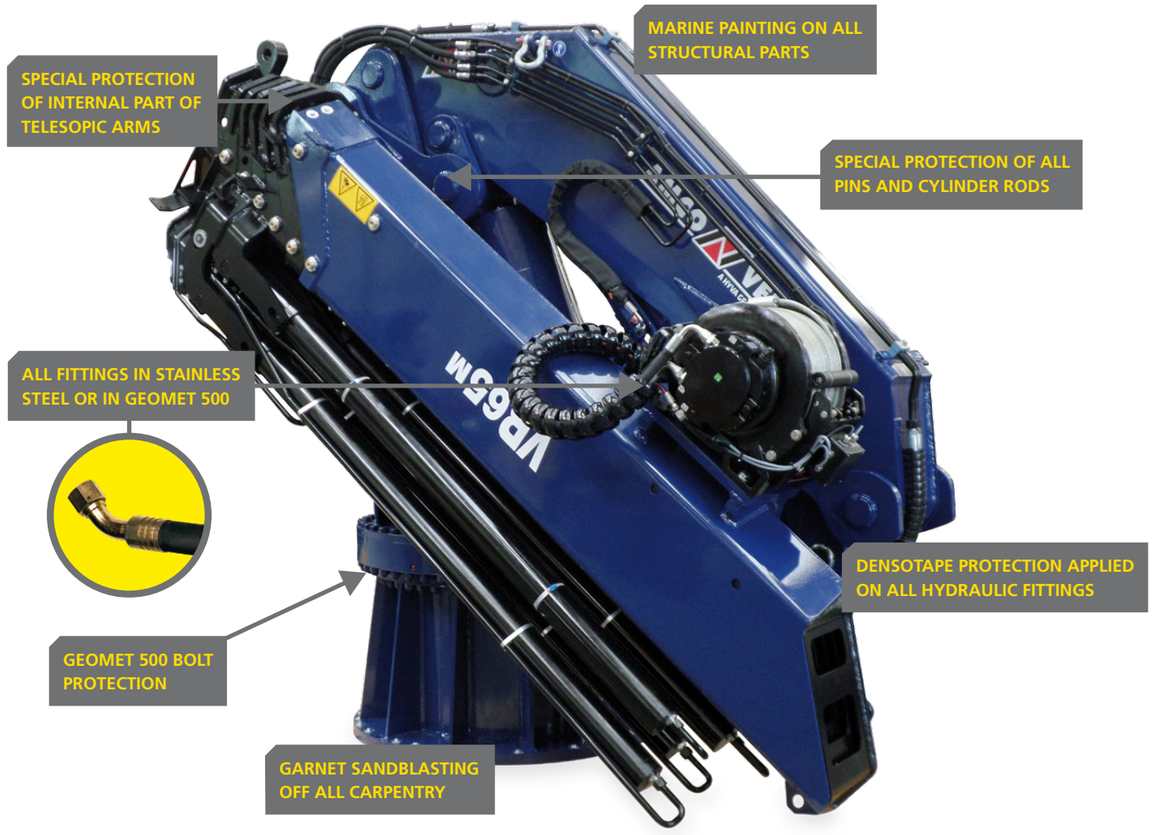
MLP - PROGRAM
MULTI LEVEL PROTECTION
M L2

Because we understand the cost impact of service and downtime, all parts have been designed and selected for easy ease of maintenance and each crane component selected and designed for long life.

AMCO VEBA"S MARINE MLP PROGRAM encourages our customers to work with our field representatives and engineers
In selecting the most suitable crane protection level for the environment in which the crane will operated.

From the softer ambient conditions till the most severe and harsh humid salt ambient.

## THE MLP PROGRAM INCLUDES 4 DIFFERENT PROTECTION LEVELS




### F LO

**BASIC PROTECTION LEVEL**
Mostly for Inland application.
Perfect for INLAND WATERS installations or boats sailing solely on internal channels, rivers and lakes.

### F L1

**HEAVY DUTY BASIC PROTECTION LEVEL**
Suitable for MORE SEVERE INLAND APPLICATIONS.
Grants a longer lifetime and can be used in more severe applications but always in environment without high water salinity, mainly on river, lakes and inland waters.

### M L2

**MARINE PROTECTION LEVEL**
Suitable for MARINE APPLICATIONS with salt atmosphere and high salinity. The marine protection in respect of ISO12944 C5M is effective on all structural parts and all crane components granting 5 - 15 years corrosion resistance in fix port installation or installed on boat sailing on sea.

### M L3

**HEAVY DUTY MARINE PROTECTION LEVEL**
Suitable for HEAVY DUTY MARINE APPLICATION with presence of high humidity and high salinity and very harsh marine conditions. To be adopted for the higher severe marine applications on offshore vessel, boats and offshore platform.

**THERMAL METAL SPRAY PROCESS**
Additional protection process available on **M L2** and **M L3**.
Thermal Metal spraying is a surface coating process where a liquid metal alloy (zinc/aluminum) is sprayed onto the surface of crane carpentry. It provide the higher level of corrosion protection to ferrous metals and improve wear resistance in respect of ISO 12944 CX level granting more of 15 years lifetime.


# APPLICATIONS - OUR CRANES AT WORK

AMCO VEBA MARINE Cranes are operating across the globe in a variety of applications in the marine environment - both on vessels and boats or in quay side installations.

## ACQUACULTURE
Feed barges, Service vessels, Catamarans

## FISHING
Fishing boats, Fishing harbours

## TUGS AND WORKBOATS
Tug boats, Multicats, Utility support vessels, Research vessels, Oil spill response vessels

## WIND PARKS
Crew transfer vessels, Wind farm vessels

## FERRY, CRUISE AND YACTH
Ferry boats, Landing crafts

## RIVER AND LAKES
Pontoons, River cleaning workboats, Barges, Dredgers

## QUAY SIDE
Harbours, Marinas

## NAVY AND COASTGUARD
Patrol boats, Pilot boats, Cutter vessels, Firefighting boats

# CRANE LINES OVERVIEW

The **Amco Veba Marine Crane** product line includes mini telescopic, fully foldable, fully foldable with power link and fully foldable with slewing ring.

Our cranes are designed for all marine applications including fixed onshore, inland water (river, lake or internal channels) and marine & offshore vessels or offshore platforms.

**NEW GENERATION** crane models are fully foldable with rack and pinion or slewing bearing rotation systems

Our New Generation families are the result of a design/build process creating cranes with industry-leading performance, simplicity of use and maintenance and the highest level of modularity, features and accessories. The most ergonomic working positions and user-friendly interfaces combine to deliver accurate and safe operation with reduced working risk.

**Innovative features that protect the crane from harsh marine environments:**

- Multi Level Protection **(MLP)** program
- **Denso tape:** standard on L2 protection level, all hydraulic fittings are wrapped with a manually-applied petrolatum protective tape for maximum resistance to salt/marine air.
- **Polymer covers:** ABS LAC700 composite material covers protect the most susceptible hydraulic components such as valve banks, gear motors, and swivel joints from water, UV rays and other forms of environmental agents.
- **Hydraulic line routing:** hoses and pipes are routed inside the column and booms to guarantee a longer life
- **Centralized Greasing System:** making regular maintenance easier.

**Additional Advanced Features**

- **Sprint Generation System (SGS):** increases the speed of extensions without compromising safety
- **Soft Descent Drive (SDD):** reduces oscillation and assures perfect control
- **Double linkage:** to improve versatility in many different working positions
- Soft closing retraction to reduce oscillation of the load during retraction
- High pressure filter
- Moment load limiter device
- A wide range of radio controls
- Rotating operator Stand-Up Platform.


## MINI TELESCOPIC CRANES

**SMALL MONO-BOOM CRANES WITH WORM GEAR SLEWING ROTATION SYSTEM**

- A light, compact, hi-tech crane, and user-friendly
- It represents the ideal solution for installations where space-saving is a must
- 1 - 5 Tm class
- Telescopic and foldable boom


## TELESCOPIC CRANES

**MONO-BOOM CRANES WITH DOUBLE RACK & PINION ROTATION SYSTEM**

- The ideal solution when rapidity in operation is needed
- Powerful and compact, superior performances and quick operation
- 4 - 15 Tm class
- Telescopic and foldable boom


## FULLY FOLDABLE CRANES

**ARTICULATING CRANES WITH DOUBLE RACK & PINION ROTATION SYSTEM**

- Designed to keep the torque momentum constant and reduce the pendulum effect of the load
- A compact and light-weight design makes them ideal for all vessels where reduced compact dimension is mandatory
- 3 - 28 Tm class
- Knuckle Telescopic and foldable boom


## FULLY FOLDABLE CRANES WITH POWER LINK

**ARTICULATING CRANES WITH DOUBLE RACK & PINION ROTATION SYSTEM AND DOUBLE LINKAGE**

- The Power Link system creates a mechanical advantage in provideing consistent force in all working angles of the boom
- Linkage increases power, enhances performance and allows a negative lift angle
- 20 - 50 Tm class
- Knuckle, telescopic and foldable boom


## FULLY FOLDABLE CRANES WITH SLEWING BEARING

**ARTICULATING CRANES WITH SLEWING BEARING ROTATION SYSTEM AND DOUBLE LINKAGE**

- The ideal solution for highly demanding applications
- Top Lifting class cranes with unlimited rotation during operation, space saving when not in use
- Knuckle, telescopic and foldable

# 600T LINE
## MINI TELESCOPIC CRANES

### COMPACT AND LIGHTWEIGHT

Small telescopic and foldable cranes with a wide range of accessories such as radio, winch, powerpack and extra-functions for tool use.

Compact and light weight, they are ideal for small vessels such as pilot boats, fishing boats, landing craft and oil spill response vessels. Easy to install on light structural materials such as aluminium or fiberglass.


## FEATURES

- 1- 5 tm class
- Worm and gear rotation system completely enclosed in cast housing with oil lubrication bath
- Counterbalance valves directly mounted on each cylinder
- Hexagonal shaped telescopic booms are strong and self-aligning, offering great load handling control
- Control valve plumbed in. Shipped demounted with sufficient hose lenght for easy installation
- ABS protective cover on controls

## OPTIONS

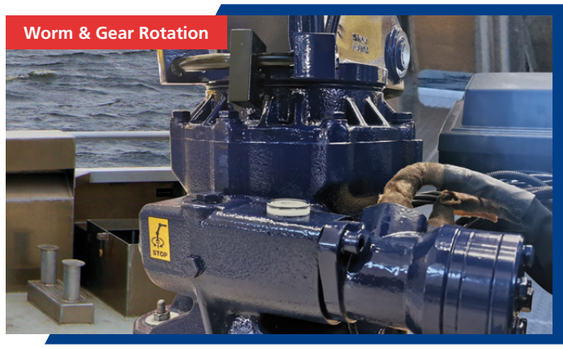
- Large winch range
- Radio Remote Control (RRS)

## WORM AND GEAR ROTATION

Completly enclosed cast housing with oil lubrication bath.

