BRIMMOND

HEILA KNUCKLE BOOM AHC

OFFSHORE SUBSEA LIFTING CRANE

HR 650/25-2BJ

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Brimmond are the exclusive UK and Ireland distributor, service partner, and agent for Heila marine cranes. We're pleased to submit our details for the supply of a new stock **Heila Knuckle Boom AHC Offshore Subsea Lifting Crane.** The crane is offered with an expedited schedule, as it is currently in production for stock.

CRANE GENERAL DESCRIPTION

- Crane supplied with steel pedestal for direct bolting installation on the ship deck or ship pedestal.
- Column connected to the steel pedestal by means of a slewing ring.
- Main boom turning in the column and activated by means of one (1) hydraulic luffing cylinder.
- 2nd boom (knuckle boom) connected to the main boom by means of one (1) hydraulic knuckle cylinder.
- Crane fully controlled by the operator cabin, fitted on left side of the slewing column.
- The control valve block is accessible on the right side of column for manual movements in emergency condition (fault of crane governing system).

CAPACITIES/OUTREACHES

LR Certified Lifting Capacity (Single Line Pull):

Ship to Platform	Ship to Ship	Subsea
lifting under Hs=1.5m SWL 11T @ 20m SWL 15T @ 16.9m	lifting under Hs=1.5m SWL 5T @ 20m SWL 15T @ 12.6m	lifting under Hs=1.5m SWL 8T @ 20m SWL 25T @ 9.4m Hook Travel: 500m

The subsea capacities above will be automatically reduced by the crane control system based on the weight of the rope paid out (self-weight of rope in air: 6.05 kg/m). Active Heave Compensation is enabled for subsea operations mode.

WINCH INSTALLATION SUITABLE FOR SUBSEA LIFTING

A hydraulic winch is provided, suitable for single-line use, complete with a rope guide, hoisting rope, pulley head with load pin, and a swivel hook with counterweight. The winch consists of a drum with internal planetary gears, hydraulic fixed displacement motors, automatic multi-disc spring brakes (automatically applied and released), and relief valves. Additional emergency devices installed include load lowering, MOPS (Motor Overload Protection System), and AOPS (Automatic Overload Protection System).

Hoisting Capacity	Rope Length	Speed
25T	500m hook travel	0-32 m/min (4°layer)

ACTIVE HEAVE COMPENSATION (AHC) FEATURES

The crane is equipped with an Active Heave Compensation (AHC) system capable of working up to 25T under the following performance specifications.

- AHC peak of speed 60/51 m/min (4°/1° layer.)
- Suitable for wave amplitude + 0,75m to – 0,75 m under a typical period of 6-8 seconds.

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OPERATOR CABIN

The operator cabin is ergonomically designed, featuring air conditioning, safety tinted glass, and a comfortable operator seat. It is equipped with instruments and cabin lights for ease of use.

The control desk with hand levers is easily accessible and clearly visible. Hoist, luffing, knuckle, and slewing movements can be controlled via joysticks from the operator's position.

- The cabin's structure and exterior panels are made of stainless steel, with tinted glass and wipers on both the front and roof windows. The roof glass is protected by a grid to meet offshore requirements.
- The cabin design complies with European standards (EN 13557, ISO 8566) and the specific requirements of LAME 2021. The operator cabin is located on the left side of the column.

PEDESTAL

The pedestal, flanged on both sides, is provided along with the crane. Height: 2,000 meters.

- Please refer to the General Arrangement (GA) for further details.

SAFETY DEVICES

The safety devices comply with European standards (EN 12077, EN 13135, ISO 10245) and the requirements of LAME 2021. Specifically, the hydraulic cylinders are equipped with brake and relief valves.

These safety devices allow for load lowering, first boom lowering, and slewing through manual devices and a pump in case of a prime mover failure.

The crane is also equipped with MOPS (Motor Overload Protection System) and AOPS (Automatic Overload Protection System) to mitigate the risk of rope entanglement.

All crane safety devices are in accordance with regulations and certified by Lloyd's Register (LR).

LOAD LIMITING DEVICE AND LOAD MOMENT DEVICE

The crane's governing system continuously compares the allowed capacity with the current load in any crane configuration. In the event of an overload, the system first triggers an alarm and then automatically stops the crane. After the stop, only safety movements are permitted.

