

# DECK EQUIPMENT AND HANDLING SOLUTIONS

PALFINGER MARINE



MARINE CRANES



OFFSHORE CRANES



DAVIT SYSTEMS



BOATS



WINCHES AND OFFSHORE EQUIPMENT



AFTER SALES AND SERVICE



# COMPANY PROFILE

**PALFINGER GROUP**  
Founded in 1932

**Employees:**  
about 9.000

**Turnover 2015:**  
1.2 Billion EUR

**HQ located in:**  
Salzburg, Austria

## LIFETIME EXCELLENCE

PALFINGER MARINE, part of the PALFINGER Group, is the global leading manufacturer of highly reliable, innovative and customised deck equipment and handling solutions for the maritime industries. LIFETIME EXCELLENCE is the promise. For PALFINGER MARINE customers, this means excellence without compromise and reliable, economical solutions - the entire product life-cycle long. User-friendly applications and functional design are the key benefits of the product range. Reliable equipment guarantees resistance even under the toughest conditions. A worldwide service network including supply of spare parts ensures fast and professional on-site support.

## HIGHEST QUALITY AND EFFICIENCY

PALFINGER MARINE is deeply committed to the highest quality and safety standards. All products are characterised by high value retention and low maintenance. This ensures safe and economical use.

## RELIABILITY AND EXPERTISE

PALFINGER MARINE is a reliable and professional partner in every situation - from sales and design phase until delivery, service and support. PALFINGER MARINE never lets a customer down.

## FLEXIBILITY AND INNOVATION

PALFINGER MARINE has more than 80 years of expert knowledge in the design and manufacturing of deck equipment and handling solutions. Continuous improvement and development of new and innovative products provide customers with an extensive product range from one single source.

## GLOBAL AND LOCAL OPERATIONS

Combining excellent products, strong customer orientation and high level of service, PALFINGER MARINE has gained a leading position in the global maritime market. PALFINGER MARINE is characterised by a global sales, manufacturing and service network in addition to strong local support.

## MARINE AND OFFSHORE CRANES



Marine and Offshore Cranes by PALFINGER MARINE are designed to meet the safety standards and extreme environmental conditions of the maritime industry. The extensive range of AHC cranes, knuckle boom, stiff boom and telescopic boom cranes as well as wire luffing lattice boom and travelling cranes can be used for various applications within the shipbuilding and the oil and gas industry. Decades of worldwide experience in producing cranes is the basis for the company's technical expertise, innovative strength and uncompromising quality.



## DAVIT SYSTEMS



Davit Systems by PALFINGER MARINE offer high quality, innovative, user-friendly solutions whereby an ideal balance is achieved between safety and economic factors. Davit Systems for life-saving purposes, daughter crafts, workboats and fenders are easy to install (plug and play), trouble free, easy to maintain and ensure safety when it matters most. This is what makes PALFINGER MARINE Davit Systems so competitive.



## BOATS



PALFINGER MARINE offers a wide range of Boats including (fast) rescue boats, workboats, daughter crafts and military and law enforcement boats. Ship owners, shipyards and operators are supplied with innovative, safe and high quality products. All boats are designed as part of a complete rescue system, thereby taking davit, access and launching procedures into consideration.



## WINCHES AND OFFSHORE EQUIPMENT



Winches and Offshore Equipment (former NDM) is supplier of custom-made deck machinery and handling equipment for offshore vessels, offshore service vessels, special vessels and oil rigs. The comprehensive product portfolio includes: **Winches, Lifting and Handling Equipment, Bulk and Bunker Handling Equipment.** The well proven designs ensure trouble-free operations in demanding maritime environments which require high performing and reliable equipment.



## AFTER SALES AND SERVICE



PALFINGER MARINE provides comprehensive, customised and reliable services to customers around the world. A global network of specially trained engineers and experts offer extensive know-how and experience. PALFINGER MARINE is a reliable and professional partner in every situation, from telephone assistance to on-time delivery and instant on-site support.





# SEGMENTS

## FIELDS OF APPLICATION

PALFINGER MARINE supplies dedicated cranes, davits, boats, winches and offshore equipment for the maritime industries.

### OIL AND GAS

PALFINGER MARINE has a wide range of deck equipment and handling solutions for all types of vessels and fixed and floating installations related to the extraction of oil and gas at sea. The product portfolio covers marine and offshore cranes, winches and offshore equipment in addition to davit systems, rescue boats and life boats. All products are adapted to customer requirements and designed to meet applicable standards.



### OFFSHORE VESSELS

Offshore vessels, offshore service vessels and workboats operating in the oil and gas market have very specific requirements when it comes to deck equipment and handling solutions in addition to life-saving equipment. Long and extensive experience, well proven design for the rough offshore conditions and a global service network make PALFINGER MARINE the perfect partner.



### NAVY AND COAST GUARD

PALFINGER MARINE supplies a range of products meeting specific demands for Navy and Coast Guard vessels like standardised and customised cranes, winches, davit systems and military and law enforcement boats in addition to various entry systems / onboard slipways for launching and retrieval of smaller crafts. PALFINGER MARINE has an impressive track record of supplied equipment to international navy and coast guard clients around the globe.



### FISHING AND FISHFARMING

Based on many years of experience PALFINGER MARINE has developed a wide range of cranes, davits, boats and winches for all the lifting and safety requirements of the fishing and fish farming industry. The high level of standardisation guarantees easy installation and operation, a minimum level of required maintenance and a high level of availability of spare parts and service worldwide.



### MERCHANT VESSELS

For merchant vessels like tankers, bulkers and container ships PALFINGER MARINE supplies functional lifting equipment in order to support their productivity needs. Rescue equipment like lifeboats, (fast) rescue boats and davits are also included in the product portfolio. All products are designed for a maximum lifetime in an often very corrosive environment.



# REFERENCES

Hornbeck Offshore Services VARD Group Petrobras Daewoo Heavy Industries Damen Shipyards Modec Van Oord Aker Solutions Shell Edison Chouest Offshore LLC Van Oord Aker Solutions Shell Dof Group ADNOC Lamprell Energy Ltd Aibel Boskalis Tersan Shipyard DONG Energy Kleven Ulstein Verft IHC Sentinel Marine ST Marine Varco Fjellstrand AS Havyard Group Shipyard De Hoop Fincantieri Remontowa Shipbuilding Chantiers Piriou CSSC Dalian Shipyard Triyards Marine Shipyard Samsung Heavy Industries IHC Goa Shipyard Limited Yantay Raffles Gulf Marine Services STX BW Offshore Hyundai Heavy Industries Total Oceana Shipyard





# MARINE AND OFFSHORE CRANES



## MARINE CRANES

Marine cranes are designed to meet the safety standards and extreme environmental conditions of the maritime industry. Decades of worldwide experience in manufacturing cranes is the basis for the company's technical expertise, innovative strength and high quality products. As a global expert for marine cranes PALFINGER MARINE continuously strives for further product development. In addition to standard versions PALFINGER MARINE designs and manufactures cranes that meet unique customer requirements. Ease of operations and low maintenance have highest priority.

## OFFSHORE CRANES

PALFINGER MARINE is supplier of customised offshore cranes designed to operate in the extreme offshore environment. The extensive range of offshore cranes is suitable for every type of operation onboard different kinds of offshore vessels, drillships, FSU's, FSO's, FPSO's and different types of oil rigs and platforms. Decades of experience, cost-efficient manufacturing in state-of-the-art production facilities and the use of high-class materials guarantee the customer the best possible product. Offshore cranes by PALFINGER MARINE are delivered according to class requirements and prevailing regulations like the European ATEX directive, NEC, IEC Ex and other standards on request.



PALFINGER MARINE offers a comprehensive range of AHC, knuckle boom, stiff boom and telescopic boom cranes as well as wire luffing lattice boom and travelling cranes for various applications within the shipbuilding and the oil and gas industry worldwide. For all kinds of vessels and rigs directly related to the exploration and the extraction of oil and gas at sea, PALFINGER MARINE has a wide range of customised offshore cranes for use in safe areas and hazardous zones. For vessels covering the marine segment like fishing and fishfarming, merchants, work- and service boats, PALFINGER MARINE offers an extensive portfolio of marine cranes. PALFINGER MARINE has long experience within crane design and manufacturing. The marine and offshore cranes meet the safety standards and withstand extreme environmental conditions of the offshore and marine industry.

# MARINE AND OFFSHORE CRANES

- FOLDABLE KNUCKLE BOOM CRANES
- STIFF BOOM CRANES
- TELESCOPIC BOOM CRANES
- KNUCKLE BOOM CRANES
- ACTIVE HEAVE COMPENSATED CRANES
- WIRE LUFFING LATTICE BOOM CRANES
- TRAVELLING CRANES



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## FOLDABLE KNUCKLE BOOM CRANES

RANGE FROM 30 UP TO 2840 kNm



PK 50002 M

As a result of their sophisticated crane geometry work is effortless with foldable knuckle boom cranes. They make full use of their strengths and flexibility when loading and unloading equipment. Due to their compact construction they can easily be accommodated on every type of vessel especially where space is limited. Adding various features and options make the foldable knuckle boom cranes a multi-functional tool. PALFINGER MARINE foldable knuckle boom cranes can be designed according to offshore rules and regulations.

Crane Type	Outreach (m)	Lifting capacity (kg)	Lifting moment (kNm)	Total moment (kNm)	Pedestal outer diameter (mm)	Slewing angle (°)	Operating pressure (bar)	Dead weight (kg)
PC 2700	1.5 - 5.0	1745 - 500	25.6 - 25.0	27.2		325	200	230 - 260
PK 4501 M	3.4 - 11.0	1180 - 230	38.9 - 24.2	44.9	450	400	300	560 - 760
PK 6500 M	3.5 - 9.2	1600 - 480	55.7 - 43.8	58.7	450	400	315	530 - 670
PK 8500 TM	2.5 - 10.6	3450 - 620	85.0 - 65.5	93.7	450	400	300	700 - 1060
PK 8501 M	3.5 - 13.8	2100 - 250	72.0 - 33.8	79.3	450	400	310	810 - 1230
PK 11001 M	3.7 - 14.0	2550 - 390	93.4 - 54.0	104.8	450	400	310	820 - 1270
PK 12000 M	4.0 - 14.3	2850 - 470	113.0 - 64.3	116.6	596	420	300	1080 - 1520
PK 15500 M	4.0 - 14.3	3600 - 600	140.2 - 84.0	144.1	596	420	300	1190 - 1710
PK 18500 M	4.1 - 14.3	4350 - 940	174.1 - 131.3	196.8	620	400	300	1700 - 2070
PK 23500 M	4.1 - 16.4	5400 - 900	217.0 - 144.2	235.9	620	400	300	1820 - 2400
PK 29002 M	4.1 - 21.1	6200 - 560	245.4 - 115.5	282.9	620	400	300	2190 - 3230
PK 32080 M	4.0 - 13.7	7700 - 1900	299.6 - 255.5	340.0	620	400	300	2360 - 2890
PK 32002 M	4.1 - 20.4	7440 - 725	301.0 - 145.6	352.0	709	endless	300	2740 - 4065
PK 41002 M	4.1 - 20.8	9160 - 1015	370.2 - 207.7	431.0	709	endless	300	3720 - 5110
PK 50002 M	4.0 - 20.3	11900 - 1460	469.9 - 290.9	542.7	834	endless	300	3770 - 5370
PK 65002 M	4.0 - 20.3	15100 - 2100	600.0 - 415.9	684.3	834	endless	300	4220 - 5960
PK 90002 M	4.1 - 21.9	18000 - 2050	715.1 - 440.0	855.0	917	endless	300	6490 - 8590
PK 150002 M	3.8 - 21.2	26400 - 3500	992.7 - 730.5	1176.4	990	endless	300	8090 - 10560
PFM 2000	7.5 - 20.8	20000 - 5000	1470 - 1022	1883.2	1750	endless	300	12200 - 16500
PFM 2500	7.7 - 19.8	20000 - 7200	1497 - 1386	2296.4	1750	endless	300	16800 - 20200
PFM 3500	7.4 - 21.3	25000 - 9800	1825 - 2040	3172.4	2101	endless	300	21600 - 25100
PFM 4500	7.6 - 20.2	32000 - 14000	2400 - 2835	4059.4	2101	endless	300	28100 - 30600

## CRANES IN ACTION



PK 23500 M



PFM 3500



PK 18500 M

## TYPICAL APPLICATIONS

### OFFSHORE CRANES

- Service cranes
- Provision and cargo handling cranes
- Access basket cranes

### MARINE CRANES

- Service cranes
- Provision and cargo handling cranes
- Fishing and fishfarming cranes

## FEATURES

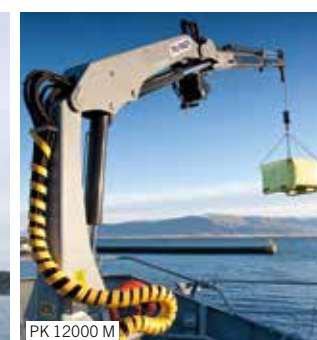
- Long-life surface treatment: corrosion protection
- Low / high temperature operations
- Lebus grooved winch drums
- Return oil utilisation
- Continuous slewing system
- Power link system

## OPTIONS

- Constant tensioning
- Remote control
- Standing platform
- Operator's cabin
- Overload protection: MOPS, AOPS
- Offshore Control System (OCS)
- Lifting of personnel – man-riding
- Workman basket
- External hydraulic power packs
- Local control stand (FLVK)



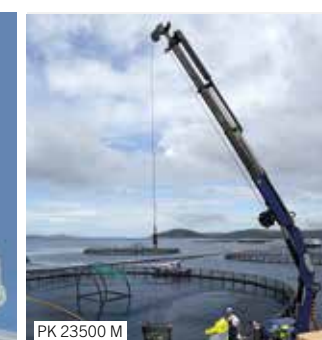
PK 150002 M



PK 12000 M



PK 150002 M



PK 23500 M



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## STIFF BOOM CRANES

RANGE FROM 150 UP TO 30000 kNm



PSM 400

The PALFINGER MARINE stiff boom cranes are based on a pedestal slewing design with hydraulic cylinder luffing. The cranes are available in the range from 144 - 30000 kNm lifting moment and are supplied according to customer requirements. The stiff boom cranes can be delivered within a broad range of certifications and numerous optional features. Stiff boom cranes are typically used in dock, on fixed installations and in harbour conditions.

