HS.Marine

MARINE CRANES SPECIALISTS

SHIP AND OFFSHORE
CRANES

Combined Knuckle/Telescopic Cranes
Telescopic Boom Cranes
Stiff-boom Cranes

Jib (Knuckle) Cranes
Pipe Handling Cranes
Luxury Yacht Cranes

www.hsmarine.net

HS.MARINE :
Top quality for ship and offshore cranes

A complete crane range designed for hoisting operations in a marine environment.
Heavy duty designed with emphasis on the side load force of the marine operations.
The design of these cranes has been developed considering the stresses, the load conditions and the environment of the marine operations.

All HS.Marine's cranes have been specifically designed and manufactured to work in a marine environment.

HS.Marine build cranes only for ship and offshore application.

HS.Marine Company offer a top level of servicing in equipment specifying , technical support, state of the art engineering , workshop facilities and after sale service.

HS.Marine products contain :

- Quality
- Innovation
- Reliability
- Experience

HS.Marine : the **TOP QUALITY** at the right price!

These hydraulic cranes are designed to outlast and outperform the competition.
Whether you are in the shipping or offshore industry, no other organisations has a wider selection of different crane models, ranging from 5 to approx. 400 tm. (New models are coming soon).
We will always focus on the clients specific needs, and offer the best solution based on our extensive and flexible modular crane concept in close co-operation with the client.
The marine / offshore crane design is founded on the modular approach within and transversal to the crane ranges. This permits a quick response to the market needs, reduction of parts in stock, and a constant top quality level of the final product for the various models offered.
The design of these cranes has been specially developed and improved for operation in a marine environment with all the relevant aspects considered when working with different heel and trim conditions in a shipboard or offshore situation.

We always have different cranes in stock with short delivery times.

HS.MARINE'S STATE OF THE ART DESIGN AND ATTENTION TO DETAIL INCREASE SERVICE LIFE WHILE SIGNIFICANTLY REDUCING MAINTENANCE COSTS.

The design of the HS.Marine cranes has been developed considering the stresses, the load conditions and the environment of the marine operations.
HS.Marine design and build cranes only for the marine and offshore environment.
For this reason no part of an HS.Marine cranes is derived from a truck crane design.
These cranes can work also with high angles of inclination. The heel and trim angles indicated in the catalogue are intended to be the static angles at which the crane can rotate and simultaneously hoist and dynamically handle 100% capacity.
All the cranes are provided with a powerful revolving system composed of slewing-ring and motor reducers , perfectly driving the crane even with high angles of inclination or relevant side forces.
All structures have been designed to take up heavy lateral forces. Looking at the cranes structures you will recognise that all articulation points are specially reinforced to absorb overloads.
Normally pins and bronze bushing are also definitely bigger than competitors cranes as the crane's design is undertaken considering a rotation at relevant heel and trim angles whilst simultaneously allowing hoisting and handling of 100% crane capacity.

Design characteristics

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The structure is designed to avoid water catchments areas which can create corrosion problems.
The structure of the crane can be supplied as a watertight construction.

Most of the cranes' standard versions are prepared with continuous rotation and control seat or platform at the side of the column, but the slewing angle can always be hydraulically limited depending on the customer's requirements.

The swivel Joint (if installed) can easily be dismounted without hoisting the crane.

Powerful extension cylinders allow big capacity winches.

All the cranes come prepared with a winch supporting plate already integrated in the crane structures to allow the best position and reduce the fleet angle of the rope.

Low and easy maintenance is another big advantage of the cranes. All details have been studied to ensure a reduction in maintenance and ensure easy access for maintenance.

All cranes offer tremendous precision due to their state-of-the-art hydraulic system.

HS.Marine buys components or systems only from lead suppliers in the world, with proven constant high quality and service. HS.Marine believes that this provides an advantage over its competitors and maintains the superior characteristics of our products.
HS.Marine strives to prevent that a component of poor quality that could compromise the safety or the reliability of the system.
It is important to underline the efforts that HS.Marine has undertaken to choose the best solutions, the best components and the most reliable components correlated to the crane system.
Components are supplied by selected manufacturers throughout the world who can offer extensive spare parts and after-sales assistance.

HS.Marine is always able to offer innovative hydraulic solutions to ensure the crane safety system is fully hydraulic.

Prior to delivery all the cranes are tested to a minimum of 125% of the rated capacity and the functionally of all the systems is accurately verified.

Pictures refer to cranes in overload conditions.

The articulation between main and knuckle boom is always executed without connecting rods to avoid stress concentration points and permit the crane to absord overloads better.
The design is mainly focused on protecting the crane against being overloaded, by absorbing the extra forces through the special boom construction.
Our cranes offer an extremely high resistance to overloads and perfectly combine elasticity and rigidity thereby reducing the risk of accident. The crane' structures are always designed to prevent stress concentration points.
Reinforcements and double plates are studied to create a smooth passage between elastic and rigid points in the structure of the cranes.
All crane structures will be built with high tensile stress material (type WELDOX 700 E or equivalent) which meets the requirements of the corresponding steel grades and qualities (according to EN 10025).
As our cranes are designed to operate during relevant movement of the vessel or load we focus our design on the elasticity concept. We do not allow our cranes to have relevant flexion when loaded as we believe that this could easily be a reason of major overloads.

Product range

Combined Knuckle/Telescopic Cranes

Type AK	Fully foldable telescopic knuckle type cranes with articulated boom, available in different capacities ranging from 5.5 to 55 tm.
Type AKC	Fully foldable telescopic/knuckle type cranes with articulated boom, available in different capacities ranging from 61 to 310 tm.
Type AKD	Fully foldable telescopic /knuckle heavy duty cranes available in five basic models in different capacities ranging from 74 to 250 tm. Designed for heavy duty support dredging operations.

Telescopic Boom Cranes

Type AT	Telescopic boom marine cranes, available in different capacities ranging from 5,75 to 53 tm.
Type ATC	Telescopic marine cranes available in different capacities ranging from 61 to 310 tm. The ATC cranes can be custom built according to requested load, radius and sea state.
Type ATD	Telescopic boom marine cranes are available in different capacities ranging from 8 to 400 tm. The ATD cranes are custom built according to requested load, radius and sea state.
Type ATR	Low profile telescopic boom marine cranes ranging from 8 to 40 tm.

Stiffboom Cranes

Type AF	Stiff-boom marine cranes are available in different capacities ranging from 5 to 53 tm. The AF cranes are custom built according to requested load, radius and sea state.
Type AFC	Stiff-boom marine cranes are available in different capacities ranging from 61 to 310 tm. The AFC cranes are custom built according to requested load, radius and sea state.
Type AFD	Stiff boom marine cranes are available in different capacities ranging from 8 to 400 tm. The AFD cranes are custom built according to requested load, radius and sea state.