- The load moment device is managed by relief valves and pressure transducers installed on the cylinders, allowing the operator to monitor the pressure in real-time.
- The operator can also check the pressure in any crane circuit.

CRANE DESIGN

The crane is designed and manufactured in accordance with LAME 2021. The design temperature range is from -20ºC to +45ºC, with an ambient temperature of -10ºC. Specifically designed for offshore applications and subsea lifting operations.

MARINE TREATMENT

All steel plates are carefully stress-relieved and shot-blasted to SA 2.5 standards to remove rust and impurities before painting, in accordance with Swedish standards. Before painting, the crane and all components are thoroughly washed to remove oil and dust, ensuring maximum paint adhesion. The marine painting system includes a zinc primer, an epoxy intermediate layer, and an epoxy topcoat layer, totaling approximately 250 microns. The painting cycle follows standard C5M – ISO 12944. This system has undergone rigorous testing and guarantees full corrosion protection for the crane.

MANUFACTURING, INSPECTION, AND FACTORY ACCEPTANCE TEST (FAT)

The crane will be manufactured, assembled, and tested at Heila's facility in Italy.

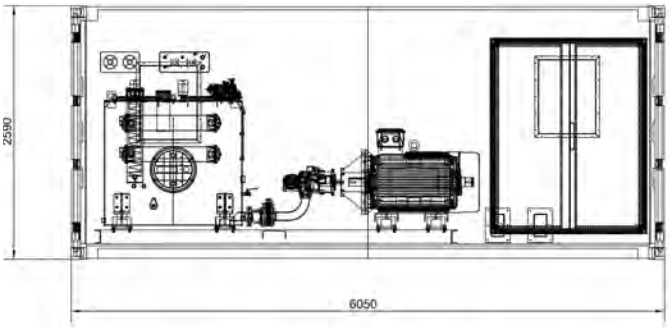
It will be delivered in compliance with LAME 2021 standards, accompanied by the related Book of Certificates.

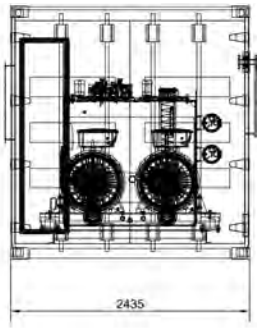
ELECTRO-HYDRAULIC POWER UNIT (HPU)

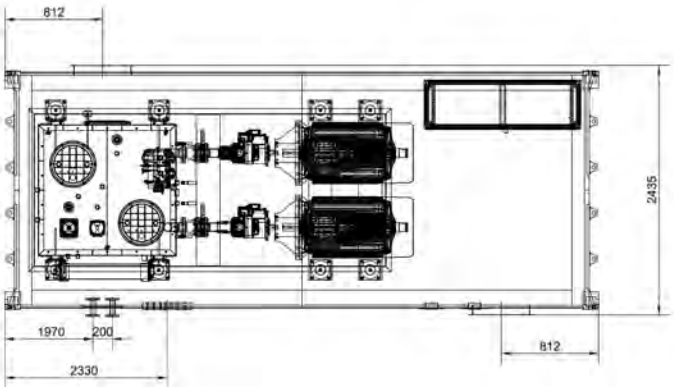
Housed inside a 20" container with double side doors, designed for external marine environments.

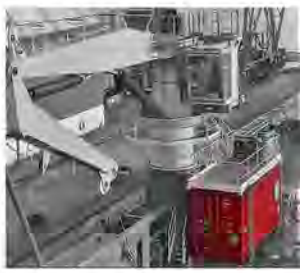
The external surfaces of the container are painted under the C5M – ISO 12944 cycle, in Blue Marine (colour to be confirmed by the client), while the internal surfaces are finished in white (RAL 9016) as per Heila's cycle. The HPU is engineered to meet all crane requirements and is certified by Lloyd's Register (LR).

