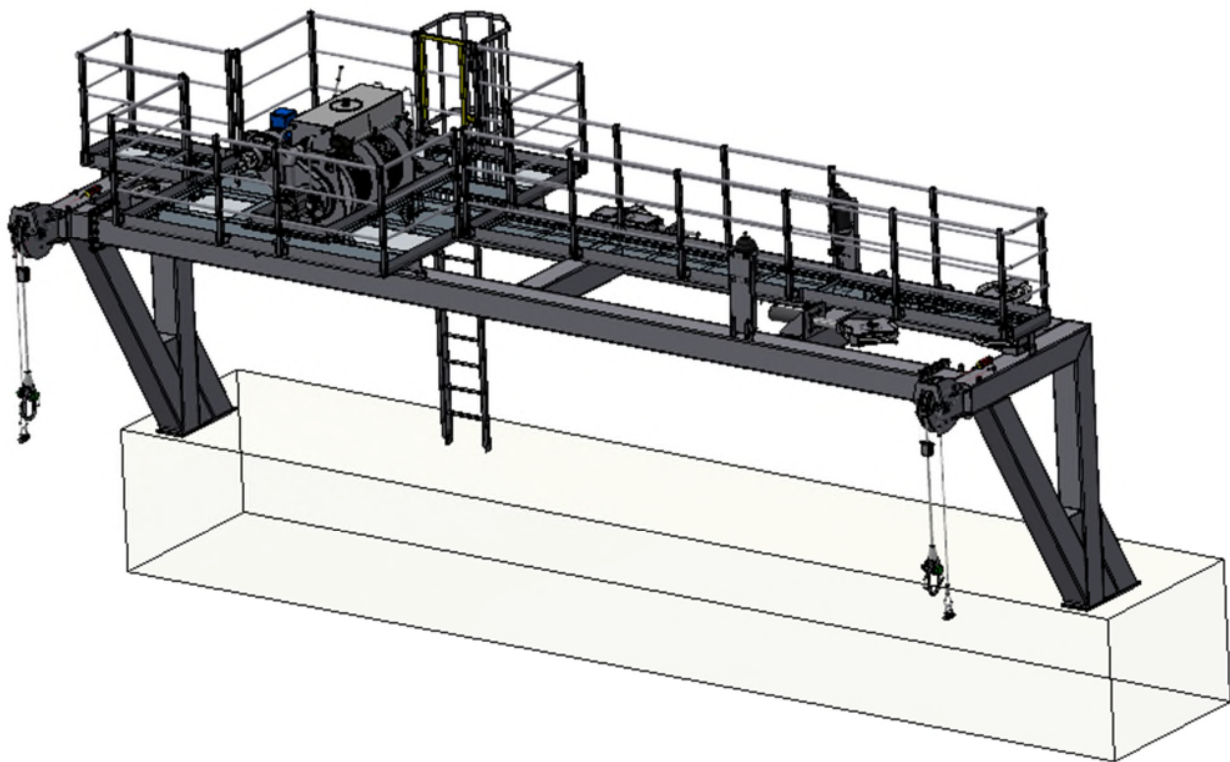




**VIKING
NORSAFE**
Boats and davits

Enterprise No.: NO940411696
www.VIKING-life.com

C-11 NO – Cantilever Lifeboat Davit



TECHNICAL SPECIFICATION

VIKING Norsafe Life-Saving Equipment Norway AS

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VIKING Project No.: TBA

VIKING Doc. No.: TSD-0388

Rev. Date: 30.08.2019

Rev. No: 1

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1. REGULATION AND CERTIFICATION

Applicable rules and regulations	In accordance with IMO/ SOLAS requirements, LSA Code and European Council Directive 2014/90/EU on Marine Equipment, Norsok R-002 and DNVGL-ST-0378
Certificate	MED, DoC to Norsok R-002
Other certificate	Class certificate or flag acceptance on request

