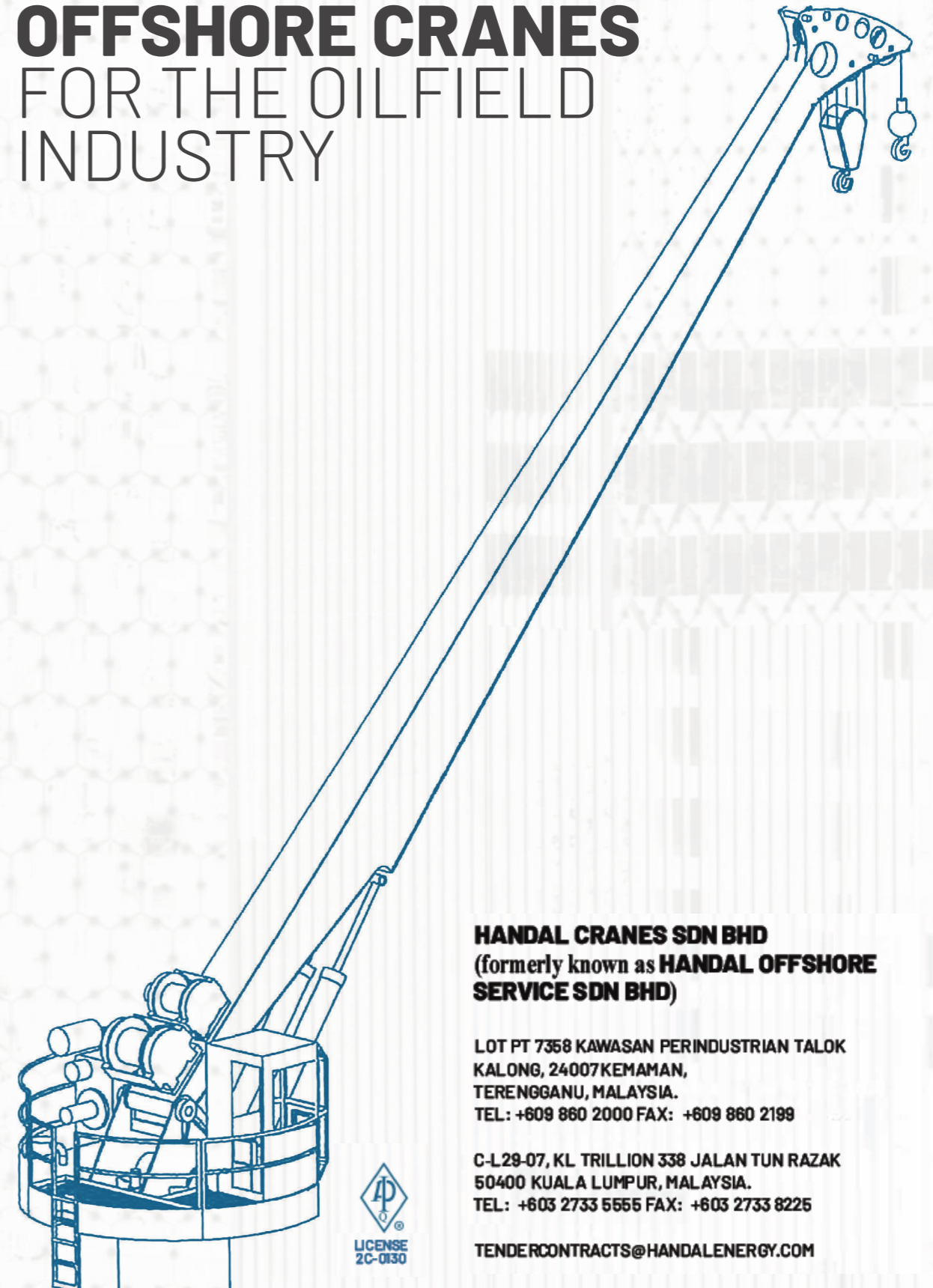


**HANDAL**

**K35**

**OFFSHORE CRANES**  
FOR THE OILFIELD  
INDUSTRY



**HANDAL CRANES SDN BHD**  
(formerly known as **HANDAL OFFSHORE SERVICE SDN BHD**)

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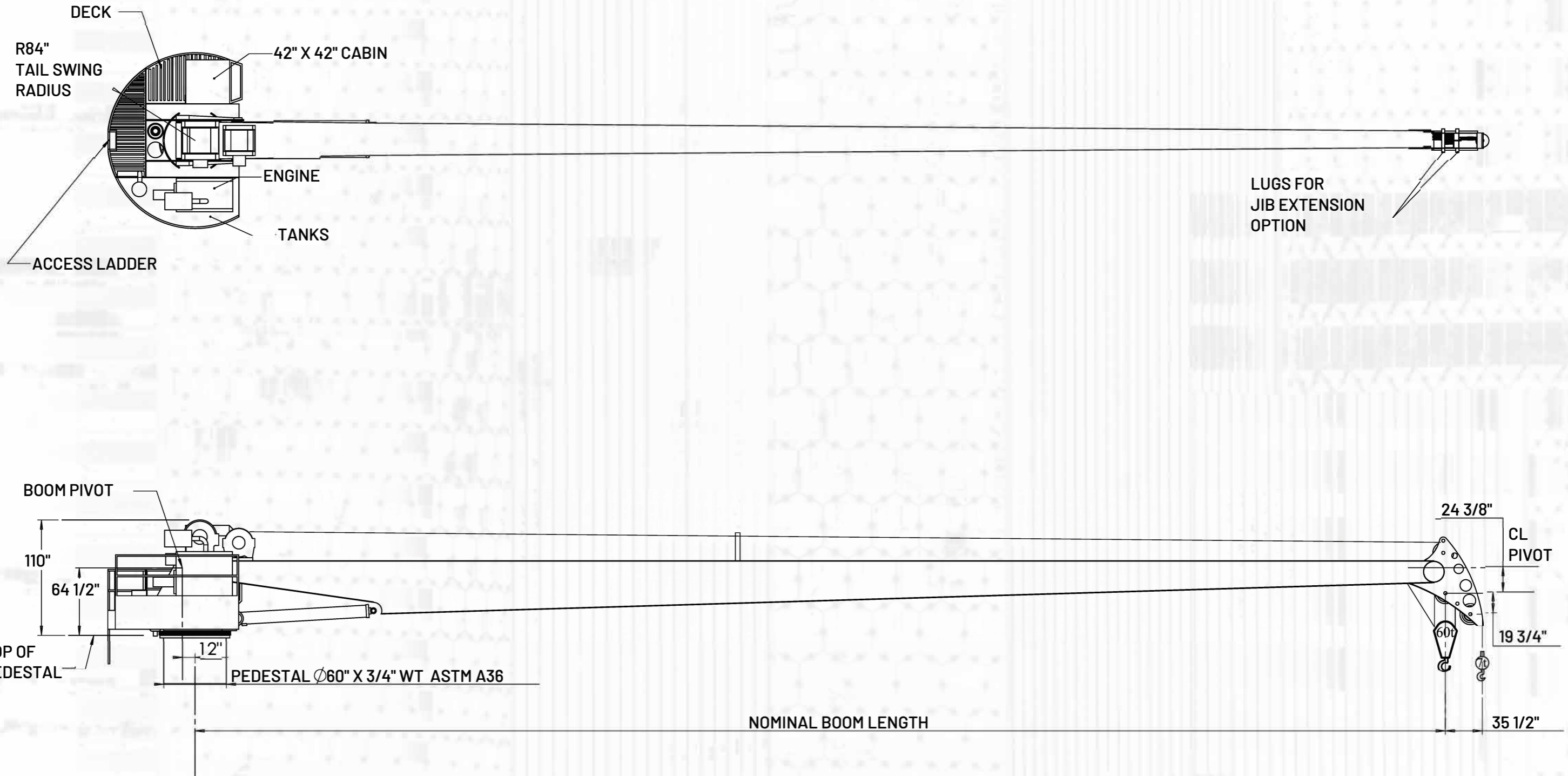
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# HANDAL K35

CONFIGURATION ILLUSTRATED:  
200 HP DIESEL ENGINE - REMOTE  
"WALK-AROUND CONTROL"



# TECHNICAL SPECIFICATIONS



**CRANE - TYPE**

Pedestal mounted, precision slewing ring, ram luffing, box boom.