POWER	2x200 kW
MOTOR STARTING	Soft starters
FEEDING (CLIENT SUPPLY)	690 VAC / 60Hz 3-phase + 220 VAC / 60Hz 3-phase
COOLING	Water-oil cooler (freshwater supplied by the client)
OPTIONAL FEATURES (AVAILABLE ON REQUEST)	Water-oil cooler suitable for saltwater. Air-oil cooling system (either as an alternative or in addition to the water-oil cooler, provided as a spare)



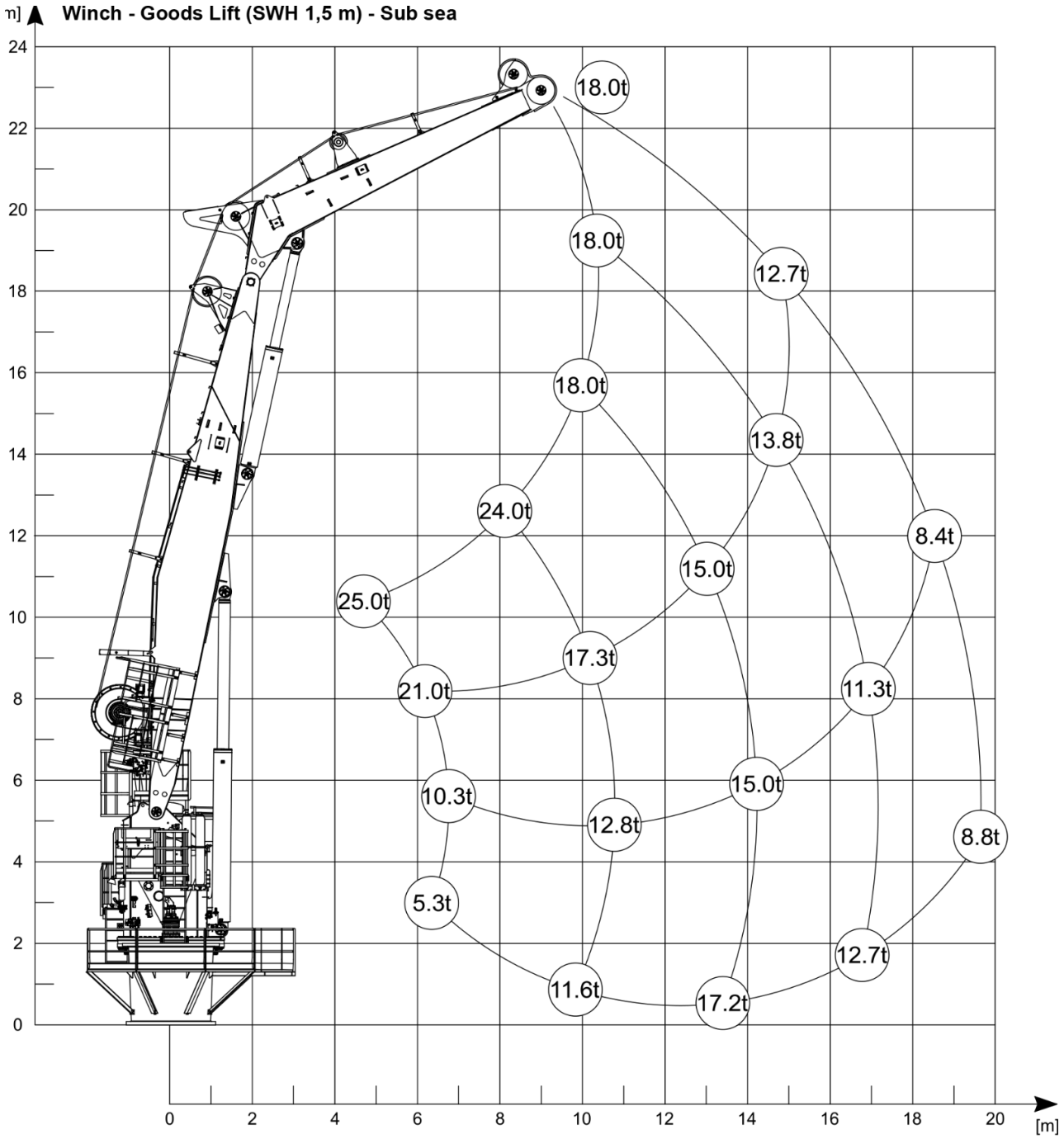






SUBSEA OPERATIONS (CARGO LIFTS) WINCH LOAD CHART

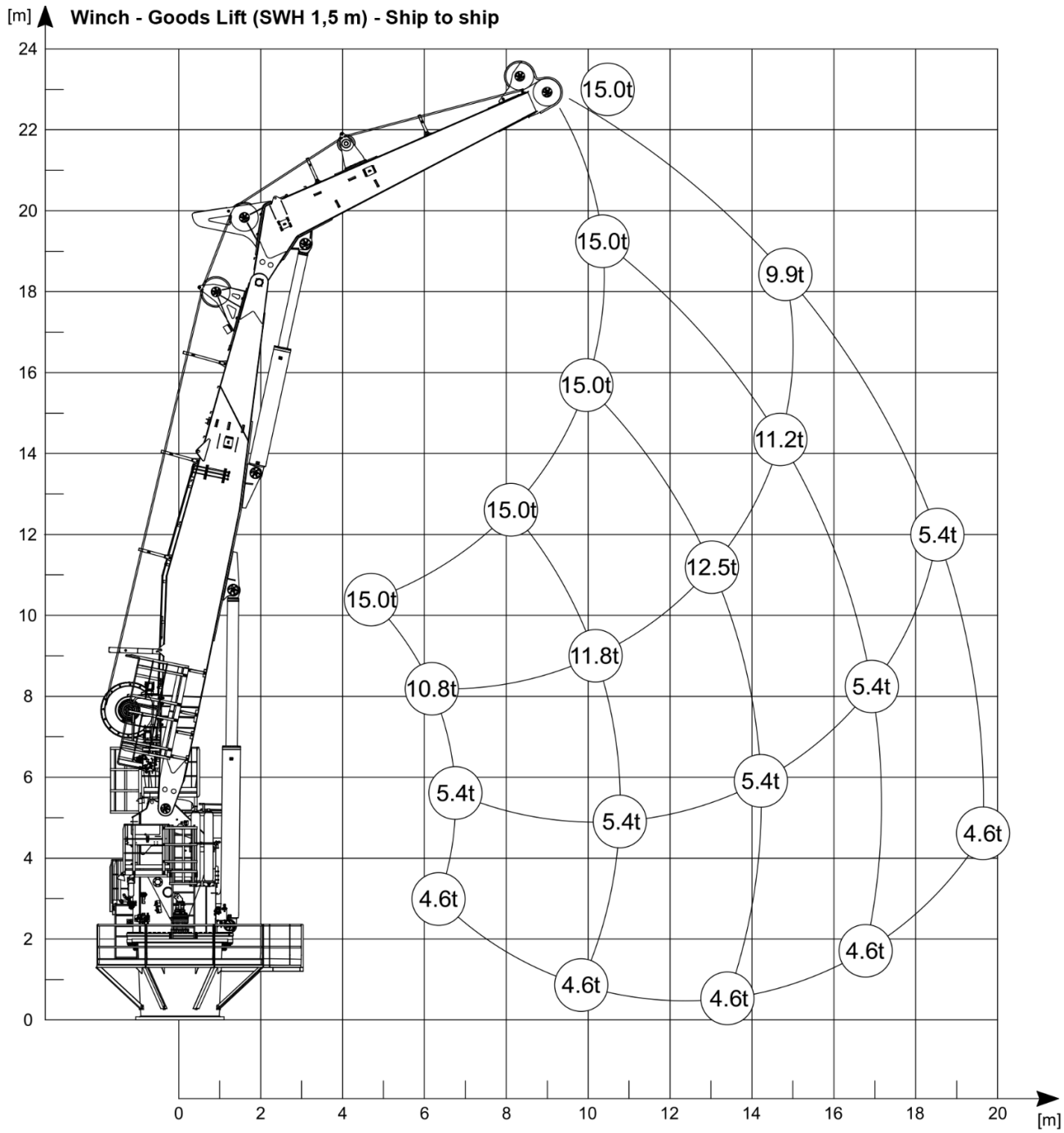
This diagram illustrates the crane's operational conditions for subsea winch lifts, based on the following parameters:



DESIGN STANDARD	LAME/2021
WIND SPEED	25 m/s
HOISTING SPEED	5 m/min (compensated 65 m/min)
REEVING ARRANGEMENT	Single pull
STATIC HEEL/TRIM	5° 2°