2. DAVIT SPECIFICATION

2.1. GENERAL DAVIT

Type	Cantilever Lifeboat Davit
Model	C-11 NO
Application	Conventional Lifeboat handling
Drawing reference	G-500467
Execution	Gravity lowering davit
Boarding position	Inboard on deck level
Operating position	From deck side and from inside the boat (Gravity lowering)
Davit system weight	12000 kg, davit incl. winch (dry weight)
Safe Working Load (SWL)	20385 kg
Trim / list conditions	20° / 20°
Max. lowering height	78 m (including 20°/20° trim/list condition)
Operation temperature	-20°C till +45°C (other range on request)
Max. hoisting speed	5 m/min (60Hz)
Max. lowering speed	Emergency mode: 1 m/s Training & Maintenance mode: 0.4 m/s
Manual hoisting	By manual hand-cranking
Wire sheaves	Galvanized, equipped with ball bearings
Installation	3 (three) deck welding points
Deck reinforcement requirements	See general arrangement drawing
Davit system H / W / D	See general arrangement drawing
Deck space required	See general arrangement drawing

The Viking Norsafe Cantilever Lifeboat Davit system is especially designed for safe and efficient launching and retrieval of a Viking Norsafe Conventional Lifeboat. The davit system is designed for long time operation in a tough and corrosive marine/offshore environment. The davit system is designed to fulfil all requirements as given in latest SOLAS/IMO requirements, NORSOK R-002, LSA Code and DNV DNVGL-ST-0378 requirements.

The R-002 davit system provides:

- Launch of lifeboat maximum load condition
- Gravity lowering of the loaded lifeboat independent of external power supply
- Retrieval of lifeboat with the crew of three persons with electric power
- Retrieval of the lifeboat by air ratchet or manual hand-cranking



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- Dual operation modes
- Approval, according to R-002:
 - Dampening system for each wire fall acc. to Norsok R-002
 - Winch with 'Pull&Go' and 'Stop&GO' systems, designed acc. to Norsok R-002

The davit is designed to achieve optimum performance in terms of safety and reliability, and minimal maintenance levels. The davit is designed to minimize noise emission and provide straightforward service access.

Several safety measures have been included in the design so no single failure shall be able to prevent the winch from lowering the lifeboat on a safe manner.

The winch system has the following safety mechanisms.

The winch can operate in two modes

- a) Standby Mode
- b) Training & Maintenance mode

To reduce dynamic amplification the davit is equipped with two damping cylinders, one on each wire routing. Damping cylinder system increases the time and length of stopping the load during emergency braking. It also reduces forces during re-entry and lowering under rough sea.

An overload relay in the starter cabinet prevents the davit from lifting loads in excess of the safe working load.

The winch is fitted with two independent hydraulic multi-disc brakes. In the event of power loss, the brake will automatically activate and davit motion will stop.

Two hydraulic brake pumps controls the lowering motion and prevents free fall. If the primary hydraulic brake pump fails, the secondary brake pump will take over.

Two bladder accumulators provide hydraulic pressure to release the holding brakes and lowering can be initiated. Each accumulator alone has the capacity of opening both holding brakes.

Pull and go lowering is available at Standby mode. Lowering speed is set to 1m/s and once lowering of the lifeboat is initiated, the lifeboat will continue until seaborne regardless of any lifeboat crew intervention.

Stop and go lowering is available at training/Maintenance mode. Lowering speed is set to 0.4m/s and descent of the lifeboat can stop and be resumed at any time by the lifeboat crew.

To activate the davit, push and hold down the appropriate button to cause the desired operation. When the button is released, davit operation will cease immediately

Indication lamps on the control cabinet and inside the lifeboat show selected operation mode.

Electrical limit switches to cut power to the winch if the lifeboat is hoisted above stowed height are placed one on each wire fall. Each of the limit switchers is capable of stopping the hoisting motion when the lifeboat reaches its upper most position. Electrical limit switches on the winch provide operation of the air ratchet or hand crank.