Jib (Knuckle) Cranes

Type AKB	Heavy-duty articulated boom (JIB) marine cranes are available in different capacities ranging from 8 to 400 tm. The AKB cranes are custom built according to requested load, radius and sea state.
Type AP	Heavy-duty articulated boom marine cranes are prepared with support for a power block for fishing application ranging from 6.5 to 13 tm. The AP cranes are custom built according to requested load, radius and sea state.

Pipe Handling Cranes

Type PJ	Pipe handling manipulators are for fixed or mobile offshore application. The design of each manipulator is fully customised to assure the interfacing with the customer's drilling plant, to increase the working area, to simplify the pipe moving operations and to reduce the cycle time.

Luxury Yacht Cranes

Type YC	Luxury yacht cranes. Low profile stiff-boom type.
Type YT	Low profile telescopic revolving cranes with linear winch, power pack and remote control. Telescopic boom marine cranes available S.W.L. up to 3000 Kg. Yacht cranes are custom-built to the requested load, radius and overall dimensions. Custom-built cranes are also available.

Combined Knuckle Telescopic Cranes

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Fully foldable combined telescopic/knuckle type marine cranes with articulated boom available in different standard capacities, and custom-built to requested load, radius and sea state.

Type AK

Fully foldable telescopic knuckle type cranes with articulated boom.
Capacities range: from 5.5 to 55 tm

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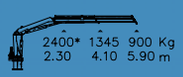

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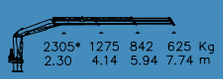

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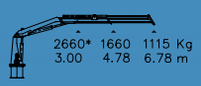

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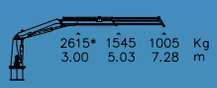

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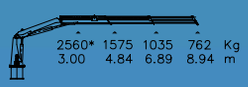

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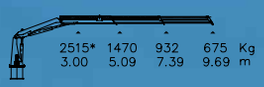

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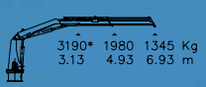

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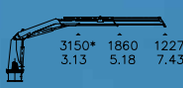

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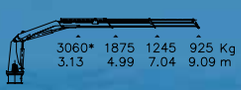

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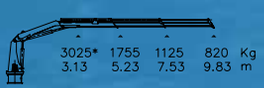

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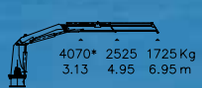

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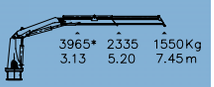

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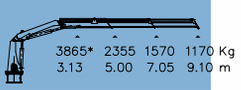

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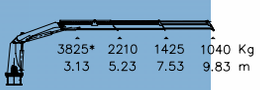

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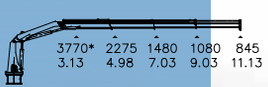

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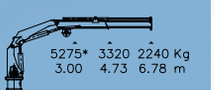

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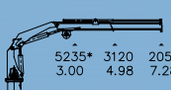

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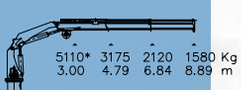

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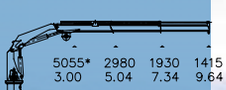

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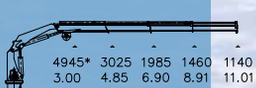

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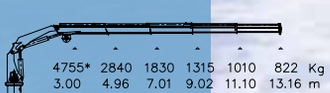

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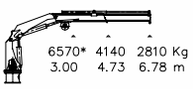

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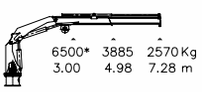

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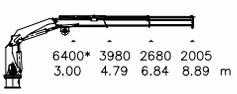

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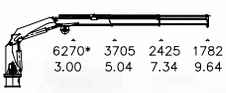

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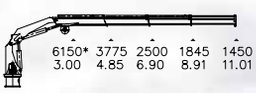

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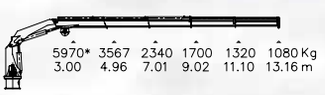

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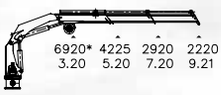

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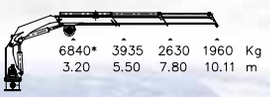

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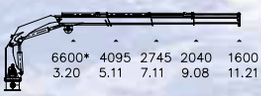

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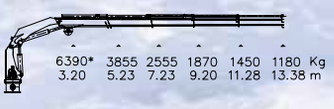
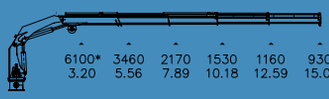


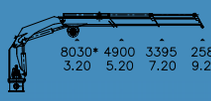
Combined Knuckle Telescopic Cranes

AK 30 LE4



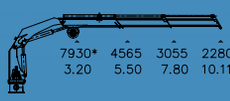
6100*	3460	2170	1530	1160	930	Kg
3.20	5.56	7.89	10.18	12.59	15.01	m

AK 34 HE2



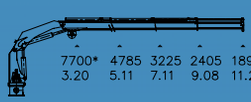
8030*	4900	3395	2580	Kg
3.20	5.20	7.20	9.21	m

AK 34 LHE2



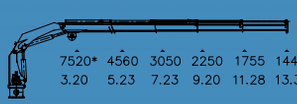
7930*	4565	3055	2280	Kg
3.20	5.50	7.80	10.11	m

AK 34 HE3



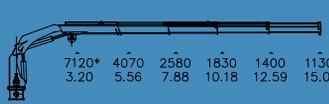
7700*	4785	3225	2405	1890	Kg
3.20	5.11	7.11	9.08	11.21	m

AK 34 HE4



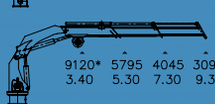
7520*	4560	3050	2250	1755	1440	Kg
3.20	5.23	7.23	9.20	11.28	13.37	m

AK 34 LHE4



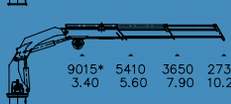
7120*	4070	2580	1830	1400	1130	Kg
3.20	5.56	7.88	10.18	12.59	15.01	m

AK 40 E2



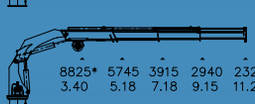
9120*	5795	4045	3090	Kg
3.40	5.30	7.30	9.31	m

AK 40 LE2



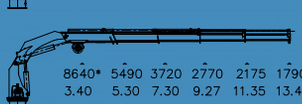
9015*	5410	3650	2738	Kg
3.40	5.60	7.90	10.21	m

AK 40 E3



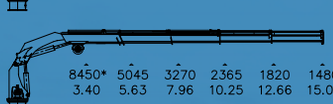
8825*	5745	3915	2940	2320	Kg
3.40	5.18	7.18	9.15	11.28	m

