



**VIKING  
NORSAFE**  
Boats and davits

Enterprise No.: NO940411696  
[www.VIKING-life.com](http://www.VIKING-life.com)

## H-160 - Free Fall Lifeboat Davit



TECHNICAL SPECIFICATION

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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 (MED)

<b>Certificate</b>	MED
<b>Other certificate</b>	Class certificate or flag acceptance on request

# 2. DAVIT SPECIFICATION

## 2.1. GENERAL DAVIT

Type	Free Fall Lifeboat Davit
<b>Model</b>	H-160
<b>Application</b>	Free fall lifeboat handling
<b>Drawing reference</b>	G-500349
<b>Execution</b>	Hydraulic pivoting davit
<b>Boarding position</b>	Inboard on deck level (aft boarding platform)
<b>Operating position</b>	From deck side
<b>Davit system weight (Approx.)</b>	16385 kg, davit incl. winch (dry weight)
<b>Safe Working Load (SWL)</b>	14500 kg
<b>Trim / list conditions</b>	10° / 20°
<b>Max. lowering height</b>	30 m (including 10°/20° trim/list condition)
<b>Operation temperature</b>	-20°C till +45°C (other range on request)
<b>Max. hoisting speed</b>	0~5 m/min
<b>Max. lowering speed</b>	0~5 m/min
<b>Pivot bearing type</b>	Bronze bearings
<b>Wire sheaves</b>	Galvanized, equipped with ball bearings
<b>Installation</b>	4 (four) deck welding points
<b>Deck reinforcement requirements</b>	See general arrangement drawing
<b>Davit system H / W / D</b>	See general arrangement drawing
<b>Deck space required</b>	See general arrangement drawing

The Viking Norsafe Free Fall Lifeboat Davit system is especially designed for safe and efficient launching and retrieval of a Viking Norsafe Free Fall 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.

The system will allow:

- Free fall launch of the fully loaded lifeboat, included free fall launch of the fully loaded lifeboat with list/trim 20°/10°, completely independent of any power supply.
- Controlled launch of the fully load lifeboat, with the ships EL. Power available, controlled from the onboard the ship.
- Recovery of the boat including crew of 3 persons. (Recovery of the fully loaded boat is possible)

The davit system is based on a hydraulic driven jib cylinder system (2 cylinders) and a hydraulic driven lifeboat winch. Both the winch and the cylinders are supplied with hydraulic energy from one common



power unit. This system, based on the use of hydraulic driven jib/winch, is a sufficient solution both with respect to operation performance, simplicity, safety, maintenance and reliability. Since the whole system is oil filled and totally enclosed, corrosion and wear is reduced to an absolute minimum. A safety valve is installed on the hydraulic power unit. The safety valve will protect the hydraulic system and components on the davit to not become damaged due to wrong operation when used. All internal hydraulic piping is properly done and completed on the entire davit system. Small hydraulic pipes have to be installed from the power unit to the control valve and further to the davit (pipe ends on davit at low point of aft support leg).

All control levers are spring-centered. In order to operate the davit relevant control lever has to be pushed in the required direction to cause the desired motion. Once the lever is released it will return back to center position, and the activated motion will cease immediately.

On the top of the A-frame, there is a parking stay for the lifting traverse. This parking stay also acts as mechanical end stopper since the pressure will open the hydraulic safety valve on the hydraulic power unit.

The hydraulic cylinders for luffing of the davit jib is fitted with a mechanical stroke limitation. The limitation allows the luffing to be undertaken at full speed. The hydraulic cylinders for luffing of the davit A-frame jib is fitted with a pilot operated load-holding valve in each connection port. The valves are mounted direct to cylinder ports. These valves has a dual function:

- Maintaining the luffing speed at a constant value independent of the load.
- Blocking the cylinder motion in the case of hydraulic pressure loss. This will freeze the cylinder in the case of hose or pipe failure.

The winches are fitted with hydraulic operated, oil submerged, fail-safe, multidisc brakes. In the case of hydraulic pressure loss due to hose/pipe failure, the brake will be automatically applied and cease the relevant motion.

All selected equipment is chosen and installed to ensure the lowest possible emission of sound and for good access for service and repair.

The davit is equipped with both keel lashing and aft deck lashing. The keel lashing consists of a keel bracket with a bolt on the lifeboat (must be installed during commissioning) and a matching U-bolt on the davit. This lashing prevents the boat from being lifted out the davit by extreme waves/rough sea. The lashing is automatically engaged / released when the boat is recovered / launched. The aft lashing avoids the boat from being accidentally released by rough sea or the operator. This lashing will be engaged / released by the lifeboat crew.

