

## **ELECTRO- HYDRAULIC ROPE LUFFING**

### **MAST-TYPE OFFSHORE CRANE**

#### **MTC 6000-150 Litronic<sup>®</sup>**

Customer:

Installation:

Tag Number:

LIEBHERR Order No.:

### MTC 6000-150 Litronic® ELECTRO-HYDRAULIC DRIVE

<b>DESIGN CRITERIA</b>	
Rules, Regulations,	LRS Code for Lifting Appliances in a marine Environment, issue January 2003
Certifying Authority	Lloyd's Register of Shipping (LRS)
Standards and Norms	DIN, ISO, IEC, FEM 1001
Design Temperature	0° C
Ambient Temperature	-15°C / +45° C
Relative Humidity	max. 100%
Distance Sea Level to Slew Bearing	site specific
Max. Wind Speed for Platform Lift	20m/sec
Max. Wind Speed for Supply Boat Lift	20m/sec
Max. Gust Boom Stowed	63m/sec
Inclination	3°
Installation height (boom pivot point to sea level)	approx. 31.2 above sea level
<b>MAIN HOISTING GEAR</b>	
Winch	LEBUS type, 25to line pull
Reeving	2-fall / 4-fall / 6-fall
Max. hoisting capacity	2-fall: 50 metric tonnes 4-fall: 100 metric tonnes 6-fall: 150 metric tonnes no subsea operation
Wind rope capacity	max. 560m
Hoisting speed with 100% SWL	2-fall: 0 – 30 m/min 4-fall: 0 – 15 m/min 6-fall: 0 – 8 m/min
Hoisting speed with empty hook	2-fall: 0 – 40 m/min 4-fall: 0 – 20 m/min 6-fall: 0 – 11 m/min
Brake System	internal spring loaded multi disc brake
Additional Brake	external disc type
<b>AUX. HOISTING GEAR</b>	
Winch	LEBUS type, 15to line pull
Reeving	single fall
Max. hoisting capacity regular lifting operation	15 metric tonnes
Max. hoisting capacity subsea operation	12 metric tonnes
Wind rope capacity	max. 380m
Hoisting speed with 100% SWL	72m/min
Hoisting speed with empty hook	116m/min
Brake System	internal spring loaded multi disc brake
Additional Brake	external disc type

### MTC 6000-150 Litronic® ELECTRO-HYDRAULIC DRIVE

<b>SLEWING GEAR</b>	
Slewing speed with empty hook and 0°	0.52 rpm
Slewing speed at full torque +/-5%	0.32 rpm
Slewing range	360° unlimited
Slew Bearing Type	non-metallic
Brake System	internal spring loaded multi disc brake
<b>LUFFING GEAR</b>	
Winch	LEBUS type
Luffing speed from min. to max radius and no load	170 sec.
Min. Boom Angle	-10°
Brake system	internal spring loaded multi disc brake
Ratchet and pawl	operated through hydraulic
Special Design	pulley block at 41m from crane centreline
<b>ELECTRIC SYSTEM</b>	
Hazardous Area Rating	safe (unclassified) area
Main Power Supply	440V / 60Hz / 3Ph
Auxiliary Power Supply	220V / 60Hz / 1Ph
Electric Power Transfer	slip ring collector column
Electric Cables	LIEBHERR standard, marine cables, IEC 331 and 332
Heatings	driver's cabin, machinery compartment, switch cabinets
Ventilation	fan
Lighting	cabin, machinery room, access route
Floodlights	2x 1000Watt on the gantry 1x 1000Watt on the gantry near cabin 2x 400Watt on the boom,
Aircraft warning lights	1x boom head, 1x top gantry
<b>PRIME MOVER</b>	
Type	ABB electric squirrel cage induction motors
Installed Power Output	2x 345 kW
Starter	soft starter
<b>HYDRAULIC SYSTEM</b>	
Pumps	variable displacement, axial piston, type A4V
Motors	fixed displacement, axial piston, type A2F(M)
Hydraulic System	closed loop
Simultaneity of motions	3 motions, full load and reduced speed
Piping	double armoured hoses
Hydraulic tank	SA 2.5, inside preserved, outside painted

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<b>SAFETY RELATED DEVICE</b>	
Safe Load Indication System	Litronic®
Load moment limiting device	Litronic®
Load data recorder	Litronic®
Constant Tension System (CTS)	Litronic®
Gross Overload Protection	Litronic®
Emergency Rope Release (ERR)	electric/hydraulic
Emergency Lowering System (ELS)	hydraulic
Limit Switch System for Hoisting Gear	electric
Limit Switch System for Luffing Gear	electric
Limit Switch System for Slewing Gear	electric
Warning horn	electric
Slack Rope Protection System	Litronic®
Acceleration Control (integrator)	Litronic®
<b>CRANE CONTROL SYSTEM</b>	
Manufacturer/Type	LIEBHERR/Litronic®
<b>DRIVER'S CABIN</b>	
Standard	insulated, lit, heated, ventilated, electric window wiper and washing system, air-condition, including provision for later installation of telephone
Location	right hand side mounted
<b>PLATFORMS /WALKWAYS</b>	
Boom	walkway with handrails on the left hand side of the boom, including boom tip platform
Gantry	maintenance platforms and access ways
<b>PEDESTAL TRANSITION PIECE</b>	
Dimensions	optional
<b>PAINTING SYSTEM DATA</b>	
Shotblasting	to meet SA 2.5(ISO 8501, QSA 09.011.00)
LIEBHERR painting system (crane only)	as per LIEBHERR offshore standard, orange top coat

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<b>WEIGHTS</b>	<b>- VERY PRELIMINARY DATA</b>
Revolving Structure incl. Mast	approx. 157 metric tonnes
Boom	approx. 75 metric tonnes
Ropes	approx. 15 metric tonnes
Main Hoist Hook Block	approx. 2 metric tonnes
Aux. Hoist Hook Block	approx. 0.5 metric tonnes
Total crane weight (w/o conical transition piece)	approx. 254 metric tonnes

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