AK 40 E4



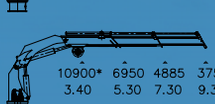
8640*	5490	3720	2770	2175	1790	Kg
3.40	5.30	7.30	9.27	11.35	13.44	m

AK 40 LE4



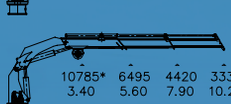
8450*	5045	3270	2365	1820	1480	Kg
3.40	5.63	7.96	10.25	12.66	15.09	m

AK 48 E2



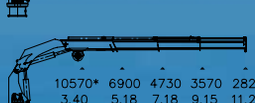
10900*	6950	4885	3750	Kg
3.40	5.30	7.30	9.31	m

AK 48 LE2



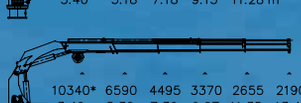
10785*	6495	4420	3335	Kg
3.40	5.60	7.90	10.21	m

AK 48 E3



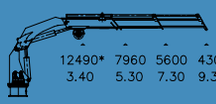
10570*	6900	4730	3570	2825	Kg
3.40	5.18	7.18	9.15	11.28	m

AK 48 E4



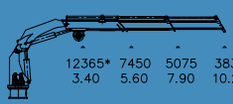
10340*	6590	4495	3370	2655	2190	Kg
3.40	5.30	7.30	9.27	11.35	13.45	m

AK 55 E2



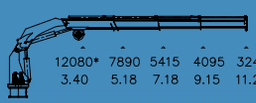
12490*	7960	5600	4300	Kg
3.40	5.30	7.30	9.31	m

AK 55 LE2



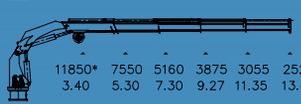
12365*	7450	5075	3830	Kg
3.40	5.60	7.90	10.21	m

AK 55 E3



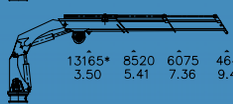
12080*	7890	5415	4095	3245	Kg
3.40	5.18	7.18	9.15	11.28	m

AK 55 E4



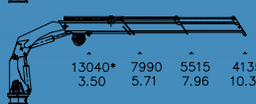
11850*	7550	5160	3875	3055	2525	Kg
3.40	5.30	7.30	9.27	11.35	13.45	m

AK 61 E2



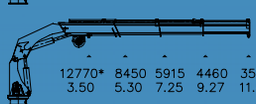
13165*	8520	6075	4640	Kg
3.50	5.41	7.36	9.42	m

AK 61 LE2



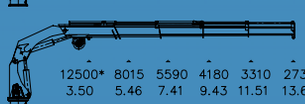
13040*	7990	5515	4135	Kg
3.50	5.71	7.96	10.32	m

AK 61 E3



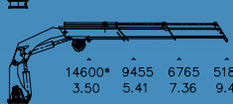
12770*	8450	5915	4460	3545	Kg
3.50	5.30	7.25	9.27	11.40	m

AK 61 E4



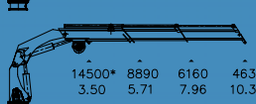
12500*	8015	5590	4180	3310	2730	Kg
3.50	5.46	7.41	9.43	11.51	13.62	m

AK 67 E2



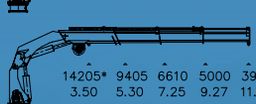
14600*	9455	6765	5180	Kg
3.50	5.41	7.36	9.42	m

AK 67 LE2



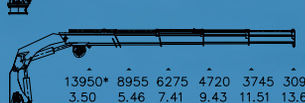
14500*	8890	6160	4630	Kg
3.50	5.71	7.96	10.32	m

AK 67 E3



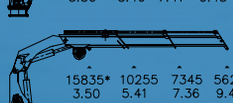
14205*	9405	6610	5000	3980	Kg
3.50	5.30	7.25	9.27	11.40	m

AK 67 E4



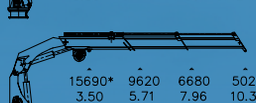
13950*	8955	6275	4720	3745	3095	Kg
3.50	5.46	7.41	9.43	11.51	13.62	m

AK 72 E2



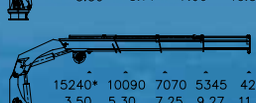
15835*	10255	7345	5625	Kg
3.50	5.41	7.36	9.42	m

AK 72 LE2



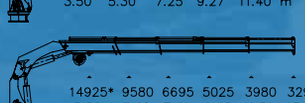
15690*	9620	6680	5025	Kg
3.50	5.71	7.96	10.32	m

AK 72 E3



15240*	10090	7070	5345	4245	Kg
3.50	5.30	7.25	9.27	11.40	m

AK 72 E4



14925*	9580	6695	5025	3980	3290	Kg
3.50	5.46	7.41	9.43	11.51	13.62	m

Combined Knuckle Telescopic Cranes

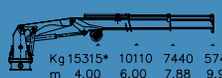
Type AKC

Fully foldable telescopic/knuckle type cranes with articulated boom.

Capacities range: from 61 to 310 tm

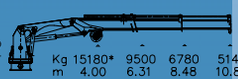
HS.Marine
MARINE CRANES SPECIALISTS

AKC 80 HE2



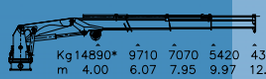
Kg	15315*	10110	7440	5740
m	4.00	6.00	7.88	9.94

AKC 80 LHE2



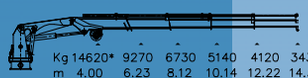
Kg	15180*	9500	6780	5140
m	4.00	6.31	8.48	10.84

AKC 80 HE3



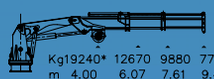
Kg	14890*	9710	7070	5420	4350
m	4.00	6.07	7.95	9.97	12.11

AKC 80 HE4



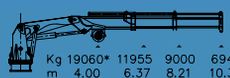
Kg	14620*	9270	6730	5140	4120	3430
m	4.00	6.23	8.12	10.14	12.22	14.33

AKC 100 E2



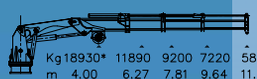
Kg	19240*	12670	9880	7770
m	4.00	6.07	7.61	9.48

AKC 100 LE2



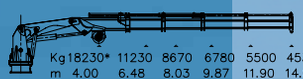
Kg	19060*	11955	9000	6940
m	4.00	6.37	8.21	10.38

AKC 100 E3



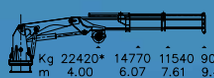
Kg	18930*	11890	9200	7220	5810
m	4.00	6.27	7.81	9.64	11.71

AKC 100 E4



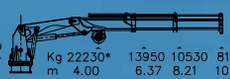
Kg	18230*	11230	8670	6780	5500	4530
m	4.00	6.48	8.03	9.87	11.90	14.01