## TYPICAL APPLICATIONS

FISH FARMING · FISHING · TUGS AND WORKBOATS · QUAY SIDE · NAVY · COAST GUARD · LAKES & RIVERS · WIND PARKS





## TECHNICAL DATA - MINI TELESCOPIC CRANES

| Crane model | No. of extensions | | Boom length closed and extended (mt) 1 - 1.5 | 1.5 - 2 | 2 | 3 | 4 | 5 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 601T | 1S | m | 1,08 | 1,9 | | | | | 1.154 | 920 | 145 | 328 | 180 | 5 |
| | | kg | 860 | 485 | | | | | | | | | | |
| | 2S | m | 1,15 | 1,97 | 2,79 | | | | | 902 | 164 | | | |
| | | kg | 800 | 450 | 310 | | | | | | | | | |
| 602T | 1S | m | 1,08 | 1,9 | | | | | 1.544 | 1.250 | 174 | 335 | 160 | 8 |
| | | kg | 1.175 | 665 | | | | | | | | | | |
| | 2S | m | 1,15 | 1,97 | 2,79 | | | | | 1.240 | 193 | | | |
| | | kg | 1.100 | 630 | 435 | | | | | | | | | |
| 603T | 1S | m | 1,25 | | 2,17 | | | | 2.140 | 1.960 | 216 | 335 | 160 | 8 |
| | | kg | 1.590 | | 920 | | | | | | | | | |
| | 2S | m | 1,33 | | 2,25 | 3,18 | | | | 1.937 | 240 | | | |
| | | kg | 1.485 | | 870 | 615 | | | | | | | | |
| | 3S | m | 1,4 | | 2,32 | 3,25 | 4,17 | | | 1.744 | 262 | | | |
| | | kg | 1.270 | | 745 | 520 | 405 | | | | | | | |
| 604T | 1S | m | 1,33 | | 2,26 | | | | 3.290 | 2.680 | 263 | 335 | 160 | 10 |
| | | kg | 2.055 | | 1.210 | | | | | | | | | |
| | 2S | m | 1,39 | | 2,32 | 3,25 | | | | 2.638 | 295 | | | |
| | | kg | 1.935 | | 1.150 | 815 | | | | | | | | |
| | 3S | m | 1,48 | | 2,4 | 3,33 | 4,25 | | | 2.656 | 321 | | | |
| | | kg | 1.830 | | 1.095 | 775 | 600 | | | | | | | |
| 605T | 1S | m | 1,44 | | 2,5 | | | | 4.330 | 3.390 | 301 | 395 | 175 | 10 |
| | | kg | 2.390 | | 1.380 | | | | | | | | | |
| | 2S | m | | 1,52 | 2,58 | 3,64 | | | | 3.362 | 337 | | | |
| | | kg | | 2.255 | 1.310 | 925 | | | | | | | | |
| | 3S | m | | 1,59 | 2,65 | 3,71 | 4,77 | | | 3.322 | 370 | | | |
| | | kg | | 2.130 | 1.250 | 875 | 675 | | | | | | | |
| | 4S | m | | 1,67 | 2,73 | 3,79 | 4,85 | 5,91 | | 3.293 | 399 | | | |
| | | kg | | 2.010 | 1.185 | 880 | 635 | 520 | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

### HOW TO USE THE TABLE FOR CRANE SELECTION

**EXAMPLE:**

**Select a crane with requested capacity of 600 kg at 4 mt.**

1) Select the column related to the desidered max. length of the fully extended crane (m). In this case column 4 (4.25 m).
2) Scroll down and chose the crane model with the lifting capacity that is closer to the requested one (kg).

**In this case crane model 604T with 600 kg at 4.25 mt**

| Crane model | No. of extensions | | Boom length closed and extended (mt) 1 - 1.5 | 1.5 - 2 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|
| 604T | 1S | m | 1,33 | | 2,26 | | |
| | | kg | 2.055 | | 1.210 | | |
| | 2S | m | 1,39 | | 2,32 | 3,25 | |
| | | kg | 1.935 | | 1.150 | 815 | |
| | 3S | m | 1,48 | | 2,4 | 3,33 | 4,25 |
| | | kg | 1.830 | | 1.095 | 775 | 600 |

# 800T LINE
## TELESCOPIC CRANES

### STRONG AND FAST

Medium-size range of Telescopic cranes. Ideal for jobs where speed is important and a winch may be required, as in the fishing industry or quay side operations.

Base with powerful double rack and pinion system. Powerful rotation system specially designed for marine conditions.


## FEATURES

- 4 - 18 tm class
- Base with double rack and pinion system. Powerful rotation system especially designed for marine conditions
- Stationary base for easy installation on vessel
- Counterbalance valves directly mounted on each cylinder
- Hexagonal shaped telescopic booms are strong and self-aligning, offering great load handling control
- Control valve plumbed in. Shipped demounted with sufficient hose lenght for easy installation

## OPTIONS

- Radio Remote Control (RRS and/or RDC)
- Winch

## DOUBLE RACK AND PINION

This system increases strength, reliability and rotational torque for operation in unstable marine conditions.

## TYPICAL APPLICATIONS

FISH FARMING · FISHING · TUGS AND WORKBOATS · QUAY SIDE · LAKES & RIVERS



## TECHNICAL DATA - TELESCOPIC CRANES

| Crane model | No. of extensions | | Boom length closed and extended (mt) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V805T | 2S | m | 1,85 | | 3,2 | 4,57 | | | | | | 4.740 | 3.780 | 520 | 380 | 220 | 16 |
| | | kg | 2.080 | | 1.190 | 830 | | | | | | | | | | | |
| | 3S | m | 1,95 | | 3,3 | 4,67 | | 6,03 | | | | | 3.692 | 570 | | | |
| | | kg | 1.930 | | 1.110 | 765 | | 585 | | | | | | | | | |
| | 4S | m | | 2,05 | 3,4 | 4,77 | | 6,13 | 7,5 | | | | 3.560 | 615 | | | |
| | | kg | | 1.770 | 1.020 | 700 | | 525 | 425 | | | | | | | | |
| V807NT | 2S | m | | 2,04 | 3,6 | | 5,15 | | | | | 8.030 | 6.610 | 680 | 387 | 260 | 18 |
| | | kg | | 3.300 | 1.860 | | 1.290 | | | | | | | | | | |
| | 3S | m | | 2,1 | 3,67 | | 5,25 | 6,8 | | | | | 6.486 | 740 | | | |
| | | kg | | 3.150 | 1.770 | | 1.220 | 930 | | | | | | | | | |
| | 4S | m | | 2,2 | 3,78 | | 5,35 | 6,9 | | 8,45 | | | 6.409 | 800 | | | |
| | | kg | | 2.970 | 1.680 | | 1.140 | 860 | | 690 | | | | | | | |
| V809T | 2S | m | | 2,55 | | 4,25 | | 6 | | | | 10.300 | 8.250 | 995 | 395 | 250 | 20 |
| | | kg | | 3.300 | | 1.930 | | 1.350 | | | | | | | | | |
| | 3S | m | | 2,8 | | 4,5 | | 6,25 | | 8 | | | 8.240 | 1.075 | | | |
| | | kg | | 3.000 | | 1.770 | | 1.230 | | 940 | | | | | | | |
| | 4S | m | | 2,55 | | 4,25 | | 6 | 7,75 | | 9,95 | | 8.004 | 1.140 | | | |
| | | kg | | 3.200 | | 1.810 | | 1.215 | 910 | | 725 | | | | | | |
| V811T | 2S | m | | 2,55 | | 4,25 | | 6 | | | | 12.700 | 10.110 | 995 | 395 | 295 | 20 |
| | | kg | | 4.060 | | 2.400 | | 1.670 | | | | | | | | | |
| | 3S | m | | 2,8 | | 4,5 | | 6,25 | | 8 | | | 10.025 | 1.075 | | | |
| | | kg | | 3.650 | | 2.200 | | 1.540 | | 1.190 | | | | | | | |
| | 4S | m | | 2,55 | | 4,25 | | 6 | 7,75 | | 9,95 | | 9.881 | 1.140 | | | |
| | | kg | | 3.950 | | 2.275 | | 1.550 | 1.170 | | 940 | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# V800 LINE
## FULLY FOLDABLE CRANES

### FLEXIBLE AND SMART

Designed to keep constant the torque momentum reducing the pendulum effect of the load.

A very compact and light design makes them ideal for all vessels where reduced compact power is mandatory.


## FEATURES

- 3 - 28 tm class
- Base with double rack and pinion system. Powerful rotation system especially designed for marine conditions
- Counterbalance valves directly mounted on each cylinder
- Hexagonal shaped telescopic booms with strong capacity and self-aligning, offering great load handling control
- Control valve plumbed in. Shipped demounted with sufficient hose lenght for easy installation

## OPTIONS

- Radio Remote Control (RDC)
- Winch

## DOUBLE RACK AND PINION

This system increases strength, reliability and precision where the crane requires extra torque and operate in unstable conditions.

## TYPICAL APPLICATIONS

FISH FARMING · FISHING · TUGS AND WORKBOATS · FERRY, CRUISE AND YACTH

NAVY · COAST GUARD · LAKES & RIVERS · WIND PARKS



# TECHNICAL DATA - FULLY FOLDABLE CRANES (1)

| Crane model | No. of extensions | | Boom length closed and extended (mt) 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | 12 | 13 | 14 | 15 | 16 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V803N | 1S | m | 3,20 | 4,55 | | | | | | | | | | | | | | 3.400 | 2.550 | 415 | 370 | 175 | 8 |
| | | kg | 810 | 570 | | | | | | | | | | | | | | | | | | | |
| | 2S | m | 3,30 | 4,65 | | 6,00 | | | | | | | | | | | | | 2.450 | 450 | | | |
| | | kg | 755 | 525 | | 405 | | | | | | | | | | | | | | | | | |
| | 3S | m | 3,40 | 4,75 | | 6,05 | 7,40 | | | | | | | | | | | | 2.350 | 480 | | | |
| | | kg | 710 | 490 | | 370 | 300 | | | | | | | | | | | | | | | | |
| V804N | 1S | m | 3,62 | 4,98 | | | | | | | | | | | | | | 5.322 | 3.800 | 540 | 380 | 235 | 16 |
| | | kg | 1.060 | 770 | | | | | | | | | | | | | | | | | | | |
| | 2S | m | 3,67 | | 5,03 | 6,39 | | | | | | | | | | | | | 3.550 | 590 | | | |
| | | kg | 990 | | 710 | 550 | | | | | | | | | | | | | | | | | |
| | 3S | m | 3,77 | | 5,13 | 6,49 | 7,85 | | | | | | | | | | | | 3.450 | 640 | | | |
| | | kg | 930 | | 650 | 500 | 410 | | | | | | | | | | | | | | | | |
| | 4S | m | 3,87 | | 5,23 | 6,59 | 7,59 | | 9,31 | | | | | | | | | | 3.300 | 685 | | | |
| | | kg | 870 | | 600 | 450 | 360 | | 300 | | | | | | | | | | | | | | |
| V805 | 1S | m | 3,51 | 4,87 | | | | | | | | | | | | | | 6.060 | 4.300 | 540 | 380 | 265 | 16 |
| | | kg | 1.250 | 900 | | | | | | | | | | | | | | | | | | | |
| | 2S | m | 3,61 | 4,97 | | 6,33 | | | | | | | | | | | | | 4.150 | 590 | | | |
| | | kg | 1.170 | 830 | | 650 | | | | | | | | | | | | | | | | | |
| | 3S | m | 3,71 | | 5,07 | 6,43 | 7,79 | | | | | | | | | | | | 4.000 | 640 | | | |
| | | kg | 1.100 | | 770 | 590 | 480 | | | | | | | | | | | | | | | | |
| | 4S | m | 3,81 | | 5,17 | 6,53 | 7,89 | | 9,25 | | | | | | | | | | 3.850 | 685 | | | |
| | | kg | 1.030 | | 710 | 540 | 430 | | 360 | | | | | | | | | | | | | | |
| V806N | 1S | m | 3,88 | | 5,44 | | | | | | | | | | | | | 8.180 | 6.500 | 720 | 387 | 245 | 20 |
| | | kg | 1.700 | | 1.210 | | | | | | | | | | | | | | | | | | |
| | 2S | m | 3,98 | | 5,55 | | 7,10 | | | | | | | | | | | | 6.300 | 790 | | | |
| | | kg | 1.610 | | 1.130 | | 875 | | | | | | | | | | | | | | | | |
| | 3S | m | | 4,05 | 5,60 | | 7,18 | 8,74 | | | | | | | | | | | 6.050 | 850 | | | |
| | | kg | | 1.520 | 1.055 | | 800 | 650 | | | | | | | | | | | | | | | |
| | 4S | m | | 4,15 | 5,70 | | 7,30 | 8,83 | | 10,40 | | | | | | | | | 5.800 | 900 | | | |
| | | kg | | 1.440 | 980 | | 735 | 585 | | 490 | | | | | | | | | | | | | |
| V807N | 1S | m | 3,94 | | 5,50 | | | | | | | | | | | | | 8.640 | 7.050 | 735 | 387 | 265 | 20 |
| | | kg | 1.820 | | 1.280 | | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,00 | 5,56 | | 7,12 | | | | | | | | | | | | 6.750 | 815 | | | |
| | | kg | | 1.720 | 1.210 | | 935 | | | | | | | | | | | | | | | | |
| | 3S | m | | 4,05 | 5,60 | | 7,20 | 8,76 | | | | | | | | | | | 6.500 | 875 | | | |
| | | kg | | 1.635 | 1.135 | | 860 | 700 | | | | | | | | | | | | | | | |
| | 4S | m | | 4,18 | 5,70 | | 7,30 | 8,86 | | 10,40 | | | | | | | | | 6.350 | 935 | | | |
| | | kg | | 1.550 | 1.060 | | 790 | 630 | | 525 | | | | | | | | | | | | | |
| V808N | 1S | m | 3,95 | | 5,50 | | | | | | | | | | | | | 9.490 | 7.750 | 765 | 387 | 285 | 29 |
| | | kg | 2.000 | | 1.420 | | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,00 | 5,56 | | 7,15 | | | | | | | | | | | | 7.550 | 845 | | | |
| | | kg | | 1.920 | 1.350 | | 1.040 | | | | | | | | | | | | | | | | |
| | 3S | m | | 4,08 | 5,65 | | 7,20 | 8,76 | | | | | | | | | | | 7.300 | 905 | | | |
| | | kg | | 1.820 | 1.270 | | 965 | 785 | | | | | | | | | | | | | | | |
| | 4S | m | | 4,18 | 5,75 | | 7,30 | 8,86 | | 10,45 | | | | | | | | | 7.050 | 965 | | | |
| | | kg | | 1.720 | 1.180 | | 890 | 710 | | 595 | | | | | | | | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# TECHNICAL DATA - FULLY FOLDABLE CRANES (2)