SHIP-TO-SHIP (CARGO LIFTS) WINCH LOAD CHART

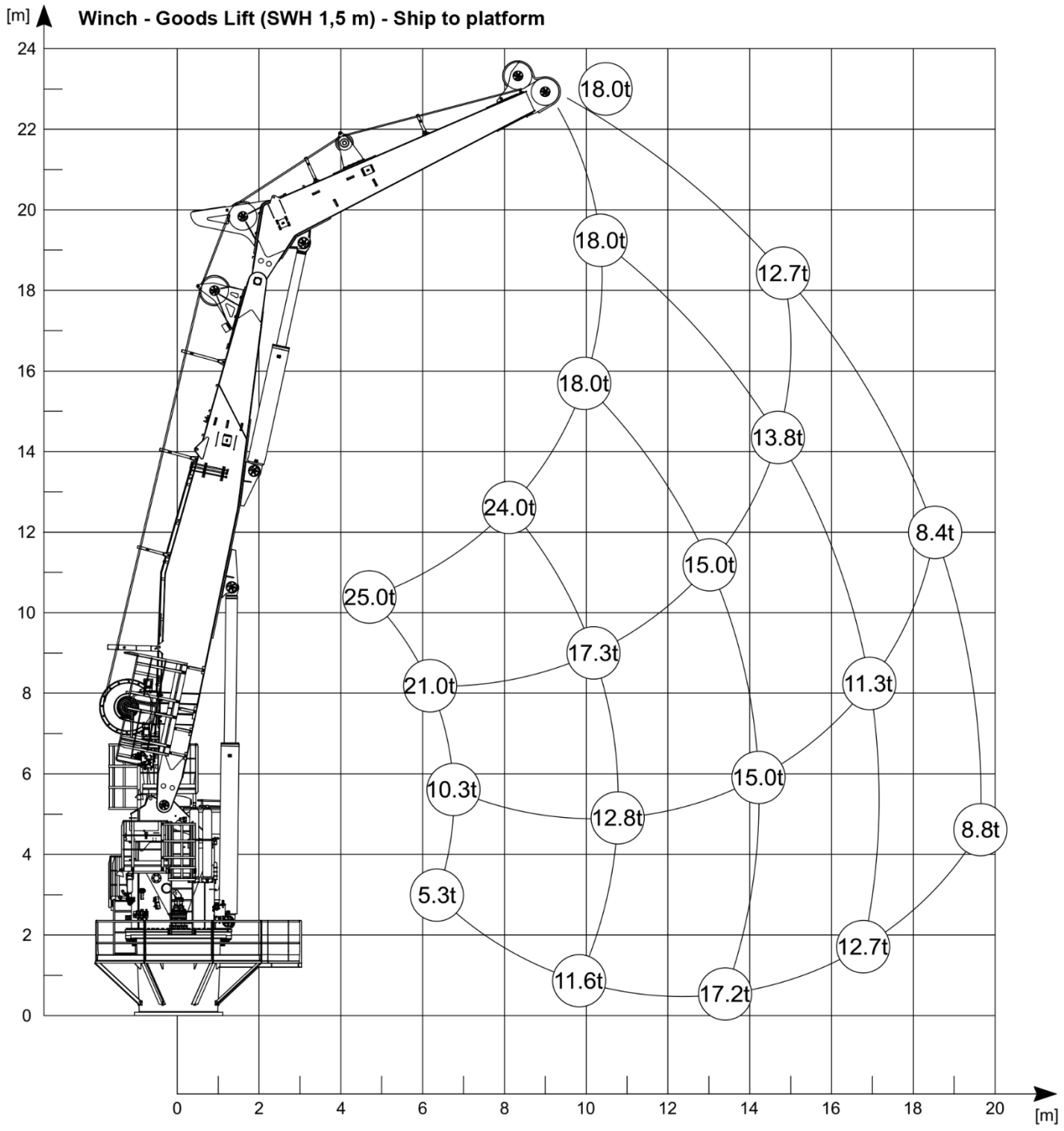
This diagram illustrates the crane's operational conditions for winch lifts, based on the following parameters:



DESIGN STANDARD	LAME/2021
WIND SPEED	25 m/s
HOISTING SPEED	35 m/min
REEVING ARRANGEMENT	Single pull
STATIC HEEL/TRIM	5° 2°

SHIP-TO-PLATFORM (CARGO LIFTS) WINCH LOAD CHART

This diagram illustrates the crane's operational conditions for winch lifts, based on the following parameters:



DESIGN STANDARD	LAME/2021
WIND SPEED	25 m/s
HOISTING SPEED	35 m/min
REEVING ARRANGEMENT	Single pull
STATIC HEEL/TRIM	5° 2°

GENERAL ARRANGEMENT (GA) DRAWING

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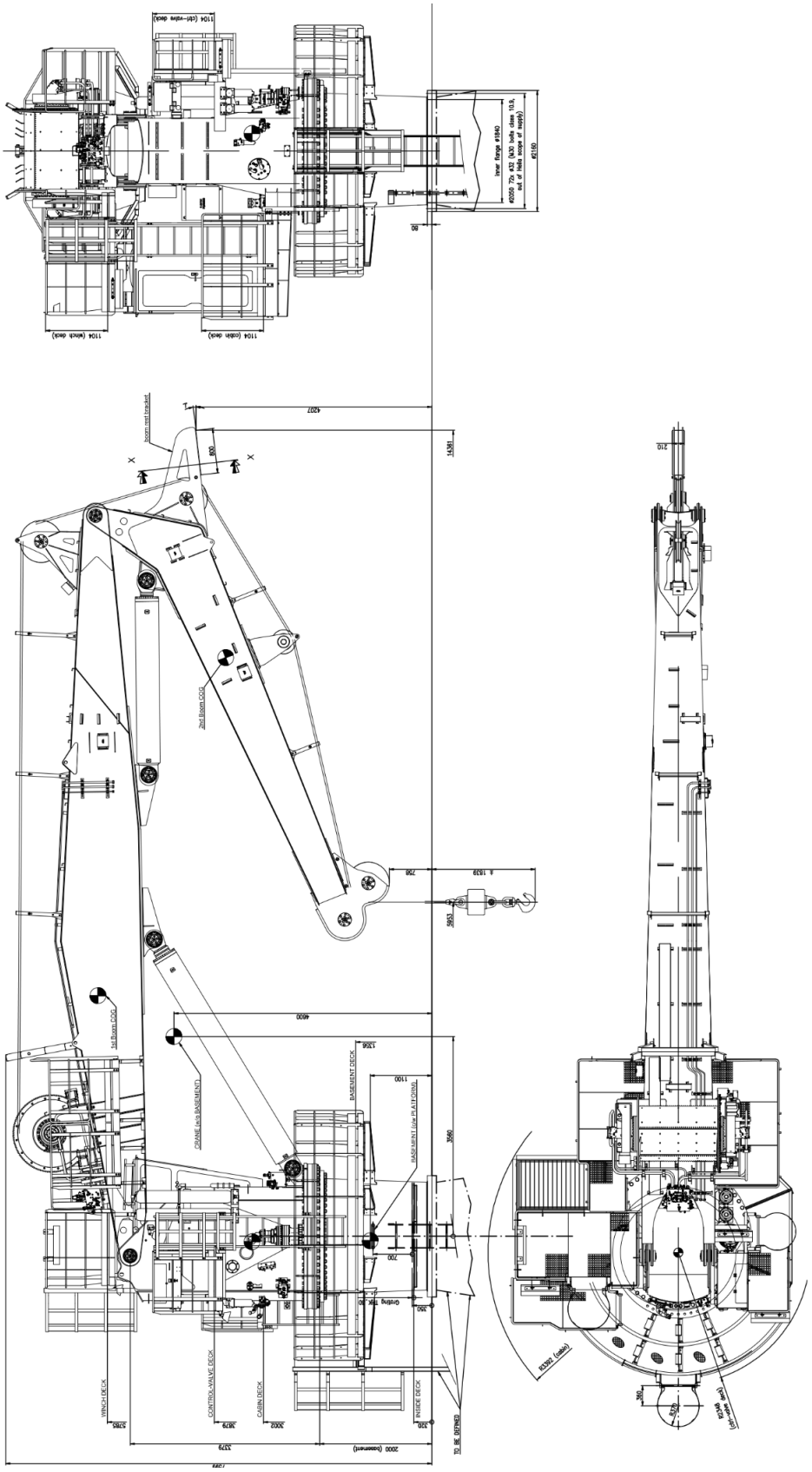

MARINE CRANES

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