Crane Type	Outreach (m)	Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>PSM RANGE</b>						
PSM 200	6.0 - 16.0	3.5 - 0.9	144 - 210	270	885	2.7 - 3.2
PSM 400	6.0 - 16.0	5.6 - 1.7	288 - 336	424	885	3.2 - 3.7
PSM 600	6.0 - 20.0	10.0 - 2.3	460 - 600	737	1095	4.4 - 5.5
PSM 900	6.0 - 20.0	14.2 - 3.2	640 - 852	1039	1325	5.9 - 7.0
PSM1200	6.0 - 24.0	19.0 - 3.5	840 - 1140	1409	1490	7.8 - 10.2
PSM1500	7.0 - 24.0	20.3 - 4.6	1104 - 1421	1765	1490	9.2 - 11.3
PSM1800	7.0 - 24.0	25.6 - 5.4	1296 - 1792	2202	1770	11.4 - 14.1
PSM3000	21.0	12.5	2625	3750	1775	24.8

Crane Type	Max. Outreach (m)	Max. Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>DK RANGE</b>						
DK220	27.5	20.0	2200	3500	2065	15.0
DK300	30.0	25.0	3000	5000	2065	17.5
DK400	32.0	30.0	4000	6000	2065	20.0
DK500	35.0	35.0	5000	8000	2240	25.0
DK800	40.0	50.0	8000	12000	2240	45.0
DK1000*	43.0	60.0	10000	10800	2550	60.0
DK1200	45.0	80.0	12000	18000	2535	85.0
DK1600	50.0	100.0	16000	34000	3156	120.0
DK2000	50.0	125.0	20000	44000	3987	160.0
DK2500	50.0	150.0	25000	50000	4000	180.0
DK3000	55.0	200.0	30000	60000	4500	220.0

\*Available only for deck cranes.

## CRANES IN ACTION



DK 400



PSM 3000



DK 220

## TYPICAL APPLICATIONS

### OFFSHORE CRANES

- Shipboard cranes
- Ship to Ship cranes
- Hose handling cranes
- Provison cranes

### MARINE CRANES

- Service cranes
- Hose handling cranes
- Container and cargo handling cranes

## FEATURES

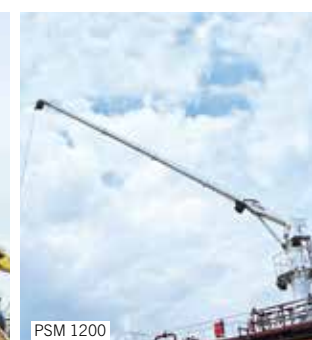
- Long-life surface treatment: corrosion protection
- Operation from control platform on crane
- Electro hydraulic drive
- Continuous slewing
- Low / high temperature operations

## OPTIONS

- Constant tensioning
- Remote control
- Operator's cabin
- Overload protection: MOPS, AOPS
- Offshore Control System (OCS)
- Lifting of personnel – man-riding
- External hydraulic power packs
- Anti-collision system
- Active Heave Compensation (AHC)
- Design according to rules and regulations (API 2C, EN13852, NORSOK etc.)
- Diesel hydraulic drive
- Shock absorber
- Metalizing
- Aux winch
- Lebus drum



DK 1000



PSM 1200



DK 400



PSM 600



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## TELESCOPIC BOOM CRANES

RANGE FROM 140 UP TO 12000 kNm



PTM 600

The PALFINGER MARINE telescopic boom cranes are based on a pedestal slewing design with hydraulic cylinder luffing. The boom extension is a telescopic inner section that allows a more flexible and wider operational radius in use and leaves the crane stored in a compact position. The advantages of the telescopic cranes are low weight and less complex design making them maintenance-friendly. The cranes are available in the range from 133 - 12000 kNm lifting moment and are supplied according to customer requirements and numerous optional features.

Crane Type	Outreach (m)	Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>PTM RANGE</b>						
PTM 200	6.0 - 14.0	3.3 - 1.0	133 - 198	241	885	2.8 - 3.2
PTM 400	6.0 - 14.0	5.5 - 1.8	252 - 330	381	885	3.7 - 4.3
PTM 600	7.5 - 17.5	7.5 - 2.2	385 - 563	603	1095	5.3 - 6.3
PTM 900	8.2 - 20.0	9.9 - 2.7	540 - 812	980	1325	7.8 - 9.2
PTM 1200	8.0 - 20.0	12.0 - 3.9	780 - 960	1375	1490	11.5 - 12.8
PTM 1500	8.0 - 20.0	15.0 - 5.1	1020 - 1200	1765	1490	12.7 - 14.0
PTM 1800	12.0 - 36.0	16.0 - 1.8	648 - 1920	2555	1770	19.2 - 23.0
PTM 3000	12.5 - 18.5	22.0 - 10.0	1850 - 2750	3720	1775	27.0

Crane Type	Max. Outreach (m)	Max. Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>DKT RANGE</b>						
DKT220	30.0	30.0	2200	3500	2065	25.0
DKT300	30.0	30.0	3000	5000	2065	27.5
DKT400	30.0	30.0	4000	6000	2065	30.0
DKT500	32.0	35.0	5000	8000	2240	35.0
DKT800	37.0	50.0	8000	12000	2240	55.0
DKT1000*	40.0	60.0	10000	10800	2550	70.0
DKT1200	43.0	80.0	12000	18000	2550	100.0

\*Available only for deck cranes.

## CRANES IN ACTION



PTM 1800



PTM 900



DKT 220

## TYPICAL APPLICATIONS

### OFFSHORE CRANES

- Deck cranes (shipboard)
- Ship to Ship cranes
- Pipe handling cranes
- Provision cranes

### MARINE CRANES

- Provision cranes
- Service cranes
- Container and cargo handling cranes

## FEATURES

- Long-life surface treatment: corrosion protection
- Operation from control platform on crane
- Electro hydraulic drive
- Continuous slewing
- Low / high temperature operations

## OPTIONS

- Constant tensioning
- Remote control
- Operator's cabin
- Overload protection: MOPS, AOPS
- Offshore Control System (OCS)
- Lifting of personnel – man-riding
- External hydraulic power packs
- Anti-collision system
- Active Heave Compensation (AHC)
- Design according to rules and regulations (API 2C, EN13852, NORSOK etc.)
- Diesel hydraulic drive
- Shock absorber
- Metalizing
- Aux winch
- Lebus drum



PTM 1500



PTM 1800



PTM 900



PTM 1500



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## KNUCKLE BOOM CRANES

RANGE FROM 130 UP TO 30000 kNm



DKF 2000

PALFINGER MARINE knuckle boom cranes are designed to lift high loads with extended jib and provide the operator with great flexibility during lifting operations. The knuckle boom crane range is available from 132 - 30000 kNm lifting moment. Severe weather conditions and heavy seas introduce oscillating motions to suspend loads. The improved level of control makes the crane ideal for offshore lifting operations in higher sea states.

Crane Type	Outreach (m)	Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>PKM RANGE</b>						
PKM 150	8.0 - 12.0	2.1 - 1.1	132 - 168	267	885	3.0 - 3.3
PKM 250	10.0 - 14.0	2.9 - 1.8	242 - 290	437	885	3.8 - 4.1
PKM 350	12.0 - 16.0	3.6 - 2.3	370 - 430	644	1095	5.5 - 5.8
PKM 550	14.0 - 18.0	4.7 - 3.2	573 - 660	1017	1325	7.5 - 7.8
PKM 750	14.0 - 18.0	6.1 - 4.2	749 - 855	1316	1490	10.3 - 11.1
PKM 1150	16.0 - 20.0	7.3 - 5.2	1040 - 1160	1904	1490	11.8 - 12.5
PKM 1450	16.0 - 20.0	9.0 - 6.4	1268 - 1440	2185	1770	14.8 - 15.6
PKM 700 T	21.0	2.5	525	1245	1430	12.5
PKM 1300 T	25.0	4.5	1125	2840	1690	18.8

Crane Type	Max. Outreach (m)	Max. Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>DKF RANGE</b>						
DKF220	27.5	30.0	2200	3500	2065	25.0
DKF300	30.0	30.0	3000	5000	2065	27.5
DKF400	32.0	30.0	4000	6000	2065	30.0
DKF500	35.0	35.0	5000	8000	2240	35.0
DKF800	37.0	50.0	8000	12000	2240	55.0
DKF1000*	40.0	60.0	10000	10800	2550	70.0
DKF1200	43.0	80.0	12000	18000	2550	100.0
DKF1600	45.0	100.0	16000	34000	3155	150.0
DKF2000	50.0	125.0	20000	44000	4000	200.0
DKF2500	50.0	150.0	25000	50000	4000	220.0
DKF3000	55.0	200.0	30000	60000	4500	275.0

\*Available only for deck cranes.

## CRANES IN ACTION



DKF 2000



PKM 700 T



DKF 1250

## TYPICAL APPLICATIONS

### OFFSHORE CRANES

- Deck cranes (shipboard)
- Ship to Ship cranes
- Pipe handling cranes
- Boat handling cranes

### MARINE CRANES

- Provison cranes
- Service cranes
- Container and cargo handling cranes

## FEATURES

- Long-life surface treatment: corrosion protection
- Operation from control platform on crane
- Electro hydraulic drive
- Continuous slewing
- Low / high temperature operations

## OPTIONS

- Constant tensioning
- Remote control
- Operator's cabin
- Overload Protection: MOPS, AOPS
- Offshore Control System (OCS)
- Lifting of personnel - man-riding
- External hydraulic power packs
- Anti-collision system
- Active Heave Compensation (AHC)
- Design according to rules and regulations (API 2C, EN13852, NORSOK etc.)
- Diesel hydraulic drive
- Shock absorber
- Metalizing
- Aux winch
- Lebus drum
- Docking head for boat handling
- Pipe gripper



PKM 1150



PKM 1200



DKF 900



DKF 600



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## ACTIVE HEAVE COMPENSATED (AHC) CRANES



100 T AHC CRANE



5 T AHC CRANE



AHC Flexible Module Handling System

- Low center of gravity
- Low weight
- Low power consumption
- Superior AHC performance

- Low weight
- Extended outreach for windmill operations

- Travelling on rails
- SWL up to 70 t
- Rotation +/- 180
- Roll and pitch +/- 20
- Working depth down to 3000 m

### FEATURES

- Fully equipped operators cabin
- Up to 3000 m capacity wire
- AOPS / MOPS / TENSIONING
- Flood lights
- Boom tip camera
- Helicopter lights
- Emergency back-up control system
- Design according to DNV 2.22

### OPTIONS

- Tugger winches
- Aux winch (with our without AHC winch)
- Fiber rope solution
- Pedestal adapter
- Hazardous zone classification
- Lift planning tool
- Remote diagnostic

- Winch below deck
- Design according to EN 13852 / NORSOK

PALFINGER MARINE delivers AHC offshore cranes ranging from smaller models for SOV's to larger models for subsea lifts, in addition to special systems for module handling deployments. All cranes are tailor-made to meet customer requirements and can be delivered in various configurations. The AHC system is developed for the harsh offshore environment. Rugged design made by experienced engineers, ensures trouble free operation under the most extreme conditions.

### AHC CRANE DESIGN FEATURES

#### LOW WEIGHT AND CENTER OF GRAVITY

- Low built design
- All components and the AHC winch placed as low as possible to ensure low weight and center of gravity
- High lifting capabilities compared to weight and Center of Gravity maximise the cargo capacity on deck
- Maximising wire capacity on the AHC winch while remaining safe fleet angles

#### LOW POWER CONSUMPTION

- Advanced hydraulic drive system and smart system design to share the available power effectively between the different functions
- Low installed power compared to AHC performance and available hoisting speeds

#### HIGH PERFORMANCE

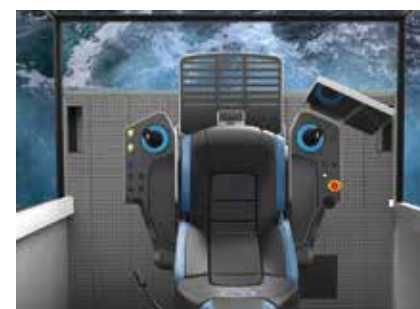
- Capacity to reduce movement with up to 98 %
- Optimised drive train for correct speed and high capacity

#### OPERATOR EGONOMICS AND MAINTENANCE ACCESS

- State-of-the-art operator cabin environment
- Designed for easy access to all points of maintenance, inspection and service

#### HYDRAULIC SYSTEM

- HPU placed inside crane pedestal (no need for container system)
- Zero load drop when the brake is removed, no need for tuning of the system with different loads
- Load can be held in subsea mode with brake off and all safety systems active for several days if necessary without any movement of the load due to leakage in the hydraulic system



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## WIRE LUFFING LATTICE BOOM CRANES

RANGE FROM 4000 UP TO 30000 kNm



DKW 1600

The PALFINGER MARINE wire luffing lattice boom cranes are based on a slewing pedestal design. The cranes are state-of-the-art and supplied according to the latest offshore rules and regulations in the range of 6000 - 60000 kNm lifting moment. Wire luffing lattice boom cranes are supplied with built in electro hydraulic or diesel hydraulic power packs. In addition PALFINGER MARINE has developed a new and innovative fully electric wire luffing crane design. Wire luffing lattice boom cranes are typically used on fixed installations and on drilling rigs, jack ups, drillships, FPU's and FPSO's. When needed the outreach can exceed 40 - 50 m.