## 2.2 WINCH AND WIRE

<b>Type</b>	<b>ZHP 4.22 winch</b>
<b>Drawing reference</b>	DS-00819
<b>Execution</b>	Hydraulically hoisting / lowering
<b>Brakes type</b>	Negative multi-disk brakes, hydraulically operated
<b>Wire rope type</b>	Galvanized, rotation resistant (certified item)
<b>Wire rope diameter, MBL and spec.</b>	Ø 20 mm, MBL 285 kN, 1960N/mm <sup>2</sup>
<b>Inner / outer wire end</b>	Secured to drum / Wedge socket and safety wire clamp
<b>Wedge socket</b>	Included
<b>Master link w/handle</b>	Included (certified item)

## 2.3. ELECTRICAL

<b>Electric power supply</b>	<b>440V/3ph/60Hz (other on request)</b>
<b>Electrical cabinet</b>	IP56
<b>Remote control</b>	IP56
<b>Power consumption</b>	22.7 kW
<b>Starting method</b>	DOL - Direct on line
<b>Duty rating</b>	S6-40%
<b>Motor space heating</b>	Included, 50W
<b>Electrical cabinet heating</b>	Heat loss from 42V transformer
<b>Wiring</b>	Included, (only power supply cable required)
<b>Wiring</b>	Included, (only power supply cable required)
<b>Transformer</b>	Included, 440/42VAC (other on request)
<b>Emergency stop</b>	Yes, mushroom type

## 2.4. HYDRAULIC

<b>Type</b>	<b>Independent integrated hydraulic system</b>
<b>Oil flow</b>	57.5 l/min @60HZ
<b>Max. working pressure</b>	230 bar
<b>Oil amount</b>	150 l
<b>Motor type</b>	180L-4
<b>Hydraulic cylinders</b>	DS-00718
<b>System fittings</b>	ISO 8434-1 (DIN 2353) bite type metric fittings
<b>Fittings and hose fittings</b>	Zinc chromate Cr(VI)-free, secured with Denso tape
<b>Tubes</b>	AISI 316L
<b>UV and weather protection</b>	Shielded from environmental exposure

## 2.5. PAINTING SYSTEM

<b>Blasting</b>	<b>SA 2.5</b>
<b>Specification</b>	ISO 12944-5
<b>System</b>	Marine paint system (Jotun paint system)
<b>Coating Two (2) layers (other on request)</b>	Layer 1 Penguard universal, Alu - 220 µm Hardtop AX - 80 µm RAL 9016 (Traffic white)
<b>Total dry film thickness</b>	300 µm

## 2.6. DOCUMENTATION

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

## 3. PACKING

**Format** **Packed for transport in a 40 ft OT 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.

<b>GENERAL DAVIT</b>	
<b>Additional extension legs</b>	<input type="checkbox"/>
<b>Additional boarding access / maintenance platforms / handrails / ladders /supports for lanterns etc.</b>	<input type="checkbox"/>
<b>Winterization / cold climate heating / canvas solutions</b>	<input type="checkbox"/>
<b>Commissioning performed by Viking Norsafe or Viking Norsafe Service Partners</b>	<input type="checkbox"/>
<b>Other options on request</b>	<input type="checkbox"/>

<b>ELECTRIC SYSTEM</b>	
<b>Voltage variation</b>	<input type="checkbox"/>
<b>Protection box for remote control</b>	<input type="checkbox"/>
<b>Ex-proof, Zone II 2 G Ex de IIB T3 (other on request)</b>	<input type="checkbox"/>



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Additional electric cabinet heater

Alternative cabinet size / material / surface protection

#### HYDRAULIC SYSTEM

Stainless steel fittings and hose fittings

Protection cover for control valve

Stainless steel HPU tank

Alternative HPU size / material / surface protection

HPU heater

#### PAINTING SPECIFICATION

Norsok M-501 system (Viking Norsafe Doc. No. TSS-0030)

Other painting system and final color

#### SPARE PARTS

Spare parts for Startup / Commissioning

Spare parts for Onboard spare

Spare parts for 1 year

Spare parts for 2 years

#### DOCUMENTATION

Factory acceptance test procedure

Factory acceptance test report

Inspection and test plan

Shipping, handling and lifting procedure

Packing & unpacking procedure

Commissioning procedure

TAG list

Winch drawing

Noise test report

Weight and COG datasheet

Weighing report/certificate

Other drawings/documentation/procedures

## 5. POSSIBLE BOAT FITTING THIS DAVIT SYSTEM

*The VIKING Norsafe boats fit the H-160 davit types and variants.*

**Viking Norsafe GES-40 MKII**

(Others on request)



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## 6. YARD SUPPLY / RESPONSIBILITY

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