| Crane model | No. of extensions | | Boom length closed and extended (mt) 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | 12 | 13 | 14 | 15 | 16 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V810 | 1S | m | | 4,20 | 5,94 | | | | | | | | | | | | | 13.300 | 9.300 | 1.080 | 395 | 290 | 40 |
| | | kg | | 2.280 | 1.590 | | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,20 | 5,94 | | 7,74 | | | | | | | | | | | | 8.850 | 1.160 | | | | |
| | | kg | | 2.180 | 1.500 | | 1.130 | | | | | | | | | | | | | | | | |
| | 3S | m | | 4,30 | | 6,04 | 7,84 | | 9,70 | | | | | | | | | | 8.600 | 1.260 | | | | |
| | | kg | | 2.050 | | 1.370 | 1.020 | | 810 | | | | | | | | | | | | | | |
| | 4S | m | | 4,40 | | 6,14 | 7,95 | | 9,80 | | 11,80 | | | | | | | | 8.300 | 1.350 | | | | |
| | | kg | | 1.930 | | 1.280 | 930 | | 725 | | 590 | | | | | | | | | | | | |
| | 5S | m | | 4,48 | | 6,24 | | 8,05 | 9,90 | | 11,75 | | | 13,75 | | | | | 8.000 | 1.420 | | | | |
| | | kg | | 1.820 | | 1.190 | | 850 | 645 | | 520 | | | 435 | | | | | | | | | |
| V811NG | 1S | m | | 4,10 | 5,79 | | | | | | | | | | | | | 12.460 | 10.400 | 995 | 425 | 310 | 40 radio<br>20 no radio |
| | | kg | | 2.580 | 1.820 | | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,11 | 5,79 | | 7,48 | | | | | | | | | | | | 10.000 | 1.100 | | | |
| | | kg | | 2.475 | 1.720 | | 1.325 | | | | | | | | | | | | | | | | |
| | 3S | m | | 4,19 | 5,87 | | 7,56 | | 9,36 | | | | | | | | | | 9.400 | 1.200 | | | |
| | | kg | | 2.285 | 1.565 | | 1.185 | | 950 | | | | | | | | | | | | | | |
| | 4S | m | | 4,27 | 5,95 | | 7,64 | | 9,44 | | 11,24 | | | | | | | | 9.150 | 1.290 | | | |
| | | kg | | 2.170 | 1.475 | | 1.100 | | 865 | | 715 | | | | | | | | | | | | |
| V812 | 1S | m | | 4,34 | | 6,14 | | | | | | | | | | | | | 15.000 | 11.600 | 1.285 | 380 | 310 | 25 |
| | | kg | | 2.730 | | 1.910 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,42 | | 6,23 | | 8,10 | | | | | | | | | | | 11.050 | 1.415 | | | |
| | | kg | | 2.550 | | 1.800 | | 1.360 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,51 | | 6,31 | | 8,18 | | 10,16 | | | | | | | | | 10.750 | 1.535 | | | |
| | | kg | | 2.430 | | 1.700 | | 1.260 | | 1.000 | | | | | | | | | | | | | |
| | 4S | m | | 4,60 | | 6,40 | | 8,27 | | 10,25 | | | 12,23 | | | | | | 10.500 | 1.635 | | | |
| | | kg | | 2.320 | | 1.580 | | 1.160 | | 890 | | | 730 | | | | | | | | | | |
| | 5S | m | | 4,68 | | 6,48 | | 8,35 | | 10,33 | | | 12,31 | | 14,31 | | | | 10.300 | 1.705 | | | |
| | | kg | | 2.250 | | 1.535 | | 1.110 | | 835 | | | 665 | | 545 | | | | | | | | |
| V813NG | 1S | m | | 4,54 | | 6,34 | | | | | | | | | | | | | 15.570 | 12.150 | 1.285 | 425 | 285 | 60 radio<br>30 no radio |
| | | kg | | 2.740 | | 1.940 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,54 | | 6,34 | | 8,14 | | | | | | | | | | | 11.600 | 1.405 | | | |
| | | kg | | 2.610 | | 1.810 | | 1.395 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,62 | | 6,42 | | 8,22 | | 10,20 | | | | | | | | | 11.200 | 1.520 | | | |
| | | kg | | 2.475 | | 1.690 | | 1.280 | | 1.015 | | | | | | | | | | | | | |
| | 4S | m | | 4,71 | | 6,51 | | 8,31 | | 10,29 | | | 12,27 | | | | | | 11.000 | 1.610 | | | |
| | | kg | | 2.355 | | 1.585 | | 1.175 | | 910 | | | 755 | | | | | | | | | | |
| | 5S | m | | 4,78 | | 6,58 | | 8,38 | | 10,36 | | | 12,34 | | 14,39 | | | | 10.500 | 1.655 | | | |
| | | kg | | 2.245 | | 1.490 | | 1.085 | | 825 | | | 665 | | 560 | | | | | | | | |
| V815 | 1S | m | | 4,34 | | 6,14 | | | | | | | | | | | | | 18.110 | 13.620 | 1.470 | 380 | 290 | 25 |
| | | kg | | 3.200 | | 2.240 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,42 | | 6,23 | | 8,10 | | | | | | | | | | | 13.010 | 1.600 | | | |
| | | kg | | 3.000 | | 2.100 | | 1.600 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,51 | | 6,31 | | 8,18 | | 10,16 | | | | | | | | | 12.750 | 1.720 | | | |
| | | kg | | 2.860 | | 1.980 | | 1.480 | | 1.180 | | | | | | | | | | | | | |
| | 4S | m | | 4,60 | | 6,40 | | 8,27 | | 10,25 | | | 12,23 | | | | | | 12.450 | 1.820 | | | |
| | | kg | | 2.760 | | 1.870 | | 1.370 | | 1.065 | | | 880 | | | | | | | | | | |
| | 5S | m | | 4,68 | | 6,48 | | 8,35 | | 10,33 | | | 12,31 | | 14,31 | | | | 12.170 | 1.910 | | | |
| | | kg | | 2.650 | | 1.780 | | 1.280 | | 990 | | | 800 | | 610 | | | | | | | | |
| V817 | 1S | m | | 4,36 | | 6,23 | | | | | | | | | | | | | 22.400 | 15.484 | 1.770 | 410 | 310 | 32 |
| | | kg | | 3.620 | | 2.520 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,36 | | 6,23 | | 8,10 | | | | | | | | | | | 14.994 | 1.910 | | | |
| | | kg | | 3.520 | | 2.410 | | 1.830 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | | | | | | | 14.700 | 2.030 | | | |
| | | kg | | 3.450 | | 2.320 | | 1.730 | | 1.370 | | | | | | | | | | | | | |
| | 4S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | 12,00 | | | | | | 14.406 | 2.150 | | | |
| | | kg | | 3.370 | | 2.220 | | 1.620 | | 1.260 | | | 1.040 | | | | | | | | | | |
| | 5S | m | | 4,45 | | 6,32 | | 8,20 | | 10,15 | | | 12,10 | | 14,10 | | | | 14.112 | 2.250 | | | |
| | | kg | | 3.230 | | 2.100 | | 1.510 | | 1.160 | | | 935 | | 790 | | | | | | | | |
| | 6S | m | | 4,52 | | 6,40 | | 8,26 | | 10,20 | | | 12,20 | | 14,20 | | 16,20 | | 13.720 | 2.340 | | | |
| | | kg | | 3.100 | | 2.000 | | 1.420 | | 1.060 | | | 845 | | 700 | | 600 | | | | | | |

= NEW GENERATION CRANE

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# TECHNICAL DATA - FULLY FOLDABLE CRANES (3)