Crane Type	Max. Outreach (m)	Max. Lifting capacity (t)	Lifting moment (kNm)	Total moment (kNm)	Pedestal diameter (mm)	Dead weight (t)
<b>DKW RANGE</b>						
DKW400	35.0	30.0	4000	6000	2065	20.0
DKW500	37.0	35.0	5000	8000	2240	25.0
DKW800	43.0	50.0	8000	12000	2240	40.0
DKW1000	47.0	60.0	10000	10800	2550	50.0
DKW1200	50.0	80.0	12000	18000	2550	60.0
DKW1600	55.0	100.0	16000	34000	3155	80.0
DKW2000	65.0	125.0	20000	44000	4000	120.0
DKW2500	70.0	150.0	25000	50000	4000	130.0
DKW3000	80.0	200.0	30000	60000	4500	160.0

### TYPICAL APPLICATIONS

- OFFSHORE CRANES**
- Deck cranes
  - Ship to Ship cranes

### KEY DESIGN FEATURES

- Internal slewing gearing and slewing gears
- Reduced need for maintenance
- Easy access to all types of maintenance
- Weight optimised
- Enables operation in up to 6 m significant wave height

## CRANES IN ACTION



DKW 1600



DKW 2000



DKW 1200

- Electro hydraulic drive
- Up to 54 m outreach
- Max. SWL 20 t

- Electro hydraulic drive
- Up to 48 m outreach
- Max. SWL 63 t

- Electro hydraulic drive
- Up to 47 m outreach
- Max. SWL 40 t

### FEATURES

- Operators cabin
- Electro hydraulic drive
- Design according to DNV 2.22
- Continuous slewing

### OPTIONS

- Tugger winches
- Remote control
- Fully electric drive / diesel hydraulic
- Regenerative feedback to platform / ship
- Design according to API-2C / ABS / EN13852 / NORSOK / BV / LRS etc.
- Personnel lift
- AOPS / MOPS / TENSIONING
- Anti-collision system
- Shock absorber
- Metalizing
- Aux winch
- Lebus drum

## NEW INNOVATIVE ELECTRICAL CRANE DESIGN

PALFINGER MARINE has developed a new and innovative range of wire luffing lattice boom cranes with fully electric drive based on VFD technology, designed according to EN13852-1 and NORSOK R002.

- State-of-the-art control system
- Safe to use up to significant wave height up to 6 m
- Optimised load charts to ensure flexibility in operation
- Designed for easy maintenance - access to all areas of the crane
- Remote access of crane for quick support and fault detection
- Off the shelf components to ensure easy maintenance and quick supply of spare parts

### Advantages:

- Less vibration
- Less noise
- More smooth and predictable operations
- Reduction in maintenance cost – less components subject to wear and tear

### Environment-friendly:

- No risk of oil spill
- Less power consumption



Electrical wire luffing crane DKW 2500



Marine Cranes



Offshore Cranes



# MARINE AND OFFSHORE CRANES

## TRAVELLING CRANES

RANGE FROM 1 UP TO 600 T



TKG 150 T Gantry crane

PALFINGER MARINE travelling cranes are available in numerous configurations and for a range of applications from very simple engine room cranes to highly advanced BOP and XMAS tree handling cranes. The travelling feature indicates the mobility of the crane in the way it travels within a given area of operation. Structures of overhead, underslung, gantry and semigantry cranes are available for various handling requirements up to SWL 600 t. Travelling cranes are delivered electric or hydraulic driven and with numerous different features and options depending on applications. All cranes are delivered tailor-made according to project specific requirements.

The PALFINGER MARINE range of travelling cranes is divided in four main categories according to geometry:

- TKO Overhead travelling crane
- TKU Underslung travelling crane
- TKG Gantry travelling crane
- TKSG Semi-gantry travelling crane

In addition the range comprises travelling cranes for different special applications like:

- DKF - R Cargo rail cranes
- TKG - DKF Travelling deck cranes
- ER Engine room cranes
- PR Provision cranes

Range	Category	Lifting capacity (t)	Span (m)	Dead weight (t)
TKO	Overhead travelling crane	1 - 600	5 - 50	5 - 200
TKU	Underslung travelling crane	1 - 200	5 - 30	5 - 50
TKG	Gantry travelling crane	1 - 600	5 - 50	10 - 600
TKSG	Semi-gantry travelling crane	1 - 600	5 - 50	10 - 400

## CRANES IN ACTION



TKSG 150 T Semi gantry crane



TKO 130 T Travelling overhead crane



TKO 25 T Travelling overhead crane

- Hydraulic drive by ringline system
- Two trolleys for BOP handling

- For handling of 130 t thrusters
- Fully electric

- Fully electric drive
- Anti collision system

## TYPICAL APPLICATIONS

### OFFSHORE CRANES

- BOP handling cranes
- X-mas tree handling cranes
- Pipe handling cranes
- Riser handling cranes
- Cargo rail cranes
- Travelling deck cranes
- Service cranes

### MARINE CRANES

- Monorail provision cranes
- Engine room cranes
- Cargo rail cranes
- Travelling deck cranes
- Service cranes



TKG - DKF 400 Travelling deck crane



TKG - DKF 100 Cargo rail crane



TKG - DKF 100 Travelling deck crane



TKG 200 T Travelling gantry crane system



TKU 40 T - ROV hangar crane



PR - Provision crane



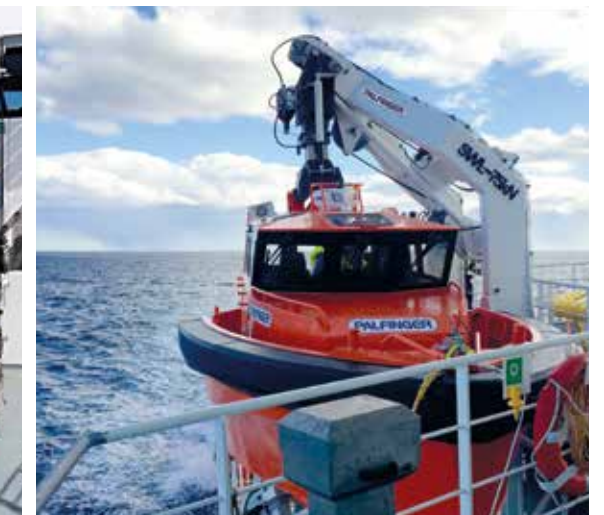
Marine Cranes



Offshore Cranes



# DAVIT SYSTEMS



Davit Systems by PALFINGER MARINE offer high quality, innovative, user-friendly solutions whereby an ideal balance between safety and economic factors is achieved. Davit Systems for life-saving purposes, daughter crafts, workboats and fenders are easy to install (plug and play), trouble-free, easy to maintain and ensure safety when it matters most. This is what makes PALFINGER MARINE Davit Systems so competitive. The core markets are: Offshore Vessels, Marine, Navy and Coast Guard.

Over 90 % of the products are exported through a well organised worldwide network of sales partners and local PALFINGER MARINE offices. Supported by a after sales and service department with authorised service partners around the world and together with the high level of service PALFINGER MARINE is one of the leaders in the industry of Davit Systems.

## DAVIT SYSTEMS

- LIFE RAFT & RESCUE BOAT SLEWING DAVITS
- (FAST) RESCUE BOAT DAVITS
- WORKBOAT / DAUGHTER CRAFT DAVITS
- LIGHT WEIGHT A-FRAME DAVITS
- LIFE BOAT DAVITS
- OFFSHORE DAVITS
- TRAVELLING OVERHEAD CRANES / DAVITS
- FENDER DAVITS



Davit Systems



# DAVIT SYSTEMS

## LIFE RAFT & RESCUE BOAT SLEWING DAVITS



### SCM-L Series

- Slewing davit for life rafts up to 39 persons
- Standard and proven design
- Easy to install
- Low cost of ownership
- Easy to operate

### SCH-R Series

- Slewing davit for rescue boats up to 5.25 m (L.O.A.)
- Standard and proven design
- Easy to install (plug and play)
- Provided with self-contained stainless steel HPU
- Easy to maintain

### SCHD-R Series

- Slewing davit for larger sized (fast) rescue boats
- Solid and proven design
- Easy to install (Plug and play)
- Provided with integrated HPU
- Easy to maintain

Type	Safe Working Load (SWL)	Radius	Operation
<b>RESCUE BOAT SLEWING DAVITS</b>			
SCM-R Series	10 kN	3.5 m – 5.2 m	Manual Slewing
SCH-R Series	10 kN – 17 kN	3.5 m – 5.2 m	Hydraulic Slewing
SCHD-R Series	21 kN – 30 kN	4.0 m – 5.0 m	Hydraulic Slewing

Type	Safe Working Load (SWL)	Radius / Outreach*	Life Raft Capacity	Operation
<b>LIFE RAFT DAVITS</b>				
SCM-L Series	15 kN – 36 kN	3.5 m – 4.0 m	≤ 39 pers.	Manual Slewing
PBR Series	36 kN	3.75 m*	≤ 39 pers.	Gravity Pivoting

Type	SWL Rescue Boat	SWL Life Raft	Radius	Operation
<b>COMBI RESCUE BOAT / LIFE RAFT DAVITS</b>				
SCM-LR Series	10 kN	15 kN – 23 kN	3.5 m – 4.5 m	Manual Slewing
SCH-LR Series	12 kN – 17 kN	15 kN – 33 kN	3.5 m – 4.5 m	Hydraulic Slewing

## FEATURES AND OPTIONS



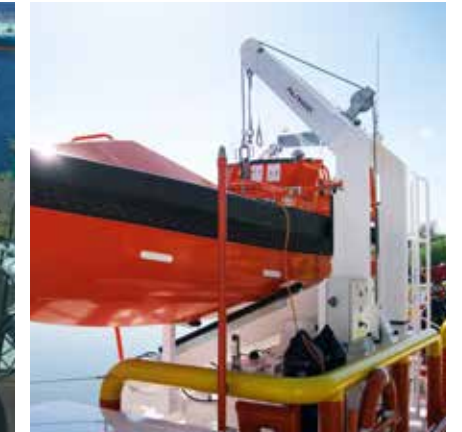
### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Stainless steel automatic release hook, SWL: 36 kN
- Pedestal
- Boat cradle
- Quick return unit
- Other options available on request

### STANDARD RANGE:

- Easy exchangeability of components
- Stock availability
- Proven design

## (FAST) RESCUE BOAT DAVITS



### PRHE Series

- Hydraulic pivoting and electric hoisting
- Easy to install (plug and play)
- Provided with self-contained stainless steel HPU
- Easy to maintain
- Foldable davit arm for easy transportation

### PRHE-H Series

- Hydraulic pivoting and hydraulic hoisting / lowering
- Relatively low davit weight and reaction forces
- Provided with self-contained HPU
- Trouble-free and easy to maintain
- Easy to operate

### PRH-H Series

- Full hydraulically operated davit system
- Compact and proven design
- Provided with self-contained HPU
- Trouble-free and easy to maintain
- Optional equipped with wave compensation system

Type	Safe Working Load (SWL)	Hoisting	Operation
<b>A-FRAME (FAST) RESCUE BOAT DAVITS</b>			
PFHS Series	15 kN	Electric, 0 – 18 m/min	Single arm pivoting rescue boat davit
PRHE Series	20 kN – 36 kN	Electric, 0 – 18 m/min	
PRHE-H Series	27.5 kN – 36 kN	Hydraulic, 0 – 18 m/min	
PRH-H Series <sup>1)</sup>	27.5 kN – 37.5 kN	Hydraulic, 0 – 48 m/min	
PRH Series <sup>2)</sup>	30 kN	Hydraulic, 0 – 48 m/min	Ro-Ro fast rescue boat davit

<sup>1)</sup> Optional constant tensioning plus shock absorber | <sup>2)</sup> Constant tensioning and shock absorber included in scope of supply

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Shock absorber
- Boat supports
- Converter
- Ex-proof
- Heating system
- Other options available on request

### EASY ACCESS:

- Periodic maintenance
- Service and repair
- High reliability
- Detailed manuals





# DAVIT SYSTEMS

## WORKBOAT / DAUGHTER CRAFT DAVITS



### PRH-AP Series

- Hydraulic pivoting A-frame davit with anti-pendulum docking head (AP)
- Winch equipped with fully hydraulic constant tensioning system
- Hydraulically operated anti-pendulum docking head
- Increased safety for crew due to AP docking head

### PFH-CT Series

- Hydraulic pivoting dual point davit
- Two independently operated constant tensioning winches
- Hydro-pneumatic shock absorber
- Stainless steel operating console

### HOTT Series

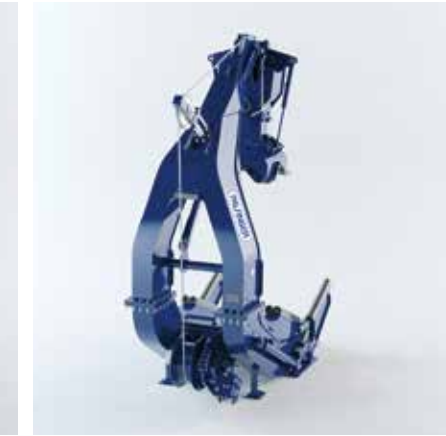
- Roof mounted telescopic davit
- Hydraulic power unit
- Hydraulically operated winch
- Recommended: hydraulically operated anti-pendulum system

Type	Safe Working Load (SWL)	Hoisting
<b>HYDRAULIC A-FRAME DAVITS</b>		
PRH-AP Series	37.5 kN – 135 kN	Hydraulic, 0 – 48 m/min Also available with SOLAS approval
PRH-H Series	55 kN – 135 kN	Hydraulic, 0 – 48 m/min Also available with SOLAS approval

Type	Safe Working Load (SWL)	Available executions
<b>HYDRAULIC DUAL POINT DAVITS</b>		
PFH-CT Series	80 kN – 220 kN	Skid mounted or Free standing

Type	Safe Working Load (SWL)	Options
<b>HYDRAULIC OVERHEAD TELESCOPIC DAVITS</b>		
HOTT Series	25 kN – 75 kN	Shock absorber, Anti-Pendulum, Constant Tensioning

## LIGHT WEIGHT A-FRAME DAVITS



### V-Series

- Light weight: up to 33 % lighter compared to steel
- Modular design
- Anti-Pendulum head
- Wave compensation
- Shock absorber
- Corrosion resistant
- Small footprint
- Low center of gravity

Type	Safe Working Load (SWL)	Hoisting
<b>LIGHT WEIGHT DAVITS</b>		
V-Series	27.5 kN – 75 kN	Hydraulic, 0 – 48 m/min