AKC 115 HE2



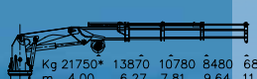
Kg	22420*	14770	11540	9080
m	4.00	6.07	7.61	9.48

AKC 115 LHE2



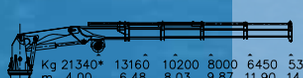
Kg	22230*	13950	10530	8130
m	4.00	6.37	8.21	10.38

AKC 115 HE3



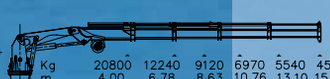
Kg	21750*	13870	10780	8480	6830
m	4.00	6.27	7.81	9.64	11.71

AKC 115 HE4



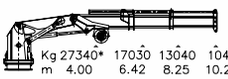
Kg	21340*	13160	10200	8000	6450	5370
m	4.00	6.48	8.03	9.87	11.90	14.01

AKC 115 LHE4



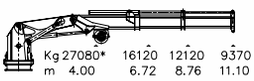
Kg		20800	12240	9120	6970	5540	4570
m		4.00	6.78	8.63	10.76	13.10	15.51

AKC 145 HE2



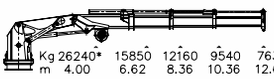
Kg	27340*	17030	13040	10410
m	4.00	6.42	8.25	10.20

AKC 145 LHE2



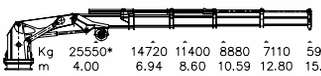
Kg	27080*	16120	12120	9370
m	4.00	6.72	8.76	11.10

AKC 145 HE3



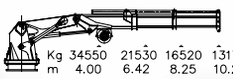
Kg	26240*	15850	12160	9540	7630
m	4.00	6.62	8.36	10.36	12.67

AKC 145 HE4



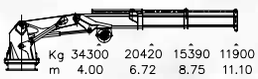
Kg	25550*	14720	11400	8880	7110	5930
m	4.00	6.94	8.60	10.59	12.80	15.07

AKC 185 HE2



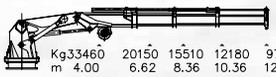
Kg	34550	21530	16520	13170
m	4.00	6.42	8.25	10.20

AKC 185 LHE2



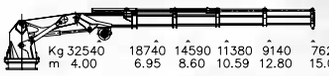
Kg	34300	20420	15390	11900
m	4.00	6.72	8.75	11.10

AKC 185 HE3



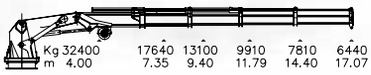
Kg	33460	20150	15510	12180	9750
m	4.00	6.62	8.36	10.36	12.67

AKC 185 HE4



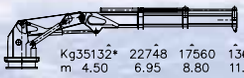
Kg	32540	18740	14590	11380	9140	7620
m	4.00	6.95	8.60	10.59	12.80	15.07

AKC 185 LHE4



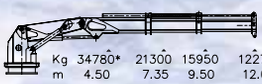
Kg	32400	17640	13100	9910	7810	6440
m	4.00	7.35	9.40	11.79	14.40	17.07

AKC 210 HE2



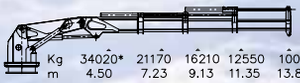
Kg	35132*	22748	17560	13695
m	4.50	6.95	8.80	11.05

AKC 210 LHE2



Kg	34780*	21300	15950	12270
m	4.50	7.35	9.50	12.05

AKC 210 HE3

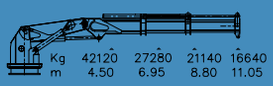


Kg	34020*	21170	16210	12550	10080
m	4.50	7.23	9.13	11.35	13.82

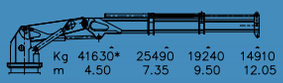
Combined Knuckle/Telescopic Cranes

Type AKC

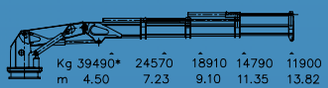
AKC 245 HE2



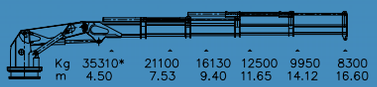
AKC 245 LHE2



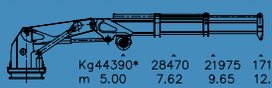
AKC 245 HE3



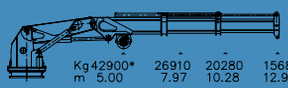
AKC 245 HE4



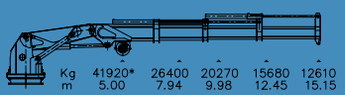
AKC 290 E2



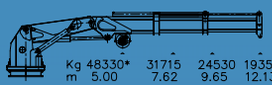
AKC 290 LE2



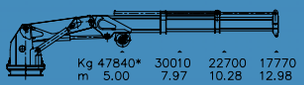
AKC 290 E3



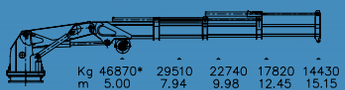
AKC 325 E2



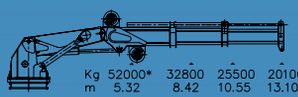
AKC 325 LE2



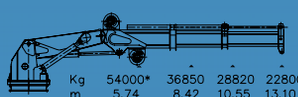
AKC 325 E3



AKC 370 HE2



AKC 410 HE2

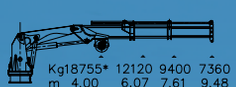


AKC 410 LHE2

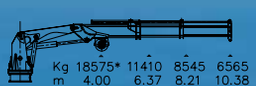
Type AKD

Fully foldable telescopic /knuckle heavy duty cranes available in five base model. Designed for heavy duty support dredging operations.
Capacities range: from 74 to 250 tm.

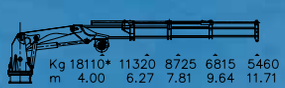
AKD 107 E2



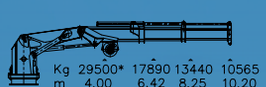
AKD 107 LE2



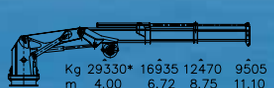
AKD 107 E3



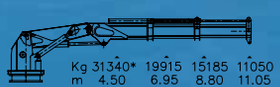
AKD 167 E2



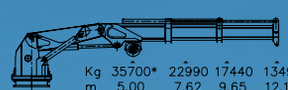
AKD 167 LE2



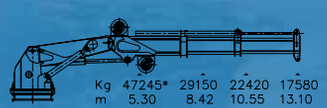
AKD 202 E2



AKD 262 E2



AKD 362 E2



Telescopic Boom Cranes

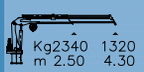
Telescopic boom marine cranes, available in different standard capacities, and custom-built to the requested load, radius and sea state.

HS.Marine
MARINE CRANES SPECIALISTS

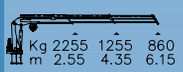
Type AT

Telescopic boom marine cranes.
Capacities range: from 5,75 to 53 tm.