| Crane model | No. of extensions | | Boom length closed and extended (mt) 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | 12 | 13 | 14 | 15 | 16 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V817NG | 1S | m | | 4,54 | | 6,34 | | | | | | | | | | | | | 19.700 | 15.500 | 1.475 | 425 | 280 | 60 radio 40 no radio |
| | | kg | | 3.490 | | 2.475 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,54 | | 6,34 | | 8,14 | | | | | | | | | | | | 14.700 | 1.610 | | | |
| | | kg | | 3.310 | | 2.305 | | 1.775 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,62 | | 6,42 | | 8,22 | | 10,20 | | | | | | | | | | 14.300 | 1.725 | | | |
| | | kg | | 3.150 | | 2.170 | | 1.645 | | 1.305 | | | | | | | | | | | | | |
| | 4S | m | | 4,71 | | 6,51 | | 8,31 | | 10,29 | | | 12,27 | | | | | | | 14.000 | 1.830 | | | |
| | | kg | | 3.005 | | 2.040 | | 1.520 | | 1.185 | | | 980 | | | | | | | | | | |
| | 5S | m | | 4,78 | | 6,58 | | 8,38 | | 10,36 | | | 12,34 | | 14,39 | | | | | 13.500 | 1.880 | | | |
| | | kg | | 2.875 | | 1.925 | | 1.410 | | 1.080 | | | 875 | | 740 | | | | | | | | |
| V820 V820N* | 1S | m | | 4,36 | | 6,23 | | | | | | | | | | | | | 26.100 | 19.250 | 1.920 | 387 | 300 | 40 |
| | | kg | | 4.500 | | 3.150 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,36 | | 6,23 | | 8,10 | | | | | | | | | | | | 18.850 | 2.070 | | | |
| | | kg | | 4.400 | | 3.050 | | 2.300 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | | | | | | | | 18.350 | 2.210 | | | |
| | | kg | | 4.280 | | 2.900 | | 2.180 | | 1.725 | | | | | | | | | | | | | |
| | 4S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | 12,00 | | | | | | | 17.900 | 2.340 | | | |
| | | kg | | 4.180 | | 2.800 | | 2.060 | | 1.590 | | | 1.315 | | | | | | | | | | |
| | 5S | m | | 4,45 | | 6,32 | | 8,20 | | 10,15 | | | 12,10 | | 14,10 | | | | | 17.450 | 2.440 | | | |
| | | kg | | 4.000 | | 2.640 | | 1.920 | | 1.480 | | | 1.190 | | 1.000 | | | | | | | | |
| | 6S | m | | 4,52 | | 6,40 | | 8,26 | | 10,20 | | | 12,20 | | 14,20 | | 16,20 | | | 17.050 | 2.540 | | | |
| | | kg | | 3.850 | | 2.530 | | 1.820 | | 1.385 | | | 1.100 | | 910 | | 770 | | | | | | |
| V823 V823N* | 1S | m | | 4,36 | | 6,23 | | | | | | | | | | | | | 26.100 | 20.300 | 1.920 | 387 | 315 | 40 |
| | | kg | | 4.660 | | 3.320 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,36 | | 6,23 | | 8,10 | | | | | | | | | | | | 19.600 | 2.070 | | | |
| | | kg | | 4.560 | | 3.210 | | 2.460 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | | | | | | | | 18.950 | 2.210 | | | |
| | | kg | | 4.430 | | 3.050 | | 2.330 | | 1.890 | | | | | | | | | | | | | |
| | 4S | m | | 4,36 | | 6,23 | | 8,10 | | 10,05 | | | 12,00 | | | | | | | 18.450 | 2.340 | | | |
| | | kg | | 4.330 | | 2.950 | | 2.200 | | 1.740 | | | 1.460 | | | | | | | | | | |
| | 5S | m | | 4,45 | | 6,32 | | 8,20 | | 10,15 | | | 12,10 | | 14,10 | | | | | 18.050 | 2.440 | | | |
| | | kg | | 4.140 | | 2.780 | | 2.050 | | 1.620 | | | 1.320 | | 1.140 | | | | | | | | |
| | 6S | m | | 4,52 | | 6,40 | | 8,26 | | 10,20 | | | 12,20 | | 14,20 | | 16,20 | | | 17.700 | 2.540 | | | |
| | | kg | | 3.990 | | 2.660 | | 1.950 | | 1.520 | | | 1.220 | | 1.040 | | 900 | | | | | | |
| V825 | 1S | m | | 4,40 | | 6,17 | | | | | | | | | | | | | 31.455 | 24.500 | 2.580 | 400 | 290 | 50 |
| | | kg | | 5.700 | | 4.000 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,41 | | 6,18 | | 8,03 | | | | | | | | | | | | 24.250 | 2.760 | | | |
| | | kg | | 5.600 | | 3.830 | | 2.860 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,41 | | 6,18 | | 8,03 | 9,93 | | | | | | | | | | | 23.600 | 2.900 | | | |
| | | kg | | 5.450 | | 3.680 | | 2.720 | 2.140 | | | | | | | | | | | | | | |
| | 4S | m | | 4,50 | | 6,27 | | 8,12 | | 10,02 | 11,92 | | | | | | | | | 23.000 | 3.060 | | | |
| | | kg | | 5.200 | | 3.480 | | 2.540 | | 1.970 | 1.610 | | | | | | | | | | | | |
| | 5S | m | | 4,58 | | 6,35 | | 8,20 | | 10,10 | | | 12,00 | 13,98 | | | | | | 22.550 | 3.200 | | | |
| | | kg | | 5.000 | | 3.340 | | 2.400 | | 1.850 | | | 1.490 | 1.250 | | | | | | | | | |
| | 6S | m | | 4,64 | | 6,41 | | 8,26 | | 10,16 | | | 12,06 | | 14,04 | | 16,02 | | | 22.450 | 3.295 | | | |
| | | kg | | 4.930 | | 3.270 | | 2.350 | | 1.790 | | | 1.435 | | 1.200 | | 960 | | | | | | |
| V828 | 1S | m | | 4,40 | | 6,17 | | | | | | | | | | | | | 31.455 | 26.350 | 2.630 | 400 | 305 | 50 |
| | | kg | | 5.870 | | 4.180 | | | | | | | | | | | | | | | | | |
| | 2S | m | | 4,41 | | 6,18 | | 8,03 | | | | | | | | | | | | 25.000 | 2.810 | | | |
| | | kg | | 5.770 | | 4.000 | | 3.020 | | | | | | | | | | | | | | | |
| | 3S | m | | 4,41 | | 6,18 | | 8,03 | 9,93 | | | | | | | | | | | 24.300 | 2.950 | | | |
| | | kg | | 5.620 | | 3.840 | | 2.870 | 2.280 | | | | | | | | | | | | | | |
| | 4S | m | | 4,50 | | 6,27 | | 8,12 | | 10,02 | 11,92 | | | | | | | | | 23.650 | 3.110 | | | |
| | | kg | | 5.350 | | 3.630 | | 2.680 | | 2.100 | 1.740 | | | | | | | | | | | | |
| | 5S | m | | 4,58 | | 6,35 | | 8,20 | | 10,10 | | | 12,00 | 13,98 | | | | | | 23.200 | 3.250 | | | |
| | | kg | | 5.160 | | 3.490 | | 2.540 | | 1.980 | | | 1.610 | 1.360 | | | | | | | | | |
| | 6S | m | | 4,64 | | 6,41 | | 8,26 | | 10,16 | | | 12,06 | | 14,04 | | 16,02 | | | 22.550 | 3.345 | | | |
| | | kg | | 5.100 | | 3.420 | | 2.480 | | 1.910 | | | 1.550 | | 1.310 | | 1.060 | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

= NEW GENERATION CRANE
= TYPE APPROVAL DNV
*) ROUND CRANE BASE VERSION


# V900 LINE
## FULLY FOLDABLE CRANES WITH POWER LINK

### VERSATILE AND PRECISE

The Power Link System creates a powerful mechanical advantage providing consistent force in all working angles of the boom; It also permits negative angle operation.

Extensive powerful cranes in compact, efficient designs.


### FEATURES

- 20 - 50 tm class
- Base with double rack and pinion system. Powerful rotation system specially designed for marine conditions
- Counterbalance valves directly mounted on each cylinder
- Hexagonal shaped telescopic booms are strong and self-aligning, offering great load handling control
- Control valve plumbed in. Shipped demounted with sufficient hose lenght for easy installation
- Double linkage

### OPTIONS

- Radio Remote Control (RDC)
- Winch

### DOUBLE RACK AND PINION

This system increases strength, reliability rotational torque for operation in unstable marine conditions.

### TYPICAL APPLICATIONS

FISH FARMING · QUAY SIDE · TUGS AND WORKBOATS · LAKES & RIVERS · NAVY · COAST GUARD · FISHING



# TECHNICAL DATA - FULLY FOLDABLE CRANES WITH POWER LINK

| Crane model | No. of extensions | | Boom length closed and extended (mt) 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | 16 | 17 | 18 | 19 | 20 | 21 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V933 | 2S | m | 4,18 | 5,95 | | 7,80 | | | | | | | | | | | | | | | | 38.600 | 29.700 | 3.370 | 397 | 300 | 45 |
| | | kg | 7.250 | 5.000 | | 3.800 | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,20 | 5,95 | | 7,80 | | 9,80 | | | | | | | | | | | | | | | 29.000 | 3.590 | | | |
| | | kg | 7.050 | 4.850 | | 3.620 | | 2.840 | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,30 | | 6,05 | 7,90 | | 9,90 | | 11,90 | | | | | | | | | | | | | 28.500 | 3.820 | | | |
| | | kg | 6.750 | | 4.610 | 3.410 | | 2.630 | | 2.160 | | | | | | | | | | | | | | | | | |
| | 5S | m | 4,40 | | 6,15 | | 8,00 | | 10,00 | | 12,00 | | 14,20 | | | | | | | | | | 28.000 | 3.990 | | | |
| | | kg | 6.480 | | 4.410 | | 3.240 | | 2.460 | | 1.990 | | 1.660 | | | | | | | | | | | | | | |
| | 6S | m | 4,45 | | 6,30 | | 8,10 | | 10,10 | | 12,10 | | 14,30 | | | 16,50 | | | | | | | 27.300 | 4.150 | | | |
| | | kg | 6.250 | | 4.200 | | 3.050 | | 2.300 | | 1.830 | | 1.500 | | | 1.280 | | | | | | | | | | | |
| | 7S | m | 4,60 | | 6,40 | | 8,30 | | 10,30 | | 12,30 | | 14,50 | | | 16,70 | | 18,85 | | | | | 26.700 | 4.270 | | | |
| | | kg | 5.920 | | 4.000 | | 2.900 | | 2.160 | | 1.690 | | 1.360 | | | 1.140 | | 995 | | | | | | | | | |
| | 8S | m | 4,70 | | 6,50 | | 8,40 | | 10,40 | | 12,40 | | 14,60 | | | 16,80 | | 19,00 | | | 21,15 | | 26.300 | 4.390 | | | |
| | | kg | 5.700 | | 3.800 | | 2.720 | | 2.000 | | 1.560 | | 1.240 | | | 1.025 | | 880 | | | 780 | | | | | | |
| V936 | 2S | m | 4,18 | 5,95 | | 7,80 | | | | | | | | | | | | | | | | 38.600 | 30.500 | 3.370 | 397 | 310 | 45 |
| | | kg | 7.450 | 5.190 | | 3.980 | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,20 | 5,95 | | 7,80 | | 9,80 | | | | | | | | | | | | | | | 29.800 | 3.590 | | | |
| | | kg | 7.240 | 5.030 | | 3.800 | | 3.010 | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,30 | | 6,05 | 7,90 | | 9,90 | | 11,90 | | | | | | | | | | | | | 29.300 | 3.820 | | | |
| | | kg | 6.940 | | 4.790 | 3.580 | | 2.790 | | 2.320 | | | | | | | | | | | | | | | | | |
| | 5S | m | 4,40 | | 6,15 | | 8,00 | | 10,00 | | 12,00 | | 14,20 | | | | | | | | | | 28.750 | 3.990 | | | |
| | | kg | 6.660 | | 4.580 | | 3.400 | | 2.610 | | 2.140 | | 1.800 | | | | | | | | | | | | | | |
| | 6S | m | 4,45 | | 6,30 | | 8,10 | | 10,10 | | 12,10 | | 14,30 | | | 16,50 | | | | | | | 28.000 | 4.150 | | | |
| | | kg | 6.430 | | 4.370 | | 3.200 | | 2.440 | | 1.970 | | 1.630 | | | 1.410 | | | | | | | | | | | |
| | 7S | m | 4,60 | | 6,40 | | 8,30 | | 10,30 | | 12,30 | | 14,50 | | | 16,70 | | 18,85 | | | | | 27.500 | 4.270 | | | |
| | | kg | 6.100 | | 4.160 | | 3.050 | | 2.300 | | 1.820 | | 1.480 | | | 1.260 | | 1.110 | | | | | | | | | |
| | 8S | m | 4,70 | | 6,50 | | 8,40 | | 10,40 | | 12,40 | | 14,60 | | | 16,80 | | 19,00 | | | 21,15 | | 27.100 | 4.390 | | | |
| | | kg | 5.870 | | 3.960 | | 2.860 | | 2.130 | | 1.680 | | 1.350 | | | 1.130 | | 980 | | | 880 | | | | | | |
| V946<br>V946B | 2S | m | 4,32 | | 6,10 | 7,95 | | | | | | | | | | | | | | | | 55.300 | 42.379 | 4.060 | 400 | 300 | 80 |
| | | kg | 10.000 | | 7.120 | 5.450 | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,43 | | 6,20 | | 8,05 | | 10,00 | | | | | | | | | | | | | | 41.546 | 4.310 | | | |
| | | kg | 9.560 | | 6.800 | | 5.180 | | 4.140 | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,55 | | 6,30 | | 8,15 | | 10,10 | | 12,00 | | | | | | | | | | | | 40.975 | 4.590 | | | |
| | | kg | 9.180 | | 6.500 | | 4.900 | | 3.880 | | 3.220 | | | | | | | | | | | | | | | | |
| | 5S | m | 4,55 | | 6,30 | | 8,15 | | 10,10 | | 12,00 | | 14,10 | | | | | | | | | | 40.172 | 4.830 | | | |
| | | kg | 9.000 | | 6.300 | | 4.680 | | 3.650 | | 2.990 | | 2.530 | | | | | | | | | | | | | | |
| | 6S | m | 4,60 | | 6,35 | | 8,20 | | 10,10 | | 12,10 | | 14,10 | | | 16,20 | | | | | | | 39.260 | 5.030 | | | |
| | | kg | 8.700 | | 6.050 | | 4.470 | | 3.450 | | 2.800 | | 2.330 | | | 2.015 | | | | | | | | | | | |
| | 7S | m | 4,60 | | 6,35 | | 8,20 | | 10,10 | | 12,10 | | 14,10 | | | 16,20 | | 18,40 | | | | | 38.492 | 5.220 | | | |
| | | kg | 8.530 | | 5.860 | | 4.280 | | 3.260 | | 2.600 | | 2.140 | | | 1.820 | | 1.590 | | | | | | | | | |
| | 8S | m | 4,70 | | 6,40 | | 8,30 | | 10,20 | | 12,20 | | 14,20 | | | 16,30 | | 18,40 | | 20,60 | | | 37.808 | 5.400 | | | |
| | | kg | 8.200 | | 5.620 | | 4.080 | | 3.080 | | 2.420 | | 1.950 | | | 1.640 | | 1.410 | | 1.250 | | | | | | | |
| V950 | 2S | m | 4,32 | | 6,10 | 7,95 | | | | | | | | | | | | | | | | 55.300 | 43.396 | 4.100 | 400 | 320 | 80 |
| | | kg | 10.240 | | 7.335 | 5.660 | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,43 | | 6,20 | | 8,05 | | 10,00 | | | | | | | | | | | | | | 42.502 | 4.350 | | | |
| | | kg | 9.780 | | 7.010 | | 5.380 | | 4.340 | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,55 | | 6,30 | | 8,15 | | 10,10 | | 12,00 | | | | | | | | | | | | 41.957 | 4.630 | | | |
| | | kg | 9.400 | | 6.720 | | 5.100 | | 4.080 | | 3.405 | | | | | | | | | | | | | | | | |
| | 5S | m | 4,55 | | 6,30 | | 8,15 | | 10,10 | | 12,00 | | | | | | | | | | | | 41.109 | 4.870 | | | |
| | | kg | 9.210 | | 6.500 | | 4.880 | | 3.830 | | 3.160 | | | | | | | | | | | | | | | | |
| | 6S | m | 4,60 | | 6,35 | | 8,20 | | 10,10 | | 12,10 | | | | | | | | | | | | 40.252 | 5.070 | | | |
| | | kg | 8.920 | | 6.250 | | 4.650 | | 3.630 | | 2.970 | | | | | | | | | | | | | | | | |
| | 7S | m | 4,60 | | 6,35 | | 8,20 | | 10,10 | | 12,10 | | 14,10 | | | 16,20 | | 18,40 | | | | | 39.395 | 5.260 | | | |
| | | kg | 8.730 | | 6.050 | | 4.455 | | 3.420 | | 2.760 | | 2.290 | | | 1.970 | | 1.730 | | | | | | | | | |
| | 8S | m | 4,70 | | 6,40 | | 8,30 | | 10,20 | | 12,20 | | 14,20 | | | 16,30 | | 18,40 | | 20,60 | | | 38.730 | 5.440 | | | |
| | | kg | 8.400 | | 5.800 | | 4.250 | | 3.240 | | 2.570 | | 2.090 | | | 1.780 | | 1.540 | | 1.370 | | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# VR LINE
## FULLY FOLDABLE CRANES WITH SLEWING BEARING