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Shock absorber
- High speed winch
- Painterline boom
- Constant tensioning system
- Ex-proof
- Other options available on request

### INNOVATIVE:

- Designed for daily operations
- Meeting Navy and Coast Guard requirements
- Increased operational efficiency

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Converter
- Ex-proof
- Heating system
- Other options available on request



# DAVIT SYSTEMS

## LIFE BOAT DAVITS



### PFH Series

- Hydraulic pivoting davit for life boats
- Ideal for situations where height restrictions apply
- Modular built system, easy to install
- Foldable davit arms for easy transportation
- Provided with self-contained HPU

### FFH Series

- Davit systems for free fall life boat
- Launch ramp with slide pads for smooth acceleration of lifeboat
- Provided with locking device to prevent accidental release
- Easy to maintain
- Also available with drop simulator

### PLG Series

- Gravity pivoting davit for life boats
- Solid and proven design
- Ideal for arctic conditions
- Low cost of ownership
- Easy to operate

Type	Safe Working Load (SWL)	Operation
<b>GRAVITY PIVOTING LIFE BOAT DAVITS</b>		
PLG Series	60 kN – 130 kN	Gravity pivoting / lowering, Electric hoisting
LPLG Series	135 kN – 175 kN	Gravity pivoting / lowering, Electric hoisting

Type	Safe Working Load (SWL)	Operation
<b>HYDRAULIC PIVOTING LIFE BOAT DAVITS</b>		
PFH Series	80 kN – 230 kN	Hydraulic pivoting, Gravity lowering, Electric hoisting
HPLG Series	60 kN – 185 kN	Hydraulic pivoting, Gravity lowering, Electric hoisting

Type	Safe Working Load (SWL)	Operation
<b>GRAVITY ROLLER TRACK DAVITS</b>		
GRT Series	60 kN – 90 kN	Roller track, Gravity lowering, Electric hoisting

Type	Safe Working Load (SWL)	Operation
<b>FREE-FALL DAVITS</b>		
FFH Series	45 kN – 95 kN	Free fall launching or hydraulic lowering / hoisting

Type	Safe Working Load (SWL)	Operation
<b>HYDRAULIC OVERHEAD TELESCOPIC LIFE BOAT DAVITS</b>		
HOTT-L Series	130 kN – 220 kN	Hydraulic telescoping, Gravity lowering, Electric hoisting

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Converter
- Life- / rescue execution (if applicable)
- Ex-proof
- Skid mounted
- Other options available on request

## OFFSHORE DAVITS



### FPG Series

- Fixed outrigger platform davit for life boats
- Solid and proven design
- Easy to operate
- For life- and / or rescue boat handling

### FPR Series

- Fixed outrigger gravity platform davit
- Easy to maintain (fully mechanical)
- Standard and proven design
- Modular built system
- Easy to install

### FPR-H Series

- Fixed outrigger platform davit for (fast) rescue boats
- For hoisting speeds of up to 48 m/min
- Easy to operate
- Optional, equipped with wave compensation system

Type	Safe Working Load (SWL)	Operation
<b>FIXED OUTRIGGER LIFE BOAT DAVITS</b>		
FPG Series	85 kN – 230 kN	Gravity lowering, Electric hoisting

Type	Safe Working Load (SWL)	Operation
<b>FIXED OUTRIGGER (FAST) RESCUE BOAT DAVITS</b>		
FPR Series	10 kN – 35 kN	Gravity lowering, Electric hoisting
FPR-H Series	37.5 kN	Hydraulic hoisting / lowering

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Converter
- Life- / rescue execution (if applicable)
- Ex-proof
- Other options available on request

### OFFSHORE STANDARDS

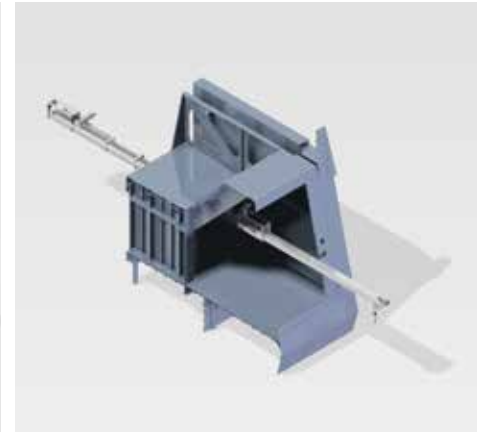
- Easy exchangeability of components
- Meeting the major oil and gas requirements





# DAVIT SYSTEMS

## TRAVELLING OVERHEAD CRANES / DAVITS



### TOC-S Stores Series

- Compact design
- Low power consumption
- Customised solutions
- Easy to install / operate

### TOC Series

- Telescopic roof mounted davit for rescue boat and workboat handling
- Single or twin configuration
- Ideal for situations where deck space restrictions apply
- Multiple boat handling operations

### SWTC Series

- Cost-efficient
- Low weight and deck forces
- Multifunctional, starboard and port side operations
- Stores, boats and gangway handling

Type	Safe Working Load (SWL)	Executions	Operation
<b>TRAVELLING OVERHEAD CRANES / DAVITS</b>			
TOC-S	2.45 kN - 50 kN	Electric or hydraulic traveling	Stores handling
TOC	10 kN - 120 kN	Electric or hydraulic traveling	Rescue and workboat handling

Type	Safe Working Load (SWL)	Executions	Operation
<b>SHIP WIDTH TRAVELLING CRANE</b>			
SWTC	2.45 kN - 50 kN	Electric or hydraulic traveling	Stores, workboat and rescue boat handling

## FENDER DAVITS



### SCM-F Series

- Slewing davit for smaller sized fenders
- Easy to install
- High reliability
- Easy to operate

### SFD Series

- Slewing davit for bigger sized fenders
- Provided with self-contained HPU
- Solid and proven design
- High reliability

### FD Series

- Integrated shock absorber
- Single line wire rope system
- Safe working environment for crew
- Easy access for periodic maintenance
- Stainless steel control stand

Type	Safe Working Load (SWL)	Operation
<b>SLEWING FENDER DAVIT</b>		
SCM-F	5 kN - 12 kN	Manual slewing fender davit
SFD	20 kN - 80 kN	Hydraulic slewing fender davit

Type	Safe Working Load (SWL)	Operation
<b>PIVOTING FENDER DAVIT</b>		
FD	5 kN - 180 kN	Hydraulic pivoting fender davit



Davit Systems

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Converter
- Boat cradle
- Ex-proof
- Other options available on request

## FEATURES AND OPTIONS



### ACCESSORIES (OPTIONS):

- Paint system for marine environment
- Ex-Proof
- Skin mounted
- Other options available on request

### TIME SAVING:

- Increased efficiency and safety
- Operating time reduction
- Integrated control station



# BOATS



PALFINGER MARINE offers boats with highest quality and stability even in the most demanding sea conditions. For products with optimum reliability and minimum of maintenance it requires that manufacturing and testing process is completely inhouse. Production sites and sales offices are established worldwide: Brasil, Singapore, Houston, Vietnam, Norway and the Netherlands. For all boats a suitable davit system by PALFINGER MARINE is available.

PALFINGER MARINE and its partner network have many years of experience in the worldwide marine, offshore and military and law enforcement industry. Over 90 % of the products are exported through a well-organised worldwide network of sales partners and local PALFINGER MARINE offices. This makes PALFINGER MARINE one of the leaders in the industry of boats.

## BOATS

- RESCUE BOATS
- FAST RESCUE BOATS
- DAUGHTER CRAFTS
- WORKBOATS
- LIFE BOATS
- FREE FALL LIFE BOATS
- MILITARY AND LAW ENFORCEMENT BOATS



Boats



# BOATS

## RESCUE BOATS



### RSQ 450 Series

- Hull made out of seawater resistant aluminium or glass reinforced plastic (GRP)
- Designed for service in the most demanding environments
- 15 - 40 Hp outboard engines
- Complies with SOLAS regulations
- Perfect alternative for inflatable MOB's

### RSQ 475 Series

- Inboard diesel with propeller
- Optional offload release hook
- Hull made out of seawater resistant aluminium or glass reinforced plastic (GRP)
- Complies with SOLAS regulations
- Low maintenance on the aluminium hull

Model	Dimensions (m)	Capacity ( max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
<b>RSQ 450</b>				
RSQ 450 A	4.88 x 1.75 x 1.63	6	955	Outboard engine
RSQ 450 G	4.88 x 1.75 x 1.63	6	965	Outboard engine
<b>RSQ 475</b>				
RSQ 475 A	4.95 x 1.95 x 2.32	6	1430	Inboard diesel with propeller
RSQ 475 G	4.95 x 1.95 x 2.32	6	1565	Inboard diesel with propeller

A= Aluminium, G= Glass Reinforced Plastic

## OPTIONS AND ACCESSORIES



- Boat cover
- Steering console
- (Releasable) cradle
- Spare parts

## FAST RESCUE BOATS



### FRSQ 600 Series

- Hull and console made out of seawater-resistant aluminium or glass reinforced plastic (GRP)
- Designed for service in the most demanding environments
- Excellent maneuverability and stability
- Inboard diesel and outboard version available
- Complies with SOLAS regulations

### FRSQ 700 Series

- Single or twin inboard diesel with waterjet propulsion
- Closed cell foam fender with a hypalon cover to absorb possible heavy impacts
- Double shock absorbing seats fitted
- Deep V-bottom construction for high speeds and stability
- Aluminium hull guarantees a long lifetime and low maintenance

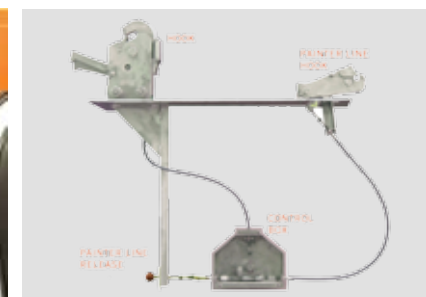
### FRSQ 850 Series

- Single or twin inboard diesel with waterjet propulsion
- Excellent maneuverability and stability
- Aluminium used guarantees low maintenance costs and the lifetime of the hull
- Closed cell foam fender with a hypalon cover to absorb possible heavy impacts
- Boat can carry up to 21 persons according to SOLAS

Model	Dimensions (m)	Capacity ( max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
<b>FRSQ 600</b>				
FRSQ 600 A	6.40 x 2.29 x 2.30	15	3208	Inboard diesel with waterjet
FRSQ 600 A	6.20 x 2.28 x 2.17	15	2888	Single outboard
FRSQ 600 A	6.30 x 2.28 x 2.17	15	2938	Twin outboard
FRSQ 600 G	6.40 x 2.29 x 2.30	15	3218	Inboard diesel with waterjet
FRSQ 600 G	6.05 x 2.16 x 2.20	15	2938	Single outboard
FRSQ 600 G	6.05 x 2.16 x 2.20	15	2988	Twin outboard
<b>FRSQ 700</b>				
FRSQ 700 A	7.14 x 2.66 x 2.67	15	3338	Single inboard diesel with waterjet
FRSQ 700 A	7.22 x 2.66 x 2.84	10	3525	Twin inboard diesel with waterjets
FRSQ 700 A Hybrid	7.14 x 2.66 x 2.67	15	3428	Single inboard diesel hybrid with waterjet
<b>FRSQ 850</b>				
FRSQ 850 A	8.50 x 3.20 x 2.72	21	4537	Single inboard diesel with waterjet
FRSQ 850 A	8.50 x 3.20 x 2.72	21	4953	Twin inboard diesel with waterjets

A= Aluminium, G= Glass Reinforced Plastic

## OPTIONS AND ACCESSORIES



- Console covers
- (Fixed) VHF
- Rescue net
- Remote control offload release hook
- GPS
- EPIRB





# BOATS

## DAUGHTER CRAFTS



### FRSQ 850 A FRDC Series

- Complies with SOLAS regulations
- Can be equipped and designed as workboat, patrol boat or for SAR purposes
- Both hull and cabin made out of seawater-resistant
- Both in single- or twin inboard diesel propulsion

### FRSQ 1000 A FRDC

- Complies with UKOOA / SOLAS regulations
- Delivered with design approval and certificate of inspection
- Deep V-bottom construction suitable for high speeds and high stability in any offshore environment
- Excellent reachability of the engines for maintenance purposes
- Both hull and cabin made out of seawater resistant aluminium

### FRSQ 1200 A FRDC Series

- Twin inboard diesel with waterjet propulsion
- Can be equipped and designed as workboat, patrol boat or diving support boat
- The coxswain and navigator have access to an ergonomic cockpit
- Three shock absorbing seats are installed
- Cushioned covered seats are available for twelve survivors

Model	Dimensions (m)	Capacity ( max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
FRSQ 850 A FRDC	8.50 x 3.30 x 3.34	10	6000	Twin inboard diesel with waterjets
FRSQ 1000 A FRDC	10.35 x 3.50 x 3.30	15	7400	Twin inboard diesel with waterjets
FRSQ 1200 A FRDC	12.00 x 3.50 x 3.35	15	9360	Twin inboard diesel with waterjets

A= Aluminium

## WORKBOATS



### FRSQ 670 A WB

- Designed for many different applications because of the high stability and large deck area
- Hull shape guarantees a stable boat, ideal for different deckloads and towing purposes
- Propulsion is an inboard diesel engine in combination with a propeller shaft
- Strong, less damage responsive, more maintenance-friendly and made of heavy duty aluminium

### FRSQ 850 A WSV

- Available as windfarm or workboat version
- The closed cell foam fender with a hypalon cover absorbs possible heavy impacts
- Twin inboard diesel engines with waterjet propulsion
- Aluminium used guarantees the low maintenance costs and the long lifetime of the hull
- Can be executed in full redundant setup for optimum reliability

### FRSQ 1200 A WB

- FRSQ tug especially designed for oil spill recovery and towing purposes
- Modifications to the hull can be easily implemented
- The coxswain and navigator have access to an ergonomic cockpit
- Three shock absorbing seats are installed
- Twin inboard diesel with waterjet propulsion, bollardpull up to 4.1 t