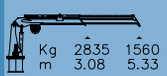
AT 7 E1



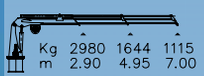
AT 7 E2



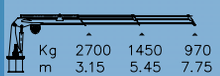
AT 10 LE1



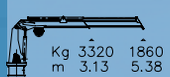
AT 10 E2



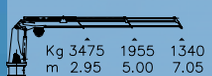
AT 10 LE2



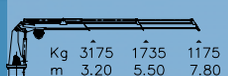
AT 13 LE1



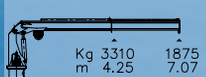
AT 13 E2



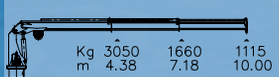
AT 13 LE2



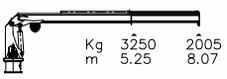
AT 18/7 E1



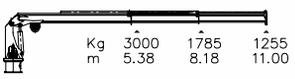
AT 18/10 E2



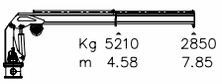
AT 22/8 E1



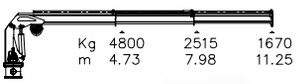
AT 22/11 E2



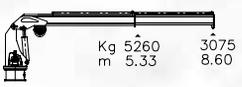
AT 30/8 E1



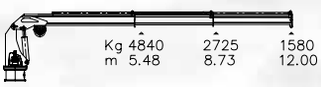
AT 30/11 E2



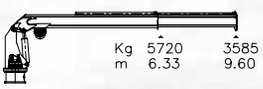
AT 36/9 E1



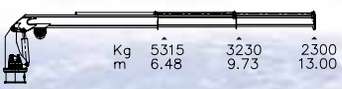
AT 36/12 E2



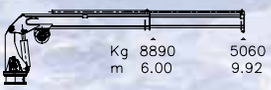
AT 48/10 E1



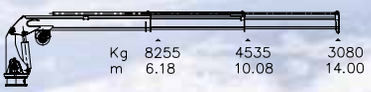
AT 48/13 E2



AT 68/10 E1



AT 68/14 E2

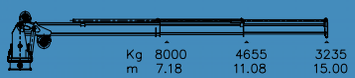


Telescopic Boom Cranes

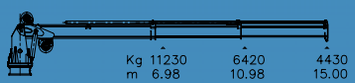
Type ATC

Telescopic marine cranes. Can be custom built according to requested load, radius and sea state.
Crane built and designed in according to DIN 15018 rules class H2-B3.
Capacities range: from 61 to 310 tm.

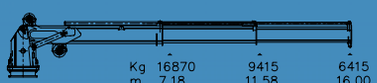
ATC 85/15 E2



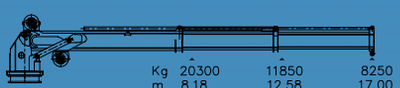
ATC 115/15 E2



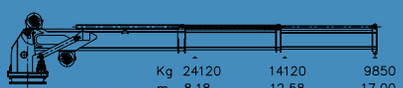
ATC 175/16 E2



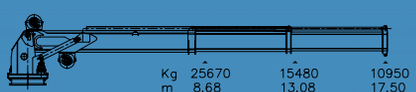
ATC 245/17 E2



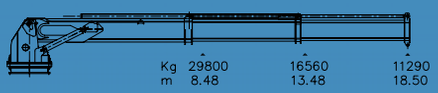
ATC 290/17 E2



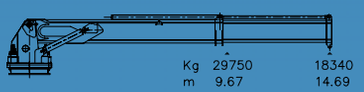
ATC 325/17.5 E2



ATC 370/18.5 E2



ATC 410/15 E1



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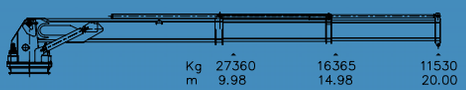
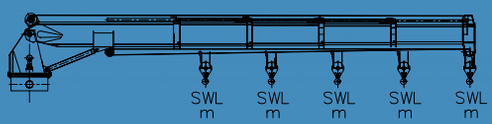


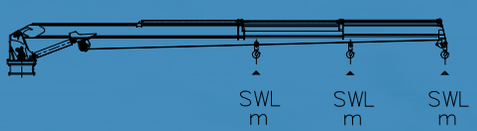
ATC RANGE

Custom built according load , radius and sea state requested



Type ATD

Stiff boom marine cranes, custom built according to requested load, radius and sea state.
Capacities range: from 8 to 400 tm.



Type ATR

Low profile telescopic boom marine cranes. Custom built.
Capacities range: from 8 to 40 tm.

Stiff-boom Cranes

Stiff-boom marine cranes, available in different standard capacities, and custum built to the requested load, radius and sea state.

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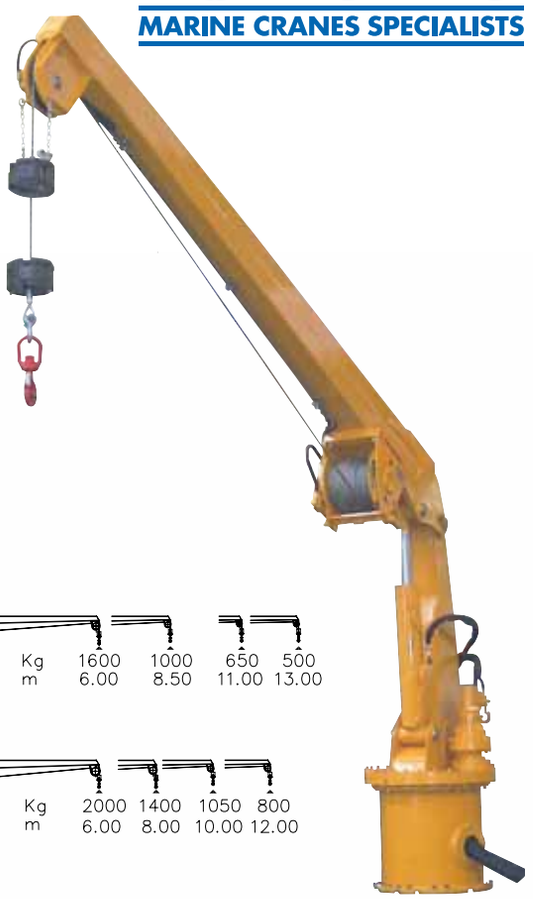
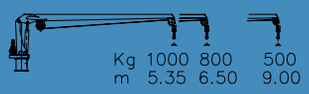


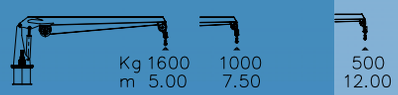
Type AF

Stiff-boom marine cranes, custom built according to requested load, radius and sea state.
Capacities range: from 5 to 53 tm