### STRONG AND COMPACT

The ideal solution for highly demanding applications.

Top Lifting class cranes with unlimited rotation during operation, space saving when it's not in use.

Articulating cranes with slewing bearing rotation system and double linkage.


### FEATURES

- Up to 90 tm class
- Round base with slewing bearing rotation system
- Hexagonal shaped telescopic booms are strong and self-aligning, offering great load handling control
- Power links
- Crane-mounted operator's seat featuring manual controls with optional radio remote control
- Counterbalance valves directly mounted on each cylinder

### OPTIONS

- Radio Remote Control (RDC)
- Winch

### SLEWING BEARING

A powerful slewing bearing creates high rotational torque for precise operations.

### TYPICAL APPLICATIONS

FISH FARMING · QUAY SIDE · TUGS AND WORKBOATS · LAKES & RIVERS · NAVY · FISHING



# TECHNICAL DATA - FULLY FOLDABLE CRANES WITH SLEWING BEARING

| Crane model | No. of extensions | | Boom length closed and extended (mt) 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VR24 | 2S | m | 4,28 | | 6,18 | | 8,08 | | | | | | | | | | | | | | | | | | 28.290 | 22073 | 2.245 | Endless | 310 | 50 |
| | | kg | 5.265 | | 3.595 | | 2.730 | | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,28 | | 6,18 | | 8,08 | | 10,11 | | | | | | | | | | | | | | | | | 21728 | 2.385 | | | |
| | | kg | 5.175 | | 3.495 | | 2.625 | | 2.080 | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,36 | | 6,26 | | 8,33 | | 10,19 | | 12,22 | | | | | | | | | | | | | | | 20894 | 2.525 | | | |
| | | kg | 4.885 | | 3.270 | | 2.425 | | 1.895 | | 1.565 | | | | | | | | | | | | | | | | | | |
| | 5S | m | 4,44 | | 6,34 | | 8,24 | | 10,27 | | 12,3 | | 14,43 | | | | | | | | | | | | | 20079 | 2.650 | | | |
| | | kg | 4.610 | | 3.055 | | 2.235 | | 1.720 | | 1.400 | | 1.180 | | | | | | | | | | | | | | | | |
| | 6S | m | 4,53 | | 6,43 | | 8,33 | | 10,36 | | 12,39 | | 14,52 | | 16,65 | | | 18,89 | | | | | | | | 19687 | 2.755 | | | |
| | | kg | 4.430 | | 2.910 | | 2.105 | | 1.595 | | 1.275 | | 1.055 | | 905 | | | 605 | | | | | | | | | | | |
| | 7S | m | 4,61 | | 6,51 | | 8,41 | | 10,44 | | 12,47 | | 14,6 | | 16,73 | | | 18,90 | | | | | | | | 19311 | 2.875 | | | |
| | | kg | 4.270 | | 2.780 | | 1.985 | | 1.480 | | 1.160 | | 940 | | 795 | | | 695 | | | | | | | | | | | |
| | 8S | m | 4,7 | | 6,6 | | 8,5 | | 10,53 | | 12,56 | | 14,69 | | 16,82 | | | 18,98 | | | 21,18 | | | | | 19042 | 2.965 | | | |
| | | kg | 4.130 | | 2.670 | | 1.890 | | 1.390 | | 1.070 | | 850 | | 705 | | | 605 | | | 535 | | | | | | | | |
| VR34 | 2S | m | 4,45 | | 6,12 | | 8,08 | | | | | | | | | | | | | | | | | | 42.030 | 31780 | 3.050 | Endless | 310 | 50 |
| | | kg | 7.280 | | 5.250 | | 4.000 | | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,5 | | 6,2 | | 8,1 | | 10,1 | | | | | | | | | | | | | | | | | 31034 | 3.280 | | | |
| | | kg | 7.030 | | 5.020 | | 3.770 | | 3.000 | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,55 | | 6,22 | | 8,15 | | 10,15 | | 12,15 | | | | | | | | | | | | | | | 30307 | 3.500 | | | |
| | | kg | 6.790 | | 4.800 | | 3.560 | | 2.790 | | 2.310 | | | | | | | | | | | | | | | | | | |
| | 5S | m | 4,63 | | 6,3 | | 8,2 | | 10,2 | | 12,2 | | 14,3 | | | | | | | | | | | | | 29617 | 3.710 | | | |
| | | kg | 6.520 | | 4.580 | | 3.350 | | 2.590 | | 2.110 | | 1.790 | | | | | | | | | | | | | | | | |
| | 6S | m | 4,63 | | 6,3 | | 8,2 | | 10,2 | | 12,2 | | 14,3 | | 16,4 | | | | | | | | | | | 28978 | 3.900 | | | |
| | | kg | 6.380 | | 4.420 | | 3.190 | | 2.430 | | 1.940 | | 1.610 | | 1.390 | | | | | | | | | | | | | | |
| | 7S | m | 4,8 | | 6,5 | | 8,4 | | 10,4 | | 12,4 | | 14,5 | | 16,6 | | | 18,72 | | | | | | | | 28488 | 4.080 | | | |
| | | kg | 6.050 | | 4.180 | | 2.990 | | 2.240 | | 1.770 | | 1.440 | | 1.220 | | | 1.070 | | | | | | | | | | | |
| | 8S | m | 4,8 | | 6,5 | | 8,4 | | 10,4 | | 12,4 | | 14,5 | | 16,6 | | | 18,75 | | 20,9 | | | | | | 27876 | 4.250 | | | |
| | | kg | 5.920 | | 4.050 | | 2.850 | | 2.100 | | 1.630 | | 1.300 | | 1.080 | | | 925 | | 820 | | | | | | | | | |
| VR40 | 2S | m | 4,45 | | 6,12 | | 8,02 | | | | | | | | | | | | | | | | | | 44.750 | 34050 | 3.050 | Endless | 310 | 50 |
| | | kg | 7.810 | | 5.650 | | 4.300 | | | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,5 | | 6,2 | | 8,1 | | 10,1 | | | | | | | | | | | | | | | | | 33329 | 3.280 | | | |
| | | kg | 7.550 | | 5.400 | | 4.070 | | 3.240 | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,55 | | 6,22 | | 8,15 | | 10,15 | | 12,15 | | | | | | | | | | | | | | | 32673 | 3.500 | | | |
| | | kg | 7.320 | | 5.190 | | 3.860 | | 3.040 | | 2.515 | | | | | | | | | | | | | | | | | | |
| | 5S | m | 4,63 | | 6,3 | | 8,2 | | 10,2 | | 12,2 | | 14,3 | | | | | | | | | | | | | 31930 | 3.710 | | | |
| | | kg | 7.030 | | 4.960 | | 3.650 | | 2.830 | | 2.315 | | 1.960 | | | | | | | | | | | | | | | | |
| | 6S | m | 4,63 | | 6,3 | | 8,2 | | 10,2 | | 12,2 | | 14,3 | | 16,4 | | | | | | | | | | | 31294 | 3.900 | | | |
| | | kg | 6.890 | | 4.800 | | 3.490 | | 2.670 | | 2.150 | | 1.790 | | 1.550 | | | | | | | | | | | | | | |
| | 7S | m | 4,8 | | 6,5 | | 8,4 | | 10,4 | | 12,4 | | 14,5 | | 16,6 | | | 18,72 | | | | | | | | 30843 | 4.080 | | | |
| | | kg | 6.550 | | 4.550 | | 3.280 | | 2.480 | | 1.970 | | 1.620 | | 1.375 | | | 1.205 | | | | | | | | | | | |
| | 8S | m | 4,8 | | 6,5 | | 8,4 | | 10,4 | | 12,4 | | 14,5 | | 16,6 | | | 18,75 | | 20,9 | | | | | | 30419 | 4.250 | | | |
| | | kg | 6.460 | | 4.420 | | 3.140 | | 2.340 | | 1.830 | | 1.470 | | 1.230 | | | 1.060 | | 940 | | | | | | | | | |
| VR60 | 2S | m | 4,35 | | 6,15 | | 8 | | | | | | | | | | | | | | | | | | 72.620 | 56.407 | 4.270 | Endless | 335 | 70 |
| | | kg | 13.000 | | 9.240 | | 7.185 | | | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,46 | | 6,26 | | 8,06 | | 10 | 11,96 | | | | | | | | | | | | | | | | 53.641 | 4.850 | | | |
| | | kg | 12.260 | | 8.625 | | 6.610 | | 5.270 | 4.400 | | | | | | | | | | | | | | | | | | | |
| | 6S | m | 4,48 | | 6,28 | | 8,1 | | 10,05 | | 12 | | 14 | | 16,2 | | | | | | | | | | | 50.937 | 5.390 | | | |
| | | kg | 11.590 | | 8.000 | | 6.005 | | 4.685 | | 3.820 | | 3.195 | | 2.760 | | | | | | | | | | | | | | |
| | 8S | m | 4,69 | | 6,47 | | 8,3 | | 10,25 | | 12,2 | | 14,3 | | 16,4 | | | 18,52 | | 20,7 | | | | | | 49.752 | 5.820 | | | |
| | | kg | 10.860 | | 7.450 | | 5.530 | | 4.240 | | 3.395 | | 2.780 | | 2.350 | | | 2.045 | | 1.820 | | | | | | | | | |
| VR62 | 2S | m | 4,35 | | 6,15 | | 8 | | | | | | | | | | | | | | | | | | 72.300 | 57353 | 4.350 | Endless | 310 | 50 |
| | | kg | 13.440 | | 9.570 | | 7.450 | | | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,46 | | 6,26 | | 8,06 | | 10 | 11,96 | | | | | | | | | | | | | | | | 52673 | 4.930 | | | |
| | | kg | 12.710 | | 8.950 | | 6.870 | | 5.480 | 4.580 | | | | | | | | | | | | | | | | | | | |
| | 6S | m | 4,48 | | 6,28 | | 8,1 | | 10,05 | 11,98 | | | 14.08 | | 16,18 | | | | | | | | | | | 53837 | 5.470 | | | |
| | | kg | 12.250 | | 8.480 | | 6.380 | | 5.000 | 4.080 | | | 3.420 | | 2.960 | | | | | | | | | | | | | | |
| | 8S | m | 4,67 | | 6,47 | | 8,3 | | 10,25 | | 12,2 | | 14,3 | | 16,4 | | | 18,52 | | 20,7 | | | | | | 52685 | 5.900 | | | |
| | | kg | 11.500 | | 7.920 | | 5.900 | | 4.550 | | 3.650 | | 3.000 | | 2.550 | | | 2.200 | | 1.970 | | | | | | | | | |
| VR75 | 2S | m | 4,25 | 5,95 | | 7,75 | | | | | | | | | | | | | | | | | | | 81.400 | 68.580 | 6.185 | Endless | 295 | 80 |
| | | kg | 16.100 | 11.650 | | 9.020 | | | | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,32 | | 6,05 | 7,85 | | 9,75 | | 11,65 | | | | | | | | | | | | | | | | 65.052 | 6.835 | | | |
| | | kg | 15.350 | | 10.960 | 8.360 | | 6.670 | | 5.550 | | | | | | | | | | | | | | | | | | | |
| | 6S | m | 4,47 | | 6,2 | 7,97 | | 9,9 | | 11,8 | | 13,8 | | 15,8 | | | | | | | | | | | | 63.145 | 7.435 | | | |
| | | kg | 14.400 | | 10.200 | 7.650 | | 6.000 | | 4.950 | | 4.150 | | 3.600 | | | | | | | | | | | | | | | |
| | 8S | m | 4,47 | | 6,2 | 7,97 | | 9,9 | | 11,8 | | 13,8 | | 15,8 | | | 17,8 | | 19,8 | | | | | | | 61.391 | 7.935 | | | |
| | | kg | 14.000 | | 9.800 | 7.220 | | 5.550 | | 4.450 | | 3.660 | | 3.100 | | | 2.700 | | 2.400 | | | | | | | | | | |
| | 10S | m | 4,75 | | 6,45 | | 8,25 | | 10,2 | | 12,05 | | 14,05 | | 16,05 | | | 18,05 | | 20,05 | | 22,2 | | 24,35 | | 60.810 | 8.335 | | | |
| | | kg | 13.050 | | 9.100 | | 6.680 | | 5.060 | | 4.000 | | 3.220 | | 2.680 | | | 2.300 | | 2.000 | | 1.760 | | 1.600 | | | | | |
| VR85 | 2S | m | 4,25 | 5,95 | | 7,75 | | | | | | | | | | | | | | | | | | | 90.500 | 72.600 | 6.040 | Endless | 315 | 100 |
| | | kg | 17.100 | 12.400 | | 9.550 | | | | | | | | | | | | | | | | | | | | | | | |
| | 4S | m | 4,32 | | 6,05 | 7,85 | | 9,75 | | 11,65 | | | | | | | | | | | | | | | | 68.866 | 6.690 | | | |
| | | kg | 16.250 | | 11.620 | 8.820 | | 7.010 | | 5.820 | | | | | | | | | | | | | | | | | | | |
| | 6S | m | 4,47 | | 6,2 | 7,97 | | 9,9 | | 11,8 | | 13,8 | | 15,8 | | | | | | | | | | | | 67.721 | 7.290 | | | |
| | | kg | 15.150 | | 10.800 | 8.150 | | 6.350 | | 5.200 | | 4.380 | | 3.800 | | | | | | | | | | | | | | | |
| | 8S | m | 4,47 | | 6,2 | 7,97 | | 9,9 | | 11,8 | | 13,8 | | 15,8 | | | 17,8 | | 19,8 | | | | | | | 64.680 | 7.790 | | | |
| | | kg | 14.750 | | 10.350 | 7.650 | | 5.900 | | 4.770 | | 3.920 | | 3.320 | | | 2.890 | | 2.580 | | | | | | | | | | |
| | 10S | m | 4,75 | | 6,45 | | 8,25 | | 10,2 | | 12,02 | | 14,05 | | 16,05 | | | 18,05 | | 20,05 | | 22,2 | | 24,35 | | 64.071 | 8.190 | | | |
| | | kg | 13.750 | | 9.650 | | 7.100 | | 5.400 | | 4.300 | | 3.500 | | 2.920 | | | 2490 | | 2.185 | | 1.935 | | 1.750 | | | | | |