2.2 WINCH AND WIRE

Type	NW-200 NO winch
Drawing reference	A-60013
Wire rope type	Galvanized, rotation resistant (certified item)
Wire rope diameter, MBL and spec.	Ø 28 mm, MBL 600 kN, 1960N/mm ²
Inner / outer wire end	Secured to drum / Wedge socket and safety wire clamp
Wedge socket	Included
Master link w/handle	Included (certified item)

2.3. ELECTRICAL

Electric power supply	440V/3ph/60Hz (other on request)
Electrical cabinet	IP66
Remote control	IP66
Limit switch	IP56
Power consumption	22 kW / 60 Hz
Starting method	DOL - Direct on line
Duty rating	S2-10min
Motor space heating	Included, 40W
Electrical cabinet heating	Heat loss from 42V transformer
Wiring	Included, (only power supply cable required)
Wiring	Included, (only power supply cable required)
Transformer	Included, 440/42VAC (other on request)
Emergency stop	Yes, mushroom type
Ex Zone	Ex-proof, Zone II 2 G Ex de IIB T3

2.4. PAINTING SYSTEM

Blasting	SA 2.5
Specification	Norsok M-501
System	System 1
Total dry film thickness	280 µm

2.5. DOCUMENTATION

Technical specification davit	According to contract specification
General arrangement drawing	According to contract specification
Electrical wiring diagram	According to contract specification
Starter cabinet drawing	According to contract specification
Product certificate	According to contract specification
Lubrication oil chart	Viking Norsafe standard
Spareparts list	Viking Norsafe standard
Operation & Maintenance manual	Viking Norsafe standard
Installation manual	Viking Norsafe standard
Preservation & storage procedure	Viking Norsafe standard



3. PACKING

Format

Packed for transport in a 40 ft standard container

4. OPTIONS

Note: Some options influence davit weight and performance, some option combinations may be incompatible. Maximum SWL must not be exceeded.

marking means to be supplied by maker, marking means not supplied by maker.

GENERAL DAVIT	
Additional manual handling crane for electric motor on winch	<input type="checkbox"/>
Additional supports for lights, lanterns, starter cabinet etc.	<input type="checkbox"/>
Winterization / cold climate heating / canvas solutions	<input type="checkbox"/>
Commissioning performed by Viking Norsafe or Viking Norsafe Service Partners	<input type="checkbox"/>
Other options on request	<input type="checkbox"/>
ELECTRIC SYSTEM	
Voltage variation	<input type="checkbox"/>
Protection box for remote control	<input type="checkbox"/>
Star Δ starting method	<input type="checkbox"/>
Additional electric cabinet heater	<input type="checkbox"/>
Alternative cabinet size / material / surface protection	<input type="checkbox"/>
PAINTING SPECIFICATION	
Other painting system and final color	<input type="checkbox"/>
SPARE PARTS	
Spare parts for Startup / Commissioning	<input type="checkbox"/>
Spare parts for Onboard spare	<input type="checkbox"/>
Spare parts for 1 year	<input type="checkbox"/>
Spare parts for 2 years	<input type="checkbox"/>
DOCUMENTATION	
Factory acceptance test procedure	<input type="checkbox"/>
Factory acceptance test report	<input type="checkbox"/>
Inspection and test plan	<input type="checkbox"/>
Shipping, handling and lifting procedure	<input type="checkbox"/>
Packing & unpacking procedure	<input type="checkbox"/>
Commissioning procedure	<input type="checkbox"/>
TAG list	<input type="checkbox"/>
Winch drawing	<input type="checkbox"/>



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Noise test report	<input type="checkbox"/>
Weight and COG datasheet	<input type="checkbox"/>
Weighing report/certificate	<input type="checkbox"/>
Other drawings/documentation/procedures	<input type="checkbox"/>

5. POSSIBLE BOAT FITTING THIS DAVIT SYSTEM

The VIKING Norsafe boats fit the C-11 NO davit types and variants.

JYN-115
(Others on request)

6. YARD SUPPLY / RESPONSIBILITY

Transport	Depending on contract
Deck foundations / reinforcement Assembly, erection and welding to deck	
Wire installation on winch, routing on davit and termination All cables to starter cabinet and agreed interface	
Hydraulic oil filling of winch Testing according to regulation after installation onboard	
Preservation and maintenance after davit arrived yard and installed	



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