Model	Dimensions (m)	Bollard pull	Capacity ( max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
FRSQ 670 A WB	6.89 x 2.66 x 2.73	680 kg	6	2305	Single inboard diesel with propeller
FRSQ 850 A WB	8.50 x 3.08 x 2.72	1300 kg	15	4788	Twin inboard diesel with waterjets
FRSQ 850 A WSV	8.50 x 3.20 x 2.72	upon request	21	5033	Single inboard diesel with waterjet
FRSQ 950 A WB/Tug	9.50 x 3.50 x 3.30	3000 kg	4	7200	Twin high thrust waterjets
FRSQ 1000 A WB	10.35 x 3.50 x 3.30	1300 kg	15	7400	Twin inboard diesel with waterjets
FRSQ 1200 A WB	12.00 x 3.50 x 3.35	4000 kg	15	9360	Twin inboard diesel with waterjets

A= Aluminium

## OPTIONS AND ACCESSORIES



- Rescue net horn
- Radar
- Horn
- GPS
- Spare parts
- Air conditioning

## OPTIONS AND ACCESSORIES



- Additional seats
- Towing hooks / bolders
- Rescue equipment
- VHF
- GPS
- Railings





# BOATS

## LIFE BOATS



### TELB PN85F/C

- For marine and offshore applications
- Capacity 90 persons according SOLAS
- Tanker or cargo version
- Seat breadths 430 mm (82,5 kg/p) and 533 mm (98 kg/p) and 460 mm (98 kg/p)
- All boats have EC/MED approval

### TELB PN 95 F/C

- Hull made out of seawater-resistant glass reinforced plastic (GRP)
- Capacity 120 persons according SOLAS
- Manufactured based on inhouse quality control
- Traceability of all components
- Tanker or cargo version

### TELB PN150F/C

- Manufactured based on inhouse quality control
- Capacity 150 persons according SOLAS
- Traceability of all components

## FREE FALL LIFE BOATS



### FFLB PN59FF/FC

- For marine and offshore applications
- Capacity 25 persons according SOLAS
- Tanker or cargo version
- Seat breadths 480 mm (82,5 kg/p)
- ABS approval upon request

### FFLB PN75 F/C

- Capacity 33 persons according SOLAS
- Traceability of all components
- Polar package available to use the boats at temperatures of minus 45 degrees
- Tanker or cargo version
- Maximum drop height 23 m

### FFLB PN90FF/FC

- All boats have EC/MED approval (Wheelmark)
- Manufactured based on inhouse quality control
- Applicable documentation and drawing available
- Traceability of all components
- Polar package available to use the boats at temperatures of minus 45 degrees

Model	Dimensions (m)	Capacity		Weight (kg)		Capacity		Hook distance (m)
		SEAT BREADTH: 430 mm WEIGHT P.P.: 82.5 kg	SEAT BREADTH: 460 mm WEIGHT P.P.: 98 kg	SEAT BREADTH: 533 mm WEIGHT P.P.: 98 kg	SEAT BREADTH: 430 mm WEIGHT P.P.: 82.5 kg	SEAT BREADTH: 460 mm WEIGHT P.P.: 98 kg	SEAT BREADTH: 533 mm WEIGHT P.P.: 98 kg	
TELB PN58C	5.80 x 2.70 x 3.10	45	6433	38	6444	33	5954	5.40
TELB PN58F	5.80 x 2.70 x 3.10	45	6713	38	6724	33	6234	5.40
TELB PN75C	7.50 x 2.86 x 3.20	66	8795	55	9235	45	7760	7.10
TELB PN75F	7.50 x 2.86 x 3.20	66	9191	55	9631	45	8156	7.10
TELB PN85C	8.50 x 3.30 x 3.30	90	11825	75	11750	65	10770	8
TELB PN85F	8.50 x 3.30 x 3.30	90	12125	75	12050	65	11070	8
TELB PN95C	9.50 x 3.60 x 3.40	120	15520	101	15518	85	13950	9
TELB PN95F	9.50 x 3.60 x 3.40	120	15900	101	15898	85	14330	9
TELB PN150C	11.95 x 3.90 x 3.50	150	19775	126	19748	115	18670	11.30
TELB PN150F	11.95 x 3.90 x 3.50	150	20375	126	20348	115	19270	11.30

Model	Dimensions (m)	Capacity* (max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Drop height (m)
FFLB PN49FC	4.90 x 2.18 x 3.10	15	4238	16
FFLB PN49FF	4.90 x 2.18 x 3.10	15	4238	16
FFLB PN59FC	5.90 x 2.55 x 3.15	25	5826	16
FFLB PN59FF	5.90 x 2.55 x 3.15	25	5826	16
FFLB PN67FC	6.70 x 2.55 x 3.20	30	6475	20
FFLB PN67FF	6.70 x 2.55 x 3.20	30	6475	20
FFLB PN75FC	7.50 x 2.55 x 3.20	33	7823	23
FFLB PN75FF	7.50 x 2.55 x 3.20	33	7823	23
FFLB PN90FC	9.00 x 2.70 x 3.30	42	9665	28
FFLB PN90FF	9.00 x 2.70 x 3.30	42	9665	28

\* Less capacity upon request

## OPTIONS AND ACCESSORIES



- VHF radio
- SART (Search and Rescue Transponder)
- EPIRB (Emergency Position Indicating Radio Beacon)
- Engine heater
- Boat cover
- Polar package
- Navigation light unit

## OPTIONS AND ACCESSORIES



- Boat Heater
- Emergency spring starter
- Engine heater
- Hydraulic starter
- Spark arrestor
- Other options available on request





# BOATS

## MILITARY AND LAW ENFORCEMENT BOATS Rigid boats



### FRSQ 850 A Navy

- Multirole missions
- High maneuverability due to twin waterjet propulsion
- Protective fender to deaden hard side impacts
- Tailor-made solutions
- Excellent reachability of the engines for maintenance purposes

### FRSQ 1000 A Navy

- Deep V-bottom construction, suitable for high speeds and high stability in any marine environment
- Closed cell foam fender with a polyurea top-layer, possible to repair on-site
- Excellent reachability of the engines for maintenance purposes
- Many possibilities to customise the layout of the craft
- Recovered by single arm davit or stern entry system

### PB 1500 A Navy

- Specially designed for professional use such as industrial activities, coast guards, military or rescue work for high speed
- V-shape hull provides high stability during navigation and good seakeeping in hostile marine environment
- Many possibilities to customise the layout of the craft
- Hull and cabin made out of seawater-resistant aluminium
- Special attention is paid to local reinforcements in highly loaded areas

Model	Dimensions (m)	Capacity (max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
RSQ 475 A Navy	4.95 x 1.95 x 2.32	6	1430	Inboard diesel with propeller
FRSQ 600 A Navy	6.20 x 2.28 x 2.17	15	2888	Single outboard
PB 700 A Navy	7.14 x 2.66 x 2.67	10	3428	Twin inboard diesel with waterjets
FRSQ 850 A Navy	8.50 x 3.20 x 2.72	21	4953	Twin inboard diesel with waterjets
FRSQ 1000 A Navy	10.35 x 3.50 x 3.30	15	7400	Twin inboard diesel with waterjets
PB 1500 A Navy	15.05 x 4.80 x 5.85	17	13500	Twin inboard diesel with waterjets

A= Aluminium

## MILITARY AND LAW ENFORCEMENT BOATS Rigid inflatable boats



### PB 500 RIB

- Hull is made of GRP
- Excellent reachability of the engine for maintenance
- Inflatable tubes or foam filled tubes
- Single inboard diesel, coupled to a waterjet
- Single point lifting hook or 4-point lifting sling
- For SAR or patrol purposes

### PB 700 RIB

- Inflatable or foam filled fender
- Several options of seating arrangements
- In- or outboard propulsion
- Suitable for stern entry recovery
- For SAR, patrol or interception purposes
- Construction built in GRP or aluminium
- Many possibilities for customisation

### PB 1100 RIB

- Inflatable or foam filled fender
- Special made V-shaped hull provide high stability during high speed manoeuvring and excellent seakeeping in hostile marine environments
- Designed for recovery by davit or stern entry system
- Lifting sling or single point lifting hook
- Several options of seating arrangement
- Special attention is paid to local reinforcements in highly loaded areas

Model	Dimensions (m)	Capacity (max. persons @ 82.5 kg)	Weight (kg incl. max. persons)	Propulsion
PB 500 RIB	5.10 x 2.20 x 2.00	5	1777	Single inboard diesel
PB 700 RIB	7.30 x 2.90 x 2.70	10	3100	Twin- or single inboard or outboard
PB 1100 RIB	11.0 x 2.90 x 2.90	15	5900	Twin inboard or outboard

A= Aluminium

## OPTIONS AND ACCESSORIES



- Different type of seats
- Defense systems
- Armor
- Communication equipment
- Spare parts

## OPTIONS AND ACCESSORIES



- Boat heater
- Emergency spring starter
- Engine heater
- Hydraulic starter
- Spark arrestor
- Console cover
- Communication equipment
- T-top





# WINCHES



PALFINGER MARINE Winches and Offshore Equipment has throughout the years developed an extensive range of winches in addition to advanced winch systems for offshore vessels, offshore service vessels, special vessels and oil rigs. PALFINGER MARINE offers complete system design, engineering, production, testing and life-long service for all products. The well proven, rugged design made by experienced engineers ensures trouble-free operation with a minimum of service required. The range of winches covers: anchor and mooring winches, anchor handling and towing winches in addition to various lifting and handling winches and storage winches.

By cooperating closely with design companies, customers, authorities and classification societies PALFINGER MARINE always aims to provide the best and most cost-efficient solution to customers whether it is for new builds, modification projects or special engineering projects. High quality, customised products in combination with a high level of service and strong support through the lifetime of the equipment make PALFINGER MARINE the perfect partner.

## WINCHES

- ANCHOR AND MOORING WINCHES
- ANCHOR HANDLING AND TOWING WINCHES
- LIFTING AND HANDLING WINCHES
- STORAGE WINCHES





# WINCHES

## ANCHOR AND MOORING WINCHES

### ANCHOR WINDLASS WINCHES

PALFINGER MARINE anchor windlass winches are offered in a variety of configurations and sizes to handle virtually any anchor application. Anchor windlass winches by PALFINGER MARINE have rugged design including fabricated steel construction, heavy duty split bronze bearings, gears hardened to exceed working load requirements, clutched and braked drums and high corrosion resistance. The winch design provides easy access to all points of lubrication and inspection. Wire drum windlass winches can be delivered (without cable lifters). Windlass winches are supplied with roller type chain stoppers suitable to withstand 80 % of the chain breaking force.



#### FEATURES

- Electric or hydraulic drive
- Rated pull (cable lifters) - according to class
- Single or double configuration
- Chain size from 36 - 160 mm
- Manually operated clutch
- Manually operated band brake
- Local control

#### OPTIONS

- With or without mooring drum
- Auto tension / tension control (for mooring drums)
- With or without warping end
- Chain length and / or speed measurement
- Bridge operated anchor drop
- Hydraulic operated brake
- Remote control (wireless)

### MOORING WINCHES

PALFINGER MARINE offers a range of mooring winches for all types of vessels with almost unlimited speed and line pull capacities. The rugged design is made for harsh and demanding offshore conditions and includes heavy duty split bronze bearings. The operating mechanism for brakes and clutches are designed for easy and safe manual operation but may also be remotely operated by hydraulic cylinders. The winch design provides easy access to all points for lubrication and inspection.



#### FEATURES

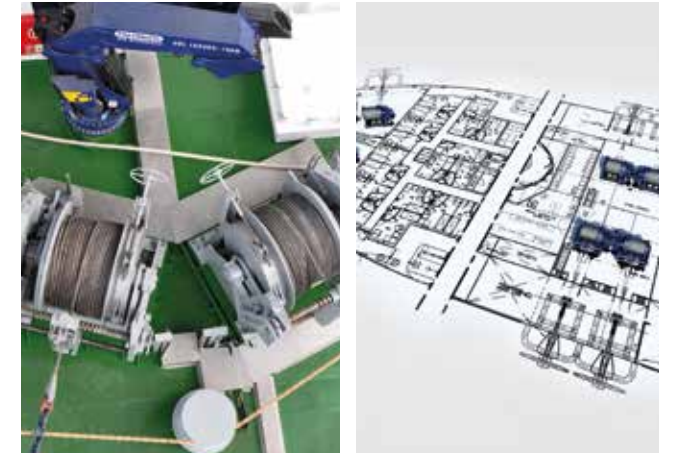
- Electric or hydraulic drive
- Single or multi drum configuration
- With or without warping end
- Rated pull: 5 - 40 t
- Manually operated clutch and band brake
- Local control

#### OPTIONS

- Auto tension / tensioning control
- Split drums
- Hydraulic operated band brake
- Hydraulic operated clutch
- Light line speed
- Remote control (wireless)

### MOORING SYSTEMS

PALFINGER MARINE supply mooring systems suitable for offshore vessels which require advanced mooring capabilities. The systems consist of multiple mooring winches with centralised control systems in addition to local manual controls on each winch. The mooring systems are equipped with wire rope tension and payout length control and are capable of emergency release under a combination of all of the following conditions: dead ship (by use of accumulators), brake on and hoisting / lowering conditions. Configuration from 4 - 16 point mooring.



#### FEATURES

- Electric or hydraulic drive
- Single or double drum configuration
- Type of drum: rope or steel wire
- Rated pull from 20 - 300 t
- Capacity up to 2000 m
- Manual or hydraulic operated clutch
- Spooling device
- Local control
- Auto tension / tensioning control

#### OPTIONS

- Remote control (from bridge or radio remote)
- Rope length and / or speed measurement
- Bridge operated anchor drop
- Water cooled brakes

### CAPSTANS

PALFINGER MARINE offers a range of capstans for various mooring operations. Hydraulic capstans are designed with internal drive systems in order to save space onboard the vessel. Electric capstans can be incorporated directly into the deck structure by means of foundation pipe pieces. The foundations are open at the bottom and make it easy to connect the motors from below deck. Electric capstans are delivered with DOL or frequency converters for variable speed.