■ = NEW GENERATION CRANE

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# VR 150
## THE NEW LARGEST MODEL IN THE VR LINE


### A CONCENTRATE OF LATEST FRONTIER HI-TECH

The ENDLESS ROTATION CRANE designed and produced with the most advanced materials and the most sophisticated technologies to grant the best performances on the market.

The high-strength steel and decagonal shape of the booms allow EXCEPTIONAL LIFTING CAPACITIES AND LONGER ARM LENGTH, all with a very low crane weight.

## FEATURES

- 150 tm class
- Round base with slewing bearing rotation system
- **Decagonal** shaped telescopic booms are strong and self-aligning, offering great load handling control
- Power links
- Crane-mounted operator's seat featuring manual controls with optional radio remote control
- Counterbalance valves directly mounted on each cylinder

## OPTIONS

- Radio Remote Control (RDC)
- Winch

## SLEWING BEARING

A powerful slewing bearing creates high rotational torque for precise operations.

## TYPICAL APPLICATIONS

FISH FARMING · QUAY SIDE · TUGS AND WORKBOATS · LAKES & RIVERS · NAVY · FISHING

| Crane model | No. of extensions | | Boom length closed and extended (mt) | | | | | | | | | | | | | | | | | | | | Dyn. Lifting Moment (daNm) | Net. Lifting Moment (daNm) | Weight (kg) | Slewing angle (°) | Working Pressure (bar) | Max Oil Flow (l/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | | | | | | |
| VR150 | 2S | m | 4,82 | | 6,99 | | | 9,23 | | | | | | | | | | | | | | | | 134.300 | 106.330 | 7.850 | Endless | 375 | 100 |
| | | kg | 22.500 | | 15.550 | | | 11.750 | | | | | | | | | | | | | | | | | | | | |
| | 3S | m | 4,91 | | | 7,08 | | 9,32 | | 11,48 | | | | | | | | | | | | | | | 104.470 | 8.390 | | | |
| | | kg | 21.710 | | | 15.000 | | 11.290 | | 9.080 | | | | | | | | | | | | | | | | | | | |
| | 4S | m | | 5,01 | | 7,18 | | 9,42 | | 11,58 | | 13,93 | | | | | | | | | | | | | 103.100 | 8.890 | | | |
| | | kg | | 21.000 | | 14.450 | | 10.800 | | 8.630 | | 7.090 | | | | | | | | | | | | | | | | | |
| | 5S | m | | 5,11 | | 7,28 | | 9,52 | | 11,68 | | | 14,03 | | 16,38 | | | | | | | | | | 101.920 | 9.330 | | | |
| | | kg | | 20.350 | | 13.920 | | 10.330 | | 8.200 | | | 6.660 | | 5.660 | | | | | | | | | | | | | | |
| | 6S | m | | 5,19 | | 7,35 | | 9,6 | | 11,76 | | | 14,11 | | 16,46 | | | 18,81 | | | | | | | 100.645 | 9.730 | | | |
| | | kg | | 19.800 | | 13.520 | | 9.930 | | 7.800 | | | 6.300 | | 5.280 | | | 4.580 | | | | | | | | | | | |
| | 7S | m | | 5,29 | | 7,45 | | 9,7 | | 11,86 | | | 14,21 | | 16,56 | | | 18,91 | | | 21,35 | | | | 99.470 | 10.110 | | | |
| | | kg | | 19.200 | | 12.800 | | 9.350 | | 7.300 | | | 5.850 | | 4.855 | | | 4.170 | | | 3.650 | | | | | | | | |
| | 8S | m | | 5,37 | | 7,53 | | 9,78 | | 11,94 | | | 14,29 | | 16,64 | | | 18,99 | | | 21,43 | | 23,87 | | 98.392 | 10.440 | | | |
| | | kg | | 18.700 | | 12.600 | | 9.100 | | 7.000 | | | 5.555 | | 4.550 | | | 3.860 | | | 3.550 | | 2.960 | | | | | | |

Crane lifting capacity for harbor condition in sea state 0. Crane capacity calculated in respect of EN 12999 HC1 S4

# HOW TO CONSIDER MARINE CRANES

## INTRODUCTION

Marine & Offshore crane selection must consider different parameters according to the operating conditions. During their use cranes are subjected to loads due to the lifted load, its own weight, wind, vessel motions and, for off-board lifts, motions of the vessel the load is being lifted from.
The guidelines herein are intended to assist our customers in the selection of a crane. However for more precise calculations please contact an authorized Amco Veba Marine crane dealer.

## DEFINITION OF MARINE & OFFSHORE CRANES

The below terminology is typically used in the market to define marine and offshore cranes.

### Shipboard cranes (marine mostly)

Shipboard cranes generally refers to lifting appliances designed to operate in harbor or sheltered water and where there is not significant movement of the ship due to wave actions and the wave height is no greater than 0,6 m. Cranes mounted on fixed installations used solely for lifting operations within the installation itself are normally considered shipboard cranes.

### Offshore cranes

Offshore cranes generally refers to lifting appliances designed to operate in open sea conditions where significant movement of the ship due to wave actions can occur.
Also included are cranes that lift product from ships, yet are installed on a fixed base. The sea state is higher than a significant wave height of 0,6 m. Due to this situation for all offshore cranes there exist 2 different types of classifications:
On-board lifting; the lifting activity occurs on the vessel/platform on which the crane is mounted on.
Off-board lifting; the lifting activity occurs anywhere not on the same vessel/ platform on which the crane is mounted.

## DEFINITION OF SEA STATE

Waves generate vessel movement causing accelerations on lifted loads and impacting on crane strength. This situation must be considered during crane selection.

### Different type of international scale

There are different sea state scales and different ways to indicate wave movement, the most common being Douglas scale, Beaufort Scale and Significant Wave Height. Scales use different classifications, and this must be clearly defined when examining wave height and crane selection.

### Beaufort wind force scale

The Beaufort scale is an empirical measure that relates wind speed to observed conditions at sea, although it is a measure of wind speed and not of force of sea.

| Scale | Descript. | Wind speed | Wave height (mt) | Sea conditions |
|---|---|---|---|---|
| 0 | Calm | < 0.3 m/s | 0 | Flat |
| 1 | Light air | 0.6 - 3.0 knot<br>0.3 - 1.5 m/s | 0 - 0.2 | Ripples without crests |
| 2 | Light breeze | 3.0 - 6.4 knot<br>1.5 - 3.3 m/s | 0.2 - 0.5 | Small wavelets.<br>Crests of glassy appearance |
| 3 | Gentle breeze | 6.4 - 10.6 knot<br>3.3 - 5.5 m/s | 0.5 - 1.0 | Large wavelets. Crests begin to break |
| 4 | Moderate breeze | 10.6 - 15.5 knot<br>5.5 - 8.0 m/s | 1.0 - 2.0 | Small waves with breaking crests.<br>Fairly frequent whitecaps. |
| 5 | Fresh breeze | 15.5 - 21.0 knot<br>8.0 - 10.8 m/s | 2.0 - 3.0 | Moderate waves of some length.<br>Many whitecaps. Small amont of spray. |
| 6 | Strong breeze | 21.0 - 26.9 knot<br>10.8 - 13.9 m/s | 3.0 - 4.0 | Long waves begin to form. White foam crests are very frequent, some airborne spray is present. |
| 7 | High wind, moderate gale | 26.9 - 33.4 knot<br>13.9 - 17.2 m/s | 4.0 - 5.5 | Sea heaps up. Some foam from breaking waves is blown into streaks. Moderate amounts of airborne spray. |
| 8 | Gale, fresh gale | 33.4 - 40.3 knot<br>17.2 - 20.7 m/s | 5.5 - 7.5 | Moderately high waves with breaking crests forming spindrift. Well-marked streaks of foam are blown along wind direction. Considerable airborne spray. |
| 9 | Strong gale | 40.3 - 47.6 knot<br>20.7 - 24.5 m/s | 7.0 - 10.0 | High waves whose crests sometimes roll over. Dense foam is blown. Large amounts of airborne spray reduce visibility. |
| 10 | Storm, whole gale | 47.6 - 55.3 knot<br>24.5 - 28.4 m/s | 9.0 - 12.5 | Very high waves with crests foam give the sea a white appearance. Amounts of airborne spray reduce visibility. |
| 11 | Violent storm | 55.3 - 63.4 knot<br>28.4 - 32.6 m/s | 11.0 - 16.0 | Exceptionally high waves. Very large foam cover much of the sea surface. Airborne spray severaly reduce visibility. |
| 12 | Hurricane force | ≥ 63.4 knot | ≥ 14 | Huge waves. Sea is completely white with foam and spray. Air is filled with driving spray. Greatly reducing visibility. |