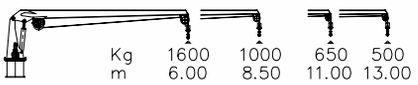
AF 7



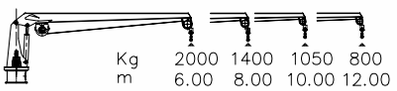
AF 10



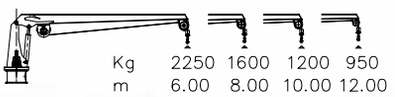
AF 12



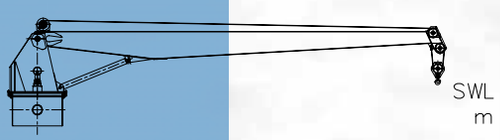
AF 15



AF 17

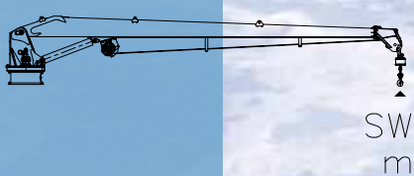


Type AFC



Stiff-boom marine cranes, custom built according to requested load, radius and sea state.
Capacities range:
from 61 to 310 tm

Type AFD



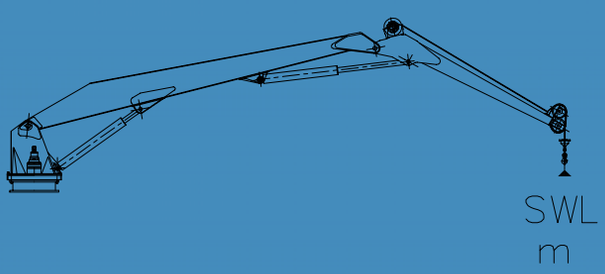
Stiff boom marine cranes, custom built according to requested load, radius and sea state.
Capacities range:
from 8 to 400 tm

Jib (Knuckle) Cranes

Different standard capacities, and also custom-built to requested load, radius and sea state.

Type AKB

Heavy-duty articulated boom (JIB) marine cranes, custom built according to requested load, radius and sea state.
Capacities range: from 8 to 400 tm



Type AP

Heavy-duty articulated boom marine cranes prepared with support for a power block for fishing application.
The AP cranes are custom built according to requested load, radius and sea state.
Capacities range: from 6.5 to 13 tm

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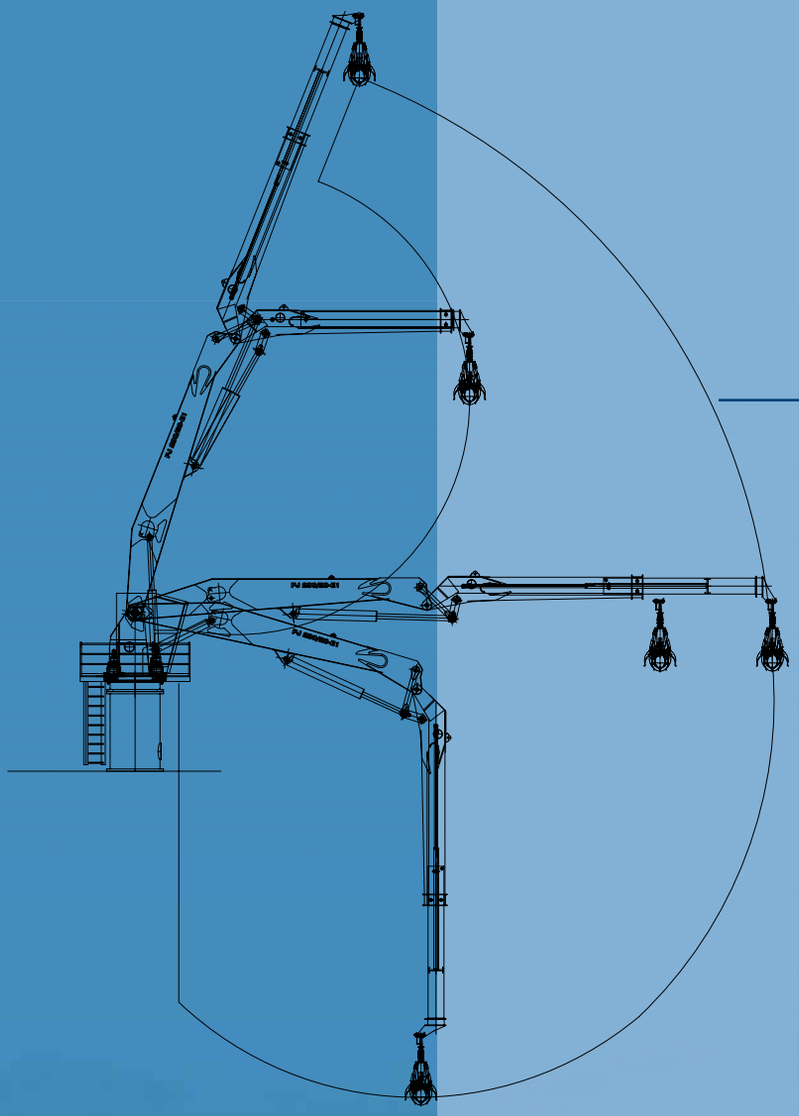
Pipe Handling Cranes

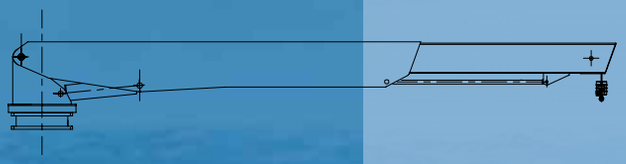
Pipe handling manipulators for fixed or mobile offshore applications.



Type PJ

Pipe handling manipulators for fixed or mobile offshore applications . The design of each manipulator is fully customised to assure the interface with the customer's drilling plant and increase the working area, to simplify the pipe moving operations and to reduce the cycle time.

Capacities:
Custom built



Luxury Yacht cranes

Type YC

Low profile stiff-boom cranes. Custom-built cranes are also available.

Capacities:
SWL up to 3000 kg

Type YT

Low profile telescopic revolving cranes with linear winch, power pack and remote control. Telescopic boom marine cranes available S.W.L. up to 3000 Kg. Yacht cranes are custom-built to the requested load, radius and overall dimensions. Custom-built cranes are also available.