#### FEATURES

- Electric or hydraulic drive
- Rated pull from 3 - 15 t
- Local control or remote control with cable

#### FEATURES

- Electric or hydraulic drive
- Rated pull from 5 - 10 t
- Local control or remote control with cable

### BOLLARD CAPSTANS

PALFINGER MARINE combined bollard capstans (powered bollards) have a space-saving design to make efficient use of deck space onboard the vessel. They combine the features of a standard capstan (rotating part) with the features of a standard bollard (non rotating part).

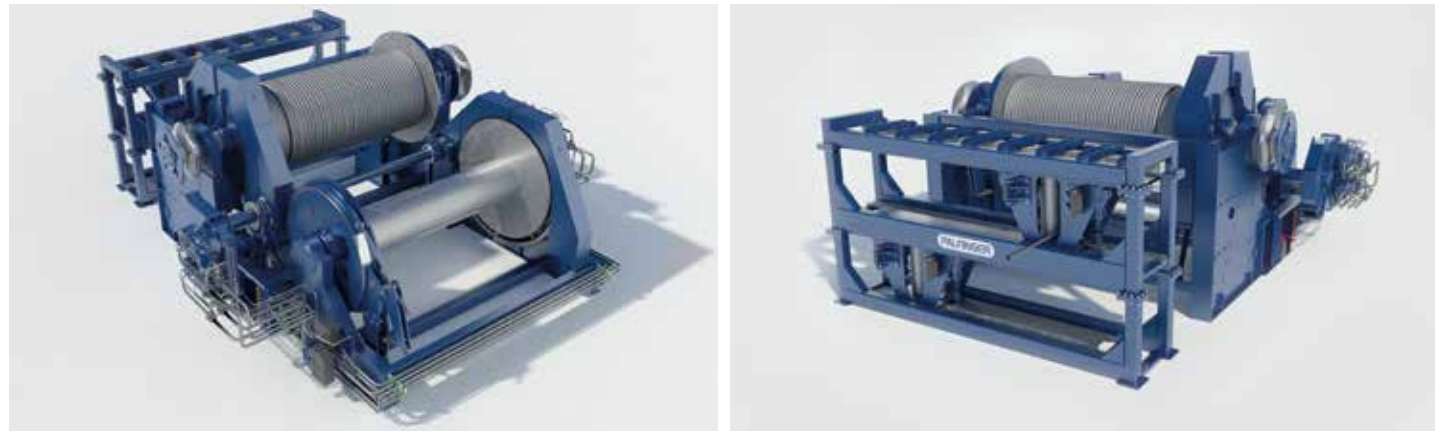


Winches



# WINCHES

## ANCHOR HANDLING AND TOWING WINCHES



### ANCHOR HANDLING / TOWING WINCHES

PALFINGER MARINE offers a wide range of anchor handling / towing (AHT) winches with the following configurations:

- Double drum waterfall
- Side-by-side
- Triple drum waterfall

AHT winches can be supplied up to 500 t capacity (line pull at first layer) with hydraulic and electrical drives and spooling devices according to individual client requirements. These winches are delivered with local controls as well as advanced bridge control systems, handling all required functions and automations. The winches are of heavy-duty box frame type construction with the main drums running on spherical roller bearings. All drums are declutchable.

#### Winch operating modes:

There are several defined operating modes which can be used when conducting different types of work:

- Hoisting
- Lowering
- Speed lowering
- Dynamic breaking

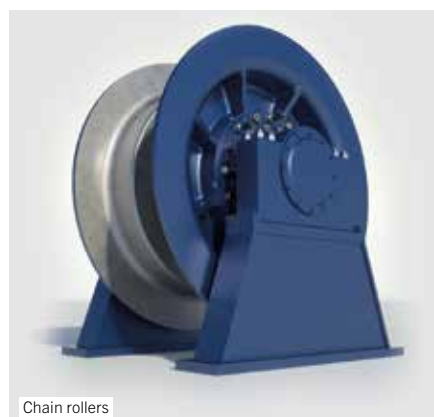
### FEATURES

- Hydraulic or electrical drive
- Double (waterfall or side by side) and triple configuration
- Rated pull: 150 - 500 t on 1st layer
- Brake holding force: up to 670 t
- Hydraulic operated brake
- Hydraulic operated clutch
- Spooling device
- Local control for maintenance
- Remote control on bridge

### SUPPLEMENTARY PRODUCTS



Chain pulling winch



Chain rollers



Secondary winches



### 41 T TOWING WINCH

- Brake holding capacity: 200 t
- Double waterfall configuration
- Drum capacity: 800 m steel wire
- Mechanically operated spooling device



### 125 T TOWING WINCH

- Single drum configuration
- Brake holding capacity: 250 t
- Drum capacity: 1500 m steel wire
- Local and remote operated spooling device



### 115 T WINDLASS TOWING WINCH

- Combined windlass / towing winch configuration
- Active escort winch
- Brake holding capacity: 200 t

### TOWING WINCHES

PALFINGER MARINE towing winches are available for all types of tugs and offshore vessels including PSV's and standby vessels. The rugged design made by highly experienced engineers ensures trouble-free operation under the most extreme conditions. The winches are delivered with joystick bridge control for required functions and automation, in addition to local controls. The wire spooling system ensures excellent spooling of extremely long wires, without the need for a defined minimum distance between the winch and the first wire sheave. Forward towing winches for tugs can be delivered according to customers requirements including active escort tug requirements. All towing winches are delivered either in single or double drum configurations with water fall or linear configuration options.

### FEATURES

- Electric or hydraulic drive
- Single or double configuration
- Steel wire drum
- Rated pull from 20 - 250 t
- Drum capacity according to customer's request



Winches



# WINCHES

## LIFTING AND HANDLING WINCHES

### TUGGER WINCHES

PALFINGER MARINE offers a range of different tugger winches for work on deck onboard various kinds of offshore vessels with rated pull from 5 - 30 t. The robust design allows safe and longterm operation in harsh conditions. Winches are delivered with easy access for lubrication and inspection.



#### FEATURES

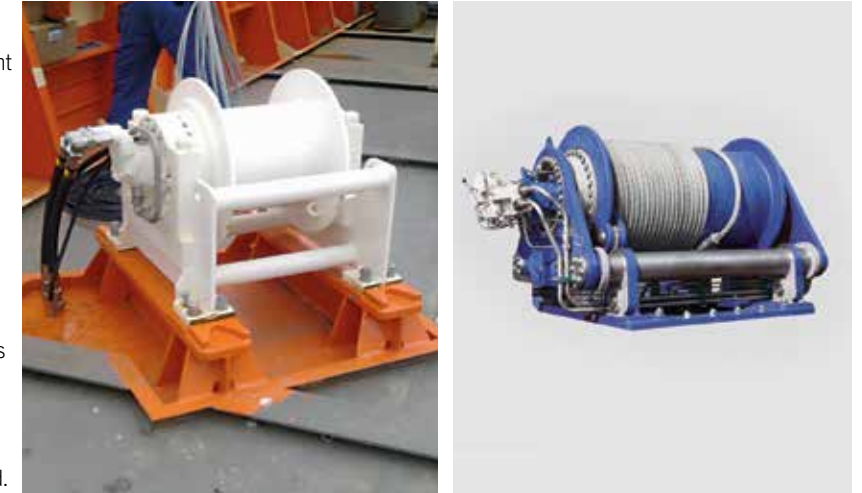
- Electric, hydraulic or pneumatic drive
- Single drum configuration
- With or without warping end
- Type of drum: Steel wire
- Rated pull from 5 - 30 t
- Drum capacity from 100 - 600 m
- Manually operated clutch

#### OPTIONS

- Remote control (wireless)
- Secure grid
- Hydraulic operated brake

### CONSTANT TENSION WINCHES

Constant tension (CT) is used to achieve a constant line-pull set by the winch operator. PALFINGER MARINE'S range includes various CT winch models where the line-pull is either measured by a load cell or by the software in the frequency drive controllers. If the actual line-pull differs from the preset value the winch will pay in / out wire to maintain the preset value. An adjustment of the wire tension is possible by changing the tension set point value. PALFINGER MARINE also supplies CT winches for lifting purposes. These winches are delivered according to DNV lifting appliances. CT lifting winches are a suitable alternative when active heave compensation (AHC) is not required.



#### FEATURES

- Hydraulic or electric drive
- Single drum configuration
- 5 - 40 t rated pull
- Drum capacity according to customer's request
- Local control

#### OPTIONS

- Spooling device
- Remote control

### CARGO SECURING WINCHES

PALFINGER MARINE'S range of cargo securing winches (CSW) for moving and securing of cargo on deck are designed for use in the most difficult environments onboard PSV's. For best possible use on deck the winch is built with manual disengagement / freewheeling. To maintain the safety on deck the cargo securing winches are delivered with "failsafe" brake with hydraulic deactivation.



#### FEATURES

- Electric or hydraulic drive
- Single drum configuration
- Rated pull (1st layer) 3 - 5 t
- Local control

### TRANSPONDER WINCHES

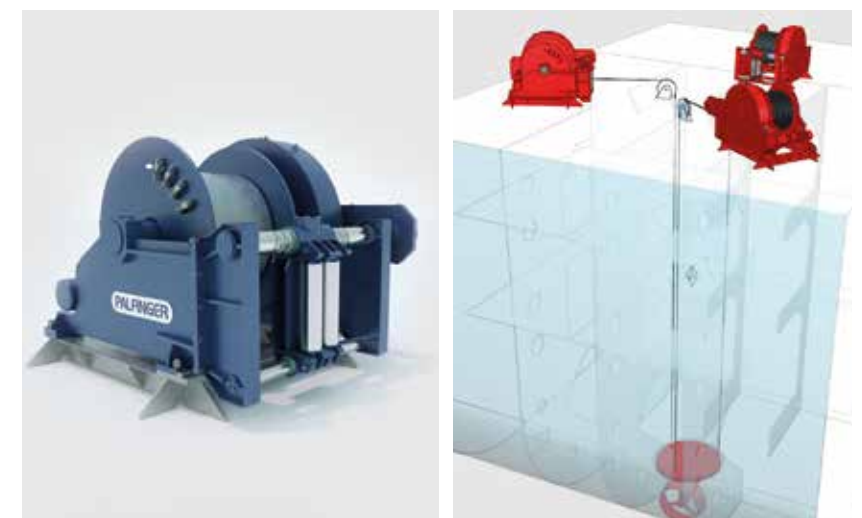
Transponder winches are used for lowering transponders down at the bottom of the sea as a reference for the vessel.

#### FEATURES

- Electric or hydraulic drive
- Single drum configuration
- Drum capacity: up to 4000 m
- Rated pull (1st layer) 1 - 5 t
- Maximum speed: up to 100 m/min
- Local control

### THRUSTER REPLACEMENT WINCHES

PALFINGER MARINE is supplier of custom-made winches for replacement of thrusters offshore. The winches are part of a system which enables the vessel to replace the thrusters without going into dock. Systems like this are used for vessels that are out in open sea for long periods of time like FPSO's, drillships, accommodation vessels and drilling rigs. Each system consists of three winches: two for pulling / lowering of the thruster and one to obtain redundancy in case of failure.



#### FEATURES

- Electric or hydraulic drive
- Rated pull 35 t
- Brake holding force: 90 t
- Drum capacity: 300 m wire
- Included spooling device
- Portable control panel



# WINCHES

## LIFTING AND HANDLING WINCHES



- 150 T AHC WINCH**
- 3100 m wire
  - Energy-efficient
  - Spooling device

- 70 T AHC WINCH**
- 3600 m wire
  - Energy-efficient

- 30 T AHC FIBER ROPE WINCH**
- 6000 m fiber rope
  - Standard winch drum
  - Energy-efficient

### ACTIVE HEAVE COMPENSATION (AHC) WINCHES

The AHC system is specially designed for load handling from a vessel or rig towards the seabed, underwater installations or other fixed targets on the seabed. AHC is used to control the relative position of a load to a fixed object. The position is determined by the control system using a real time signal from a Motion Reference Unit (MRU) as an input signal. In response to this signal the AHC system will pay in/out to keep the load at a constant elevation.

#### AHC on hydraulic driven winches

AHC winches by PALFINGER MARINE are based on a secondary controlled hydraulic active heave compensation system. This enables compensation of the heave motion of the vessel with an extremely fast response time at low power consumptions.

#### AHC on electric driven winches

PALFINGER MARINE also supplies electric driven winches with active heave compensation. High power, low inertia E-motors allow realtime compensation of the heave motion of the load. In response to the signal from the motion reference unit the winch will pay in / out wire rope.

#### Winch control

The control system can be delivered with different configurations ranging from a simple control unit and on to advanced systems with multiple displays and data recorders. One of the benefits of the hydraulic system is zero load drop when the brake is removed. The load can be held in subsea mode with brake off and all safety systems active for several days if necessary without any movement of the load.



#### FEATURES

- Electric or hydraulic drive
- Single drum configuration
- Wire rope drum for depth down to 3000 m
- Fiber rope drum for depth below 3000 m
- Up to 250 t SWL
- Remote control

#### OPTIONS

- Spooling device
- Lifting frame

## STORAGE WINCHES

### STORAGE WINCHES

PALFINGER MARINE supplies a wide range of custom-made storage winches. Normally they are supplied for rope or wire. PALFINGER MARINE also designs special purpose storage winches like iceberg net winches and hose storage winches. The winches are designed according to project-specific specifications and can be delivered in different configurations for various line pulls and brake holding capacities.



#### FEATURES

- Electric or hydraulic drive
- Single or double drum configuration
- Capacity according to requirements
- 3 - 60 t rated pull
- Speed according to requirements
- Manually operated band brake
- Local control

#### OPTIONS

- Remote control
- Spooling device
- Hydraulic operated brakes

### STREAMER STORAGE WINCHES

PALFINGER MARINE has a range of streamer storage winches suitable for seismic vessels and seismic support vessels. The winches are typically delivered with 7000 - 10000 m of streamer cable. They are designed to be moved easily from vessel to vessel if needed.