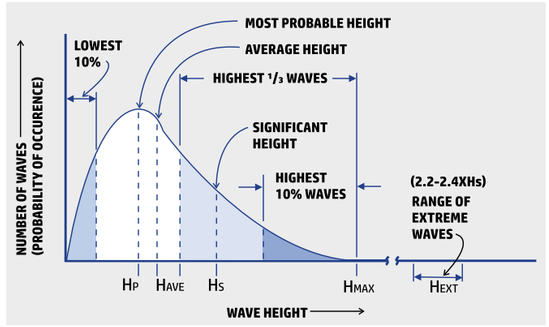
### Douglas Scale international sea and swell scale

The Douglas scale is used to estimate the roughness of the sea for navigation and has two codes: one is to estimate the sea state while the other describes the sea swell.

| STATE OF SEA (WIND SEA) | | | STATE OF SEA (SWELL DESCRIPTION) |
|---|---|---|---|
| Degre | Height (mt) | Description | Description |
| 0 | No wave | Calm Glassy | No swell |
| 1 | 0 - 0.1 | Calm Rippled | Very low (short and low wave) |
| 2 | 0.1 - 0.5 | Smooth | Low (long and low wave) |
| 3 | 0.5 - 1.25 | Slight | Light (short and moderate wave) |
| 4 | 1.25 - 2.5 | Moderate | Moderate (average and moderate wave) |
| 5 | 2.5 - 4.0 | Rough | Moderate (rough long and moderate wave) |
| 6 | 4.0 - 6.0 | Very Rough | Rough (short and heavy wave) |
| 7 | 6.0 - 9.0 | High | High (average and heavy wave) |
| 8 | 9.0 - 14.0 | Very High | Very high (long and heavy wave) |
| 9 | Above 14.0 | Phenomenal | Confused (wave length and Height indefinable) |

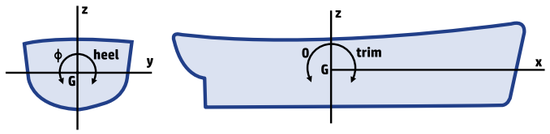
### Significant wave height Hs or Hsig

It is a different method to identify waves; This is not a classification or scale but an indication of the height of waves in as measured in meters. Significant wave height, represented as Hs or Hsig, is an important parameter for the statistical distribution of waves. The most common waves are less in height than Hs. Specifically, for Hsig. it is intended the average height of the highest one third of the individual wave heights in a shor term constant sea-state, typically 3 hours. *The major IAICS regulation refer to the significant wave height for crane calculation.*




## DEFINITION OF HEEL AND TRIM

Heel and trim are also important expressions indicating a vessel inclination angle due to the wave forces.
**Heel:** the heel angle in degrees is the inclination angle about the longitudinal axis.
**Trim:** the trim angle in degrees is the inclination angle about the transverse axis.
The major regulations also typically refer to heel and trim when defining crane specifications.




### DYNAMIC AMPLIFICATION FACTOR

*Dynamic amplification factor* is a factor by which the Load is multiplied to consider accelerations during lifting operation. The dynamic amplification factors (DAF) represent the safety factor of the crane and its ability to resist to dynamic effects. All Any crane designed to work in a sea state must have its functional parameters calculated in consideration with DAF. IASC Class Society requires dynamic amplification factors be considered regarding crane type and capacity, lifting requirements and sea state conditions.



# AMCO VEBA MARINE CRANE SELECTION

**AMCO VEBA MARINE CRANE LOAD CAPACITY,** as indicated for each crane model in the catalogue, is calculated for cranes operating in harbor conditions or sheltered water conditions. This is the typical condition of shipboard cranes working with:

- sea state 0 (zero)
- with a maximum Hsig (significant wave height) not exceeding 0,6 mt
- heel and trim do not exceed respectively 5° and 2°

With the use of the **AVK FACTOR** as indicated in the relevant table , it is possible to select all **AMCO VEBA MARINE CRANE** models for different offshore conditions and know the real lifting capabilities in specific operational use.

## HOW TO USE THE AMCO VEBA AVK FACTOR

All selections start from the standard lifting capacity of AMCO VEBA MARINE crane models for shipboard working condition in sea state zero.
There are two possible ways to identify the crane suitable for your needs:

**Case 1** - Calculate the real lifting capacity of a selected AMCO VEBA MARINE crane model in different sea states condition.

**Case 2** - Identify the correct AMCO VEBA MARINE crane model able to lift a specific requested load in a specific sea state condition.

### CASE 1 EXAMPLE

**CALCULATE THE LIFTING CAPACITY OF AMCO VEBA MARINE CRANE VR60/6S IN A SPECIFIC SEA STATE**

- Crane VR60/6S lifting capacity is 2.760 kg@16.2 mt (shipboard sea state zero values as in table at pag. 31)
- We want to know the crane lifting capacity in offshore conditions with Hsig = 1,6 mt with off-board lifting

From the below table we get the **AVK KEY FACTOR** = 0,56
**VR60/6S CRANE CAPACITY WITH HSIG 1,6 = 2.760 KG X AVK 0,56 = 1.545 KG**

### CASE 2 EXAMPLE

**SELECTION OF A MARINE CRANE FOR SEA STATE 3**

- Requested lifting capacity 1.600kg@ 12mt
- Working in Douglas Sea State 3 on-board lifting

**FROM THE BELOW TABLE WE GET AVK KEY FACTOR** = 0,75
We can calculate the corresponding harbor lifting capacity of the required crane. Crane requested lifting capacity in Sea state 3, **1.600 kg / AVK FACTOR 0,75 = 2.130 kg in sea state zero (harbor).**
It will be necessary to choose in the pages of the catalogue a crane with a capacity of 2.130 kg@ 12 mt.
**CRANE can be a V936/5S with lifting capacity of 2.140@12 mt.**

| SEA STATE (S.S.) | | | | | VESSEL MOVEMENT | | ONBOARD LIFTING | | OFF-BOARD LIFTING | |
|---|---|---|---|---|---|---|---|---|---|---|
| Hsig mt | Douglas | | Beaufort | | Hell | Trim | DAF | AVK | DAF | AVK |
| | Grade | Tripology | Grade | Tripology | Pitch | Roll | | | | |
| 0 | 0 | no wave - Calm glassy | 0 | no wave - Flat | 2° | 5° | | **1** | | **1** |
| 0.6 | 1 | 0-0.1mt - Calm Rippled | 1 | 0-0.2mt - Ripples without crest | 2° | 5° | 1.40 | **0.82** | 1.60 | **0.75** |
| | 2 | 0.1-0.5mt - Smooth | 2 | 0.2-0.5mt - Small wavelets | | | | | | |
| 1.1 | 3 | 0.5-1.25mt - Slight | 3 | 0.5-1mt - Large wavelets | 3° | 6° | 1.60 | **0.75** | 1.85 | **0.63** |
| 1.6 | 4 | 1.25-2.5mt moderate | 4 | 1-2mt - Small waves | | | 1.75 | **0.66** | 2.10 | **0.56** |
| 2.4 | 5 | 2.5-4mt Rough | 5 | 2-3mt - Moderate waves | 4° | 7° | 2.00 | **0.57** | 2.50 | **0.46** |
| 3.1 | | | 6 | 3-4mt - Long waves being to form | 4° | 8° | 2.30 | **0.51** | 2.80 | **0.42** |

# CONTROL AND VERSATILITY

## MANUAL CRANE CONTROLS

Various different typology of manual crane controls are available depending from crane type and size.

### ABS - OPERATOR CONSOLLE WITH PLASTIC PROTECTION

A control panel placed outside from the crane completely protected with a dedicate cover with ergonomic shape and produced in ABS Plastic fibers to grant a perfect anticorrosion resistance to marine environment. Client can install the operator console in the most convenient position.

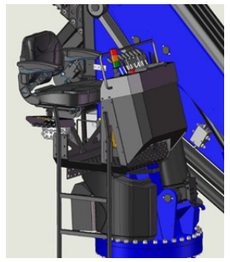
### SCA - EXTERNAL OPEN FOOTBOARD OPERATOR CONSOLE


A manual operated open control panel placed outside from the crane, the with overall perfect dimensions are suitable for one operator.
Built in steel and treated with marine treatment, all crane motions are possible, and showed on stickers/plates on control panel.

### SCC - EXTERNAL CLOSED FOOTBOARD OPERATOR CONSOLE


A manual operated completely fully closed control panel placed outside from the crane, the with overall perfect dimensions are suitable for one operator.
Built in steel and treated with marine treatment, all crane motions are possible, and showed on stickers/plates on control panel.

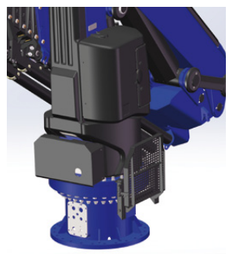
### CIA - SEAT ON COLUMN WITH MANUAL CONTROLS

Crane is equipped with a seat control operator console physically connected to the crane column and rotating with the crane itself, the seat is made with strong fiberglass and completely protected with soft lattice material granting a very comfortable place for the crane operator.
A dedicate console will be installed in front of the operator seat to permit the full manual control of the crane and granting great visibility of the working area.

## FOLDABLE OPERATOR PLATFORM

Available as a standard solution on all our VR endless rotation crane line when executed in radio remote control version, the foldable platform permit to have access to the manual control of the crane in case of emergency use.
The platform is normally closed to do not increase the overall dimensions of the crane and opened in case of need.



## RADIO REMOTE CONTROLS

Various forms of radio remote control are available.
All utilise proportional control valves which facilitate the movement of loads smoothly and with high precision.

### SINGLE HAND PROPORTIONAL SYSTEM (RRS)

The Single hand control is compact and ergonomic, allowing safe proportional control of any single movement of the crane using thumb and index finger. Cable remote control, to avoid radio frequency interference, is available as an option. AA battery powered.

### MULTIFUNCTION CONTROL (RDC)

The Multifunction control allows the operator, using two hands simultaneously, to move 2, 3, 4 or more functions of the crane at once. Equipped with 8 ergonomic proportional levers to control up to 8 functions of the crane.

Cable remote control, to avoid radio frequency interference, is available as an option. Re-chargeable battery.

## WINCHES

Cranes can be supplied prepared for winch installation or complete with winch installed. Several winch options are available.

| WINCH DESCRIPTION | Pulling force (kg) | | | | Lenght of the rope (mt) | Rope Diam (mm) |
|---|---|---|---|---|---|---|
| | 1st layer | 3rd layer | 4th layer | 5th layer | | |
| Dinamicoil NP 05 | 500 | 430 | | | 40 | 6 |
| Dinamicoil NP 08 | 800 | 680 | | | 27 | 8 |
| Tma MW 09 | 1.100 | 920 | 860 | | 50 | 8 |
| Dinamicoil NP 10 | 1.100 | 920 | | | 27 | 8 |
| Rotzler TI 1 | 1.250 | 1.050 | 1.000 | 950 | 60 | 8 |
| Tma MW 18 | 2.000 | 1.830 | 1.680 | | 53 | 10 |
| Tma MW 22 | 2.500 | 2.090 | 1.930 | | 64 | 12 |
| Rotzler TI 2 | 2.600 | 2.200 | 2.000 | | 49 | 10 |
| Tma MW 32 | 3.950 | 3.330 | 3.090 | | 88 | 14 |
| Tma MW 50 | 6.090 | 5.490 | 5.000 | 4.580 | 88 | 16 |

### TMA

Hydraulic and mechanical safety device winches. AMCO VEBA MARINE and TMA worked together to design a product suitable for the Marine environment. (No electric/electronic components).

### ROTZLER

Rotzler winches are famous worldwide for it's unique characteristics: compact dimensions, low weight and high power. Many components are manufactured from stainless steel.

### DINAMIC OIL

Small, compact winches. Available only for our small range cranes.

## CENTRALIZED GREASING SYSTEM

By gathering a group of greasing points together in one place, maintenance can be performed much more quickly.

## LOAD SENSING (LS) SYSTEM

A main control valve prepared for the load sensing pump is the best solution for complex hydraulic circuits. This feature increases the efficiency of the hydraulic circuit, reducing power loss and overheating of the system.

It matches the output flow to the exact amount required by the system, bringing the use of energy in the circuit to its optimum performance.