**APPLICATION**

Designed for offshore applications. Constructed & rated to API 2C specifications.

**NOMINAL REACH CAPACITY**

35K lb. at 35 ft radius.

LOAD HOOK - MAXIMUM CAPACITY	60 short tons.
MAXIMUM ROPE SIZE	1"
SHEAVE DIAMETER	20"
MAXIMUM LINE FALL	8
WINCH MOUNTING	On boom - eliminates two blocking by luffing down; frees deck space.
AUXILIARY HOOK - MAX. CAPACITY	7 1/2 short tons.
MAXIMUM ROPE SIZE	1"
SHEAVE DIAMETER	20"
MAXIMUM LINE FALLS	1
WINCH MOUNTING	On boom - eliminates two blocking by luffing down; frees deck space.

SWING - FINAL DRIVE	External spur gear with low backlash and high precision. 360 continuous rotation.
DRIVE TRANSMISSION	High torque hydraulic motor, fully enclosed planetary gear reduction, fail-safe multidisk wet static brake. 4:1 safety factor exceeds API 2C.
CAPACITY	75,200 ft-lb X 1 after accounting for friction in drive. Multiple drives recommended for floating applications.
SPEED @ FLOW	1 RPM @ 13.4 GPM X 1 swing circuit flow after accounting for motor slip.
MOTOR PRESSURE CONTROL	2950 PSI Limit pressure. Automatic hydraulic dynamic braking with auto set static brake or free swing with manual set static brake.

SWING CIRCLE ASSEMBLY	Sealed high precision anti-friction, 4 point contact single row ball bearing. High API 2C swing circle strength factor standard. Bearing balls mounted in-line with pedestal wall to minimize flange & raceway prying and maximize joint strength.
BOLTING	Heavy duty bolting to sustain clamping under the highest crane loads - for maximum strength and life. Precision pre loading with no special tools required. 1 1/4" SAE J429 strength grade 8, impact toughness per API 2C, anti corrosion coating.

PEDESTAL	Precision machined flange. Flange meets DNV thickness requirements and API lamination quality requirements. Joined with full penetration butt welds.
BARREL	60" OD, 3/4" Wall thickness, ASTM A36 material - minimum.

LIQUID CAPACITY	140 gallons fuel, 260 gallons hydraulic oil. For illustrated close radius 200 HP configuration with on-board diesel power & "open" control station.
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LUFFING - TYPE	Hydraulic ram luffing.
RAM	Dual rams, double acting.
BORE	10"
ROD	Hard chrome plated rod.
SPEED @ FLOW	1 1/2 minutes min. to max. angle @ 42.6 GPM. Limit flow 80 GPM.
PRESSURE	Max working pressure 2400 PSI. Limit pressure 3000 PSI
MIN BOOM ANGLE	0 degrees to positive stop.
MAX BOOM ANGLE	83 degrees to positive stop.
AUX. HOLDING MECHANISM	Hydraulic lock valve directly mounted to cylinder.
CONTROL	Power controlled lowering - automatic hydraulic dynamic braking with lock valve requiring power to lower load; no free fall or friction brake lowering.