#### FEATURES

- Electric or hydraulic drive
- Single or double drum configuration
- Capacity according to customer's requirements
- Spooling device
- Rated pull from 3 - 10 t
- Local control

#### OPTIONS

- Remote control
- Containerised design
- Lifting frame



# LIFTING AND HANDLING EQUIPMENT



Winches and Offshore Equipment offers a comprehensive range of special lifting and handling equipment including skidding and handling of modules, different kinds of launch and recovery systems, cranes, onshore equipment and various special equipment. The products are delivered according to client's requirements / specifications and are designed to meet the special customer needs. The typical PALFINGER MARINE lifting and handling equipment is purpose-built mechanical equipment and structures for marine or offshore operations.

## LIFTING AND HANDLING EQUIPMENT

- A-FRAMES
- STERN ROLLERS
- CONTAINER AND PALLET HANDLING SYSTEMS
- CARGO SECURING SYSTEMS
- LAUNCH AND RECOVERY SYSTEMS
- SPOOLING SYSTEMS





# LIFTING AND HANDLING EQUIPMENT

## A-FRAMES

PALFINGER MARINE A-frames are delivered for either stern or side mounting with a lifting capacity ranging from 10 - 250 t and a working out-reach / in-reach of up to 25 m. Heavy duty design is made for use in harsh environments. A-frames are designed and delivered according to project-specific requirements with several options available. Wire may enter the A-frames directly onto the centre sheave or through sheaves up along one of the legs. PALFINGER MARINE A-frames can be designed for the following purposes / applications:

- Anchor handling
- Plough handling
- Subsea handling (with use of AHC winch)



### FEATURES

- Hydraulic drive
- 10 - 250 t SWL
- Local or remote control from bridge
- Design: Stern or side mounting

### OPTIONS

- Power units (integrated or stand alone units)
- Guide wire winches
- Sheave arrangement with lower to deck function
- Load measuring device
- Bolted deck interface

## STERN ROLLERS

PALFINGER MARINE supplies single and double stern rollers with SWL ranging from 50 - 750 t. The short-ended stern roller design offers significant improvements compared to the more traditional solutions, providing several advantages for installation, operation and maintenance of the roller:

- 75 % reduction in man-hours for installation compared to traditional stern rollers
- Lighter construction with less friction between drum and axel
- Simultaneous and full utilisation of both drums (double drums)



### FEATURES

- Single or double drum configuration
- 50 - 750 t SWL
- Lubrication system

### OPTIONS

- Center support on double drum models (to enable full utilisation of the roller capacity on both drums simultaneously)

## CONTAINER AND PALLET HANDLING SYSTEM (CPHS)

PALFINGER MARINE delivers automated systems for easy, efficient and safe handling of containers and pallets onboard windmill service / maintenance vessels. The standard CPHS system consists of main rails, transverse bridge with trolley, container spreader and detachable pallet fork. The system is highly adaptable and suitable for different vessel designs as well as for retrofittings to existing vessels. This specialised overhead travelling crane is equipped with a telescopic container spreader for handling of both 10" and 20" ISO containers. The detachable pallet fork suspended under the transverse trolley has a rated capacity of 1000 kg, a slewing sector of 360° and two axis movement.



### FEATURES

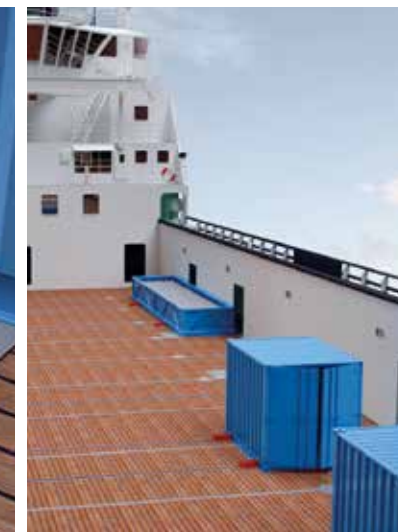
- Hydraulic and electric drive
- 10 - 25 t SWL
- SWL pallet fork 1000 kg
- Portable control panel with cable

### OPTIONS

- Radio remote control
- Aux. winch integrated in trolley for handling of loose goods
- Handling of longitudinal or transverse oriented containers

## CARGO SECURING SYSTEM (CSS)

PALFINGER MARINE has developed an innovative system for moving and securing of cargo onboard supply vessels. The system can easily be fitted to any vessel design and consists of 7 - 11 lines, each with two securing carriers. The system is remote controlled and one man operated and enables securing of cargo on both sides of the vessel. By use of two lines at the same time it is possible to move and secure containers of 30 - 40 t.



### FEATURES

- Hydraulic drive
- Number of lines adapted to vessel design
- Two securing carriers on each sliding line
- Pull force (each line) 15 - 20 t
- Radio remote control
- Additional securing carriers

### OPTIONS

- HPU



# LIFTING AND HANDLING EQUIPMENT



- Single slipway for rescue and recovery vessel
- Wheels mounted on hydraulic lifting frame
- Winch for emergency hauling

- Single slipway for multipurpose vessel
- Deck mounted hydraulic driven wheels
- Winch for emergency hauling

- Double slipway for naval vessel (LMV)
- Deck mounted adjustable wheel foundations
- Hydraulic drive
- Stern ramp in composite with wheels for slipway extension when in use
- Winches for emergency hauling

## ONBOARD SLIPWAY SYSTEMS

PALFINGER MARINE supplies highly innovative onboard slipway systems for stowage and launch and recovery of small crafts up to 12 m such as rescue boats, daughter crafts, rigid hull boats and unmanned surface vehicles onboard offshore and naval vessels. The systems can be delivered mounted on a hydraulic controlled frame (with hydraulic cylinders for lifting the entire frame) or for mounting directly into the hull structure of the mother vessel. All systems are adapted according to vessel structure in addition to the length and hull shape of the small crafts. PALFINGER MARINE works closely with customers and design companies in order to find the optimal and the most cost-efficient solution according to the intended usage, speed, type of crafts, wave height, sea state and redundancy requirements in addition to material, weight and space constraints.

### FEATURES

- Single or double/parallel slipways with wheels
- Deck or frame mounted
- Fixed wheel foundations
- Hydraulic drive
- Local control
- Back up winch system for emergency
- Overrunning clutches on wheels (allow high speed entry)

### OPTIONS

- Stored power package
- Different types of stern arrangement – extension of the slipway into the sea
- Adjustable wheel foundations to adapt for different small craft configurations
- No drive on wheels (gravity launch with small craft providing power for recovery)
- Remote control
- Training



Adaptable wheel sets



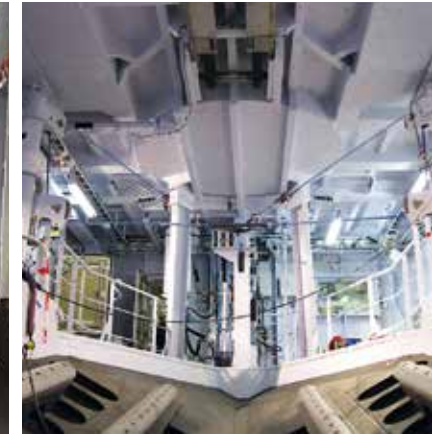
One-man operated



Safe launch and recovery



- Stern entry system
- Fast and safe operation up to high sea states



- One-man operation for launch and recovery
- Innovative and automatic hydraulic launch and recovery system



- Automatic hook arrestor system
- Electric system with separate control stand

## STERN RECOVERY SYSTEMS

The stern recovery system is suitable to launch and recover RHIBs, fast rescue boats, interceptors and daughter crafts within seconds. This entry system is similar to the launching and landing system found on advanced air craft carriers. The major benefits of the stern recovery system are extremely fast and safe operations, one-man operation, the innovative and automatic hydraulic launch / retrieval system, hook arrestor system and minimised maintenance requirements. Launch, recovery and inhaul operations of the craft are realised by only one operator onboard the vessel.

### FEATURES

- Available in single or twin configuration
- Minimised maintenance requirements
- One-man operation

### OPTIONS

- Stored power package
- Ex-proof components
- Other options available on request



Proven solution



Compact footprint



Modular built system

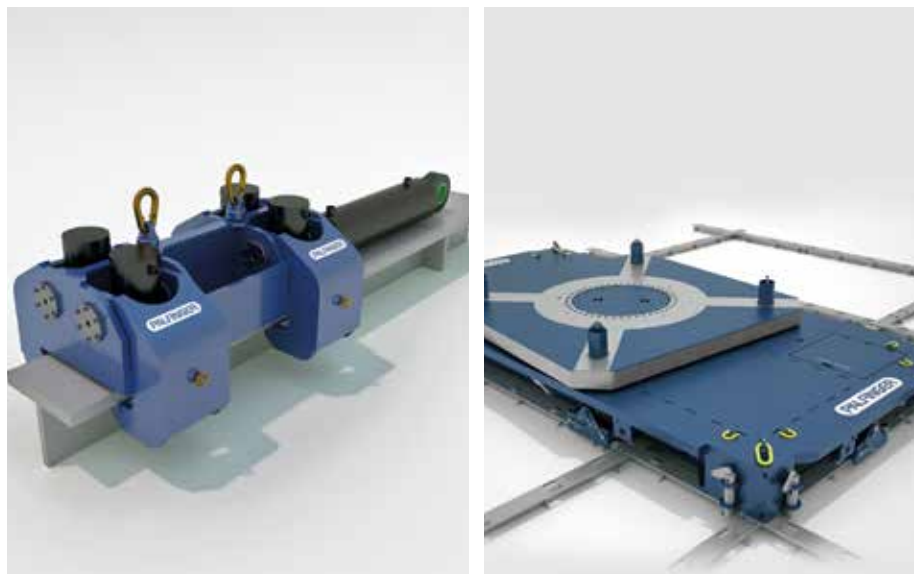




# LIFTING AND HANDLING EQUIPMENT

## DECK SKID SYSTEMS

PALFINGER MARINE supplies „Gripper Jack“ and „Claw“ type hydraulic skidding systems for heavy loads transport along beams with high positioning accuracy, assuring the safe transport of loads. The “Gripper Jack” solution provides benefits like flexibility on beam sizes and low level of beam customisation, the “Claw” type offers benefits such as simplicity combined with a high safety level. The “Gripper Jack” solution simply clamps onto the flanges of the skidding beams with high forces, which secure friction forces higher than the forces need to move the transported load. The “Claw” type uses a claw for locking the skidding safely to the skidding beam, e.g. the claw penetrates holes made in the skidding beams, before moving the load. Systems are designed to different load capacities and adaptable to different dimensions of flange width and thickness.



### FEATURES

- Hydraulic drive
- Object weight to be transported: from 100 - 5000 t
- Design according to customer's request
- Local or remote control

## XMT HANDLING SYSTEMS

PALFINGER MARINE supplies XMAS tree handling systems for new building and modification projects according to customer requirements. The skidding system is delivered with longitudinally and transverse rails according to project specifications. For upgrades the system can be integrated with existing rails. Transporters are delivered tailor made for XMAS tree and subsea modules and can be run longitudinally and transverse. A stack up dolly with handling manipulators grips the subsea modules and brings them from storage to stacking position.



### FEATURES

- Hydraulic driven
- Skidding weight from 50 - 250 t
- Design: according to customer's requirements
- Configuration: travelling on longitudinally or transverse rails

## ONSHORE MATERIAL HANDLING AND TRANSPORT SYSTEMS

PALFINGER MARINE is supplier of custom-made transport and material handling systems for the onshore market. Systems are designed according to customer's requests whether it is to improve HSE, meet new regulations, improve processes or solve lifting and handling challenges. The range varies from plain lifting beams up to fully automated systems:

- Material handling solutions
- Material handling in combination with automated processes
- Spreader beams
- Lifting equipment
- Transport systems
- Lifting and access platforms



## SPOOLING SYSTEMS

PALFINGER MARINE offers tailor-made spooling systems for correct spooling and storage of wire, cable, hoses, fibre rope and umbilical. All systems are designed and delivered according to customer's project specifications and with the required documentation and certification. The systems are designed for use in various operations and are adapted to various sizes of drums depending on customer's requirements.



### FEATURES

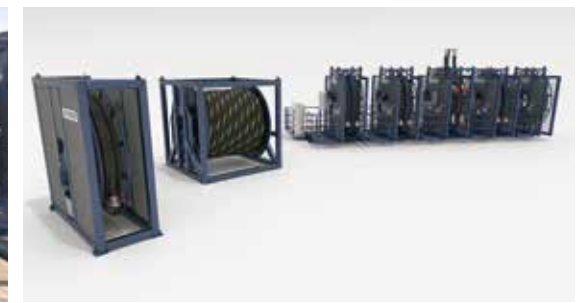
- Electric, hydraulic or pneumatic driven
- Spooling drums according to requirements
- Spooling tension according to requirements
- Local control

### OPTIONS

- Systems adaptable to different spooling drums
- Additional spooling drums
- Remote control
- Fork lift pockets



# BULK AND BUNKER HANDLING EQUIPMENT



PALFINGER MARINE Winches and Offshore Equipment offers a range of Bulk and Bunker Handling Equipment including all kinds and sizes of hose reels for vessels, oil rigs and land-based industry in addition to drilling fluid handling and dry bulk handling plants for onshore installation and marine dry bulk handling systems for offshore vessels. All equipment packages are delivered customised and according to applicable project specific rules and regulations.

## BULK AND BUNKER AND HANDLING EQUIPMENT

- BUNKER REELS
- HOSE SECURING SYSTEMS
- MARINE DRY BULK HANDLING SYSTEMS
- SUPPLY BASE SOLUTIONS



# BULK AND BUNKER HANDLING EQUIPMENT



- 12 + 13 reels for 100 m of hose
- Stacked configuration
- Hydraulic driven
- Remote control by wander lead

- 2 x 10 reel loading station for 60 m hose
- Foundation structure for welding onto box girder
- Hydraulic driven
- Local control on each reel

- 2 x 7 reel hose reel station
- Skid mounted
- Hydraulic driven
- Local control on each reel

## BULK LOADING STATIONS

Effective loading of fluids and dry bulk materials between supply vessels and fixed or floating production units is necessary to maintain continuous operations. PALFINGER MARINE supplies standard solutions or customised design for a variety of hoses and length suitable for both new buildings and upgrades. Installing bulk loading stations with hose reel winches provide several advantages compared to traditional saddles:

- Increased safety of equipment and personnel in hostile offshore environments
- Less time needed for operation
- Reduced need for operating personnel – one-man operated
- Environment protection and protection from spillage
- Reduced exposure to sunlight for longer hose life
- Increased lifespan of the hoses due to less wear and tear
- Easy access for maintenance and service

A typical station will be fitted with multiple reels for 60 – 100 m of 4" or 5" soft wall hoses with floating element / floating hose for mediums like drill water, potable water, base oil, brine, diesel, mud, cement etc.