## LED WORKING LIGHTS

LED working lights fitted on the boom of the crane to allow illumination of the working area around the crane.

## EXTRA FUNCTIONS

Our design process takes into account the need for special equipment, so the cranes can be fitted with additional equipment as necessary, this permit to connect specific tools like grabs, shell, net stackers and so on.

### EXTRA FUNCTIONS NOT ACTIVATED

On request it is possible to add one or two extra functions on the crane with levers to control an hydralic accessory mounted by the client.

### EXTRA FUNCTIONS ACTIVATED

An extra activated function includes an extra valve section, spool open or closed as required. It also includes all of the hoses and piping necessary to the end of the boom. At the end of the boom the pipes end in quick-connectors.

## ELECTRO-HYDRAULIC POWER PACK

We can provide a dedicate range of Hydraulic Power Unit specifically studied and designed to operate with our marine crane line.
The HPU can be provided with 2 different treatment , for Indoor installation (normally under deck) or for installation on open area close to the crane (External Marine treatment).
Also other dedicate accessories like Soft starter, Oil cooling system and different voltage/frequency can be provided Here the list of our standard HPU.

| Power (kW) | Input power current | Oil Flow (lt/min) | Pressure (Bar) | Oil Tank Volume (lt) |
|---|---|---|---|---|
| 2,2kW | 230V 50HZ | 7 | 180 | 25 |
| 5,5kW | 400V 50HZ | 12 | 230 | 50 |
| 11kW | 400V 50HZ | 20 | 285 | 55 |
| 15kW | 400V 50HZ | 25 | 310 | 120 |
| 22kW | 400V 50HZ | 38 | 310 | 120 |
| 37kW | 400V 50HZ | 50 | 320 | 200 |
| 45kW | 400V 50HZ | 70 | 300 | 250 |
| 55kW | 400V 50HZ | 70 | 340 | 250 |
| 75kW | 400V 50HZ | 100 | 320 | 400 |

# MAP OF STANDARD CRANE CONFIGURATIONS AND POSSIBLE AVAILABLE OPTIONS

| CRANE MODEL | | CRANE MANUALLY OPERATED OPERATOR CONSOLLE SYSTEM | | | | | | CRANE OPERATED WITH RADIO REMOTE SYSTEM | | | | | | | | | | HYDRAULIC BLOCK VALVE | | | HIGH PRESSURE OIL FILTER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | RRS | | | RDC | | | | | | | | | | | | |
| | | Loose external Block Valve with levers | External consolle with ABS Protective cover | External open footboard consolle SCA | External close footboard consolle SSC | Bulkhead connector with 2mt hoses PP2 | CIA - Seat on column with manual controls | Loose external BlockValve with levers | Bulkhead connector with 2mt hoses PP2 | Hetronic Radio Single hand RRS | External open footboard consolle SCA | External close footboard consolle SSC | Bulkhead connector with 2mt hoses PP2 | PIA - Seat on column with radio controls | Stand up platform only emergency use | Hetronic Radio Portable RDC | Scanreco Radio Portable RDC | Danfoss PVG32 with Manual controls | PVG32 with radio Portable RDC | Load Ssensing port on PVG32 | Crane operated manually | Crane opeated with Radio RRS | Crane opeated with Radio RDC |
| MINI TELESCOPIC | 601T | | ● | △ | | △ | | ● | ○ | ● | ● | | ● | | | ● | ○ | ○ | ● | | △ | ● | ● |
| | 602T | | ● | △ | | △ | | ● | ○ | ● | ● | | ● | | | ● | ○ | ○ | ● | | △ | ● | ● |
| | 603T | | ● | △ | | △ | | ● | ○ | ● | ● | | ● | | | ● | ○ | ○ | ● | | △ | ● | ● |
| | 604T | | ● | △ | | △ | | ● | ○ | ● | ● | | ● | | | ● | ○ | ○ | ● | | △ | ● | ● |
| | 605T | | ● | △ | | △ | | ● | ○ | ● | ● | | ● | | | ● | ○ | ○ | ● | | △ | ● | ● |
| TELESCOPIC | V805T | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V807NT | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V809T | | | ● | | ● | ○ | | | | ● | | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V811T | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| ARTICULATED | V803N | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V804N | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V805N | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V806N | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V807N | ● | | △ | | ● | | ● | ● | ● | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V808N | ● | | △ | | ● | | | | | ● | | ● | | | ● | ○ | ○ | ● | ○ | △ | ● | ● |
| | V810 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V811NG | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V812 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V813NG | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V815 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V817 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V817NG | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V820 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V823 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | | ● | | ● |
| | V825 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | ○ | △ | | ● |
| | V828 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | | ● | | ● |
| ARTICULATED WITH POWER LINK | V933 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | △ | ● | ○ | △ | | ● |
| | V936 | | | ● | ○ | ● | ○ | | | | ● | ○ | ● | ○ | | ● | ○ | ○ | ● | | ● | | ● |
| | V946B | | | ● | ○ | ● | ○ | | | | | | | ○ | | | | △ | | ○ | △ | | |
| | V946 | | | | | | | | | | | ● | ● | | | ● | | | ● | ○ | | | ● |
| | V950 | | | | | | | | | | | ● | ● | | | ● | | | ● | | | | ● |
| ARTICULATED WITH SLEWING BEARING | VR24 | | | | | | ○ | | | | | | | ○ | *■ | ● | ○ | | ● | ○ | | | ● |
| | VR34 | | | | | | ○ | | | | | | | ○ | *■ | ● | ○ | | ● | ○ | | | ● |
| | VR40 | | | | | | ○ | | | | | | | ○ | *■ | ● | ○ | | ● | ○ | | | ● |
| | VR60 | | | | | | ○ | | | | | | | ○ | *■ | ● | ○ | | ● | ○ | | | ● |
| | VR62 | | | | | | ○ | | | | | | | ○ | *■ | ● | ○ | | ● | | | | ● |
| | VR75 | | | | | | ● | | | | | | | ○ | *■ | ● | ○ | ● | ● | ○ | ● | | ● |
| | VR85 | | | | | | ○ | | | | | | | ○ | *□ | ● | ○ | | ● | | | | ● |
| | VR150 | | | | | | ● | | | | | | | | *■ | ● | ○ | ● | ● | ● | ● | | ● |

| CRANE MODEL | | LOAD MOMENT VALVE SAFETY DEVICE | | | | | | SPECIAL DEVICES | | | | SLEWING LIMIT ROTATION | | | ACCESSORIES | | | | WINCHES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Crane NO CE | | | Crane CE MARKET | | | | | | | | | | | | | | | ROTZLER | | | | DINAMIC OIL | | | TMA | | | |
| | | Manual controls | Radio RRS | Radio RDC | Manual controls | Radio RRS | Radio RDC | SGS | SDD | AVPS | EBB | Crane NO CE | Crane CE MARK | Elecric adjustable CE - No CE | Centralized Lubrication System | Emergency hand pump | Work Lights | Kit fixing screws for base | Extra Function for winch | TI1 1.000 kg | TI2 2.000 kg | TI3 3.200 kg | TI5 5.000 kg | NP05 - 500 kg | NP08 - 800 kg | NP10 - 1.000 kg | MW09 - 800 kg | MW22 - 2.000 kg | MW32 - 3.100 kg | MW50 - 5.000 kg |
| MINI TELESCOPIC | 601T | | | | | | | | | | | M ○ | M ● | | | ○ | ○ | ● | ○ | | | | | ○ | | | | | | |
| | 602T | | | | E ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ● | ○ | | | | | ○ | | | | | | |
| | 603T | | | | E ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ● | ○ | | | | | ○ | ○ | | | | | |
| | 604T | | | | E ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ● | ○ | | | | | | ○ | | △ | | | |
| | 605T | | | | E ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ● | ○ | | | | | | ○ | | △ | | | |
| TELESCOPIC | V805T | H ○ | E ○ | H ○ | H ● | E ● | H ● | | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | ○ | | △ | | | |
| | V807NT | H ○ | E ○ | H ○ | H ● | E ● | H ● | | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | ○ | △ | | | |
| | V809T | H ○ | | H ○ | H ● | | H ● | | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | ○ | △ | | | |
| | V811T | H ○ | | H ○ | H ● | | H ● | | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | ○ | △ | | | |
| ARTICULATED | V803N | H ○ | H ○ | H ○ | H ○ | H ○ | H ○ | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | ○ | | | | | | |
| | V804N | H ○ | H ○ | H ○ | H ○ | H ○ | H ○ | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | | ○ | | △ | | | |
| | V805N | H ○ | H ○ | H ○ | H ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | | ○ | | △ | | | |
| | V806N | H ○ | H ○ | H ○ | H ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | | ○ | | △ | | | |
| | V807N | H ○ | H ○ | H ○ | H ● | E ● | H ● | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | | | ○ | △ | | | |
| | V808N | H ○ | | H ○ | H ● | | H ● | | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | | | | | | | ○ | △ | | | |
| | V810 | H ○ | | H ○ | H ● | | H ● | ● | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | △ | | | |
| | V811NG | H ● | | H ● | H ● | | H ● | ● | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | | | | |
| | V812 | H ● | | H ● | H ● | | H ● | ● | | | | M ○ | M ● | | | ○ | ○ | ○ | ○ | ○ | | | | | | △ | △ | | | |
| | V813NG | H ● | | H ● | H ● | | H ● | ● | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | △ | | | |
| | V815 | H ● | | H ● | H ● | | H ● | ● | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | | △ | △ | | |
| | V817 | H ● | | H ● | H ● | | H ● | ● | ● | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | △ | △ | | |
| | V817NG | H ● | | H ● | H ● | | H ● | ● | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | △ | △ | | |
| | V820 | H ● | | H ● | H ● | | H ● | ● | ● | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | △ | △ | | |
| | V823 | H ● | | H ● | H ● | | H ● | ● | ● | ● | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | | | | | △ | △ | | |
| | V825 | H ● | | H ● | H ● | | H ● | | | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | V828 | H ● | | H ● | H ● | | H ● | | | ● | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| ARTICULATED WITH POWER LINK | V933 | H ● | | H ● | H ● | | H ● | ● | ● | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | V936 | H ● | | H ● | H ● | | H ● | ● | ● | ● | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | V946B | H ● | | | H ● | | | ● | ● | | | M ○ | M ● | | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | | | | | △ | △ | | |
| | V946 | | | H ● | | | M ● | ● | ● | | | M ○ | M ● | | ● | ○ | ○ | ○ | ○ | | ○ | ○ | | | | | △ | △ | | |
| | V950 | | | H ● | | | M ● | ● | ● | ● | | M ○ | M ● | | ● | ○ | ○ | ○ | ○ | | ○ | ○ | | | | | △ | △ | | |
| ARTICULATED WITH SLEWING BEARING | VR24 | | | H ● | | | H ● | ● | ● | | | | | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | VR34 | | | H ● | | | H ● | ● | ● | | | | | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | VR40 | | | H ● | | | H ● | ● | ● | | | | | | ○ | ○ | ○ | ○ | ○ | | ○ | | | | | | △ | | | |
| | VR60 | | | H ● | | | H ● | ● | ● | | | | | | ○ | ○ | ○ | ○ | ○ | | | ○ | | | | | | △ | | |
| | VR62 | | | H ● | | | H ● | ● | ● | ● | | | | | ○ | ○ | ○ | ○ | ○ | | | ○ | | | | | | △ | | |
| | VR75 | E ● | | H ● | E ● | | H ● | ● | ● | | | # ● | # ● | | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | | | | | △ | △ | |
| | VR85 | | | E ● | | | E ● | ● | ● | ● | ● | | | ● | ○ | ○ | ○ | ○ | ○ | | | ○ | ○ | | | | | △ | △ | |
| | VR150 | H ● | | H ● | H ● | | H ● | ● | ● | ● | ● | | | ● | ○ | ○ | ○ | ○ | | | | | | | | | | | △ |

● Standard
○ Optional
▲ Standard available in connection with Danfoss PVG32 Blck valve
△ Option available in connection with Danfoss PVG 32 Block valve

E ●○ Electric device
M ●○ Mechanical device
H ●○ Hydraulic device
# ●○ Slewing limiting device hydraulic (No endless rotation crane)
* ■□ Crane operated with Radio Remote System, Stand-up platform only for emergency manual controls

# MARINE & OFFSHORE CRANES

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