BOOM CONSTRUCTION	Mild steel, HSLA or constructional alloy depending upon boom length. Longitudinal internal stiffeners @ bottom flange to preclude local buckling and ensure proper strength factors. Internal vertical web stiffeners to resist web buckling. Tapered construction provides for maximum strength / minimum weight. Fully seal welded.
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ROPE REEVING	Nylon sheaves with sealed anti friction bearings. Retainers prevent rope from leaving sheave groove. Rope guides with polymer rub strips provided as needed on boom. Fleet angle limited to 1 1/2 degrees for optimum spooling. Minimum 18:1 pitch ratio. No reverse bending of ropes for maximum life. Heavy hook weight to prevent rope fouling at winch and at sheave.
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MARINE DUTY	Seal welding to suit harsh offshore environment, 3 coat marine paint system. Drive components and brakes are sealed and running in oil. Centralized anti-pollution spill containment provided below decking & machinery.
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QUALITY	Official API 2C Monogram. API Q1& ISO 9001 quality standards. Material fully traced. Welding to AWS D1.1. Thorough NDE and testing.
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RADIUS (Ft)	MAXIMUM SWLH - ONBOARD LIFT BOTTOM SUPPORTED CRANE BASE API SPEC 2C 7 <sup>TH</sup>					
	50 FT BOOM	60 FT BOOM	70 FT BOOM	80 FT BOOM	100 FT BOOM	
Minimum	122,000	122,000	122,000	122,000	88,600	
10	119,500	122,000	122,000	-	-	
15	97,300	106,600	103,500	100,100	86,300	
20	79,900	81,100	79,600	76,300	72,400	
25	64,200	63,900	63,200	61,600	58,200	
30	52,400	52,200	51,700	50,200	48,700	
35	44,400	44,200	43,800	42,300	40,800	
40	38,600	38,400	37,700	36,300	34,800	
45	34,000	33,700	33,000	31,600	30,100	
50	28,100	29,900	29,200	27,800	26,300	
55	-	26,800	26,100	24,600	23,200	
60		21,700	23,500	22,000	20,600	
65		-	21,300	19,800	18,400	
70			17,000	17,900	16,500	
75			-	16,200	14,800	
80				12,600	13,400	
85				-	12,100	
90					11,000	
95					7,100	
100	25,200	19,600	15,500	11,400	6,300	
Foundation reactions	Max thrust (Lb)	259,932	262,186	264,071	269,020	221,069
	@ moment (Lb-Ft)	1,645,603	2,265,965	2,273,997	2,507,496	2,393,451
	Max moment (Lb-Ft)	3,308,489	3,329,492	3,318,585	3,281,762	3,246,686
	@ thrust (Lb)	107,220	118,252	130,910	148,627	150,205
Ref: K35_50_BOT_legacy_on K35_60_BOT_legacy_on K35_70_BOT_legacy_on K35_80_BOT_legacy_on K35_100_BOT_legacy_on						

SWL = SWLH less Weight of hook block. Actual SWL is typically lower due to sea state, wind and hoisting system utilized. SWL ratings and foundation reactions are per API Spec 2C 7<sup>th</sup> Ed with a bottom supported crane base and zero wind conditions. Method used is general method for onboard case and legacy method for offboard case.

**APPROXIMATE SHIPPING DATA**

Component	Weight (lb)	Volume ft x ft x ft
Pedestal	720 + 554 x L	L x 5.6 x 5.6
Turret	8,000	7.8 x 5.9 x 5.7
Ram (2)	4,200	2.4 x 11.1 x 1.5
Boom - 50 ft	11,600	3.2 x 7.2 x 54.5
- 60 ft	14,000	3.2 x 7.2 x 64.5
- 70 ft	15,000	3.2 x 7.2 x 74.5
- 80 ft	21,000	3.2 x 7.2 x 84.5
- 90 ft	23,000	3.2 x 7.2 x 94.5
- 100 ft	26,000	3.2 x 7.2 x 104.5
Hoist/ropes/hook	7,300	6.5 x 4.0 x 6.0
Control station / deck	1,650	9.5 x 8.6 x 4.0
AFT deck	850	5.9 x 12.8 x 4.9
Engine deck	4,000	5.0 x 7.6 x 6.5
Ladder - access	100	8.0 x 2.0 x 0.8
Fuel + oil	3,000	125 gal + 310 gal
Accessories	varies	varies

L = Length in feet. Weight includes machinery. For illustrated configuration m001084. K35\_wt\_dim\_revA

L = LENGTH IN FEET. WEIGHT INCLUDES MACHINERY. FOR ILLUSTRATED CONFIGURATION.

Foundation reactions based on dead load plus live load x 1.5 x c<sub>s</sub>. Ratings shown are per API Spec 2C.7<sup>th</sup> Ed. @ c<sub>s</sub> = 1.33, 0 wind speed, 0° offlead, 0° sidelead & level fixed foundation.

Actual ratings are typically lower due to optional hoist system limitations or dynamic conditions.

Deduct the weight of the hook block to determine the lifting capacity.