### FEATURES

- Electric, hydraulic or pneumatic drive
- With or without skid foundation
- Delivered for Safe zone, Zone 1 or Zone 2
- Number of reels 1 to 16
- Reel capacity: up to 120 m of soft wall hose
- Hoses diameter: 1.5" - 8"
- Local control

### OPTIONS

- Foundation structures
- Stacked configuration
- Reels in stainless steel
- Remote control
- Hoses included in delivery
- Lifting equipment

## SHIP TO SHIP BUNKER REELS

The Ship to Ship bunker reels are made for bunkering while vessels are moving. The reels are typically used for diesel and Heavy Fuel Oil (HFO). Standard reels are included framed foundation and designed for up to 250 m of 4" or 5" hose. Reels are normally delivered for hard wall hose, but can be delivered included spooling device suitable for soft wall hose.



### FEATURES

- Electric, hydraulic or pneumatic driven
- Single drum configuration
- Drum capacity according to customer's request
- Designed for hard wall hose
- Size of hose: 4" and 5"
- Length of hoses: standard up to 250 m
- Rated pull according to customer's request
- Local control

### OPTIONS

- Remote control
- Designed for soft wall hose
- Spooling device
- Hoses included in supply

## HOSE REELS FOR DIESEL SUPPLY

PALFINGER MARINE supplies hose reels for various vessels like PSV's, MPSV's, well intervention vessels etc. The reels are designed for transfer of diesel to and from other vessels and oil rigs. A typical reel is hose reel / bunker reel for diesel with 60 m of soft wall hose inclusive floating part. Hose reels are adapted to the required hose length and hose diameter.



### FEATURES

- Electric, hydraulic or pneumatic driven
- Single drum configuration
- Drum capacity according to customer's request
- Designed for hard wall or soft wall hose
- Size of hoses according to customer's request
- Local control

### OPTIONS

- Hoses included in supply
- ISO container brackets for easy removal
- Remote control



2 x 3 hydraulic hose reels, skid mounted



1 x 4 hydraulic hose reel, skid mounted, stainless steel



2 x 10 electrical reels without skid





# BULK AND BUNKER HANDLING EQUIPMENT

## SUPPLY BASE SOLUTIONS

### HOSE SECURING SYSTEM

Hose Securing System (HSS) provides automated and safe operation during loading and off-loading of fluids and dry bulk material. Various numbers of Hose Securing Arms (HSA) are mounted outside of the rail on the vessel close to the bulk loading connection points for catching and locking the hose. During loading and unloading the system compensates increasing and decreasing pressure of the hoses.



#### FEATURES

- Hydraulic driven
- Configuration: According to customer's request
- Hoses designed for up to 6" SW and HW hoses
- Local and / or remote control

### MARINE DRY BULK HANDLING SYSTEMS

Marine dry bulk handling systems are used for the transportation of dry bulk products (including cement) by Platform Supply Vessels (PSV's). The systems are designed for low maintenance and are customised according to project-specific requirements.



#### FEATURES

- High quality on pressurised air to minimise the risk for product sedimentation
- Cleaning of ventilation air by high efficiency cyclones
- Separate systems for barite / bentonite and cement - no connection between
- Placement of aeration canvas is optimised to minimise the residual product left in the tanks
- Control: pneumatic or electric actuators to operate the valves
- Continuous level measurement of the tanks
- Tanks are supplied with high level alarms to prevent spillage

### DRILLING FLUID HANDLING SYSTEMS

The land-based drilling fluid handling systems are used for storage and mixing of drilling fluids like mud etc. This includes tanks and piping with ladders and walkways, pumps, valves, agitators, fittings and complete systems for surveillance and control. The plants have a modular design and are adaptable according to customer specifications.



#### FEATURES

- Dimensions according to requirements
- Volume: 200 - 250 m<sup>3</sup>

#### OPTIONS

- Insulation
- Tank and pipeline heating
- Radar level measurement
- Pumps
- Control systems

### DRY BULK HANDLING SYSTEMS

The land-based dry bulk handling systems are used for storage and mixing of dry bulk like barite, bentonite and cement. In addition to providing the tanks and piping with ladders and walkways PALFINGER MARINE also supplies complete systems for surveillance and control and solutions for cleaning the ventilation air. The plants have a modular design and are adaptable according to customer specifications.



#### FEATURES

- Dimensions according to requirements
- Volume: 15 - 200 m<sup>3</sup>
- Design pressure: 6,6 bar or according to customer's specification
- Load cells
- Control system

### DUST CLEANING PLANTS

PALFINGER MARINE is supplier of dust cleaning plants that removes waste from the ventilation air with high efficiency and little maintenance. The patented dust cleaning plant cleans the vent air with 99,9% effectiveness and recycles the dust into the tank park. The dust cleaning plants can be delivered fully automated.



#### FEATURES

- Dimensions (LxWxH): 2700 x 1650 x 4037 mm
- Weight: 5500 kg
- Design pressure: 6,6 bar or according to customer's specification

### DRY BULK BOOSTER

The range and discharge capacity of dry bulk plants onshore are limited by the tolerances of the pressure vessels. The dry bulk booster is a cost-saving and effective solution instead of establishing a new dry bulk plant in the new location if the distance is too far. It extends the existing dry bulk capacity and opens up new locations without additional manpower or stockpile needs.



#### FEATURES

- Dimensions (LxWxH): 4700 x 3600 x 5580 mm
- Weight: 12000 kg
- Design pressure: up to 6 bar



# AFTER SALES AND SERVICE



## MARINE AND OFFSHORE CRANES SERVICE

- Survey reports and load testing
- Installation and commissioning
- Global network with skilled engineers
- Periodical annual and 5-yearly inspections
- Hydraulic hose kit exchanges
- Multi-Level service agreements
- Crew training
- Original spare parts

## BOATS SERVICE

- Sea trial testing and commissioning
- Rule inspection and complete boat maintenance
- Global network with skilled engineers
- Crew and computer-based training
- Original spare parts

## DAVIT SYSTEMS

- Installation and commissioning
- Periodical annual and 5-yearly inspections
- Multi-brand service
- Global network with skilled engineers
- Original spare parts

## WINCHES AND OFFSHORE EQUIPMENT SERVICE

(INCLUDES WINCHES, LIFTING AND HANDLING EQUIPMENT, BULK AND BUNKER HANDLING EQUIPMENT):

- Installation and commissioning
- Annual inspections
- Life-time support service
- Global network with skilled engineers
- Original spare parts

PALFINGER MARINE provides comprehensive, customised and reliable services to customers around the world. Specially trained engineers and experts with extensive know-how ensure fast on-site support, from telephone assistance to on-time delivery. With 14 fully owned sales and service stations and a network of 130 service partners PALFINGER MARINE is always close to the customer.

Experienced engineers and first rate HSE and quality systems ensure that all requirements are fulfilled during the entire process from design until delivery. All phases through the supply chain are performed in compliance with ISO 9001:2008 and manufacturing is done in state-of-the-art production facilities.

PALFINGER MARINE always aims to be in the forefront when it comes to meeting rules and regulations. All equipment and products are delivered according applicable requirements from class societies such as DNV-GL, LR, ABS, BV, RMRS, RRR, RINA, CCS, NKK etc., national and international regulations and standards like USCG, SOLAS, NORSOK, ISO EN 13852, API 2C to IEC Ex and ATEX directive, NEC and others in addition to customers own company standards.

A range of products for marine and offshore applications require third party certification. PALFINGER MARINE takes care of the total process of third party verification and certification in addition to applicable documentation.



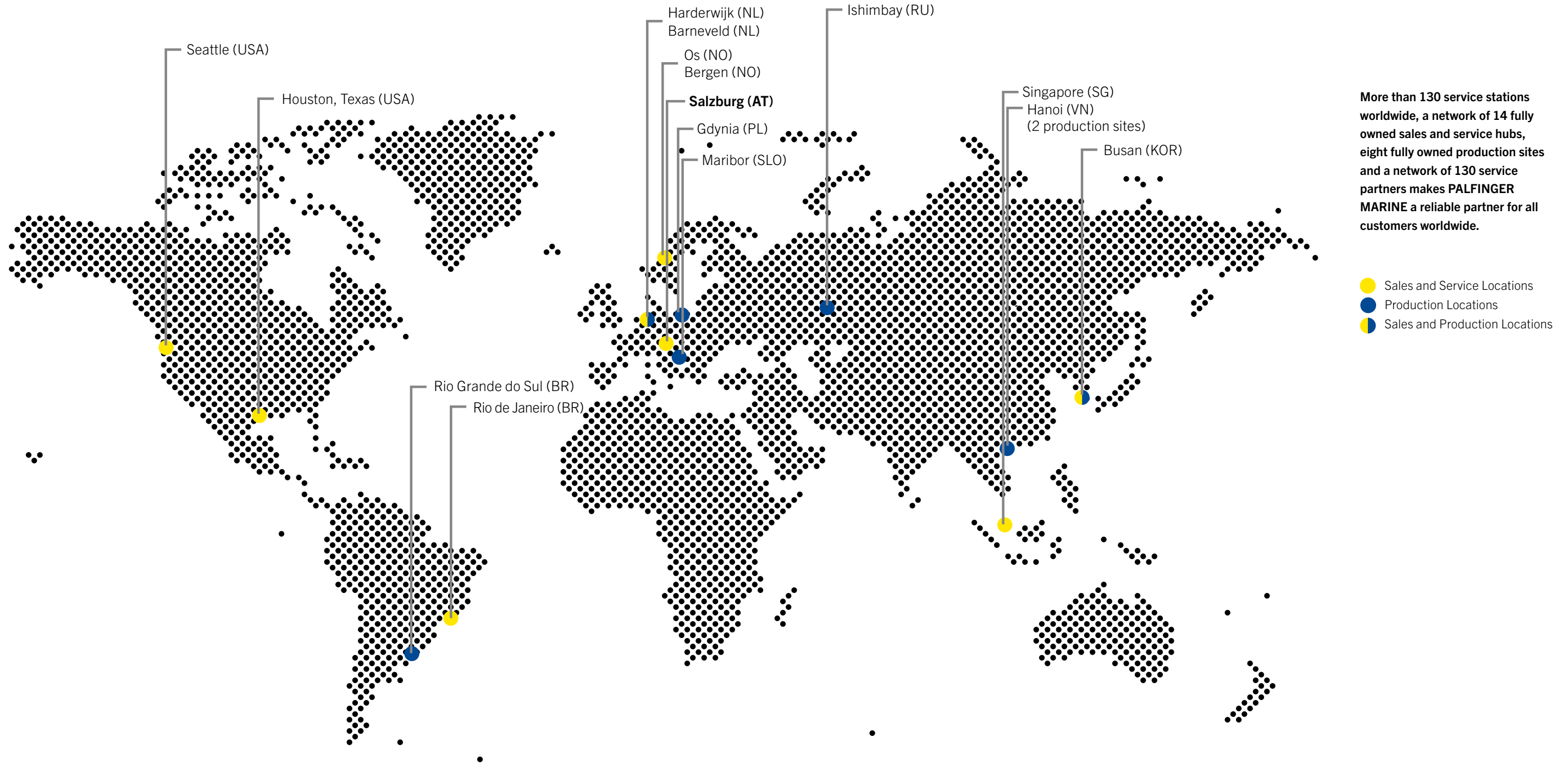
After Sales and Service







# PALFINGER MARINE WORLDWIDE



More than 130 service stations worldwide, a network of 14 fully owned sales and service hubs, eight fully owned production sites and a network of 130 service partners makes PALFINGER MARINE a reliable partner for all customers worldwide.

- Sales and Service Locations
- Production Locations
- Sales and Production Locations

## SALES AND SERVICE CONTACTS ●

**PALFINGER MARINE GMBH**  
Salzburg, Austria  
Marine Cranes, Wind Cranes  
info-marine@palfinger.com

**PALFINGER MARINE NORWAY AS**  
Os, Norway  
Winches and Offshore Equipment (former NDM)  
WOE.sales@palfinger.com

**PALFINGER MARINE US OFFICES**  
Houston, Texas, USA  
All products  
info-marine@palfinger.com

**PALFINGER MARINE KOREA LTD.**  
Busan, Korea  
Offshore Cranes  
marine.korea@palfinger.com

**PALFINGER ASIA PACIFIC PTE. LTD.**  
Singapore  
All products  
f.schnoell@palfinger.com

Bergen, Norway  
Offshore Cranes  
OC.sales@palfinger.com

Seattle, Washington, USA  
Marine Cranes, Offshore Cranes  
b.jacob@palfinger.com

**PALFINGER MARINE DO BRASIL LTDA.**  
Rio de Janeiro, Brazil  
All products  
s.barros@palfinger.com

**PALFINGER MARINE NETHERLANDS BV**  
Barneveld, The Netherlands  
Davit Systems  
davitsystems@palfinger.com

**PALFINGER BOATS BV**  
Harderwijk, The Netherlands  
Boats  
boats@palfinger.com

## PRODUCTION SITES ●

**MARINE CRANES AND WIND CRANES**  
Maribor, Slovenia  
Ishimbay, Russia

**OFFSHORE CRANES**  
Gdynia, Poland  
Busan, Korea  
Rio Grande do Sul, Brazil  
Bratislava, Slovakia (only R&D)

**DAVIT SYSTEMS**  
Barneveld, The Netherlands  
Hanoi, Vietnam

**WINCHES AND OFFSHORE EQUIPMENT**  
Gdynia, Poland

**BOATS**  
Harderwijk, The Netherlands  
Hanoi, Vietnam