Capacities:
SWL up to 3000 Kg

Standard general technical specification

All HS.Marine's cranes have been specifically designed and manufactured to work in a marine environment and adopt all the best solutions to make them resistant to the corrosive atmosphere of the marine environment.
All the cranes include:

- Standard HS.Marine's Treatment
- Powerful rotation utilising slewing ring unit
- 360° Limited rotation (on cranes < 30 tm) with Operator's stand console outside the crane base with 2 m of hoses and steel cover protection
- 360° Continuous rotation (on cranes > 30 tm) with Operator's seat console with access ladder on the column and steel cover protection
- Proportional Control valve block (on cranes > 60 tm) complete with high pressure filter
- Hydraulic limiting moment device
- Emergency stop device
- Topping cylinder rod and knuckle cylinder executed in NIKROM 350 material to attain top resistance to the salt environment.
- Telescopic cylinder rods will be built in double chromium top layers with marine execution.
- Stainless steel pipe and pipe nuts.
- Special waterproof sealing rubber hoses and rubber tape on all fittings
- Extensive use of stainless steel for all small plates, supports, etc.
- All not structural bolts are in stainless steel A4 type
- All the springs are stainless steel execution
- All medium and big size of bronze bushings have a greasing point for each bushing
- Stainless steel greasing nipples
- Marine grease protection on all mechanical parts where steel is in contact with steel
- Special sealing of all flanges (gear boxes, slewing rings) and holes where the salt fog can in the long term start corrosion problems
- Transport frame and/or transport boom –rest in welded steel construction

Alternative Options

HS.Marine representatives are always available to discuss the technical specifications of our equipment which will be implemented to your specific application. We are always available to discuss and develop the most cost-effective and the most reliable solution to your operating requirements. HS.Marine is particularly interested in customising each crane and advising on optional equipment.

A wide range of optional equipment is available to be installed on our cranes.

If you contact HS.Marine representatives you are guaranteed personal and individual attention catering for your own particular installation.

OPERATOR'S STAND CONSOLE OUTSIDE THE BASE

Standard on knuckle boom foldable cranes < 30 tm the slewing angle is 360°. Hydraulically limited with operator's stand console and steel cover protection ready to be bolted on deck outside the crane base (2 m of hoses between the crane base and the stand console are supplied as standard).
Note: On request a full stainless steel (AISI 316 L) version is also available.

OPERATOR'S SEAT CONSOLE ON THE COLUMN

As standard on cranes > 30 tm the slewing angle is 360°.
Continuous with Operator's seat console with access ladder on the column and steel cover protection.
The control position is placed on the operator's seat console on the left side of the crane column.

SLEWING RINGS

All our cranes are supplied with rotation on slewing ring. This high quality solution guarantees high rotation torque capabilities and better crane control.
The crane foundation can be always be made from a simple pipe with a flange.
Moreover if you are building a vessel with a standard design different crane models utilise the same pitch hole diameter allowing you to modify the choice of the crane model at a later date according to customer requirements. With no 10 different pitch diameters you can obtain 100% of HS.Marine production.

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HS.Marine's treatment

The HS.Marine treatment and design concept reduces maintenance and lifecycle costs, simplifies inspection and recoating. Simple and low cost maintenance are the benefits that HS.Marine grants our customers.

• All steel plates are carefully stress-relieved and shot blasted (SA 2.5) in order to remove all rust and impurities before painting ,according to the Swedish Standard (SIS 1967- SS PC-SP 6) Before painting the crane and all components are thoroughly washed to ensure all surfaces are free from oil and dust guaranteeing maximum paint adhesion including the slewing ring and motor reducer.
The marine painting consists of zinc primer treatment (after shot blasting), a thick coat of epoxy intermediate and a polyurethane topcoat for a total of 250 microns.
The paint system is the result of severe tests and guarantees full protection of the crane against corrosion.
Colour: Yellow RAL 1007 (Different colours or procedures on request can be evaluated and executed).
• Flame metalising treatment is optional.
• All parts are painted disassembled.
• All the structures as much as possible are also painted internally
• All valves and distributor blocks are perfectly degreased and painted independently with special paint to have the best result in terms of corrosion resistance.
• Control console are made of stainless steel or protected after shot blasting with a chemical treatment by immersion in a chemical bath.
• Special attention is given to the watertight sealing and to the painting of all the components for example gear boxes, slewing rings and motors that cannot be sandblasted or can have parts bolted together that in the long term may present corrosion problems in the salty atmosphere.
• All articulation pins are sealed after assembling to prevent water infiltration
• All steel bushings of a pin are protected with an anticorrosion grease to prevent adhesion before installation.
• The winches are protected with a marine paint system and all the parts are primary painted when disassembled, to ensure difficult parts to paint after assembly are covered, and finally the winches are painted again after total assembling.
• Special marine greases are largely used for the special protection of each treat, each flange and each part that cannot be painted prior to installation.

- Radio or cable remote control system
- Different position of the controls
- Stainless steel AISI 316 hose fittings
- Stainless steel stand console
- Marine winches with hydraulic limiting switch rope down and electric limiting switch rope up
- Fully hydraulic limiting switch rope up for the winch system (instead of electric)
- Winch limiting pull system
- Centralised greasing system
- Double setting limiting moment device (for different sea state conditions)
- Operator cabin
- Flood lights
- Full range of electro-hydraulic or diesel-hydraulic power pack units complete with starting panel
- Explosion proof execution for crane and its components
- Turret under base or mating flange for the basement
- Flame metalising of the crane structures (after shot blasting)
- Different colours or different painting procedures

Important details

STAINLESS STEEL

We use, as standard, a large proportion of stainless steel part type AISI 316 L
All bolts and nuts are of stainless steel A4 type except connections where high tensile strength bolts are required.
Springs, distributor levers, small supports, hose guides and small plates not on original structure are made of stainless steel AISI 316.
All greasing nipples are made of stainless steel.
As minimum all pipes and pipe nuts are stainless steel (on request all fittings can be made of stainless steel).
Stand console can also be made of stainless steel on request.

CYLINDERS RODS

We are aware that cylinder rods are always a critical part on most of concurrent cranes.
We do not believe that it is possible to compromise on the quality of the protection of the cylinder rods.
As standard, and for top resistance in the salt environment lifting cylinders rods and knuckle cylinders rods will be will be executed in Nikrom 350 material.
Telescopic cylinder rods will be built in double chromium layer MARINE treatment for marine application (not standard double chromium treatment).
Cylinder rods will always be verified for low specific pressure and the cylinder plug guarantees a long support. We accept the value of elastic flexion on the cylinder rods is lower than what required by the standards. Compared to concurrent cranes will most probably look bigger. Only high quality seals are utilised.

PAINTING PROCEDURES

All the parts are painted separately. No component is painted after installation. Any openings on the boom may be painted internally and greased. Crane components are dismounted and painted in parts and then reassembled. Distributor block, valves, etc. are always degreased and properly painted.
This is our standard on all our productions.

WATERTIGHT SOLUTIONS

All fittings are covered by a special rubber hose or tape with waterproof sealing. We use high quality material for underwater applications that guarantee the sealing even in the event of hoses bending.

SALT ATMOSPHERE PROOF SEALING

All the parts we know that salt fog can, in the long term, penetrate (like the surface where two flanges are bolted together, pins, plugs, gear box flanges or hydraulic motors flanges, etc) are completely sealed with special material.
We like to keep the salt fog out !

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ELECTRICAL COMPONENTS.

We use IP 67 protection on the electrical components exposed to the environment.

GREASE AND WAX PROTECTION.

All the surfaces where steel is in contact with steel i.e.; flanges, bolts threads, pin resting surfaces, etc, are protected with special marine grease to prevent adhesion and surfaces rusting.
All the most critical parts and all internal surfaces are also sprayed by a special transparent wax that in a very short drying time eaves a hard transparent film.
We also use different types of grease for the different components.

ARTICULATION POINTS AND HEAVY ROTATION GROUP

Compared to concurrent cranes our articulation point will most probably look bigger.
We always calculate the crane with side loading due to the heel effect and we like to have small specific pressure on the bronze bushing and on the articulation pins.
On nearly all cranes except the smallest ones each bronze bushing has independent greasing.
On request it is also possible to order a crane with an extra heavy rotation group to permit high angles of inclination (Version "H").

STEEL FRAME

Cranes are supplied including a steel frame for easy transport, easy and secure crane loading/ unloading and long term storage.
The steel frame includes fork lift attachment.

EASY INSTALLATION.

HS.Marine cranes guarantee easy installation.
The cranes are always delivered fully tested and each connection is prepared and correctly marked.
Our workshop facilities guarantee that the cranes and their components are tested in any configuration. Our facilities include internal and external testing benches and our hydraulic facilities guarantee that the cranes are always tested with the correct hydraulic power supply.
Complete installation procedures with required size of connection fitting, hoses and cable dimensions are in the Use and Maintenance manual.

DOCUMENTATION.

The crane documentation always includes the following :

- Spare parts manual in English language (in electric format)
- Use and maintenance manual (complete with installation procedures, Load Charts, Overall dimensions drawings, General description, Main technical data) in the English language (in electric format)
- Hydraulic Schema
- Electrical schema (if supplied any electrical components)
- Hook and shackle manufacturer certificates
- Winch manufacturer certificate (if supplied the winch kit)
- Rope manufacturer certificate (if supplied the winch kit)
- Radio or cable remote control certificate (if supplied the radio or the cable remote control)
- Factory test certificate

Quality Solutions

MARINE WINCHES

We utilise marine winches.
The winches are painted when disassembled and final coated after they are assembled to ensure all parts are well protected.
All the bolts (not structural) and springs are made in Stainless steel.

FULLY HYDRAULICAL SOLUTIONS

The winch kit always includes limiting switches rope up and rope down.
The system can optionally be made fully hydraulic (hydraulic limiting switch rope up and hydraulic limiting switch rope down).
This device is normally an electric type, but on request can be hydraulic type.

APPLICATIONS FOR HAZARDOUS ENVIRONMENT

The cranes can be prepared for installation in hazardous areas.
We can supply a fully hydraulic crane safety system or when necessary we can install EX or EXD electrical equipment

REMOTE CONTROL POSITION FROM RADIO REMOTE CONTROL

On request the crane can be supplied by a radio remote system.

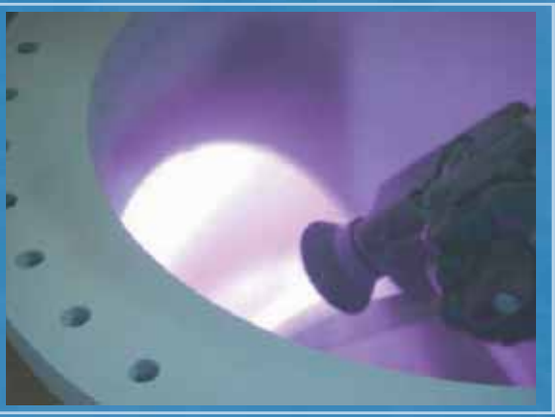
Note:
The same system can also be used as a cable remote control (as standard the system is supplied with 15 m of back-up cable).

HPU

Standard HPU with Easy maintenance tanks with simple and compact design.
Electrical motor with vertical axis and submerged pump (High quality gear pump or piston pump) .
All parts are marine quality painted and all bolts are type A4.
Lifting lugs for easy lifting of the complete power pack.
All connections are ready and clearly marked.
Steel bars for support of the control starting panel are bolted to the tank (easy to dismount and easy to install somewhere).
Each oil tank is also tested with liquid penetration test.
All power packs are completely tested before delivery.
All components installed are from companies with worldwide sales networks (easy procurement of spare parts).
Spare parts and use and maintenance manual including components manufacturer data sheet.
All power packs are completely tested before delivery.

MARINE COATING PROCESS

All steel parts are marine quality painted after being shot blasted (SA 2.5) in order to remove all rust and impurities before painting according to the Swedish Standard (SIS 1967- SS PC-SP 6).
The paint system is the result of severe tests and guarantees the crane full protection against corrosion. Colour: Yellow RAL 1007 (Different colours or procedures on request can be evaluated and executed).
Our standard marine / offshore painting process consists of zinc primer treatment (after shot blasting), a thick coat of epoxy intermediate and a polyurethane topcoat for a total of 250 microns.
On request the crane structures can be supplied with a **flame metalizing** treatment instead of an application of zinc primer.



Service & after sales

HS.Marine believes that it is in ours and our customers' best interests to maintain close contact not only in the purchase period, but also throughout the equipments lifetime. This way our customers will get the best product and we will continue to improve. **Our responsibility does not stop after installation!**

HS.Marine provides full after-sales service direct from the factory (utilising HS.Marine service and maintenance department) and via our network of local dealers abroad (World wide service network). Our world wide service network is based on our dealers being leading companies (involved in marine equipment supply and service) with experienced technicians who receive support and training from HS.Marine.

HS.Marine service and maintenance departments work in close collaboration with our world wide service networks and are always available to provide you the best service and will assist you directly when required.

Below we have tried to describe how **HS.Marine's** Service & After sales system is organized.

We will assist you World Wide !

Please look at back page to see our network.

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HS.Marine Service & Maintenance Department

HS.Marine has trained and authorised service personnel ready to assist you world wide. We offer the best training and support systems to our service partners and customers.

World Wide Service Network

HS.Marine uses responsible dealers who work to HS.Marine standards and are approved to undertake services and sales on behalf of HS.Marine.
Our world wide dealer service network is able to assure you the best service in any part of the world.

Spare parts

We have every confidence in our spare part system that has been built up over a number of years. The modular approach and the wide stock of spare parts and components ensure our customers receive a speedy and efficient service. Our Service Department is always available with experienced technicians and a stock of original spare parts.
Moreover all the components we utilise are from suppliers with a world wide sales network.

HS.Marine

MARINE CRANES SPECIALISTS

Manufacturing • Installation • Service

For more information contact:

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